Appendix A

Existing Information Sources

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APPENDIX A

EXISTING INFORMATION SOURCES

Adams, M.J, Pearl C.A, and Bury R.B. 2003. Indirect facilitation of an anuran invasion by non-native fishes. Ecology Letters 6:1–9

Aedo, John. 2014. Environmental Inspection Report for 2426 Project, September 9-13, 2013. FERC San Francisco Region. September 5, 2014.

Ahmet, Koral. 2008. Archaeological Site Record P-36-013885. On file at South Central Coastal Information Center.

Airaudi, Heather. 2015a. Monthly Visitor Attendance/REVENUE Report - April 2015. DPR. California.

Airaudi, Heather. 2015b. Monthly Visitor Attendance/REVENUE Report - May 2015. DPR. California.

Airaudi, Heather. 2014. Monthly Visitor Attendance Report - May 2014. DPR. California.

Allen, M.F. and T. Tennant. 2000. Evaluation of critical habitat for the California red-legged frog (Rana aurora draytonii). UC Riverside: Center for Conservation Biology.

Alvarez, J. A., D. G. Cook, J. I. Yee, M. G. van Hattem, D. R. Fong, and R. N. Fisher. 2013. Comparative microhabitat characteristics at oviposition sites of the California red-legged frog (Rana draytonii). Herpetological Conservation and Biology 8:539−551.

Anderson, Katherine. 2011. Archaeological Site Record P-36-021351. On file at South Central Coastal Information Center.

Anderson, Constance, L. 1996a. Amendments to License for Common Use. DWR. Sacramento.

Anderson, Constance, L. 1996b. Amendments to License for Common Use. DWR. Sacramento.

Arend, Philip H. 1977. The San Jacinto Wildlife Management Area: Fourth Choice Plan. Prepared for DWR. May 1977.

Arnold, A.B. 1968. Memorandum to Mr. H.H. Eastin regarding DWR, Division of design and Construction. 1971. Final Geologic Report, Fairmont to Leona Siphon, Project Geology Report C-66. Memoranda dated August 29th, 1968 through October 8, 1970 (Pages 32 through 60)

Aspen Environmental Group. 2006a. Mitigated Negative Declaration and Initial Study, Horsethief Creek Bridge Mojave Siphon Maintenance Road Project. Prepared for DWR. January 2006.

Aspen Environmental Group. 2006b. Proposed Mitigated Negative Declaration and Initial Study, Horsethief Creek Bridge Mojave Siphon Maintenance Road Project. Prepared for DWR. January 2006.

Aspen Environmental Group. 2005. Arroyo Toad Survey and Habitat Evaluation along the Horsethief Creek and Check 66 Access Road for the Horsethief Creek Repairs Project. Prepared for DWR by Aspen Environmental Group Arroyo and Hunt & Associates Biological Consulting. October 2005.

Atwater, Tanya and Ehrenspeck, Helmut. 2000. Plain English Geology Field Guide for the Western Santa Monica Mountains, from Point Mugu to Oak Ridge and the Santa Clarita River Valley, National Association of Geoscience Teachers-Far Western Section for Spring Field Conference, Department of Geosciences, California State University, Northridge. April 14-16.

Austerman, Virginia. 2006. Cultural Resources Assessment: Tentative Tract 16794, City of San Bernardino, San Bernardino County, California. Prepared by LSA Associates, Inc. Prepared for Gardner Construction.

Backlin, A. R., C. J. Hitchcock, R. N. Fisher, M. L. Warburton, P. Trenham, S. A. Hathaway, and C. S. Brehme. 2003. Natural History and Recovery Analysis for Southern California Populations of the Mountain Yellow-Legged Frog (Rana muscosa), Annual Report. Prepared for CDFW (Contract # P0185110), Angeles National Forest, San Bernardino National Forest, Mount San Jacinto State Park, Coachella Valley Association of Governments, and BLM.

Ball, Douglas. 2012. Quagga and Zebra Mussels Monitoring and Prevention Programs at LADWP: Presentation to the Bishop Administrative Office. Bishop, CA.

Barber, Russell J. 1990. Report on the Examination of Certain Cultural Remains at the Devil Canyon Powerplant Site, Second Afterbay Site.

Barber, Russell J. 1986. Archaeological and Historical Site Survey of the Area of the Proposed Second Afterbay, Devil Canyon Powerplant, San Bernardino, California. California State University, San Bernardino.

Barry, Robert G. 2015. Memorandum to Tim Wehling (Chief Dams and Canals Section) regarding the Pearblossom Solar Array, Faulting and Seismicity Report. March 9, 2015.

Barry, Robert G. 2012. Memorandum to David Panec (Chief Dam Safety Branch Division of Operations and Maintenance) regarding Cedar Springs Dam, Fault Re-evaluation Report, Report Number 57-11-25. DWR, Project Geology Section. November 30, 2012.

Barry, Robert G. 2011. Memorandum to David Panec (Chief Dam Safety Branch Division of Operations and Maintenance) regarding Silverwood Lake; Results of Research and Shoreline Geologic Inspection, Report No. 57-11-26. DWR, Project Geology Section. November 8, 2011.

Bauer, Don R. 1972a. Memorandum to Regional Forester regarding Silverwood Lake construction and development plans. U.S. Department of Agriculture, Forest Service. April 27, 1972.

Bauer, Don R. 1972b. Memorandum to Regional Forester regarding a proposal to exchange Heart Bar State Park lands for the National Forest Lands at Silverwood Lake. The memorandum also includes press releases. U.S. Department of Agriculture, Forest Service. April 20, 1972.

Bean, L. J. and Smith, C.R. 1978a. Gabrielino. In Handbook of North American Indians, Volume 8. Robert. F. Heizer, Editor. Smithsonian Institution, Washington, D.C.

Bean, L. J. and Smith, C.R. 1978b. Serrano. In Handbook of North American Indians, Volume 8. Robert. F. Heizer, Editor. Smithsonian Institution, Washington, D.C.

Bean, Lowell John. 1978c. Cahuilla. In Handbook of North American Indians, Volume 8. Robert. F. Heizer, Editor. Smithsonian Institution, Washington, D.C.

Becker, Kenneth and Victorino, Kenneth. 1993. Archaeological Isolate Record P-36-060860. On file at South Central Coastal Information Center.

Begley, Eva. 2004. Trout Stocking Program, April 2002 to April 2004. DWR. Sacramento.

Begley, Eva. 2003. Elderberry Forebay land acquisition. DWR. Sacramento.

Berigan, William, R. J. Gutierrez and Douglas J. Tempel. 2012. Evaluating the Efficacy of Protected Activity Areas for the California Spotted Owl Using Long-Term Monitoring Data. Journal of Forestry. 10(6):299-303. September.

Blackburn, Thomas C. and Bean, Lowell John. 1978. Kitanemuk. In Handbook of North American Indians, Volume 8, pp. 564-569. Robert. F. Heizer, Editor. Smithsonian Institution, Washington, D.C.

Blackburn, Owen. 1967. Cedar Springs Reservoir Recreation Land Use and Acquisition Plan (Revised). DWR. Sacramento.

BLM. 2015. Special Status Plants under the jurisdiction of the Palm Springs Field Office as of April 30, 2015. Available on-line at: http://www.blm.gov/style/medialib/blm/ca/pdf/pa/botany.Par.76631.File.dat/Palm%20Springs%20concise%20for%202015.pdf

BLM. 2012. Record of Decision. Barren Ridge Renewable Transmission Project, Decision to Grant and Amend Right-of-Way, Department of the Interior, Bureau of Land Management California Desert District 22835 Calle San Juan De Los Lagos Moreno Valley, CA 92553, September 2012.

BLM. 1930. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1919. General Land Office Plat Township 2 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1905. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1905a. General Land Office Plat Township 2 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1905b. General Land Office Plat Township 2 North, Range 5 West. On file at South Central Coastal Information Center.

BLM. 1898a. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1898b. General Land Office Plat Township 2 North, Range 5 West. On file at South Central Coastal Information Center.

BLM. 1892. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1886a. General Land Office Plat Township 2 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1886b. General Land Office Plat Township 2 North, Range 5 West. On file at South Central Coastal Information Center.

BLM. 1885. General Land Office Plat Township 3 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1884. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1878. General Land Office Plat Township 1 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1876. General Land Office Plat Township 2 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1858. General Land Office Plat Township 2 North, Range 4 West. On file at South Central Coastal Information Center.

BLM. 1856. General Land Office Plat Township 3 North, Range 4 West. On file at South Central Coastal Information Center.

Bolster, B.C., editor. 1998. Terrestrial Mammal Species of Special Concern in California. Draft Final Report prepared by P.V. Brylski, P.W. Collins, E.D. Pierson, W.E. Rainey and T.E. Kucera. Report submitted to CDFW - Wildlife Management Division, Nongame Bird and Mammal Conservation Program for Contract No.FG3146WM.

Bond, M. and Bradley C. 2005. Recommended Critical Biological Zones in Southern California's Four National Forests. Tucson, AZ

Bontrager, M., K. Webster, M. Elvin, and I. M. Parker. 2015. The effects of habitat and competitive/facilitative interactions on reintroduction success of the endangered wetland herb, Arenaria paludicola. Plant Ecology 215:467-478. Available online at: http://link.springer.com/article/10.1007/s11258-014-0317-z

Bowes, Donald E. prepared for DWR. 1995. Periodic Safety Inspection Report: Cedar Springs Dam, FERC Project No. 2426-CA.

Brewster, Brad. 2012a. Archaeological letter report to Rebecca Gilbert, DWR, "Cedar Springs Dam Historic Resources Evaluation". ESA.

Brewster, Brad. 2012b. Archaeological Site Record P-36-025233. On file at South Central Coastal Information Center.

Brewster, Brad. 2012c. Cedar Springs Dam Historic Resources Evaluation Memo. Prepared for Department of Water Resources. Prepared by Environmental Science Associates, San Francisco, California.

Brown, C. and R. Fisher. 2002. Survey results for the arroyo toad (Bufo californicus) in the San Bernardino National Forest, 2001; Final Report. USGS Western Ecological Research Center.

Brown, Timothy. 1978. Fish, Amphibians, and Reptiles of the Lower Mojave River System. Riverside, CA.

Butler, Robin. 2000. Memorandums to multiple Forest Service employees regarding fire retardant contamination in bald eagle eggs. Forest Service. Fawnskin, CA. October 31, 2000,

Byrd, Brian F. and L. Mark Raab. 2007. "Prehistory of the Southern Bight: Models for a New Millennium" In California Prehistory: Colonization, Culture, and Complexity. Edited by Terry L. Jones and Kathryn A. Klar, pp 215-227. Altamira Press, Lanham, MD.

Cagle, Oliver B. 1992. Right-of-Way Contract. Las Flores Group Inc. San Bernardino, California.

Cal EPA. 2014. Area Designation Maps/State and National. Available online: <http://www.arb.ca.gov/desig/adm/adm.htm>. Accessed on July 27, 2015. Last updated August 22, 2014

CAL FIRE. 2015. State Responsibility Area Viewer. Available online at: www.firepreventionfee.org/sraviewer.php

CAL FIRE. 2012. “About CAL FIRE”. http://calfire.ca.gov/about/about.php. Accessed 8/17/15.

CAL FIRE. 2012. “California Fire Prevention Fee”. Available online at: www.firepreventionfee.org/sraviewer.php. Accessed 8/17/15.

California Department of Fish and Game. 1987. Surveys of Fish Populations in Six Southern California Streams: 1987. U.S. Department of the Interior, Fish and Wildlife Service, Inland Fisheries Divisions. San Diego, California.

CalFlora. 2015. Information on wild California plants for conservation, education, and appreciation. Available online at: http://www.calfora.org. Accessed August 2015.

California Department of Boating and Waterways (CDBOW). 2015. Water hyacinth. Available online at: < http://www.dbw.ca.gov/BoaterInfo/WaterHyacinth.aspx>. Accessed: July 27, 2015. Last updated: January 2015.

California Department of Finance. 2014. Total Population Projections For California and Counties: July 1, 2015 to 2060 in 5-year Increments. Demographic Research Unit.

California Herps. 2015. A Guide to the Amphibians and Reptiles of California. Species Description: African Clawed Frog-Xenopus laevis. Available online at: < http://www.californiaherps.com/frogs/pages/x.laevis.html#description>. Accessed: September 2, 2015.

California Watchable Wildlife. 2015. http://www.cawatchablewildlife.org [accessed November 20, 2015

Cal-IPC. 2015a. California Invasive Plant Profiles. Available online at: < http://www.cal-ipc.org/ip/management/ipcw/pages/detailreport.cfm@usernumber=65&surveynumber=182.php>. Accessed July 27, 2015.

Cal-IPC. 2015b. Cal-WeedMapper Online Application. Available online at: < http://calweedmapper.cal-ipc.org/>. Accessed: October 5, 2015.

Caltrans. 2015. The California Scenic Highway Program. Http://www.dot.ca.gov/dist3/departments/mtce/scenic.htm. Copyright 2015. Accessed October 7, 2015.

Caltrans. 2013. Scenic Highway Routes: Caltrans Landscape Architecture Program. Eligible and Officially Designated Routes. Http://www.dot.ca.gov/hq/LandArch?16_livability/scenic_highways/cahisys.htm. Updated December 19, 2013. Accessed October 7, 2015.

Campbell, Heather E. 1993. Glider Landing Zone. Federal Energy Regulatory Commission. Washington, DC.

CARB. 2013. Ambient Air Quality Standards. Available online at: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>. Accessed July 27, 2015. Last updated June 4, 2013.

Cardoza, Domingo. 2013a. Cedar Springs Dam Rip Rap Recommendation. Prepared for DWR.

Cardoza, Domingo. 2013b. Cedar Springs Riprap Repair Trip, February 13, 2013. Prepared for DWR.

Cardoza, Domingo. 2011. Lake Silverwood Shoreline Inspection. Prepared for DWR.

Castillo, Edward D. 1978. The Impact of Euro-American Exploration and Settlement. In Handbook of North American Indians, Volume 8, California, edited by R.F. Heizer, William C. Sturtevant, general editor. Smithsonian Institution, Washington D.C.

Castleberry, D. T., and J. J. Cech Jr. 1986. Physiological Responses Of A Native and An Introduced Desert Fish To Environmental Stressors. Ecology. 67(4): 912-918.

Cataldo, Nicholas R. 1991. The Mohave Indian Trail. Odyssey 13(2):3-4. Published by the City of San Bernardino Pioneer and Historical Society.

Cataldo, Nicholas R. 1986. Devil Canyon Toll Road. Odyssey 8(3):35-37, 44. Published by the City of San Bernardino Pioneer and Historical Society.

CDFA. 2015. Encycloweedia: Data Sheets. Available online at: < http://www.cal-ipc.org/ip/management/ipcw/pages/detailreport.cfm@usernumber=45&surveynumber=182.php>. Accessed: July 27, 2015. Last updated: February 27, 2015.

CDFG. 2015a. Data Portal, Fisheries: Arroyo Chub, Gila orcutti (Eigenmann and Eigenmann). Available online at: <https://nrm.dfg.ca.gov/Search.aspx?q=ARROYO+CHUB>. Accessed November 9, 2015. Last updated 2015.

CDFG. 2015b. Data Portal, Fisheries: Sacramento Hitch, Lavinia exilicauda exilicauda. Available online at: <https://nrm.dfg.ca.gov/Search.aspx?q=Sacramento+Hitch>. Accessed November 9, 2015. Last updated 2015.

CDFG. 2010a. Lake Silverwood general fish survey. Fall 2010. CDFG, Inland Deserts Region. Fall 2010. 11 pp.

CDFG. 2010b. Lake Silverwood general fish survey. Fall 2010. CDFG, Inland Deserts Region. Spring 2010. 13 pp.

CDFG. 2004a. Memorandum to largemouth bass numbers in Silverwood Lake, Spring 2004. August 31, 2004. 5 pp.

CDFG. 2004b. Silverwood Reservoir Investigations - 1993. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 14 pp.

CDFG. 2003. Lake Silverwood Fish Survey, Fall 2003. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 14 pp.

CDFG. 2002. Lake Silverwood Fish Survey, Spring 2002. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 16 pp.

CDFG. 2001. Lake Silverwood Fish Survey. 17 pp.

CDFG. 2000a. Lake Silverwood Fish Survey. Fall 1999. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 14 pp.

CDFG. 2000b. Lake Silverwood Fish Survey. Fall 2000. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 14 pp.

CDFG. 2000c. Lake Silverwood Fish Survey. Spring 2000. Inland Fisheries Administrative Report No. 00-draft 2000. 13 pp.

CDFG. 2000d. Lake Silverwood Fish Survey. Spring 2001. Inland Fisheries Administrative Report No. 00-draft 2001. 16 pp.

CDFG. 1999a. A Supplemental Mitigation Plan for Fishery Restoration at Lake Silverwood, San Bernardino County. May 1999. 15 pp.

CDFG. 1999b. Lake Silverwood General Fish Survey. Spring 1999. Eastern Sierra and Inland Deserts Region. 10 pp.

CDFG. 1998a. Lake Silverwood general fish survey and largemouth bass population estimate. Fall 1998. CDFG, Eastern Sierra and Inland Deserts Region. March 1999.

CDFG. 1998b. Personal communication from John Sunada, CDFG to Charles Keene, DWR. Facsimile containing Fall 1998 fish count at Silverwood.

CDFG. 1997a. An estimate of the population of legal largemouth bass, Micropterus salmoides, within Silverwood Reservoir, 1995. Inland Fisheries Administrative Report No. 1997. 15 pp.

CDFG. 1997b. Silverwood Reservoir General Fish Survey. Fall 1997. Eastern Sierra and Inland Deserts Region. 15 pp.

CDFG. 1997c. Silverwood Reservoir General Fish Survey. Fall 1997. Eastern Sierra and Inland Deserts Region. Inland Fisheries Administrative Report No. 00-draft. 13 pp.

CDFG. 1997d. Silverwood Reservoir General Fish Survey. Spring 1997. Eastern Sierra and Inland Deserts Region. 16 pp.

CDFG. 1993a. Inland Fisheries Division Reservoir Research Project Region 5 - File Report. 21 pp.

CDFG. 1993b. Inland Fisheries Division Reservoir Research Project Region 5 - File Report. 21 pp.

CDFG. 1992. Memorandum from CDFG to DWR re: fish screen for the proposed new San Bernardino Tunnel Intake structure in Silverwood Lake. 3 pp.

CDFG. 1977a. Letter from Richard H. Davidson, Wildlife Management Supervisor, Region 5 to Gerald H. Meral, Deputy Director, DWR. December 20, 1977.

CDFG. 1977b. Wildlife Mitigation and The State Water Project. Statement from John E. Skinner presented to California Water Commission at Fresno on June 3, 1977.

CDFG. 1974. Mitigation Alternatives for the State Water Project in Southern California. Prepared for Department of Water Resources by Peter W. Gelfand, Assistant Wildlife Manager-Biologist. June 1974.

CDFG. 1968. California Aqueduct Fish and Wildlife Development Plan for Silverwood Lake. Water Projects Branch. November 1968. Reference Report for Bulletin No. 117-10. 89 pp

CDFG. 1957. Office report on fish, wildlife, and recreation as related to the California Water Plan. 172 pp.

CDFW. 2015a. California Natural Diversity Database (CNDDB). RareFind Version 5. Available online at: <nrmsecure.dfg.ca.gov/cnddb/view/query.aspx>. Accessed: July 31, 2015. Last updated July 7, 2015. CDFG, Biogeographic Data Branch. Sacramento, CA.

CDFW. 2015b. Invasive Species Fact Sheet: Channeled apple snail, Pomacea canaliculata. Sacramento, CA.

CDFW. 2015c. Unarmored Three Spine Stickleback Santa Clara River to Santa Francisquito Creek Rescue / Relocation. Available online at: https://www.wildlife.ca.gov/Conservation/Inland-Fisheries/Projects/Stickleback

CDFW. 2015d. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Biogeographic Data Branch CNDDB. Last Updated October 2015. Available on-line: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline [Accessed on various dates between July and November 2015]

CDFW. 2015e. California's Invaders: Channeled Apple Snail. Available online at: https://www.wildlife.ca.gov/Conservation/Invasives/Species/Channeled-Apple-Snail

CDFW. 2015f. California's Invaders: American Bullfrog, Lithobates catesbeianus. Available online at: https://www.wildlife.ca.gov/Conservation/Invasives/Species/Bullfrog.

CDFW. 2015g. California Deer Conservation and Management Plan. Public Review Draft, March 2015. Available online at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=95105&inline

CDFW . 2014. California's Invaders: American Bullfrog (Lithobates catesbeianus). Available online at: <https://www.wildlife.ca.gov/Conservation/Invasives/Species/Bullfrog>. Accessed: July 27, 2015.

CDFW. 2013a. Silverwood Lake Trout Study: June – September 2013, And Trout Study Data Comparison of Summer 2005 – 2013. CDFW, Inland Fisheries Division, Inland Deserts Region. By Hemmert, J.E. and K.M. Traver.

CDFW. 2013b. Silverwood Lake Trout Study: October 2012-May 2013 And Trout Study Data Comparison of 2004-2013. CDFW, Inland Fisheries Division, Inland Deserts Region. By Hemmert, J.E. and K.M. Traver.

CDFW. 2009. Summary of the largemouth bass population estimates for Silverwood Lake 1995-2009. Inland Fisheries Division Reservoir Research Project Inland Deserts Region. July 2009. 11 pp.

CDFW. 2008. California Aquatic Invasive Species Management Plan

CEDEN. 2012. Online database. Available online at: < http://ceden.waterboards.ca.gov/AdvancedQueryTool>. Accessed: September 23, 2015. Costa Mesa, CA.

Chin, Maria. 2004. FEMA Repairs, SFD Silverwood Lake San Bernardino County. DWR. Sacramento.

Chubb, Sara. 1995. Memorandum regarding Fisheries input for Snowy Trail EIS. USFS. California. December 7, 1995.

Chun, C. Biometrics Lab Employee. 1998. Memorandum to CDFG Region 5 Mike Giusti regarding preliminary counts for San Diego and Devil's Canyon Canals. September.

City of San Bernardino. 2015. History of San Bernardino. City of San Bernardino, California. Available online at: https://www.ci.san-bernardino.ca.us/about/history/history_of_san_bernardino_%28short_version%29.asp. Accessed: 11/13/15.

Clark, Fatima V. 2013. Archaeological Site Record Update P-36-0010316. On file at South Central Coastal Information Center.

Claudi, R. and K. Prescott. 2011. Examination of Calcium and pH as Predictors of Dreissenid Mussel Survival in the California State Water Project. Prepared for DWR, Division of Operations and Maintenance, Aquatic Nuisance Species Program. Prepared by RNT Consulting, Inc. Ontario Canada.

Clemmer, Richard C. for Quin, Timothy H. 1994. Letter to Don Colson (Chief Plants and Pipelines Branch, Division of Design and Construction, Department of Water Resources) regarding Water Quality Assurance Plan for San Bernardino Tunnel Intake Tower Reconstruction, May 20, 1994.

CNPS. 2015. Rare Plant Program, Inventory of Rare and Endangered Plants (online edition, v8-02). CNPS, Sacramento, CA. Available on-line at: http://www.rareplants.cnps.org [Accessed: November 2015]

Colson, Don. 1991. Plan for Relocation of Pine Crest Air Park. DWR. Sacramento.

Conejo Archaeological Consultants. Undated. Cedar Springs Dam Maintenance Station; Draft Phase I Archaeological Survey. Document No. 07-448. Prepared for the DWR.

Cook, D.G. and Jennings, M.R. 2007. Microhabitat use of the California red-legged frog and introduced bullfrog in a seasonal marsh. Herpetologica 63: 430-440.

Cooper, Jason B. 2003. Archaeological Reconnaissance Report: Ronald Spears Apiary (Special Use Permit CAJ 761801). United States Forest Service.

Cooper, Dennis. 1981. Archaeological Reconnaissance Report: Devore Key Fuels Management Area. United States Forest Service.

Corey, Kennon. 2012. Memorandum to Jody Noiron (Forest Supervisor, USFS) regarding a review of species list for Federally Endangered, Threatened, Proposed, and Candidate Species for the San Bernardino National Forest. U.S.

Department of the Interior, Fish and Wildlife Service, Ecological Services. Palm Springs, California.

Cornett, Duane. 2010. Memorandum to Jim Veres (Division of Engineering), et al. regarding CEQA Final Negative Declaration (SCH32010031004) and Notice of Determination for DWR's Southern Field Headquarters Building Project at Pearblossom Operations and Maintenance Center - Approval. DWR. May 12, 2010.

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, North Dakota: Northern Prairie Wildlife Research Center (NPWRC) Online. http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf.

Cowper, Dorothy, G.A. Smith, and Cummings, Ralph. 1968. Archaeological Site Survey Record P-36-000501. On file at South Central Coastal Information Center.

Crabtree, R. H. 1981. Archaeology. In E. von Till Warren, R. H. Crabtree, C. N. Warren, M. Knack, and R. Marty, eds., A Cultural Resources Overview of the Colorado Desert Planning Units: 25-54. Riverside; US Bureau of Land Management, Cultural Resources Publications, Anthropology-History.

Craddock, Ted. 2014a. Memorandum to Kimberly D. Bose (Secretary, FERC) regarding report on installation of Part 8 signage and directional signage at Silverwood Lake. Department of Water Resources. Sacramento, California. September 30, 2014.

Craddock, Ted. 2014b. Memorandum to Kimberly D. Bose (Secretary, FERC) regarding the repair of infrastructure in Miller Canyon Day Use Area at Silverwood Lake SRA. Department of Water Resources. Sacramento, California. September 26, 2014.

Crayton, J. J. 2005. Xenopus laevis (Daudin, 1802) African clawed frog. In: Lannoo, M. (Editor). Amphibian Declines: The Conservation Status of United States Species. University of California Press, June 2005.

Crestline Soaring Society. 2015. History of the Crestline Soaring Society.

Curl, Janice. 1993a. Silverwood Reservoir Investigations - 1993. CDFG. California.

Curl, Janice. 1993b. Silverwood Reservoir Investigations - 1993. CDFG. California.

Davidson, C., H.B. Schaffer and M R. Jennings. 2001. Declines of the California red-legged frog: spatial analysis of climate change, UV-B, and climate-change hypotheses. Ecological Applications 11:464-479.

Davis, J.A., A.R. Melwani, S.N. Bezalel, J.A. Hunt, G. Ichikawa, A. Bonnema, W.A. Heim, D. Crane, S. Swenson, C. Lamerdin, and M. Stephenson. 2010. Contaminants in fish from California lakes and reservoirs, 2007-2008: Summary report on a two-year screening survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California SWRCB, Sacramento, CA.

de Barros, Philip. 1990. Cultural Resources Management Plan, Rancho Las Flores Project, Hesperia, San Bernardino County, California. Prepared by Chambers Group, Inc. and The Trager Law Offices. Prepared for ARC Las Flores Limited Partnership.

de Munck, Victor C. 1989a. Environmental Impact Evaluation: A Cultural Resource Assessment of a 22.5 Acre Parcel of Land Designated as Tentative Tract No 14193 Located in the City of San Bernardino, San Bernardino County, California. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.

de Munck, Victor C. 1989b. Environmental Impact Evaluation: A Cultural Resource Assessment of a 9.7 Acre Parcel of Land Designated as Tentative Tract No 14260 Located in the City of San Bernardino, San Bernardino County, California. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.

de Munck, Victor C. 1989c. Environmental Impact Evaluation: A Cultural Resource Assessment of a 9.7 Acre Parcel of Land Designated as Tentative Tract No 14261 Located in the City of San Bernardino, San Bernardino County, California. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.

De Santiago, Jaime. 2009. CSS Landing Zone Approach Graphics. DWR. Sacramento.

DiTomaso, J.M. et al. 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California. 544 pp.

Donaldson, S. and W. Johnson. 2002. Eurasian Watermilfoil. Fact Sheet 02-09. Cooperative Extension, University of Nevada. Reno, Nevada. Available online at: <http://www.unce.unr.edu/publications/files/nr/2002/FS0209.pdf>.

Doods, John T. 2001. East Branch Property Management Maps. DWR. Sacramento.

California Department of Parks and Recreation (DPR). 1995. Untitled document containing tables and figures on bald eagle night roost and perching sites around Silverwood Lake.

DPR. 2016a. Primary Record: Old Highway 173. State of California, The Resource Agency, Department of Parks and Recreation.

DPR. 2016b. Primary Record: P-36-000174. State of California, the Resource Agency, Department of Parks and Recreation.

DPR. 2015a. “Fire Restrictions in Effect at Silverwood Lake State Recreation Area”. For immediate release 6/26/15. http://www.parks.ca.gov/NewsRelease/577. Accessed: 8/17/15.

DPR. 2015b. “Public Safety Classifications" State Park Peace Officers and Superintendents. Available online at: http://www.parks.ca.gov/?page_id=24134. Accessed: 8/17/15.

DPR. 2015c. Available online at: http://www.parks.ca.gov/?page id=24134

DPR. 2015d. Fire Restrictions in Effect at Silverwood Lake State Recreation Area. Available online at: http://www.parks.ca.gov/NewsRelease/577

DPR. 2015e. Meeting the Needs of All Californians: 2015 Statewide Outdoor Recreation Plan.

DPR. 2015g. “Vessel Inspection Information”. http://www.parks.ca.gov/?page_id=25893. Accessed: 8/17/15.

DPR. 2014. Survey on Public Opinions and Attitudes on Outdoor Recreation in California 2012. Complete findings. January.

DPR. 2013. Outdoor Recreation in California's Regions 2013.

DPR. 2011. Park Unit Costing.

DPR. 2010. Fishing Regulations: Silverwood Lake State Recreation Area.

DPR. 2009. Silverwood Lake State Recreation Area Nature Center Interpretive Project Plan. California State Parks. San Diego, CA. April 2009.

DPR. 2008. Silverwood lake attendance, revenues, and expenditures.

DPR. 2006. Silverwood Lake State Recreation Area Brochure. Revised 2010.

DPR. 1997a. Cultural Heritage Section. San Bernardino Tunnel Intake Reconstruction Project, The Evaluation of Newly Discovered Archeological Site, CA-SBR-8913 (SL-1), Silverwood Lake, San Bernardino County, California. Prepared for the DWR, Division of Planning. August 19.

DPR. 1997b. Memorandum: felled trees at Silverwood Lake State Recreation Area. Letter from Vincint, D.K., Superintendent, with attachments to Keene, C.F., Senior Project Manager. January 17, 1997.

DPR. Cultural Heritage Section. 1997c. San Bernardino Tunnel Intake Reconstruction Project, The Evaluation of Newly Discovered Archeological Site, CA-SBR-8913 (SL-1), Silverwood Lake, San Bernardino County, California. Prepared for the DWR, Division of Planning. August 19.

DPR. 1992. California Points of Historical Interest. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.

DPR. June 30, 1985. Index to Historic Resources Owned by DPR. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.

DPR. 1982. California Historical Landmarks. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.

DPR. 1976. California Inventory of Historic Resources. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.

DPR. 1973a. Point of Historical Interest SBR-022 (P-36-009938H). On File at South Central Coastal Information Center.

DPR. 1973b. Point of Historical Interest SBR-18H. On file at South Central Coastal Information Center.

DPR. 1972. Silverwood Lake State Recreation Area General Development Plan. State of California, Department of Parks and Recreation. Prepared by Master Planning Branch. 2nd Revision. June 1972.

Dudek and Associates, INC. 2003. Biological Evaluation/Biological Assessment Report For Sensitive Species And Species Of Concern Southern California Edison Bark Beetle Project, Appendices. Pasadena, CA

Dudley, T.L., S.D. Cooper, and N Hemphill. 1986. Effects of Macroalgae on a Stream Invertebrate Community. Journal of the North American Benthological Society. 5(2): 93-106.

Duke, Curt and Shattuck, Paul. 2004. Cultural Resource Assessment: Southern California Edison Tower No. 128104B, San Bernardino County, California. Prepared by LSA Associates Inc. Prepared for Southern California Edison.

Dumke, Glenn S. 1991. The Boom of the Eighties in Southern California. Huntington Library, San Marino, CA.

Duro, Henry. 1997. Letter regarding the Final Report.

Durst, S.L., M.K. Sogge, H.C. English, H.A. Walker, B.E. Kus, and S.J. Sferra. 2008. Southwestern willow flycatcher breeding site and territory summary – 2007. U.S. Geological Survey, Colorado Plateau Research Station, Flagstaff, AZ.

DWR. Undated. Phytoplankton Survey Data at Silverwood 2000-2014. Excel Data Workbook. 14 tabs.

DWR. 2016a. CDEC Station Search. January 5, 2016. Available: http://cdec.water.ca.gov/cgi-progs/staSearch

DWR. 2016b. 2015 Annual Monitoring Report, Water Quality Order No. 2013-0002-DWQ. Statewide General National Pollutant Discharge Elimination System Permit for Residual Aquatic Pesticide Discharge to Waters of the United States from Algae and Aquatic Weed Control Applications. DWR, Division of Operations and Maintenance. Sacramento, California.

DWR. 2016c. Updated Recreation Plan. South SWP Hydropower, FERC Project No. 2426. May 2016.DWR. 2015a. Silverwood and Pyramid Veliger raw data 2008-2015. 1 Excel Worksheet.

DWR. 2015b. Daily SWP energy data for April 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015c. Daily SWP energy data for August 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015d. Daily SWP energy data for August 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015e. Daily SWP energy data for December 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015f. Daily SWP energy data for December 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015g. Daily SWP energy data for February 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015h. Daily SWP energy data for February 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015i. Daily SWP energy data for January 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015j. Daily SWP energy data for January 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015k. Daily SWP energy data for July 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015l. Daily SWP energy data for June 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015m. Daily SWP energy data for June 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015n. Daily SWP energy data for July 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015o. Daily SWP energy data for March 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015p. Daily SWP energy data for March 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015q. Daily SWP energy data for March 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015r. Daily SWP energy data for May 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015s. Daily SWP energy data for May 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015t. Daily SWP energy data for November 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015u. Daily SWP energy data for November 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015v. Daily SWP energy data for October 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015w. Daily SWP energy data for October 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015x. Daily SWP energy data for Sep 2005 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015y. Daily SWP energy data for September 2006 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015z. Table 24. Southern Field Division Plant Data. Data for all months in 1989 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015aa. Table 24. Southern Field Division Plant Data. Data for all months in 1990 extracted from DWR Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ab. Table 24. Southern Field Division Plant Data. Data for all months in 1991 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ac. Table 24. Southern Field Division Plant Data. Data for all months in 1992 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ad. Table 24. Southern Field Division Plant Data. Data for all months in 1993 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ae. Table 24. Southern Field Division Plant Data. Data for all months in 1994 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015af. Table 24. Southern Field Division Plant Data. Data for all months in 1995 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ag. Table 24. Southern Field Division Plant Data. Data for all months in 1996 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ah. Table 24. Southern Field Division Plant Data. Data for all months in 1997 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ai. Table 24. Southern Field Division Plant Data. Data for all months in 1998 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015aj. Table 24. Southern Field Division Plant Data. Data for all months in 1999 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ak. Table 24. Southern Field Division Plant Data. Data for all months in 2000 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015al. Table 24. Southern Field Division Plant Data. Data for all months in 2001 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015am. Table 24. Southern Field Division Plant Data. Data for all months in 2002 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015an. Table 24. Southern Field Division Plant Data. Data for all months in 2003 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ao. Table 24. Southern Field Division Plant Data. Data for all months in 2004 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ap. Table 24. Southern Field Division Plant Data. Data for all months in 2005 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015aq. Table 24. Southern Field Division Plant Data. Data for all months in 2006 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ar. Table 24. Southern Field Division Plant Data. Data for all months in 2007 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015as. Table 24. Southern Field Division Plant Data. Data for all months in 2008 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015at. Table 24. Southern Field Division Plant Data. Data for all months in 2009 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015au. Table 24. Southern Field Division Plant Data. Data for all months in 2010 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015av. Table 24. Southern Field Division Plant Data. Data for all months in 2011 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015aw. Table 24. Southern Field Division Plant Data. Data for all months in 2012 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015x. Table 24. Southern Field Division Plant Data. Data for all months in 2013 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ay. Table 24. Southern Field Division Plant Data. Data for all months in 2014 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015az. Table 24. Southern Field Division Plant Data. Data for all months in 2015 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ba. Bulletin 132 - Excerpts from Various Years (199602914).

DWR. 2015bb. Bulletin 132 Wiki Summarizing Devil Canyon Project data from 2001 to 2011,

DWR. 2015bc. Craddock, Ted: Request for Recreation Revenue and Cost Information. DWR. Sacramento.

DWR. 2015bd. Eight 5-Year Part 12D Safety Inspection Report, Pyramid Dam. May 27, 2015.

DWR. 2015be. Exhibit A - Description of Project Features. Before the Federal Regulatory Commission Application for Amendment to License to Add Mojave Siphon Powerplant.

DWR. 2015bf. Hydropower License Planning and Compliance Office. Response to Request for Recreation Revenue and Cost Information. Submitted to Federal Energy Commission January 30.

DWR. 2015bg. Letter from Craddock, Ted to Frank L. Blackett (Regional Engineer, FERC) about the proposed schedule to complete shoreline maintenance along the upstream left abutment of Cedar Springs Dam. August 28, 2015.

DWR. 2015bh. Monthly Report for Silverwood REVENUE - February 2015. DPR. California.

DWR. 2015bi. Phytoplankton monitoring data for Silverwood Lake 2000-2014. DWR, Division of Operations and Maintenance, Environmental Assessment Branch. Sacramento, California.

DWR. 2015bj. Quagga and zebra mussel veliger monitoring data for Silverwood Lake and Pyramid Lake. DWR, Division of Operations and Maintenance, Environmental Assessment Branch. Sacramento, California.

DWR. 2015bk. Raw data for veliger surveys at Silverwood Reservoir between 2008 and 2015. Excel workbook with 1 tab.

DWR. 2015bl. South SWP Hydropower (FERC Project No. 2426): Exhibit A – Project Description.

DWR. 2015bm. State Water Project Monthly Operations Data. Site Accessed: August 1, 2015. http://www.water.ca.gov/swp/operationscontrol/monthly.cfm

DWR. 2015bn. SWP Monthly Operations Data (http://www.water.ca.gov/swp/operationscontrol/monthly.cfm).

DWR. 2015bo. Table 29. Silverwood Lake Data for 1990 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bp. Table 29. Silverwood Lake Data for 1990 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bq. Table 29. Silverwood Lake Data for 1991 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015br. Table 29. Silverwood Lake Data for 1992 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bs. Table 29. Silverwood Lake Data for 1993 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bt. Table 29. Silverwood Lake Data for 1994 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bu. Table 29. Silverwood Lake Data for 1995 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bv. Table 29. Silverwood Lake Data for 1996 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bw. Table 29. Silverwood Lake Data for 1997 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bx. Table 29. Silverwood Lake Data for 1998 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015by. Table 29. Silverwood Lake Data for 1999 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015bz. Table 29. Silverwood Lake Data for 2000 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ca. Table 29. Silverwood Lake Data for 2001 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cb. Table 29. Silverwood Lake Data for 2002 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cc. Table 29. Silverwood Lake Data for 2003 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cd. Table 29. Silverwood Lake Data for 2004 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ce. Table 29. Silverwood Lake Data for 2005 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cf. Table 29. Silverwood Lake Data for 2006 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cg. Table 29. Silverwood Lake Data for 2007 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ch. Table 29. Silverwood Lake Data for 2008 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ci. Table 29. Silverwood Lake Data for 2009 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cj. Table 29. Silverwood Lake Data for 2010 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ck. Table 29. Silverwood Lake Data for 2011 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cl. Table 29. Silverwood Lake Data for 2012 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cm. Table 29. Silverwood Lake Data for 2013 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cn. Table 29. Silverwood Lake Data for 2014 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015co. Table 29. Silverwood Lake Data for Jan - May, 2015 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cp. Table 38. SWP Daily Energy for 2000 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cq. Table 38. SWP Daily Energy for 2001 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cr. Table 38. SWP Daily Energy for 2002 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cs. Table 38. SWP Daily Energy for 2003 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015ct. Table 38. SWP Daily Energy for 2004 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cu. Table 38. SWP Daily Energy for 2007 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cv. Table 38. SWP Daily Energy for 2008 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cw. Table 38. SWP Daily Energy for 2009 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cx. Table 38. SWP Daily Energy for 2010 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cy. Table 38. SWP Daily Energy for 2011 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015cz. Table 38. SWP Daily Energy for 2012 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015da. Table 38. SWP Daily Energy for 2013 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015db. Table 38. SWP Daily Energy for 2014 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dc. Table 38. SWP Daily Energy for Jan - May 2015 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dd. Table 38. SWP Daily Energy for1990 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015de. Table 38. SWP Daily Energy for1991 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015df. Table 38. SWP Daily Energy for1992 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dg. Table 38. SWP Daily Energy for1993 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dh. Table 38. SWP Daily Energy for1994 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015di. Table 38. SWP Daily Energy for1995 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dj. Table 38. SWP Daily Energy for1996 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dk. Table 38. SWP Daily Energy for1997 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dl. Table 38. SWP Daily Energy for1998 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dm. Table 38. SWP Daily Energy for1999 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015dn. Table 64 Silverwood Lake Data for July - Dec 1989 extracted from DWR. Monthly Operation Reports. Original reports available online at: http://www.water.ca.gov/swp/operationscontrol/monthly.cfm.

DWR. 2015do. Trout stocking and creel survey data for 2014-2015. DWR, Division of Operations and Maintenance, Environmental Assessment Branch. Sacramento, California.

DWR. 2015dp. License Order And Articles, South SWP Hydropower Relicensing, FERC Project NO. 2426. California Department of Water Resources. Sacramento, California.

DWR. 2015dq. FERC Project No. 2426 - Cedar Springs Dam, Completion of Erosion Repair at Upstream Left Abutment. December 11, 2015

DWR. 2014a. Application of copper to the State Water Project to control aquatic weeds and algal blooms. Initial Study/Final Mitigated Negative Declaration. May 2014.

DWR. 2014b. Aquatic pesticide application plan water quality Order No. 2013-0002-DWQ. April 23, 2014. Available: http://www.water.ca.gov/swp/waterquality/docs/DWR_2014_APAP_Final.pdf.

DWR. 2014c. Aquatic Pesticides Application Plan, Water Quality Order No. 2013-0002-DWQ. DWR, Environmental Assessment Branch, April 23, 2014.

DWR. 2014d. Aquatic Pesticides Application Plan. Statewide General National Pollutant Discharge Elimination system Permit for the Discharge of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States. Sacramento, CA.

DWR. 2014e. Bulletin 132, Management of the California State Water Project.

DWR. 2014f. Devil Canyon Dam, State Dam No, 1-88, FERC Project 2426-CA, Dam Safety Surveillance and Monitoring Report (DSSMR), October 1, 2013 through September 30, 2014.

DWR. 2014g. Management of the California State Water Project (Bulletin 132-12). Sacramento, California.

DWR. 2014h. Management of the California State Water Project, Bulletin 132-12, 50th Edition. August 2014.

DWR. 2014i. Monthly Report for Silverwood REVENUE - December 2014. DPR. California.

DWR. 2014j. Monthly Report for Silverwood REVENUE - November 2014. DPR. California.

DWR. 2014k. Silverwood Lake Monthly Revenue Reports 2013-14. DPR. California.

DWR. 2014l. Silverwood Lake Monthly Revenue Reports 2014-15. DPR. California.

DWR. 2014m. South SWP Hydropower FERC Form 80.

DWR. 2014n. South SWP Hydropower Project Public Safety Plan.

DWR. 2014o. STID. San Bernardino County, California, Devil Canyon Second Afterbay, FERC Project No. 2426-CA.

DWR. 2014p. The Department of Water Resources Aquatic Pesticides Application Plan. The Department of Water Resources Environmental Assessment Branch. Sacramento, CA.

DWR. 2014q. Trout stocking program, July 2012 through April 2014. 2014 biennial report. Prepared by T. Veldhuizen and J. Worsley, DWR. June 2014. 18 pp.

DWR. 2014r. South SWP Hydropower FERC Form 80.

DWR. 2014s. SAP Cost Reports. Functional Areas in P2426 Project Boundary. Prepared by DWR Southern Field Division.

DWR. 2014t. Southern Field Division. South SWP Hydropower Project PREC Project No. 2426 - Public Safety Plan. DWR. Castaic, California.

DWR. 2014j. South SWP Hydropower (FERC Project No. 2426), Exhibit A – Project Description. November 14.

DWR. 2013a. Bulletin 132-10, Management of the California State Water Project.

DWR. 2013b. Bulletin 132-11, Management of the California State Water Project.

DWR. 2013c. Devil Canyon Dam, Dam Safety Surveillance and Monitoring Report, October 1, 2012 through September 30, 2013.

DWR. 2012a. Letter from Mark W. Cowin, Director, Department of Water Resources to Robyn Thorson, Regional Director of the Department of Interior Fish and Wildlife Service. June 26, 2012. 5 pp.

DWR. 2012b. Bulletin 132-8, Management of the California State Water Project.

DWR. 2012c. Bulletin 132-9, Management of the California State Water Project.

DWR. 2012d. Devil Canyon Dam, Dam Safety Surveillance and Monitoring Report, October 1, 2011 through September 30, 2012.

DWR. 2012e. Water Resources Engineering Memorandum NO. 20e.

DWR. 2012f. Standard Agreement between Department of Water Resources and Department of Fish and Game. Contract No. 4600009533. FY 2012/2013 through 2014/2015. 5 pp.

DWR. 2011a. Cedar Springs Dam, FERC Project 2426-CA, Dam Safety Surveillance and Monitoring Report October 1, 2010 through September 30.

DWR. 2011b. Cedar Springs Dam, State Dam No. 1-63, FERC Project 2426-CA, Dam Safety Surveillance and Monitoring Report October 1, 2011 through September 30, 2012

DWR. 2011c. Cedar Springs Dam, State Dam No. 1-63, FERC Project 2426-CA, Dam Safety Surveillance and Monitoring Report October 1, 2012 through September 30, 2013

DWR. 2011d. Cedar Springs Dam, State Dam No. 1-63, FERC Project 2426-CA, Dam Safety Surveillance and Monitoring Report October 1, 2013 through September 30, 2014

DWR. 2011e. Devil Canyon Dam, Dam Safety Surveillance and Monitoring Report, October 1, 2010 through September 30, 2011.

DWR. 2011f. Change in Point of Delivery Agreement Among The Department of Water Resources of The State of California, Metropolitan Water District of Southern California and Mojave Water Agency for the Mojave River Basin Groundwater Banking Program, SWPAO #11011. September 8.

DWR. 2010 through 2015. Monthly Reports. Water quality at selected grab sample locations. Available: http://www.water.ca.gov/publications/browse.cfm?display=topic&pub=120,382,8309

DWR. 2010a. Cedar Springs Dam, Dam Safety Surveillance and Monitoring Report October 1, 2009 through September 30.

DWR. 2010b. Devil Canyon Dam, Dam Safety Surveillance and Monitoring Report, October 1, 2009 through September 30.

DWR. 2010c. Emails between DWR employees, subject line: arroyo toad habitat. January 7.

DWR. 2010d. The Quagga and Zebra Mussel Rapid Response Plan for the State Water Project. 93 pp. CONFIDENTIAL/PRIVILEGED – Not for Public Distribution.

DWR. 2009a. Administrative Draft EIR, East Branch Enlargement Phase II Project, Principal Regional Faults, Figure 3.1-1.

DWR. 2009b. Administrative Draft EIR, East Branch Enlargement Phase II Project. Pp 3.1-1 through 3.1-23.

DWR. 2009c. Cedar Springs Dam, Dam Safety Surveillance and Monitoring Report January 1, 2007 through September 30.

DWR. 2009d. Devil Canyon Dam, Dam Safety Surveillance and Monitoring Report, January 1, 2007 through September 30.

DWR. 2009e. Standard Operating Order PC 500.17.

DWR. 2009f. Standard Operating Order SC 500.18.

DWR. 2009g. Standard Operating Order SC 500.21.

DWR. 2009h. Standard Operating Order SC 500.22.

DWR. 2008a. Bulletin 132-7, Management of the California State Water Project.

DWR. 2008b. Silverwood Lake SRA Expenditure Report. DPR. California.

DWR. 2007a. Bulletin 132-6, Management of the California State Water Project.

DWR. 2007b. Cedar Springs Dam, State Dam No. 1-63, Performance Report No. 11, September 1, 1998 to December 31, 2006.

DWR. 2007c. Devil Canyon Complex, State Dam No. 1-88, Performance Report No, 2, June 1, 1997 through December 31, 2006.

DWR. 2007c. Devil Canyon Second Afterbay Performance Report No. 1, January 1995 - May 1997. Prepared by Acken, Christina.

DWR. 2007d. Emails between DWR employees, subject line: Silverwood Stream Release Flows, June 2006. June 28-29, 2006.

DWR. 2007e. Management of the California State Water Project (Bulletin 132-06). Sacramento, California.

DWR. 2006a. Bulletin 132-5, Management of the California State Water Project.

DWR. 2006b. Division of Engineering, Project Geology Section. Engineering Geology Report for the Replacement of Various Park Facilities Destroyed by the 2003 Cedar Fire, Project Geology Report 57-11-22. Prepared for the DPR.

DWR. 2006c. Division of Engineering, Project Geology Section. Final Construction Geology Report, Mojave Siphon Powerplant, Mojave Siphon Pipeline, Project Geology Report C-105.

DWR. 2006d. Mitigated Negative Declaration and Initial Study, Horsethief Creek Bridge, Mojave Siphon Mitigation Road. January 2006

DWR. 2005a. Bulletin 132-4, Management of the California State Water Project.

DWR. 2005b. Devil Canyon Second Afterbay, State Dam No. 1-88, Surveillance Data Evaluation, August 1, 2002 through December 31, 2004.

DWR. 2004a. Appendix A: Scope of Work for Lake Silverwood Debris Removal Contract.

DWR. 2004b. Bulletin 132-3, Management of the California State Water Project.

DWR. 2004c. California's Groundwater, Bulletin 118, Upper Santa Ana Valley Groundwater Basin, Bunker Hill Subbasin. February 27.

DWR. 2004d. Cedar Springs Dam, State Dam No. 1-63, Surveillance Data Evaluation, August 1, 2002 through July 31, 2004.

DWR. 2004e. Inspection of Dam and Reservoir in Certified Status.

DWR. 2004f. Letter from Glover, Tom (Deputy Director, DWR) to Magalie R. Salas (Secretary, FERC) about the impacts of recent fires within the FERC boundary. January 8, 2004.

DWR and CDFG. 2003. Memorandum of Understanding re: mitigation of impacts to the largemouth bass fishery at Lake Silverwood. 7 pp.

DWR. 2003. Bulletin 132-2, Management of the California State Water Project.

DWR. 2002a. Bulletin 132-1, Management of the California State Water Project.

DWR. 2002b. Cedar Springs Dam, State Dam No. 1-63, Surveillance Data Evaluation, August 1, 2001 through July 31, 2002.

DWR. 2001a. Division of Design and Construction. Final Construction Geology Report, Devil Canyon Powerplant Second Penstock, Project Geology Report C-101.

DWR. 2001b. Division of Engineering. Final Construction Geology Report, San Bernardino Tunnel Intake Reconstruction, Project Geology Report C-120.

DWR. 2001c. Bulletin 132-0, Management of the California State Water Project.

DWR. 2001d. Bulletin 132-99, Management of the California State Water Project.

DWR. 2001e. Cedar Springs Dam, State Dam No. 1-63, Surveillance Data Evaluation, August 1, 2000 through July 31, 2001.

DWR. 2001f. Invasive Plant Species Removal at Devil Canyon Power Plant, San Bernardino, California.

DWR. 2000a. Dam Breach and Inundation Study for Cedar Springs Dam, California.

DWR. 2000b. San Bernardino Tunnel Intake Reconstruction Project - Final Bald Eagle Monitoring. Report submitted to FERC. July 27.

DWR. 1999a. Cedar Springs Dam 1999 Data Synopsis and Evaluation.

DWR. 1999b. Initial Study and Draft Mitigated Negative Declaration. Sugarloaf Mountain Road and Drainage Repair Project. May 1999.

DWR. 1999c. Silverwood Lake Status Report. September 20, 1999.

DWR. 1999. Silverwood Lake Status Report. September 20, 1999. 106 pp.

DWR. 1998a. Silverwood Lake Fishery Mitigation Status Report No. 1 (Case No. SCV 16974). San Bernardino Tunnel Intake Reconstruction Project. 82 pp.

DWR. 1988b. Devil Canyon Second Afterbay Project CEQA Documents.

DWR. 1998c. Bulletin 132, Management of the California State Water Project.

DWR. 1998d. Bulletin 132, Management of the California State Water Project.

DWR. 1998e. Cedar Springs Dam, State Dam No. 1-63, Performance Report No. 10, May 1, 1989 to August 31.

DWR. 1998f. Silverwood Lake Interim Report, July 1998. Report submitted to FERC. July 1998.

DWR. 1997a. Silverwood Lake Fishery Restoration Update. San Bernardino Tunnel Intake Reconstruction Project. FERC Project No. 2426. June 1997. 68 pp.

DWR. 1997b. Silverwood Lake Fishery Restoration Update. San Bernardino Tunnel Intake Reconstruction Project. FERC Project No. 2426. June 1997. 70 pp.

DWR. 1997c. Bulletin 132, Management of the California State Water Project.

DWR. 1997d. Devil Canyon Powerplant Second Afterbay Revegetation. February 5, 1997.

DWR. 1997e. Devil Canyon Surge Chamber Report.

DWR. 1997f. FERC Project No. 2426-090, Monitoring of Southern Bald Eagles at Silverwood Lake 1996-1997. Report to FERC prepared by SCPBRG. September 26.

DWR. 1997g. Letter to FERC regarding discovery of previously unidentified archaeological site at Silverwood Lake.

DWR. 1997h. Letter to FERC requesting approval to begin extended survey work at newly discovered archaeological site: San Bernardino Tunnel Intake Reconstruction.

DWR. 1997i. Letter to FERC requesting an extension to submit final archaeological report.

DWR. 1997j. Memo regarding completion of required archaeological fieldwork at Silverwood Lake.

DWR. 1997k. Memo regarding discovery of new archaeological site in the Cleghorn Canyon Arm of Silverwood Lake.

DWR. 1997l. Request for Approval to Begin Extended Survey Work at Newly Discovered Archeological Site: San Bernardino Tunnel Intake Reconstruction. Department of Water Resources. Sacramento

DWR. 1997m. Tree cutting incident at Chamise Ridge, San Bernardino Tunnel Intake Project Site. Report to FERC. January.

DWR. 1997n. Letter, subject line: San Bernardino Tunnel Intake Reconstruction Project - FERC Project No. 2426-063, Incident Report - Removal of Bald Eagle Perch Trees. Letter to Robinson, J.M, Director of Project Compliance and Administration, FERC, from Kashiwada, S.L., Deputy Director. February 18.

DWR. 1997o. Letter, subject line: San Bernardino Tunnel Intake Reconstruction Project - Chamise Ridge Mitigation Plan, Silverwood Lake. Letter and attachments to Cashell, LD., Secretary FERC, from Kashiwada, S.L. Deputy Director, DWR. September 26.

DWR. 1996a. Modification of the DWR Silverwood Lake Fishery Mitigation Plan. 7 pp.

DWR. 1996b. Bulletin 132, Management of the California State Water Project.

DWR. 1996c. Feasibility Report, Creation of Artificial Pools in Miller Canyon, Silverwood Lake, San Bernardino Tunnel Intake Reconstruction Project, FERC Project No. 2426. Report to FERC, August 1996.

DWR. 1996d. Initial Study and Draft Negative Declaration. Sugarloaf Mountain Drainage Control Project. March 1996.

DWR. 1995a. Amendment 1 to Memorandum of Agreement Regarding Mitigation of State Water Project Wildlife Losses in Southern California. Agreement between Department of Water Resources, Department of Fish and Game, and The Metropolitan Water District of Southern California. 5 pp.

DWR. 1995b. Silverwood Lake Fishery Mitigation Plan. San Bernardino Tunnel Intake. April 1995. 21 pp.

DWR. 1995c. Division of Design and Construction. Final Construction Geology Report, Mojave Siphon Powerplant Tunnel, Project Geology Report C-104.

DWR. 1995d. Division of Design and Construction. Final Construction Geology Report, Devil Canyon Second Afterbay, Project Geology Report C-102.

DWR. 1995e. Final Construction Geology Report Devil Canyon Second Afterbay.

DWR. 1995f. Implementation Plan for Terms and Conditions in the Federal Biological Opinion, San Bernardino Tunnel Intake Reconstruction Project.

DWR. 1995g. Silverwood Lake Fishery Mitigation Plan, San Bernardino Tunnel Intake Reconstruction Project. DWR. Sacramento.

DWR. 1995h. Silverwood Lake Fishery Mitigation Plan, San Bernardino Tunnel Intake Reconstruction Project. DWR. Sacramento. 3 pp.

DWR. 1995i. Silverwood lake Recreation Mitigation Plan, San Bernardino Tunnel Intake Reconstruction Project. DWR. Sacramento.

DWR. 1995j. Implementation Plan For Terms And Conditions In The Federal Biological Opinion, San Bernardino Tunnel Intake Reconstruction Project. California Department of Water Resources. Glendale, California.

DWR. 1994a. Biological Assessment for the San Bernardino Tunnel Intake Reconstruction. 59 pp.

DWR. 1994b. Revised Initial Study and Final Mitigated Negative Declaration for the San Bernardino Tunnel Intake Reconstruction Project. Department of Water Resources, Southern District. October 1994. 244 pp.

DWR. 1994c. Division of Design and Construction. Geologic Date San Bernardino Tunnel Intake Reconstruction, Project Geology Report D-149.

DWR. 1994d. Erosion Control and Site Drainage Plan for the San Bernardino Tunnel Intake Reconstruction Project. California DWR. Sacramento

DWR. 1994e. Initial Study and Final Mitigated Negative Declamation, San Bernardino Tunnel Intake Reconstruction Project. DWR. Glendale, California.

DWR. 1994f. Revised Initial Study and Final Mitigated Negative Declaration. San Bernardino Tunnel Intake Reconstruction Project. October 1994.

DWR. 1994g. Revised Initial Study and Final Mitigated Negative Declaration, San Bernardino Tunnel Intake Reconstruction Project.

DWR. 1992a. Devil Canyon Second Afterbay Slope Stability.

DWR. 1992b. Final Supporting Design Report for Devil Canyon Second Afterbay.

DWR. 1992c. Standard Operating Order PC 500.1-C.

DWR. 1992d. Standard Operating Order PC 500.6.

DWR. 1991a. Devil Canyon Second Afterbay Revegetation Plan.

DWR. 1991b. Devil Canyon Second Afterbay Revegetation Plan. DWR. Sacramento.

DWR. 1991c. Standard Operating Order PC 500.13A.

DWR. 1991d. Standard Operating Order SC 500.14.

DWR. 1991e. Standard Operating Order SC 500.15.

DWR. 1990a. State Water Project Operations Data for the Month of February 1990.

DWR. 1990b. State Water Project Operations Data for the Month of January 1990.

DWR. 1990c. State Water Project Operations Data for the Month of March 1990.

DWR. 1989. Agreement between the Department of Water Resources of the State of California and the Crestline-Lake Arrowhead Water Agency to Conserve Local Runoff Originating in the Houston Creek Watershed above Cedar Springs Dam.

DWR. 1986. FERC Project No. 2426 - Submittal of Revised Exhibit R Drawings and Text. California Department of Water Resources. Sacramento, California.

DWR. 1985. Memorandum of agreement regarding mitigation of State Water Project Wildlife Losses in Southern California. 25 pp.

DWR. 1984. Gorman Creek Riparian/Wildlife Corridor Development Plan. 25 pp.

DWR. 1983. Standard Operating Order PC 500.12.

DWR. 1982a. Agreement between the State of California, Department of Water Resources and the Mojave River Water Agency to Conserve Flood Waters Originating in the Watershed above Cedar Springs Dam.

DWR. 1982b. Phase I Investigation of Water Supply Sources for the San Jacinto Wildlife Area. March 1982.

DWR. 1981a. Standard Operating Order PC 500.10.

DWR. 1981b. Standard Operating Order PC 500.9.

DWR. 1980a. Agreement between the State of California Department of Water Resources and the Las Flores Ranch, Ltd., for Operation of Las Flores Ranch Diversion

DWR. 1980b. Letter from DWR to FERC. FERC Project No. 2426, Amendment of the License for Project No. 2426, California Aqueduct, by Adding Article No. 65. October 6, 1980

DWR. 1978. Conceptual Plan Proposed San Jacinto Area. From Dick Davidson, February 1, 1978

DWR. 1977a. Memo from David E. Pelgen, Chief, Recreation Planning Section, Division of Planning to George Baumli. Re Wildlife Mitigation. September 23.1977.

DWR. 1977b. Standard Operating Order PC 500.7.

DWR. 1977c. State Water Project Wildlife Preservation Program in Southern California. By Geoge R. Baumli, Chief, Planning Branch Southern District

DWR. 1976a. Division of Construction, Final Geologic Report, Devil Canyon Power Development, Devil Canyon Powerplant Penstock Project Geology Report C-85.

DWR. 1976b. Division of Construction. Final Geologic Report on Antelope Siphon, Second Barrel, Project Geology Report No. C-90.FINAL GEOLOGIC REPORT ON ANTELOPE SIPHON, SECOND BARREL, APPENDIX TO FINAL CONSTRUCTION REPORT, PROJECT GEOLOGY REPORT NO. C-90.

DWR. 1976c. Final Geologic Report Devil Canyon Power Development Devil Canyon Powerplant Penstock.

DWR. 1976d. Letter from Ronald B. Robie to Claire T. Dedrick, Secretary for Resources, The Resources Agency, regarding Silverwood-Heart Bar Land Exchange. April 6, 1976.

DWR. 1976e. Memorandum from David E. Pelgen, Chief, Recreation and Planning Section, Division of Planning, Regarding Department of Water Resources' Policy Concerning Preservation (or Mitigation of Damage to) Wildlife. December 28, 1976.

DWR. 1976f. Summary of Wildlife Habitat (Acres) Affected by State Water Project Facilities on National Forest Lands. Revised October 20, 1976.

DWR. 1976g. Water Operations Manual OP-550R Southern Field Division.

DWR. 1975a. Division of Design and Construction. Final Geologic Report on Devil Canyon Powerplant, Project Geology Report No. C-84.

DWR. 1975b. Final Geologic Report on Devil Canyon Powerplant.

DWR. 1975c. Final Geologic Report on Foundation Conditions and Grouting Cedar Springs Dam and Reservoir.

DWR. 1974a. Wildlife Habitat Enhancement Plan. Mojave Division - California Aqueduct. Southern California. March 1974. Bulletin No. 117-21. 14 pp.

DWR. 1974b. Bulletin No. 200, California State Water Project, Volume VI, Project Supplements.

DWR. 1974c. Division of Design and Construction. Final Geologic Report, San Bernardino Tunnel, Project Geology Report C-81.

DWR. 1974d. Bulletin No. 200, California State Water Project, Volume II, Conveyance Facilities.

DWR. 1974e. Bulletin No. 200, California State Water Project, Volume I: History, Planning, and Early Progress.

DWR. 1974f. Bulletin No. 200. California State Water Project Volume I: History, Planning, and Early Progress. State of California Department of Water Resources.

DWR. 1974g. Division of Design and Construction. Final Geologic Report, Los Angeles-San Bernardino County Line to West Fork Mojave River, California Aqueduct, Project Geology Report C-73.

DWR. 1974h. Memorandum Report: Effects of the California Aqueduct on Wildlife Resources in Southern California. From Jack J. Coe, District Engineer, Southern District. April 11, 1974.

DWR. 1974i. Operations Manual OP-504 Devil Canyon Powerplant.

DWR. 1974. Division of Design and Construction. Final Geologic Report, Leona Siphon to Pearblossom Pumping Plant. Project Geology Report C-70.

DWR. 1974. Southern District, Division of Design and Construction. Mojave Siphon, Project Geology Report C-75.

DWR. 1973 through 2015. Water Data Library. Available: http://www.water.ca.gov/waterdatalibrary/

DWR. 1973. Division of Design and Construction. Final Geologic Report, Pearblossom Pumping Plant to Los Angeles - San Bernardino County Line, Project Geology Report C-72

DWR. 1971a. Division of Design and Construction. Final Geologic Report Fairmont to Leona Siphon, Final Geologic Report C-66.

DWR. 1971b. Amendment No. 1 to Memorandum of Understanding Between the Forest Service, United States Department of Agriculture and the Department of Water Resources, State of California for Conduct of Work During Construction and Subsequent Operation of the California Aqueduct on the San Bernardino National Forest. DWR. Sacramento.

DWR. 1971c. Design Engineer's Criteria for Operation and Maintenance Part V, Cedar Springs Dam and Reservoir.

DWR. 1969a. Division of Design and Construction. Final Geologic Report of Cottonwood to Fairmont Canal Construction. Project Geology Report C-49.

DWR. 1969b. Southern District Design and Construction Branch. Geologic Data - Mojave Siphon, Project Geology Report Number D-116.

DWR. 1968a. Cedar Springs Dam Slope Stability Embankment Final Design.

DWR. 1968b. Cedar Springs Dam Slope Stability Embankment Final Design.

DWR. 1968c. Final Construction and Geologic Report on Exploration Adit, Cedar Springs Dam.

DWR. 1967. Cedar Springs Dam, Design Considerations for Maximum Credible Accident.

DWR. 1963. Alternative Capacities of the California Aqueduct and Local Distribution Systems in Southern California.

DWR. 1962. Draft of Office Report on Determination of Underflow at the Cedar Springs Dam Site.

DWR. 1953a. License for Diversion and Use of Water. License 1377.

DWR. 1953b. License for Diversion and Use of Water. License 1378.

DWR. Undated. Raw data for phytoplankton surveys at Silverwood Reservoir between 2000 and 2014. Excel workbook with 15 tabs.

Eargle, Dolan H. 2008. Native California: An Introductory Guide to the Original People from Earliest to Modern Times. Trees Company Press, San Francisco, CA.

Eastin, Howard. 1984. Memorandum to WREM distribution list regarding architectural motif to be applied to State Water Project facilities. Water Resources Engineering Memorandum No. 30a. March 15.

Eccles, L.A. 1981. Ground-water quality along the Mojave River near Barstow, California, 1974-79. U.S. Geological Survey Water-Resources Investigations Report 80-109. 63 p.

EDD. 2015a. Quarterly Census of Employment and Wages. San Bernardino County, Annual Average.

EDD. 2015b. Monthly Labor Force Data for Counties, Annual Average 2014 –Revised. Report 400 C

eFloras. 2015. http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250060022 http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250060022.Arenaria paludicola B. L. Robinson. Marsh sandwort. Flora of North America, Volume 5.

Eikom, Amanda. 2014a. Monthly Visitor Attendance Report - December. DPR. California.

Eikom, Amanda. 2014b. Monthly Visitor Attendance Report - January. DPR. California.

Eliason, Robin B. 2002. Memorandum to Jim Bartel (Field Supervisor, USFWS) regarding revision of Biological Assessment for Pilot Rock Vegetation Management Plan. U.S. Department of Agriculture, Forest Service. San Bernardino, California. June 17, 2002.

Environmental Science Associates. 2014. State Water Project Copper Sulfate Application. Biological Resources Technical Report. Prepared for DWR. March.

Environmental Science Associates. 2009. East Branch Extension Phase II, FEIR. January.

EPA. 2015. The Green Book Nonattainment Areas for Criteria Pollutants. Available online at: <http://www.epa.gov/oaqps001/greenbk/index.html>. Accessed: July 27, 2015. Last updated January 30, 2015.

EPA. 2014a. Basic Information about Simazine in Drinking Water. Available: http://water.epa.gov/drink/contaminants/basicinformation/simazine.cfm.

EPA. 2014b. Drinking Water Contaminants - Standards and Regulations. Basic Information about Simazine in Drinking Water. Available online at: http://water.epa.gov/drink/contaminants/basicinformation/simazine.

EPA. 2014c. Emissions by California Air Districts. Available online at: <http://www.arb.ca.gov/ei/maps/statemap/dismap.htm>. Accessed: July 27, 2015. Last updated March 14, 2014.

EPA. 2011. 2010 EPA Approved Clean Water Act 303d List. Total Maximum Daily Loads (TMDL). Final December 7, 2011. Available online at: http://www.waterboards.ca.gov/lahontan/water_issues/programs/tmdl/.

EPA. 2003. Reregistration eligibility decision R.E.D. facts diuron. EPA-738-F-98-002. September 30, 2003. Available online at: http://www.epa.gov/pesticides/reregistration/REDs/diuron_red.pdf

EPA. 1998. Reregistration eligibility decision R.E.D. facts DCPA. EPA-738-F-98-002. November 1998. Available online at: http://www.epa.gov/pesticides/reregistration/REDs/factsheets/0270fact.pdf

EPA. 1986. Quality criteria for water. EPA 440/5-86-001. Washington, D.C.

Evans, Jeanne Wade. 2006. Record of Decision San Bernardino National Forest Land Management Plan. United States Department of Agriculture, Forest Service, Pacific Southwest Region, San Bernardino, California.

Ewing, Ben. 2010. Lake Silverwood General Fish Survey - Fall 2010. CDFG. California.

Ewing, Ben. 2010. Lake Silverwood General Fish Survey - Spring 2010. CDFG. California.

Ewing, Ben. 2009. Summary of the Largemouth Bass Population Estimates for Silverwood Lake 1995 thru 2009. CDFW, Inland Fisheries Division, Reservoir Research Project, Inland Deserts Region.

Faulconer, Gary. 2004. Email to John Squires about the inundation of two stream gaging stations on the Mojave River. DWR. January 22.

Federal Power Commission, Bureau of Power. 1976. Final Environmental Impact Statement, California Aqueduct Project No. 2426.

Federal Power Commission, Bureau of Power. 1976. California Aqueduct Project Final Environmental Impact Statement. Washington, DC.

Feller, Peter L. 2009. Confidential Archaeological Letter for the Esparza Forest Fire Prevention Exemption, San Bernardino County, California. Prepared by Black Fox Timber Management Group, Inc.

Fellers, G.M., Cole, R.A., Reinitz, D.M., and Kleeman, P. M. 2011. Amphibian chytrid fungus (Batrachochytrium dendrobatidis) in coastal and montane California, USA) anurans. Herpetological Conservation and Biology 6:383–394.

Fellers, G. M. 2005. Rana draytonii Baird and Girard, 1852, California red-legged frog. In Amphibian declines: the conservation status of United States species edited by M. Lannoo. University of California Press. Berkeley, California. 1094 pp.

FEMA. 2004. Project Worksheet. March 22, 2004.

FERC. 2014a. 148 FERC Paragraph 62,235. Order Amending License and Revising Annual Charges. Issued Sept. 30, 2014.

FERC. 2014b. 147 FERC Paragraph 62,099. Order Amending Filing Schedule for Arroyo Toad and Sensitive Species Monitoring Reports. Issued May 8, 2014.

FERC. 2014c. FERC letter to DWR regarding July 2006 through June 2012 Trout Stocking Reports. February 28, 2014.

FERC. 2012a. Guidance manual for Environmental Report Preparation.

FERC. 2012b. 138 FERC Paragraph 62,105. Order Amending October 28, 2009 Order Amending Article 52 and Exhibit S. Issued Feb. 10, 2012.

FERC. 2011. 136 FERC Paragraph 62,017. Order Amending License. Issued 136 FERC ¶ 62,017.

FERC. 2010. Order modifying and approving arroyo toad and sensitive species monitoring plan for Piru Creek. 132 FERC Paragraph 62,136. August 26, 2010.

FERC. 2009. California Department of Water Resources and City of Los Angeles, Project No. 2426-197, Order Amending Article 52 and Exhibit S. 129 FERC 62,073. October 28, 2009

FERC. 2007. FERC letter to DWR regarding Biennial Fish Stocking Report. April 20, 2007.

FERC. 2004. Letter, subject line: 2003 Fire Damage, Status of Revegetation per Article 409, Status of Recreation Facilities, and the Bald Eagle Tree Mitigation Plan. Letter to Glover, T., Deputy Director, DWR, from Taylor, G.H., Chief, Biological Resources Branch, Division of Hydropower Administration and Compliance, FERC. March 11.

FERC. 2000. Order Modifying and Approving Castaic Lake Trout Stocking Plan (91 FERC ¶ 62,178). June 12, 2000.

FERC. 1999. Order Modifying and Approving Amendment to Exhibit S (89 FERC ¶ 62,066). October 25, 1999.

FERC. 1997a. DWR and City of Los Angeles, Project No. 2426-116, Order approving bald eagle funding plan and deleting paragraph (C) of Order modifying and approving Biological Opinion Implementation Plan. 76 FERC - 101 FERC, 80 FERC 62,016. July 7, 1997.

FERC. 1997b. Order Approving Recommendations on Fish Restoration Study.

FERC. 1997c. Order Approving Bald Eagle Funding Plan and Deleting Paragraph C of Order Modifying and Approving Biological Opinion Implementation Plan. Federal Energy Regulatory Commission, Office of Hydropower Licensing. Washington, D.C.

FERC. 1996a. 77 FERC Paragraph 62,153. Order Modifying and Approving Feasibility Report for Constructing Bald Eagle Foraging Pools and Deleting Article 416. Issued Dec. 17, 1996.

FERC. 1996b. 77 FERC Paragraph 62,138. Order Amending Article 411. Issued Dec. 6, 1996.

FERC. 1996c. 75 FERC Paragraph 62,216. Order Amending License and Revising Annual Charges. Issued Jun. 21, 1996.

FERC. 1996d. 75 FERC Paragraph 62,091. Order Amending License and Revising Annual Charges. Issued May 9, 1996.

FERC. 1995a. 73 FERC Paragraph 62,049. Order Modifying and Approving Recreation As-Built Drawings and Correcting Exhibit K Drawing Numbers. Issued Oct. 25, 1995.

FERC. 1995b. 73 FERC Paragraph 62,020. Order Approving Memorandum of Agreements and Amending License. Issued Oct. 16, 1995.

FERC. 1995c. 70 FERC Paragraph 62,077. Order Amending License. Issued Feb. 9, 1995.

FERC. 1995d. State of California Department of Water Resources, Project No. 2426-090 - California Order Modifying and Approving Biological Opinion Implementation Plan.

FERC. 1994. 67 FERC Paragraph 62,208. Order Amending License and Revising Annual Charges. Issued June 3, 1994.

FERC. 1993. 63 FERC Paragraph 62,130. Order Approving As-Built Exhibits. Issued May 6, 1993.

FERC. 1992a. 61 FERC Paragraph 62,148. Order Approving Supplement to Erosion Control and Revegetation Plan. Issued Nov. 24, 1992.

FERC. 1992b. 60 FERC Paragraph 62,246. Order Approving Plan for Relocation of Hang Glider Landing Zone. Issued Sept. 28, 1992.

FERC. 1992c. 60 FERC Paragraph 62,016. Order Approving Final Modified Soil Erosion Control and Revegetation Plan With Modifications. Issued July 16, 1992.

FERC. 1991a. 57 FERC Paragraph 62,183. Order Approving Recreation Plan With Modification. Issued Dec. 5, 1991.

FERC, 1991b. 57 FERC Paragraph 62,086. Order Approving Detailed Revegetation Plan with Modification and Mitigation Implementation Plan. Issued Oct. 31, 1991.

FERC. 1991c. 55 FERC Paragraph 62,278. Order Amending License and Revising Annual Charges. Issued June 25, 1991.

FERC. 1991d. 55 FERC Paragraph 62,105. Order Amending License. Issued May 2, 1991.

FERC. 1990a. FERC Order 51 Amending License. Federal Energy Regulatory Commission. California.

FERC. 1990b. 52 FERC Paragraph 62,106. Order Approving in Part Modified Erosion Control Plan. Issued Aug. 6, 1990.

FERC. 1990c. 52 FERC Paragraph 62,086. Order Waiving in Part Article 405 Requirements. Issued Aug. 1, 1990.

FERC. 1990d. 52 FERC Paragraph 62,085. Order Waiving in Part Riparian Habitat Replacement Plan. Issued Aug. 1, 1990.

FERC. 1990e. 52 FERC Paragraph 62,037. Order Amending License. Issued July 23, 1990.

FERC. 1990f. 51 FERC Paragraph 62,090. Order Amending License (Major). Issued Apr. 30, 1990.

FERC. 1989. 49 FERC Paragraph 62,169. Order Amending License (Revising Annual Charges). Issued Nov. 22, 1989.

FERC. 1988. 44 FERC 62,052. Order Amending Major License. Issued July 22, 1988.

FERC. 1987. 41 FERC 62,301. Order Amending Major License. Issued December 24, 1987.

FERC. 1986. 36 FERC 62,367. Order Approving Revised Exhibit R. Issued September 30, 1986.

FERC. 1985a. P-2426-017. Order Approving Transfer of Project Lands Issued to Department of Water Resources of the State of California and City of Los Angeles Department of Water and Power. October 2. 2 pp.

FERC. 1985b. 30 FERC Paragraph 62,382, order Amending Major License. Issued March 29, 1985.

FERC. 1984. 28 FERC Paragraph 62,210. Order Approving Revised Exhibits J, K, L, and M and Revising Annual Charges. Issued August 10, 1984.

FERC. 1983. Project No. 2426-011. 23 FERC Paragraph 62,278. Order Amending License. Issued May 27, 1983.

FERC. 1982a. 21 FERC Paragraph 62,215. Order Approving Revised Exhibit S and Amending License for FERC Project Number 2426. Issued November 9.

FERC. 1982b. Project No. 2426-009. 19 FERC Paragraph 62,211. Order Approving Revised Exhibit L Drawings. Issued May 10, 1982.

FERC. 1982c. Project No. 2426-008. 20 FERC Paragraph 62,113, Order Amending License (Major). Issued July 21, 1982.

FERC. 1982d. Project No. 2426-007. 20 FERC Paragraph 62,266. Order Amending License (Major). Issued August 12, 1982.

Formica, Tracy. 2007. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Monitoring of State Route 18 in the San Bernardino Mountains for the Natural Resources Conservation Service". Applied Earthworks.

Foster, Daniel G. 1982. An Archaeological Reconnaissance of the Pilot Rock Conservation Camp Waterline, San Bernardino County, California. California Department of Forestry.

Francisco, Magnolia D. 2015a. Monthly Report for Silverwood revenue - March 2015. DPR. California.

Francisco, Magnolia D. 2015b. Monthly Visitor Attendance Report - February 2015. DPR. California.

Francisco, Magnolia D. 2015c. Monthly Visitor Attendance Report - January 2015. DPR. California.

Francisco, Magnolia D. 2014a. Monthly Visitor Attendance Report - April 2014. DPR. California.

Francisco, Magnolia D. 2014b. Monthly Visitor Attendance Report - August 2014. DPR. California.

Francisco, Magnolia D. 2014c. Monthly Visitor Attendance Report - February 2014. DPR. California.

Francisco, Magnolia D. 2014d. Monthly Visitor Attendance Report - July 2014. DPR. California.

Francisco, Magnolia D. 2014d. Monthly Visitor Attendance Report - June 2014. DPR. California.

Francisco, Magnolia D. 2014e. Monthly Visitor Attendance Report - March 2014. DPR. California.

Francisco, Magnolia D. 2014f. Monthly Visitor Attendance Report - November 2014. DPR. California.

Francisco, Magnolia D. 2014g. Monthly Visitor Attendance Report - October 2014. DPR. California.

Francisco, Magnolia D. 2014h. Monthly Visitor Attendance Report - September 2014. DPR. California.

Frank Hovore & Associates. 1999. Letter report: Arroyo toad surveys, DWR Project Sites, 1999. Report to DWR. December 14, 1999.

Fredrickson, David A. 1994a. Archaeological Taxonomy in Central California Reconsidered. In Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson, edited by Richard E. Hughes, pp. 93-103. Contributions of the University of California Archaeological Research Facility, No. 52. Berkeley.

Fredrickson, David A. 1994b. Spatial and Cultural Units in Central California Archaeology. In Toward a New Taxonomic Framework for Central California Archaeology: Essays by James A. Bennyhoff and David A. Fredrickson, edited by Richard E. Hughes, pp. 25-4. Contributions of the University of California Archaeological Research Facility, No. 52. Berkeley.

Fredrickson, David A. 1974. Cultural Diversity in Early California: A View from the North Coast Ranges. Journal of California Anthropology 1(1):41-53. Archives of California Prehistory No. 6. Coyote Press, Salinas, California.

Fredrickson, David A. 1973. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation, Department of Anthropology, University of California, Davis.

Frost, D.R., Hammerson, G.A. & Hollingsworth, B. 2007. Thamnophis hammondii. The IUCN Red List of Threatened Species 2007: e.T21707A9311793. http://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T21707A9311793.en. Downloaded on 14 November 2015.

Frost, D.R., T. Grant, J.N. Faivovich, R.H. Bain, A. Haas, C.F.B. Haddad, R.O. De Sá, A. Channing, M. Wilkinson, S.C. Donnellan, C.J. Raxworthy, J.A. Campbell, B.L. Blotto, P. Moler, R.C. Drewes, R.A. Nussbaum, J.D. Lynch, D.M. Green, and W.C. Wheeler. 2006. The Amphibian Tree of Life. Bulletin of the American Museum of Natural History 297:1-370.

Gardner, Jill K., Audry Williams, and Hubert Switalski. 2005. A Heritage Resources Inventory for the Hazard Tree Removal Project in the Mountain Top and Front Country Districts of the San Bernardino National Forest, on Behalf of the Southern California Edison Company. Prepared by Center for Archaeological Research and AMEC Earth and Environmental. Prepared for Southern California Edison.

Gardner, J. Warren. 1965. California Aqueduct Southern District Recreation Land Use and Acquisition Plan. DWR. Sacramento.

Gardner, J. Warren. 1962. Recreation Land Use and Acquisition Plan for Cedar Springs Reservoir. DWR. Sacramento.

GEI Consultants Inc. 2011a. Cedar Springs Dam, FERC Project 2426-CA, State Dam No. 1-063, NID No. CA00049, Seventh Five-Year Part 12D, Safety Inspection Report. Prepared for DWR.

GEI Consultants Inc. 2011b. Devil Canyon Second Afterbay Dam, FERC Project 2426-CA, State Dam No. 1-063, NID No. CA00049, Seventh Five-Year Part 12D, Safety Inspection Report. Prepared for DWR.

GEI Consultants Inc. 2010a. Cedar Springs Dam FERC Project 2426-CA, State Dam No. 1-063, NID No. CA00049, Potential Failure Mode Analysis. Prepared for DWR.

GEI Consultants Inc. 2010b. Devil Canyon Second Afterbay Dam, FERC Project 2426-CA, State Dam No. 1-088, NID No. CA01364, Potential Failure Mode Analysis. Prepared for DWR.

GEI Consultants Inc. 2005a. FERC Project 2426, Cedar Springs Dam, Part 12D Inspection Report. Prepared for DWR.

GEI Consultants Inc. 2005b. FERC Project 2426, Devil Canyon Second Afterbay Dam, Part 12D Inspection Report. Prepared for DWR.

Germano, D. J. and G. B. Rathbun. 2008. Growth, Population Structure, and Reproduction of Western Pond Turtles (Actinemys marmorata) on the Central Coast of California. Chelonian Conservation and Biology. 7(2): 188-194.

Germano, D.J., R.B. Bury, T.C. Esque, T.H. Frittz, and P.A. Medica. 1994. Range and habitats of the desert tortoise. In Biology of North American Tortoises, edited by R.B. Bury and D.J. Germano. National Biology Survey Technical Report Series, Fish and Wildlife Research 13. pp 73-84.

Gilbert, Rebecca H. 2012. DWR Archaeological Survey Report and Historic Properties Evaluation Report: Cedar Springs Dam-Bench Repair Project, San Bernardino County, California.

Giusti, Michael S. 1997. An Estimate of the Population of Legal Largemouth Bass, Micropterus Salmoides, Within Silverwood Reservoir, 1995. CDFG. Sacramento.

Gleim, James. 2006. Trout Stocking Program, April 2004 to April 2006. DWR. Sacramento.

Glick, Frank. 2010. How Geology Changed the Design, Report Number 57-11-25. Memorandum to Project Geology Files regarding Cedar Springs Dam, DWR, Project Geology Section. September 28, 2010.

Glick, Frank and Driller, Mike, prepared for DWR. 2003. Trip Report - Southern California Fires. November 6, 2003.

Glick, Frank. 2003. Memorandum to Project Geology Files regarding Cedar Springs Dam, How Geology Changed the Design, Report Number 57-11-25. DWR, Project Geology Section. September 28, 2010.

Glick, Frank L., Ted Bruce, Tim Todd, for DWR. 1997. Cedar Springs Dam Summary Geology Report.

Glick , Frank. 1997. Memorandum to Billy Ferguson Chief Pipelines Section regarding East Branch Enlargement Project, Mojave Siphon Powerplant - Valve Vaults; Geologic Data, Report Number 57-22-04. DWR, Project Geology Section. October 17, 1997.

Glover, T. 2005a. FERC Project No. 2426-198, Alternative Bald Eagle Mitigation Measures at Silverwood Lake. Letter and attachments from DWR to Salas, M.R., FERC. April 5, 2005 (filed April 13, 2005).

Glover, Tom. 2005b. Letter to Mr. Takeshi Yamashita, P.E., Regional Engineer, FERC regarding DWR response to a wastewater discharge incident into Silverwood Lake. June 14, 2005.

Goebl, S. 2015. Email communication with J. Lynch, Relicensing Consultant, HDR, Inc., Sacramento, CA; August 12, 2015.

Goldberg, Susan. 2010. Historic Property Survey Report: Horsethief Creek Bridge (#54-08916) Replacement Project on State Route 138, P.M. R24.1, San Bernardino County, California. Prepared by Applied Earthworks. Prepared for Caltrans.

Golden Sands Resource Conservation and Development Council, Inc. 2015. Aquatic Invasive Species Quick Guide: Big-eared Radix. Available online at: <http://www.uwsp.edu/cnr-ap/UWEXLakes/Documents/programs/CLMN/AISfactsheets/03BigEaredRadix.pdf>. Accessed: September 3, 2015.

Golightly, R.T., T.F. Penland, and S.H. Newman. 2005. Movements, foraging, and abundance of Western Gulls at Castaic Lake, October 2004 – June 2005. Unpublished report, Department of Wildlife, Humboldt State University, Arcata, California.

Gomez and Sullivan Engineers, P.C. and Findlay Engineering Inc. 2000a. Fifth Part 12 Safety Inspection Report for Cedar Springs Dam and Devil Canyon Facilities, FERC No. 2426. Prepared for DWR.

Gomez and Sullivan Engineers, P.C. and Findlay Engineering Inc. 2000b. Fifth Part 12 Safety Inspection Report for Cedar Springs Dam and Devil Canyon Facilities, FERC No. 2426. Prepared for DWR.

Graham, Margie. 2002. Fisheries Status Report and Stocking Summary for Silverwood, Pyramid, and Castaic Lakes 2000-2002. DWR. Sacramento.

Granger, G., T. Murphy, and E. Garcia. 2012. Archaeological Site Record P-36-003033. On file at South Central Coastal Information Center.

Greenfield, D.W. and G.D. Deckert. 1973. Introgressive hybridization between Gila orcutti and Hesperoleucus symmetricus (Pisces: Cyprinidae) in the Cuyama River Basin, California: II. Ecological aspects. Copeia 1973:417-427.

Greenwood, Roberta S., John M. Foster, James J. Schmidt, Carmen A. Weber, and Gwendolyn R. Romani. 1991. Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District of Southern California. Prepared by Greenwood and Associates. Prepared for P&D Technologies.

Haenszel, Arda M. 1982. Sacramento Springs. Odyssey 4(2):27-28. Published by the City of San Bernardino Historical & Pioneer Society

Hafner, D.J. and NatureServe (Hammerson, G. & Williams, D.F.). 2008. Spermophilus mohavensis. The IUCN Red List of Threatened Species 2008: e.T20474A9204630. Available online at: http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T20474A9204630.en. Downloaded on 21 November 2015.

Hamilton, M. Colleen and C. Inoway. 1999. Archaeological Site Record P-36-009859. On file at South Central Coastal Information Center.

Hammerson, G.A., Frost, D.R. and Santos-Barrera, G. 2007. Xantusia vigilis. The IUCN Red List of Threatened Species 2007: e.T64368A12774414. Available online at: http://dx.doi.org/10.2305/IUCN.UK.2007.RLTS.T64368A12774414.en. Downloaded on 23 November 2015.

Hammond, William D., Hajas, Kathlin R., Torres, Raphael A., Driller, Michael W. 1983. Seismic Reevaluation of Cedar Springs Dam and Reservoir. Prepared for DWR.

HARD Townsites Team. 2007. Townsites: Historic Context and Archaeological Research Design; In partial fulfillment of Agreement 43A0191. Prepared for California Department of Transportation Sacramento.

Hart, Raymond D. 2000. Memorandum to David Boergers (Secretary, FERC) regarding the status of the bald eagle management account for the San Bernardino Tunnel Intake Reconstruction Project. Department of Water Resources. Sacramento, California. September 25, 2000.

Hatheway and Associates. 1995. Results of a Cultural Resource Windshield Survey/Sensitivity Study and Spot Inspection for the Proposed Replacement of Substandard Water Pipelines, and Additional Storage, Supply and Pumping Facilities, Cedarpines Park, San Bernardino County, California. Prepared for Cedarpines Park Mutual Water Company.

HDR Engineering, Inc. 2014. Review of Southern SWP Dams Pyramid, Peace Valley Intake Embankment, Cedar Springs, and Devil Canyon Second Afterbay Dams. Presentation to 2014 PFMA Board.

HELIX Environmental Planning, Inc. 2014. Tapestry Project. Biological Technical Report. November 2014. 160pp.

Hemmert, J.E. and I. Garcia-Mayes. 2016a. Silverwood Lake Trout Study: October 2014-May 2015 and Data Comparison Trout Studies 2010-2015. CDFW, Inland Fisheries Division. Inland Deserts Region. Ontario, California.

Hemmert, J.E. and I. Garcia-Mayes. 2016b. Silverwood Lake Trout Study: June-September 2015 And Data Comparison Trout Studies 2010-2015. CDFW, Inland Fisheries Division. Inland Deserts Region. Ontario, California.

Hemmert, J.E. and K.M. Traver. 2013. Silverwood Lake Trout Study: June - September 2013 and Trout Study Data Comparison of Summer 2005-2013. State of California, The Resources Agency, CDFW, Inland Fisheries Division, Inland Deserts Region. 11 pp.

Hemmert, Jennifer E., and Kaitlin M. Traver. 2013a. Silverwood Lake Trout Study: June-September 2013 And Trout Study Data Comparison of Summer 2005-2013. CDFW.

Hemmert, Jennifer E., and Kaitlin M. Traver. 2013b. Silverwood Lake Trout Study: June-September 2013 and Trout Study Data Comparison of Summer 2005-2013. CDFW.

Henkanaththegedara, S. M., J. A. Seigel, D. L. Hughson, S. C. Parmenter, M. D. Huffline, and C. A. Stockwell. 2008. Freshwater fishes of Mojave River, California: past and present. Poster presentation.

Herzog, Thomas E., Environmental Consultant. 2005. Bailey Creek Revegetation Project. 2005 Monitoring Report - Draft. For DWR. Contract No. C51195, Specification No. 99-221.

Herzog, Thomas E., Environmental Consultant. 2004. Bailey Creek Revegetation Project. 2004 Monitoring Report - Final. For DWR. Contract No. C51195, Specification No. 99-221.

Higley, John. 2002. Hunting Deer in California. Second Edition, August 2002. Prepared for CDFG, and Wildlife Programs Branch. Funded by the Deer Herd Management Plan Implementation Program.

Hines, Philip, with Glenn Farris, Robert Niblack, and Tamara Spear. 1997. Final Report: Ferc Project No2426-063, San Bernardino Tunnel Intake Reconstruction Project: The Evaluation of Newly Discovered Archaeological Site CA-SBR-8913 (SL-1), Silverwood Lake, San Bernardino County, California. Prepared by DPR. Prepared for DWR.

Hines, Philip. 1997. Final Report; FERC Project No. 2426-063; San Bernardino Tunnel intake Reconstruction Project; The Evaluation of Newly Discovered Archeological Site CA-SBR-8913 (SL-1); Silverwood Lake, San Bernardino County, California. Prepared for DWR, Division of Planning, Sacramento, California.

Hirshberg, J. 1995. Silverwood ORV - surveyed September 22, 1995. Agency is unknown.

Hitchcock, C.J. and R.N. Fisher. 2004. Surveys for arroyo toads (Bufo californicus) throughout the San Gabriel, San Bernardino, and San Jacinto Mountains, 2002-2003. U.S. Geological Survey report. 39 pp.

Hoddle, M. S. 2014. Quagga & Zebra Mussels. Center for Invasive Species Research, University of California Riverside. Available online at: <http://cisr.ucr.edu/quagga_zebra_mussels.html>. Accessed: July 27, 2015.

Holland, V.L. and David J. Keil. 1995. California Vegetation. Kendall/Hunt Publishing Company.

Holland, R. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished document, CDFG, Natural Heritage Division. Sacramento, CA.

Hoover, F. Fishery Biologist. 1989. CDFG. Memorandum to CDFG Region 5 Fisheries Management Supervisor regarding the rainbow trout tagging program at Silverwood Lake. March 1989.

Horne, Stephen and John Johnson. 1978. Hardluck Recreation Project Archeological Reconnaissance Report; Mt. Pinos Ranger District; Los Padres National Forest. USDA.

Horne, Stephen. 1976a. Archaeological Site Survey Record P-36-000174. On file at South Central Coastal Information Center.

Horne, Stephen. 1976b. Preliminary Archaeological Reconnaissance Report, Silverwood-Hart Bar Land Exchange, Arrowhead District, San Bernardino National Forest. United States Forest Service.

Hubbs, Carl L., Miller, Robert R. 1942. Mass Hybridization Between Two Genera of cyprinid Fishes in the Mohave Desert, California. The Michigan Academy of Science, Art, and Letters. Vol. XXVIII.

Hunt & Associates Biological Consulting and Aspen Environmental Group. 2005. Arroyo toad survey and habitat evaluation along Horsethief Creek and Check 66 Access Road, DWR Mojave Siphon, Summit Valley, San Bernardino County, California. Prepared for DWR, January 2005, 14 pp.

Hunt & Associates Biological Consulting and Aspen Environmental Group. 2004. Arroyo toad habitat evaluation, West Fork Mojave River, Silverwood Lake, San Bernardino County, California. Prepared for DWR. June 2004

Hunt & Associates Biological Consulting and Aspen Environmental Group. 2006. Arroyo toad habitat evaluation, West Fork Mojave River, Silverwood Lake, San Bernardino County, California. Prepared for DWR.

Huntley, Edward F. 1997. Silverwood Lake Recreation. DWR. Sacramento.

ICF International. 2016. Upper Santa Ana River Habitat Conservation Plan. Available online at: <http://www.uppersarhcp.com/>. Accessed: January 7, 2016. Last updated 2016.

ICF International and Jones & Stokes. 2010a. Hatchery and Stocking Program Final Environmental Impact Report/Environmental Impact Statement. Prepared for CDFG and USFWS. January 2010. SCH #2008082025. 1051 pp.

ICF International. 2010b. County of Los Angeles Bicycle Master Plan Draft PEIR: Attachment C - Listed Species in the County of Los Angeles.

iNaturalist. 2015. Available online at: https://www.inaturalist.org/places/silverwood-lake-state-recreation-area [Accessed: November 20, 2015]

Invasive Species Compendium. 2014. Available online at: <http://www.cabi.org/isc/search/?q=&types=7,19&sort=DateDesc>. Accessed: July 27, 2015. Last updated 2015.

IUCN Red List. 2015. The IUCN red list of threatened species, Version 2015-4. Available online at: http://www.iucnredlist.org/ [Accessed: November 2015]

James, L.B. 1965. Memorandum to Mr. A. R. Golze regarding the Faults at Cedar Springs Damsite. March 16, 1965.

Jennings, M. R. and M. P. Hayes. 1994a. Decline of Native Ranid Frogs in the Desert Southwest. Herpetology of the North American Deserts, Southwestern Herpetologists Society.

Jennings, M.R. and M.P. Hayes. 1994b. Amphibian and reptile species of special concern in California. Report to the CDFG, Inland Fisheries Division, Rancho Cordova, California.

Johnson, William N. 1971. Memorandum to Forest Resources Officer detailing a on soils and hydrologic report on the proposed turf areas at Silverwood Lake. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

Jones, L.C., W.P. Leonard, and D.H. Olson, eds. 2005. Amphibians of the Pacific Northwest. Seattle Audubon Society, Seattle, Washington.

Jones & Stokes Associates, Inc. and Multiple Use Managers, Inc. 1979a. A Reevaluation of Mitigation Measures for State Water Project Wildlife Losses in Southern California. April 1, 1979. 68 pp.

Jones & Stokes Associates, Inc. and Multiple Use Mangers, Inc. 1979b. A Reevaluation of Mitigation Measures for State Water Project Wildlife Losses in Southern California. Prepared for Metropolitan Water District of Southern California. April 1, 1979.

JRP Historical Consulting Services (JRP) and Caltrans. 2000. Water Conveyance Systems in California, Historic Context Development and Evaluation Procedures. December.

Kashiwada, Stephen, and Curt Taucher. 2003a. Memorandum of Understanding be and between DWR and DFG Regarding Mitigation of Impacts to the Largemouth Bass Fishery at Lake Silverwood. DWR. Sacramento.

Kashiwada, Stephen, and Curt Taucher. 2003b. Memorandum of Understanding by and between the DWR and the CDFG Regarding Mitigation of Impacts to the Largemouth Bass Fishery at Lake Silverwood. DWR. Sacramento.

Kashiwada, Stephen L. 1997a. Letter dated April 29, 1997 to Federal Energy Regulatory Commission regarding California Aqueduct Project Mojave Siphon Development.

Kashiwada, Stephen L. 1997b. Memorandum to Lois D. Cashell (FERC) regarding the Silverwood Lake Bald Eagle Mitigation Plan. Department of Water Resources. Sacramento, California. May 29, 1997.

Kashiwada, Stephen L. 1996. Letter to FERC with addendum information on sites CA-SBR-1913 and CA-SBR-7691.

Keene, Charles. 1997. Memorandum to Geary Hund (CDPR), Jon Avery (USFWS), and Robin Butler (USFS) regarding proposed projects to be funded through the Silverwood Lake Bald Eagle Management Account, FERC Project No. 2426-116. California Department of Water Resources, Southern District. October 15, 1997.

King, Chester and Blackburn, Thomas C. 1978. Tataviam. In Handbook of North American Indians, Volume 8. pp76. Robert. F. Heizer, Editor. Smithsonian Institution, Washington, D.C.

King, C. D. 1976. Part I: Background to Prehistoric Resources of the East Mojave Planning Unit. In C. D. King and D. Casebier, Background to the Historic and Prehistoric Resources of the East Mojave Desert Region: 3-53. Riverside: US Bureau of Land Management.

Kissel, Peter C. 1997a. Letter from DWR to FERC: Addendum to the Analytical Report for Archaeological Site CA-SBR-1913 (Site 1). May 8, 1997.

Kissel, Peter C. 1997b. Letter dated May 8, 1997 to Federal Energy Regulatory Commission regarding filing of DWR' response to Kevin P. Madden's letter of March 24, 1997.

Klasing, S. and R.K. Brodberg. 2008. Development of fish contaminant goals and Advisory Tissue Levels for common contaminants in California sport fish: Chlordane, DDTs, dieldrin, methylmercury, PCBs, selenium, and toxaphene. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, Sacramento, California. Available online at: http://www.oehha.ca.gov/fish/gtlsv/pdf/FCGsATLs27June2008.pdf.

Kline, G.E., M. Markel, M. Greenwood, and S. Greenwood. 2008. Archaeological Site Record P-36-014904. On file at South Central Coastal Information Center.

Kobetich, Gail C. 1997. Memorandum to Kevin Madden (Acting Director, Office of Hydropower Licensing, FERC) regarding compliance with the Biological Opinion on the San Bernardino Tunnel Intake Reconstruction Project and Related Incidents. USFWS. Carlsbad, California. December 18, 1997.

Kratville, D. 2013. Hydrilla Eradication Program, Annual Progress Report 2013. CDFA. Sacramento, California.

Kremkau, S. 2011a. Archaeological Site Record P-36-024108. On file at South Central Coastal Information Center.

Kremkau, S. 2011b. Archaeological Site Record P-36-024109. On file at South Central Coastal Information Center.

Kremkau, S. 2011c. Archaeological Site Record P-36-024110. On file at South Central Coastal Information Center.

Kremkau, S. 2011d. Archaeological Site Record P-36-024111. On file at South Central Coastal Information Center.

Kroeber, A. L. 1976 [1925]. Handbook of the Indians of California. Bureau of American Ethnology, Bulletin 78, Smithsonian Institution. Washington, D. C.

Kruse, K.C., and Francis, M.G. 1977. A predation deterrent in larvae of the bullfrog, Rana catesbeiana. Transactions of the American Fisheries Society 106:248–252.

Kus, B. 2002. Least Bell’s vireo (Vireo bellii pusillus). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. Available online at: http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

La Haye, William S. 2004. Results Of Spotted Owl Surveys In The San Bernardino National Forest During The Spring And Summer 2003.

Lahontan RWQCB. 1997. Minutes of March 21, 1997 Stakeholder Meeting Regarding Septage Management and Mountain Prohibitions - Mojave Watershed. Lahontan Regional Water Quality Control Board. Victorville, California.

Lawson, Nat. 2004. Archaeological Site Record P-36-011788. On file at South Central Coastal Information Center.

Lerch, Michael K. with William E. Hayden, Kurt R. Heidelberg, and Anne Q. Stoll. 2001. A Class I Cultural Resources Assessment for the FEMA/City of San Bernardino Vegetation Management Project (HMGP #1005-20), San Bernardino County, California. Prepared by Statistical Research, Inc. Prepared for URS Group, Inc.

Lerch, Michael K. 1994. Cultural Resources Assessment of Effluent Holding Ponds, Crestline Sanitation District, San Bernardino County, California. Prepared by Tom Dodson & Associates. Prepared for San Bernardino County Office of Special Districts.

Lerch, Michael K. 1989. Cultural Resources Assessment of Five Public Works Infrastructure Improvements, Verdemont Area Assessment District #987, City of San Bernardino, California. Prepared by Michael K. Lerch and Associates. Prepared for City of San Bernardino.

Lilburn Corporation. 2014. Biological Resources Assessment For Lake Gregory Sediment Management and Bioretention Program. County of San Bernardino Regional Parks Department. San Bernardino, CA.

Lilburn Corporation. 2014. Jurisdictional Delineation For Lake Gregory Sediment Management and Bioretention Program. County of San Bernardino Regional Parks Department. San Bernardino, CA.

Liles, Blythe. 2009a. Silverwood Lake SRA - Nature Center Interpretive Project Plan. DPR. California.

Liles, Blythe. 2009b. Silverwood Lake State Recreation Area Nature Center Interpretive Project Plan. DPR. California.

Liles, Blythe. 2009c. Silverwood Lake State Recreation Area Nature Center Interpretive Project Plan. DPR. California.

Linder, M. 2006a. Archaeological Site Record P-36-013429. On file at South Central Coastal Information Center.

Linder, M. 2006b. Archaeological Site Record P-36-013430. On file at South Central Coastal Information Center.

Lines, G.C. 1996. Groundwater and surfacewater relations along the Mojave River, Southern California. U.S. Geological Survey Water-Resources Investigations Report 95-4189. 43 p.

Linzey, A.V. & NatureServe (Hammerson, G.). 2008. Perognathus alticolus. The IUCN Red List of Threatened Species 2008: e.T16631A6198091. http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T16631A6198091.en. Downloaded on November 21, 2015.

Long, Donald R. 1989. Letter to the Advisory Council on Historic Preservation regarding action taken by Department of Water Resources for Section 106 regarding the Mojave Siphon Project. Dated December 7, 1989.

Los Angeles County. 2015. General Plan. Available online at: <http://planning.lacounty.gov/assets/upl/project/gp_draft-march2015.pdf>. Accessed: July 28, 2015. Last updated March 2015

Los Angeles Times. 2004a. “Fire-Scarred Area Reopens for Recreation”. Available online at: http://articles.latimes.com/2004/jun/03/local/me-surround3. June 3, 2004. Accessed: 8/17/15.

Los Angeles Times. 2004b. Fire-Scarred Area Reopens for Recreation. Available online at: http://articles.latimes.com/2004/jun/03/local/me-surround

Los Padres Forest Watch. 2015. Least Bell’s Vireo. Available at: http://lpfw.org/our-region/wildlife/least-bells-vireo/ Accessed: August 23, 2015.

Losekoot, Frank. 2012a. A Confidential Archaeological Letter for the Mozumdar Emergency Notice for the County of San Bernardino, Hazardous Tree Removal Operations, San Bernardino County, California.

Losekoot, Frank. 2012b. Archaeological Site Record P-36-025452. On file at South Central Coastal Information Center.

Loudermilk, W.E., and Michael J. Mulligan 2006. Routine Maintenance Activities in Various Streams Kern, LA, San Bernardino, Riverside and Ventura Counties. CDFG.

Love, Bruce. 1996. Archaeological Records Search Results: San Bernardino Vegetation Management Project, San Bernardino County, California. Prepared by CRM TECH. Prepared for Dodson & Associates.

Lovich, J. and K. Meyer. 2002. The western pond turtle (Clemmys marmorata) in the Mojave River, California, USA: highly adapted survivor or tenuous relict? Journal of Zoology. 256, 537-545.

Lovich, Jeff. Undated. Western Pond Turtle: Clemmys marmorata. Western Ecological Research Station, Department of Biology, University of California Riverside. Riverside, CA. USGS.

Mackie, G.L. and R. Claudi. 2010. Monitoring and Control of Macrofouling Mollusks in Fresh Water Systems, Second Edition.

Martinez, Elizabeth. 2014. Seismic Stability and Deformation Analysis, Devil Canyon Second Afterbay. Prepared for DWR.

Mayer, K. E. and W. F. Laudenslayer, Jr. 1988. A Guide to Wildlife Habitats of California. 1988. State of California, Resources Agency, Department of Fish and Game Sacramento, CA. 166 pp.

McDougall, Dennis. 2007. Letter to James C. Burton, PSOMAS: "Cultural Resources Survey of an Approximate 1.0 Acre Parcel Located on United States Forest Service Land Directly Adjacent to the Metropolitan Water District of Southern California's Inland Feeder Pipeline Devil Canyon Portal in San Bernardino County, California". Applied Earthworks.

McDougall, D., and C. Inoway. 1999. Archaeological Site Record P-36-009860. On file at South Central Coastal Information Center.

McEwan, D. and T.A. Jackson. 1996. Steelhead Restoration and Management Plan for California. CDFG, Inland Fisheries Division.

McLean, K. and M. Linder. 2006a. Archaeological Site Record P-36-013431. On file at South Central Coastal Information Center.

McLean, K. and M. Linder. 2006b. Archaeological Site Record P-36-013432. On file at South Central Coastal Information Center.

McQuilkin, Mark. 1989. Final Geologic Investigation Memorandum Report to Ken Koefoed regarding East Branch Enlargement, Mojave Siphon Powerplant - Mojave Siphon, Second Barrel; Final Geologic Investigation, Report Number 57-22-03. DWR, Project Geology Section. March 15, 1989.

Metropolitan Water District of Southern California. 2014. Annual report for the fiscal year July 1, 2013, to June 30, 2014. Los Angeles, CA.

Miazovsky, Marilyn. 1997. Memorandum to Marc Stamer (USFS) regarding archaeological report for land exchange in the 1970's. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California. June 2, 1997.

Mirro, Michael. 2008a. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of 126.3 Acres on the Sawpit Canyon Fuel Modification Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2008b. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of 20.3 Acres on the Jobs Peak Fuel Modification Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2008c. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of 66.7 Acres on the Mojave River Fuel Modification Project Area for the Natural Resource Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2006. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of Approximately 68 Acres on the Mojave River Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2006. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of Approximately 95.1 Acres within the Urban Large Parcel CPP 184 Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2005a. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of Approximately 105 Acres on the Mozumdar Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2005b. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of Approximately 60 Acres on the Sawpit Canyon Project Area for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2004a. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of 40 Acres on Cedar Pines Park for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2004b. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of 67 Acres on the Hill Top Renewal Property for the Natural Resources Conservation Service". Applied Earthworks, Inc.

Mirro, Michael. 2004c. Letter to Rick Aguayo, National Resources Conservation Service: "Cultural Resources Survey of Highway 138 between the State Route 18/138 Junction and Southeast Shore of Silverwood Lake near Burnt Mill Canyon, California (PM29.1/37.8; 8.7 miles)". Applied Earthworks, Inc.

Mlazovsky, Marilyn. 1994. Archaeological Reconnaissance Report: Cleghorn Ridge-Miller Canyon OHV Trail. San Bernardino National Forest.

Moore, Randy, and Torres, Raphael A. 2010. Amendment No. 2 to MOU for Conduct of Work by DWR during Construction and Subsequent Operation of the CA Aqueduct on the Los Padres and Angeles National Forests. DWR. Sacramento.

Moratto, M. J. 2004. California Archaeology. Reprint. Stanford University Press, Stanford, CA.

Morey, S.R. 2005. Spea hammondii (Baird, 1859, "1857") western spadefoot. As cited in Lannoo, M. (Editor). 2005. Amphibian Declines: The Conservation Status of United States Species. University of California Press, June 2005.

Moyle, P.B. 2002. Inland fishes of California. University of California Press. 502pp.

Multiple documents from various Agencies. 1985-1996. P-2426-079. 15 pp.

MWD. 2010. Annual report for the fiscal year July 1, 2009 to June 30, 2010. Los Angeles, CA.

MWD. 1967. Report No. 839, Influence of Site Clearance on Quality of Impounded Water In State Reservoirs

Nafis, G. 2013. A Guide to the Amphibians and Reptiles of California. Available online at: <http://www.californiaherps.com/frogs/pages/l.catesbeianus.html.> Accessed: July 27, 2015.

NAHC. 2015. Letter to HDR Engineering, Inc. providing a list of tribes potentially interested in the South State Water Project relicensing with the Federal Energy Regulatory Commission, and indicating there are no sacred lands in the relicensing project are listed in the NAHC files.

Napton, Kyle L. and E. A. Greathouse with Stephanie Velasquez and Linda Pollack. 2009a. A Cultural Resources Investigation of the Pilot Rock Conservation Camp FY-2008-09 Minor Capital Outlay Project, San Bernardino County, California. Prepared by California State University Stanislaus and California Department of Forestry and Fire Protection. Prepared for California Department of Forestry and Fire Protection.

Napton, Kyle L., E. A. Greathouse, and Stephanie Velasquez. 2009b. Archaeological Site Record P-36-020671. On file at South Central Coastal Information Center.

National Academy of Sciences and National Academy of Engineering. 1973. Water Quality Criteria 1972. EPA R3 73 033. Washington, D.C. March 1973. Available online at: http://www.waterboards.ca.gov/water_issues/programs/tmdl/records/state_board/2006/ref19.pdf

National Park Service. 2015. “Bear Flag Revolt, June 1846”. Golden Gate National Recreation Area California. Available online at: http://www.nps.gov/goga/learn/historyculture/bear-flag-revolt.htm. Accessed: 12/10/15.

Newmark, Harris. 1916. Sixty Years in Southern California: 1853-1913, Containing the Reminiscents of Harris Newmark. Edited by Maurice H. Newmark and Marco R. Newmark. University Library, University of California, Berkeley.

No Author. 2006. Day Fire BAER.

No Author. 2003. Emergency Watershed Protection Report: Old and Grand Prix Fires, San Bernardino Unit. November 13, 2003.

Noiron, Jody. 2013. Memorandum to Ken Corey (USFWS) regarding potential effects to threatened and endangered species from the Miller Canyon OHV staging area on the San Bernardino National Forest. San Bernardino, CA. September 27, 2013.

Nussear, K.E., Esque, T.C., Inman, R.D., Gass, Leila, Thomas, K.A., Wallace, C.S.A., Blainey, J.B., Miller, D.M., and Webb, R.H. 2009. Modeling habitat of the desert tortoise (Gopherus agassizii) in the Mojave and parts of the Sonoran Deserts of California, Nevada, Utah, and Arizona: U.S. Geological Survey Open-File Report 2009-1102, 18 p.

Ode, P. R., A. C. Rehn, and J. T. May. 2005. A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams. Environmental Management. 35(4): 493-504.

OEHHA. 2013a. Health advisory and guidelines for eating fish from Pyramid Lake (Los Angeles County). March 2013.

OEHHA. 2013b. Health Advisory and Guidelines for Eating Fish From Silverwood Lake (San Bernardino County). August 2013.

OEHHA. 2001. Water. Proposed notification levels for 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene. Robert A. Howd, Ph.D., Chief Water Toxicology Unit Pesticide and Environmental Toxicology Section. Available online at: http://oehha.ca.gov/water/pals/124135tmb.html.

Offermann, Janis. 2005a. Negative Archaeological Survey Report: Devil Canyon Creek Culvert Bridge Removal Project, San Bernardino County, California. DWR.

Offermann, Janis. 2005b. Negative Archaeological Survey Report: Upper Cleghorn Canyon Stream Gaging Station Restoration Project, San Bernardino County, California. DWR.

OHP. 2013. Directory of Properties in the Historic Property Data File for San Bernardino County. On file at South Central Coastal Information Center.

OHP. 2012. Archaeological Determinations of Eligibility San Bernardino County. On file at South Central Coastal Information Center.

OHP. 1996. California Historical Landmarks. Office of Historic Preservation. Sacramento, California. On file at South Central Coastal Information Center.

Orlins, Robert I. 1997. Archaeological Site Record P-36-008913. On file at South Central Coastal Information Center.

Orlins, Robert I. 1994. Letter to DWR from FERC regarding records search for San Bernardino Tunnel Intake Reconstruction Project.

Padgett-Flohr, G.E. 2008. Pathogenicity of Batrachochytrium dendrobatidis in two threatened California amphibians: Rana draytonii and Ambystoma californiense. Herpetological Conservation and Biology 3:182-191.

Paller, M.H. 1997. Recovery of a reservoir fish community from drawdown related impacts. North American Journal of Fisheries Management. 17:726-733, 1997. 8 pp

Papenfuss, T. J. and J. F. Parham. 2013. Four new species of California legless lizards (Anniella). Breviora, Number 536:1-17. Available online at: http://www.bioone.org/doi/full/10.3099/MCZ10.1

Parker, Patricia L., and Thomas F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. Revised. National Register Bulletin 38. U.S. Department of the Interior, National Park Service, National Register, History, and Education Division, Washington, D.C.

Parr, Robert E. 1997. Report on the Mitigation of the Damage to Archaeological Site CA-SBR-1913, Mojave Siphon Project, San Bernardino County, California. Prepared by Center for Archaeological Research, California State University, Bakersfield. Prepared for DWR.

Parr, Robert E., Mark Q. Sutton, and David J. Scott. 1997a. Archaeological Data Recovery at CA-SBR-7691, Summit Valley, San Bernardino County, California. Prepared by Center for Archaeological Research, California State University, Bakersfield. Prepared for DWR.

Parr, Robert, E. 1997b. Report on the Mitigation of the Damage to Archaeological Site CA-SBR-1913, Mojave Siphon Project, San Bernardino County, California. Prepared by the Center for Archaeological Research, California State University, Bakersfield. Prepared for DWR.

Parsons, Jeffery. 2015. Standard Technical Information Documents. June 9, 2015.

Patel, Viju. 1990. Letter dated January 10, 1990 to Federal Energy Regulatory Commission regarding archaeological studies for Project No. 2426-028, California Mojave Siphon Powerplant Project.

Pelletier, Luc., M. Garneau and A Tremblay. 2009. CO2 and CH4 ecosystem exchange from peatlands: Eastmain-1 hydroelectric project, Quebec, Canada. Verhandlungen des Internationalen Verein Limnologie. 30:6:862-5

Prichard, D., C. Bridges, S. Leonard, R. Krapf and W. Hagenbuck. 2003. Riparian area management: process for assessing proper functioning condition for lentic riparian wetland areas. Technical Reference 1737-11. Bureau of Land Management, BLM/RS/ST-98/001+1737, Service Center, Denver, CO. 46 pp.

Prichard, D., J. Anderson, C. Correll, J. Fogg, K. Gebhardt, R. Krapf, S. Leonard, B. Mitchell, and J. Staats. 1998. Riparian area management: a user guide to assessing proper functioning condition and the supporting science for lotic areas. Technical Reference 1737-15. Bureau of Land Management, BLM/RS/ST-98/001+1737, Service Center, Denver, CO. 136 pp.

Puseman, Kathryn. 1994. Protein Residue Analysis of Artifacts from Site CA-SBR-7691, Summit Valley, California. Prepared by Paleo Research Laboratories, Colorado. Prepared for California State University, Bakersfield.

Ramirez, Henry. 2009. Letter to Ron Adhya (FERC). FERC Project No. 2426-CA - Templin Highway Culvert Repair Project. DWR. Sacramento, California. December 2, 2009.

Rathbun, G. B., N. J. Scott, and T. G. Murphey. 2002. Terrestrial habitat use by Pacific pond turtles in a Mediterranean climate. The Southwestern Naturalist 47:225-235.

Rector, Carol with Pat Welch and Judyth E. Reed. 1984. Cultural Resources Inventory for the 1984 and part of 1985 California Metropolitan Project Area Public Land Sales Program. BLM.

Recuero, E., I. Martinez-Solano, G. Parra-Olea, and M. Garcia-Paris. 2006a. Phylogeography of Pseudacris regilla (Anura: Hylidae) in western North America, with a proposal for a new taxonomic rearrangement. Molecular Phylogenetics and Evolution 39 (2006):293-304.

Reese, D.A. Undated. Western pond turtle survey techniques. 12pp.

Reese, D. A. and H.H. Welsh. 1997. Use of terrestrial habitat by western pond turtles, Clemmys marmorata: implications for management. pp. 352-357, In: Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles. New York Turtle and Tortoise Society.

Reynolds, Robert E. 1985. Archaeological Reconnaissance Report: Camp Seeley/ Pearson Drilling. USFS.

Reynolds, Robert E. 1984. Miocene Faunas in the Lower Crowder Formation, Cajon Pass, California: A Preliminary Discussion in the Association of Petroleum Geologists Pacific Section, 2009 – San Andreas Fault – Cajon Pass to Wrightwoood.

Reynolds, Robert E. 1980. Archaeological Site Survey Record P-36-004366. On file at South Central Coastal Information Center.

Reynolds, Robert E. 1978a. Archaeological Reconnaissance Report: Pilot Rock Key Area Fuel Breaks. USFS.

Reynolds, Robert E. 1978b. Archaeological Site Record P-36-003128. On file at South Central Coastal Information Center.

Reynolds, Robert E. 1978c. Site Survey Form: Wild Horse Mesa 36.

Reynolds, Robert E. 1972. Site Survey Form: Wild Horse Mesa 37.

Risebrough, Robert. 1994a. Memorandum to Robert Mesta (USFWS, Ventura, CA) regarding analysis of 1990 San Bernardino bald eagle eggs. University of California Santa Cruz. Richmond, California. September 25, 1994.

Robinson, J. Mark. 1994b. Letter to SHPO from FERC regarding records search for San Bernardino Tunnel Intake Reconstruction Project.

Robinson, W.W. 1993. Southern California Local History: A Gathering of the Writings of W. W. Robinson. Doyce B. Nunis Jr., Editor. Historical Society of Southern California, Los Angeles, CA.

Rodriguez, Raul. 1997. Silverwood Reservoir Investigations - Spring 1997. CDFG. California.

Rogers, Michael. 1996. Letter to William R. McCarley (General Manager, LADWP). USFS. Los Angeles, CA. September 23, 1996.

Rogers, M. J. 1945. An Outline of Yuman Prehistory. Albuquerque. Southwestern Journal of Anthropology 1(2):167-198.

Rogers, M. J. 1939. Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. San Diego. San Diego Museum of Man Papers 3.

RWQCB Lahontan Region. 2014. Clean Water Act Sections 305(b) and 303(d) Integrated report for the Lahontan Region. Public Review Draft April 2014. Available: http://www.waterboards.ca.gov/lahontan/water_issues/programs/tmdl/303d_305b/2012/docs/staffreport053014.pdf

RWQCB. 2007. Fact Sheet Waste Discharge Requirements for LADWP

RWQCB, Lahontan Region. 1995. Water quality control plan for the Lahontan Region, North and South Basins. Plan effective March 31, 1995, amended through August 16, 2011. Available: http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.shtml

San Bernardino County. 2015. San Bernardino County History. San Bernardino County. Available online at: http://www.sbcounty.gov/main/history.asp. Accessed: 11/13/15.

San Bernardino County. 2014. San Bernardino County Community Indictors Report.

San Bernardino County. 2008. County of San Bernardino Development Code. Available online at: <https://s3.amazonaws.com/loa.data/inv/857866/2007_Development_Code_02-28-08.pdf>. Accessed: July 28, 2015. Last updated February 28, 2008.

San Bernardino County. 2007a. County of San Bernardino General Plan. Prepared for County of San Bernardino, Land Use Services Division. Prepared by URS Corporation. Adopted March 13, 2007. Effective April 12, 2007. Amended April 24, 2014.

San Bernardino County. 2007b. County of San Bernardino General Plan, Final Program Environmental Impact Report. SCH#2005101038. Prepared for County of San Bernardino, Land Use Services Division. Prepared by URS Corporation. February 2007.

San Bernardino County Museum. 2007. Habitat Suitability Surveys And Target Species Survey Results For The San Bernardino National Forest: 2005-2006. San Bernardino County Museum, Biological Sciences Division. Redlands, California.

San Bernardino County Museum. 2006. Southwestern Willow Flycatcher, Habitat Suitability, And Amphibian Survey Results For The San Bernardino National Forest: 2004. San Bernardino County Museum, Biological Sciences Division. Redlands, California.

San Bernardino Daily Times. 1979 [1876]. The Founding of the S.B. Valley. Reprinted in Odyssey 1(1):3. Published by the City of San Bernardino Pioneer and Historical Society.

San Diego Zoo. 2009. San Diego Fact Sheet: California Condor. Available online at: <http://library.sandiegozoo.org/factsheets/california_condor/condor.htm>. Accessed: September 1, 2015.

San Francisco Estuary Institute. 2014. Practical Guidebook to the Control of Invasive Aquatic and Wetland Plants of the San Francisco Bay-Delta Region Website. Available online at: <http://www.sfei.org/nis/index.html.>

SAP Cost Reports. 2014. Functional Areas in P2426 Project Boundary. Prepared by Southern Field Division (personal communication with Denise Barnes).

Schmidt, James J. 2004. Letter to Adam Sriro, Southern California Edison Company: "Tetley 12 kV Distribution Line, Silverwood Lake State Recreation Area, San Bernardino County". Compass Rose Archaeological, Inc.

Schulz, Peter D. 1977. Review of Archeological Resource Identification and Impact Mitigation; California Aqueduct Project (West Branch, Mojave Division and Coastal Branch). Prepared by DPR. Prepared for DWR.

SCPBRG. 2002. Silverwood Lake, California, Southern Bald Eagle Territory Management Plan, Interagency Agreement #B-80533-01. Submitted to DWR.

SCPBRG. 2000. Wintering Bald Eagles at Silverwood Lake, California 1995-2000, Final Report. Report submitted to DWR.

SCPBRG. 1999a. Silverwood Lake - Bald Eagle Monitoring Progress Report. Report submitted to DWR. January 31, 1999.

SCPBRG. 1999b. Silverwood Lake - Bald Eagle Monitoring Progress Report. Report submitted to DWR. July 8, 1999.

SCPBRG. 1998a. Silverwood Lake Interim Report, January 1998. Report submitted to DWR and USFWS. January 1998.

SCPBRG. 1998b. Letter, subject line: additional reporting. Email to Keene, C., DWR from Walton, B., SCPBRG. November 30, 1998. Includes related attachments from other sources.

SCPBRG. 1997. Letter, subject line: Blasting. Letter from Walton, B.J., Coordinator, to Keene, C., DWR. January 27, 1997.

SCPBRG. 1996. Silverwood Lake Bald Eagle Progress Report. Report to DWR. November 1996.

SCPBRG. 1998b. Silverwood Lake Interim Report, July 1998. Report submitted to DWR and USFWS. July 1998. Includes related attachments from other sources.

SCPRBG. 1997. Interim Report - Bald Eagle Activity at Silverwood Lake. Prepared for DWR. January 1997.

Shaffer, H.B., Fellers, G.M., Voss, S.R., Oliver, J.C., and Pauly, G. B. 2004. Species boundaries, phylogeography and conservation genetics of the red-legged frog (Rana aurora/draytonii) complex. Molecular Ecology 13: 2667-2677.

Sheets, B. and A. Van Wyke. 2007a. Archaeological Site Record P-36-003033. On file at South Central Coastal Information Center.

Sheets, B. and A. Van Wyke. 2007b. Archaeological Site Record P-36-013421. On file at South Central Coastal Information Center.

Sheets, B. and M. Kile. 2006a. Archaeological Site Record P-36-012517. On file at South Central Coastal Information Center.

Sheets, B., A. Hoffman, and C. Cisneros. 2006b. Archaeological Site Record P-36-012697. On file at South Central Coastal Information Center.

Sheets, B., A. Hoffman, and C. Cisneros. 2006c. Archaeological Site Record P-36-012700. On file at South Central Coastal Information Center.

Sheets, B. and M. Linder. 2005. Archaeological Site Record P-36-012518. On file at South Central Coastal Information Center.

Sheets, R. and R. Weaver. 1987. Archaeological Site Record P-36-001626. On file at South Central Coastal Information Center.

Shuford, W. D. and T. Gardali, Editors. 2008. California Bird SSC: a ranked assessment of species, subspecies and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds No. 1. Western Field Ornithologists, Camarillo, California and CDFW, Sacramento.

Shumway, Dean L. 1989. Letter dated April 13, 1989 to Viju Patel, Department of Water Resources, regarding amendment of license application and failure of compliance.

Sikes, E. Nancy. 2006. Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California. Prepared by SWCA Environmental Consultants, Sacramento. Prepared for Qwest Communications, Denver.

Silveira, John J. 1993. Negative Declaration Relocation of Landing Site for Crestline Soaring Society. DWR. Sacramento

Silverwood Lawsuit Chronology. 2001. (Southern Bass Council et al. v. State of California, Department of Water Resources - Case No. SCV 16975) and supporting documentation.

Smith, Gerald A. Undated. Archaeological Survey of the Mojave River and Adjacent Regions.

Smith, G.A. 1976. Archaeological Site Survey Record P-36-001627. On file at South Central Coastal Information Center.

Snow, N.P. and G. Witmer. 2010. American Bullfrogs as Invasive Species: A Review of the Introduction, Subsequent Problems, Management Options, and Future Directions. Proceeds of the 24th Vertebrate Pest Conference. University of California, Davis. Available online at: <http://naldc.nal.usda.gov/download/49725/PDF>.

Solberg, Glenn and McElvain, Doug. 2013. Aqueduct and Reservoir Water Level Drawdown Criteria. DWR. Sacramento.

South Coast Air Quality Management District. 2013. South Coast Air Quality Management Plan - Final 2012

Southern California Earthquake Data Center. 2015. Available online at: http://scedc.caltech.edu/

Southern California Academy of Sciences 2007 Annual Meeting Abstracts. 2007. Bulletin of the Southern California Academy of Sciences: Vol. 106: Iss. 2. Art. 5

Spinks, P.Q. R. C. Thomson, and H. B. Shaffer. 2014. The advantages of going large: genome wide SNPs clarify the complex population history and systematics of the threatened western pond turtle. Molecular Ecology. 23: 2228-2241.

Silverwood Lake State Recreation Area (SRA). 1995. Radio Telemetry Study on the Southern Bald Eagle (Haliaeetus leucocephalus leucocephalus) at Silverwood Lake SRA: Progress Report. Silverwood Lake State Recreation Area. Hesperia, California.

SRA. 1997. Bald eagle field data at Silverwood Lake SRA. Silverwood Lake State Recreation Area. Hesperia, California.

SRA. 1996. Bald Eagle Observation Summary for 1995-1996. Silverwood Lake State Recreation Area. Hesperia, California.

Stamer, Marc. 2002. Memorandum to Jesse Bennett (USFWS) regarding amphibian surveys in Miller Canyon. U.S. Department of Agriculture, Forest Service. San Bernardino, California. May 1, 2002.

Stamer, Marc. 1998. Memorandum to Amy Leveritt (USFS) regarding bald eagle survey data around Silverwood Lake. U.S. Department of the Interior, Fish and Wildlife Service. Fontana, California.

Stamer, Marc. 1996. Memorandum to Geary Hund (Los Lagos District, DPR) regarding bald eagle information around Silverwood Lake. U.S. Department of the Interior, Fish and Wildlife Service. Fontana, California.

Stamos, C.L. and S.K. Predmore. 1995. Data and water-table Map of the Mojave River ground-water basin, San Bernardino County, California, November 1992. U.S. Geological Survey Water-Resources Investigations Report 95-4148.

Standish, Leroy. 2005. Mojave River, Rains force release of water from Silverwood. Victorville Daily Press. January 10, 2005.

State Water Project Contractors Authority and the DWR. 2012. California State Water Project Watershed Sanitary Survey 2011 update.

State Water Project Contractors Authority and DWR. 2012. California State Water Project watershed sanitary survey 2011 update. Prepared by Archibald Consulting, Palencia Consulting Engineers, and Starr Consulting. June 2012.

State Water Resources Control Board. 2016. eWRIMS - Electronic Water Rights Information Management System. Available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/index.shtml.

Stebbins, R. C., and McGinnis, S. M. 2012. Field guide to amphibians and reptiles of California: revised edition (California Natural History Guides). University of California Press.

Stebbins, Robert C. 2003. A Field Guide to Western Reptiles and Amphibians. 3rd Edition. Houghton Mifflin Company, 2003.

Stephen, J.R. and G.M. Calcarone. 1999. Southern California mountains and foothills assessment: habitat and species conservation issues. General Technical Report GTR-PSW-175. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 402 p.

Stillwater Sciences. 2011. Geomorphic Assessment of the Santa Clara River Watershed, Synthesis of the Lower and Upper Watershed Studies, Ventura and Los Angeles Counties, California, April 2011.

Sunada, John, and Granfors, Quinn. 2005. Preliminary Results of Silverwood Lake Trout Surveys for 2004-05. DWR.

Sunada, John, and Granfors, Quinn. 2003. Silverwood Lake Fish Survey - Fall 2003. CDFG.

Sunada, John, and Chmiel, Matt. 2002. Lake Silverwood Fish Survey - Spring 2002. CDFG.

Sunada, John, and Chmiel, Matt. 2001a. Lake Silverwood Fish Survey - Fall 2001. CDFG.

Sunada, John, and Chmiel, Matt. 2001b. Lake Silverwood Fish Survey - Spring 2001. CDFG.

Sunada, John, and Barboza, Rebecca. 2000a. Lake Silverwood Fish Survey - Spring 2000. CDFG.

Sunada, John, and Barboza, Rebecca. 2000b. Lake Silverwood General Fish Survey - Fall 2000. CDFG.

Sunada, John, and Curtis, Tyson. 2000c. Lake Silverwood General Fish Survey - Spring 1999. CDFG.

Sunada, John, Barboza, Rebecca and Curtis, Tyson. 2000d. Lake Silverwood Fish Survey - Fall 1999. CDFG.

Sunada, John, Foreman, Terry and Bui, Steve. 1999. Lake Silverwood General Fish Survey and Largemouth Bass Population Estimate - Fall 1998. CDFG.

Sunada, John. 1998. Species composition from Lake Silverwood, October 6-7, 1998. CDFG. Chino, California.

Sunada, John, and Bui, Steve. 1997. Silverwood Reservoir General Fish Survey - Fall 1997. CDFG.

Sutton, Mark Q. 1994a. Discovery, Description, Evaluation, and Mitigation Proposal for a New Archaeological Site on the Mojave Siphon Project, Summit Valley, California. Prepared by Cultural Resource Facility, California State University, Bakersfield. Prepared for DWR.

Sutton, Mark Q. 1994b. Report of, and Recommendations Regarding, the Second Incidence of Damage to Archaeological Site CA-SBR-1913 During Construction of the Mojave Siphon Project. Prepared by Cultural Resource Facility, California State University, Bakersfield. Prepared for DWR.

Sutton, Mark Q., Joan S. Schneider and Robert M. Yohe II. 1992. An Archaeological Data Recovery Program at CA-SBR-6580, on the Mojave Siphon Project, Summit Valley, San Bernardino County, California. Prepared by Cultural Resource Facility, California State University, Bakersfield. Prepared for DWR.

Sutton, Mark Q. 1989. Proposal for Archaeological Studies (Phase I): Mojave Siphon Project, Summit Valley, San Bernardino County. Prepared by Cultural Resource Facility, California State University, Bakersfield. Prepared for DWR.

Sutton, Mark Q. and Joan S. Schneider. 1989. Archaeological Studies (Inventory, Testing, and Evaluation) of the Mojave Siphon Project, Summit Valley, San Bernardino County, California. Prepared by California State University Bakersfield. Prepared for DWR.

SWAMP. 2010. Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey. Prepared for the Surface Water Ambient Monitoring Program. May 14, 2010.

Swift, C. C., T. R. Haglund, R Mario, and R. N. Fisher. 1993. The Status and Distribution of the Freshwater Fishes of Southern California. Bull. Southern California Acad. Sci. 92(3): 101-167.

SWRCB. 2015. Comparison of MCLs and PHGs for Regulated Contaminants in Drinking Water. Last Update: August 10, 2015.

SWRCB, 2008. Permits 20419 and 20418 - Order Denying Petitions for Extension of Time, SWRCB, Division of Water Rights, February 8, 2008.

SWRCB 1990a. Permit 20419 - License for Diversion and Use of Water. January 30, 1990.

SWRCB. 1990b. Permit 20418 - License for Diversion and Use of Water. January 30, 1990.

Tang, Bai, Hogan, Michael, Smallwood, Josh and Olgren-Leblond, Kelli. 2006a. Historic Building Evaluation: 6611 Devil Canyon Road, City of San Bernardino, San Bernardino County, California. Prepared by CRM TECH. Prepared for Municipal Water Department-Water Utility, City of San Bernardino.

Tang, Bai, Hogan, Michael, Smallwood, Josh and Olgren-Leblond, Kelli. 2006b. Historic Building Evaluation: 6667 Devil Canyon Road, City of San Bernardino, San Bernardino County, California. Prepared by CRM TECH. Prepared for Municipal Water Department-Water Utility, City of San Bernardino.

Tang, Bai "Tong". 2005a. Archaeological Site Record P-36-012952. On file at South Central Coastal Information Center.

Tang, Bai "Tong". 2005b. Archaeological Site Record P-36-012953. On file at South Central Coastal Information Center.

Taniguchi, Christeen. 2007. Archaeological Site Record P-36-0010316. On file at South Central Coastal Information Center.

The Bodega Bay Institute. 1998. Organochlorine Contaminants in Unhatched Eggs of Bald Eagles, Haliaeetus leucocephalus, From Mainland Southern California. The Bodega Bay Institute. Berkeley, California.

Becker, Tinsley and Wendy, L. 2014. Archaeological Site Record P-36-024800. On file at South Central Coastal Information Center.

Todd Engineers. 2013. Appendix B. Evaluation of Potential Impacts of Cedar Springs Dam (Silverwood Lake) and Mojave River Dam on Downstream Mojave River Flows and Groundwater Recharge.

Todd, Tim. 2001. Final Construction Geology Report Devil Canyon Powerplant Second Penstock. Prepared for DWR.

Torres, Raphael A. 2010. Amendment NO. 2 to the Memorandum of Understanding between the USFS and the DWR.

Torres, Ralph A. 2007. Letter to Mr. Takeshi Yamashita, P.E., Regional Engineer, FERC regarding Pyramid Dam and Cedar Springs Dam Probably Maximum Flood Studies, November 28, 2007.

Torres, Raphael A. 2006. Letter from Raphael A Torres (Deputy Director, DWR) to Takeshi Yamashita (Regional Engineer, FERC) reporting on the effects of the "Day Fire". November 13, 2006.

Trampier, Joshua. 2011a. Archaeological Site Record P-36-024794. On file at South Central Coastal Information Center.

Trampier, Joshua. 2011b. Archaeological Site Record P-36-024795. On file at South Central Coastal Information Center.

Trampier, Joshua. 2011c. Archaeological Site Record P-36-024796. On file at South Central Coastal Information Center.

Trampier, Joshua. 2011d. Archaeological Site Record P-36-024798. On file at South Central Coastal Information Center.

Trampier, Joshua. 2011e. Archaeological Site Record P-36-024799. On file at South Central Coastal Information Center.

Tyler, Mitch. 2014. Cedar Springs Dam Seismic Stability Evaluation and Deformation Analysis. Prepared for DWR.

University of California, Santa Cruz. 2000. Wintering Bald Eagles at Silverwood Lake, California 1995-2000 Final Report. Santa Cruz Predatory Bird Research Group - Long Marine Lab. University of California, Santa Cruz. Santa Cruz, California.

University of California, Santa Cruz. 1997. Monitoring of Southern Bald Eagles at Silverwood Lake 1996-1997. Santa Cruz Predatory Bird Research Group - Long Marine Lab. University of California, Santa Cruz. Santa Cruz, California.

United Nations Educational, Scientific and Cultural Organization, International Hydrologic Programme. 2008. Scoping Paper, Assessment of the GHG Status of Freshwater Reservoirs. Working Group Greenhouse Gas Status of Freshwater Reservoirs. July, 2008

United States Census Bureau. 2015. Quickfacts. California, Los Angeles County, and San Bernardino County.

United States Census Bureau. 2010. Census 2010 Summary File 1. GCT-PH1-Geography-All Counties, California: Population, Housing Units, Area, and Density: 2010 - County - County Subdivision and Place.

United States Census Bureau. 2000. Census 2000 Summary File 1. GCT-PH1-Geography-All Counties, California: Population, Housing Units, Area, and Density: 2000 - County - County Subdivision and Place.

United States Department of the Interior. 1976a. National Register of Historic Places Vol. II. On file at South Central Coastal Information Center.

United States Department of the Interior. 1976b. National Register of Historic Places. On file at South Central Coastal Information Center.

Unknown. 1972. Cedar Springs Dam - Silverwood Lake Dedication. May 25, 1972.

URS Consultants, Inc. 1990. Rancho Las Flores Environmental Impact Report; Volume I - Technical Report. Prepared for the City of Hesperia, California.

URS Consultants, Inc. 1988. Appendix F; Cultural Resource Inventory of the Proposed Rancho Las Flores Planned Unit Development; San Bernardino, California. Prepared for County of San Bernardino, California.

USACE. 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1. Environmental Laboratory.

USDA. 2015. The Plant List of Accepted Nomenclature, Taxonomy, and Symbols (PLANTS) Database (http://plants.usda.gov). National Plant Data Team, Greensboro, NC 27401-4901 USA.

USDA. 2015a. Natural Resources Conservation Service (NRCS), Custom Soil Resource Report for San Bernardino County, Mojave River Area; San Bernardino National Forest Area, California. November 4.

USDA. 2015b. NRCS, Custom Soil Resource Report for San Bernardino County Southwestern Part, California, and San Bernardino National Forest Area, California. November 4.

USFS. 2014. Classification and Assessment with Landsat of Visible Ecological Groupings (CalVeg) data. Updated in 2014. Available online at: http://www.fs.usda.gov/detail/r5/landmanagement/resourcemanagement/?cid=stelprdb5347192.

USFS. 2013a. Ecological Restoration Implementation Plan. Pacific Southwest Region. R5-MB-249. January 2013.

USFS. 2013b. Environmental Assessment: Miller Canyon OHV Staging Area Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2013c. Decision Notice & Finding of No Significant Impact Miller Canyon OHV Staging Area Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2013d. Biological Assessment for the Miller Canyon OHV Staging Area. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2013e. Environmental Assessment: Miller Canyon OHV Staging Area Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2013f. Decision Notice & Finding of No Significant Impact Miller Canyon OHV Staging Area Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2013g. Environmental Assessment: Miller Canyon OHV Staging Area Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2010h. Amendment No. 2 To Memorandum Of Understanding Between the Forest Service, United States Department of Agriculture and The Department Of Water Resources, State of California, For Conduct Of Work By The Department During Construction and Subsequent Operation Of The California Aqueduct On The Los Padres And Angeles National Forest. U.S. Department of Agriculture, Forest Service, Saugus Ranger District California. Saugus, California.

USFS. 2007a. Map of Miller Canyon Fuels Reduction Project - Final Treatment Level.

USFS. 2007b. Decision Notice and Finding of No Significant Impact for Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2007c. Decision Notice and Finding of No Significant Impact for Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2006a. Area Closure Order (No. 06-15-5100-14). Angeles National Forest and Los Padres National Forest.

USFS. 2006b. Biological Assessment/Evaluation Wildlife And Botany Reports and Management Indicator Species Evaluations for The Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2006c. Map 5. Miller Canyon Fuels Reduction Project - California Spotted Owl Habitat and Treatment Level.

USFS. 2006d. Map 1. Miller Canyon Fuels Reduction Project - Arroyo Toad Habitat and Treatment Level.

USFS. 2006e. Map 4. Miller Canyon Fuels Reduction Project - Bald Eagle & SW Willow Flycatcher Habitat and Treatment Level.

USFS. 2006f. Map 2. Miller Canyon Fuels Reduction Project - California Red Legged Frog Habitat and Treatment Level.

USFS. 2006g. Map 3. Miller Canyon Fuels Reduction Project - Mountain Yellow Frog Habitat and Treatment Level.

USFS. 2006h. Environmental Assessment: Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2006i. Biological Assessment/Evaluation Wildlife And Botany Reports and Management Indicator Species Evaluations for The Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino

USFS. 2006j. Map 5. Miller Canyon Fuels Reduction Project - California Spotted Owl Habitat and Treatment Level (4). U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006k. Map 1. Miller Canyon Fuels Reduction Project - Arroyo Toad Habitat and Treatment Level. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006l. Map 3. Miller Canyon Fuels Reduction Project - Mountain Yellow Frog Habitat and Treatment Level. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006m. Map 5. Miller Canyon Fuels Reduction Project - California Spotted Owl Habitat and Treatment Level (1). U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006n. Map 6. Miller Canyon Fuels Reduction Project - Sensitive and Watch Plants and Treatment Level. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006o. Map 7. Miller Canyon Fuels Reduction Project - Sensitive and Watch Plants and Treatment Type. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006p. Map 9. Miller Canyon Fuels Reduction Project - Riparian Conservation Areas and Treatment Level. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006q. Map 8. Miller Canyon Fuels Reduction Project - Existing Vegetation Type and Treatment Level. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006r. Map 5. Miller Canyon Fuels Reduction Project - California Spotted Owl Habitat and Treatment Level (2). U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 2006s. Map 5. Miller Canyon Fuels Reduction Project - California Spotted Owl Habitat and Treatment Level (3). U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS, 2005a. Land Management Plan Part 3. Design Criteria for the Southern California National Forests. USDA, Forest Service. Pacific Southwest Region. R5-MB-080. September 2005.

USFS. 2005b. Final Environmental Impact Statement, Volume 1: Land Management Plans; Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. USDA, Forest Service. Pacific Southwest Region. R5-MB-074-A. September 2005.

USFS, 2005c. Final Environmental Impact Statement, Volume 2 (Appendices), Land Management Plans: Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. USDA, Forest Service. Pacific Southwest Region. R5-MB-074-B. September 2005.

USFS. 2005d. Executive Summary of the Final Environmental Impact Statement for the Revised Land Management Plans. United States Department of Agriculture, Forest Service, Pacific Southerwest Region, California.

USFS. 2005e. Final Environmental Impact Statement, Volume 1. Land Management Plans: Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. September 2005.

USFS. 2005f. Final Environmental Impact Statement, Volume 2. Land Management Plans: Angeles National Forest, Cleveland National Forest, Los Padres National Forest, San Bernardino National Forest. September 2005.

USFS. 2005g. Land Management Plan - Part 1 Southern California National Forests Vision. United States Department of Agriculture, Forest Service, Pacific Southerwest Region, California.

USFS. 2005h. SBNF Land Management Plan, FEIS, Volume 1.

USFS. 2005i. SBNF Land Management Plan, FEIS, Volume 2

USFS. 2005j. SBNF Land Management Plan: Part 1 (USFS, 2005).

USFS. 2005k. SBNF Land Management Plan: Part 2

USFS. 2005l. SBNF Land Management Plan: Part 3

USFS. 2005m. Land Management Plan Part 2. San Bernardino National Forest Strategy. USDA, Forest Service. Pacific Southwest Region. R5-MB-079. September 2005.

USFS. 2004. Amphibian presence in USGS Quads and associated drainages in San Bernardino National Forest. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. 2003. Biological Evaluation/Biological Assessment Report For Sensitive Species And Species Of Concern Southern California Edison Bark Beetle Project for the Silverwood Lake and Idyllwild Areas San Bernardino and San Jacinto Mountains. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino, California.

USFS. 2002. Biological Evaluation/Assessment For Plants And Animals AND Wildlife/Botany Report For Pilot Rock Vegetation Management Plan. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino, California.

USFS. 1997a. Biological Evaluation and Wildlife Report For Off-Highway Vehicle Plan (Through an Amendment to the San Bernardino National Forest Land and Resource Management Plan). U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 1997b. Amendment No. 1 To Memorandum Of Understanding Between the Forest Service, United States Department of Agriculture and The Department Of Water Resources, State of California, For Conduct Of Work By The Department During Construction and Subsequent Operation Of The California Aqueduct On The Los Padres And Angeles National Forest. U.S. Department of Agriculture, Forest Service, Saugus Ranger District California. Saugus, California.

USFS. 1997c. Amendment No. 1 To Memorandum Of Understanding Between the Forest Service, United States Department of Agriculture and The Department Of Water Resources, State of California, For Conduct Of Work By The Department During Construction and Subsequent Operation Of The California Aqueduct On The Los Padres And Angeles National Forest - Copy. U.S. Department of Agriculture, Forest Service, Saugus Ranger District California. Saugus, California.

USFS. 1997c. Agenda For Mojave Watershed Meeting Water Quality Objectives Upstream Of Forks Dam. U.S. Department of Agriculture, Forest Service. San Bernardino, California. May 1, 2002.

USFS. 1996. 1996 Marple Fire BAER Team Report. September 10, 1996.

USFS. 1994a. Biological Evaluation and Wildlife Report For Cleghorn/Miller Canyon OHV Route. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 1994b. TES/Sensitive Plant Species: San Bernardino National Forest. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 1994c. Report of the Southern California Spotted Owl Biologist Team. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. San Francisco, California.

USFS. 1991. Final Report - San Bernardino Flying Squirrel. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino, California.

USFS. 1979. Aqua Blanca Creek Stream Survey. Cal Fish and Wildlife. California. August 8, 1979.

USFS. 1976a. Preliminary Archaeological Reconnaissance Report Silverwood - Heart Bar Land Exchange. U.S. Department of Agriculture, Forest Service, Arrowhead District, San Bernardino National Forest. February 27, 1976

USFS. 1976b. Silverwood-Heart Bar Land Exchange Archaeological Reconnaissance Report Forms. U.S. Department of Agriculture, Forest Service, Los Padres National Forest. Goleta, California. 1976.

USFS. 1976c. Combination of field notes from archeological surveys at Silverwood Lake. U.S. Department of Agriculture, Forest Service, Los Padres National Forest. Goleta, California. 1976.

USFS. 1976d. Silverwood-Heart Bar Land Exchange archaeological report forms. U.S. Department of Agriculture, Forest Service, San Bernardino National Forest. San Bernardino, California.

USFS. 1974a. West Fork Mojave River Report Of Water Quality Field Analysis. U.S. Department of Agriculture, Forest Service, Arrowhead Ranger District, San Bernardino National Forest.

USFS. 1974b. West Fork Mojave River and Desert Creek Report Of Water Quality Field Analysis. U.S. Department of Agriculture, Forest Service, Arrowhead Ranger District, San Bernardino National Forest.

USFS. 1974c. East Fork of West Fork Mojave River (Miller Canyon) Report Of Water Quality Field Analysis. U.S. Department of Agriculture, Forest Service, Arrowhead Ranger District, San Bernardino National Forest.

USFS. 1972. Current Facts of Importance Concerning Silverwood Lake. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino County, California.

USFS. Unknown. Environmental Assessment: Miller Canyon Fuels Reduction Project. U.S. Department of Agriculture, Forest Service, Mountaintop Ranger District, San Bernardino National Forest. San Bernardino, California.

USFS. Unknown. Spotted owl presentation and notes.

USFWS. 2015a. California Condor Recovery Program, 2015 Annual Condor Population Status Update, December 31, 2015. At https://www.fws.gov/cno/es/calcondor/Condor.cfm

USFWS. 2015b. Critical Habitat Portal. Available online: <http://ecos.fws.gov/crithab/>. Accessed: August 25, 2015. Last updated August 13, 2015.

USFWS. 2015c. Information for Planning and Conservation. Available online at: https://ecos.fws.gov/ipac/. Accessed: August 2015.

USFWS. 2014a. Draft Recovery Plan for the Santa Ana sucker. U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

USFWS. 2014b. Southwestern willow flycatcher (Empidonax traillii extimus) 5-year review: summary and evaluation. USFWS, Arizona Ecological Services, Phoenix, Arizona. August 15, 2014.

USFWS. 2014c. U.S. Fish and Wildlife Service's Biological Opinion: Miller Canyon OHV Staging Area. U.S. Department of the Interior, Fish and Wildlife Service, Carlsbad Fish and Wildlife Office. Carlsbad, California.

USFWS. 2014d. U.S. Fish and Wildlife Service's biological opinion on the proposed Miller Canyon Off-Highway Vehicle Staging Area Project. U.S. Department of the Interior, Fish and Wildlife Service, Carlsbad Fish and Wildlife Office. Carlsbad, California.

USFWS. 2013a. Castilleja cinerea (Ash-gray Paintbrush) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 27, 2013.

USFWS. 2013b. California condor (Gymnogyps californicus) 5-year review: summary and evaluation. USFWS, Pacific Southwest Region June 2013.

USFWS. 2013c. Castilleja cinerea (ash-gray paintbrush) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 27, 2013.

USFWS. 2013d. Habitat Conservation Plans- Overview. Available online at: <http://www.fws.gov/endangered/what-we-do/hcp-overview.html>. Accessed: January 7, 2016. Last updated July 15, 2013. USFWS. Washington, D.C.

USFWS. 2012a. Conservation Agreement for Pacific Lamprey (Entosphenus tridentatus) in the States of Alaska, Washington, Oregon, Idaho, and California. 2012. 57 pp.

USFWS. 2012b. Pacific Lamprey Conservation Initiative. March 2012. 2 pp.

USFWS. 2012c. Mountain yellow-legged frog (Rana muscosa) Southern California Distinct Population Segment, 5-year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. July 13, 2012.

USFWS. 2012d. Mountain yellow-legged frog (Rana muscosa) Southern California Distinct Population Segment, 5-year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. July 13, 2012.

USFWS. Federal Register. 2011a. Federal Register 50 CFR Part 17: Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Arroyo Toad; Final Rule. Vol. 76, No. 27. February 9, 2011. 223 pp.

USFWS. 2011b. Revised recovery plan for the Mojave population of the desert tortoise (Gopherus agassizii). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 222 pp.

USFWS. 2011c. Revised recovery plan for the Mojave population of the desert tortoise (Gopherus agassizii). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 222 pp.

USFWS. 2011d. Santa Ana sucker (Catostomus santaanae) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 10, 2011.

USFWS. 2011e. Stephen's kangaroo rat (Dipodomys stephensi) 5-year review, short form, Carlsbad Fish and Wildlife Office, Carlsbad, California. July 22, 2011.

USFWS. 2010a. Sender-horned spineflower (Dodecahema leptoceras) 5-Year review: summary and evaluation. U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office Carlsbad, California. October 1, 2010.

USFWS. 2010b. Ambrosia pumila (San Diego ambrosia) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. July 15, 2010.

USFWS. 2010c. Coastal California gnatcatcher (Polioptila californica californica) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. September 29, 2010.

USFWS. 2010d. Eriastrum densifolium subsp. sanctorum (Santa Ana River woolly-star) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. October, 29, 2010.

USFWS. 2010e. Mojave Population of the Desert Tortoise (Gopherus agassizii) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Desert Tortoise Recovery Office, Reno, Nevada. September 30, 2010.

USFWS. 2010f. NWI data. USFWS, Washington, D.C. Available online at: http://www.fws.gov/wetlands.

USFWS. 2010g. Sender-horned spineflower (Dodecahema leptoceras) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. October 1, 2010.

USFWS. 2010h. Eriastrum densifolium subsp. sanctorum (Santa Ana River woolly-star) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. October, 29, 2010.

USFWS. 2010i. Ambrosia pumila (San Diego ambrosia) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. July 15, 2010.

USFWS. 2009a. Arroyo Toad (Bufo californicus (=microscaphus)) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service Ventura Fish and Wildlife Office Ventura, California. August 17, 2009.

USFWS. 2009b. Mohave tui chub 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California.

USFWS. 2009c. Acanthoscyphus (Oxytheca) parishii var. goodmaniana (Cushenbury oxytheca) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 13, 2009.

USFWS. 2009d. Berberis nevinii (Nevin's barberry) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 14, 2009.

USFWS. 2009e. Braunton's milk-vetch (Astragalus brauntonii) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, Ventura, California. January 2009.

USFWS. 2009f. Brodiaea filifolia (thread-leaved brodiaea) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 13, 2009.

USFWS. 2009g. Erigeron parishii (Parish's daisy) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 13, 2009.

USFWS. 2009h. Eriogonum ovalifolium var. vineum (Cushenbury buckwheat) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 13, 2009.

USFWS. 2009h. Mohave tui chub 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California.

USFWS. 2009j. San Bernardino kangaroo rat (Dipodomys merriami parvus) 5-Year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 14, 2009.

USFWS. 2009k. Eriogonum ovalifolium var. vineum (Cushenbury buckwheat) 5-year review: summary and evaluation. USFWS, Carlsbad Fish and Wildlife Office, Carlsbad, California. August 13, 2009.

USFWS. 2008a. Bear Valley Sandwort (Arenaria ursina) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 2008.

USFWS. 2008b. Delhi Sands Flower-loving Fly (Rhaphiomidas terminatus abdominalis) 5-Year Review: Summary and Evaluation. US Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 2008.

USFWS. 2008c. Southern Mountain Buckwheat (Eriogonum kennedyi var. austromontanum) 5-year review: summary and evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. March 2008.

USFWS. 2007. Biological Opinion for the Horsethief Creek Bridge, Mojave Siphon Access Road Project, San Bernardino County, California (Project Number 2626-California Aqueduct Project, DWR and City of Los Angeles) (1-8-07-F-33). Transmittal to FERC, May 23, 2007.

USFWS. 2006. Least Bell's vireo (Vireo bellii pusillus) 5-year Review: Summary and Evaluation. U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California. September 2006

USFWS. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, OR. xxii + 574 pp.

USFWS. 2002. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. 210 pp.

USFWS. 1999a. Arroyo southwestern toad (Bufo microscaphus californicus) recovery plan. Portland, Oregon. 119 pp.

USFWS. 1999b. Recovery plan for six plants from the mountains surrounding the Los Angeles Basin. Portland, Oregon. 63 pp.

USFWS. 1998a. Draft Recovery Plan for the least Bell's vireo (Vireo bellii pusillus). U.S Fish and Wildlife Service, Portland, Oregon.

USFWS. 1998b. Recovery plan for marsh sandwort (Arenaria paludicola) and Gambel's watercress (Rorripa gambelii). U.S. Fish and Wildlife Service, Portland, Oregon. 50 pp. + appendices

USFWS. 1997a. Draft recovery plan for the Stephen's kangaroo rat (Dipodomys stephensii). U.S. Fish and Wildlife Service, Portland, Oregon, 71 pp.

USFWS. 1997b. Biological Opinion for the issuance of a Regional General Permit to the Los Angeles Department of Water and Power for ongoing maintenance activities at the Castaic Power Plant, Los Angeles County, California (96-00218-AOA) (1-8-96-F-55). Issued April 21, 1997.

USFWS. 1997c. Delhi Sands flower-loving fly (Rhaphiomidas terminatus abdominalis) Recovery Plan. U. S. Fish and Wildlife Service, Portland, Oregon. 51 pp.

USFWS. 1997d. Letter, subject line: Potential violation of the Federal Regulatory Commission (FERC) License and Associated Terms and Conditions of Biological Opinion 1-6-94-F-45 for the San Bernardino Tunnel Intake Reconstruction Project, California Aqueduct Project, Silverwood Lake, San Bernardino County, California (1-6-94-F-45F1). Letter and attachments to Madden, K.P., Acting Director, FERC, from Kobetich, G.C., Field Supervisor, USFWS. June 12, 1997.

USFWS. 1997e. San Bernardino Mountains carbonate plants draft recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon, 55 pp.

USFWS. 1996. Compliance with terms and conditions of Biological Opinion (1-6-94-F-45A1) for the San Bernardino Tunnel Intake Reconstruction Project, FERC No. 2426-063, California Aqueduct Project Silverwood Lake, San Bernardino County, California. Letter from Kobetich, G.C., Field Supervisor to Robinson, J.R., Director FERC. November 7, 1996.

USFWS. 1994a. Biological Opinion on the San Bernardino Tunnel Intake Reconstruction Project; FERC No. 2426-063, California Aqueduct Project, Silverwood Lake, San Bernardino County, California (1-6-94-F-45). Issued to FERC. October 19, 1994.

USFWS. 1994b. Biological Opinion on the San Bernardino Tunnel Intake Reconstruction project; FERC No. 2426-063. U.S. Department of the Interior, Fish and Wildlife Service, Carlsbad Fish and Wildlife Office. Carlsbad, California.

USGS. 2016. USGS Surface-Water Historical Instantaneous Data for the Nation: Build Time Series. January 5, 2016. Available online at: http://waterdata.usgs.gov/nwis/uv?referred_module=sw&search_criteria=search_site_no&search_criteria=site_tp_cd&submitted_form=introduction

USGS. 2015. Nonindigenous Aquatic Species. Available online at: < http://nas.er.usgs.gov/>. Accessed: August 18, 2015. Last updated: July 27, 2015.

USGS. 2005. Data Summary for the 2005 Arroyo Toad (Bufo californicus) Surveys Conducted in the San Bernardino National Forest. U.S. Department of the Interior, Geological Survey, Western Ecological Research Center. San Diego, California.

USGS. 2004a. Surveys for arroyo toads (Bufo californicus) throughout the San Gabriel, San Bernardino, and San Jacinto Mountains, 2002-2003, Draft Technical Report. Report to Angeles and San Bernardino National Forests, Bureau of Land Management, and California State Parks.

USGS. 2004b. Natural History and Recovery Analysis for Southern California Populations of the Mountain Yellow-Legged Frog (Rana muscosa), 2003. U.S. Department of the Interior, Geological Survey, Western Ecological Research Center. San Diego, California.

USGS. 2001. Herpetofaunal Inventory and Monitoring at Silverwood Lake State Recreation Area. U.S. Department of the Interior, Geological Survey, San Diego Field Station. San Diego, CA.

USGS. 1967. Topographic Quadrangle for San Bernardino North, CA, 1:24,000 scale. On file at South Central Coastal Information Center.

USGS. 1966. Topographic Quadrangle for San Bernardino, CA, 1:250,000 scale. On file at South Central Coastal Information Center.

USGS. 1956. Topographic Quadrangle for Silverwood Lake, CA, 1:24,000 scale. On file at South Central Coastal Information Center.

USGS. 1954. Topographic Quadrangle for San Bernardino, CA, 1:62,500 scale. On file at South Central Coastal Information Center.

USGS. 1953. Topographic Quadrangle for San Bernardino, CA, 1:250,000 scale. On file at South Central Coastal Information Center.

USGS. 1941. Topographic Quadrangle for Arrowhead, CA, 1:31,680 scale. On file at South Central Coastal Information Center.

USGS. 1936. Topographic Quadrangle for Arrowhead, CA, 1:31,680 scale. On file at South Central Coastal Information Center.

USGS. 1907. Topographic Quadrangle for Southern California, CA, 1:250,000 scale. On file at South Central Coastal Information Center.

USGS. 1903. Topographic Quadrangle for Southern California, CA, 1:250,000 scale. On file at South Central Coastal Information Center.

USGS. 1902. Topographic Quadrangle for Southern California, CA, 1:62,500 scale. On file at South Central Coastal Information Center.

USGS. 1901. Topographic Quadrangle for San Bernardino, CA, 1:62,500 scale. On file at South Central Coastal Information Center.

USGS. 1898. Topographic Quadrangle for San Bernardino, CA, 1:62,500 scale. On file at South Central Coastal Information Center.

USGS. 1896. Topographic Quadrangle for San Bernardino, CA, 1:62,500 scale. On file at South Central Coastal Information Center.

USGS. Unknown. Herpetofaunal Inventory and Monitoring at Silverwood Lake State Recreation Area. U.S. Department of the Interior, Geological Survey, Western Ecological Research Center. San Diego, California.

Veldhuizen, Tanya, and Worsley, Jennifer. 2014. Trout Stocking Program, July 2012 to April 2014. DWR. Sacramento.

Veldhuizen, Tanya, and Worsley, Jennifer. 2013. Trout Stocking Program, July 2006 to June 2012. DWR. Sacramento.

Veldhuizen, Tanya and Worsley, Jennifer. 2008. Trout Stocking Program July 2006 through June 2008, 2008 Biennial Report Federal Energy Regulatory Project 2426. DWR. Sacramento, CA.

Vincent, David K. 1996. Memorandum to Chuck Keene (Senior Project Manager, DWR) regarding the San Bernardino Tunnel Intake Project - Environmental Mitigation Measures. Department of Parks and Recreation, Los Lagos District. December 18, 1996.

Vredenburg, V.T., R. Bingham, R. Knapp, J.A.T. Morgan, C. Moritz, and D. Wake. 2007. Concordant molecular and phenotypic data delineate new taxonomy and conservation priorities for the endangered mountain yellow-legged frog. Journal of Zoology 217: 361–374.

Wallace, W. J. 1962. Prehistoric Cultural Development in the Southern California Deserts. American Antiquity 28(2):172-180.

Wallace, W. J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. Southwestern Journal of Anthropology, 11(3), 214–230. Retrieved from http://www.jstor.org/stable/3629021.

Walton, B. J. 2002. Silverwood Lake, California Southern Bald Eagle Territory Management Plan, Interagency Agreement #B-805330-01. Prepared for DWR. December 2002.

Walton, B., D. Gable, and J. Linthicum. 2000. Wintering bald eagles at Silverwood Lake, California, 1995-2000, final report. Prepared for DWR. Santa Cruz Predatory Bird Research Group.

Warren, C. N., and R. H. Crabtree. 1972. The Prehistory of the Southwestern Great Basin. In Handbook of North American Indians, Volume 11: Great basin. Washington, D.C. Smithsonian Institute.

Warren, C. N. 1967. The Southern California Milling Stone Horizon: Some comments. American Antiquity 32(2):233-236.

Wayland, Brian. 2004a. An Archaeological Survey Report for the Sawpit Emergency Fire Salvage Timber Operations Notice #2, Cedarpines Park, San Bernardino County, California. Prepared by Wayland Resource Management, Inc.

Wayland, Brian. 2004b. An Archaeological Survey Report for the Sawpit Emergency Fire Salvage Timber Operations Notice #3, Cedarpines Park, San Bernardino County, California. Prepared by Wayland Resource Management, Inc.

Wells, A.W., and J.S. Diana. 1975. Survey of the freshwater fishes and their habitats in the coastal drainages of southern California. Report submitted to CDFG, Inland Fisheries Branch from the L.A. County Museum of Natural History. 360 pp.

Werner, E.E and McPeek, M.A. 1994. Direct and indirect effects of predators on two anuran species along an environmental gradient. Ecology 75:1368–1382.

Western Region Climate Center. 2015a. Devore Weather Station Data. Available online at: <http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCDVR>. Accessed: October 10, 2015. Updated daily.

Western Region Climate Center. 2015b. Mormon Rock Weather Station Data. Available online at: <http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCMOR>. Accessed: October 10, 2015. Updated daily.

Western Region Climate Center. 2015c. Rock Camp Weather Station Data. Available online at: <http://www.raws.dri.edu/cgi-bin/rawMAIN.pl?caCRCC>. Accessed: October 10, 2015. Updated daily.

White, Laura S. 2006. Archaeological Site Record P-36-012199. On file at South Central Coastal Information Center.

White, Robert S. and Laura S. White. 2006. A Cultural Resources Assessment of the Pine 2 Project, a 10.7 Acre Parcel Located Southeast of the Intersection of West Redwood Street and North Brenda Lane, City of San Bernardino, San Bernardino County. Prepared by Archaeological Associates. Prepared for Lilburn Corporation.

White, Laurie. 2000. Letter from Archaeological Associates to Environmental Science Associates: "Cultural Resource Assessment for AT&T Wireless Site #C592.2 (Jobs Peak), Valley of Enchantment, San Bernardino County, California".

White, C.R. 1997. Chief Southern District. Letter to Patricia Wolf, Acting Regional Manager at CDFW Region 5 regarding fish screens at the San Bernardino Tunnel Intake Structure at Silverwood Lake. January 1997.

Widell, Cherilyn. 1994. Letter to FERC from SHPO providing concurrence on evaluation regarding records search for San Bernardino Tunnel Intake Reconstruction Project.

Williams, Audry and Hubert Switalski. 2005. Archaeological Monitoring for the Hazard Tree Removal Project in the Mountain Top and Front Country Districts of the San Bernardino National Forest, on Behalf of the Southern California Edison Company. Prepared by Center for Archaeological Research and AMEC Earth and Environmental. Prepared for Southern California Edison.

Williams, Audry 2004a. Archaeological Site Record P-36-012143. On file at South Central Coastal Information Center.

Williams, Audry. 2004b. Archaeological Site Record P-36-012142. On file at South Central Coastal Information Center.

Williams, H. J. Memorandum to State Historic Officer (DPR) regarding a preliminary archaeological reconnaissance report for a proposed land exchange. Lands and Minerals. San Francisco, CA. Mary 14, 1976.

Wilson, Janet. 2003. Heavy Rain Would Threaten Key Reservoir. Los Angeles Times. December 1, 2003.

Woodward-Clyde Consultants. 1990. Third Safety Inspection Report: Cedar Springs Development, California Aqueduct Project No. 2426. Prepared for DWR

Worthley, F. 1992. Letter to Alfred Rock, Chief of Plants Design Section at DWR regarding fish screens for the proposed New San Bernardino Tunnel Intake Structure in Silverwood Lake. Regional Manager, Region 5. CDFW. May 1992.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1988. California's Wildlife: Guide to the California Statewide Wildlife Habitat Relationships System. State of California, The Resources Agency, Department of Fish and Game. Sacramento, CA.

Zimmerman, Gene. 2002. Memorandum to Jim Bartel (Field Supervisor, USFWS) regarding a request for formal consultation for Pilot Rock Vegetation Management Plan. U.S. Department of Agriculture, Forest Service. San Bernardino, California. April 11, 2002.

Zweifel. 1958. Ecology, Distribution, And Systematics Of Frogs Of The Rana Boylei Group. University of California Publications in Zoology. Volume 54, No. 4. pp 207-292.

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Appendix B

Pre-PAD Questionnaire and Consultation Document

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APPENDIX B

PRE-PAD QUESTIONNAIRE AND CONSULTATION DOCUMENT

This table represents organizations that received and replied to the pre-PAD Questionnaire distributed by DWR as well as any pre- or post-questionnaire outreach conducted. The returned questionnaires follow.

Organization Name	Address	City	State	Zip	Pre-Questionnaire Outreach	Post-Questionnaire Outreach
					X = contacted, M = left message	
California Department of Fish and Wildlife, Inland Deserts Region	3602 Inland Empire Boulevard, Suite C-220	Ontario	CA	91764	X	X
California Department of Forestry and Fire Protection	1416 9th Street	Sacramento	CA	95814	X	
California Department of Parks and Recreation, Division of Boating and Waterways	1725 23rd Street, Suite 200	Sacramento	CA	95816	X	M
California Department of Parks and Recreation, Division of Boating and Waterways	One Capitol Mall, Suite 500	Sacramento	CA	95814	X	
California Highway Patrol, Inland Division Office	847 East Brier Drive	San Bernardino	CA	92408	X	X
Federal Emergency Management Agency, Region IX	1111 Broadway Suite 1200	Oakland	CA	94607		
Dept. of the Interior (DOI) U.S. Geological Survey (USGS) Earthquake Science Center (ESC)	525 South Wilson Avenue	Pasadena	CA	91106		
The Metropolitan Water District Of Southern California	P.O. Box 54153	Los Angeles	CA	90054	X	X
Regional Water Quality Control Board, Santa Ana	3737 Main Street, Suite 500	Riverside	CA	92501	X	X
San Gorgonio Pass Water Agency	1210 Beaumont Avenue	Beaumont	CA	92223		
State Water Resources Control Board, Division of Water Rights	1001 I Street, 14th Floor	Sacramento	CA	95814	X	X
U.S. Environmental Protection Agency, Region 9, Environmental Review Section ENF 4-2	75 Hawthorne Street	San Francisco	CA	94105		X
U.S. Department of the Interior, Bureau of Indian Affairs	2800 Cottage Way, Room W-2820	Sacramento	CA	95825	X	M

Organization Name	Address	City	State	Zip	Pre-Questionnaire Outreach	Post-Questionnaire Outreach
					X = contacted, M = left message	
U.S. Department of the Interior, Bureau of Land Management	22835 Calle San Juan De Los Lagos	Moreno Valley	CA	92554	X	X

California Department of Fish and Wildlife, Region 6 Response
Information Request for Relicensing Pre-Application Document
Devil Canyon Project, Department of Water Resources
August 10, 2015

1. Information about person completing the Pre-PAD Questionnaire:

Joanna Gibson, Environmental Scientist
California Department of Fish and Wildlife
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
(909) 987-7449
Joanna.Gibson@wildlife.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

Yes

2a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

- Fish and aquatic resources
- Wildlife resources
- Botanical resources
- Wetlands, riparian, and littoral habitat
- Species protected under the Endangered Species Act and California Endangered Species Act and State Fully Protected Species
- Recreation (Fish Stocking and Angling)

2b. Please briefly describe the information or list available documents:

Fish and aquatic resources:

- Fish survey data for Silverwood Lake: CDFW Region 6 fish survey data.
- Egg and larval fish surveys at Devil Canyon Afterbay: CDFW Region 6 fish survey data.
- Mark-recapture population estimate data for largemouth bass in Silverwood Lake: CDFW Region 6 fish survey data.
- Memo on the loss of trout through the San Bernardino Tunnel. CDFW Region 6.
- CDFW Statewide Document Library: https://nrm.dfg.ca.gov/documents/

- Special-status fish species reported to CDFW: CDFW California Natural Diversity Database (CNDDB) (http://www.dfg.ca.gov/biogeodata/cnddb/) and CDFW Biogeographic Information and Observation System (BIOS) online mapping tool (http://www.dfg.ca.gov/biogeodata/bios/)

Wildlife resources:

- CDFW wildlife biologist observations of bird species at Silverwood Lake, including special-status species: bald eagle, and state watch-list species: osprey.
- Wintering bald eagle observations: Forest Service Bald Eagle Census Program, (909) 382-2832
- Incidental observations of birds by birders: Cornell Lab of Ornithology and National Audubon Society eBird online checklist program (www.ebird.org).
- Special-status wildlife species reported to CDFW: CDFW CNDDB (http://www.dfg.ca.gov/biogeodata/cnddb/) and CDFW BIOS online mapping tool (http://www.dfg.ca.gov/biogeodata/bios/).
- Potential occurrences of special status wildlife species based on habitat within and adjacent to the FERC boundary: CDFW California Wildlife Habitat Relationships (CWHR) database (http://www.dfg.ca.gov/biogeodata/cwhr/).

Botanical resources:

- Special-status plants and natural communities reported to CDFW and CDFW vegetation mapping: CDFW CNDDB (http://www.dfg.ca.gov/biogeodata/cnddb/), CDFW BIOS online mapping tool (http://www.dfg.ca.gov/biogeodata/bios/), CDFW vegetation Classification and Mapping Program (VegCAMP) (http://www.dfg.ca.gov/biogeodata/vegcamp/).
- Special status and non-native plant observations: Calflora Database (http://www.calflora.org/), CalWeedMapper (http://calweedmapper.cal-ipc.org/), and California Native Plant Society Rare and Endangered Plant Inventory (http://www.rareplants.cnps.org/advanced.html)

Wetlands, riparian, and littoral habitat:

- CDFW CNDDB (http://www.dfg.ca.gov/biogeodata/cnddb/)
- CDFW BIOS online mapping tool (http://www.dfg.ca.gov/biogeodata/bios/)
- CDFW Vegetation Classification and Mapping Program (VegCAMP) (http://www.dfg.ca.gov/biogeodata/vegcamp/)
- Calflora Database (http://www.calflora.org/)
- California Native Plant Society Rare and Endangered Plant Inventory (http://www.rareplants.cnps.org/advanced.html)

Species protected under the Endangered Species Act, California Endangered Species Act, State Fully Protected Species:

- Cornell Lab of Ornithology and National Audubon Society eBird online checklist program (www.ebird.org).
- CDFW CNDDB (http://www.dfg.ca.gov/biogeodata/cnddb/)
- CDFW BIOS online mapping tool (http://www.dfg.ca.gov/biogeodata/bios/)
- CDFW CWHR database (http://www.dfg.ca.gov/biogeodata/cwhr/)
- CDFW Statewide Bald Eagle Database
- Wildlife Species Observations, Silverwood Lake State Recreation Area staff, (760) 389-2281

Recreation (Fish Stocking and Angling):

- CDFW Region 6 fish stocking records for Silverwood Lake
- CDFW Region 6 Trout tagging at Silverwood Lake
- CDFW Region 6 creel survey data for Silverwood Lake

2c. Where can DWR obtain this information? (CDFW Staff Contacts)

See above list of documents, databases, and websites.

Fish and aquatic resources:

- Jennifer Hemmert, CDFW Region 6 Reservoir Fisheries Biologist
  Jennifer.Hemmert@Wildlife.ca.gov

Recreation (Fish stocking and creel):

- Jennifer Hemmert, CDFW Region 6 Reservoir Fisheries Biologist
  Jennifer.Hemmert@Wildlife.ca.gov

2d. Please indicate whether there is a specific representative (and alternative) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above:

Representative's Contact Information:

Joanna Gibson, Environmental Scientist
California Department of Fish and Wildlife
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764
(909) 987-7449
Joanna.Gibson@wildlife.ca.gov

Alternative Representative Contact Information:

Jennifer Hemmert, Environmental Scientist
California Department of Fish and Wildlife
33752 Newport Road
Winchester, CA 92596
(951) 926-6153
Jennifer.Hemmert@wildlife.ca.gov

2e. Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)?

Yes

Specific Issues per resource area:

Fish and aquatic resources:

Effects to water quantity and quality, including temperature, due to project operations and maintenance may adversely affect fish and aquatic resources as follows:

- BMI diversity
- Amphibians and their habitat, including special status species such as arroyo toad, California red-legged frog, and mountain yellow-legged frog.
- Diversity, quantity, and composition of fish species
- Fish spawning and habitat
- Entrainment of eggs and larval fish through the hydro intake tower in Silverwood Lake.
- Dewatering of fish spawning habitat
- Western pond turtles and their habitat

Wildlife resources:

- Project operations and maintenance may impact the migration, foraging, and nesting of bird species including special status species such as: bald eagle, and least Bell's vireo; and watch-list species such as osprey.
- Project operations and maintenance may impact the movement, foraging, and reproductive habits of amphibian, reptile, and mammal species, including special status species such as: arroyo toad, California red-legged frog, mountain yellow-legged frog, coast horned lizard, San Bernardino ringneck snake, two-striped gartersnake, western pond turtle, American badger, and San Bernardino flying squirrel.
- Aquatic invasive species introduced to Mojave River and tributaries downstream of Cedar Springs Spillway.

- Project transmission lines may present collision and electrocution hazards to bird species, including special status and watch-list species such as bald eagle and osprey.
- Project operations and maintenance may disturb bat colonies roosting within Project structures.

Botanical resources:

- Project operations and maintenance may disturb habitat for and displace special-status plants, such as: Palmer's mariposa-lily, Plummer's mariposa-lily, short-joint beavertail, San Bernardino Mountains owl's-clover, southern mountains skullcap, white pygmy-poppy, and natural communities.
- Project effects to water quality and quantity may affect the growth, reproduction, and extent of populations of special status plants and natural communities.
- Project operations and maintenance may facilitate the spread of invasive plant species.

Wetlands, riparian, and littoral habitat:

- Project effects on water quantity and quality may adversely affect the plant diversity, quantity, composition, and extent of wetland, riparian, and littoral habitats.

Species protected under the Endangered Species Act (ESA), California Endangered Species Act (CESA), State Fully Protected Species:

- Project may have impacts on reproduction, foraging, and movement/migration of ESA-listed, CESA-listed, and State Fully Protected species as referenced above in the fish and aquatic, wildlife, and botanical resources sections.

Recreation (Fish Stocking and Angling):

- The Project provides a recreational fishery; Project operations and maintenance may impede access to anglers in Silverwood Lake.
- Entrainment of eggs and larval fish through the Silverwood Lake intake tower may affect the forage base of the fishery in the lake, thereby affecting angling opportunity.

2f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues?

Yes

Potential Studies or Information Needs per resource area:

Fish and aquatic resources:

- Silverwood Lake fish populations, including mark-recapture population estimates for largemouth bass (beginning of March through mid-June); surveys and population estimates should be completed over multiple seasons.

- Evaluate the changes in the Silverwood Lake fishery as a result of the new intake tower construction/drawdown through comparison of pre-project fisheries data, especially the largemouth bass population, and current fisheries data.
- Benthic macroinvertebrates in Silverwood Lake; surveys should be completed during the appropriate season.
- Egg, larval fish, and fish survey at Devil Canyon Powerplant afterbay discharge to identify species, and estimate numbers of eggs/larval fish/fish entrained from Silverwood Lake via the intake tower. Surveys should be completed over an entire season: at a minimum beginning of March through the end of August.
- An egg, larval fish and fish survey and evaluation of impacts associated with introductions on other reservoirs receiving water from Devil Canyon afterbay.
- Fish and aquatic invasive species surveys within Mojave River and tributaries downstream of Cedar Springs Spillway
- Special status amphibians
- Western Pond Turtle
- Identification of threats to fish and aquatic resources from operations and maintenance activities.

Wildlife resources:

- Completion of a general biological inventory of the amphibian, reptile, bird, and mammal species that are present or have the potential to be present within each habitat type onsite and within adjacent areas that could be affected by the project.
- Completion of a *recent* inventory of rare, threatened, endangered, and other sensitive species located within the project footprint and within offsite areas with the potential to be effected, including California Species of Special Concern and California Fully Protected Species (Fish and Game Code § 3511). The inventory should address seasonal variations in use of the project area and should not be limited to resident species. CDFW recommends that focused species-specific surveys be completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary.
- Bald Eagle Nesting and Wintering (including Night Roost) Surveys
- Bat Surveys
- Avian collision and electrocution
- Identification of threats to wildlife resources from operations and maintenance activities.

Botanical resources:

- Completion of an assessment of the various habitat types located within the project footprint, and the creation of a map that identifies the location of each habitat type. CDFW recommends that floristic, alliance- and/or association based mapping and

assessment be completed following *The Manual of California Vegetation*, second edition (Sawyer et al. 2009). Adjoining habitat areas should also be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions.

- Completion of a thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see http://www.dfg.ca.gov/habcon/plant/).
- Non-native invasive plants
- Seasonal wetlands and/or vernal pools

Wetlands, riparian and littoral habitat:

- Wetlands and riparian habitat at Silverwood Lake

Species protected under the Endangered Species Act (ESA), California Endangered Species Act, State Fully Protected Species:

- Completion of a *recent* inventory of rare, threatened, endangered, and other sensitive species located within the project footprint and within offsite areas with the potential to be effected, including California Species of Special Concern and California Fully Protected Species (Fish and Game Code § 3511). The inventory should address seasonal variations in use of the project area and should not be limited to resident species. CDFW recommends that focused species-specific surveys be completed by a qualified biologist and conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the U.S. Fish and Wildlife Service, where necessary.
- Bald Eagle Nesting and Wintering (including Night Roost) Surveys

Recreation

- Angling

3. Do you or your organization plan to participate in the Project relicensing?

Yes

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PRE-PAD QUESTIONNAIRE

If you would like to receive an electronic version of the questionnaire, please contact Sherida Schouweiler at (916) 557-4550 or sherida.schouweiler@water.ca.gov.

The California Department of Water Resources (DWR) is preparing to relicense the Devil Canyon Project (Project), currently licensed under South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426.

The Project is located in San Bernardino County on the East Branch of the State Water Project. Project facilities include Cedar Springs Dam, Silverwood Lake, San Bernardino Tunnel, Devil Canyon Powerplant, Devil Canyon Powerplant Afterbay, Devil Canyon Powerplant Second Afterbay, and transmission lines.

The existing FERC Project Boundary surrounding the Project includes federal land managed by the U.S. Department of Agriculture, Forest Service as part of the San Bernardino National Forest. The location of the Project facilities is shown on the attached map.

DWR is preparing a Pre-Application Document (PAD) that provides FERC and other parties that may be interested in the Devil Canyon Project Relicensing with existing, relevant, and reasonably available information pertaining to the Project to help identify issues and related information needs, develop study requests, and prepare documents analyzing potential Project effects. DWR will file the PAD with FERC and make it available to parties interested in the relicensing sometime between August 1, 2016 and January 31, 2017.

DWR respectfully requests that you complete this Pre-PAD Questionnaire to the best of your ability to help identify: 1) sources of existing, relevant, and reasonably available information; 2) known or potential effects or issues associated with the operation and maintenance of the Project; and 3) the potential need for information gathering and/or studies.

1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Chris Browder, Deputy Chief Environmental Protection
Organization:	Calif. Dept. of Forestry & Fire Protection
Address:	PO Box 944246
	Sacramento, CA 94244-2460
Phone:	916-653-4995
Email Address:	chris.browder@fire.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☐ No

Resource Area	**Specific Issue**

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☐ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☒ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments
Department may comment on specific issues if CEQA/NEPA documents are circulated

To allow for any follow-up contacts that may be needed by a DWR representative, within 45 days please return this completed Pre-PAD Questionnaire in the enclosed, stamped envelope to the address shown on the envelop.

Alternatively, you may email a *.pdf copy of the completed Pre-PAD Questionnaire to:

gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section.*)

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PRE-PAD QUESTIONNAIRE

If you would like to receive an electronic version of the questionnaire, please contact Sherida Schouweiler at (916) 557-4550 or sherida.schouweiler@water.ca.gov.

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The existing FERC Project Boundary surrounding the Project includes federal land managed by the U.S. Department of Agriculture, Forest Service as part of the San Bernardino National Forest. The location of the Project facilities is shown on the attached map.

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DWR respectfully requests that you complete this Pre-PAD Questionnaire to the best of your ability to help identify: 1) sources of existing, relevant, and reasonably available information; 2) known or potential effects or issues associated with the operation and maintenance of the Project; and 3) the potential need for information gathering and/or studies.

1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Dan Canfield, Planning Manager
Organization:	California State Parks, Off-Hwy Division
Address:	1725 23rd Street
	Sacramento, CA 95816
Phone:	916-324-1574
Email Address:	dan.canfield@parks.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)

Representative Contact Information:

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

e. Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes *(Please list specific issues below.)* ☐ No

Resource Area	**Specific Issue**

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☐ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☒ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments
None

To allow for any follow-up contacts that may be needed by a DWR representative, within 45 days please return this completed Pre-PAD Questionnaire in the enclosed, stamped envelope to the address shown on the envelop.

Alternatively, you may email a *.pdf copy of the completed Pre-PAD Questionnaire to:

gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section.*)

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AUG 2 0 2015

PRE-PAD QUESTIONNAIRE

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The California Department of Water Resources (DWR) is preparing to relicense the Devil Canyon Project (Project), currently licensed under South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426.

The Project is located in San Bernardino County on the East Branch of the State Water Project. Project facilities include Cedar Springs Dam, Silverwood Lake, San Bernardino Tunnel, Devil Canyon Powerplant, Devil Canyon Powerplant Afterbay, Devil Canyon Powerplant Second Afterbay, and transmission lines.

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Keren Dill, Chief, Loan & Grant Financial Services
Organization:	California State Parks, Division of Boating and Waterways
Address:	One Capitol Mall, Suite 500
	Sacramento, CA 95814
Phone:	916-327-1809
Email Address:	KerenA.Dill@parks.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	Keren Dill, chief, Loan and Grant Financial Svcs.
Organization:	Calif. State Parks, Division of Boating and Waterways.
Address:	One Capitol Mall, Suite 500
	Sacramento, CA 95814
Phone:	916-327-1809
Email Address:	Keren.Dill@Parks.ca.gov
Resource Area(s)	Boating Access, state water Project

Alternate Contact Information

Name & Title:	Karl Rose, Supervising Engineer
Organization:	Calif. State Parks, Division of Acquisition and Development
Address:	One Capitol Mall, suite 400
	Sacramento, CA 95814
Phone:	916-327-1792
Email Address:	Karl.Rose@Parks.ca.gov
Resource Area(s)	Boating Access, Engineering, state water Project

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☒ No

Resource Area	Specific Issue

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☒ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☒ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments

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Additional Information or Comments: (*Please indicate applicable section.*)

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PRE-PAD QUESTIONNAIRE

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	ERIC PHIPPS, LIEUTENANT
Organization:	CALIFORNIA HIGHWAY PATROL
Address:	847 EAST BRIER DR.
	SAN BERNARDINO, CA. 92408
Phone:	(909) 806-2400
Email Address:	ephipps@chp.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☐ No

Resource Area	**Specific Issue**

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☐ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☒ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

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Additional Information or Comments: (*Please indicate applicable section.*)

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JUL 2 7 2015

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

July 28, 2015

Sherida Schouweiler
State of California, Department of Water Resources
Hydropower License Planning and Compliance Office
P. O. Box 942836
2033 Howe Avenue, Suite 220
Sacramento, California 95825

Dear Ms. Schouweiler:

This is in response to your request for comments regarding the Devil Canyon Project Relicensing Notice and Information Request for Relicensing Pre-Application Document, San Bernardino County, California.

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the County (Community Number 065043) and City of Los Angeles (Community Number 060137), Maps revised. Please note that the City of Los Angeles, Los Angeles County, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components.

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The San Bernardino County floodplain manager can be reached by calling Gerry Newcombe, Director of Public Works Department, at (909) 387-7906.

If you have any questions or concerns, please do not hesitate to call Michael Hornick of the Mitigation staff at (510) 627-7260.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
Gerry Newcombe, Director of Public Works Department, San Bernardino County
Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources, Southern Region Office
Frank Mansell, NFIP Planner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

PRE-PAD QUESTIONNAIRE

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Daniel Determan Geodesist / GPS Network Coordinator
Organization:	Dept. of the Interior (DOI) U.S. Geological Survey (USGS) Earthquake Science Center (ESC)
Address:	Pasadena Field Office
	525 South Wilson Avenue
	Pasadena, CA. 91106
Phone:	(626) 853-6729
Email Address:	ddeterman@usgs.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☒ Yes (**If yes, please complete 2a thru 2f.**) ☐ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☒	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

The U.S. Geological Survey (USGS) Earthquake Science Center (ESC) has recorded, and continues to record seismic and geodetic data in the area of this project. This data is freely and openly available through www.data.scec.org (for seismic data) and through www.scign.org (for geodetic data). For Geodetic Data: The daily GPS Rinex files are archived at ftp://data-out.unavco.org/pub/rinex/obs/. The daily time series GPS data are at http://earthquake.usgs.gov/monitoring/gps/. The real-time GPS data may be accessed at http://www.scign.org/realtime/ or http://www.escweb.wr.usgs.gov/share/highrate-ppp/sub/?region=scalif.

c. Where can DWR obtain this information?

All seismic and geodetic data are freely and openly available through www.data.scec.org (for seismic data) and through www.scign.org (for geodetic data). Specific Geodetic Data: The daily (15 second interval) GPS Rinex files are archived at ftp://data-out.unavco.org/pub/rinex/obs/. The daily time series GPS data are at http://earthquake.usgs.gov/monitoring/gps/. The real-time (1 second interval) GPS data may be accessed at http://www.scign.org/realtime/ or http://www.escweb.wr.usgs.gov/share/highrate-ppp/sub/?region=scalif.

d. Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)

Representative Contact Information:

Name & Title:	Daniel Determan Geodesist / GPS Network Coordinator
Organization:	Dept. of the Interior (DOI), U.S. Geological Survey (USGS), Earthquake Science Center (ESC)
Address:	Pasadena Field Office
	525 South Wilson Avenue
	Pasadena, CA. 91106
Phone:	(626) 583-6729
Email Address:	ddeterman@usgs.gov
Resource Area(s)	Geodesy (GPS Data)

Alternate Contact Information

Name & Title:	Valerie Thomas Supervisory Geophysicist / Project Manager
Organization:	Dept. of the Interior (DOI), U.S. Geological Survey (USGS), Earthquake Science Center (ESC)
Address:	Pasadena Field Office
	525 South Wilson Avenue
	Pasadena, CA. 91106
Phone:	(626) 583-7820
Email Address:	vthomas@usgs.gov
Resource Area(s)	Seismology (Seismic Data)

e. Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes *(Please list specific issues below.)* ☒ No

Resource Area	**Specific Issue**

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☒ No

Resource Area	**Potential Studies or Information Needs**

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☒ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments

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gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section*.)

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Sarah Bartlett, Resource Specialist
Organization:	Metropolitan Water District of Southern CA
Address:	700 N Alameda St
	Los Angeles CA 90012
Phone:	213 217 6166
Email Address:	sbartlett@mwdh2o.com

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☒ Yes (**If yes, please complete 2a thru 2f.**) ☐ No (**If no, please go to 3.**)

a. *If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:*

☐	Geology and soils	☐	Recreation
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☐	Species protected under the Endangered Species Act	☐	Other resources information

b. *Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)*

As previously provided to DWR in June 2015, Metropolitan collects water quality samples at certain East Branch facilities

c. *Where can DWR obtain this information?*

Contact staff listed in 4 for more information

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	Stephen Reynolds, Senior Limnologist
Organization:	Metropolitan Water District of Southern CA
Address:	700 Moreno Ave
	La Verne CA 91750
Phone:	909 392 5313
Email Address:	sreynolds@mwdh2o.com
Resource Area(s)	water quality

Alternate Contact Information

Name & Title:	Sarah Bartlett, Resource Specialist
Organization:	Metropolitan
Address:	700 N Alameda St
	Los Angeles CA 90012
Phone:	213 217 6166
Email Address:	sbartlett@mwdh2o.com
Resource Area(s)	water quality

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☒ No

Resource Area	Specific Issue

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☒ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☒ Yes ☐ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

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gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section.*)

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September 2, 2015

Ms. Gwen Scholl
Program Manager
CALIFORNIA DEPARTMENT OF WATER RESOURCES

gwen.scholl@water.ca.gov

RESPONSE TO DWR PRE-PAD QUESTIONNAIRE FOR DEVIL CANYON PROJECT FERC RELICENSING

Dear Ms. Scholl:

On August 3, 2015, Regional Board staff received the Department of Water Resources (DWR) questionnaire and documentation dated July 8, 2015 for the above-referenced project. We understand that this project proposes to request that the Federal Energy Regulatory Commission (FERC) issue a new license to DWR for the existing South State Water Project (SWP) Powerplant and Afterbays Hydropower Project located on the East Branch of the SWP in San Bernardino County. The Devil Canyon Project (Project) is currently licensed under South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426. The maps provided by DWR indicate that a portion of the proposed Devil Canyon Project is located within the boundaries of the Santa Ana Regional Board, and Lahontan Regional Board (Regional Board 6) staff confirmed that a portion is located within their boundaries.

DWR staff informed Board staff (Aug. 5, 2015 email communication from Gwen Scholl) that the Project is not located in, or connected to, a surface waterbody. All water stays tunneled (or within manmade systems such as a tank) until the water reaches terminal reservoirs, or is distributed through local distribution systems after leaving the Devil Canyon powerplant and afterbay facilities. We were also notified there are no maintenance activities that would impact Cable Creek or Devil Canyon Creek, the adjacent surface waters, however, there is very infrequent (maximum annually) testing of the Second Afterbay's wasteway gates for a short duration that generates a minimal flow into the percolation basins by design.

Because there is a very slight possibility of maintenance flows discharging into the adjacent creeks, we are providing the beneficial uses of Cable Creek and Devil Canyon

Creek in response to DWR's request for information pertaining to the Devil Canyon Project relicensing. Should the proposed Project cause or potentially water quality impacts to either creek, these are the beneficial uses to be protected.

Beneficial use designations (existing or potential) for Devils Canyon Creek include: Municipal Supply (MUN); groundwater recharge (GWR); contact recreation (REC1); non-contact recreation (REC2); cold freshwater habitat (COLD); and wildlife habitat (WILD).

Beneficial use designations (existing or potential) for Cable Creek, a tributary to Cajon Wash include: Municipal Supply (MUN); groundwater recharge (GWR); contact recreation (REC1); non-contact recreation (REC2); cold freshwater habitat (COLD); wildlife habitat (WILD); and Rare, Threatened or Endangered Species (RARE).

At this time, we do not anticipate other potential impacts to water quality as a result of the proposed Project. We understand from communication with State Water Resources Control Board FERC staff that a site visit of the Devil Canyon Project was planned on September 1 or a site visit of the Piru Creek side of the Project September 2. Please include Regional Board staff Jason Bill on any information about future site visits or other information that we should be aware of. Jason can be reached at (951) 782-3295 or jason.bill@waterboards.ca.gov.

If you have any questions regarding our comments, please contact me at (951) 782-4468 or wanda.cross@waterboards.ca.gov.

Sincerely,

Wanda M Cross

Wanda M. Cross
Chief, Regional Planning Programs Section

cc: State Water Resources Control Board, Water Rights Division - Jeff Parks
Jeff.Parks@waterboards.ca.gov

PRE-PAD QUESTIONNAIRE

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Jeff Davis, General Manager
Organization:	San Gorgonio Pass Water Agency
Address:	1210 Beaumont Ave
	Beaumont, CA 92223
Phone:	951-845-2577
Email Address:	jdavis@sgpwa.com

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☑ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

CALIFORNIA
Water Boards

AUG 3 1 2015

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

AUG 27 2015

Ms. Gwen Scholl
Department of Water Resources
Hydropower License Planning and Compliance Office
P.O. Box 942836
Sacramento, CA 94236

Mr. John Dennis
Los Angeles Department of Water and Power
Power Planning and Development
P.O. Box 51111
Los Angeles, CA 90051-5700

Dear Ms. Scholl and Mr. Dennis:

PRE-PAD QUESTIONNAIRE FOR THE SOUTH STATE WATER PROJECT, FEDERAL ENERGY REGULATORY COMMISSION PROJECT NUMBER 2426

Thank you for the opportunity to provide information related to the South State Water Project (South SWP) in the attached pre-preliminary application document (pre-PAD) questionnaire. The State Water Resources Control Board (State Water Board) intends to be an active participant in the relicensing of Federal Energy Regulatory Commission (FERC) Project No. 2426. Two separate pre-PAD questionnaires were sent out by the Department of Water Resources (DWR) and the Los Angeles Department of Water and Power (LADWP) as their intent is to separate the existing South SWP into two new licenses. Only one questionnaire is attached however, as the State Water Board information is the same for both portions of the existing project.

If there are any questions about the content of the pre-PAD questionnaire, please contact me, Jeffrey Parks, at (916) 341-5319 or at jeff.parks@waterboards.ca.gov. The State Water Board looks forward to working with DWR and LADWP on the South SWP relicensing.

Written correspondence should be addressed as follows:

State Water Resources Control Board
Division of Water Rights
Attn: Jeffrey Parks
P.O. Box 2000
Sacramento, CA 95814

Sincerely,

Jeffrey Parks
Water Resource Control Engineer
Water Quality Certification Program

Enclosure

cc:

Mr. Kurt Berchtold
Santa Ana RWQCB
3737 Main Street, Suite 500
Riverside, CA 92501-3348

Ms. Patty Kouyoumdjian
Lahontan RWQCB
14440 Civic Drive, Suite 200
Victorville, CA 92392

Mr. Samuel Unger
Los Angeles RWQCB
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

PRE-PAD QUESTIONNAIRE

If you would like to receive an electronic version of the questionnaire, please contact Sherida Schouweiler at (916) 557-4550 or sherida.schouweiler@water.ca.gov.

The California Department of Water Resources (DWR) and the Los Angeles Department of Water and Power (LADWP) are preparing to relicense the Warne and Castaic Power Developments which are licensed under South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426 (Project).

The Project is located in Los Angeles County along the West Branch of the State Water Project. The Warne Power Development facilities include Quail Lake, Lower Quail Canal, Peace Valley Pipeline Intake Embankment, Peace Valley Pipeline, William A. Warne Powerplant, and associated structures. The Castaic Power Development facilities include Pyramid Lake, Pyramid Dam, Angeles Tunnel, Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, and Castaic Transmission Line. LADWP owns and operates the Castaic and Elderberry Facilities; DWR owns and operates all other facilities as described above.

The existing FERC Project Boundary surrounding the Warne and Castaic Power Developments includes federal land managed by the United States Department of Agriculture, Forest Service as part of the Los Padres and Angeles National Forests and federal land administered by the United States Department of the Interior, Bureau of Land Management. The location of the Project facilities is shown on the attached map.

DWR and LADWP are preparing a Pre-Application Document (PAD) that provides FERC and other parties that may be interested in the South SWP Hydropower Relicensing with existing, relevant, and reasonably available information pertaining to the Project to help identify issues and related information needs, develop study requests, and prepare documents analyzing potential Project effects. DWR and LADWP will file the PAD with FERC and make it available to parties interested in the relicensing sometime between August 1, 2016 and January 31, 2017.

DWR and LADWP respectfully request that you complete this Pre-PAD Questionnaire to the best of your ability to help identify: 1) sources of existing, relevant and reasonably available information; 2) known or potential effects or issues associated with the operation and maintenance of the Project; and 3) the potential need for information gathering and/or studies.

1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Jeffrey Parks, Water Resource Control Engineer
Organization:	State Water Resources Control Board
Address:	1001 I Street, 14th Floor
	Sacramento CA, 95814
Phone:	916 341-5319
Email Address:	Jeff.parks@waterboards.ca.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☒ Yes (**If yes, please complete 2a thru 2f.**) ☐ No (**If no, please go to 3.**)

a. *If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:*

☐	Geology and soils	☐	Recreation
☒	Water quantity and quality	☐	Land use
☒	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. *Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)*

Water Quality Certification for the Re-Operation of Pyramid Lake – Order WQ 2009-0007
Supporting Documents for the above Water Quality Certification

c. *Where can DWR and LADWP obtain this information?*

http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/401_certifications.shtml
http://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/ceqa_projects.shtml#aqueduct

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR and LADWP representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	Same as above
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	Susan Monheit, Senior Environmental Scientist
Organization:	State Water Resources Control Board
Address:	same
Phone:	916 341-5341
Email Address:	Susan.monheit@waterboards.ca.gov
Resource Area(s)	

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☒ Yes *(Please list specific issues below.)* ☐ No

Resource Area	**Specific Issue**
Water Quality – Elevated mercury levels in Project reservoirs.	
Water Quantity/Biological – Effects on Arroyo Toad from Project stream flows.	

f. *Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)*

☒ Yes (Please list potential studies or information needs below.) ☐ No

Resource Area	Potential Studies or Information Needs
Water Quality – Water sampling at reservoir and stream locations throughout Project.	
Water Quantity/Biological – Instream flow studies sufficient to assess impacts to aquatic species.	
Others as identified through the relicensing process.	

3. Do you or your organization plan to participate in the Project relicensing?

☒ Yes ☐ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments
See cover letter.

To allow for any follow-up contacts that may be needed by a DWR and LADWP representative, within 45 days please return this completed Pre-PAD Questionnaire in the enclosed, stamped envelope to the address shown on the envelop.

Alternatively, you may email a *.pdf copy of the completed Pre-PAD Questionnaire to:

gwen.scholl@water.ca.gov

Thank you for your consideration.

PRE-PAD QUESTIONNAIRE

If you would like to receive an electronic version of the questionnaire, please contact Sherida Schouweiler at (916) 557-4550 or sherida.schouweiler@water.ca.gov.

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The Project is located in Los Angeles County along the West Branch of the State Water Project. The Warne Power Development facilities include Quail Lake, Lower Quail Canal, Peace Valley Pipeline Intake Embankment, Peace Valley Pipeline, William A. Warne Powerplant, and associated structures. The Castaic Power Development facilities include Pyramid Lake, Pyramid Dam, Angeles Tunnel, Castaic Powerplant, Elderberry Forebay, Elderberry Forebay Dam, and Castaic Transmission Line. LADWP owns and operates the Castaic and Elderberry Facilities; DWR owns and operates all other facilities as described above.

The existing FERC Project Boundary surrounding the Warne and Castaic Power Developments includes federal land managed by the United States Department of Agriculture, Forest Service as part of the Los Padres and Angeles National Forests and federal land administered by the United States Department of the Interior, Bureau of Land Management. The location of the Project facilities is shown on the attached map.

DWR and LADWP are preparing a Pre-Application Document (PAD) that provides FERC and other parties that may be interested in the South SWP Hydropower Relicensing with existing, relevant, and reasonably available information pertaining to the Project to help identify issues and related information needs, develop study requests, and prepare documents analyzing potential Project effects. DWR and LADWP will file the PAD with FERC and make it available to parties interested in the relicensing sometime between August 1, 2016 and January 31, 2017.

DWR and LADWP respectfully request that you complete this Pre-PAD Questionnaire to the best of your ability to help identify: 1) sources of existing, relevant and reasonably available information; 2) known or potential effects or issues associated with the operation and maintenance of the Project; and 3) the potential need for information gathering and/or studies.

1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Jean Prijatel, NEPA Reviewer
Organization:	U.S. Environmental Protection Agency
Address:	75 Hawthorne St. Mail Code: ENF 4-2
	San Francisco, CA 94105
Phone:	415-947-4167
Email Address:	Prijatel.jean@epa.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☒ Yes (**If yes, please complete 2a thru 2f**.) ☐ No (**If no, please go to 3**.)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☒	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☒	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

EPA recommends that the Environmental Impact Statement for the project include:
- discussion of waters in the project area that are listed as impaired under Clean Water Act Section 303 (d)
- a detailed discussion of ambient air conditions and the project's impact on those conditions

c. Where can DWR and LADWP obtain this information?

Clean Water Act 303(d) list of impairments: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml
National Ambient Air Quality Standards for California: http://epa.gov/region9/air/maps/index.html

d. Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR and LADWP representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)

Representative Contact Information:

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

e. Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes *(Please list specific issues below.)* ☐ No

Resource Area	**Specific Issue**

f. *Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes (Please list potential studies or information needs below.) ☐ No

Resource Area	**Potential Studies or Information Needs**

3. Do you or your organization plan to participate in the Project relicensing?

☐ Yes ☐ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments

EPA recommends that the Environmental Impact Statement for the project include:
- a clear description of the purpose and need for the project and a reasonable range of alternatives
- a determination if a Clean Water Act 404 permit will be required for the fill or discharge into waters of the U.S and, if so, appropriate analysis for such a permit
- a discussion of climate change in the project area, its impacts on the project, and the project's impacts on climate change
- a discussion of environmental justice populations within the geographic scope of the project, the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Resource: www2.epa.gov/ejscreen
- a description of the process and outcome of government-to-government consultation between FERC and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.
Climate change resources: Council on Environmental Quality's 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts in NEPA www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf; www.globalchange.gov; https://ceq.doe.gov/current_developments/GHG_accounting_methods_7Jan2015.html)

To allow for any follow-up contacts that may be needed by a DWR and LADWP representative, within 45 days please return this completed Pre-PAD Questionnaire in the enclosed, stamped envelop to the address shown on the envelop.

Alternatively, you may email a *.pdf copy of the completed Pre-PAD Questionnaire to:

gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section*.)

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JUL 2 7 2015

PRE-PAD QUESTIONNAIRE

If you would like to receive an electronic version of the questionnaire, please contact Sherida Schouweiler at (916) 557-4550 or sherida.schouweiler@water.ca.gov.

The California Department of Water Resources (DWR) is preparing to relicense the Devil Canyon Project (Project), currently licensed under South SWP Hydropower, Federal Energy Regulatory Commission (FERC) Project No. 2426.

The Project is located in San Bernardino County on the East Branch of the State Water Project. Project facilities include Cedar Springs Dam, Silverwood Lake, San Bernardino Tunnel, Devil Canyon Powerplant, Devil Canyon Powerplant Afterbay, Devil Canyon Powerplant Second Afterbay, and transmission lines.

The existing FERC Project Boundary surrounding the Project includes federal land managed by the U.S. Department of Agriculture, Forest Service as part of the San Bernardino National Forest. The location of the Project facilities is shown on the attached map.

DWR is preparing a Pre-Application Document (PAD) that provides FERC and other parties that may be interested in the Devil Canyon Project Relicensing with existing, relevant, and reasonably available information pertaining to the Project to help identify issues and related information needs, develop study requests, and prepare documents analyzing potential Project effects. DWR will file the PAD with FERC and make it available to parties interested in the relicensing sometime between August 1, 2016 and January 31, 2017.

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	TOM DANG - REGIONAL ENGINEER / FERC COORDINATOR
Organization:	U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF INDIAN AFFAIRS
Address:	2800 COTTAGE WAY
	SACRAMENTO CA 95825
Phone:	(916) 978-6164
Email Address:	THOMAS.DANG@BIA.GOV

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☒	Cultural resources
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☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

Alternate Contact Information

Name & Title:	
Organization:	
Address:	
Phone:	
Email Address:	
Resource Area(s)	

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☐ No

Resource Area	Specific Issue
	AT THIS TIME, WE HAVE NO INFORMATION TO OFFER

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☒ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☒ Yes ☐ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments

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gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section.*)

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PRE-PAD QUESTIONNAIRE

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1. Information about person completing the Pre-PAD Questionnaire:

Name & Title:	Noel Ludwig
Organization:	Bureau of Land Management
Address:	California Desert District Office
	22835 Calle San Juan de los Lagos
	Moreno Valley CA 92553
Phone:	951-697-5368
Email Address:	nludwig@blm.gov

2. Do you or your organization know of existing, relevant and reasonably available information that describes the existing environment or potential effects of the Project?

☐ Yes (**If yes, please complete 2a thru 2f.**) ☒ No (**If no, please go to 3.**)

a. If yes to Question 2, please check the box(es) to indicate the specific resource areas(s) that the information relates to:

☐	Geology and soils	☐	Recreation
☐	Water quantity and quality	☐	Land use
☐	Fish and aquatic resources	☐	Aesthetic resources
☐	Wildlife resources	☐	Cultural resources
☐	Botanical resources	☐	Socio-economic resources
☐	Wetlands, riparian and littoral habitat	☐	Tribal resources
☐	Species protected under the Endangered Species Act	☐	Other resources information

b. Please briefly describe the information or list available documents: (Additional information may be provided on sheet 5 of this questionnaire.)

c. Where can DWR obtain this information?

d. *Please indicate whether there is a specific representative (and alternate) you wish to designate for a potential follow-up contact by a DWR representative for the resource area(s) checked above: (Additional information may be provided on sheet 5 of this questionnaire.)*

Representative Contact Information:

Name & Title:	Noel Ludwig
Organization:	Bureau of Land Management
Address:	22835 Calle San Juan de los Lagos
	Moreno Valley CA 92553
Phone:	951-697-5368
Email Address:	nludwig@blm.gov
Resource Area(s)	hydrology

Alternate Contact Information

Name & Title:	Greg Miller
Organization:	BLM
Address:	Same as above
Phone:	951-697-5216
Email Address:	gmiller@blm.gov
Resource Area(s)	general

e. *Based on the specific resources listed in 2a, are you aware of any specific issues pertaining to the identified resource area(s)? (Additional information may be provided on sheet 5 of this questionnaire.)*

☐ Yes *(Please list specific issues below.)* ☒ No

Resource Area	Specific Issue

f. Based on the resource issues identified in 2e, are you aware of any potential studies or information needs associated with the identified issues? (Additional information may be provided on sheet 5 of this questionnaire.)

☐ Yes (Please list potential studies or information needs below.) ☒ No

Resource Area	Potential Studies or Information Needs

3. Do you or your organization plan to participate in the Project relicensing?

☒ Yes ☐ No

4. We are interested in your comments. If you have comments and/or questions regarding the Project relicensing please add below. *(Additional information may be provided on sheet 5 of this questionnaire.)*

Comments
None at this time.

To allow for any follow-up contacts that may be needed by a DWR representative, within 45 days please return this completed Pre-PAD Questionnaire in the enclosed, stamped envelop to the address shown on the envelop.

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gwen.scholl@water.ca.gov

Thank you for your consideration.

Additional Information or Comments: (*Please indicate applicable section.*)

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Appendix C

ILP Schedule

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APPENDIX C

ILP SCHEDULE

Process Plan and Schedule for DWR's Devil Canyon Project Relicensing Using the ILP Based on Filing the NOI and PAD on August 1, 2016

ILP				
Subsection(s)	**Lead**	**Activity[1]**	**Timeframe (Start and Finish)[2,3]**	
18 CFR § 5.5. NOTIFICATION OF INTENT				
(a)-(g)	DWR	File NOI to file an application for a new license and request for nonfederal representative status under § 7 of the ESA and § 106 of the NHPA. *(No earlier than 5.5 years and no later than 5 years prior to expiration of the current license)*	8/1/16 (Monday)	
18 CFR § 5.6. PRE-APPLICATION DOCUMENT				
(a)-(e)	DWR	File PAD. *(No earlier than 5.5 years and no later than 5 years prior to expiration of current license)*	8/1/16 (Monday)	
18 CFR § 5.7. TRIBAL CONSULTATION				
--	FERC	Hold meeting with potentially affected Native American tribes. *(No later than 30 days from date NOI and PAD filed)*	8/2/16 (Tuesday)	8/31/16 (Wednesday)
18 CFR § 5.8. NOTICE OF COMMENCEMENT OF PROCEEDING, DECISION ON USE OF TLP, AND INITIATION OF ESA AND NHPA INFORMAL CONSULTATION				
(a)	FERC	Issue NCP and decision regarding DWR's request to use TLP. *(No later than 60 days from date NOI and PAD filed)*	8/2/16 (Tuesday)	9/30/16 (Friday)
(b)	FERC	Request initiation of informal consultation under § 7 of the ESA and/or § 106 of the NHPA, if appropriate. *(No later than 60 days from date NOI and PAD filed)*	8/2/16 (Tuesday)	9/30/16 (Friday)
18 CFR § 5.8. ISSUE SCOPING DOCUMENT 1				
(c)	FERC	Issue SD1. *(No later than 60 days from date NOI and PAD filed)*	8/2/16 (Tuesday)	9/30/16 (Friday)
18 CFR § 5.8. HOLD NEPA SCOPING MEETING AND SITE VISIT				
(e)	FERC	Post notice of NEPA scoping meeting in Federal Register and local newspapers. *(No later than 30 days from date NCP issued)*	10/1/16 (Saturday)	10/31/16 (Monday)

Process Plan and Schedule for DWR's Devil Canyon Project Relicensing Using the ILP Based on Filing the NOI and PAD on August 1, 2016 (continued)

ILP				
Subsection(s)	**Lead**	**Activity[1]**	**Timeframe (Start and Finish)[2,3]**	
(e)	FERC	Notify agencies, tribes, and nongovernmental organizations by mail of scoping meeting. *(No later than 30 days from date NCP issued)*	10/1/16 (Saturday)	10/31/16 (Monday)
(d)	FERC	Hold NEPA scoping meeting and conduct site visit. *(No later than 30 days from date NCP issued)*	10/1/16 (Saturday)	10/31/16 (Monday)
(d)	Relicensing Participants	Resource agencies, tribes, and members of public may attend joint meeting to identify issues for NEPA scoping and preliminary study needs, and discuss process plan, schedule, and cooperating agency statuses. (*No earlier than 30 days but no later than 60 days from date NCP issued*)	10/1/16 (Saturday)	10/31/16 (Monday)
--	FERC	Post an audio recording or written transcript of the NEPA scoping meeting(s) on ELibrary.	--	
18 CFR § 5.9. COMMENTS AND INFORMATION OR STUDY REQUESTS				
(a)	DWR & Relicensing Participants	File comments on PAD and SD1, and request studies. *(No later than 60 days from date NCP issued)*	10/1/16 (Saturday)	11/29/16 (Tuesday)
18 CFR § 5.10. SCOPING DOCUMENT 2				
--	FERC	Issue SD2. *(No later than 45 days from end of PAD and SD1 comment period)*	11/30/16 (Wednesday)	1/13/17 (Friday)
18 CFR § 5.11. APPLICANT'S PROPOSED STUDY PLAN AND STUDY PLAN MEETINGS				
(a)	DWR	File Proposed Study Plan. *(No later than 45 days from end of PAD and SD1 comment period)*	11/30/16 (Wednesday)	1/13/17 (Friday)
(e)	DWR	Hold Proposed Study Plan meeting. *(No later than 30 days after date Proposed Study Plan filed)*	1/14/17 (Saturday)	2/13/17 (Monday)
18 CFR § 5.12. COMMENTS ON PROPOSED STUDY PLAN				
--	Relicensing Participants	File comments on Proposed Study Plan. *(No later than 90 days after date Proposed Study Plan filed)*	1/14/17 (Saturday)	4/13/17 (Thursday)
18 CFR § 5.13. REVISED STUDY PLAN AND STUDY PLAN DETERMINATION				
(a)	DWR	File Revised Study Plan. (*No later than 30 days from date Proposed Study Plan comment period ends)*	4/14/17 (Friday)	5/15/17 (Monday)
(b)	Relicensing Participants	File comments on Revised Study Plan. *(No later than 15 days from date Revised Study Plan is filed)*	5/18/17 (Thursday)	5/30/17 (Tuesday)
(c)	FERC	Issue Study Plan Determination. *(No later than 30 days from date Revised Study Plan is filed)*	5/18/17 (Thursday)	6/14/17 (Wednesday)

Process Plan and Schedule for DWR's Devil Canyon Project Relicensing Using the ILP Based on Filing the NOI and PAD on August 1, 2016 (continued)

ILP				
Subsection(s)	**Lead**	**Activity[1]**	**Timeframe (Start and Finish)[2,3]**	
(d)	FERC	Revised Study Plan approved. *(20th day after FERC Determination if no study plan disputes filed)*	7/5/17 (Wednesday)	
18 CFR § 5.14. FORMAL STUDY DISPUTE RESOLUTION PROCESS				
(a)	Mandatory Conditioning Agencies and Tribes	File NOD. *(No later than 20 days from date FERC Determination issued)*	6/14/17 (Wednesday)	7/5/17 (Wednesday)
(d)	FERC	Convene Dispute Resolution Panel (*No later than 20 days from date NOD filed)*	7/6/17 (Friday)	7/25/17 (Tuesday)
(i)	DWR and Relicensing Participants	File comments on NOD. *(No later than 25 days of date NOD filed)*	7/6/17 (Friday)	7/31/17 (Monday)
(k)	Dispute Resolution Panel (DRP)	Deliver to FERC finding on NOD. *(No later than 50 days of date NOD filed)*	7/6/17 (Friday)	8/24/17 (Thursday)
(l)	FERC	Director of Office of Energy Projects issues written determination regarding NOD. *(No later than 70 days of date NOD filed)*	7/6/17 (Friday)	9/13/17 (Wednesday)
18 CFR § 5.15. CONDUCT STUDIES				
(a)	DWR	Conduct studies.	6/15/17 (Thursday)[4]	1/31/20 (Friday)[4]
(b)	DWR	File periodic progress reports.	FERC determines frequency	
(c)(1)	DWR	File Initial Study Report. *(No later than 1 year after FERC's approval of Revised Study Plan)*	6/15/17 (Thursday)	6/14/18 (Thursday)
(c)(2)	DWR	Hold Initial Study Report meeting. *(No later than 15 days of date Initial Study Report filed)*	6/15/18 (Friday)	6/29/18 (Friday)
(c)(3)	DWR	File Initial Study Report meeting summary, including proposed plan modifications and new studies. *(No later than 15 days after Initial Study Report meeting)*	6/30/18 (Saturday)	7/16/18 (Monday)
(c)(7)	FERC	Approval of meeting summary and study plan modifications if no disagreements filed. *(30th day after meeting summary filed)*	8/15/18 (Wednesday)	
(c)(4)	Relicensing Participants	File disagreements with meeting summary, including DWR's proposed study plan modifications and new studies. *(No later than 30 days after Initial Study Report meeting summary filed)*	7/17/18 (Tuesday)	8/15/18 (Wednesday)

Process Plan and Schedule for DWR's Devil Canyon Project Relicensing Using the ILP Based on Filing the NOI and PAD on August 1, 2016 (continued)

ILP				
Subsection(s)	**Lead**	**Activity[1]**	**Timeframe (Start and Finish)[2,3]**	
(c)(5)	DWR & Relicensing Participants	File responses to disagreements. *(No later than 30 days after disagreement period ends)*	8/16/18 (Thursday)	9/14/18 (Friday)
(c)(6)	FERC	Resolve disagreement and amend study plan. *(No later than 30 days after response to disagreements period ends)*	9/15/18 (Saturday)	10/15/18 (Monday)
(f)	DWR	File Updated Study Report, including election of DWR to file a DLA rather than a PLP, if DWR chose to do so.	6/15/18 (Friday)	6/14/19 (Friday)
(c)(2)	DWR	Hold Updated Study Report meeting. *(No later than 15 days from date Updated Study Report filed)*	6/15/19 (Saturday)	7/1/19 (Monday)
(c)(3)	DWR	File Updated Study Plan meeting summary, including DWR's proposed study plan modifications and new studies. *(No later than 15 days after Updated Study Report meeting)*	7/2/19 (Tuesday)	7/16/19 (Tuesday)
(c)(7)	FERC	Approve meeting summary and study plan modifications if no disagreements filed. *(No later than 30 days after meeting summary filed)*	8/15/19 (Thursday)	
(c)(4)	Relicensing Participants	File disagreements with meeting summary, proposed study modifications, and new studies. *(No later than 30 days after Updated Study Report meeting summary filed)*	7/17/19 (Wednesday)	8/15/19 (Thursday)
(c)(5)	DWR & Relicensing Participants	File responses to disagreements. *(No later than 30 days after disagreement period ends)*	8/16/19 (Friday)	9/16/19 (Monday)
(c)(6)	FERC	Resolve disagreements and amend study plan. *(No later than 30 days after responses to disagreements period ends)*	9/17/19 (Tuesday)	10/16/19 (Wednesday)
18 CFR § 5.16. PRELIMINARY LICENSING PROPOSAL OR DRAFT LICENSE APPLICATION				
(a)–(d)	DWR	File PLP or DLA. *(No less than 150 days prior to deadline for filing license application)*[8]	9/3/19 (Tuesday)	
(e)	Relicensing Participants	File comments on PLP/DLA. *(No later than 90 days of date PLP or DLA filed)*	9/4//19 (Wednesday)	12/2/19 (Monday)

Process Plan and Schedule for DWR's Devil Canyon Project Relicensing Using the ILP Based on Filing the NOI and PAD on August 1, 2016 (continued)

ILP				
Subsection(s)	**Lead**	**Activity[1]**	**Timeframe (Start and Finish)[2,3]**	
(a)	DWR	File a FLA. *(No later than 2 years prior to expiration of the current license)*	1/31/20 (Friday)	(a)

[1]The activity description is a good faith effort to summarize the pertinent regulation. The reader is encouraged to read the specific regulation.
[2]When an activity is contingent on completion of a previous activity, the schedule assumes the previous activity is completed the latest date possible for that previous activity, unless otherwise indicated.
[3]According to 18 CFR Section 385.2007(a)(2), if a filing date falls on a Saturday, Sunday, or federal legal public holiday, the deadline for filing becomes the next business day. The schedule includes this consideration.
[4]The ILP schedule assumes that studies begin when FERC issues its Study Determination and may continue for 2 years or more.
Key:
DLA = Draft License Application
DWR = California Department of Water Resources
ESA = Endangered Species Act
FERC = Federal Energy Regulatory Commission
FLA = Final License Application
ILP = Integrated Licensing Process
NCP = Notice of Commencement of Proceeding
NEPA = National Environmental Policy Act
NHPA = National Historic Preservation Act
NOD = Notice of Dispute
NOI = Notice of Intent
PAD = Pre-Application Document
PLP = Preliminary Licensing Proposal
SD1 = Scoping Document 1
SD2 = Scoping Document 2
TLP = Traditional Licensing Process

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Appendix D

CEII Single Line Diagram

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APPENDIX D

CEII SINGLE LINE DIAGRAM

In accordance with Section 5.30 and 4.32(k) of FERC's regulations, and in light of heightened national security concerns, DWR requests that the single line electric diagram included in Appendix D of the PAD be treated by FERC as CEII under Section 388.112 of FERC's regulations, and not be released to the public.

The diagram satisfies the definition of CEII in Section 388.112(c) of FERC's regulations because it contains design information about existing critical infrastructure that relates details about the generation and transmission of electrical energy, and could be useful to a person planning an attack on critical infrastructure. Moreover, such information is exempt from disclosure under the freedom of Information Act 5 U.S.C. Section 552, and does not simply give the general location of the critical infrastructure.

Procedures for the public to obtain access to CEII may be found at 18 C.F.R. Section 388.113. Requests for access should be made to FERC's CEII Coordinator.

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Appendix E

Flow Exceedance Curves, Hydrology and Generation Data

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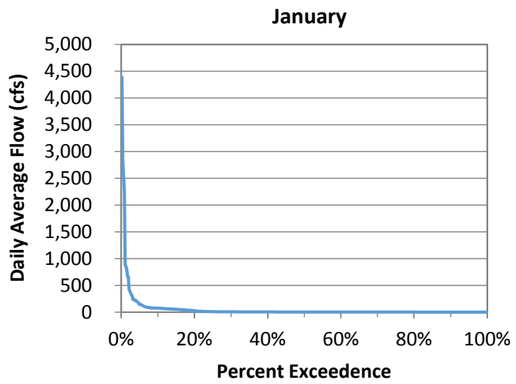
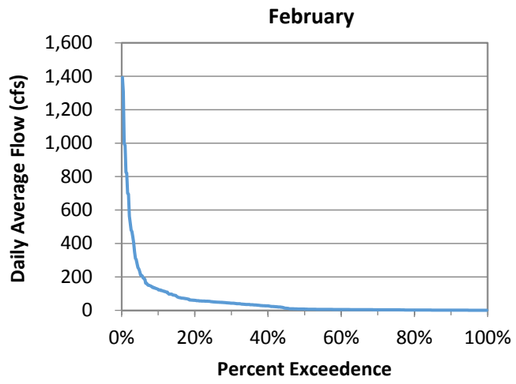
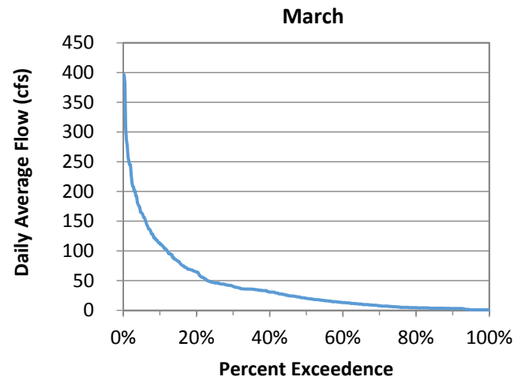
FLOW EXCEEDENCE CURVES

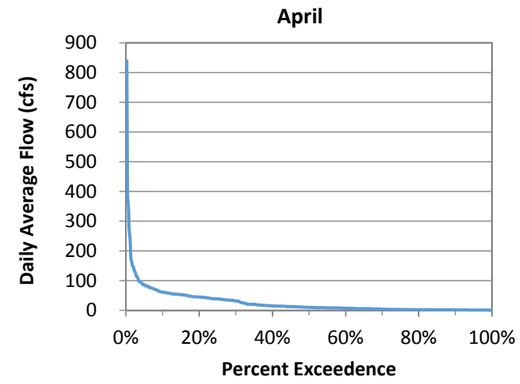
Exceedance Curves of Range and Exceedance Probability of Daily Natural Inflows to Silverwood Lake by Month, 2000 through 2014

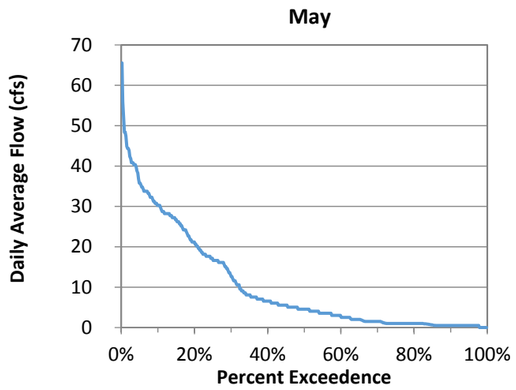
This data corresponds with Figure 3.2-6. Range and Exceedance Probability of Daily Natural Inflows to Silverwood Lake by Month, 2000 through 2014

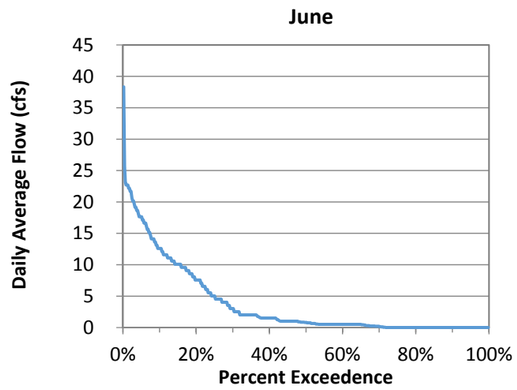


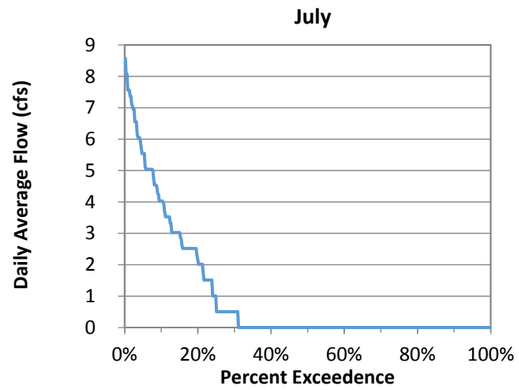


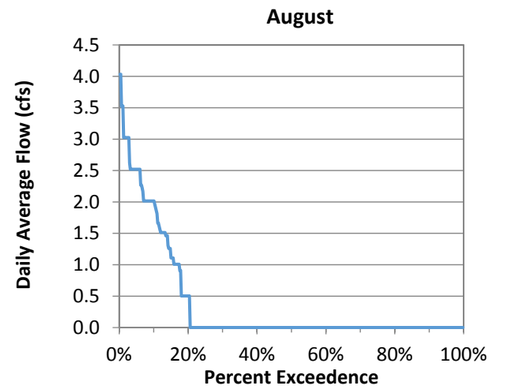


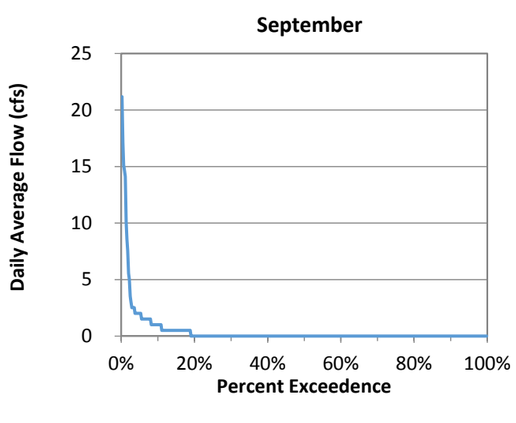


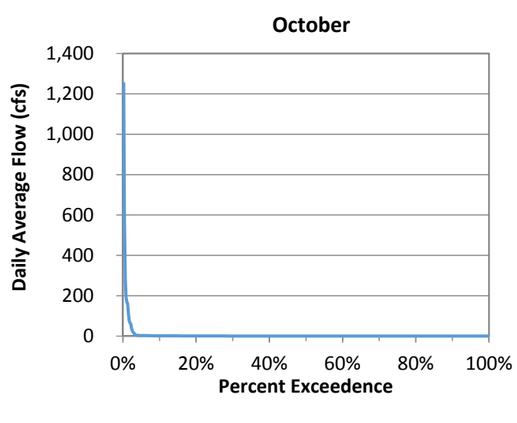


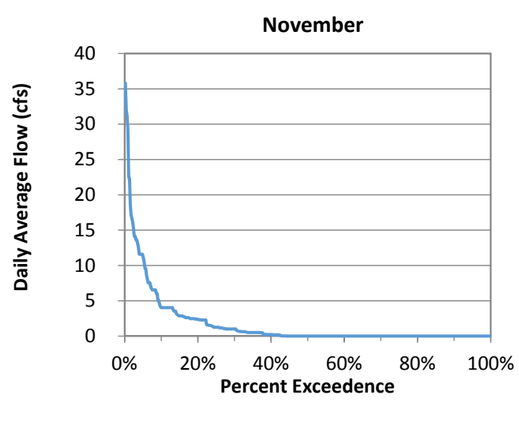


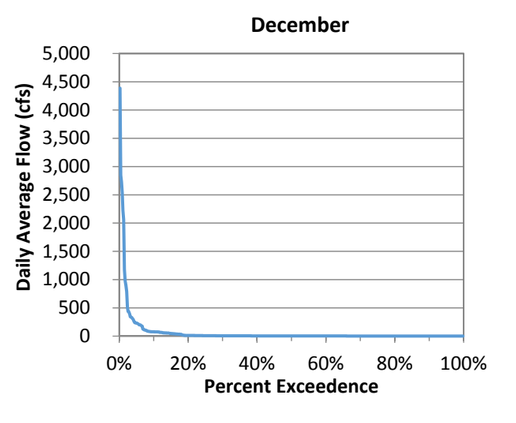






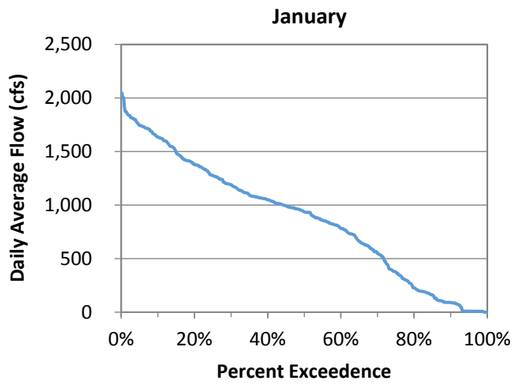


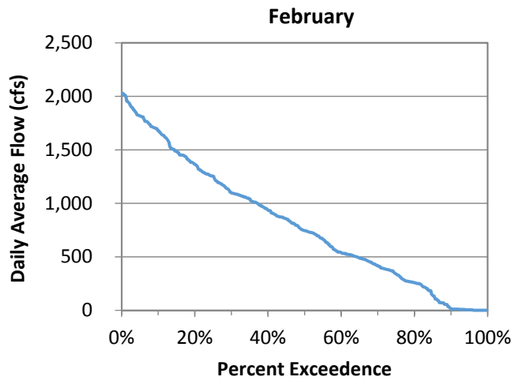


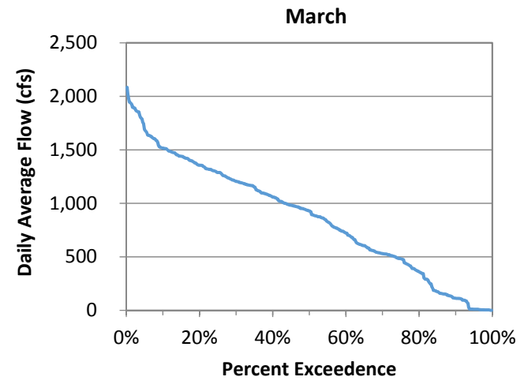


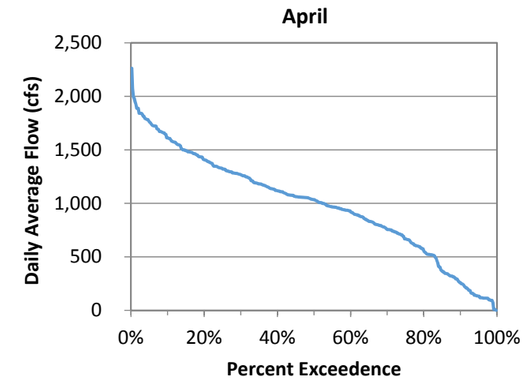
Exceedance Curves of Range and Exceedance Probability of Daily Inflows to Silverwood Lake from the East Branch of the SWP by Month, 2000 through 2014

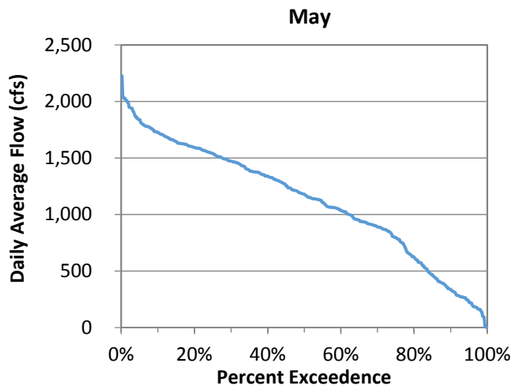
This data corresponds with Figure 3.2-7. Range and Exceedance Probability of Daily Inflows to Silverwood Lake from the East Branch of the SWP by Month, 2000 through 2014

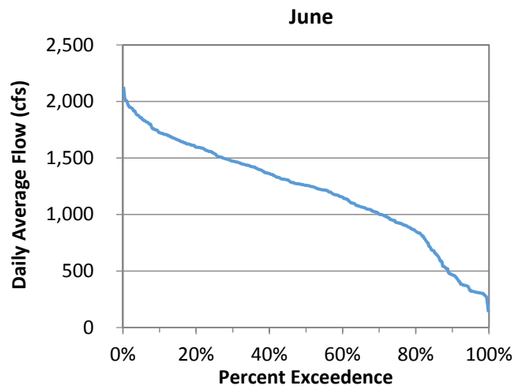


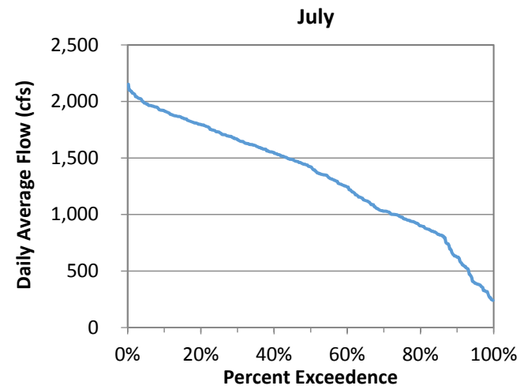


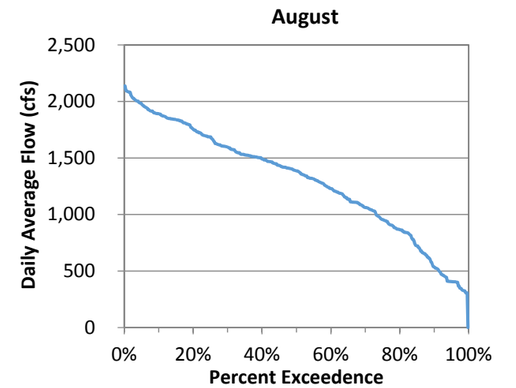


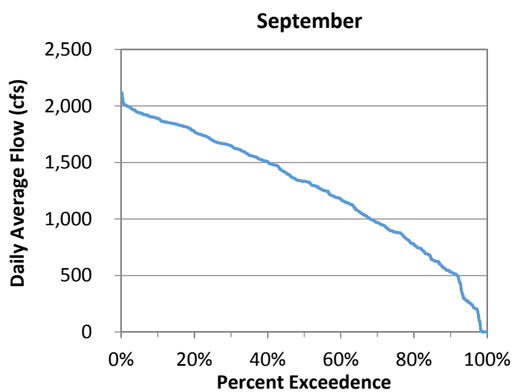


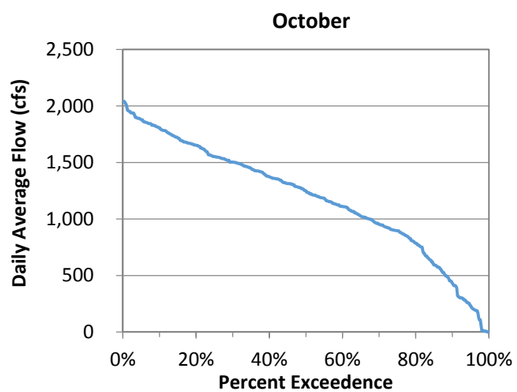


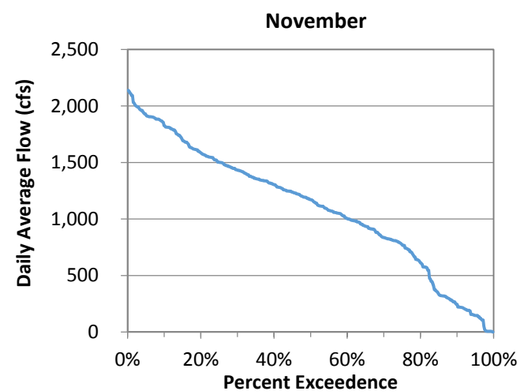


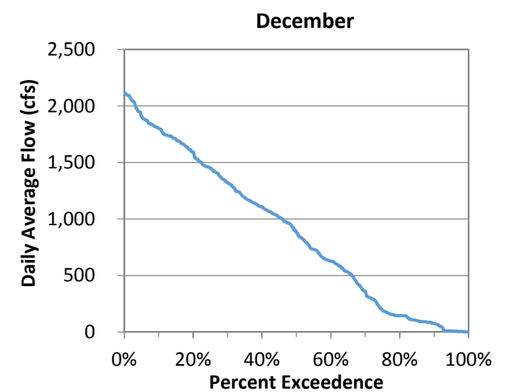






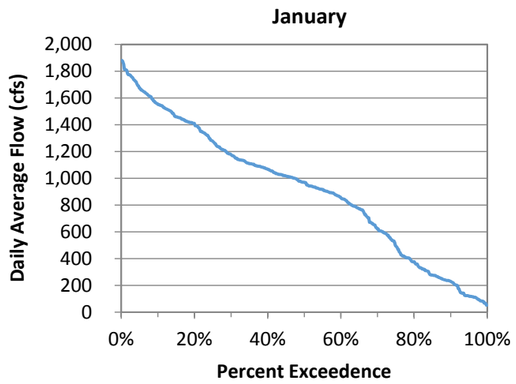


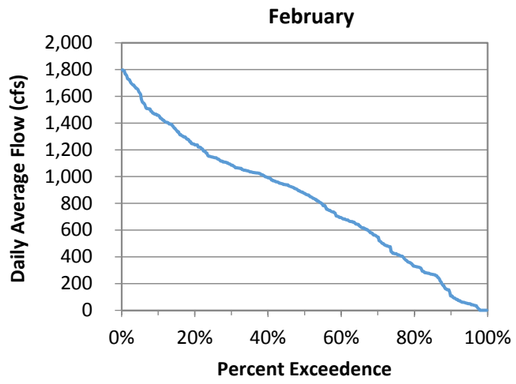


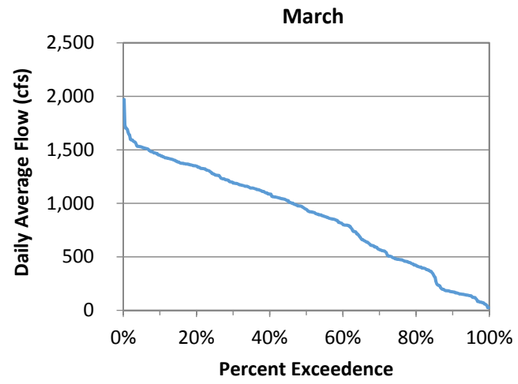


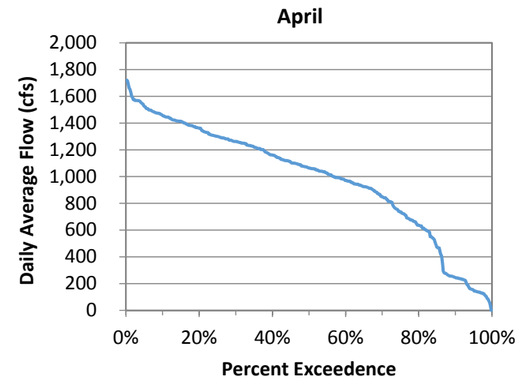
Exceedance Curves of Daily SWP Water Supply Discharges from Silverwood Lake to Devil Canyon Powerplant via the San Bernardino Tunnel by Month, 2000 through 2014

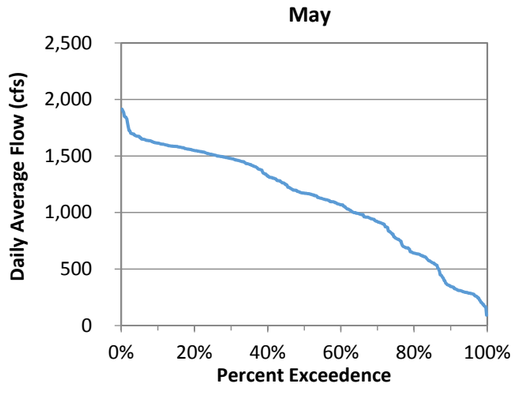
This data corresponds with Figure 3.2-9. Range and Exceedance Probability of Daily SWP Water Supply Discharges from Silverwood Lake to Devil Canyon Powerplant via the San Bernardino Tunnel by Month, 2000 through 2014

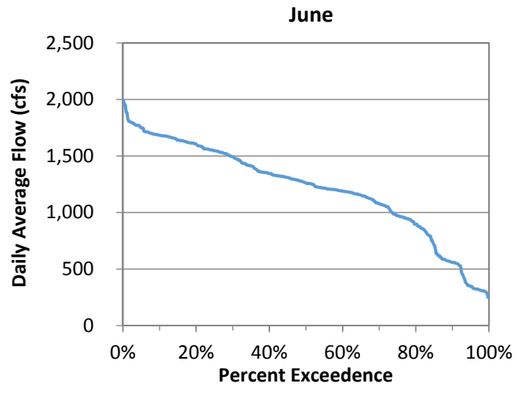


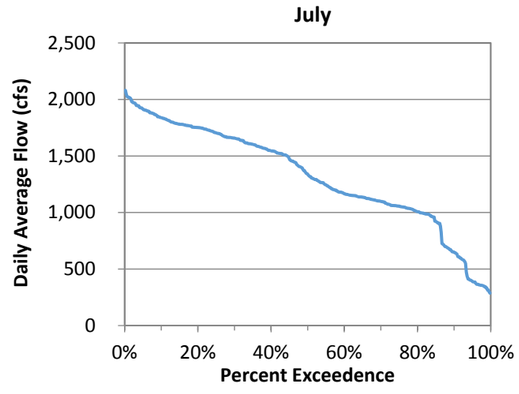


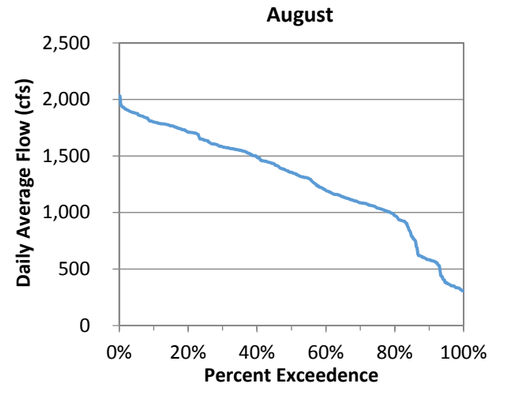


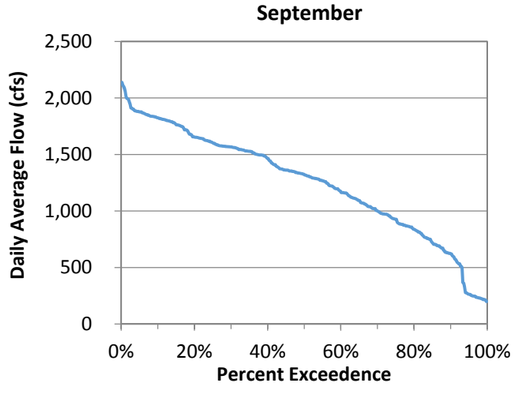


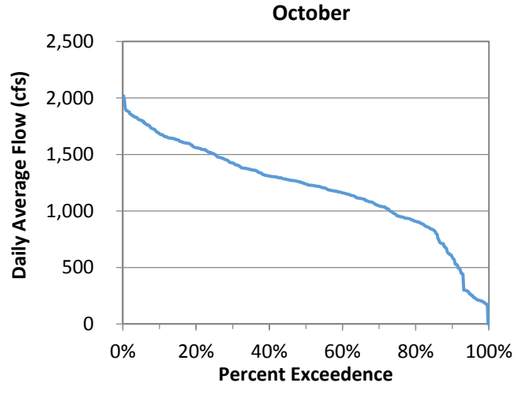


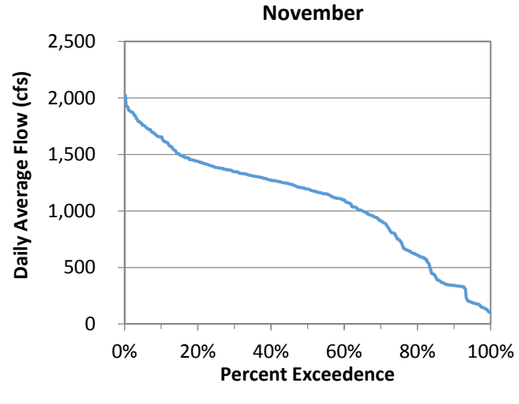


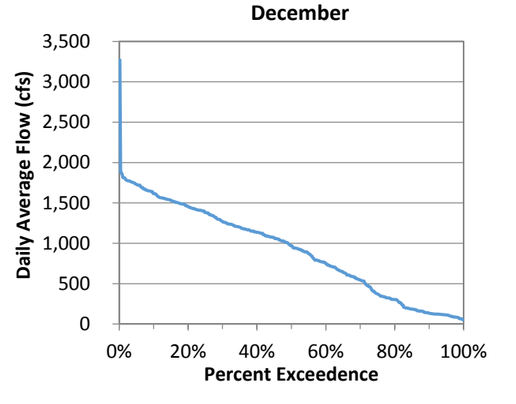






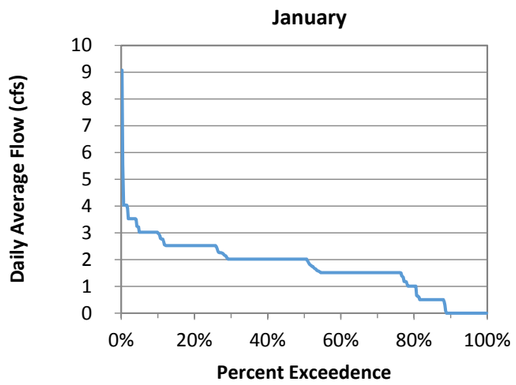


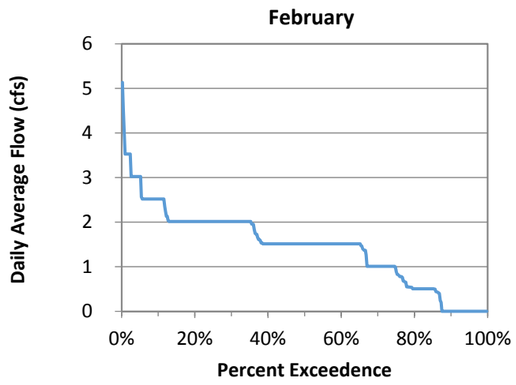


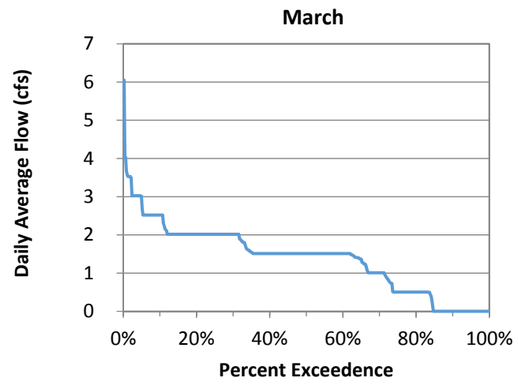


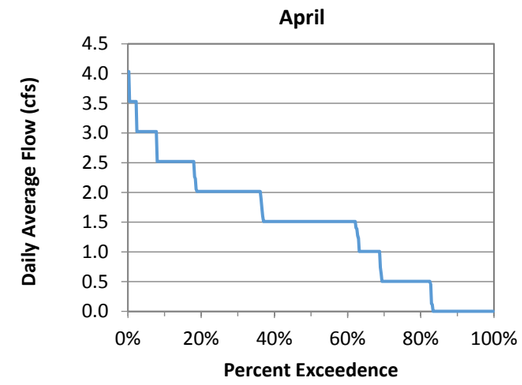
Exceedance Curves of Daily Discharges from Silverwood Lake for Delivery to Local Water Users by Month by Month, 2000 through 2014

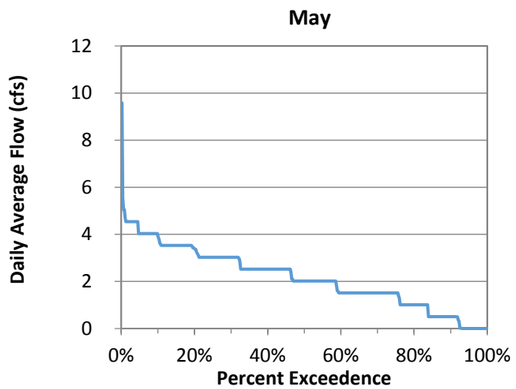
This data corresponds with Figure 3.2-10. Range and Exceedance Probability of Daily Discharges from Silverwood Lake for Delivery to Local Water Users by Month, 2000 through 2014

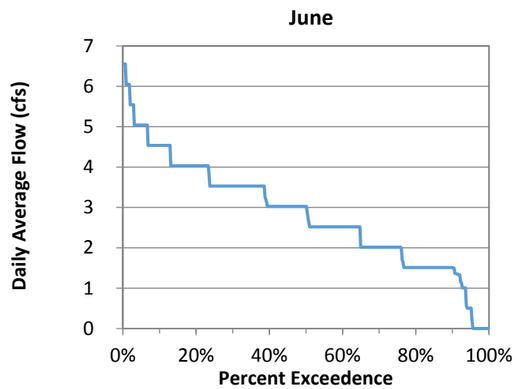


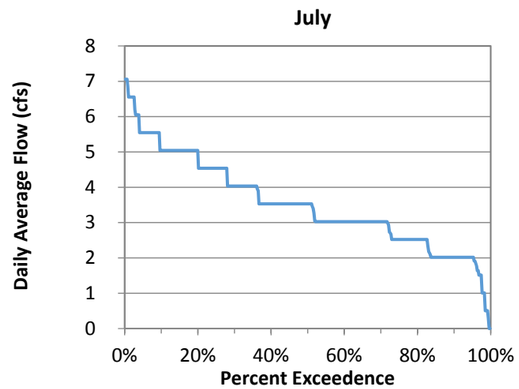


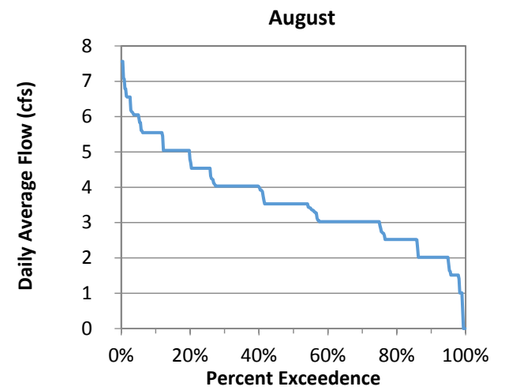


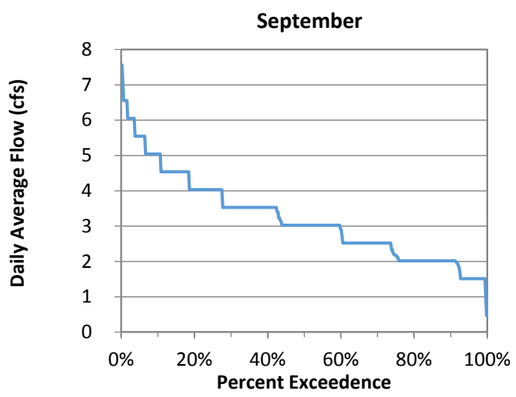


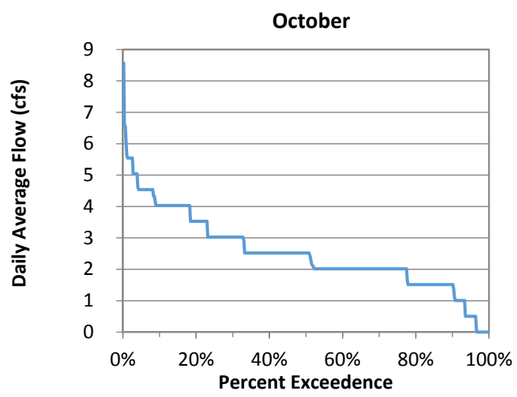


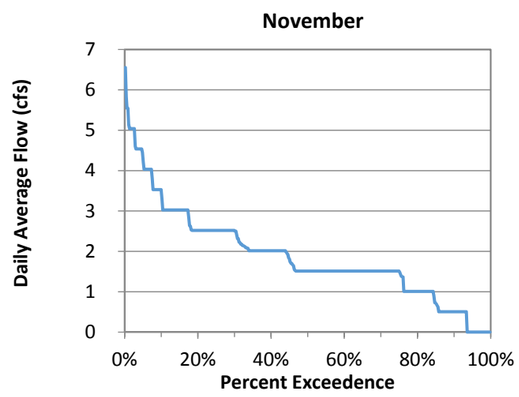


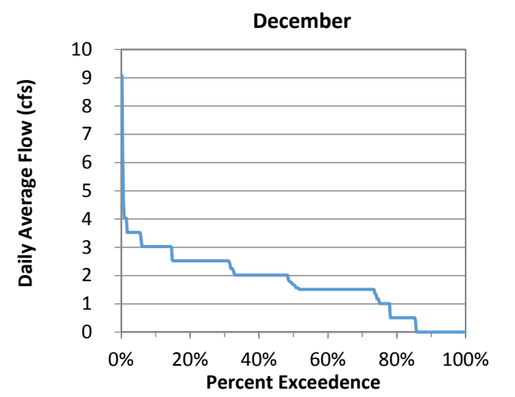






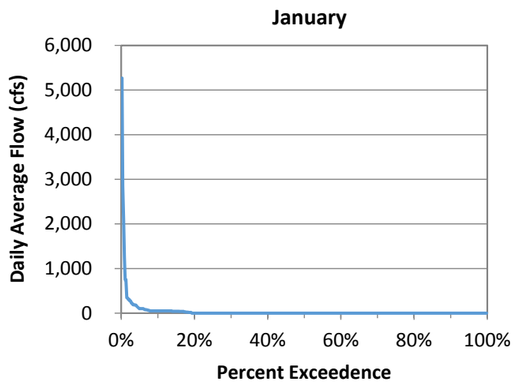


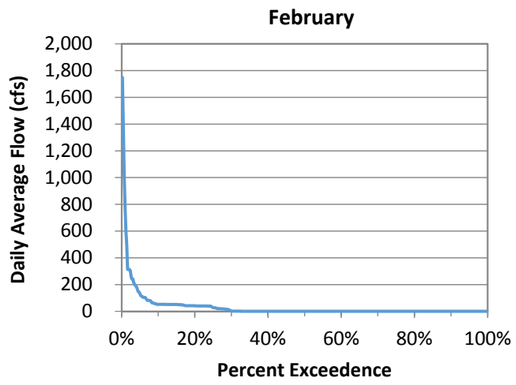


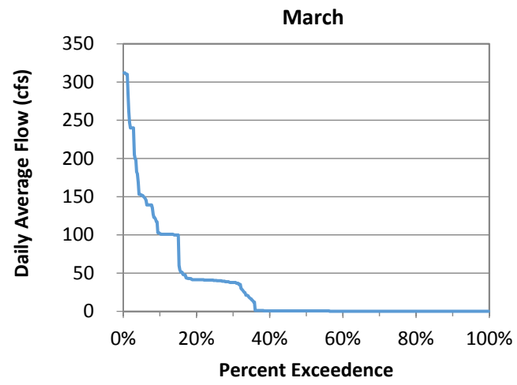


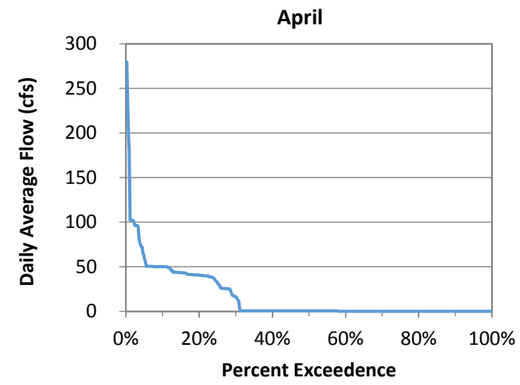
Exceedance Curves of Daily Natural Flow to the West Fork Mojave River Downstream from Cedar Springs Dam by Month, 2000 through 2014

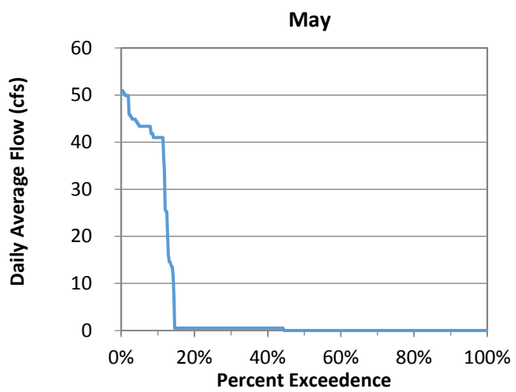
This data corresponds with Figure 3.2-11. Range and Exceedance Probability of Daily Natural Flow to the West Fork Mojave River Downstream from Cedar Springs Dam by Month, 2000 through 2014

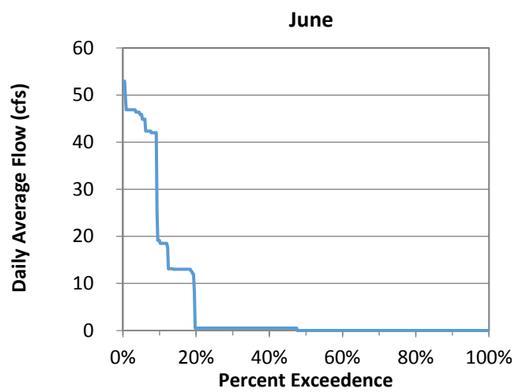


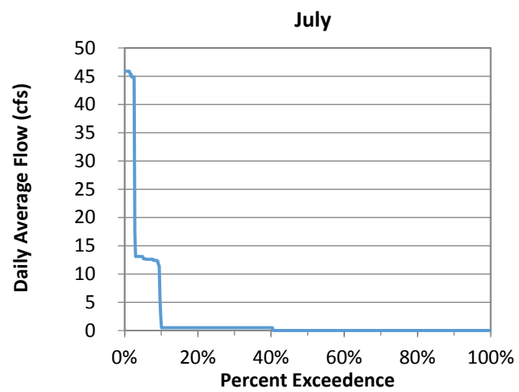


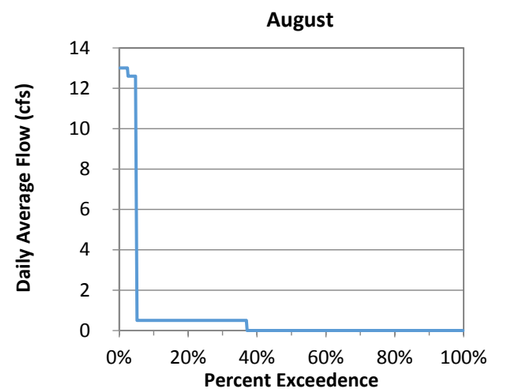


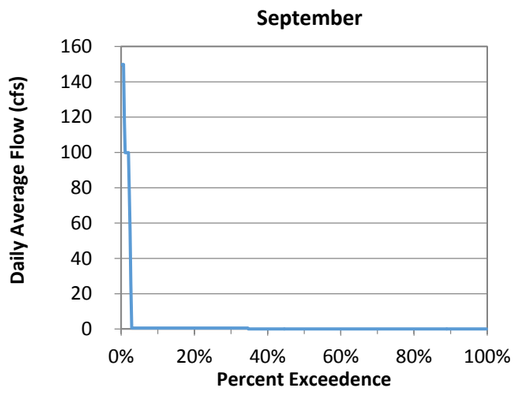


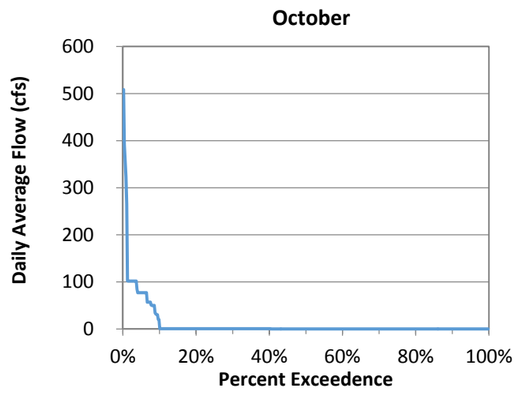


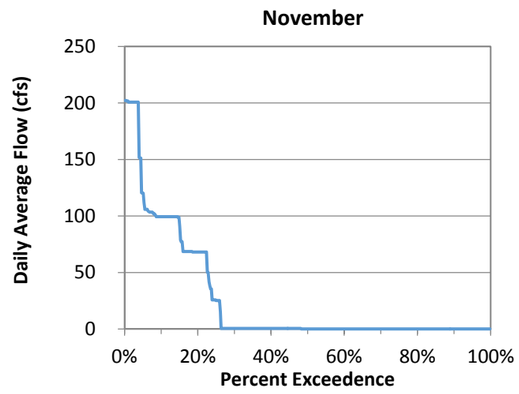


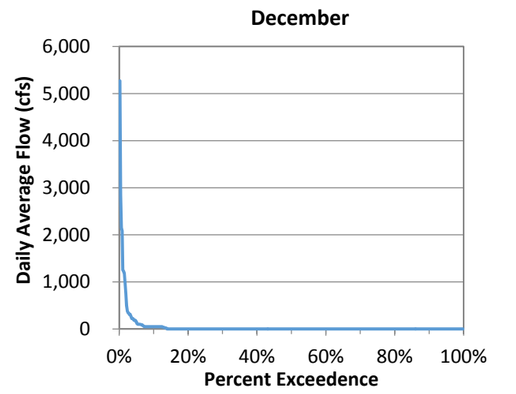






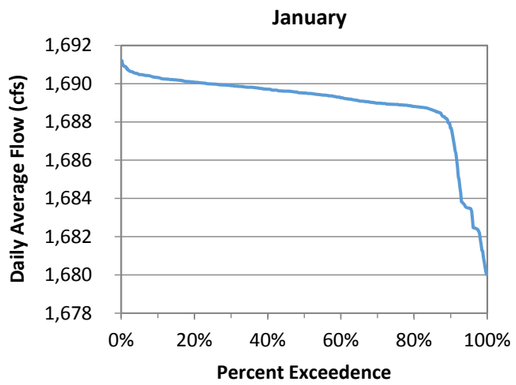


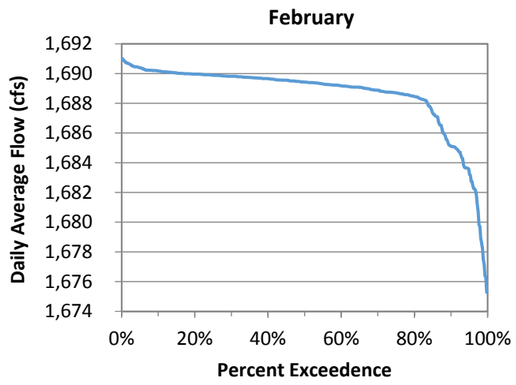


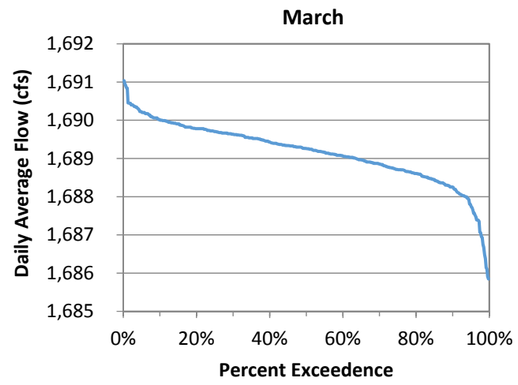


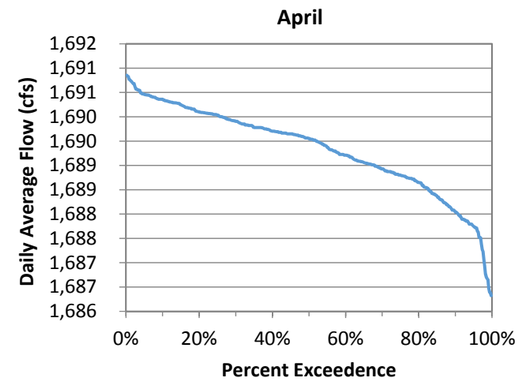
Exceedance Curves of Daily Silverwood Lake Water Surface Elevation by Month, 2000 through 2014

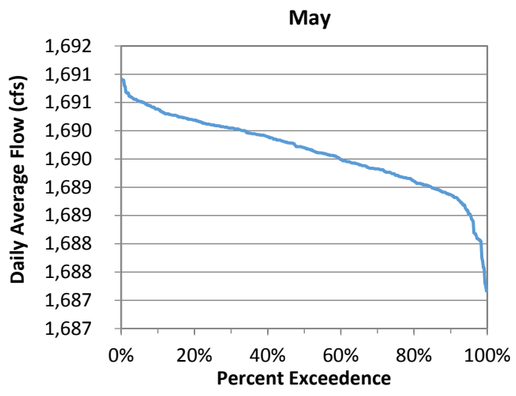
This data corresponds with Figure 3.2-13. Range and Exceedance Probability of Daily Silverwood Lake Water Surface Elevation by Month, 2000 through 2014

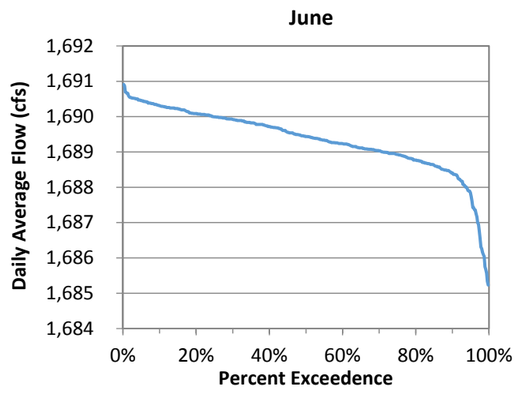


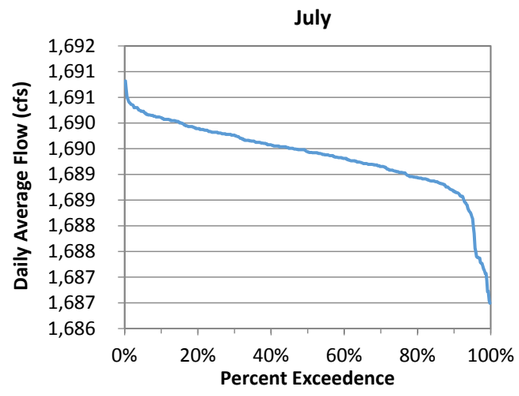


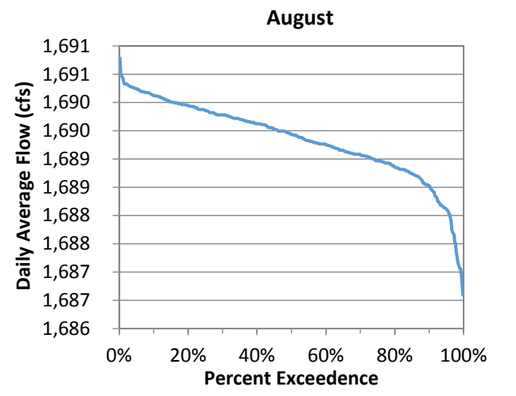


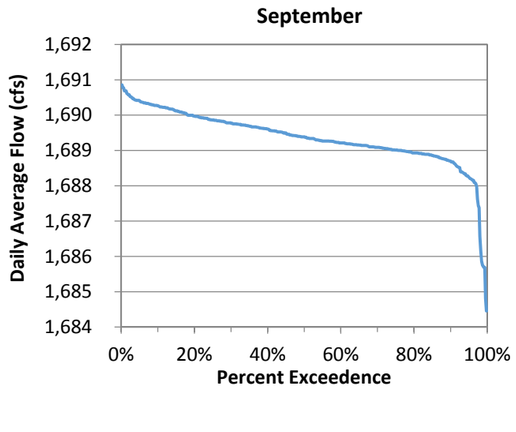


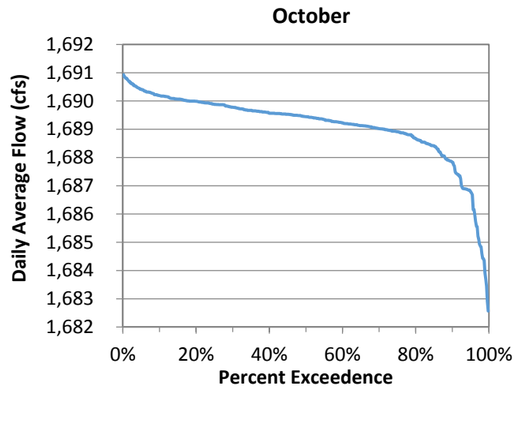


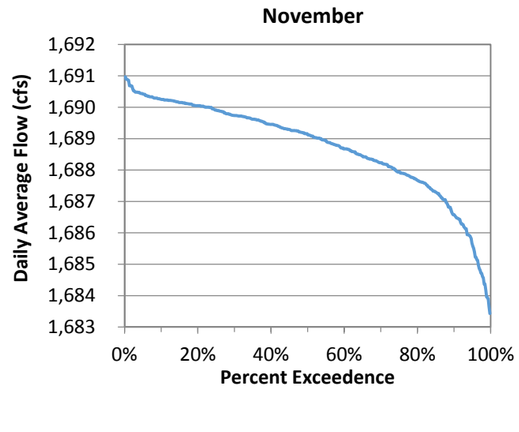


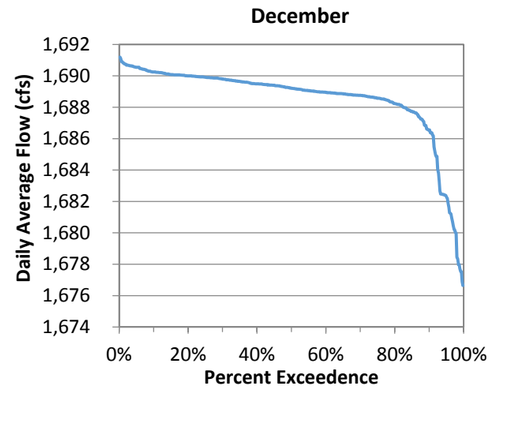












HYDROLOGY AND GENERATION DATA

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,987
2	1,655
3	1,680
4	1,583
5	1,826
6	2,144
7	2,128
8	2,092
9	2,190
10	2,211
11	2,171
12	2,092
13	2,193
14	2,249
15	2,383
16	2,401
17	2,422
18	2,546
19	2,372
20	2,542
21	2,450
22	2,673
23	2,320
24	2,412
25	1,922
26	1,852
27	2,122
28	2,219
29	2,039
30	2,252
31	2,303
Total	67,431

(in acre-feet) **February 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,454
2	2,272
3	2,390
4	2,276
5	2,106
6	2,239
7	2,413
8	2,584
9	2,423
10	2,536
11	2,116
12	1,862
13	1,861
14	1,905
15	2,030
16	1,753
17	1,675
18	2,110
19	2,044
20	2,040
21	2,032
22	2,088
23	2,195
24	2,054
25	1,881
26	2,046
27	1,845
28	2,151
29	2,106
Total	61,487

(in acre-feet) **March 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,097
2	2,440
3	2,329
4	2,358
5	2,609
6	2,533
7	2,375
8	2,316
9	2,263
10	2,454
11	1,937
12	2,102
13	2,160
14	2,268
15	2,001
16	1,988
17	2,419
18	2,306
19	2,592
20	2,747
21	2,693
22	2,636
23	2,650
24	2,631
25	2,506
26	2,430
27	2,706
28	2,236
29	2,810
30	2,312
31	2,273
Total	74,177

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,496
2	2,338
3	2,661
4	2,258
5	2,739
6	2,441
7	2,311
8	2,307
9	2,112
10	2,399
11	2,165
12	2,106
13	2,102
14	2,548
15	2,502
16	2,441
17	2,663
18	2,431
19	2,142
20	2,099
21	2,176
22	1,926
23	1,917
24	2,329
25	2,063
26	1,970
27	1,970
28	2,557
29	2,565
30	2,479
Total	69,213

(in acre-feet) **May 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,657
2	2,248
3	2,318
4	2,045
5	2,209
6	2,606
7	1,944
8	2,293
9	2,405
10	2,875
11	2,503
12	2,172
13	2,158
14	2,050
15	2,786
16	2,327
17	2,473
18	2,313
19	2,346
20	2,657
21	2,221
22	2,354
23	2,387
24	2,549
25	2,120
26	1,731
27	1,783
28	1,902
29	1,663
30	1,982
31	1,814
Total	69,891

(in acre-feet) **June 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,213
2	1,893
3	2,103
4	1,955
5	2,260
6	1,951
7	2,336
8	2,296
9	2,516
10	2,088
11	2,277
12	2,415
13	2,492
14	2,341
15	2,152
16	2,146
17	2,232
18	2,108
19	2,426
20	2,311
21	2,221
22	2,507
23	2,396
24	2,415
25	2,331
26	2,685
27	2,637
28	2,480
29	2,270
30	2,549
Total	69,002

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,246
2	2,252
3	2,129
4	2,137
5	2,262
6	2,081
7	2,316
8	2,099
9	2,063
10	2,273
11	2,298
12	2,142
13	2,257
14	2,067
15	1,794
16	2,105
17	2,246
18	1,966
19	2,058
20	2,306
21	2,203
22	2,622
23	2,583
24	2,715
25	2,469
26	2,510
27	2,512
28	2,473
29	2,346
30	2,542
31	2,447
Total	70,519

(in acre-feet) **August 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,453
2	2,802
3	2,220
4	2,390
5	2,338
6	2,296
7	2,431
8	2,305
9	2,455
10	2,283
11	2,491
12	2,157
13	2,286
14	2,366
15	2,746
16	2,248
17	2,395
18	2,674
19	2,564
20	2,869
21	2,264
22	2,723
23	2,798
24	2,298
25	2,411
26	2,431
27	2,456
28	2,496
29	2,287
30	2,302
31	2,597
Total	75,832

(in acre-feet) **September 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,500
2	2,168
3	2,222
4	2,225
5	2,520
6	2,125
7	2,217
8	2,349
9	2,277
10	2,372
11	2,298
12	2,514
13	2,105
14	2,292
15	2,102
16	2,424
17	2,123
18	2,553
19	2,204
20	2,377
21	2,298
22	2,408
23	2,601
24	1,840
25	2,254
26	2,340
27	1,952
28	2,307
29	2,170
30	1,679
Total	67,816

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,103
2	1,900
3	2,187
4	2,351
5	2,020
6	2,158
7	2,063
8	2,144
9	2,139
10	2,050
11	2,029
12	2,121
13	2,196
14	2,325
15	2,335
16	2,486
17	2,302
18	2,428
19	2,194
20	2,429
21	2,432
22	2,589
23	2,654
24	2,470
25	2,532
26	2,406
27	2,719
28	2,061
29	1,713
30	2,191
31	1,939
Total	69,666

(in acre-feet) **November 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,496
2	2,307
3	2,546
4	2,594
5	2,642
6	2,709
7	2,505
8	2,717
9	2,879
10	2,700
11	2,675
12	2,647
13	2,880
14	2,343
15	2,951
16	2,602
17	2,577
18	2,583
19	2,732
20	2,478
21	2,885
22	2,874
23	2,496
24	2,881
25	2,553
26	2,718
27	2,705
28	2,577
29	2,571
30	2,735
Total	79,558

(in acre-feet) **December 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,687
2	2,794
3	2,794
4	2,956
5	2,530
6	2,902
7	2,742
8	2,934
9	2,570
10	2,968
11	2,946
12	2,689
13	2,714
14	2,986
15	2,392
16	2,837
17	2,781
18	2,741
19	2,590
20	2,439
21	2,459
22	2,427
23	2,664
24	2,280
25	2,045
26	2,392
27	2,498
28	2,320
29	2,134
30	2,039
31	2,396
Total	80,646

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,569
2	2,456
3	2,345
4	2,312
5	2,800
6	2,250
7	2,731
8	2,454
9	2,240
10	2,040
11	1,153
12	988
13	1,558
14	1,674
15	1,816
16	1,328
17	1,627
18	1,290
19	1,163
20	1,203
21	607
22	805
23	975
24	713
25	804
26	528
27	470
28	602
29	1,084
30	1,569
31	1,569
Total	47,723

(in acre-feet) **February 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,460
2	1,578
3	1,528
4	1,315
5	711
6	689
7	721
8	559
9	1,115
10	1,715
11	1,367
12	1,319
13	1,165
14	1,396
15	1,001
16	1,615
17	1,460
18	1,448
19	1,148
20	1,223
21	1,032
22	942
23	1,098
24	1,680
25	1,085
26	1,198
27	1,144
28	1,211
Total	33,923

(in acre-feet) **March 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,206
2	1,618
3	1,459
4	1,476
5	1,134
6	1,138
7	1,252
8	1,120
9	1,106
10	1,690
11	1,347
12	1,364
13	1,584
14	1,624
15	1,527
16	2,383
17	1,772
18	2,176
19	2,220
20	1,751
21	1,782
22	1,580
23	1,768
24	1,419
25	1,871
26	1,861
27	1,699
28	1,807
29	1,840
30	1,897
31	1,825
Total	50,296

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,900
2	2,231
3	1,890
4	2,186
5	2,210
6	2,415
7	1,843
8	1,721
9	1,810
10	2,221
11	2,305
12	2,009
13	1,816
14	1,856
15	1,600
16	2,160
17	1,670
18	1,922
19	1,675
20	1,346
21	1,316
22	1,502
23	1,369
24	1,457
25	1,366
26	1,617
27	1,512
28	1,950
29	1,730
30	2,131
Total	54,736

(in acre-feet) **May 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,652
2	1,783
3	1,536
4	1,970
5	1,874
6	1,503
7	1,958
8	1,989
9	1,902
10	1,907
11	2,019
12	1,862
13	1,949
14	2,326
15	1,983
16	1,946
17	1,815
18	1,843
19	1,882
20	2,130
21	1,833
22	2,027
23	2,117
24	2,004
25	2,043
26	1,865
27	1,970
28	1,908
29	1,982
30	2,095
31	1,887
Total	59,560

(in acre-feet) **June 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,001
2	1,712
3	1,929
4	1,868
5	1,863
6	1,873
7	1,781
8	1,890
9	1,572
10	1,862
11	2,274
12	2,090
13	2,239
14	2,307
15	2,184
16	2,134
17	1,779
18	1,914
19	2,124
20	1,929
21	1,825
22	2,380
23	2,159
24	2,402
25	2,385
26	2,343
27	2,329
28	2,388
29	2,364
30	1,932
Total	61,832

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,236
2	2,120
3	2,106
4	2,295
5	2,224
6	2,002
7	2,228
8	2,183
9	2,053
10	2,431
11	2,507
12	2,103
13	2,058
14	1,818
15	1,997
16	2,024
17	1,943
18	1,906
19	1,902
20	1,918
21	1,795
22	1,917
23	1,826
24	1,934
25	2,173
26	1,995
27	2,006
28	1,973
29	2,076
30	2,186
31	2,147
Total	64,082

(in acre-feet) **August 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,301
2	2,112
3	1,851
4	1,722
5	2,049
6	2,062
7	1,964
8	2,183
9	2,242
10	1,814
11	2,221
12	1,795
13	2,397
14	1,836
15	2,104
16	2,258
17	2,204
18	2,102
19	1,743
20	1,880
21	1,839
22	1,919
23	1,997
24	2,141
25	1,973
26	1,956
27	1,860
28	2,149
29	2,353
30	2,152
31	2,020
Total	63,199

(in acre-feet) **September 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,910
2	1,864
3	2,060
4	2,090
5	1,856
6	2,209
7	1,839
8	2,034
9	1,750
10	1,972
11	1,919
12	1,876
13	1,712
14	1,939
15	1,593
16	1,645
17	1,932
18	1,852
19	1,991
20	1,764
21	1,773
22	1,933
23	1,664
24	1,700
25	2,026
26	1,757
27	1,929
28	2,059
29	2,046
30	1,896
Total	56,590

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,813
2	2,058
3	1,809
4	2,054
5	2,315
6	1,999
7	2,031
8	2,281
9	2,074
10	2,363
11	1,984
12	1,861
13	1,896
14	1,745
15	1,856
16	1,828
17	2,068
18	1,891
19	1,855
20	1,857
21	2,100
22	2,020
23	2,160
24	1,961
25	2,269
26	1,944
27	2,116
28	1,686
29	1,231
30	964
31	1,045
Total	59,134

(in acre-feet) **November 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,446
2	1,875
3	2,215
4	1,879
5	1,968
6	2,332
7	1,909
8	2,248
9	2,177
10	2,055
11	2,139
12	2,001
13	1,604
14	1,907
15	1,915
16	2,065
17	2,000
18	2,052
19	2,194
20	2,111
21	2,303
22	1,975
23	2,359
24	2,052
25	1,980
26	1,593
27	1,218
28	1,491
29	726
30	752
Total	56,541

(in acre-feet) **December 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,031
2	513
3	917
4	1,325
5	1,850
6	1,813
7	1,849
8	2,014
9	1,467
10	1,712
11	1,652
12	1,644
13	1,602
14	1,297
15	1,045
16	643
17	1,179
18	1,640
19	1,351
20	1,711
21	1,495
22	1,123
23	1,194
24	2,710
25	2,285
26	2,414
27	2,385
28	2,138
29	672
30	1,345
31	1,589
Total	47,605

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,258
2	1,647
3	2,053
4	2,048
5	2,052
6	2,280
7	2,356
8	2,347
9	2,021
10	2,005
11	2,146
12	1,923
13	2,022
14	2,174
15	2,063
16	2,124
17	2,115
18	2,161
19	2,033
20	2,016
21	1,973
22	2,042
23	1,997
24	1,917
25	1,942
26	1,800
27	1,724
28	1,855
29	1,840
30	1,679
31	1,831
Total	61,444

(in acre-feet) **February 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,864
2	1,699
3	1,710
4	2,011
5	1,999
6	2,038
7	2,077
8	2,072
9	1,966
10	2,074
11	2,155
12	2,112
13	2,137
14	2,359
15	2,199
16	2,210
17	2,177
18	2,133
19	1,931
20	1,777
21	1,866
22	1,902
23	1,861
24	1,964
25	1,934
26	1,710
27	1,921
28	1,642
Total	55,500

(in acre-feet) **March 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,927
2	1,770
3	1,554
4	1,812
5	1,733
6	1,691
7	1,680
8	1,769
9	1,965
10	1,283
11	1,708
12	1,668
13	1,725
14	1,737
15	1,694
16	1,630
17	1,702
18	1,685
19	1,740
20	1,601
21	1,323
22	1,959
23	1,463
24	1,580
25	1,747
26	1,630
27	1,586
28	1,695
29	1,463
30	1,723
31	1,578
Total	51,821

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,613
2	1,828
3	2,011
4	1,967
5	2,008
6	1,967
7	1,779
8	2,065
9	1,946
10	1,555
11	1,669
12	1,435
13	1,858
14	1,791
15	1,682
16	1,848
17	1,762
18	1,856
19	1,980
20	1,520
21	1,719
22	1,870
23	1,810
24	1,916
25	1,889
26	1,874
27	1,876
28	2,016
29	1,872
30	2,082
Total	55,064

(in acre-feet) **May 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,173
2	2,280
3	2,225
4	2,148
5	1,954
6	2,134
7	2,118
8	2,120
9	2,325
10	2,320
11	2,126
12	2,374
13	2,335
14	2,377
15	2,314
16	2,597
17	2,852
18	2,303
19	2,501
20	2,625
21	2,236
22	2,193
23	2,423
24	2,601
25	2,806
26	1,949
27	2,173
28	2,169
29	2,353
30	2,309
31	2,331
Total	71,744

(in acre-feet) **June 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,351
2	2,348
3	2,491
4	2,313
5	2,387
6	2,309
7	2,382
8	2,247
9	2,493
10	2,601
11	2,394
12	2,562
13	2,121
14	2,559
15	2,283
16	2,193
17	2,391
18	2,411
19	2,389
20	2,337
21	2,476
22	2,251
23	2,347
24	2,309
25	2,412
26	2,389
27	2,630
28	2,395
29	2,355
30	2,365
Total	71,491

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,230
2	2,266
3	2,081
4	2,286
5	2,402
6	2,462
7	2,510
8	2,720
9	2,693
10	2,611
11	2,613
12	2,964
13	1,633
14	2,637
15	2,656
16	2,788
17	2,740
18	2,587
19	2,767
20	2,548
21	2,581
22	2,666
23	2,791
24	2,450
25	2,303
26	2,801
27	2,783
28	2,865
29	2,857
30	2,948
31	2,773
Total	80,012

(in acre-feet) **August 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,890
2	2,884
3	2,848
4	3,002
5	2,937
6	2,688
7	2,891
8	2,887
9	3,106
10	2,669
11	2,842
12	2,873
13	2,727
14	2,903
15	2,835
16	2,890
17	2,846
18	2,810
19	2,881
20	2,813
21	2,901
22	2,761
23	2,864
24	2,859
25	2,866
26	2,610
27	2,597
28	2,588
29	2,543
30	2,845
31	2,599
Total	87,255

(in acre-feet) **September 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,809
2	2,768
3	2,727
4	3,002
5	2,921
6	3,093
7	3,003
8	3,052
9	3,097
10	3,037
11	2,858
12	2,905
13	3,121
14	2,969
15	2,880
16	2,825
17	3,112
18	2,971
19	3,135
20	2,984
21	3,062
22	2,908
23	2,947
24	3,227
25	3,143
26	3,144
27	3,119
28	2,967
29	3,112
30	3,062
Total	89,960

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,835
2	2,699
3	2,659
4	2,726
5	2,567
6	2,838
7	2,879
8	2,519
9	2,584
10	2,623
11	2,772
12	2,517
13	2,585
14	2,735
15	2,435
16	2,547
17	2,446
18	2,424
19	2,510
20	2,254
21	2,285
22	2,278
23	2,339
24	2,382
25	2,297
26	2,084
27	2,346
28	2,433
29	2,211
30	2,148
31	2,216
Total	77,173

(in acre-feet) **November 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,397
2	2,056
3	2,120
4	2,284
5	2,451
6	2,751
7	2,522
8	2,332
9	1,925
10	1,990
11	2,021
12	2,242
13	2,350
14	2,206
15	2,291
16	2,180
17	2,412
18	2,566
19	2,673
20	2,803
21	2,652
22	2,714
23	2,645
24	2,828
25	2,668
26	2,264
27	2,269
28	2,456
29	2,324
30	2,203
Total	71,595

(in acre-feet) **December 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,230
2	2,233
3	2,450
4	2,381
5	2,458
6	2,263
7	2,397
8	2,281
9	1,568
10	1,447
11	1,500
12	1,472
13	1,340
14	1,270
15	1,428
16	1,399
17	1,880
18	1,027
19	1,256
20	1,265
21	1,088
22	1,914
23	2,001
24	2,086
25	2,099
26	2,159
27	2,057
28	1,992
29	1,958
30	1,725
31	1,563
Total	56,187

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,520
2	1,531
3	1,568
4	1,412
5	1,841
6	2,042
7	1,399
8	1,446
9	1,250
10	750
11	668
12	831
13	747
14	1,174
15	1,333
16	1,193
17	1,540
18	1,444
19	1,475
20	1,423
21	1,298
22	1,203
23	1,167
24	1,397
25	1,295
26	1,106
27	1,206
28	1,709
29	1,769
30	2,025
31	2,024
Total	42,786

(in acre-feet) **February 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,955
2	2,053
3	1,832
4	1,799
5	1,759
6	1,886
7	1,745
8	1,789
9	1,807
10	1,823
11	1,483
12	1,499
13	1,325
14	1,306
15	1,355
16	1,338
17	1,378
18	1,400
19	1,554
20	1,278
21	1,225
22	1,307
23	1,272
24	1,553
25	1,395
26	1,766
27	2,167
28	2,504
Total	45,553

(in acre-feet) **March 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,817
2	2,579
3	2,437
4	2,268
5	2,421
6	2,788
7	2,820
8	2,918
9	3,168
10	2,678
11	2,712
12	2,943
13	2,653
14	2,940
15	3,027
16	2,828
17	2,806
18	2,838
19	2,504
20	2,415
21	2,675
22	2,323
23	2,317
24	2,103
25	2,060
26	2,115
27	2,358
28	2,502
29	3,005
30	3,036
31	2,919
Total	81,973

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,808
2	2,968
3	2,973
4	2,968
5	2,883
6	2,399
7	2,600
8	2,576
9	2,803
10	2,815
11	2,321
12	2,710
13	2,480
14	2,479
15	2,341
16	2,296
17	2,101
18	2,054
19	2,035
20	1,915
21	1,692
22	1,500
23	1,776
24	1,966
25	2,471
26	2,697
27	2,972
28	2,805
29	2,889
30	2,957
Total	74,250

(in acre-feet) **May 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,130
2	3,373
3	3,105
4	3,096
5	2,582
6	2,584
7	2,913
8	2,825
9	2,811
10	2,727
11	2,570
12	2,984
13	2,968
14	3,155
15	3,043
16	3,132
17	3,121
18	3,094
19	2,996
20	2,831
21	2,973
22	2,737
23	3,291
24	3,203
25	3,361
26	3,238
27	3,007
28	2,949
29	3,050
30	3,013
31	3,360
Total	93,222

(in acre-feet) **June 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,244
2	3,100
3	3,019
4	2,902
5	2,841
6	3,038
7	3,085
8	3,042
9	3,100
10	3,090
11	3,074
12	2,743
13	2,701
14	2,622
15	2,411
16	2,714
17	2,684
18	2,979
19	3,082
20	3,067
21	2,976
22	2,841
23	2,850
24	2,666
25	2,521
26	2,781
27	2,623
28	2,346
29	2,845
30	2,937
Total	85,924

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,915
2	3,027
3	3,146
4	3,085
5	3,212
6	2,828
7	3,097
8	3,146
9	3,099
10	3,127
11	2,891
12	2,976
13	2,981
14	3,058
15	3,019
16	2,869
17	3,186
18	3,111
19	3,029
20	3,074
21	3,024
22	3,017
23	3,115
24	2,886
25	3,022
26	2,993
27	2,999
28	3,005
29	3,111
30	3,056
31	3,063
Total	94,167

(in acre-feet) **August 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,978
2	3,023
3	2,938
4	3,141
5	3,090
6	2,944
7	3,039
8	3,146
9	3,085
10	3,021
11	3,075
12	3,188
13	3,219
14	3,102
15	3,122
16	3,089
17	3,106
18	3,160
19	3,250
20	3,147
21	3,063
22	3,171
23	3,036
24	2,980
25	3,394
26	3,096
27	3,106
28	3,088
29	3,099
30	3,134
31	3,197
Total	96,227

(in acre-feet) **September 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,061
2	3,256
3	3,114
4	3,061
5	3,126
6	3,037
7	3,286
8	3,170
9	3,207
10	3,152
11	3,057
12	3,085
13	3,156
14	3,030
15	3,194
16	2,950
17	3,196
18	3,031
19	3,178
20	3,035
21	3,077
22	3,107
23	3,098
24	3,033
25	3,103
26	3,125
27	2,978
28	3,111
29	3,128
30	3,109
Total	93,251

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2003**

East Branch	
Date	Devil Canyon Powerplant Generation 2/
1	3,058
2	3,011
3	3,172
4	2,983
5	3,325
6	3,259
7	3,143
8	3,086
9	3,083
10	3,274
11	2,978
12	2,911
13	3,177
14	3,107
15	3,153
16	3,117
17	3,259
18	2,992
19	3,337
20	3,479
21	3,170
22	3,352
23	3,188
24	3,290
25	2,829
26	1,585
27	2,664
28	1,885
29	1,832
30	867
31	887
Total	88,453

2/ Includes 600 AF of bypass water.

(in acre-feet) **November 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	761
2	875
3	965
4	1,151
5	708
6	1,434
7	2,460
8	2,813
9	2,471
10	2,813
11	2,990
12	2,957
13	3,117
14	2,947
15	3,081
16	2,369
17	1,956
18	1,867
19	1,984
20	1,922
21	2,206
22	2,150
23	2,047
24	2,134
25	1,870
26	1,778
27	1,550
28	1,950
29	1,828
30	1,687
Total	60,841

(in acre-feet) **December 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,057
2	2,105
3	2,364
4	2,245
5	2,255
6	2,218
7	1,964
8	1,974
9	2,005
10	2,133
11	2,032
12	1,990
13	1,930
14	1,964
15	2,053
16	2,031
17	1,966
18	2,013
19	1,985
20	2,086
21	2,052
22	1,945
23	1,767
24	1,683
25	1,470
26	1,472
27	788
28	599
29	1,554
30	1,788
31	2,228
Total	58,716

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,197
2	2,641
3	2,201
4	2,397
5	2,493
6	2,763
7	2,753
8	2,858
9	2,818
10	2,811
11	2,985
12	2,170
13	2,103
14	2,205
15	2,319
16	2,872
17	3,061
18	3,009
19	2,887
20	2,735
21	3,191
22	3,072
23	2,828
24	2,601
25	2,706
26	3,002
27	2,836
28	3,044
29	2,903
30	2,997
31	3,012
Total	84,470

(in acre-feet) **February 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,988
2	3,078
3	2,909
4	2,550
5	2,419
6	2,801
7	2,764
8	2,888
9	2,988
10	2,834
11	2,787
12	2,757
13	2,992
14	2,739
15	2,724
16	2,648
17	2,602
18	2,331
19	2,282
20	2,242
21	2,078
22	2,042
23	2,198
24	2,060
25	2,052
26	2,007
27	2,083
28	2,114
29	2,069
Total	73,026

(in acre-feet) **March 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,108
2	1,782
3	1,969
4	2,780
5	2,558
6	2,720
7	2,848
8	2,880
9	2,955
10	2,803
11	3,057
12	2,715
13	2,981
14	2,726
15	3,039
16	2,682
17	2,728
18	2,682
19	2,942
20	2,627
21	2,872
22	2,861
23	3,301
24	3,356
25	3,096
26	2,695
27	2,689
28	2,589
29	2,704
30	2,631
31	2,963
Total	85,339

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,033
2	3,075
3	2,906
4	2,179
5	2,571
6	2,558
7	2,301
8	2,181
9	2,636
10	2,524
11	2,505
12	2,924
13	2,702
14	2,928
15	2,933
16	2,921
17	2,709
18	2,557
19	2,598
20	2,435
21	2,948
22	2,866
23	3,112
24	3,109
25	3,103
26	2,867
27	2,752
28	2,848
29	2,746
30	2,871
Total	82,398

(in acre-feet) **May 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,122
2	3,088
3	3,060
4	2,964
5	3,183
6	2,973
7	3,003
8	3,199
9	2,933
10	3,048
11	3,171
12	3,149
13	3,155
14	3,166
15	3,187
16	3,323
17	3,323
18	3,207
19	3,249
20	3,340
21	3,157
22	3,417
23	3,321
24	3,136
25	3,143
26	3,186
27	3,201
28	3,203
29	3,328
30	3,257
31	3,366
Total	98,558

(in acre-feet) **June 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,123
2	3,386
3	3,247
4	3,289
5	3,098
6	2,612
7	1,407
8	1,592
9	1,980
10	2,394
11	2,272
12	3,004
13	3,236
14	3,359
15	3,225
16	3,238
17	3,264
18	3,150
19	3,355
20	3,152
21	3,063
22	3,228
23	3,019
24	3,001
25	3,327
26	2,942
27	3,097
28	3,062
29	3,398
30	3,098
Total	88,618

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,195
2	3,204
3	3,206
4	3,172
5	3,067
6	3,150
7	3,184
8	3,169
9	3,106
10	3,247
11	3,277
12	3,180
13	3,074
14	3,193
15	3,141
16	3,250
17	3,190
18	3,121
19	3,286
20	3,177
21	3,062
22	3,038
23	3,303
24	3,063
25	3,303
26	2,995
27	3,340
28	3,135
29	3,020
30	3,047
31	3,129
Total	98,024

(in acre-feet) **August 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,121
2	2,883
3	3,187
4	3,084
5	3,131
6	3,128
7	3,150
8	3,146
9	3,183
10	3,215
11	3,074
12	3,057
13	3,273
14	3,001
15	3,026
16	3,178
17	3,186
18	3,121
19	3,124
20	3,170
21	3,120
22	2,857
23	3,275
24	3,103
25	2,982
26	3,013
27	3,065
28	3,081
29	2,982
30	3,110
31	3,057
Total	96,083

(in acre-feet) **September 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,120
2	2,974
3	3,082
4	2,962
5	3,096
6	2,939
7	3,259
8	3,208
9	3,270
10	3,222
11	3,029
12	3,188
13	3,357
14	3,054
15	3,170
16	3,285
17	3,006
18	3,274
19	3,118
20	3,221
21	3,334
22	3,237
23	3,278
24	3,255
25	3,219
26	3,261
27	3,325
28	3,282
29	2,966
30	3,645
Total	95,636

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,072
2	2,822
3	3,199
4	3,311
5	3,014
6	3,230
7	3,202
8	3,140
9	3,265
10	2,905
11	3,372
12	3,284
13	2,932
14	3,183
15	3,095
16	3,263
17	3,064
18	3,238
19	2,793
20	2,527
21	2,207
22	2,551
23	2,202
24	2,233
25	2,534
26	2,414
27	2,884
28	2,609
29	2,768
30	2,292
31	2,216
Total	88,821

(in acre-feet) **November 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,954
2	1,896
3	1,727
4	2,405
5	2,715
6	2,626
7	2,397
8	2,796
9	2,744
10	2,971
11	2,858
12	2,984
13	2,555
14	2,555
15	2,851
16	2,807
17	2,920
18	2,947
19	3,133
20	2,782
21	3,191
22	2,920
23	2,749
24	2,631
25	2,611
26	2,859
27	2,633
28	2,747
29	2,704
30	2,762
Total	80,430

(in acre-feet) **December 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,805
2	2,993
3	2,842
4	3,016
5	2,877
6	3,271
7	2,823
8	2,865
9	2,902
10	3,007
11	2,939
12	2,559
13	2,775
14	2,034
15	2,730
16	3,117
17	2,953
18	3,083
19	3,100
20	3,034
21	3,101
22	3,202
23	3,012
24	3,029
25	3,016
26	3,081
27	2,777
28	2,631
29	1,926
30	1,968
31	2,061
Total	87,529

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,665
2	1,773
3	2,161
4	2,621
5	2,410
6	2,467
7	2,351
8	1,529
9	1,056
10	1,137
11	1,234
12	1,202
13	1,176
14	1,138
15	1,061
16	1,059
17	1,110
18	1,515
19	2,230
20	2,136
21	2,280
22	2,097
23	2,254
24	2,514
25	2,342
26	2,663
27	2,797
28	2,574
29	2,254
30	2,263
31	2,404
Total	59,473

(in acre-feet) **February 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,475
2	2,501
3	2,572
4	2,679
5	2,572
6	2,926
7	1,721
8	1,554
9	1,805
10	2,014
11	2,272
12	2,263
13	2,453
14	2,948
15	2,620
16	2,845
17	2,298
18	2,469
19	2,267
20	2,470
21	2,334
22	2,421
23	2,465
24	2,396
25	2,788
26	2,538
27	2,700
28	2,851
Total	68,217

(in acre-feet) **March 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,727
2	2,798
3	2,669
4	2,781
5	2,508
6	2,622
7	2,342
8	2,063
9	2,069
10	1,933
11	1,932
12	1,999
13	2,056
14	2,239
15	2,300
16	2,267
17	2,326
18	2,522
19	2,500
20	2,300
21	2,387
22	2,205
23	2,336
24	2,157
25	2,082
26	2,040
27	1,949
28	2,089
29	2,091
30	1,986
31	2,201
Total	70,476

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,134
2	2,183
3	2,140
4	2,356
5	2,476
6	2,489
7	2,491
8	2,673
9	2,552
10	2,580
11	2,579
12	2,523
13	2,522
14	2,587
15	2,760
16	2,604
17	2,451
18	2,827
19	1,650
20	2,581
21	2,743
22	2,869
23	2,508
24	2,649
25	2,791
26	2,471
27	2,385
28	2,282
29	2,346
30	2,265
Total	74,467

(in acre-feet) **May 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,209
2	2,526
3	2,206
4	2,294
5	2,347
6	2,271
7	2,292
8	2,304
9	2,427
10	2,201
11	2,174
12	2,087
13	2,319
14	2,376
15	2,373
16	2,505
17	2,540
18	2,740
19	2,789
20	2,890
21	2,584
22	2,492
23	2,884
24	2,777
25	2,643
26	2,543
27	2,769
28	2,543
29	2,745
30	2,540
31	2,793
Total	77,183

(in acre-feet) **June 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,698
2	2,571
3	2,889
4	2,636
5	2,647
6	2,684
7	2,713
8	2,681
9	2,493
10	2,802
11	2,664
12	2,957
13	3,155
14	2,923
15	2,930
16	3,039
17	3,351
18	3,018
19	3,143
20	3,054
21	2,752
22	2,967
23	2,820
24	3,145
25	3,203
26	3,281
27	3,370
28	3,375
29	3,379
30	3,333
Total	88,673

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,446
2	3,297
3	3,386
4	3,389
5	3,511
6	3,419
7	3,510
8	3,431
9	3,325
10	3,382
11	3,565
12	3,268
13	3,478
14	3,476
15	3,620
16	3,473
17	3,411
18	3,536
19	3,556
20	3,290
21	3,529
22	3,479
23	3,452
24	3,458
25	3,464
26	3,476
27	3,315
28	3,501
29	3,413
30	3,295
31	3,473
Total	106,624

(in acre-feet) **August 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,983
2	2,691
3	3,052
4	3,496
5	3,434
6	3,276
7	3,388
8	3,435
9	3,539
10	3,411
11	3,471
12	3,378
13	3,206
14	3,259
15	3,243
16	2,330
17	2,271
18	2,336
19	2,646
20	2,664
21	2,518
22	2,700
23	2,740
24	2,626
25	2,644
26	2,788
27	2,627
28	2,665
29	2,757
30	2,687
31	2,756
Total	91,017

(in acre-feet) **September 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,678
2	2,981
3	2,536
4	2,796
5	2,615
6	2,722
7	2,638
8	2,721
9	2,632
10	2,672
11	2,547
12	2,511
13	2,761
14	2,647
15	2,549
16	2,677
17	2,470
18	2,656
19	2,685
20	2,640
21	2,554
22	2,305
23	2,306
24	2,595
25	2,301
26	2,704
27	2,520
28	2,563
29	2,659
30	2,725
Total	78,366

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,501
2	2,742
3	2,890
4	2,603
5	2,650
6	2,732
7	2,731
8	2,488
9	2,790
10	2,783
11	3,170
12	3,059
13	3,307
14	3,250
15	3,105
16	3,069
17	2,994
18	2,705
19	2,255
20	2,472
21	2,261
22	2,204
23	2,577
24	2,952
25	2,484
26	2,542
27	2,918
28	2,863
29	2,689
30	2,924
31	3,034
Total	85,744

(in acre-feet) **November 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,008
2	3,036
3	2,595
4	2,588
5	2,324
6	2,476
7	3,282
8	2,505
9	2,589
10	2,739
11	2,699
12	2,206
13	2,306
14	2,920
15	2,838
16	3,328
17	3,229
18	3,158
19	2,822
20	2,195
21	2,367
22	2,221
23	2,133
24	1,881
25	2,605
26	2,002
27	2,174
28	2,309
29	2,284
30	2,299
Total	77,118

(in acre-feet) **December 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,063
2	1,769
3	1,283
4	1,464
5	1,914
6	2,228
7	2,164
8	2,267
9	2,108
10	2,067
11	1,914
12	2,086
13	2,253
14	2,307
15	2,029
16	2,166
17	2,267
18	2,172
19	2,382
20	2,788
21	2,888
22	2,909
23	3,114
24	2,761
25	3,109
26	3,145
27	3,202
28	3,219
29	2,743
30	2,459
31	2,355
Total	73,595

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,757
2	2,659
3	2,631
4	2,526
5	2,808
6	3,089
7	2,808
8	2,879
9	3,073
10	3,246
11	3,029
12	3,282
13	3,260
14	2,929
15	2,837
16	2,849
17	2,761
18	2,826
19	2,948
20	3,032
21	2,883
22	2,855
23	3,126
24	3,018
25	3,160
26	3,239
27	3,383
28	3,216
29	3,232
30	3,058
31	2,859
Total	92,258

(in acre-feet) **February 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,874
2	2,794
3	2,993
4	3,204
5	3,322
6	3,223
7	3,480
8	3,274
9	3,343
10	3,506
11	3,369
12	3,068
13	3,495
14	3,340
15	3,356
16	3,554
17	3,392
18	3,306
19	3,287
20	2,895
21	2,782
22	3,130
23	2,955
24	3,566
25	3,426
26	3,291
27	3,435
28	3,240
Total	90,900

(in acre-feet) **March 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,998
2	3,265
3	3,116
4	3,040
5	2,930
6	2,909
7	2,994
8	3,159
9	2,879
10	2,711
11	2,751
12	2,718
13	2,502
14	2,446
15	2,300
16	2,283
17	2,598
18	1,572
19	2,566
20	2,699
21	2,725
22	2,524
23	2,536
24	2,650
25	2,233
26	2,101
27	2,033
28	2,069
29	1,556
30	1,934
31	2,622
Total	79,419

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,728
2	2,564
3	2,701
4	2,209
5	2,084
6	2,298
7	2,449
8	2,185
9	2,383
10	2,418
11	2,481
12	2,445
13	2,234
14	1,926
15	1,837
16	1,869
17	2,224
18	2,239
19	2,433
20	2,488
21	2,399
22	2,543
23	2,384
24	2,592
25	2,415
26	2,881
27	2,866
28	2,902
29	2,724
30	2,795
Total	72,696

(in acre-feet) **May 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,956
2	2,956
3	2,865
4	3,052
5	2,879
6	2,903
7	3,042
8	3,268
9	2,994
10	3,183
11	3,246
12	3,092
13	3,269
14	2,825
15	2,911
16	2,733
17	3,006
18	3,018
19	3,150
20	2,943
21	3,027
22	3,046
23	3,245
24	2,904
25	2,934
26	3,090
27	2,938
28	2,966
29	2,899
30	3,069
31	3,176
Total	93,585

(in acre-feet) **June 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,067
2	3,249
3	3,468
4	3,472
5	3,359
6	3,289
7	3,514
8	3,343
9	3,305
10	2,758
11	2,797
12	2,972
13	2,803
14	3,039
15	3,295
16	3,523
17	3,312
18	3,202
19	3,345
20	3,626
21	3,565
22	3,539
23	3,575
24	3,585
25	3,560
26	3,736
27	3,397
28	3,565
29	3,743
30	3,543
Total	100,546

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,538
2	3,650
3	3,570
4	3,530
5	3,726
6	3,686
7	3,732
8	3,642
9	3,464
10	3,695
11	3,598
12	3,513
13	3,780
14	3,702
15	3,720
16	3,506
17	3,622
18	3,583
19	3,906
20	3,510
21	3,764
22	3,652
23	3,481
24	3,855
25	3,608
26	3,664
27	3,595
28	3,733
29	3,780
30	3,636
31	3,647
Total	113,088

(in acre-feet) **August 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,504
2	3,755
3	3,650
4	3,861
5	3,388
6	3,680
7	3,720
8	3,723
9	3,643
10	3,642
11	3,548
12	3,727
13	3,525
14	3,545
15	3,737
16	3,730
17	3,566
18	3,661
19	3,680
20	3,563
21	3,587
22	3,539
23	3,774
24	3,626
25	3,659
26	3,720
27	3,458
28	3,750
29	3,693
30	3,800
31	3,589
Total	113,043

(in acre-feet) **September 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,553
2	3,722
3	3,694
4	3,730
5	3,776
6	3,648
7	3,590
8	3,707
9	3,704
10	3,681
11	3,722
12	3,732
13	3,585
14	3,676
15	3,495
16	3,485
17	3,527
18	3,470
19	3,329
20	3,407
21	3,252
22	3,635
23	3,787
24	3,509
25	3,772
26	3,496
27	3,570
28	3,607
29	3,630
30	3,478
Total	107,969

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,741
2	3,681
3	3,656
4	3,722
5	3,585
6	3,423
7	3,646
8	3,626
9	3,567
10	3,284
11	3,564
12	3,605
13	3,233
14	2,993
15	3,232
16	3,437
17	3,262
18	3,657
19	3,756
20	3,581
21	3,739
22	3,526
23	3,674
24	3,781
25	3,526
26	3,623
27	3,580
28	3,689
29	3,937
30	3,454
31	3,177
Total	109,957

(in acre-feet) **November 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,283
2	3,219
3	3,112
4	3,056
5	3,198
6	3,068
7	3,287
8	3,379
9	3,718
10	3,463
11	2,950
12	3,359
13	3,369
14	3,659
15	3,577
16	3,434
17	3,409
18	3,286
19	3,201
20	3,353
21	3,314
22	3,522
23	3,281
24	3,485
25	3,181
26	2,637
27	2,533
28	2,201
29	2,395
30	2,633
Total	95,562

(in acre-feet) **December 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,462
2	3,521
3	3,418
4	3,314
5	3,541
6	3,494
7	3,261
8	3,411
9	3,187
10	3,412
11	3,279
12	3,056
13	2,836
14	2,944
15	3,060
16	2,486
17	2,187
18	2,280
19	2,731
20	2,993
21	3,054
22	3,248
23	3,090
24	3,482
25	3,051
26	6,485
27	3,248
28	3,274
29	3,378
30	3,137
31	3,351
Total	100,671

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,291
2	3,467
3	3,596
4	3,423
5	3,322
6	3,358
7	3,517
8	3,480
9	3,591
10	3,598
11	3,677
12	3,442
13	3,519
14	3,489
15	3,351
16	3,534
17	3,315
18	3,436
19	3,729
20	3,412
21	3,274
22	3,207
23	3,265
24	2,970
25	3,093
26	3,076
27	2,797
28	2,674
29	1,515
30	1,543
31	1,313
Total	98,274

(in acre-feet) **February 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,342
2	1,441
3	1,233
4	1,482
5	1,280
6	1,318
7	1,685
8	1,277
9	1,389
10	1,339
11	1,597
12	1,776
13	1,642
14	1,754
15	1,817
16	1,837
17	1,981
18	1,972
19	2,603
20	2,452
21	2,647
22	2,530
23	1,623
24	1,660
25	1,866
26	2,036
27	2,116
28	1,920
Total	49,615

(in acre-feet) **March 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,258
2	2,203
3	2,075
4	2,216
5	2,253
6	2,848
7	3,037
8	2,826
9	3,160
10	2,913
11	2,764
12	3,033
13	3,024
14	2,765
15	2,797
16	3,153
17	2,861
18	2,628
19	3,004
20	2,678
21	2,599
22	2,712
23	2,439
24	2,382
25	2,417
26	2,478
27	2,826
28	2,750
29	3,134
30	3,014
31	3,125
Total	84,372

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,067
2	2,940
3	3,126
4	3,295
5	3,159
6	2,992
7	2,859
8	2,742
9	2,723
10	2,824
11	2,920
12	3,015
13	3,107
14	2,821
15	2,926
16	2,543
17	2,504
18	2,595
19	2,614
20	2,521
21	3,060
22	2,804
23	2,780
24	2,543
25	2,645
26	2,642
27	2,808
28	2,740
29	2,589
30	2,994
Total	84,898

(in acre-feet) **May 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,839
2	3,074
3	3,128
4	2,927
5	2,892
6	2,573
7	3,165
8	2,898
9	2,751
10	3,144
11	3,148
12	2,991
13	2,874
14	3,272
15	3,249
16	3,106
17	3,069
18	3,058
19	3,264
20	2,949
21	3,243
22	2,835
23	3,243
24	2,941
25	3,318
26	3,145
27	3,102
28	2,977
29	3,001
30	2,842
31	2,930
Total	93,948

(in acre-feet) **June 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,905
2	3,210
3	3,402
4	3,244
5	3,217
6	3,189
7	3,206
8	3,316
9	3,185
10	3,083
11	3,303
12	3,123
13	3,232
14	3,322
15	3,158
16	3,285
17	3,201
18	3,514
19	3,296
20	3,340
21	3,253
22	3,581
23	3,330
24	3,512
25	3,369
26	3,339
27	3,255
28	3,330
29	3,329
30	3,332
Total	98,361

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,302
2	3,532
3	3,519
4	3,502
5	3,628
6	3,531
7	3,549
8	3,663
9	3,544
10	3,367
11	3,482
12	3,525
13	3,519
14	3,281
15	3,222
16	3,300
17	3,317
18	3,246
19	3,357
20	3,290
21	3,252
22	3,407
23	3,330
24	3,274
25	3,189
26	3,426
27	3,275
28	3,163
29	3,400
30	3,368
31	3,205
Total	104,965

(in acre-feet) **August 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,268
2	3,352
3	3,391
4	3,309
5	3,183
6	3,247
7	3,435
8	3,373
9	3,386
10	3,391
11	3,356
12	3,379
13	3,468
14	3,396
15	3,256
16	3,249
17	3,241
18	3,127
19	2,808
20	2,947
21	2,697
22	2,671
23	2,482
24	2,956
25	2,597
26	2,613
27	2,746
28	2,771
29	2,606
30	2,740
31	2,617
Total	95,058

(in acre-feet) **September 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,504
2	2,659
3	2,828
4	3,023
5	2,964
6	3,129
7	3,114
8	2,965
9	2,686
10	3,276
11	2,701
12	2,706
13	2,697
14	2,382
15	2,475
16	2,522
17	2,566
18	2,498
19	2,434
20	2,649
21	2,373
22	1,981
23	2,026
24	2,239
25	2,024
26	2,122
27	2,132
28	2,305
29	1,846
30	2,190
Total	76,016

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,393
2	2,241
3	2,454
4	2,331
5	2,542
6	2,208
7	2,580
8	2,502
9	2,524
10	2,589
11	2,279
12	2,499
13	2,267
14	2,167
15	2,082
16	1,973
17	1,796
18	1,840
19	1,792
20	1,825
21	1,949
22	1,666
23	1,916
24	2,253
25	2,204
26	2,445
27	2,408
28	2,435
29	2,451
30	2,564
31	2,335
Total	69,510

(in acre-feet) **November 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,553
2	2,517
3	2,501
4	2,395
5	2,673
6	2,805
7	2,522
8	2,665
9	2,468
10	2,365
11	2,483
12	2,227
13	2,516
14	2,577
15	2,747
16	2,694
17	2,737
18	1,999
19	1,712
20	1,752
21	1,908
22	1,482
23	1,601
24	1,319
25	1,490
26	1,786
27	1,525
28	1,618
29	1,583
30	1,812
Total	65,032

(in acre-feet) **December 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,485
2	1,530
3	1,616
4	1,097
5	969
6	1,153
7	1,063
8	974
9	981
10	1,131
11	880
12	1,128
13	1,087
14	1,068
15	1,013
16	1,057
17	1,191
18	1,188
19	1,120
20	987
21	1,016
22	925
23	897
24	933
25	952
26	1,089
27	974
28	1,823
29	1,804
30	1,893
31	1,965
Total	36,989

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,940
2	1,930
3	1,767
4	1,927
5	2,262
6	2,084
7	2,200
8	2,199
9	2,208
10	1,963
11	1,784
12	1,573
13	1,672
14	1,746
15	1,764
16	1,791
17	1,994
18	1,869
19	1,725
20	1,623
21	1,870
22	1,985
23	1,876
24	1,886
25	1,956
26	1,315
27	1,189
28	1,330
29	849
30	819
31	763
Total	53,859

(in acre-feet) **February 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	655
2	988
3	790
4	644
5	630
6	647
7	635
8	739
9	551
10	744
11	1,091
12	1,499
13	1,623
14	1,916
15	1,587
16	1,253
17	1,315
18	1,373
19	1,356
20	1,378
21	1,463
22	1,292
23	758
24	697
25	991
26	1,018
27	1,176
28	1,150
29	1,248
Total	31,207

(in acre-feet) **March 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,175
2	969
3	1,419
4	1,386
5	1,571
6	1,613
7	1,670
8	1,655
9	1,837
10	2,105
11	1,915
12	2,154
13	2,349
14	2,239
15	2,047
16	2,034
17	2,268
18	1,936
19	1,828
20	2,177
21	3,910
22	1,714
23	1,817
24	1,986
25	1,958
26	1,906
27	1,828
28	2,290
29	1,817
30	1,879
31	2,154
Total	59,606

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,131
2	1,756
3	2,118
4	1,439
5	1,363
6	0
7	1,046
8	1,468
9	1,467
10	1,750
11	1,797
12	1,869
13	2,063
14	2,100
15	2,124
16	2,307
17	2,172
18	1,945
19	2,163
20	1,602
21	1,915
22	1,835
23	1,458
24	1,536
25	1,835
26	1,612
27	2,065
28	1,961
29	1,969
30	2,036
Total	52,902

(in acre-feet) **May 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,036
2	2,214
3	1,998
4	1,902
5	1,967
6	1,733
7	1,870
8	1,606
9	1,799
10	1,903
11	1,432
12	1,806
13	1,648
14	1,381
15	1,363
16	1,293
17	1,366
18	1,364
19	1,522
20	1,296
21	1,266
22	1,515
23	1,514
24	1,215
25	1,206
26	1,102
27	1,134
28	1,289
29	1,070
30	1,263
31	1,009
Total	47,082

(in acre-feet) **June 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,337
2	1,706
3	1,960
4	1,749
5	1,920
6	2,132
7	1,891
8	1,947
9	1,908
10	1,912
11	1,736
12	2,030
13	1,831
14	1,664
15	1,875
16	2,431
17	2,364
18	2,533
19	2,570
20	2,687
21	2,695
22	2,114
23	2,996
24	2,688
25	2,640
26	2,453
27	2,404
28	2,379
29	2,352
30	2,372
Total	65,276

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,194
2	1,956
3	2,257
4	2,109
5	2,087
6	2,208
7	2,562
8	2,387
9	2,109
10	2,505
11	2,562
12	1,793
13	2,339
14	2,342
15	1,978
16	2,301
17	2,251
18	2,087
19	2,043
20	1,980
21	1,957
22	1,743
23	2,016
24	2,080
25	2,038
26	1,905
27	1,953
28	2,281
29	2,042
30	2,178
31	2,172
Total	66,415

(in acre-feet) **August 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,081
2	2,240
3	2,133
4	2,299
5	2,164
6	2,379
7	2,207
8	2,155
9	2,060
10	2,148
11	2,360
12	2,207
13	2,142
14	2,125
15	2,069
16	2,143
17	2,149
18	2,107
19	2,010
20	2,057
21	1,679
22	1,474
23	1,381
24	1,516
25	1,641
26	1,586
27	1,500
28	1,555
29	1,915
30	1,554
31	1,512
Total	60,548

(in acre-feet) **September 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,608
2	1,300
3	1,197
4	1,493
5	1,340
6	1,143
7	1,355
8	1,500
9	1,400
10	1,530
11	1,516
12	1,719
13	1,374
14	1,435
15	1,660
16	1,654
17	1,721
18	1,702
19	1,615
20	1,485
21	1,587
22	1,630
23	1,419
24	1,637
25	1,613
26	1,747
27	1,393
28	1,334
29	1,522
30	1,332
Total	44,961

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,419
2	1,215
3	1,409
4	1,425
5	1,361
6	1,337
7	1,351
8	1,484
9	1,267
10	1,617
11	1,503
12	1,630
13	1,801
14	1,443
15	1,571
16	1,789
17	1,412
18	1,408
19	982
20	1,323
21	1,179
22	1,231
23	1,045
24	1,158
25	1,027
26	983
27	1,243
28	1,127
29	1,210
30	924
31	887
Total	40,761

(in acre-feet) **November 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	858
2	895
3	884
4	808
5	1,055
6	774
7	676
8	656
9	662
10	665
11	689
12	635
13	690
14	762
15	701
16	731
17	686
18	649
19	679
20	680
21	671
22	676
23	665
24	660
25	671
26	688
27	668
28	605
29	650
30	687
Total	21,476

(in acre-feet) **December 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	662
2	734
3	588
4	357
5	178
6	170
7	193
8	402
9	391
10	364
11	376
12	382
13	348
14	318
15	278
16	241
17	323
18	326
19	311
20	303
21	279
22	627
23	869
24	388
25	355
26	374
27	365
28	318
29	366
30	252
31	176
Total	11,614

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	283
2	220
3	220
4	212
5	190
6	244
7	312
8	236
9	189
10	167
11	163
12	228
13	157
14	127
15	103
16	135
17	165
18	244
19	202
20	232
21	244
22	242
23	245
24	249
25	233
26	179
27	234
28	218
29	229
30	168
31	135
Total	6,405

(in acre-feet) **February 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	182
2	99
3	120
4	181
5	161
6	167
7	142
8	94
9	106
10	112
11	162
12	81
13	66
14	72
15	30
16	101
17	84
18	108
19	118
20	117
21	75
22	16
23	70
24	98
25	142
26	145
27	215
28	122
Total	3,186

(in acre-feet) **March 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	111
2	105
3	49
4	51
5	91
6	299
7	239
8	236
9	251
10	342
11	283
12	336
13	462
14	237
15	464
16	338
17	364
18	404
19	423
20	495
21	725
22	1,310
23	745
24	626
25	808
26	802
27	754
28	754
29	537
30	477
31	454
Total	13,572

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	444
2	466
3	500
4	451
5	469
6	490
7	508
8	481
9	485
10	470
11	496
12	460
13	460
14	473
15	480
16	480
17	529
18	454
19	423
20	507
21	704
22	548
23	522
24	508
25	514
26	541
27	505
28	557
29	550
30	580
Total	15,055

(in acre-feet) **May 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	951
2	792
3	581
4	845
5	873
6	996
7	576
8	717
9	484
10	617
11	673
12	585
13	706
14	516
15	550
16	558
17	684
18	584
19	712
20	568
21	674
22	568
23	562
24	614
25	743
26	524
27	593
28	548
29	561
30	515
31	481
Total	19,951

(in acre-feet) **June 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	703
2	888
3	703
4	899
5	1,060
6	1,568
7	1,449
8	1,420
9	1,648
10	1,781
11	1,630
12	1,828
13	1,740
14	1,584
15	1,604
16	1,695
17	1,495
18	1,683
19	1,738
20	1,778
21	1,494
22	1,903
23	1,696
24	1,850
25	1,879
26	2,359
27	2,114
28	1,912
29	2,056
30	2,427
Total	48,584

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,123
2	2,284
3	2,419
4	2,097
5	2,215
6	2,229
7	2,230
8	1,994
9	1,957
10	2,020
11	1,972
12	1,812
13	1,955
14	2,054
15	2,128
16	2,094
17	1,977
18	1,832
19	1,965
20	2,386
21	2,103
22	2,078
23	2,206
24	2,180
25	2,332
26	2,200
27	2,166
28	2,096
29	2,210
30	2,048
31	2,098
Total	65,460

(in acre-feet) **August 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,793
2	1,853
3	2,422
4	2,352
5	1,100
6	1,934
7	1,663
8	1,903
9	1,831
10	1,828
11	1,995
12	1,843
13	2,037
14	1,997
15	1,850
16	2,018
17	2,054
18	2,195
19	2,044
20	2,185
21	2,201
22	2,045
23	2,250
24	2,185
25	2,169
26	2,303
27	2,716
28	2,569
29	2,110
30	2,261
31	2,585
Total	64,291

(in acre-feet) **September 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,375
2	2,118
3	2,200
4	2,064
5	1,941
6	2,059
7	1,967
8	2,251
9	2,079
10	2,025
11	1,755
12	1,701
13	1,731
14	1,927
15	1,926
16	1,898
17	1,932
18	1,501
19	1,713
20	1,790
21	1,721
22	1,842
23	1,733
24	1,561
25	2,798
26	1,733
27	1,747
28	1,993
29	2,181
30	2,161
Total	58,423

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,349
2	2,350
3	2,303
4	2,705
5	2,738
6	2,598
7	2,415
8	2,461
9	2,418
10	2,419
11	2,498
12	2,250
13	2,317
14	2,397
15	2,520
16	2,685
17	2,562
18	2,691
19	2,892
20	3,012
21	3,094
22	3,254
23	3,187
24	2,925
25	3,088
26	3,063
27	3,042
28	3,011
29	2,970
30	3,027
31	2,700
Total	83,941

(in acre-feet) **November 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,619
2	2,125
3	2,109
4	2,514
5	2,600
6	2,529
7	2,542
8	2,473
9	2,730
10	2,641
11	2,609
12	2,590
13	2,517
14	2,615
15	2,476
16	2,584
17	2,481
18	2,841
19	2,402
20	2,491
21	2,433
22	2,339
23	2,439
24	1,472
25	776
26	683
27	722
28	698
29	660
30	677
Total	63,387

(in acre-feet) **December 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	654
2	529
3	476
4	810
5	572
6	592
7	812
8	498
9	577
10	415
11	432
12	426
13	405
14	420
15	307
16	289
17	233
18	321
19	379
20	359
21	241
22	320
23	317
24	295
25	310
26	345
27	364
28	288
29	287
30	272
31	269
Total	12,814

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	288
2	284
3	281
4	281
5	393
6	409
7	485
8	344
9	444
10	470
11	450
12	510
13	710
14	545
15	892
16	828
17	784
18	961
19	1,075
20	1,235
21	747
22	746
23	813
24	804
25	846
26	573
27	797
28	880
29	659
30	934
31	615
Total	20,083

(in acre-feet) **February 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	839
2	770
3	657
4	706
5	951
6	802
7	670
8	84
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	44
18	320
19	268
20	306
21	305
22	306
23	315
24	340
25	367
26	420
27	394
28	374
Total	9,238

(in acre-feet) **March 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	391
2	364
3	388
4	345
5	347
6	316
7	313
8	1,199
9	1,272
10	389
11	375
12	361
13	357
14	366
15	349
16	361
17	732
18	945
19	818
20	786
21	613
22	940
23	1,068
24	719
25	684
26	659
27	890
28	783
29	867
30	910
31	972
Total	19,879

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	937
2	932
3	826
4	926
5	867
6	1,264
7	1,306
8	1,263
9	1,408
10	1,491
11	1,168
12	1,644
13	2,160
14	2,640
15	2,444
16	2,373
17	2,097
18	1,940
19	2,216
20	2,613
21	2,711
22	2,705
23	2,072
24	2,138
25	2,127
26	2,018
27	2,111
28	2,253
29	1,899
30	2,182
Total	54,731

(in acre-feet) **May 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,832
2	1,631
3	1,774
4	1,825
5	1,896
6	1,721
7	1,622
8	1,553
9	1,481
10	1,793
11	1,728
12	1,557
13	1,874
14	1,805
15	1,604
16	2,066
17	2,315
18	2,232
19	2,473
20	2,157
21	2,242
22	2,138
23	1,488
24	2,516
25	2,195
26	2,175
27	2,217
28	2,279
29	2,279
30	1,969
31	2,083
Total	60,520

(in acre-feet) **June 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,990
2	2,141
3	2,087
4	2,317
5	2,070
6	2,601
7	2,691
8	2,668
9	3,096
10	3,204
11	3,172
12	3,031
13	3,056
14	2,671
15	2,731
16	2,922
17	2,809
18	2,849
19	2,810
20	2,820
21	3,026
22	3,398
23	3,515
24	3,460
25	3,314
26	3,407
27	3,254
28	3,354
29	3,322
30	3,360
Total	87,146

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,300
2	3,635
3	3,543
4	3,444
5	3,435
6	3,472
7	3,480
8	3,503
9	3,466
10	3,428
11	2,902
12	2,816
13	2,994
14	2,886
15	2,876
16	2,674
17	3,072
18	3,301
19	3,379
20	3,477
21	3,604
22	3,447
23	3,371
24	3,313
25	3,249
26	3,530
27	3,353
28	3,550
29	3,566
30	3,291
31	3,373
Total	102,730

(in acre-feet) **August 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,365
2	3,382
3	3,437
4	3,536
5	3,689
6	3,590
7	3,738
8	3,761
9	3,399
10	3,458
11	3,676
12	3,269
13	3,529
14	3,485
15	3,517
16	3,516
17	3,543
18	3,570
19	3,568
20	3,559
21	3,531
22	3,536
23	3,588
24	3,541
25	3,525
26	3,814
27	3,840
28	3,684
29	3,674
30	3,770
31	3,740
Total	110,830

(in acre-feet) **September 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,597
2	3,567
3	3,722
4	3,739
5	3,664
6	3,731
7	3,677
8	3,558
9	3,698
10	3,792
11	3,961
12	3,646
13	3,551
14	3,645
15	3,534
16	3,564
17	3,856
18	3,388
19	3,641
20	3,549
21	3,467
22	3,572
23	3,607
24	3,400
25	3,459
26	3,406
27	3,435
28	4,192
29	3,943
30	3,901
Total	109,462

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,005
2	3,408
3	2,623
4	2,657
5	2,316
6	2,143
7	2,055
8	1,929
9	2,065
10	2,088
11	2,134
12	2,167
13	2,141
14	2,514
15	2,515
16	2,521
17	2,554
18	2,545
19	2,605
20	2,387
21	2,610
22	2,299
23	3,088
24	2,825
25	2,795
26	2,339
27	2,853
28	2,830
29	2,700
30	2,706
31	2,715
Total	79,132

(in acre-feet) **November 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,862
2	2,870
3	2,992
4	2,841
5	2,673
6	1,771
7	1,812
8	2,447
9	2,920
10	3,344
11	3,715
12	3,474
13	3,547
14	3,492
15	3,429
16	3,743
17	3,723
18	3,044
19	2,779
20	2,214
21	2,637
22	3,554
23	3,551
24	3,809
25	3,601
26	3,817
27	3,694
28	3,529
29	2,704
30	2,260
Total	92,848

(in acre-feet) **December 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,870
2	2,376
3	2,233
4	2,384
5	2,359
6	2,311
7	2,336
8	2,501
9	2,092
10	2,312
11	2,324
12	2,330
13	2,814
14	2,490
15	1,420
16	1,527
17	2,577
18	2,854
19	2,864
20	2,824
21	2,846
22	2,299
23	2,145
24	2,128
25	2,090
26	2,133
27	2,098
28	2,195
29	2,906
30	3,068
31	2,983
Total	73,689

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,892
2	2,947
3	2,677
4	2,537
5	1,594
6	2,978
7	1,858
8	2,162
9	1,941
10	2,190
11	2,448
12	2,624
13	2,502
14	2,286
15	2,147
16	2,136
17	2,653
18	2,810
19	3,293
20	3,062
21	3,103
22	3,131
23	3,107
24	3,196
25	3,156
26	3,504
27	2,431
28	3,516
29	3,581
30	3,202
31	3,715
Total	85,379

(in acre-feet) **February 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,420
2	3,559
3	3,048
4	2,820
5	2,925
6	2,765
7	2,912
8	3,012
9	3,093
10	2,910
11	2,817
12	2,359
13	2,188
14	2,067
15	2,569
16	2,894
17	2,762
18	2,984
19	2,704
20	1,827
21	2,036
22	1,978
23	2,665
24	2,589
25	2,454
26	2,104
27	2,248
28	2,212
Total	73,921

(in acre-feet) **March 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,248
2	2,152
3	2,181
4	2,298
5	2,354
6	2,351
7	2,353
8	2,376
9	2,909
10	3,377
11	3,252
12	3,438
13	3,376
14	3,000
15	2,887
16	3,015
17	2,814
18	1,201
19	1,793
20	1,788
21	1,888
22	2,084
23	2,225
24	2,007
25	1,754
26	1,825
27	1,579
28	2,071
29	2,410
30	2,736
31	2,190
Total	73,932

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,056
2	1,821
3	2,082
4	2,222
5	2,540
6	2,990
7	2,774
8	2,805
9	2,778
10	2,847
11	2,763
12	2,407
13	2,503
14	2,504
15	2,839
16	2,636
17	2,401
18	2,514
19	2,810
20	3,413
21	3,340
22	3,023
23	3,114
24	3,174
25	3,236
26	3,126
27	3,111
28	3,274
29	3,400
30	3,089
Total	83,592

(in acre-feet) **May 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,114
2	3,123
3	3,227
4	3,272
5	3,146
6	3,422
7	3,670
8	3,552
9	3,629
10	3,740
11	3,658
12	3,662
13	3,770
14	3,798
15	3,225
16	3,194
17	3,082
18	2,877
19	2,953
20	2,674
21	2,248
22	3,018
23	2,921
24	2,427
25	2,321
26	1,530
27	2,410
28	2,462
29	2,234
30	2,375
31	2,625
Total	93,359

(in acre-feet) **June 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,493
2	2,558
3	2,360
4	2,154
5	2,224
6	2,209
7	2,299
8	2,422
9	2,627
10	2,473
11	2,422
12	2,369
13	2,433
14	2,536
15	2,292
16	2,538
17	3,068
18	3,217
19	3,510
20	3,192
21	3,204
22	2,965
23	3,081
24	2,899
25	3,402
26	3,496
27	3,472
28	3,869
29	3,933
30	3,876
Total	85,593

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,821
2	3,573
3	3,788
4	3,929
5	3,764
6	4,009
7	3,827
8	4,021
9	3,803
10	3,759
11	3,994
12	3,704
13	3,818
14	3,734
15	4,002
16	3,862
17	3,904
18	3,889
19	3,773
20	3,785
21	3,910
22	3,859
23	3,977
24	4,069
25	4,008
26	4,127
27	3,928
28	3,816
29	3,725
30	3,661
31	3,858
Total	119,697

(in acre-feet) **August 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,831
2	4,028
3	3,878
4	3,798
5	3,833
6	3,788
7	3,746
8	3,785
9	3,608
10	3,558
11	3,646
12	3,499
13	3,577
14	3,452
15	3,546
16	3,380
17	3,449
18	3,431
19	3,539
20	3,504
21	3,458
22	3,189
23	2,979
24	3,060
25	3,074
26	3,504
27	3,482
28	3,504
29	3,576
30	3,416
31	3,482
Total	109,600

(in acre-feet) **September 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,622
2	3,534
3	3,577
4	3,727
5	3,590
6	3,955
7	3,752
8	3,986
9	4,240
10	4,171
11	4,135
12	3,315
13	3,036
14	3,276
15	3,044
16	3,213
17	3,488
18	3,266
19	3,656
20	3,620
21	3,663
22	3,601
23	3,407
24	3,494
25	3,635
26	3,589
27	3,741
28	4,084
29	3,616
30	3,108
Total	108,141

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,911
2	2,788
3	2,810
4	2,725
5	2,587
6	2,581
7	2,434
8	2,565
9	2,575
10	2,588
11	2,421
12	2,715
13	2,617
14	2,602
15	2,376
16	2,511
17	2,640
18	2,937
19	2,875
20	2,535
21	2,329
22	2,753
23	2,730
24	2,595
25	2,393
26	2,470
27	2,393
28	2,343
29	2,310
30	2,322
31	2,361
Total	79,792

(in acre-feet) **November 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,448
2	2,286
3	2,038
4	2,395
5	2,370
6	2,384
7	2,311
8	2,336
9	2,281
10	2,371
11	2,886
12	2,507
13	2,772
14	2,229
15	2,918
16	2,860
17	2,789
18	2,915
19	2,829
20	2,769
21	2,778
22	3,300
23	3,294
24	3,628
25	3,661
26	3,737
27	3,755
28	3,839
29	3,488
30	3,122
Total	85,296

(in acre-feet) **December 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,223
2	3,224
3	3,286
4	3,245
5	3,492
6	3,670
7	3,634
8	3,613
9	3,149
10	2,954
11	2,538
12	2,420
13	2,396
14	2,477
15	2,365
16	2,195
17	2,103
18	1,834
19	2,020
20	2,068
21	1,877
22	1,959
23	1,885
24	1,923
25	1,757
26	1,780
27	1,993
28	2,031
29	2,163
30	2,190
31	2,262
Total	77,726

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,038
2	2,004
3	1,998
4	1,984
5	2,069
6	1,821
7	1,588
8	1,549
9	1,736
10	1,720
11	1,688
12	1,609
13	2,065
14	2,011
15	1,980
16	1,033
17	832
18	803
19	930
20	1,501
21	1,817
22	1,704
23	1,886
24	1,801
25	1,925
26	2,160
27	2,897
28	2,989
29	2,895
30	2,819
31	2,881
Total	58,733

(in acre-feet) **February 2012**

East Branch		
Date	Devil Canyon	
	Powerplant Generation	Bypass
1	2,189	0
2	1,898	0
3	1,884	0
4	1,878	0
5	1,966	0
6	1,731	0
7	1,345	0
8	839	0
9	1,025	0
10	972	0
11	823	0
12	0	1,039
13	826	0
14	821	0
15	845	0
16	803	0
17	945	0
18	813	0
19	717	0
20	808	0
21	968	0
22	861	0
23	840	0
24	947	0
25	960	0
26	845	0
27	1,125	0
28	1,116	0
29	959	0
Total	31,749	1,039

(in acre-feet) **March 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	956
2	936
3	946
4	1,224
5	1,081
6	1,172
7	1,166
8	998
9	1,101
10	1,192
11	1,002
12	1,236
13	1,262
14	1,309
15	1,203
16	1,108
17	1,014
18	815
19	1,004
20	912
21	862
22	922
23	956
24	889
25	832
26	949
27	939
28	746
29	838
30	906
31	801
Total	31,277

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	804
2	924
3	1,062
4	1,688
5	1,827
6	1,992
7	1,950
8	2,041
9	1,668
10	2,735
11	2,196
12	2,218
13	2,266
14	1,986
15	2,061
16	2,056
17	2,285
18	2,103
19	2,222
20	2,237
21	2,384
22	2,266
23	1,833
24	1,809
25	1,731
26	1,648
27	2,821
28	3,111
29	2,914
30	2,944
Total	61,782

(in acre-feet) **May 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,926
2	2,975
3	3,062
4	2,842
5	3,032
6	3,068
7	3,134
8	3,217
9	3,333
10	3,482
11	3,293
12	3,215
13	3,079
14	3,023
15	3,369
16	3,096
17	3,055
18	2,967
19	3,145
20	3,180
21	3,208
22	3,143
23	3,072
24	3,170
25	2,988
26	2,688
27	2,669
28	2,600
29	2,596
30	2,804
31	2,395
Total	93,826

(in acre-feet) **June 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,812
2	2,231
3	2,297
4	2,666
5	2,859
6	2,788
7	2,564
8	2,632
9	2,629
10	2,584
11	2,541
12	2,638
13	2,525
14	2,432
15	2,621
16	2,601
17	2,440
18	2,492
19	2,593
20	2,603
21	2,511
22	2,552
23	2,572
24	2,589
25	2,486
26	2,621
27	2,614
28	2,692
29	2,614
30	2,574
Total	77,373

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,487
2	2,531
3	2,571
4	2,426
5	2,376
6	2,327
7	2,526
8	2,106
9	2,255
10	2,400
11	2,217
12	2,343
13	2,377
14	2,315
15	2,282
16	2,563
17	2,342
18	2,291
19	2,284
20	2,288
21	2,279
22	2,166
23	2,186
24	2,190
25	2,187
26	2,256
27	2,279
28	2,384
29	2,257
30	2,359
31	2,361
Total	72,211

(in acre-feet) **August 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,357
2	2,425
3	2,175
4	2,507
5	2,417
6	1,981
7	2,088
8	1,993
9	2,094
10	2,033
11	2,098
12	2,108
13	2,126
14	1,974
15	2,146
16	2,029
17	2,318
18	2,011
19	1,936
20	2,530
21	2,232
22	2,188
23	2,717
24	2,638
25	2,594
26	2,689
27	2,577
28	2,228
29	2,231
30	2,315
31	2,609
Total	70,364

(in acre-feet) **September 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,560
2	2,643
3	2,676
4	2,559
5	2,608
6	2,630
7	2,684
8	2,575
9	2,614
10	2,583
11	2,702
12	2,599
13	2,210
14	2,332
15	2,421
16	2,700
17	2,543
18	2,753
19	2,796
20	2,744
21	2,864
22	2,584
23	2,399
24	2,427
25	2,426
26	2,459
27	2,650
28	2,701
29	2,715
30	2,685
Total	77,842

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,737
2	2,922
3	3,204
4	3,209
5	3,729
6	3,515
7	3,563
8	3,588
9	3,059
10	3,100
11	2,437
12	2,564
13	3,418
14	3,286
15	3,168
16	3,265
17	3,495
18	3,427
19	3,388
20	3,177
21	3,496
22	3,631
23	3,356
24	3,323
25	3,482
26	3,434
27	3,238
28	3,255
29	3,368
30	3,498
31	3,323
Total	101,655

(in acre-feet) **November 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,412
2	3,409
3	4,014
4	3,440
5	3,188
6	2,734
7	2,516
8	2,679
9	2,669
10	2,531
11	2,463
12	2,190
13	2,319
14	2,286
15	2,384
16	2,421
17	2,388
18	2,427
19	2,286
20	1,296
21	1,078
22	1,238
23	1,294
24	1,175
25	1,150
26	1,253
27	1,235
28	1,207
29	1,260
30	1,003
Total	64,945

(in acre-feet) **December 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	937
2	1,073
3	1,112
4	942
5	1,066
6	954
7	761
8	813
9	915
10	645
11	667
12	698
13	529
14	569
15	640
16	684
17	522
18	545
19	644
20	902
21	681
22	603
23	602
24	600
25	601
26	645
27	772
28	676
29	1,164
30	1,697
31	1,848
Total	25,507

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,866
2	1,823
3	1,755
4	1,732
5	612
6	489
7	467
8	679
9	639
10	634
11	725
12	1,608
13	1,772
14	1,795
15	1,793
16	1,865
17	1,822
18	2,005
19	2,246
20	2,151
21	2,113
22	2,331
23	2,261
24	2,165
25	2,012
26	1,869
27	1,781
28	1,837
29	1,925
30	1,854
31	1,768
Total	50,394

(in acre-feet) **February 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,876
2	2,153
3	2,284
4	2,285
5	2,365
6	2,261
7	2,263
8	2,200
9	2,226
10	2,172
11	1,908
12	1,987
13	1,841
14	1,603
15	1,735
16	2,215
17	2,027
18	1,654
19	1,662
20	871
21	1,188
22	1,112
23	1,208
24	1,198
25	1,222
26	1,354
27	1,490
28	1,470
Total	49,830

(in acre-feet) **March 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,453
2	1,513
3	1,299
4	1,288
5	1,404
6	1,264
7	1,094
8	1,002
9	857
10	699
11	905
12	841
13	839
14	781
15	878
16	902
17	776
18	926
19	937
20	769
21	782
22	977
23	945
24	883
25	804
26	990
27	1,115
28	1,027
29	1,127
30	1,102
31	1,174
Total	31,353

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,201
2	1,223
3	1,161
4	1,086
5	1,070
6	975
7	1,009
8	1,219
9	1,093
10	1,615
11	1,433
12	1,412
13	1,321
14	1,219
15	1,340
16	1,256
17	1,261
18	1,357
19	1,283
20	1,194
21	1,192
22	1,339
23	1,428
24	1,336
25	1,317
26	1,177
27	1,178
28	1,092
29	1,252
30	1,252
Total	37,291

(in acre-feet) **May 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,249
2	1,255
3	1,349
4	1,229
5	1,123
6	1,364
7	1,340
8	1,260
9	1,194
10	1,143
11	1,204
12	1,075
13	1,271
14	1,253
15	1,228
16	1,272
17	1,387
18	1,404
19	1,377
20	1,277
21	1,234
22	1,113
23	1,258
24	1,056
25	1,216
26	1,136
27	1,063
28	1,174
29	1,096
30	1,160
31	1,098
Total	37,858

(in acre-feet) **June 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,054
2	1,195
3	1,261
4	1,085
5	1,233
6	1,227
7	1,163
8	1,164
9	1,077
10	1,156
11	1,044
12	1,099
13	1,106
14	1,126
15	1,164
16	1,089
17	1,107
18	1,224
19	1,136
20	1,143
21	1,110
22	1,094
23	1,132
24	1,140
25	1,106
26	1,115
27	1,125
28	1,262
29	1,197
30	1,170
Total	34,304

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,140
2	1,183
3	1,213
4	1,294
5	1,088
6	1,311
7	1,123
8	1,203
9	1,186
10	1,157
11	1,292
12	1,356
13	1,279
14	1,331
15	1,330
16	1,401
17	1,374
18	1,291
19	1,364
20	1,386
21	1,442
22	1,267
23	1,427
24	1,418
25	1,348
26	1,277
27	1,207
28	1,152
29	1,253
30	1,384
31	1,167
Total	39,644

(in acre-feet) **August 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,135
2	1,219
3	1,174
4	1,197
5	1,070
6	1,150
7	1,362
8	1,224
9	1,187
10	1,226
11	1,159
12	1,130
13	1,160
14	1,137
15	1,198
16	1,198
17	1,099
18	1,157
19	1,049
20	1,123
21	1,153
22	1,129
23	1,139
24	1,061
25	1,117
26	1,215
27	1,228
28	1,181
29	975
30	1,254
31	1,151
Total	35,957

(in acre-feet) **September 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,245
2	1,189
3	1,288
4	1,256
5	1,396
6	1,228
7	1,449
8	1,376
9	1,552
10	1,489
11	1,240
12	1,370
13	1,396
14	1,250
15	1,371
16	1,240
17	1,263
18	1,519
19	1,257
20	1,232
21	1,109
22	1,172
23	1,134
24	1,055
25	986
26	1,018
27	1,012
28	1,072
29	1,083
30	1,055
Total	37,302

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,141
2	1,054
3	1,755
4	1,977
5	1,854
6	1,790
7	1,878
8	1,849
9	1,699
10	1,766
11	1,891
12	1,660
13	1,677
14	1,719
15	1,670
16	1,700
17	1,851
18	1,933
19	1,752
20	1,879
21	1,775
22	1,881
23	1,866
24	1,873
25	1,726
26	1,772
27	1,710
28	1,804
29	1,689
30	1,653
31	1,645
Total	53,889

(in acre-feet) **November 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,765
2	1,597
3	1,212
4	1,133
5	1,200
6	1,135
7	1,195
8	1,284
9	1,358
10	1,397
11	1,169
12	1,244
13	1,275
14	1,174
15	1,087
16	1,282
17	1,235
18	1,183
19	1,173
20	1,312
21	1,302
22	1,852
23	1,830
24	1,802
25	1,665
26	1,324
27	1,641
28	876
29	727
30	834
Total	39,263

(in acre-feet) **December 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	809
2	813
3	843
4	895
5	727
6	720
7	726
8	530
9	240
10	267
11	215
12	233
13	241
14	501
15	545
16	755
17	892
18	1,116
19	820
20	858
21	761
22	377
23	395
24	369
25	410
26	391
27	427
28	518
29	515
30	539
31	468
Total	17,916

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	713
2	525
3	478
4	507
5	475
6	458
7	401
8	429
9	499
10	462
11	470
12	639
13	543
14	349
15	552
16	481
17	439
18	406
19	497
20	653
21	658
22	544
23	550
24	635
25	514
26	556
27	550
28	403
29	615
30	546
31	531
Total	16,078

(in acre-feet) **February 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	482
2	466
3	533
4	550
5	640
6	615
7	536
8	530
9	542
10	528
11	537
12	557
13	492
14	555
15	644
16	514
17	510
18	550
19	581
20	525
21	434
22	577
23	651
24	574
25	212
26	211
27	190
28	130
Total	13,866

(in acre-feet) **March 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	152
2	162
3	165
4	142
5	134
6	154
7	115
8	286
9	142
10	151
11	203
12	294
13	283
14	272
15	323
16	267
17	162
18	239
19	216
20	324
21	270
22	280
23	321
24	302
25	275
26	304
27	299
28	340
29	304
30	293
31	289
Total	7,463

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
Total	0

(in acre-feet) **May 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	344
2	438
3	377
4	407
5	335
6	182
7	448
8	327
9	370
10	399
11	623
12	686
13	889
14	885
15	700
16	647
17	646
18	786
19	735
20	680
21	830
22	505
23	594
24	602
25	640
26	634
27	568
28	614
29	607
30	612
31	578
Total	17,688

(in acre-feet) **June 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	662
2	610
3	689
4	608
5	492
6	600
7	622
8	628
9	813
10	642
11	614
12	613
13	650
14	642
15	697
16	633
17	639
18	687
19	756
20	717
21	838
22	743
23	933
24	575
25	535
26	642
27	606
28	645
29	592
30	684
Total	19,807

Table 24. Southern Field Division Plant Data

(in acre-feet) **July 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	723
2	658
3	767
4	590
5	711
6	782
7	623
8	624
9	724
10	705
11	762
12	769
13	797
14	939
15	661
16	738
17	684
18	701
19	792
20	706
21	707
22	569
23	804
24	818
25	683
26	726
27	695
28	714
29	817
30	763
31	869
Total	22,621

(in acre-feet) **August 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	609
2	624
3	801
4	612
5	668
6	645
7	631
8	683
9	865
10	881
11	757
12	655
13	663
14	814
15	699
16	659
17	861
18	698
19	803
20	695
21	725
22	734
23	695
24	709
25	697
26	719
27	753
28	665
29	662
30	735
31	755
Total	22,172

(in acre-feet) **September 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	729
2	714
3	654
4	521
5	500
6	547
7	531
8	489
9	419
10	503
11	541
12	552
13	523
14	470
15	439
16	448
17	429
18	445
19	463
20	428
21	468
22	456
23	493
24	490
25	395
26	520
27	456
28	491
29	462
30	429
Total	15,005

Table 24. Southern Field Division Plant Data

(in acre-feet) **October 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	427
2	394
3	383
4	417
5	408
6	414
7	421
8	353
9	362
10	501
11	535
12	522
13	593
14	588
15	404
16	464
17	438
18	349
19	403
20	380
21	343
22	522
23	564
24	461
25	578
26	595
27	595
28	446
29	499
30	582
31	476
Total	14,417

(in acre-feet) **November 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	294
2	282
3	220
4	214
5	264
6	201
7	272
8	364
9	388
10	398
11	337
12	348
13	367
14	374
15	348
16	363
17	381
18	405
19	399
20	459
21	351
22	381
23	354
24	256
25	252
26	291
27	293
28	325
29	301
30	431
Total	9,913

(in acre-feet) **December 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	316
2	316
3	246
4	128
5	124
6	243
7	324
8	264
9	240
10	601
11	1,402
12	1,379
13	1,360
14	1,308
15	1,095
16	918
17	411
18	350
19	394
20	367
21	391
22	407
23	281
24	223
25	251
26	228
27	260
28	281
29	261
30	261
31	278
Total	14,908

Table 24. Southern Field Division Plant Data

(in acre-feet) **January 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	203
2	288
3	230
4	208
5	185
6	219
7	223
8	411
9	422
10	369
11	136
12	333
13	567
14	539
15	485
16	408
17	455
18	460
19	345
20	496
21	429
22	389
23	516
24	300
25	196
26	90
27	92
28	99
29	84
30	90
31	165
Total	9,432

(in acre-feet) **February 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	327
2	453
3	477
4	513
5	407
6	595
7	635
8	457
9	523
10	641
11	543
12	538
13	514
14	624
15	661
16	533
17	678
18	609
19	547
20	694
21	612
22	633
23	680
24	722
25	699
26	1,477
27	1,212
28	1,230
Total	18,234

(in acre-feet) **March 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,238
2	1,123
3	1,173
4	1,231
5	716
6	835
7	1,036
8	811
9	938
10	1,202
11	973
12	968
13	1,016
14	977
15	883
16	995
17	1,088
18	1,048
19	1,069
20	950
21	998
22	1,036
23	911
24	913
25	1,082
26	1,076
27	1,172
28	1,097
29	1,099
30	1,060
31	1,038
Total	31,752

Table 24. Southern Field Division Plant Data

(in acre-feet) **April 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,027
2	952
3	1,161
4	906
5	982
6	1,108
7	738
8	741
9	1,025
10	911
11	1,101
12	998
13	1,169
14	660
15	646
16	702
17	611
18	650
19	646
20	738
21	632
22	530
23	780
24	651
25	588
26	549
27	614
28	514
29	547
30	629
Total	23,506

(in acre-feet) **May 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	715
2	588
3	669
4	630
5	553
6	575
7	831
8	603
9	522
10	501
11	606
12	601
13	611
14	509
15	555
16	557
17	487
18	386
19	478
20	590
21	450
22	319
23	589
24	470
25	529
26	461
27	436
28	438
29	468
30	626
31	631
Total	16,984

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3349.07	69,304											
1	3348.48	68,753	-551	1,466	0	1	0	0	1,987	0	1	-30	0
2	3349.62	69,819	1,066	2,499	0	1	0	0	1,655	0	0	221	0
3	3349.86	70,045	226	1,988	0	1	0	0	1,680	0	0	-83	0
4	3350.06	70,233	188	1,759	0	1	3	0	1,583	0	1	15	0
5	3350.20	70,365	132	1,957	0	1	3	0	1,826	0	0	3	0
6	3349.92	70,101	-264	2,002	0	1	3	0	2,144	0	0	-120	0
7	3349.95	70,129	28	2,172	0	1	3	0	2,128	0	1	-13	0
8	3349.95	70,129	0	2,080	0	1	3	0	2,092	0	0	14	0
9	3350.25	70,412	283	2,532	0	1	3	0	2,190	0	0	-57	0
10	3350.56	70,705	293	2,500	0	1	3	1	2,211	0	1	8	0
11	3350.79	70,922	217	2,255	0	1	3	0	2,171	0	0	135	0
12	3350.77	70,903	-19	2,015	0	1	3	0	2,092	0	0	60	0
13	3350.69	70,828	-75	2,116	0	1	3	0	2,193	0	1	5	0
14	3350.00	70,176	-652	1,669	0	1	3	0	2,249	0	0	-70	0
15	3350.40	70,554	378	2,689	0	1	3	0	2,383	0	0	74	0
16	3350.20	70,365	-189	2,531	0	1	3	0	2,401	0	1	-316	0
17	3350.60	70,742	377	2,727	0	1	3	0	2,422	0	0	74	0
18	3350.80	70,932	190	2,741	0	1	3	1	2,546	0	0	-2	0
19	3350.89	71,017	85	2,576	0	1	3	0	2,372	0	1	-116	0
20	3350.85	70,979	-38	2,373	0	1	3	0	2,542	0	0	133	0
21	3350.53	70,676	-303	1,967	0	1	1	0	2,450	0	0	180	0
22	3349.93	70,111	-565	1,983	0	1	0	0	2,673	0	1	125	0
23	3349.81	69,998	-113	2,134	0	1	0	0	2,320	0	0	72	0
24	3349.93	70,111	113	2,363	0	1	0	0	2,412	0	0	161	0
25	3349.85	70,035	-76	1,845	0	2	0	0	1,922	0	1	0	0
26	3350.25	70,412	377	2,051	0	2	0	0	1,852	0	0	176	0
27	3350.04	70,214	-198	1,913	0	1	0	0	2,122	0	0	10	0
28	3350.05	70,223	9	2,295	0	1	1	0	2,219	0	1	-66	0
29	3350.35	70,506	283	2,233	0	1	3	0	2,039	0	0	91	0
30	3350.15	70,318	-188	2,102	0	1	3	0	2,252	0	0	-36	0
31	3350.05	70,223	-95	2,139	0	2	3	0	2,303	0	1	71	0
Total			919	67,672	0	34	62	2	67,431	0	11	719	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.05	70,223											
1	3349.95	70,129	-94	2,359	0	1	4	0	2,454	0	1	5	1
2	3350.26	70,421	292	2,566	0	1	4	0	2,272	0	0	1	2
3	3349.56	69,763	-658	1,733	0	1	4	0	2,390	0	1	3	2
4	3349.16	69,388	-375	1,898	0	1	2	0	2,276	0	0	4	2
5	3349.08	69,313	-75	2,002	0	1	0	0	2,106	0	1	29	2
6	3348.90	69,145	-168	2,102	0	1	0	0	2,239	0	0	-32	2
7	3348.71	68,968	-177	2,169	0	1	0	0	2,413	0	1	67	2
8	3348.11	68,409	-559	2,014	0	1	3	0	2,584	0	0	13	2
9	3348.75	69,005	596	3,040	0	1	4	0	2,423	0	1	-17	2
10	3349.06	69,295	290	2,704	0	11	6	0	2,536	0	0	117	2
11	3350.29	70,450	1,155	3,252	0	8	1	0	2,116	0	1	13	2
12	3350.81	70,941	491	2,258	0	19	0	0	1,862	0	0	76	2
13	3351.32	71,425	484	2,399	0	5	0	0	1,861	0	1	-58	2
14	3350.75	70,884	-541	1,496	0	4	0	0	1,905	0	0	-136	2
15	3350.84	70,970	86	2,115	0	4	5	0	2,030	0	1	3	2
16	3350.53	70,676	-294	1,314	0	23	4	0	1,753	0	0	126	2
17	3350.26	70,421	-255	1,401	0	17	4	1	1,675	0	1	8	3
18	3350.23	70,393	-28	2,087	0	8	6	0	2,110	0	0	-7	3
19	3350.30	70,459	66	2,173	0	6	6	0	2,044	0	1	-62	4
20	3351.19	71,302	843	2,326	0	60	5	0	2,040	0	0	502	4
21	3351.22	71,330	28	1,611	0	298	4	0	2,032	0	1	156	4
22	3351.21	71,321	-9	2,020	0	120	4	0	2,088	0	1	-56	16
23	3351.91	71,987	666	2,222	0	418	1	0	2,195	0	41	263	37
24	3351.54	71,634	-353	1,417	0	217	0	0	2,054	0	77	144	45
25	3350.39	70,544	-1,090	1,068	0	82	0	1	1,881	0	150	-208	45
26	3350.23	70,393	-151	1,775	0	53	0	0	2,046	0	175	242	46
27	3350.08	70,252	-141	1,770	0	56	0	0	1,845	0	99	-23	46
28	3349.61	69,810	-442	1,614	0	55	0	0	2,151	0	97	137	46
29	3349.00	69,238	-572	1,557	0	41	0	0	2,106	0	98	34	46
Total			-985	58,462	0	1,514	67	2	61,487	0	749	1,344	376

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 2/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel 1/				
Feb 29	3349.00	69,238											
1	3348.66	68,921	-317	1,696	0	32	4	1	2,097	0	0	57	46
2	3348.10	68,400	-521	1,934	0	28	4	0	2,440	0	1	-38	46
3	3348.18	68,474	74	2,280	0	25	5	0	2,329	0	0	103	46
4	3348.09	68,391	-83	2,301	0	24	2	0	2,358	0	1	-47	46
5	3348.60	68,865	474	1,442	1,181	132	0	0	2,609	0	0	328	46
6	3349.12	69,351	486	1,430	1,427	107	0	0	2,533	0	1	56	46
7	3350.60	70,742	1,391	3,762	0	75	0	0	2,375	0	0	-71	46
8	3351.60	71,691	949	2,823	0	293	6	0	2,316	0	48	203	46
9	3352.02	72,092	401	2,590	0	185	5	0	2,263	0	96	-10	46
10	3351.12	71,235	-857	1,467	0	112	4	0	2,454	0	57	79	46
11	3350.68	70,818	-417	1,389	0	96	5	0	1,937	0	1	41	46
12	3350.63	70,771	-47	1,965	0	85	4	1	2,102	0	1	11	46
13	3350.30	70,459	-312	1,715	0	77	4	0	2,160	0	1	61	46
14	3349.27	69,491	-968	1,377	0	74	2	0	2,268	0	32	-117	46
15	3349.11	69,341	-150	1,950	0	67	0	0	2,001	0	81	-85	46
16	3348.91	69,154	-187	1,827	0	61	5	0	1,988	0	80	-2	39
17	3348.90	69,145	-9	2,317	0	55	4	0	2,419	0	83	125	36
18	3348.61	68,874	-271	2,155	0	48	5	0	2,306	0	81	-82	36
19	3348.82	69,070	196	2,837	0	45	5	0	2,592	0	79	-10	35
20	3349.61	69,810	740	3,548	0	41	4	0	2,747	0	33	-65	35
21	3349.51	69,716	-94	2,586	0	34	4	0	2,693	0	1	-16	35
22	3350.01	70,186	470	2,995	0	30	4	0	2,636	0	1	86	13
23	3350.11	70,280	94	2,819	0	28	4	0	2,650	0	1	-98	0
24	3350.74	70,875	595	3,150	0	26	1	0	2,631	0	2	53	0
25	3350.78	70,913	38	2,469	0	25	0	0	2,506	0	0	50	0
26	3350.89	71,017	104	2,622	0	23	0	0	2,430	0	2	-109	0
27	3351.09	71,207	190	2,777	0	23	0	0	2,706	0	0	96	0
28	3351.34	71,444	237	2,582	0	22	3	0	2,236	0	2	-126	0
29	3350.86	70,989	-455	2,311	0	21	3	0	2,810	0	0	26	0
30	3350.76	70,894	-95	2,019	0	18	3	0	2,312	0	2	185	0
31	3350.40	70,554	-340	1,742	0	17	3	0	2,273	0	0	177	0
Total			1,316	70,877	2,608	1,929	93	2	74,177	0	687	861	919

1/ Due to the erratic operation of the Devel Canyon meter, 231 AF were added to the total.

2/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3350.40	70,554											
1	3350.11	70,280	-274	2,058	0	17	1	0	2,496	0	1	149	24
2	3349.91	70,092	-188	2,089	0	15	0	0	2,338	0	0	46	24
3	3349.55	69,753	-339	2,289	0	14	0	0	2,661	0	1	20	24
4	3349.56	69,763	10	2,217	0	13	0	1	2,258	0	0	39	24
5	3349.65	69,847	84	2,666	0	13	0	0	2,739	0	1	145	24
6	3350.18	70,346	499	2,736	0	13	0	0	2,441	0	0	191	24
7	3350.49	70,639	293	2,724	0	12	0	0	2,311	0	1	-131	24
8	3351.14	71,254	615	2,764	0	11	0	0	2,307	0	0	147	24
9	3351.40	71,501	247	2,581	0	11	0	1	2,112	0	1	-231	24
10	3350.99	71,112	-389	2,061	0	10	1	0	2,399	0	0	-60	24
11	3351.49	71,587	475	2,618	0	10	6	0	2,165	0	1	19	24
12	3351.57	71,663	76	2,223	0	9	7	0	2,106	0	0	-43	24
13	3350.81	70,941	-722	1,898	0	9	7	0	2,102	0	1	-519	21
14	3349.52	69,725	-1,216	2,006	0	9	3	1	2,548	0	0	-679	19
15	3349.19	69,416	-309	2,538	0	10	2	0	2,502	0	1	-352	19
16	3352.45	72,503	3,087	3,475	0	9	0	0	2,441	0	0	2,044	19
17	3352.04	72,111	-392	2,277	0	64	0	0	2,663	0	1	-69	19
18	3352.60	72,647	536	2,929	0	150	5	0	2,431	0	36	-71	25
19	3352.22	72,283	-364	855	921	76	4	1	2,142	0	74	5	39
20	3352.25	72,312	29	5	1,908	50	6	0	2,099	0	25	196	46
21	3351.71	71,796	-516	8	1,598	42	5	0	2,176	0	0	17	36
22	3352.15	72,216	420	10	2,204	37	0	0	1,926	0	1	96	36
23	3352.41	72,465	249	14	2,067	32	0	0	1,917	0	0	53	35
24	3351.46	71,558	-907	133	1,189	28	0	1	2,329	0	1	74	35
25	3351.83	71,911	353	116	2,208	25	4	0	2,063	0	0	71	35
26	3351.01	71,131	-780	178	974	23	3	0	1,970	0	1	19	35
27	3351.27	71,378	247	284	1,974	20	3	0	1,970	0	0	-58	29
28	3350.61	71,752	374	6	1,840	20	3	0	2,557	0	1	1,069	21
29	3350.17	70,337	-1,415	11	2,043	18	3	0	2,565	0	0	-919	21
30	3350.76	70,894	557	9	3,059	16	2	0	2,479	0	0	-46	20
Total			340	45,778	21,985	786	65	5	69,213	0	148	1,222	798

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow						Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3350.76	70,894											
1	3350.72	70,856	-38	630	1,778	17	3	0	2,657	0	1	198	20
2	3351.00	71,121	265	2,549	0	15	4	0	2,248	0	0	-47	20
3	3351.43	71,530	409	2,726	0	15	2	1	2,318	0	1	-10	20
4	3351.49	71,587	57	2,124	0	14	3	0	2,045	0	0	-33	19
5	3351.30	71,406	-181	1,891	0	14	3	0	2,209	0	1	127	16
6	3350.74	70,875	-531	2,036	0	13	4	0	2,606	0	0	30	16
7	3350.98	71,102	227	2,088	0	12	3	0	1,944	0	1	75	16
8	3351.13	71,245	143	2,251	0	12	3	0	2,293	0	0	176	16
9	3351.01	71,131	-114	2,257	0	11	2	1	2,405	0	1	27	16
10	3350.42	70,572	-559	2,247	0	11	3	0	2,875	0	0	61	16
11	3350.64	70,780	208	2,585	0	11	3	0	2,503	0	1	119	16
12	3351.61	71,701	921	3,177	0	10	3	0	2,172	0	0	-91	11
13	3352.13	72,197	496	2,660	0	10	3	0	2,158	0	1	-12	12
14	3352.97	73,003	806	2,930	0	9	0	1	2,050	0	0	-82	12
15	3352.46	72,513	-490	2,284	0	9	3	0	2,786	0	1	7	12
16	3352.62	72,666	153	2,527	0	10	3	0	2,327	0	0	-54	12
17	3352.11	72,178	-488	1,989	0	9	2	1	2,473	0	1	-9	12
18	3351.88	71,958	-220	2,076	0	9	4	0	2,313	0	0	12	12
19	3351.77	71,853	-105	2,269	0	8	3	0	2,346	0	1	-32	12
20	3350.47	70,620	-1,233	1,387	0	8	3	1	2,657	0	0	33	12
21	3351.28	71,387	767	3,072	0	7	3	0	2,221	0	1	-87	12
22	3351.64	71,730	343	2,633	0	7	3	0	2,354	0	0	60	12
23	3351.53	71,625	-105	2,380	0	6	4	1	2,387	0	0	-99	12
24	3350.83	70,960	-665	1,856	0	6	6	0	2,549	0	0	28	12
25	3350.55	70,695	-265	1,886	0	7	7	0	2,120	0	1	-30	11
26	3350.91	71,036	341	2,226	0	7	7	1	1,731	0	0	-153	9
27	3351.42	71,520	484	2,138	0	6	6	0	1,783	0	0	129	7
28	3351.89	71,968	448	2,399	0	5	6	0	1,902	0	0	-48	7
29	3352.13	72,197	229	2,093	0	5	6	0	1,663	0	1	-199	7
30	3351.77	71,853	-344	1,764	0	4	6	0	1,982	0	0	-124	7
31	3351.80	71,882	29	1,929	0	3	5	1	1,814	0	0	-83	7
Total			988	69,059	1,778	290	116	8	69,891	0	13	-111	401

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow						Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3351.80	71,882											
1	3351.44	71,539	-343	1,483	0	4	5	0	2,213	0	1	389	8
2	3351.37	71,473	-66	1,835	0	4	5	0	1,893	0	0	-7	8
3	3350.99	71,112	-361	1,794	0	3	4	1	2,103	0	1	-49	8
4	3351.05	71,169	57	2,015	0	3	4	0	1,955	0	0	-2	8
5	3350.35	70,506	-663	1,558	0	3	3	0	2,260	0	1	40	8
6	3350.42	70,572	66	2,067	0	3	4	1	1,951	0	0	-48	6
7	3350.27	70,431	-141	2,248	0	2	5	0	2,336	0	1	-49	4
8	3350.19	70,355	-76	2,249	0	3	5	0	2,296	0	0	-27	2
9	3350.52	70,667	312	2,919	0	3	4	1	2,516	0	1	-88	2
10	3350.63	70,771	104	2,176	0	3	5	0	2,088	0	0	18	2
11	3350.83	70,960	189	2,594	0	3	5	0	2,277	0	1	-125	2
12	3351.32	70,425	-535	2,683	0	2	4	1	2,415	0	0	-800	2
13	3351.15	71,264	839	2,351	0	2	5	0	2,492	0	0	983	2
14	3351.12	71,235	-29	2,265	0	2	5	0	2,341	0	0	50	2
15	3350.23	70,393	-842	1,351	0	1	4	1	2,152	0	1	-36	2
16	3349.79	69,979	-414	1,717	0	1	6	0	2,146	0	0	20	2
17	3350.54	70,686	707	2,955	0	1	7	0	2,232	0	1	-9	2
18	3351.04	71,159	473	2,688	0	1	5	1	2,108	0	0	-102	2
19	3350.76	70,894	-265	2,323	0	1	7	0	2,426	0	1	-155	2
20	3350.75	70,884	-10	2,189	0	1	7	0	2,311	0	0	118	2
21	3350.85	70,979	95	2,325	0	1	6	1	2,221	0	0	-3	2
22	3350.94	71,064	85	2,759	0	1	5	0	2,507	0	0	-163	2
23	3350.24	70,403	-661	1,568	0	1	5	0	2,396	0	1	173	2
24	3349.87	70,054	-349	2,199	0	1	4	1	2,415	0	0	-129	2
25	3350.50	70,648	594	2,878	0	1	5	0	2,331	0	1	53	2
26	3350.23	70,393	-255	2,414	0	1	4	0	2,685	0	0	20	2
27	3349.37	69,585	-808	1,877	0	0	4	1	2,637	0	1	-42	2
28	3350.07	70,242	657	3,089	0	0	7	0	2,480	0	0	55	2
29	3350.75	70,884	642	2,966	0	0	7	0	2,270	0	0	-47	2
30	3351.43	71,530	646	3,289	0	0	7	0	2,549	0	0	-87	1
Total			-352	68,824	0	49	153	9	69,002	0	12	-49	95

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow						Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.43	71,530											
1	3352.33	72,389	859	3,127	0	0	7	0	2,246	0	0	-15	2
2	3351.88	71,958	-430	1,861	0	0	6	0	2,252	0	1	-32	2
3	3351.28	71,387	-571	1,625	0	0	7	0	2,129	0	0	-60	2
4	3351.85	71,930	543	2,631	0	0	6	1	2,137	0	1	57	0
5	3351.48	71,577	-353	2,091	0	0	7	0	2,262	0	0	-175	0
6	3351.13	71,245	-333	1,737	0	0	6	0	2,081	0	1	18	0
7	3350.54	70,686	-559	1,799	0	0	6	1	2,316	0	0	-35	1
8	3350.71	70,847	161	2,229	0	0	6	0	2,099	0	1	38	0
9	3350.88	71,008	161	2,291	0	0	7	0	2,063	0	0	-60	1
10	3351.60	71,691	684	2,963	0	0	6	1	2,273	0	1	2	1
11	3350.95	71,074	-618	1,732	0	0	7	0	2,298	0	0	-45	1
12	3350.81	70,941	-133	814	1,070	0	7	0	2,142	0	1	133	1
13	3350.19	70,355	-586	1,678	0	0	6	1	2,257	0	0	0	1
14	3349.85	70,035	-320	1,773	0	0	7	0	2,067	0	1	-18	1
15	3349.93	70,111	75	1,906	0	0	6	0	1,794	0	0	-31	1
16	3350.23	70,393	283	2,469	0	0	7	1	2,105	0	1	-72	1
17	3349.52	69,725	-668	1,576	0	0	7	0	2,246	0	0	9	1
18	3349.37	69,585	-141	1,842	0	0	7	0	1,966	0	1	-9	1
19	3349.32	69,538	-47	2,029	0	0	7	1	2,058	0	0	-10	1
20	3349.49	69,697	159	2,466	0	0	7	0	2,306	0	1	7	1
21	3349.98	70,158	460	2,676	0	0	7	1	2,203	0	0	-5	1
22	3350.21	70,374	217	2,917	0	0	7	1	2,622	0	1	-69	1
23	3350.74	70,875	501	3,193	0	0	7	0	2,583	0	0	-102	1
24	3351.05	71,169	294	2,916	0	0	7	0	2,715	0	0	100	1
25	3351.54	71,634	466	3,007	0	0	7	1	2,469	0	0	-64	1
26	3351.05	71,169	-466	2,077	0	0	7	1	2,510	0	1	-24	1
27	3350.98	71,102	-66	2,479	0	0	7	0	2,512	0	0	-26	1
28	3350.45	70,601	-502	1,980	0	0	7	1	2,473	0	0	-1	1
29	3351.15	71,264	663	3,032	0	0	7	0	2,346	0	0	-16	1
30	3350.93	71,055	-209	2,329	0	0	7	0	2,542	0	0	11	2
31	3350.61	70,751	-304	2,157	0	0	7	1	2,447	0	0	-6	2
Total			-779	69,402	1,070	0	209	12	70,519	0	12	-499	32

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow						Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River	Computed Losses (-) Gains (+)	
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.61	70,751											
1	3350.59	70,729	-22	1,398	0	0	8	0	2,453	0	1	1,042	2
2	3349.49	69,697	-1,032	2,366	0	0	7	1	2,802	0	0	-588	2
3	3348.96	69,200	-497	2,354	0	0	8	0	2,220	0	1	-621	2
4	3349.18	69,398	197	1,661	0	0	7	1	2,390	0	0	934	2
5	3348.43	68,700	-698	2,499	0	0	5	0	2,338	0	1	-852	2
6	3348.55	68,812	112	2,560	0	0	4	1	2,296	0	0	-147	2
7	3346.36	66,786	-2,026	2,041	0	0	5	0	2,431	0	1	-1,630	2
8	3348.48	68,745	1,959	2,094	0	0	5	1	2,305	0	0	2,176	2
9	3348.15	68,438	-307	2,879	0	0	7	0	2,455	0	1	-723	2
10	3348.59	68,848	410	2,605	0	0	5	1	2,283	0	0	94	2
11	3348.92	69,155	307	2,843	0	0	6	0	2,491	0	1	-37	2
12	3349.24	69,455	299	3,067	0	0	6	1	2,157	0	0	-604	2
13	3350.19	70,355	900	2,737	0	0	8	0	2,286	0	0	457	2
14	3350.61	70,751	396	1,614	0	0	7	1	2,366	0	1	1,157	2
15	3349.77	69,960	-791	1,754	0	0	8	0	2,746	0	0	209	2
16	3348.71	68,967	-993	1,903	0	0	7	1	2,248	0	1	-639	2
17	3347.61	67,946	-1,021	1,666	0	0	8	0	2,395	0	0	-285	2
18	3346.67	67,079	-867	1,876	0	0	8	1	2,674	0	1	-59	2
19	3347.15	67,521	442	2,938	0	0	8	0	2,564	0	0	76	1
20	3347.50	67,844	323	3,408	0	0	7	1	2,869	0	0	-208	1
21	3348.26	68,549	704	3,068	0	0	8	0	2,264	0	1	-90	1
22	3347.42	67,770	-778	2,138	0	0	5	1	2,723	0	0	-187	1
23	3346.29	66,731	-1,040	1,672	0	0	7	0	2,798	0	1	94	1
24	3346.49	66,914	183	2,407	0	0	6	1	2,298	0	0	81	0
25	3346.00	66,465	-449	2,100	0	0	8	0	2,411	0	0	-130	0
26	3347.13	67,503	1,037	3,347	0	0	8	0	2,431	0	0	129	0
27	3348.31	68,595	1,093	3,574	0	0	1	1	2,456	0	1	-22	0
28	3348.36	68,642	47	2,557	0	0	4	0	2,496	0	0	-11	0
29	3348.38	68,660	19	2,478	0	0	5	1	2,287	0	0	-166	0
30	3349.97	70,148	1,488	3,669	0	0	7	0	2,302	0	0	127	0
31	3349.15	69,379	-769	1,887	0	0	10	0	2,597	0	0	-49	0
Total			-1,372	75,160	0	0	203	14	75,832	0	12	-471	41

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3349.15	69,379											
1	3350.21	70,374	995	3,419	0	0	8	2	2,500	0	0	86	0
2	3350.25	70,412	38	2,312	0	0	8	0	2,168	0	1	-97	0
3	3350.87	70,998	586	2,606	0	0	7	0	2,222	0	0	209	0
4	3350.87	70,998	0	2,324	0	0	6	1	2,225	0	1	-91	0
5	3350.25	70,412	-586	1,898	0	0	7	0	2,520	0	0	43	0
6	3350.24	70,403	-9	2,144	0	0	7	0	2,125	0	0	-21	0
7	3349.94	70,120	-283	1,782	87	0	7	0	2,217	0	1	73	0
8	3349.67	69,866	-254	2,126	0	0	7	0	2,349	0	0	-24	0
9	3350.10	70,271	405	2,762	0	0	6	1	2,277	0	1	-72	0
10	3350.50	70,648	377	2,922	0	0	7	0	2,372	0	0	-166	0
11	3350.15	70,318	-330	2,049	0	0	6	0	2,298	0	1	-74	0
12	3349.53	69,735	-583	1,875	0	0	7	0	2,514	0	0	63	0
13	3349.12	69,351	-384	1,770	0	0	6	1	2,105	0	1	-41	0
14	3349.36	69,575	224	2,573	0	0	7	0	2,292	0	0	-50	0
15	3348.89	69,136	-439	1,713	0	0	6	0	2,102	0	0	-44	0
16	3348.84	69,089	-47	2,556	0	0	7	0	2,424	0	1	-171	0
17	3350.36	70,516	1,427	3,449	0	0	6	1	2,123	0	0	108	0
18	3350.60	70,742	226	2,644	0	0	6	0	2,553	0	1	142	0
19	3350.47	70,620	-122	2,183	0	0	6	0	2,204	0	0	-95	0
20	3350.35	70,506	-114	2,143	0	0	6	0	2,377	0	1	127	0
21	3349.22	69,444	-1,062	1,391	0	0	6	1	2,298	0	0	-148	0
22	3348.41	68,688	-756	1,558	0	0	6	0	2,408	0	1	101	0
23	3348.02	68,326	-362	2,355	0	0	7	0	2,601	0	0	-109	0
24	3349.34	69,557	1,231	3,096	0	0	7	0	1,840	0	1	-17	0
25	3349.48	69,688	131	2,247	0	0	5	1	2,254	0	0	144	0
26	3349.64	69,838	150	2,501	0	0	5	0	2,340	0	0	-6	0
27	3349.80	69,988	150	1,916	345	0	3	0	1,952	0	0	-156	0
28	3349.62	69,819	-169	2,007	65	0	3	1	2,307	0	0	70	0
29	3349.29	69,510	-309	2,070	0	0	4	0	2,170	0	0	-205	0
30	3349.76	69,951	441	2,001	0	0	2	1	1,679	0	1	123	0
Total			572	68,392	497	0	181	10	67,816	0	12	-298	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2000

Date	Water Surface Elev. (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Inflow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3349.76	69,951											
1	3350.69	70,828	877	3,079	0	0	3	0	2,103	0	0	-96	0
2	3350.91	71,036	208	2,249	0	0	4	0	1,900	0	1	-136	0
3	3350.46	70,610	-426	1,641	0	0	4	0	2,187	0	0	124	0
4	3350.62	70,761	151	2,476	0	0	3	1	2,351	0	1	31	0
5	3350.30	70,459	-302	1,793	0	0	4	0	2,020	0	0	-71	0
6	3350.05	70,223	-236	1,881	0	0	4	0	2,158	0	1	46	0
7	3349.99	70,167	-56	2,083	0	0	4	0	2,063	0	0	-72	0
8	3350.95	71,074	907	2,958	0	0	4	0	2,144	0	0	97	0
9	3350.59	70,733	-341	1,886	0	0	3	1	2,139	0	1	-83	0
10	3350.37	70,525	-208	1,906	0	0	4	0	2,050	0	0	-60	0
11	3350.30	70,459	-66	1,990	0	0	4	0	2,029	0	1	-22	0
12	3350.78	70,913	454	2,675	0	0	4	0	2,121	0	0	-96	0
13	3351.00	71,121	208	2,204	0	0	4	0	2,196	0	1	205	0
14	3350.31	70,469	-652	1,777	0	0	4	0	2,325	0	0	-100	0
15	3349.77	69,960	-509	1,924	0	0	3	1	2,335	0	0	-94	0
16	3349.47	69,678	-282	2,243	0	0	4	0	2,486	0	0	-35	0
17	3349.14	69,369	-309	1,915	0	0	6	0	2,302	0	1	85	0
18	3350.48	70,629	1,260	3,623	0	0	7	0	2,428	0	0	72	0
19	3350.62	70,761	132	2,422	0	0	2	0	2,194	0	1	-93	0
20	3350.62	70,761	0	2,324	0	0	3	0	2,429	0	0	108	0
21	3349.69	69,885	-876	1,724	0	0	3	1	2,432	0	1	-163	0
22	3349.20	69,425	-460	2,181	0	0	4	0	2,589	0	0	-48	0
23	3348.86	69,108	-317	2,283	0	0	5	0	2,654	0	0	59	0
24	3348.70	68,958	-150	2,158	0	0	6	0	2,470	0	0	168	0
25	3348.21	68,502	-456	2,018	0	0	4	0	2,532	0	1	63	0
26	3347.85	68,168	-334	2,078	0	0	2	1	2,406	0	0	-3	0
27	3346.80	67,199	-969	1,994	0	0	3	0	2,719	0	0	-241	0
28	3346.92	67,309	110	2,199	0	0	3	0	2,061	0	0	-25	0
29	3349.03	69,266	1,957	3,547	0	0	4	0	1,713	0	1	128	0
30	3349.17	69,397	131	2,230	0	0	3	0	2,191	0	0	95	0
31	3349.04	69,276	-121	1,974	0	0	3	1	1,939	0	0	-152	0
Total			-675	69,435	0	0	118	6	69,666	0	11	-309	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2000

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3349.04	69,276											
1	3349.72	69,913	637	2,881	0	0	3	0	2,496	0	0	255	0
2	3349.26	69,482	-431	2,036	0	0	3	0	2,307	0	0	-157	0
3	3348.47	68,744	-738	1,947	0	0	3	0	2,546	0	1	-135	0
4	3347.97	68,279	-465	2,139	0	0	3	0	2,594	0	0	-7	0
5	3348.71	68,968	689	3,204	0	0	3	0	2,642	0	0	130	0
6	3347.61	67,946	-1,022	1,820	0	0	3	0	2,709	0	1	-129	0
7	3347.23	67,595	-351	2,043	0	0	3	0	2,505	0	0	114	0
8	3346.65	67,061	-534	2,172	0	0	3	0	2,717	0	0	14	0
9	3346.50	66,923	-138	2,832	0	0	2	1	2,879	0	1	-87	0
10	3346.61	67,024	101	2,698	0	0	3	0	2,700	0	0	106	0
11	3346.75	67,153	129	2,899	0	0	3	0	2,675	0	1	-91	0
12	3347.85	68,168	1,015	3,587	0	0	3	0	2,647	0	0	78	0
13	3347.90	68,215	47	3,022	0	0	3	0	2,880	0	1	-91	0
14	3348.32	68,605	390	2,786	0	0	3	0	2,343	0	0	-50	0
15	3347.74	68,066	-539	2,319	0	0	3	0	2,951	0	0	96	0
16	3347.28	67,641	-425	2,127	0	0	3	0	2,602	0	0	53	0
17	3346.85	67,245	-396	2,210	0	0	3	0	2,577	0	1	-25	0
18	3346.91	67,300	55	2,585	0	0	2	1	2,583	0	0	56	0
19	3347.77	68,094	794	3,598	0	0	3	0	2,732	0	0	-69	0
20	3347.48	67,826	-268	2,221	0	0	3	0	2,478	0	1	-7	0
21	3346.46	66,887	-939	1,894	0	0	3	0	2,885	0	0	55	0
22	3346.07	66,529	-358	2,530	0	0	3	0	2,874	0	0	-11	0
23	3347.05	67,429	900	3,387	0	0	3	0	2,496	0	1	13	0
24	3347.27	67,632	203	3,082	0	0	3	0	2,881	0	0	5	0
25	3347.16	67,530	-102	2,423	0	0	3	0	2,553	0	1	32	0
26	3347.52	67,863	333	3,230	0	0	2	0	2,718	0	0	-177	0
27	3347.02	67,401	-462	2,206	0	0	3	0	2,705	0	0	40	0
28	3346.37	66,804	-597	1,892	0	0	3	0	2,577	0	1	92	0
29	3345.44	65,954	-850	1,690	0	0	3	0	2,571	0	0	34	0
30	3344.69	65,273	-681	2,167	0	0	2	0	2,735	0	0	-111	0
Total			-4,003	75,627	0	0	86	2	79,558	0	10	26	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2000

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3344.69	65,273											
1	3344.59	65,183	-90	2,674	0	0	3	0	2,687	0	0	-74	0
2	3345.35	65,873	690	3,424	13	0	3	0	2,794	0	0	50	0
3	3346.55	66,969	1,096	3,859	0	0	3	0	2,794	0	0	34	0
4	3346.61	67,024	55	2,993	0	1	3	0	2,956	0	1	21	0
5	3345.24	65,772	-1,252	1,154	0	0	3	0	2,530	0	0	127	0
6	3345.85	66,328	556	3,385	0	1	4	0	2,902	0	0	76	0
7	3346.28	66,722	394	3,347	0	0	4	0	2,742	0	1	-206	0
8	3346.92	67,309	587	3,600	0	1	4	0	2,934	0	0	-76	0
9	3348.37	68,651	1,342	3,785	0	0	4	0	2,570	0	0	131	0
10	3349.50	69,707	1,056	3,870	0	1	4	0	2,968	0	1	158	0
11	3350.06	70,233	526	3,554	0	0	4	1	2,946	0	0	-77	0
12	3350.19	70,355	122	2,813	0	1	5	0	2,689	0	0	2	0
13	3350.76	70,894	539	3,399	0	0	4	0	2,714	0	1	-141	0
14	3350.95	71,074	180	3,306	0	1	4	0	2,986	0	0	-137	0
15	3351.46	71,558	484	2,893	0	0	0	0	2,392	0	0	-17	0
16	3351.45	71,548	-10	2,989	0	1	7	0	2,837	0	1	-155	0
17	3351.45	71,545	-3	2,470	0	0	4	0	2,781	0	0	312	0
18	3351.26	71,368	-177	2,448	22	1	4	0	2,741	0	0	97	0
19	3351.25	71,359	-9	2,610	0	0	3	0	2,590	0	1	-25	0
20	3351.17	71,283	-76	2,284	0	1	4	0	2,439	0	0	82	0
21	3351.57	71,663	380	2,893	0	1	8	0	2,459	0	0	-47	0
22	3351.47	71,568	-95	2,418	0	1	0	1	2,427	0	1	-85	0
23	3351.08	71,197	-371	2,275	0	1	5	0	2,664	0	0	22	0
24	3351.27	71,378	181	2,389	0	1	7	0	2,280	0	0	78	0
25	3352.25	72,312	934	2,985	0	1	6	0	2,045	0	1	0	0
26	3352.86	72,897	585	2,988	0	1	1	0	2,392	0	0	-11	0
27	3352.56	72,609	-288	2,214	0	1	1	0	2,498	0	0	-4	0
28	3352.51	72,561	-48	2,317	0	1	1	0	2,320	0	1	-44	0
29	3353.00	73,032	471	2,555	0	1	1	0	2,134	0	0	50	0
30	3353.14	73,166	134	2,182	0	1	1	0	2,039	0	0	-9	0
31	3352.49	72,542	-624	1,829	0	0	0	0	2,396	0	1	-56	0
Total			7,269	87,902	35	19	105	2	80,646	0	10	76	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3352.49	72,542											
1	3352.11	72,178	-364	2,134	0	1	4	0	2,569	0	0	74	0
2	3352.46	72,513	335	2,726	0	1	4	0	2,456	0	1	69	0
3	3352.07	72,140	-373	2,080	0	1	5	0	2,345	0	0	-104	0
4	3351.96	72,035	-105	2,258	0	1	3	0	2,312	0	1	-48	0
5	3351.78	71,863	-172	2,590	0	1	5	0	2,800	0	0	42	0
6	3351.48	71,577	-286	1,940	0	1	3	0	2,250	0	1	27	0
7	3350.89	71,017	-560	2,145	0	1	5	0	2,731	0	0	30	0
8	3350.73	70,865	-152	2,259	0	1	3	1	2,454	0	1	47	0
9	3350.80	70,932	67	2,286	0	2	4	0	2,240	0	0	23	0
10	3350.99	71,112	180	2,011	0	4	3	0	2,040	0	1	209	0
11	3351.05	71,169	57	497	593	44	1	0	1,153	0	0	77	0
12	3352.56	72,609	1,440	2,465	0	10	0	0	988	0	1	-46	5
13	3352.89	72,926	317	1,836	0	6	3	0	1,558	0	0	36	8
14	3352.99	73,022	96	1,784	0	5	3	0	1,674	0	1	-15	8
15	3353.19	73,214	192	2,012	0	4	4	0	1,816	0	0	-4	8
16	3353.59	73,600	386	1,670	0	4	3	0	1,328	0	1	44	8
17	3353.31	73,330	-270	1,452	0	3	4	0	1,627	0	0	-94	6
18	3353.33	73,349	19	1,357	0	3	3	0	1,290	0	1	-47	5
19	3353.15	73,176	-173	848	0	3	5	1	1,163	0	0	145	5
20	3353.35	73,369	193	1,344	101	3	5	0	1,203	0	0	-47	5
21	3352.84	72,878	-491	0	0	3	4	0	607	0	0	117	5
22	3352.20	72,264	-614	254	0	3	3	0	805	0	1	-62	4
23	3351.87	71,949	-315	573	9	3	4	0	975	0	0	79	2
24	3352.29	72,350	401	1,176	0	4	3	0	713	0	0	-63	2
25	3351.84	71,920	-430	342	0	4	4	0	804	0	0	32	2
26	3352.42	72,475	555	1,078	0	4	3	0	528	0	0	4	2
27	3352.60	72,647	172	623	0	4	3	0	470	0	0	18	2
28	3352.59	72,638	-9	613	0	5	4	0	602	0	1	-20	2
29	3351.92	71,997	-641	413	0	5	4	0	1,084	0	0	29	2
30	3350.79	70,922	-1,075	532	0	5	5	0	1,569	0	1	-37	2
31	3350.90	71,026	104	1,611	0	4	4	0	1,569	0	0	62	2
Total			-1,516	44,909	703	142	112	2	47,723	0	12	579	84

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.90	71,026											
1	3350.77	70,903	-123	1,263	0	4	3	0	1,460	0	1	74	2
2	3350.25	70,412	-491	1,081	0	4	2	1	1,578	0	0	5	2
3	3349.85	70,030	-382	1,080	0	4	3	0	1,528	0	1	66	2
4	3349.89	70,073	43	1,383	0	4	3	0	1,315	0	0	-26	2
5	3350.02	70,195	122	907	0	4	3	0	711	0	1	-74	2
6	3350.56	70,705	510	961	0	5	1	0	689	0	0	234	2
7	3350.51	70,657	-48	891	0	7	0	0	721	0	1	-224	2
8	3350.84	70,970	313	831	0	6	4	0	559	0	0	39	2
9	3350.63	70,771	-199	740	0	5	5	0	1,115	0	1	177	2
10	3349.57	69,772	-999	847	0	6	4	0	1,715	0	0	-133	2
11	3349.52	69,725	-47	1,227	0	5	5	0	1,367	0	1	94	2
12	3349.67	69,866	141	964	0	123	5	1	1,319	0	1	380	2
13	3350.55	70,695	829	1,383	0	193	3	0	1,165	0	1	422	2
14	3350.52	70,667	-28	1,429	0	99	3	0	1,396	0	1	-156	2
15	3350.79	70,922	255	1,129	0	65	4	0	1,001	0	48	114	8
16	3349.58	69,782	-1,140	651	0	45	4	0	1,615	0	36	-181	10
17	3349.25	69,472	-310	986	0	37	5	0	1,460	0	0	132	12
18	3349.25	69,472	0	1,450	0	34	5	0	1,448	0	1	-30	10
19	3349.45	69,660	188	995	0	119	4	0	1,148	0	1	227	10
20	3349.50	69,707	47	1,011	0	289	5	0	1,223	0	49	24	16
21	3349.35	69,566	-141	785	0	114	4	0	1,032	0	104	100	20
22	3349.25	69,472	-94	1,022	0	84	3	0	942	0	104	-151	20
23	3349.36	69,575	103	991	0	70	4	0	1,098	0	1	145	20
24	3348.50	68,772	-803	750	0	63	3	0	1,680	0	0	67	20
25	3349.27	69,491	719	1,799	0	145	4	0	1,085	0	1	-135	20
26	3349.23	69,454	-37	693	0	225	3	0	1,198	0	54	300	26
27	3348.60	68,865	-589	812	0	145	4	0	1,144	0	100	-298	26
28	3348.57	68,837	-28	947	0	132	4	0	1,211	0	99	207	36
Total			-2,189	29,008	0	2,036	100	2	33,923	0	607	1,399	282

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3348.57	68,837											
1	3348.23	68,521	-316	960	0	106	3	0	1,206	0	87	-86	40
2	3347.72	68,048	-473	1,209	0	86	3	0	1,618	0	75	-72	40
3	3347.24	67,604	-444	1,014	0	72	3	0	1,459	0	29	-39	40
4	3348.15	68,447	843	2,234	0	66	3	0	1,476	0	1	23	40
5	3348.31	68,595	148	1,171	0	67	3	0	1,134	0	0	47	40
6	3348.24	68,530	-65	1,158	0	141	3	0	1,138	0	40	-183	40
7	3349.17	69,397	867	2,002	0	155	3	1	1,252	0	101	67	42
8	3349.81	69,998	601	1,653	0	117	3	0	1,120	0	102	56	46
9	3350.43	70,582	584	1,480	0	104	4	0	1,106	0	0	110	46
10	3350.07	70,242	-340	1,010	0	110	3	0	1,690	0	1	234	46
11	3350.04	70,214	-28	1,352	0	94	3	0	1,347	0	0	-124	46
12	3350.18	70,346	132	1,393	0	80	3	0	1,364	0	1	27	46
13	3349.47	69,678	-668	1,013	0	69	4	0	1,584	0	59	-103	44
14	3348.78	69,033	-645	1,071	0	63	3	0	1,624	0	101	-51	44
15	3348.51	68,781	-252	1,279	0	58	3	0	1,527	0	36	-23	46
16	3347.23	67,595	-1,186	1,031	0	55	3	0	2,383	0	1	115	46
17	3346.82	67,217	-378	1,387	0	52	3	0	1,772	0	0	-42	46
18	3347.95	68,261	1,044	3,222	0	49	3	0	2,176	0	1	-47	46
19	3347.58	67,918	-343	1,645	0	48	3	0	2,220	0	0	187	46
20	3346.89	67,282	-636	963	0	49	3	0	1,751	0	1	107	46
21	3346.02	66,484	-798	1,120	0	48	4	0	1,782	0	0	-180	46
22	3345.97	66,438	-46	1,584	0	45	3	0	1,580	0	1	-91	46
23	3346.26	66,703	265	1,888	0	39	3	0	1,768	0	0	109	46
24	3347.43	67,780	1,077	2,489	0	36	3	0	1,419	0	1	-25	42
25	3349.01	69,248	1,468	3,679	0	34	3	0	1,871	0	0	-371	40
26	3349.51	69,716	468	2,423	0	31	3	0	1,861	0	1	-121	40
27	3350.92	71,045	1,329	2,447	0	29	4	0	1,699	0	0	556	40
28	3351.58	71,672	627	2,454	0	27	3	0	1,807	0	1	-43	40
29	3352.11	72,178	506	2,397	0	26	3	0	1,840	0	0	-74	40
30	3352.00	72,073	-105	1,720	0	25	3	0	1,897	0	0	50	40
31	3351.71	71,796	-277	1,526	0	22	4	0	1,825	0	0	4	36
Total			2,959	51,974	0	2,003	98	1	50,296	0	641	18	1,321

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3351.71	71,796											
1	3351.91	71,987	191	2,029	0	21	3	0	1,900	0	0	44	32
2	3351.24	71,349	-638	1,593	0	19	3	0	2,231	0	1	-15	32
3	3350.90	71,026	-323	1,574	0	18	3	0	1,890	0	0	-22	32
4	3350.22	70,384	-642	1,411	0	18	3	0	2,186	0	1	119	32
5	3349.72	69,913	-471	1,772	0	17	4	0	2,210	0	0	-46	32
6	3348.94	69,182	-731	1,641	0	16	3	1	2,415	0	1	32	27
7	3349.77	69,960	778	2,472	0	102	3	0	1,843	0	0	50	26
8	3351.62	71,710	1,750	3,417	0	61	4	0	1,721	0	1	-2	24
9	3351.53	71,625	-85	1,648	0	45	3	0	1,810	0	28	63	24
10	3351.47	71,568	-57	2,132	0	40	3	0	2,221	0	34	29	24
11	3351.23	71,340	-228	1,924	0	40	4	0	2,305	0	0	117	24
12	3350.72	70,856	-484	1,535	0	41	3	0	2,009	0	1	-47	24
13	3350.47	70,620	-236	1,506	0	41	3	1	1,816	0	0	37	24
14	3350.35	70,506	-114	1,726	0	41	4	0	1,856	0	1	-20	24
15	3352.04	72,111	1,605	3,117	0	37	3	0	1,600	0	0	54	24
16	3351.33	71,435	-676	1,452	0	34	3	0	2,160	0	1	2	24
17	3351.02	71,140	-295	1,315	0	32	4	1	1,670	0	0	33	24
18	3350.71	70,847	-293	1,735	0	25	3	0	1,922	0	1	-127	24
19	3350.49	70,639	-208	1,667	0	29	3	0	1,675	0	0	-226	24
20	3350.27	70,431	-208	805	0	29	3	0	1,346	0	1	308	24
21	3350.52	70,667	236	1,179	0	78	4	0	1,316	0	0	299	24
22	3351.60	71,691	1,024	2,541	0	48	3	0	1,502	0	1	-59	24
23	3351.86	71,939	248	1,469	0	41	3	1	1,369	0	0	111	24
24	3351.58	71,672	-267	1,138	0	37	3	0	1,457	0	1	19	24
25	3351.69	71,777	105	1,376	0	35	4	0	1,366	0	0	64	24
26	3351.06	71,178	-599	1,079	0	34	3	0	1,617	0	1	-91	24
27	3350.63	70,771	-407	1,049	0	31	3	0	1,512	0	0	28	24
28	3349.61	69,810	-961	966	0	31	3	0	1,950	0	1	-4	24
29	3350.67	70,809	999	2,656	0	28	3	0	1,730	0	0	48	24
30	3349.39	69,603	-1,206	983	0	25	3	0	2,131	0	0	-80	24
Total			-2,193	50,907	0	1094	97	4	54,736	0	75	718	765

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3349.39	69,603											
1	3348.28	68,567	-1,036	709	0	24	2	1	1,652	0	0	-114	24
2	3348.18	68,474	-93	1,706	0	23	3	0	1,783	0	1	-35	24
3	3348.22	68,512	38	1,417	0	21	3	0	1,536	0	0	139	24
4	3347.60	67,937	-575	1,561	0	19	3	1	1,970	0	0	-181	24
5	3347.25	67,613	-324	1,497	0	18	0	0	1,874	0	1	36	24
6	3348.89	69,136	1,523	2,988	0	17	0	0	1,503	0	0	21	24
7	3348.27	68,558	-578	1,291	0	15	18	1	1,958	0	0	93	24
8	3347.49	67,835	-723	1,245	0	14	4	0	1,989	0	1	12	24
9	3347.26	67,623	-212	1,677	0	14	0	0	1,902	0	0	-1	24
10	3346.74	67,144	-479	1,547	0	13	8	1	1,907	0	0	-123	24
11	3346.60	67,015	-129	1,804	0	12	4	0	2,019	0	0	78	24
12	3346.44	66,868	-147	1,684	0	13	0	0	1,862	0	1	19	24
13	3348.22	68,512	1,644	3,561	0	13	0	1	1,949	0	0	20	24
14	3349.14	69,369	857	3,220	0	11	11	0	2,326	0	1	-36	24
15	3349.81	69,998	629	2,658	0	11	3	0	1,983	0	0	-54	23
16	3350.00	70,176	178	2,031	0	10	2	1	1,946	0	1	87	23
17	3350.85	70,979	803	2,350	0	10	3	0	1,815	0	0	261	23
18	3351.35	71,454	475	2,330	0	10	3	0	1,843	0	1	-18	21
19	3351.37	71,473	19	1,966	0	9	4	1	1,882	0	0	-69	20
20	3351.97	72,039	566	2,728	0	8	4	0	2,130	0	1	-35	20
21	3351.69	71,777	-262	1,798	0	8	4	0	1,833	0	0	-231	20
22	3351.30	71,406	-371	1,479	0	7	3	1	2,027	0	1	175	20
23	3351.40	71,501	95	2,439	0	7	5	0	2,117	0	0	-229	20
24	3352.16	72,226	725	2,486	0	6	6	0	2,004	0	1	244	20
25	3352.46	72,513	287	2,407	0	6	5	1	2,043	0	0	-77	17
26	3352.63	72,676	163	1,978	0	5	6	0	1,865	0	1	52	16
27	3352.29	72,350	-326	1,826	0	5	6	0	1,970	0	0	-181	16
28	3352.90	72,935	585	2,364	0	5	5	1	1,908	0	1	131	16
29	3352.69	72,734	-201	1,728	0	5	6	0	1,982	0	0	54	16
30	3352.84	72,878	144	2,285	0	4	6	0	2,095	0	1	-43	12
31	3353.00	73,032	154	2,100	0	4	6	0	1,887	0	0	-57	10
Total			3,429	62,860	0	347	133	10	59,560	0	13	-62	649

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3353.00	73,032											
1	3352.69	72,734	-298	1,838	0	4	6	0	2,001	0	0	-133	10
2	3352.69	72,734	0	1,603	0	4	7	0	1,712	0	1	113	10
3	3352.19	72,255	-479	1,364	0	4	5	1	1,929	0	0	88	10
4	3352.21	72,274	19	1,933	0	4	8	0	1,868	0	1	-41	10
5	3352.19	72,255	-19	1,829	0	4	5	0	1,863	0	0	16	8
6	3352.40	72,456	201	2,072	0	3	6	1	1,873	0	1	7	10
7	3352.04	72,111	-345	1,604	0	3	5	0	1,781	0	0	-166	10
8	3352.04	72,111	0	1,768	0	3	6	0	1,890	0	1	126	7
9	3351.75	71,834	-277	1,305	0	2	5	1	1,572	0	0	-6	6
10	3351.90	71,977	143	2,026	0	2	4	0	1,862	0	0	-19	6
11	3351.87	71,949	-28	2,220	0	2	4	0	2,274	0	1	29	6
12	3351.44	71,539	-410	1,792	0	3	3	1	2,090	0	0	-111	6
13	3350.86	70,989	-550	1,661	0	3	4	0	2,239	0	1	30	6
14	3350.60	70,742	-247	2,041	0	2	5	0	2,307	0	0	22	6
15	3350.23	70,393	-349	1,805	0	2	4	1	2,184	0	1	34	6
16	3349.73	69,922	-471	1,637	0	2	4	0	2,134	0	0	28	6
17	3350.27	70,431	509	2,378	0	2	5	0	1,779	0	0	-87	6
18	3350.65	70,790	359	2,224	0	1	5	1	1,914	0	1	55	6
19	3350.21	70,374	-416	1,728	0	1	6	0	2,124	0	0	-15	5
20	3350.05	70,223	-151	1,714	0	1	5	0	1,929	0	1	69	5
21	3350.17	70,337	114	1,960	0	1	5	1	1,825	0	0	-16	5
22	3349.56	69,763	-574	1,975	0	1	6	0	2,380	0	1	-163	5
23	3349.11	69,341	-422	1,811	0	1	6	0	2,159	0	0	-69	5
24	3350.41	70,563	1,222	3,487	0	1	5	1	2,402	0	0	142	5
25	3349.63	69,829	-734	1,684	0	0	6	0	2,385	0	0	-27	5
26	3349.31	69,528	-301	2,034	0	0	6	0	2,343	0	1	15	5
27	3348.95	69,192	-336	2,182	0	0	6	1	2,329	0	0	-182	5
28	3348.83	69,080	-112	2,164	0	0	6	0	2,388	0	1	119	4
29	3348.43	68,707	-373	2,022	0	0	7	0	2,364	0	0	-24	3
30	3349.09	69,323	616	2,509	0	0	5	1	1,932	0	0	45	2
Total			-3,709	58,370	0	56	160	10	61,832	0	12	-121	189

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3349.09	69,323											
1	3350.55	70,694	1,371	3,637	0	0	6	0	2,236	0	0	-24	4
2	3351.12	71,235	541	2,625	0	0	6	0	2,120	0	1	43	4
3	3351.07	71,188	-47	2,179	0	0	6	1	2,106	0	0	-113	4
4	3350.90	71,026	-162	2,155	0	0	9	0	2,295	0	1	-12	2
5	3350.85	70,979	-47	2,060	0	0	7	0	2,224	0	0	124	2
6	3351.04	71,159	180	2,232	0	0	6	1	2,002	0	0	-43	2
7	3350.38	70,535	-624	1,576	0	0	6	0	2,228	0	0	34	0
8	3351.85	71,930	1,395	3,658	0	0	6	0	2,183	0	0	-74	0
9	3352.14	72,207	277	2,282	0	0	5	1	2,053	0	1	55	2
10	3351.63	71,720	-487	1,951	0	0	6	0	2,431	0	0	-1	2
11	3351.15	71,264	-456	2,100	0	0	5	1	2,507	0	1	-42	2
12	3350.84	70,970	-294	1,816	0	0	6	0	2,103	0	0	-1	2
13	3350.73	70,865	-105	1,985	0	0	5	1	2,058	0	1	-25	2
14	3350.81	70,941	76	1,947	0	0	6	0	1,818	0	0	-47	2
15	3351.68	71,768	827	2,820	0	0	5	1	1,997	0	0	10	2
16	3351.57	71,663	-105	1,977	0	0	6	0	2,024	0	1	-51	2
17	3351.40	71,501	-162	1,741	0	0	5	1	1,943	0	0	46	2
18	3351.32	71,425	-76	1,912	0	0	4	0	1,906	0	1	-77	2
19	3351.38	71,482	57	1,936	0	0	3	1	1,902	0	0	27	2
20	3350.92	71,045	-437	1,602	0	0	6	0	1,918	0	0	-115	2
21	3350.66	70,799	-246	1,440	0	0	5	1	1,795	0	0	115	2
22	3351.37	71,473	674	2,674	0	0	6	0	1,917	0	1	-76	2
23	3351.55	71,644	171	2,042	0	0	5	1	1,826	0	0	-39	2
24	3351.22	71,330	-314	1,621	0	0	5	0	1,934	0	1	5	2
25	3350.92	71,045	-285	1,855	0	0	6	1	2,173	0	0	40	2
26	3350.93	71,055	10	2,088	0	0	6	0	1,995	0	1	-76	2
27	3350.59	70,733	-322	1,688	0	0	6	1	2,006	0	0	3	2
28	3350.49	70,639	-94	1,887	0	0	7	0	1,973	0	1	0	2
29	3350.82	70,951	312	2,418	0	0	6	1	2,076	0	0	-23	2
30	3350.62	70,761	-190	2,014	0	0	7	0	2,186	0	1	-10	2
31	3350.17	70,337	-424	1,835	0	0	7	0	2,147	0	0	-105	2
Total			1,014	65,753	0	0	180	13	64,082	0	12	-452	64

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.17	70,337											
1	3350.08	70,252	-85	2,175	0	0	7	0	2,301	0	0	48	2
2	3349.35	69,566	-686	1,436	0	0	6	1	2,112	0	1	-2	0
3	3349.33	69,547	-19	1,896	0	0	8	0	1,851	0	0	-56	1
4	3349.23	69,454	-93	1,633	0	0	7	0	1,722	0	0	3	2
5	3350.93	71,055	1,601	3,669	0	0	6	1	2,049	0	1	-11	2
6	3351.31	71,416	361	2,459	0	0	7	0	2,062	0	0	-29	2
7	3351.11	71,226	-190	1,910	0	0	6	1	1,964	0	1	-128	2
8	3350.77	70,903	-323	1,715	0	0	7	0	2,183	0	0	152	2
9	3350.29	70,450	-453	1,799	0	0	6	0	2,242	0	0	-4	2
10	3350.09	70,261	-189	1,686	0	0	6	0	1,814	0	0	-55	2
11	3349.47	69,678	-583	1,625	0	0	5	1	2,221	0	1	20	2
12	3351.53	71,625	1,947	3,828	0	0	5	1	1,795	0	1	-79	2
13	3351.56	71,653	28	2,424	0	0	6	0	2,397	0	0	7	2
14	3351.71	71,796	143	2,158	0	0	5	1	1,836	0	1	-172	2
15	3351.72	71,806	10	1,969	0	0	6	0	2,104	0	0	151	2
16	3351.26	71,368	-438	1,802	0	0	6	0	2,258	0	0	24	2
17	3350.66	70,799	-569	1,724	0	0	7	1	2,204	0	1	-80	2
18	3350.26	70,421	-378	1,728	0	0	7	0	2,102	0	0	3	1
19	3351.52	71,615	1,194	2,953	0	0	8	0	1,743	0	0	-8	2
20	3351.45	71,549	-66	2,053	0	0	7	1	1,880	0	1	-230	2
21	3351.34	71,444	-105	1,736	0	0	8	0	1,839	0	0	6	2
22	3351.18	71,292	-152	1,686	0	0	8	0	1,919	0	0	89	2
23	3350.99	71,112	-180	1,779	0	0	7	1	1,997	0	1	47	2
24	3350.14	70,308	-804	1,447	0	0	8	0	2,141	0	0	-102	2
25	3349.91	70,092	-216	1,710	0	0	8	0	1,973	0	0	55	2
26	3350.81	70,941	849	2,872	0	0	6	1	1,956	0	1	-59	2
27	3350.62	70,761	-180	1,670	0	0	8	0	1,860	0	0	18	2
28	3350.21	70,374	-387	1,754	0	0	7	0	2,149	0	0	15	2
29	3349.50	69,707	-667	1,808	0	0	7	1	2,353	0	1	-113	2
30	3349.12	69,351	-356	1,750	0	0	8	0	2,152	0	0	54	2
31	3348.75	69,005	-346	1,668	0	0	6	1	2,020	0	1	14	2
Total			-1,332	62,522	0	0	209	12	63,199	0	12	-422	58

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3348.75	69,005											
1	3348.68	68,940	-65	1,747	0	0	7	0	1,910	0	0	105	2
2	3350.40	70,554	1,614	3,565	0	0	5	1	1,864	0	1	-80	2
3	3351.71	71,796	1,242	3,314	0	0	7	0	2,060	0	0	-5	2
4	3351.70	71,787	-9	2,134	0	0	5	1	2,090	0	1	-46	2
5	3351.89	71,968	181	2,112	0	0	7	0	1,856	0	0	-68	2
6	3351.79	71,873	-95	2,000	0	0	7	0	2,209	0	1	122	2
7	3351.74	71,825	-48	1,815	0	0	6	0	1,839	0	0	-18	2
8	3351.45	71,549	-276	1,967	0	0	6	1	2,034	0	1	-201	2
9	3352.63	72,676	1,127	2,764	0	0	13	0	1,750	0	0	126	2
10	3352.32	72,379	-297	1,752	0	0	7	0	1,972	0	1	-69	2
11	3352.47	72,523	144	2,039	0	0	6	1	1,919	0	0	31	2
12	3352.42	72,475	-48	1,803	0	0	6	0	1,876	0	0	31	2
13	3352.51	72,561	86	1,882	0	0	6	0	1,712	0	0	-78	2
14	3352.41	72,465	-96	1,754	0	0	6	1	1,939	0	0	96	2
15	3352.70	72,743	278	1,885	0	0	6	0	1,593	0	1	-7	2
16	3352.89	72,926	183	1,913	0	0	7	0	1,645	0	0	-78	3
17	3353.00	73,032	106	2,044	0	0	5	1	1,932	0	1	1	3
18	3352.72	72,762	-270	1,743	0	0	7	0	1,852	0	0	-154	3
19	3352.39	72,446	-316	1,746	0	0	7	0	1,991	0	1	-63	3
20	3352.59	72,638	192	1,777	0	0	6	1	1,764	0	0	186	3
21	3352.02	72,092	-546	1,270	0	0	5	0	1,773	0	1	-37	3
22	3351.57	71,663	-429	1,478	0	0	7	0	1,933	0	0	33	3
23	3351.47	71,568	-95	1,579	0	0	6	1	1,664	0	1	-2	3
24	3350.46	70,610	-958	0	0	0	7	0	1,700	0	0	749	3
25	3349.61	69,810	-800	1,484	0	0	4	1	2,026	0	0	-253	3
26	3350.75	70,884	1,074	2,696	0	0	5	1	1,757	0	0	141	3
27	3351.56	71,653	769	2,646	0	0	5	0	1,929	0	1	58	3
28	3351.17	71,283	-370	1,778	0	0	5	0	2,059	0	0	-84	3
29	3350.63	70,771	-512	1,598	0	0	4	1	2,046	0	0	-59	3
30	3351.48	71,577	806	2,714	0	0	2	0	1,896	0	0	-10	3
Total			2,572	58,999	0	0	182	11	56,590	0	11	367	75

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.48	71,577											
1	3351.81	71,892	315	2,017	0	0	6	0	1,813	0	0	117	3
2	3351.28	71,387	-505	1,532	0	0	5	0	2,058	0	1	27	2
3	3351.15	71,264	-123	1,816	0	0	6	0	1,809	0	0	-124	3
4	3351.02	71,140	-124	2,118	0	0	7	1	2,054	0	1	-179	2
5	3350.18	70,346	-794	1,556	0	0	7	0	2,315	0	0	-28	3
6	3350.11	70,280	-66	2,121	0	0	5	0	1,999	0	1	-182	2
7	3351.32	71,425	1,145	3,334	0	0	6	0	2,031	0	0	-152	3
8	3351.37	71,473	48	2,231	0	0	5	1	2,281	0	1	105	2
9	3350.90	71,026	-447	1,674	0	0	6	0	2,074	0	0	-41	3
10	3350.20	70,365	-661	1,784	0	0	6	0	2,363	0	1	-75	2
11	3350.20	70,365	0	1,986	0	0	6	0	1,984	0	0	4	3
12	3350.20	70,365	0	1,850	0	0	5	1	1,861	0	1	18	2
13	3350.40	70,554	189	1,956	0	0	6	0	1,896	0	1	136	3
14	3352.42	72,475	1,921	3,764	0	0	6	0	1,745	0	0	-92	2
15	3352.51	72,561	86	2,062	0	0	5	1	1,856	0	0	-114	3
16	3352.34	72,398	-163	1,520	0	0	5	0	1,828	0	0	150	3
17	3352.03	72,102	-296	1,775	0	0	6	0	2,068	0	1	4	3
18	3352.04	72,111	9	1,941	0	0	5	0	1,891	0	0	-36	3
19	3352.18	72,245	134	2,052	0	0	5	1	1,855	0	0	-57	3
20	3352.14	72,207	-38	1,780	0	0	6	0	1,857	0	1	46	3
21	3351.75	71,834	-373	1,801	0	0	6	0	2,100	0	0	-68	3
22	3351.13	71,245	-589	1,345	0	0	5	1	2,020	0	0	92	3
23	3350.48	70,629	-616	1,577	0	0	0	0	2,160	0	0	-33	3
24	3350.10	70,271	-358	1,748	0	0	8	0	1,961	0	1	-136	3
25	3349.86	70,045	-226	1,861	0	0	4	1	2,269	0	0	187	3
26	3349.34	69,557	-488	1,492	0	0	4	0	0	0	0	-1,976	3
27	3349.09	69,323	-234	1,890	0	0	4	0	2,116	0	0	-4	3
28	3351.26	71,368	2,045	3,765	0	0	0	0	3,630	0	1	1,911	3
29	3351.59	71,682	314	1,597	0	0	8	1	1,231	0	0	-43	3
30	3352.25	72,312	630	1,562	0	0	6	0	964	0	0	38	3
31	3352.44	72,494	182	1,330	0	0	8	0	1,045	0	1	-94	3
Total			917	60,837	0	0	167	8	59,134	0	12	-599	86

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3352.44	72,494											
1	3352.60	72,647	153	1,552	0	0	5	0	1,446	0	0	52	3
2	3352.36	72,417	-230	1,654	0	0	7	0	1,875	0	0	-2	3
3	3350.69	70,828	-1,589	628	0	0	5	0	2,215	0	1	4	3
4	3350.68	70,818	-10	1,856	0	0	6	0	1,879	0	0	19	3
5	3349.83	70,016	-802	1,252	0	0	3	0	1,968	0	0	-83	3
6	3347.99	68,298	-1,718	585	0	0	4	1	2,332	0	1	35	3
7	3347.78	68,103	-195	1,659	0	0	5	0	1,909	0	0	60	3
8	3347.35	67,706	-397	1,776	0	0	3	0	2,248	0	0	78	3
9	3346.69	67,098	-608	1,596	0	0	4	0	2,177	0	1	-22	3
10	3346.26	66,703	-395	1,624	0	0	4	0	2,055	0	0	40	3
11	3344.02	64,668	-2,035	219	0	0	4	0	2,139	0	1	-110	3
12	3342.39	63,209	-1,459	396	0	0	4	0	2,001	0	0	150	3
13	3342.59	63,387	178	1,799	0	0	4	0	1,604	0	1	-12	3
14	3343.47	64,174	787	2,661	0	0	4	0	1,907	0	0	37	3
15	3344.01	64,659	485	2,497	0	0	5	0	1,915	0	1	-91	2
16	3344.65	65,237	578	2,442	0	0	4	0	2,065	0	0	205	2
17	3345.04	65,591	354	2,396	0	0	3	1	2,000	0	1	-37	2
18	3346.61	67,024	1,433	3,569	0	0	4	0	2,052	0	0	-80	2
19	3347.42	67,770	746	2,850	0	0	5	0	2,194	0	0	95	2
20	3347.62	67,955	185	2,258	0	0	4	0	2,111	0	1	43	0
21	3347.88	68,196	241	2,590	0	0	3	0	2,303	0	0	-43	0
22	3348.50	68,772	576	2,538	0	0	4	0	1,975	0	0	17	0
23	3348.82	69,070	298	2,663	0	0	3	0	2,359	0	1	-2	0
24	3348.83	69,080	10	1,952	0	0	4	0	2,052	0	0	114	0
25	3349.70	69,894	814	2,845	0	0	2	1	1,980	0	0	-48	0
26	3350.76	70,894	1,000	2,460	0	0	3	0	1,593	0	1	137	0
27	3351.01	71,131	237	1,470	0	0	3	0	1,218	0	0	-12	0
28	3350.98	71,102	-29	1,445	0	0	3	0	1,491	0	0	20	0
29	3351.62	71,711	609	1,396	0	0	3	0	726	0	1	-57	0
30	3352.46	72,513	802	1,571	0	0	2	0	752	0	0	-15	0
Total			19	56,199	0	0	118	3	56,541	0	11	493	52

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2001

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3352.46	72,513											
1	3351.98	72,054	-459	516	0	0	8	0	1,031	0	0	64	0
2	3352.06	72,130	76	695	0	0	3	0	513	0	1	-102	0
3	3352.26	72,322	192	1,072	0	0	4	0	917	0	0	41	0
4	3351.59	71,682	-640	688	0	0	3	0	1,325	0	1	1	0
5	3351.91	71,987	305	2,361	0	0	1	0	1,850	0	0	-205	0
6	3351.13	71,245	-742	1,053	0	0	0	0	1,813	0	1	19	0
7	3350.38	70,535	-710	1,120	0	0	1	0	1,849	0	0	20	0
8	3349.49	69,697	-838	1,104	0	0	5	0	2,014	0	1	78	0
9	3349.53	69,735	38	1,538	0	0	5	0	1,467	0	0	-28	0
10	3349.63	69,829	94	1,843	0	0	4	0	1,712	0	1	-32	0
11	3350.13	70,299	470	2,112	0	0	3	1	1,652	0	0	14	0
12	3350.84	70,970	671	2,425	0	0	3	0	1,644	0	0	-107	0
13	3351.21	71,321	351	1,925	0	0	3	0	1,602	0	0	31	0
14	3351.51	71,606	285	1,612	0	0	3	0	1,297	0	0	-27	0
15	3351.60	71,691	85	1,044	0	1	4	0	1,045	0	0	89	0
16	3352.30	72,360	669	1,476	0	1	3	0	643	0	1	-161	0
17	3352.74	72,782	422	1,447	0	0	3	0	1,179	0	0	157	0
18	3352.27	72,331	-451	1,263	0	1	3	0	1,640	0	1	-71	0
19	3352.06	72,130	-201	1,080	0	0	3	1	1,351	0	0	74	0
20	3351.48	71,577	-553	1,149	0	1	4	0	1,711	0	0	12	0
21	3351.43	71,530	-47	1,543	0	2	5	0	1,495	0	0	-92	0
22	3352.03	72,102	572	1,581	0	1	3	0	1,123	0	1	117	0
23	3353.45	73,465	1,363	2,751	0	1	4	0	1,194	0	0	-191	0
24	3352.20	72,264	-1,201	1,628	0	1	1	0	2,710	0	1	-118	0
25	3352.10	72,169	-95	2,121	0	1	1	0	2,285	0	0	69	0
26	3351.66	71,749	-420	1,875	0	1	1	0	2,414	0	0	119	0
27	3351.28	71,387	-362	1,901	0	1	4	0	2,385	0	0	125	0
28	3350.41	70,563	-824	1,308	0	0	4	0	2,143	0	1	16	0
29	3351.60	71,691	1,128	1,715	0	1	5	0	672	0	0	89	0
30	3352.25	72,312	621	2,115	0	1	4	0	1,345	0	1	-145	0
31	3352.03	72,102	-210	1,233	0	0	4	0	1,589	0	0	150	0
Total			-411	47,294	0	16	102	2	47,610	0	11	4	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3352.03	72,102											
1	3353.08	73,109	1,007	2,476	0	1	5	0	1,258	0	0	-207	0
2	3352.79	72,830	-279	1,313	0	0	5	0	1,647	0	1	61	0
3	3352.86	72,897	67	2,030	0	1	4	0	2,053	0	0	93	0
4	3352.50	72,551	-346	1,597	0	1	4	0	2,048	0	1	109	0
5	3351.74	71,825	-726	1,401	0	1	4	0	2,052	0	0	-72	0
6	3350.68	70,818	-1,007	1,278	0	1	4	0	2,280	0	0	-2	0
7	3350.00	70,176	-642	1,616	0	1	4	0	2,356	0	0	101	0
8	3349.65	69,847	-329	2,104	0	0	3	1	2,347	0	1	-81	0
9	3349.45	69,660	-187	1,905	0	1	5	0	2,021	0	0	-67	0
10	3349.14	69,369	-291	1,548	0	1	3	0	2,005	0	1	169	0
11	3348.55	68,819	-550	1,638	0	1	5	0	2,146	0	0	-38	0
12	3348.64	68,902	83	2,047	0	0	0	0	1,923	0	1	-40	0
13	3349.78	69,969	1,067	3,073	0	1	2	0	2,022	0	0	17	0
14	3349.34	69,557	-412	1,747	0	1	6	0	2,174	0	1	21	0
15	3349.39	69,603	46	2,213	0	0	6	0	2,063	0	0	-98	0
16	3349.58	69,782	179	2,132	0	1	2	0	2,124	0	1	173	0
17	3349.16	69,388	-394	1,847	0	1	2	1	2,115	0	0	-124	0
18	3349.27	69,491	103	2,082	0	1	2	0	2,161	0	1	184	0
19	3348.80	69,052	-439	1,729	0	0	4	0	2,033	0	0	-131	0
20	3349.32	69,538	486	2,518	0	1	3	0	2,016	0	0	-14	0
21	3349.73	69,922	384	2,206	0	1	2	0	1,973	0	0	152	0
22	3349.52	69,725	-197	1,932	0	0	3	0	2,042	0	0	-84	0
23	3349.04	69,276	-449	1,589	0	1	1	0	1,997	0	1	-40	0
24	3349.09	69,323	47	1,889	0	1	5	0	1,917	0	0	79	0
25	3348.66	68,921	-402	1,550	0	1	4	0	1,942	0	0	-7	0
26	3348.99	69,229	308	2,091	0	0	4	0	1,800	0	0	21	0
27	3349.91	70,092	863	2,545	0	2	5	0	1,724	0	1	46	0
28	3349.93	70,111	19	1,702	0	22	4	0	1,855	0	0	154	0
29	3350.12	70,289	178	2,151	0	5	4	0	1,840	0	0	-134	0
30	3349.63	69,829	-460	1,120	0	3	4	0	1,679	0	0	100	0
31	3349.48	69,688	-141	1,688	0	3	4	0	1,831	0	1	4	0
Total			-2,414	58,757	0	54	113	2	61,444	0	11	345	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3349.48	69,688											
1	3348.97	69,210	-478	1,443	0	1	3	0	1,864	0	0	-55	0
2	3349.38	69,594	384	2,008	0	1	3	0	1,699	0	0	77	0
3	3350.07	70,242	648	2,525	0	2	3	0	1,710	0	1	-165	0
4	3350.35	70,506	264	2,137	0	2	3	0	2,011	0	0	139	0
5	3349.31	69,528	-978	1,081	0	2	5	0	1,999	0	0	-57	0
6	3348.94	69,182	-346	1,741	0	2	6	0	2,038	0	1	-44	0
7	3349.10	69,332	150	2,101	0	2	6	0	2,077	0	0	130	0
8	3348.95	69,192	-140	2,098	0	2	7	0	2,072	0	0	-161	0
9	3349.58	69,782	590	2,491	0	2	4	0	1,966	0	1	68	0
10	3350.11	70,280	498	2,597	0	2	3	0	2,074	0	0	-24	0
11	3350.26	70,421	141	2,347	0	2	5	1	2,155	0	0	-47	0
12	3350.05	70,223	-198	1,726	0	2	7	0	2,112	0	1	194	0
13	3350.00	70,176	-47	2,119	0	2	4	0	2,137	0	0	-27	0
14	3349.59	69,791	-385	1,991	0	2	4	0	2,359	0	0	-15	0
15	3349.55	69,753	-38	2,148	0	2	4	0	2,199	0	1	16	0
16	3349.58	69,782	29	2,152	0	2	4	0	2,210	0	0	89	0
17	3350.80	70,932	1,150	3,327	0	4	3	0	2,177	0	0	-1	0
18	3351.45	71,549	617	2,746	0	4	3	0	2,133	0	1	4	0
19	3350.87	70,998	-551	1,460	0	3	4	0	1,931	0	0	-79	0
20	3350.53	70,676	-322	1,444	0	2	4	0	1,777	0	1	14	0
21	3350.91	71,036	360	2,115	0	2	3	0	1,866	0	1	113	0
22	3350.73	70,865	-171	1,655	0	2	3	0	1,902	0	0	77	0
23	3349.68	69,876	-989	1,057	0	2	4	0	1,861	0	0	-183	0
24	3351.17	71,283	1,407	3,305	0	2	4	0	1,964	0	1	69	0
25	3351.55	71,644	361	2,167	0	2	5	0	1,934	0	0	131	2
26	3351.48	71,577	-67	1,706	0	2	3	0	1,710	0	0	-62	4
27	3351.71	71,796	219	2,129	0	1	4	0	1,921	0	1	15	4
28	3351.55	71,644	-152	1,615	0	1	4	0	1,642	0	0	-122	4
Total			1,956	57,431	0	57	115	1	55,500	0	10	94	14

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3351.55	71,644											
1	3350.60	70,742	-902	958	0	2	4	0	1,927	0	0	69	4
2	3350.90	71,026	284	2,064	0	2	4	0	1,770	0	1	-7	4
3	3351.42	71,520	494	2,063	0	2	4	0	1,554	0	0	-13	4
4	3351.71	71,796	276	2,016	0	2	4	0	1,812	0	1	75	4
5	3351.70	71,787	-9	1,733	0	2	4	0	1,733	0	0	-7	4
6	3351.04	71,159	-628	1,043	0	2	5	0	1,691	0	1	24	4
7	3350.17	70,337	-822	856	0	3	4	0	1,680	0	0	3	4
8	3350.17	70,337	0	1,734	0	2	4	0	1,769	0	0	37	4
9	3349.80	69,988	-349	1,679	0	2	5	0	1,965	0	1	-59	4
10	3351.40	71,501	1,513	2,882	0	2	5	0	1,283	0	0	-83	4
11	3351.54	71,634	133	1,755	0	2	1	1	1,708	0	1	87	4
12	3351.44	71,539	-95	1,534	0	2	0	0	1,668	0	0	37	4
13	3351.18	71,292	-247	1,507	0	2	0	0	1,725	0	1	-30	4
14	3350.88	71,008	-284	1,500	0	2	0	0	1,737	0	0	-49	4
15	3350.44	70,591	-417	1,199	0	2	0	0	1,694	0	1	77	4
16	3350.23	70,393	-198	1,428	0	2	1	0	1,630	0	0	3	4
17	3350.31	70,469	76	1,735	0	2	0	0	1,702	0	0	41	4
18	3351.34	71,444	975	2,612	0	2	0	0	1,685	0	0	46	4
19	3351.34	71,444	0	1,773	0	2	6	0	1,740	0	1	-28	4
20	3350.83	70,960	-484	1,111	0	2	3	0	1,601	0	0	7	4
21	3350.59	70,733	-227	1,076	0	2	7	0	1,323	0	1	26	4
22	3350.50	70,648	-85	1,846	0	3	7	0	1,959	0	0	32	4
23	3351.02	71,140	492	2,031	0	3	3	1	1,463	0	0	-75	4
24	3350.99	71,112	-28	1,514	0	4	4	0	1,580	0	0	38	4
25	3351.64	71,730	618	2,353	0	3	4	0	1,747	0	1	14	4
26	3351.46	71,558	-172	1,467	0	3	2	0	1,630	0	0	-10	4
27	3351.59	71,682	124	1,752	0	2	3	0	1,586	0	0	-41	4
28	3351.30	71,406	-276	1,438	0	2	3	0	1,695	0	0	-18	4
29	3351.50	71,596	190	1,602	0	2	3	0	1,463	0	1	53	4
30	3351.12	71,235	-361	1,366	0	2	3	0	1,723	0	0	-3	3
31	3351.88	71,958	723	2,417	0	2	2	0	1,578	0	0	-116	2
Total			314	52,044	0	69	95	2	51,821	0	11	130	121

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3351.88	71,958											
1	3352.61	72,657	699	2,210	0	2	4	0	1,613	0	0	104	4
2	3352.61	72,657	0	1,916	0	2	5	0	1,828	0	1	-84	4
3	3352.49	72,542	-115	1,855	0	2	5	0	2,011	0	0	44	4
4	3352.08	72,149	-393	1,571	0	2	5	0	1,967	0	1	7	4
5	3351.92	71,997	-152	1,810	0	2	6	0	2,008	0	0	50	4
6	3351.73	71,815	-182	1,856	0	2	5	0	1,967	0	1	-67	4
7	3351.73	71,815	0	1,704	0	2	4	0	1,779	0	0	77	4
8	3351.73	71,815	0	2,105	0	2	5	0	2,065	0	1	-36	4
9	3352.16	72,226	411	2,305	0	2	4	0	1,946	0	0	54	4
10	3352.63	72,676	450	1,993	0	2	5	0	1,555	0	0	15	4
11	3351.73	71,815	-861	879	0	2	4	0	1,669	0	0	-69	2
12	3352.20	72,264	449	1,819	0	2	4	0	1,435	0	1	68	2
13	3352.20	72,264	0	1,911	0	2	4	0	1,858	0	0	-51	2
14	3351.95	72,025	-239	1,573	0	1	4	0	1,791	0	1	-17	2
15	3352.64	72,686	661	2,363	0	1	4	0	1,682	0	0	-17	2
16	3352.42	72,475	-211	1,559	0	2	5	0	1,848	0	1	82	2
17	3352.34	72,398	-77	1,772	0	2	4	0	1,762	0	0	-85	2
18	3352.20	72,264	-134	1,734	0	2	4	0	1,856	0	0	-10	2
19	3352.02	72,092	-172	1,759	0	2	4	0	1,980	0	0	51	2
20	3352.23	72,293	201	1,782	0	2	4	0	1,520	0	1	-58	2
21	3352.28	72,341	48	1,883	0	1	5	0	1,719	0	0	-112	2
22	3352.72	72,762	421	2,181	0	1	4	0	1,870	0	1	114	2
23	3352.96	72,993	231	2,108	0	1	3	0	1,810	0	0	-65	2
24	3353.04	73,070	77	1,970	0	2	3	0	1,916	0	1	25	2
25	3352.81	72,849	-221	1,746	0	2	3	0	1,889	0	0	-77	2
26	3352.95	72,983	134	1,932	0	2	2	1	1,874	0	1	78	2
27	3352.92	72,955	-28	1,899	0	2	2	1	1,876	0	0	-50	2
28	3352.62	72,666	-289	1,639	0	2	2	1	2,016	0	0	89	2
29	3352.93	72,964	298	2,163	0	2	2	1	1,872	0	0	8	2
30	3352.96	72,993	29	2,134	0	1	2	1	2,082	0	0	-21	1
Total			1,035	56,131	0	54	117	5	55,064	0	11	47	79

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3352.96	72,993											
1	3352.60	72,647	-346	1,824	0	2	3	0	2,173	0	1	5	0
2	3352.08	72,149	-498	1,755	0	2	3	0	2,280	0	0	28	0
3	3351.63	71,720	-429	1,842	0	1	4	0	2,225	0	1	-42	0
4	3351.08	71,197	-523	1,584	0	1	5	0	2,148	0	0	45	0
5	3351.64	71,730	533	2,510	0	1	4	0	1,954	0	1	-19	0
6	3351.37	71,473	-257	1,852	0	1	5	0	2,134	0	0	29	0
7	3351.62	71,710	237	2,367	0	1	5	1	2,118	0	0	-7	0
8	3350.37	70,525	-1,185	928	0	1	5	0	2,120	0	0	11	2
9	3350.11	70,280	-245	2,112	0	1	5	0	2,325	0	1	-27	2
10	3349.91	70,092	-188	2,109	0	1	5	0	2,320	0	0	27	2
11	3349.83	70,016	-76	2,108	0	1	4	1	2,126	0	1	-53	2
12	3351.01	71,131	1,115	3,469	0	1	5	0	2,374	0	0	24	2
13	3351.29	71,397	266	2,624	0	1	5	0	2,335	0	1	-18	2
14	3351.42	71,520	123	2,484	0	1	5	0	2,377	0	0	20	2
15	3350.95	71,074	-446	1,904	0	1	6	0	2,314	0	0	-31	2
16	3350.73	70,865	-209	2,395	0	1	7	1	2,597	0	0	0	2
17	3350.57	70,714	-151	2,682	0	1	6	0	2,852	0	1	25	2
18	3350.40	70,554	-160	2,168	0	1	7	0	2,303	0	0	-19	2
19	3351.14	71,254	700	3,227	0	1	7	1	2,501	0	1	-18	2
20	3351.23	71,340	86	2,692	0	1	6	0	2,625	0	0	24	2
21	3351.70	71,787	447	2,714	0	1	7	0	2,236	0	1	-24	2
22	3351.63	71,720	-67	2,106	0	1	2	0	2,193	0	0	21	2
23	3351.87	71,949	229	2,633	0	1	6	0	2,423	0	0	24	2
24	3351.94	72,016	67	2,654	0	1	7	1	2,601	0	0	21	2
25	3351.81	71,892	-124	2,724	0	1	7	1	2,806	0	1	-34	1
26	3352.54	72,590	698	2,645	0	0	6	0	1,949	0	0	8	1
27	3352.51	72,561	-29	2,192	0	0	7	1	2,173	0	0	-40	1
28	3352.54	72,590	29	2,283	0	0	7	0	2,169	0	1	-77	0
29	3352.33	72,389	-201	2,112	0	0	6	1	2,353	0	0	47	0
30	3352.13	72,197	-192	2,111	0	0	7	0	2,309	0	0	13	0
31	3351.96	72,035	-162	2,183	0	0	7	0	2,331	0	1	-6	0
Total			-958	70,993	0	27	171	8	71,744	0	12	-43	37

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3351.96	72,035											
1	3351.48	71,577	-458	1,898	0	0	7	1	2,351	0	0	3	0
2	3352.43	72,484	907	3,261	0	0	7	0	2,348	0	0	1	0
3	3352.26	72,322	-162	2,409	0	0	7	0	2,491	0	1	-72	0
4	3352.12	72,188	-134	2,112	0	0	7	1	2,313	0	0	75	0
5	3351.85	71,930	-258	2,081	0	0	7	0	2,387	0	0	55	0
6	3351.45	71,549	-381	1,985	0	0	8	0	2,309	0	1	-48	0
7	3351.09	71,207	-342	2,026	0	0	8	0	2,382	0	0	22	1
8	3350.82	70,951	-256	2,000	0	0	7	1	2,247	0	0	-1	2
9	3350.99	71,112	161	2,651	0	0	9	0	2,493	0	1	13	2
10	3351.15	71,264	152	2,768	0	0	9	0	2,601	0	0	-6	2
11	3351.45	71,549	285	2,718	0	0	9	0	2,394	0	0	-30	1
12	3351.56	71,653	104	2,718	0	0	8	1	2,562	0	1	-42	0
13	3352.35	72,408	755	2,906	0	0	9	0	2,121	0	0	-21	1
14	3352.12	72,188	-220	2,337	0	0	0	0	2,559	0	0	2	2
15	3352.18	72,245	57	2,364	0	0	6	1	2,283	0	1	-16	2
16	3352.64	72,686	441	2,682	0	0	8	0	2,193	0	0	-40	2
17	3352.91	72,945	259	2,633	0	0	8	0	2,391	0	0	25	2
18	3352.63	72,676	-269	2,124	0	0	7	1	2,411	0	1	27	2
19	3352.25	72,312	-364	2,041	0	0	9	0	2,389	0	0	-7	2
20	3352.21	72,274	-38	2,299	0	0	9	0	2,337	0	0	9	2
21	3351.87	71,949	-325	2,079	0	0	8	1	2,476	0	1	82	2
22	3351.47	71,568	-381	1,892	0	0	10	0	2,251	0	0	-12	2
23	3352.37	72,427	859	3,241	0	0	9	0	2,347	0	0	-26	1
24	3352.35	72,408	-19	2,331	0	0	8	1	2,309	0	1	-31	0
25	3352.07	72,140	-268	2,147	0	0	8	0	2,412	0	0	5	0
26	3352.27	72,331	191	2,610	0	0	9	0	2,389	0	1	-20	0
27	3352.15	72,216	-115	2,522	0	0	8	1	2,630	0	1	3	0
28	3351.72	71,806	-410	1,984	0	0	9	0	2,395	0	0	10	0
29	3351.40	71,501	-305	2,103	0	0	9	0	2,355	0	0	-44	0
30	3352.58	72,619	1,118	3,194	0	0	9	0	2,365	0	1	299	0
Total			584	72,116	0	0	236	9	71,491	0	11	215	28

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3352.58	72,619											
1	3352.57	72,610	-9	2,531	0	0	9	0	2,230	0	1	-300	0
2	3351.93	72,006	-604	1,691	0	0	9	0	2,266	0	0	-20	0
3	3351.31	71,416	-591	1,471	0	0	9	1	2,081	0	0	29	0
4	3351.38	71,482	67	2,357	0	0	9	0	2,286	0	0	5	0
5	3351.26	71,368	-114	2,394	0	0	9	0	2,402	0	1	-96	0
6	3351.71	71,796	428	2,867	0	0	9	0	2,462	0	0	32	0
7	3352.33	72,389	592	3,169	0	0	10	0	2,510	0	0	-57	0
8	3352.56	72,609	220	2,911	0	0	10	0	2,720	0	1	40	0
9	3352.83	72,868	259	2,987	0	0	10	0	2,693	0	0	-25	0
10	3352.91	72,945	77	2,718	0	0	10	0	2,611	0	0	-20	0
11	3353.69	73,697	752	3,384	0	0	10	1	2,613	0	1	-7	0
12	3353.39	73,407	-290	2,680	0	0	10	2	2,964	0	0	6	0
13	3352.79	72,830	-578	1,037	0	0	10	2	1,633	0	0	30	0
14	3353.06	73,089	260	2,946	0	0	10	0	2,637	0	1	-38	0
15	3352.55	72,599	-490	2,122	0	0	10	1	2,656	0	0	55	0
16	3352.24	72,302	-297	2,513	0	0	10	0	2,788	0	0	-12	0
17	3351.93	72,006	-296	2,506	0	0	10	0	2,740	0	1	-51	0
18	3351.95	72,025	19	2,610	0	0	10	1	2,587	0	0	7	0
19	3351.65	71,739	-286	2,463	0	0	9	0	2,767	0	0	27	0
20	3351.73	71,815	76	2,650	0	0	10	0	2,548	0	1	-15	0
21	3352.11	72,178	363	2,952	0	0	9	0	2,581	0	0	1	0
22	3352.40	72,456	278	3,055	0	0	10	0	2,666	0	0	-101	0
23	3352.28	72,341	-115	2,666	0	0	9	0	2,791	0	1	20	0
24	3352.52	72,571	230	2,678	0	0	9	0	2,450	0	0	11	0
25	3352.78	72,820	250	2,584	0	0	10	0	2,303	0	0	-21	0
26	3352.16	72,226	-594	2,244	0	0	9	1	2,801	0	1	-26	0
27	3352.66	72,705	479	3,133	0	0	9	0	2,783	0	0	138	0
28	3352.77	72,810	106	3,175	0	0	9	1	2,865	0	1	-193	0
29	3352.62	72,666	-144	2,688	0	0	9	1	2,857	0	0	35	0
30	3352.36	72,417	-249	2,712	0	0	10	0	2,948	0	1	-2	0
31	3352.32	72,379	-38	2,741	0	0	10	1	2,773	0	0	5	0
Total			-240	80,635	0	0	296	12	80,012	0	11	-544	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3352.32	72,379											
1	3352.57	72,619	240	2,998	0	0	11	0	2,890	0	0	143	0
2	3352.30	72,360	-259	2,621	0	0	11	1	2,884	0	0	16	0
3	3352.16	72,226	-134	2,888	0	0	12	0	2,848	0	1	-161	0
4	3352.13	72,197	-29	2,886	0	0	12	1	3,002	0	0	100	0
5	3352.42	72,475	278	3,348	0	0	11	0	2,937	0	0	-122	0
6	3352.95	72,983	509	3,124	0	0	9	1	2,688	0	1	84	0
7	3352.67	72,714	-269	2,694	0	0	10	0	2,891	0	0	-62	0
8	3352.46	72,513	-201	2,672	0	0	9	1	2,887	0	0	24	0
9	3351.98	72,054	-459	2,581	0	0	9	0	3,106	0	1	76	0
10	3352.42	72,475	421	3,213	0	0	11	1	2,669	0	0	-111	0
11	3353.07	73,099	624	3,450	0	0	9	0	2,842	0	0	25	0
12	3352.64	72,686	-413	2,441	0	0	10	1	2,873	0	1	31	0
13	3352.93	72,961	276	3,068	0	0	11	0	2,727	0	1	-53	0
14	3352.72	72,762	-199	2,617	0	0	9	0	2,903	0	0	96	0
15	3352.61	72,657	-106	2,754	0	0	0	0	2,835	0	1	-24	0
16	3352.46	72,513	-144	2,758	0	0	10	1	2,890	0	0	-1	0
17	3352.42	72,475	-38	2,793	0	0	10	0	2,846	0	0	25	0
18	3352.34	72,398	-77	2,800	0	0	10	0	2,810	0	1	-56	0
19	3352.63	72,676	278	3,182	0	0	11	0	2,881	0	0	-12	0
20	3352.22	72,283	-393	2,436	0	0	10	1	2,813	0	0	-5	0
21	3351.99	72,063	-220	2,696	0	0	11	0	2,901	0	1	-3	0
22	3351.88	71,958	-105	2,727	0	0	11	1	2,761	0	0	-59	0
23	3351.56	71,653	-305	2,578	0	0	11	0	2,864	0	0	-8	0
24	3351.83	71,911	257	3,165	0	0	9	1	2,859	0	1	-38	0
25	3351.81	71,892	-19	2,849	0	0	10	0	2,866	0	0	8	0
26	3352.01	72,083	191	2,776	0	0	10	0	2,610	0	0	35	0
27	3352.10	72,169	86	2,749	0	0	7	1	2,597	0	1	-57	0
28	3352.09	72,159	-10	2,619	0	0	8	0	2,588	0	0	-33	0
29	3352.29	72,350	191	2,743	0	0	8	0	2,543	0	0	-1	0
30	3351.99	72,063	-287	2,571	0	0	8	1	2,845	0	1	-3	0
31	3352.14	72,207	143	2,677	0	0	8	0	2,599	0	0	73	0
Total			-172	87,474	0	0	296	12	87,255	0	11	-72	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3352.14	72,207											
1	3351.89	71,968	-239	2,570	0	0	10	0	2,809	0	0	10	0
2	3352.01	72,083	115	2,985	0	0	9	0	2,768	0	1	-92	0
3	3351.84	71,920	-163	2,521	0	0	8	1	2,727	0	0	52	0
4	3350.91	71,036	-884	2,086	0	0	9	0	3,002	0	1	42	0
5	3350.28	70,440	-596	2,361	0	0	9	0	2,921	0	1	-26	0
6	3349.50	69,707	-733	2,358	0	0	8	1	3,093	0	0	11	0
7	3350.00	70,176	469	3,473	0	0	9	0	3,003	0	1	9	0
8	3350.77	70,903	727	3,743	0	0	9	0	3,052	0	0	45	0
9	3350.47	70,620	-283	2,843	0	0	8	1	3,097	0	1	-19	0
10	3350.43	70,582	-38	2,937	0	0	9	0	3,037	0	0	71	0
11	3350.60	70,742	160	3,080	0	0	9	0	2,858	0	0	-53	0
12	3350.40	70,554	-188	2,658	0	0	8	1	2,905	0	0	68	0
13	3349.88	70,064	-490	2,661	0	0	9	0	3,121	0	0	-21	0
14	3350.18	70,346	282	3,290	0	0	8	0	2,969	0	1	-30	0
15	3351.19	71,302	956	3,806	0	0	7	1	2,880	0	0	38	0
16	3351.73	71,815	513	3,313	0	0	8	0	2,825	0	1	34	0
17	3351.19	71,302	-513	2,648	0	0	8	0	3,112	0	0	-41	0
18	3350.92	71,045	-257	2,725	0	0	8	1	2,971	0	1	-1	0
19	3350.59	70,733	-312	2,791	0	0	7	0	3,135	0	0	39	0
20	3350.27	70,431	-302	2,641	0	0	9	0	2,984	0	1	51	0
21	3350.38	70,535	104	3,216	0	0	7	1	3,062	0	0	-42	0
22	3351.33	71,435	900	3,856	0	0	7	1	2,908	0	0	-40	0
23	3351.75	71,834	399	3,338	0	0	8	0	2,947	0	0	16	0
24	3351.51	71,606	-228	2,998	0	0	7	1	3,227	0	1	10	0
25	3351.00	71,121	-485	2,672	0	0	8	0	3,143	0	0	-6	0
26	3350.58	70,724	-397	2,713	0	0	9	0	3,144	0	0	43	0
27	3350.45	70,601	-123	3,032	0	0	8	1	3,119	0	0	-27	0
28	3350.94	71,064	463	3,458	0	0	8	0	2,967	0	1	-19	0
29	3351.51	71,606	542	3,697	0	0	9	0	3,112	0	0	-34	0
30	3351.47	71,568	-38	2,964	0	0	9	1	3,062	0	0	70	0
Total			-639	89,434	0	0	249	11	89,960	0	11	158	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.47	71,568											
1	3351.29	71,397	-171	2,683	0	0	8	0	2,835	0	1	-10	0
2	3351.62	71,711	314	3,098	0	0	6	0	2,699	0	0	-79	0
3	3352.45	72,503	792	3,419	0	0	6	1	2,659	0	1	40	0
4	3351.95	72,025	-478	2,213	0	0	5	0	2,726	0	0	40	0
5	3351.32	71,425	-600	2,027	0	0	5	0	2,567	0	1	-54	0
6	3351.94	72,016	591	3,449	0	0	4	1	2,838	0	0	-15	0
7	3352.20	72,264	248	3,043	0	0	5	0	2,879	0	0	89	0
8	3352.37	72,427	163	2,735	0	0	6	0	2,519	0	0	-47	0
9	3352.25	72,312	-115	2,453	0	0	8	0	2,584	0	1	25	0
10	3351.81	71,892	-420	2,117	0	0	4	1	2,623	0	0	91	0
11	3351.37	71,473	-419	2,401	0	0	7	0	2,772	0	0	-41	0
12	3351.84	71,920	447	2,929	0	0	8	0	2,517	0	1	44	0
13	3351.94	72,016	96	2,730	0	0	7	0	2,585	0	0	-42	0
14	3351.61	71,701	-315	2,368	0	0	6	1	2,735	0	0	59	0
15	3351.51	71,606	-95	2,353	0	0	8	0	2,435	0	1	-4	0
16	3351.37	71,473	-133	2,393	0	0	8	0	2,547	0	0	29	0
17	3351.46	71,558	85	2,551	0	0	9	0	2,446	0	0	-11	0
18	3351.06	71,178	-380	2,042	0	0	5	1	2,424	0	1	9	0
19	3351.04	71,159	-19	2,556	0	0	7	0	2,510	0	0	-58	0
20	3351.36	71,463	304	2,553	0	0	8	0	2,254	0	0	13	0
21	3351.56	71,653	190	2,446	0	0	7	1	2,285	0	1	38	0
22	3351.61	71,701	48	2,357	0	0	7	0	2,278	0	0	-24	0
23	3351.13	71,245	-456	1,929	0	0	8	1	2,339	0	0	-37	0
24	3350.96	71,083	-162	2,136	0	0	7	0	2,382	0	1	92	0
25	3350.77	70,903	-180	2,134	0	0	8	0	2,297	0	0	-9	0
26	3351.17	71,283	380	2,444	0	0	7	0	2,084	0	0	27	0
27	3350.76	70,894	-389	1,984	0	0	6	1	2,346	0	1	-19	0
28	3350.84	70,970	76	2,482	0	0	5	0	2,433	0	0	32	0
29	3350.86	70,989	19	2,209	0	0	6	0	2,211	0	0	27	0
30	3350.55	70,695	-294	1,875	0	0	6	1	2,148	0	1	-13	0
31	3350.32	70,478	-217	1,791	0	0	5	0	2,216	0	0	213	0
Total			-1,090	75,900	0	0	202	9	77,173	0	11	405	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3350.32	70,478											
1	3350.32	70,478	0	2,156	0	0	7	0	2,397	0	0	248	0
2	3350.71	70,846	368	2,439	0	0	6	0	2,056	0	0	-9	0
3	3350.93	71,055	209	2,720	0	0	5	0	2,120	0	1	-385	0
4	3350.48	70,629	-426	2,081	0	0	5	0	2,284	0	0	-218	0
5	3350.24	70,403	-226	1,954	0	0	6	0	2,451	0	0	277	0
6	3349.65	69,847	-556	2,206	0	0	4	1	2,751	0	1	-5	0
7	3350.31	70,469	622	3,072	0	0	7	0	2,522	0	0	79	0
8	3348.29	68,577	-1,892	483	0	0	5	0	2,332	0	0	-38	0
9	3348.99	69,229	652	3,330	0	0	0	0	1,925	0	1	-752	0
10	3349.79	69,979	750	3,452	0	0	11	0	1,990	0	0	-701	0
11	3350.39	70,544	565	2,262	0	0	6	0	2,021	0	0	330	0
12	3351.85	71,930	1,386	2,717	0	0	5	1	2,242	0	1	918	0
13	3351.55	71,644	-286	2,097	0	0	6	0	2,350	0	0	-27	0
14	3351.83	71,911	267	2,541	0	0	6	0	2,206	0	0	-62	0
15	3351.66	71,749	-162	2,087	0	0	5	0	2,291	0	1	48	0
16	3351.23	71,340	-409	1,869	0	0	5	0	2,180	0	0	-93	0
17	3351.31	71,416	76	2,411	0	0	4	0	2,412	0	0	81	0
18	3351.16	71,273	-143	2,386	0	0	4	1	2,566	0	1	43	0
19	3350.99	71,112	-161	2,613	0	0	5	0	2,673	0	0	-96	0
20	3351.31	71,416	304	3,084	0	0	5	0	2,803	0	0	28	0
21	3351.45	71,549	133	2,762	0	0	5	0	2,652	0	1	29	0
22	3351.39	71,492	-57	2,667	0	0	5	0	2,714	0	0	-5	0
23	3351.54	71,634	142	2,788	0	0	5	0	2,645	0	0	4	0
24	3351.91	71,987	353	3,223	0	0	5	0	2,828	0	1	-36	0
25	3351.65	71,739	-248	2,368	0	0	4	1	2,668	0	0	57	0
26	3351.52	71,615	-124	2,216	0	0	6	0	2,264	0	0	-70	0
27	3351.86	71,939	324	2,654	0	0	5	0	2,269	0	1	-55	0
28	3351.53	71,625	-314	2,100	0	0	6	0	2,456	0	0	48	0
29	3351.62	71,710	85	2,325	0	0	5	0	2,324	0	0	89	0
30	3351.79	71,873	163	2,374	0	0	6	0	2,203	0	1	-1	0
Total			1,395	73,437	0	0	159	4	71,595	0	10	-274	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2002

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3351.79	71,873											
1	3351.78	71,863	-10	2,250	0	1	5	0	2,230	0	0	-26	0
2	3352.17	72,235	372	2,539	0	1	6	0	2,233	0	0	71	0
3	3351.80	71,882	-353	2,046	0	0	5	0	2,450	0	1	57	0
4	3351.72	71,806	-76	2,245	0	0	6	0	2,381	0	0	66	0
5	3351.35	71,454	-352	2,055	0	0	5	0	2,458	0	0	56	0
6	3351.04	71,159	-295	2,002	0	0	5	0	2,263	0	1	-28	0
7	3351.57	71,658	499	2,907	0	0	5	0	2,397	0	0	-6	0
8	3352.69	72,734	1,076	3,309	0	0	3	1	2,281	0	0	52	0
9	3353.33	73,349	615	2,201	0	0	4	0	1,568	0	1	-13	0
10	3353.73	73,736	387	2,138	0	0	5	0	1,447	0	0	-299	0
11	3353.70	73,707	-29	1,399	0	0	3	0	1,500	0	0	75	0
12	3353.40	73,417	-290	1,196	0	0	4	0	1,472	0	1	-9	0
13	3352.02	72,092	-1,325	19	0	0	4	0	1,340	0	0	0	0
14	3351.98	72,054	-38	1,313	0	0	4	0	1,270	0	0	-77	0
15	3352.65	72,695	641	2,063	0	0	4	0	1,428	0	1	11	0
16	3351.97	72,044	-651	743	0	6	5	0	1,399	0	0	4	0
17	3350.39	70,544	-1,500	18	0	6	5	0	1,880	0	0	361	0
18	3349.62	69,819	-725	18	0	2	4	1	1,027	0	1	288	0
19	3348.95	69,192	-627	628	0	2	5	0	1,256	0	0	4	0
20	3348.56	68,828	-364	1,238	0	6	5	0	1,265	0	0	-338	0
21	3349.42	69,632	804	1,782	0	5	5	0	1,088	0	1	111	0
22	3348.99	69,229	-403	1,571	0	4	5	0	1,914	0	0	-59	0
23	3348.76	69,014	-215	1,743	0	3	5	0	2,001	0	0	45	0
24	3348.14	68,437	-577	1,425	0	2	4	0	2,086	0	1	87	0
25	3348.56	68,828	391	2,624	0	3	4	0	2,099	0	0	-133	0
26	3348.72	68,977	149	2,173	0	3	5	0	2,159	0	0	137	0
27	3348.06	68,363	-614	1,533	0	3	5	0	2,057	0	1	-87	0
28	3348.45	68,725	362	2,201	0	2	4	0	1,992	0	0	155	0
29	3349.30	69,519	794	2,716	0	4	4	0	1,958	0	0	36	0
30	3350.39	70,544	1,025	2,795	0	3	4	0	1,725	0	1	-43	0
31	3350.89	71,017	473	1,971	0	3	4	0	1,563	0	0	66	0
Total			-856	54,861	0	59	141	2	56,187	0	10	564	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3350.89	71,017											
1	3352.29	72,350	1,333	2,885	0	2	5	0	1,520	0	1	-28	0
2	3352.52	72,571	221	1,665	0	2	4	0	1,531	0	0	89	0
3	3352.01	72,083	-488	1,175	0	2	6	0	1,568	0	0	-91	0
4	3351.90	71,977	-106	1,231	0	3	5	0	1,412	0	1	78	0
5	3352.01	72,083	106	1,847	0	2	5	0	1,841	0	0	103	0
6	3351.70	71,787	-296	1,876	0	2	5	0	2,042	0	0	-127	0
7	3351.94	72,016	229	1,630	0	2	5	0	1,399	0	1	2	0
8	3352.21	72,274	258	1,570	0	2	5	0	1,446	0	0	137	0
9	3352.05	72,121	-153	1,120	0	2	6	0	1,250	0	0	-19	0
10	3352.05	72,121	0	720	0	2	6	0	750	0	1	35	0
11	3351.78	71,863	-258	462	0	2	3	1	668	0	0	-50	0
12	3352.21	72,274	411	1,246	0	2	5	0	831	0	0	-1	0
13	3351.94	72,016	-258	554	0	2	5	0	747	0	1	-61	0
14	3351.55	71,644	-372	792	0	2	4	0	1,174	0	0	12	0
15	3351.51	71,606	-38	1,243	0	2	4	0	1,333	0	0	54	0
16	3351.67	71,758	152	1,283	0	2	4	0	1,193	0	1	65	0
17	3351.04	71,159	-599	1,057	0	2	5	0	1,540	0	0	-113	0
18	3350.97	71,093	-66	1,305	0	2	5	0	1,444	0	0	76	0
19	3350.85	70,979	-114	1,260	0	2	4	0	1,475	0	1	104	0
20	3350.46	70,610	-369	1,049	0	2	5	0	1,423	0	0	8	0
21	3350.23	70,393	-217	1,153	0	2	5	0	1,298	0	0	-69	0
22	3350.46	70,610	217	1,439	0	2	4	1	1,203	0	1	-15	0
23	3350.93	71,055	445	1,646	0	2	5	0	1,167	0	0	-31	0
24	3351.04	71,159	104	1,449	0	2	5	0	1,397	0	0	55	0
25	3351.20	71,311	152	1,436	0	2	5	0	1,295	0	1	15	0
26	3351.74	71,825	514	1,746	0	2	5	0	1,106	0	0	-123	0
27	3351.51	71,606	-219	1,024	0	1	5	0	1,206	0	0	-33	0
28	3351.08	71,197	-409	1,268	0	1	4	0	1,709	0	1	36	0
29	3350.81	70,941	-256	1,647	0	1	4	0	1,769	0	0	-131	0
30	3350.89	71,017	76	2,015	0	1	4	0	2,025	0	0	89	0
31	3350.87	70,998	-19	2,112	0	1	4	0	2,024	0	1	-103	1
Total			-19	42,905	0	58	146	2	42,786	0	11	-37	1

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.87	70,998											
1	3350.93	71,055	57	1,979	0	2	4	0	1,955	0	0	35	2
2	3351.82	71,901	846	2,877	0	2	4	0	2,053	0	1	25	2
3	3352.05	72,121	220	1,948	0	2	4	0	1,832	0	0	106	2
4	3352.17	72,235	114	1,890	0	2	6	0	1,799	0	1	28	2
5	3352.05	72,121	-114	1,729	0	1	7	0	1,759	0	1	-77	2
6	3351.82	71,901	-220	1,712	0	1	4	0	1,886	0	1	-42	2
7	3351.74	71,825	-76	1,708	0	1	6	0	1,745	0	0	-34	2
8	3351.78	71,863	38	1,858	0	1	6	0	1,789	0	1	-25	2
9	3352.05	72,121	258	1,926	0	1	6	0	1,807	0	0	144	2
10	3351.90	71,977	-144	1,644	0	1	5	0	1,823	0	1	40	2
11	3352.09	72,159	182	1,689	0	11	4	0	1,483	0	0	-31	2
12	3352.52	72,571	412	1,339	0	115	3	1	1,499	0	1	462	2
13	3353.60	73,610	1,039	1,847	0	322	4	0	1,325	0	0	199	2
14	3353.35	73,369	-241	915	0	143	4	0	1,306	0	1	12	12
15	3353.59	73,600	231	1,469	0	60	4	0	1,355	0	54	115	20
16	3353.25	73,272	-328	1,059	0	37	4	0	1,338	0	36	-46	20
17	3352.92	72,955	-317	1,032	0	27	4	0	1,378	0	0	6	20
18	3352.50	72,551	-404	1,036	0	21	4	0	1,400	0	1	-56	24
19	3352.01	72,083	-468	1,022	0	18	5	0	1,554	0	0	51	24
20	3351.74	71,825	-258	1,031	0	16	4	0	1,278	0	1	-22	24
21	3351.57	71,663	-162	1,001	0	14	4	0	1,225	0	0	52	20
22	3351.32	71,425	-238	1,054	0	12	4	0	1,307	0	1	8	20
23	3351.59	71,682	257	1,479	0	11	4	1	1,272	0	0	44	20
24	3350.46	70,610	-1,072	541	0	11	4	0	1,553	0	1	-66	19
25	3350.39	70,544	-66	1,180	0	47	4	0	1,395	0	0	106	19
26	3350.50	70,648	104	1,660	0	56	4	0	1,766	0	1	159	19
27	3350.27	70,431	-217	1,875	0	98	3	0	2,167	0	1	-19	19
28	3349.57	69,772	-659	1,732	0	66	3	0	2,504	0	1	51	19
Total			-1,226	42,232	0	1,099	122	2	45,553	0	105	1,225	325

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3349.57	69,772											
1	3349.11	69,341	-431	2,370	0	52	4	0	2,817	0	0	-32	19
2	3349.63	69,829	488	3,000	0	42	4	0	2,579	0	0	29	19
3	3349.34	69,557	-272	2,129	0	35	4	0	2,437	0	0	5	19
4	3348.60	68,865	-692	1,562	0	31	3	0	2,268	0	0	-14	19
5	3348.87	69,117	252	2,518	0	27	4	0	2,421	0	0	132	19
6	3348.60	68,865	-252	2,574	0	23	4	0	2,788	0	0	-57	19
7	3348.58	68,843	-22	2,433	0	21	3	0	2,820	0	0	347	19
8	3348.14	68,437	-406	2,757	0	19	1	0	2,918	0	0	-263	19
9	3348.68	68,940	503	3,686	0	18	1	0	3,168	0	0	-32	19
10	3349.07	69,304	364	2,953	0	16	1	0	2,678	0	0	74	19
11	3349.07	69,304	0	2,683	0	16	12	0	2,712	0	0	25	19
12	3348.99	69,229	-75	2,689	0	15	2	1	2,943	0	0	167	19
13	3348.99	69,229	0	2,770	0	14	4	0	2,653	0	0	-127	19
14	3348.84	69,089	-140	2,777	0	14	4	0	2,940	0	0	13	19
15	3349.15	69,379	290	2,852	0	169	4	0	3,027	0	0	300	19
16	3351.12	71,235	1,856	3,862	0	786	4	0	2,828	0	0	40	19
17	3351.28	71,387	152	3,001	0	310	4	0	2,806	0	244	-105	19
18	3350.73	70,865	-522	2,561	0	129	4	0	2,838	0	295	-75	19
19	3350.66	70,799	-66	2,388	0	88	4	0	2,504	0	80	46	19
20	3350.50	70,648	-151	2,320	0	66	4	0	2,415	0	80	-38	19
21	3349.61	69,810	-838	1,748	0	55	4	0	2,675	0	78	116	20
22	3347.05	67,429	-2,381	0	0	46	4	0	2,323	0	80	-20	20
23	3344.34	64,957	-2,472	0	0	40	7	1	2,317	0	70	-117	20
24	3343.83	64,497	-460	1,627	0	36	4	0	2,103	0	41	25	20
25	3343.95	64,605	108	2,164	0	32	4	0	2,060	0	0	-24	20
26	3344.42	65,029	424	2,456	0	29	4	0	2,115	0	0	58	20
27	3345.62	66,118	1,089	3,464	0	26	4	0	2,358	0	0	-39	20
28	3347.13	67,503	1,385	3,924	0	24	4	0	2,502	0	0	-57	20
29	3348.02	68,326	823	3,678	0	22	4	0	3,005	0	0	132	20
30	3348.21	68,502	176	3,243	0	19	4	0	3,036	0	0	-46	20
31	3349.15	69,379	877	3,763	0	19	4	0	2,919	0	0	18	20
Total			-393	79,952	0	2,239	122	2	81,973	0	968	481	600

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3349.15	69,379											
1	3350.23	70,393	1,014	3,744	0	18	4	0	2,808	0	0	64	4
2	3351.32	71,425	1,032	4,114	0	17	3	0	2,968	0	1	-127	4
3	3352.17	72,235	810	3,653	0	15	3	0	2,973	0	0	118	4
4	3352.21	72,274	39	3,120	0	16	4	0	2,968	0	1	-124	4
5	3351.98	72,054	-220	2,494	0	18	3	0	2,883	0	0	154	4
6	3352.63	72,676	622	3,047	0	15	4	0	2,399	0	1	-36	4
7	3352.05	72,121	-555	2,088	0	14	3	1	2,600	0	0	-53	4
8	3351.63	71,720	-401	2,075	0	13	4	0	2,576	0	1	92	4
9	3351.47	71,568	-152	2,614	0	13	3	0	2,803	0	0	27	4
10	3351.43	71,530	-38	2,757	0	12	4	0	2,815	0	1	13	4
11	3351.20	71,311	-219	2,136	0	11	3	0	2,321	0	0	-42	2
12	3350.42	70,572	-739	1,998	0	11	3	0	2,710	0	1	-34	2
13	3350.15	70,318	-254	2,091	0	15	4	0	2,480	0	0	124	2
14	3350.15	70,318	0	2,106	0	149	4	0	2,479	0	1	229	2
15	3351.12	71,235	917	3,259	0	108	3	0	2,341	0	35	-71	2
16	3351.55	71,644	409	2,619	0	66	4	0	2,296	0	79	103	2
17	3351.98	72,054	410	2,529	0	52	4	0	2,101	0	45	-21	2
18	3352.29	72,350	296	2,518	0	46	4	0	2,054	0	33	-177	2
19	3352.71	72,753	403	2,245	0	40	2	1	2,035	0	6	162	2
20	3352.67	72,714	-39	1,909	0	35	4	0	1,915	0	0	-64	2
21	3352.67	72,714	0	1,698	0	32	4	0	1,692	0	1	-33	2
22	3352.71	72,753	39	1,466	0	31	4	0	1,500	0	0	46	2
23	3352.87	72,907	154	1,927	0	28	4	0	1,776	0	1	-20	2
24	3352.87	72,907	0	1,868	0	27	4	0	1,966	0	0	75	2
25	3352.44	72,494	-413	2,197	0	27	4	0	2,471	0	1	-161	2
26	3352.44	72,494	0	2,582	0	25	4	0	2,697	0	0	94	2
27	3352.56	72,609	115	3,111	0	25	4	0	2,972	0	1	-44	2
28	3352.25	72,312	-297	2,567	0	25	4	0	2,805	0	0	-80	2
29	3351.63	71,720	-592	2,116	0	22	4	0	2,889	0	1	164	2
30	3351.63	71,720	0	2,959	0	21	4	0	2,957	0	1	-18	1
Total			2,341	75,607	0	947	110	2	74,250	0	211	360	79

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3351.63	71,720											
1	3351.28	71,387	-333	2,768	0	21	4	0	3,130	0	0	12	16
2	3350.77	70,903	-484	2,959	0	22	4	0	3,373	0	0	-88	16
3	3350.93	71,055	152	3,069	0	103	4	0	3,105	0	0	89	16
4	3351.12	71,235	180	3,080	0	130	4	0	3,096	0	0	70	17
5	3351.86	71,939	704	3,176	0	70	3	0	2,582	0	32	75	16
6	3352.25	72,312	373	3,145	0	56	3	1	2,584	0	67	-173	16
7	3352.25	72,312	0	2,694	0	56	3	0	2,913	0	0	166	16
8	3351.98	72,054	-258	2,543	0	57	3	0	2,825	0	1	-29	17
9	3351.32	71,425	-629	2,191	0	49	0	0	2,811	0	0	-58	17
10	3350.93	71,055	-370	2,263	0	42	3	0	2,727	0	1	56	16
11	3351.67	71,758	703	3,227	0	37	2	1	2,570	0	0	12	16
12	3351.67	71,758	0	2,915	0	34	3	0	2,984	0	1	39	16
13	3351.74	71,825	67	3,087	0	32	3	0	2,968	0	0	-81	16
14	3351.51	71,606	-219	2,923	0	30	2	0	3,155	0	1	-14	16
15	3351.43	71,530	-76	2,859	0	27	2	1	3,043	0	0	84	16
16	3351.28	71,387	-143	2,997	0	25	3	0	3,132	0	1	-29	17
17	3350.93	71,055	-332	2,894	0	23	3	0	3,121	0	0	-125	16
18	3351.51	71,606	551	3,537	0	21	2	1	3,094	0	1	91	17
19	3351.98	72,054	448	3,389	0	19	3	0	2,996	0	0	39	17
20	3352.21	72,274	220	2,970	0	17	3	0	2,831	0	1	68	17
21	3352.21	72,274	0	2,994	0	16	3	0	2,973	0	0	-34	17
22	3352.83	72,868	594	3,315	0	16	4	0	2,737	0	1	5	17
23	3350.97	71,093	-1,775	1,578	0	16	5	0	3,291	0	0	-73	17
24	3351.47	71,568	475	3,574	0	16	4	1	3,203	0	1	94	17
25	3351.20	71,311	-257	3,263	0	14	5	0	3,361	0	0	-168	17
26	3351.67	71,758	447	3,534	0	13	5	0	3,238	0	1	144	17
27	3351.82	71,901	143	3,193	0	12	5	0	3,007	0	0	-50	17
28	3352.05	72,121	220	3,170	0	11	5	1	2,949	0	1	-5	17
29	3352.25	72,312	191	3,096	0	9	6	0	3,050	0	0	142	17
30	3352.44	72,494	182	3,296	0	9	7	0	3,013	0	1	-102	16
31	3351.98	72,054	-440	2,876	0	9	7	0	3,360	0	0	42	16
Total			334	92,575	0	1,012	113	6	93,222	0	111	199	512

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3351.98	72,054											
1	3352.83	72,868	814	4,043	0	9	7	0	3,244	0	0	13	16
2	3352.91	72,945	77	3,200	0	8	6	1	3,100	0	0	-24	16
3	3353.14	73,166	221	3,162	0	7	7	0	3,019	0	1	79	16
4	3353.10	73,128	-38	2,957	0	6	7	0	2,902	0	0	-92	16
5	3351.94	72,016	-1,112	1,657	0	6	6	1	2,841	0	0	73	16
6	3352.25	72,312	296	3,470	0	6	7	0	3,038	0	1	-134	16
7	3352.63	72,676	364	3,394	0	5	6	1	3,085	0	0	57	16
8	3352.52	72,571	-105	3,024	0	4	7	0	3,042	0	1	-83	16
9	3353.10	73,128	557	3,571	0	4	7	1	3,100	0	1	91	16
10	3353.14	73,166	38	3,145	0	4	7	0	3,090	0	0	-14	16
11	3353.06	73,089	-77	3,158	0	5	6	1	3,074	0	0	-159	16
12	3352.91	72,945	-144	2,475	0	5	7	0	2,743	0	1	127	17
13	3352.83	72,868	-77	2,641	0	4	6	1	2,701	0	0	-14	17
14	3352.71	72,753	-115	2,586	0	4	7	0	2,622	0	0	-76	17
15	3352.75	72,791	38	2,468	0	4	6	1	2,411	0	1	-15	16
16	3351.94	72,016	-775	1,937	0	4	7	0	2,714	0	0	5	16
17	3351.82	71,901	-115	2,439	0	3	7	0	2,684	0	0	134	17
18	3351.70	71,787	-114	2,888	0	3	7	0	2,979	0	1	-18	18
19	3351.59	71,682	-105	3,070	0	3	7	1	3,082	0	0	-88	19
20	3350.97	71,093	-589	2,486	0	4	7	0	3,067	0	0	-5	19
21	3349.42	69,632	-1,461	1,509	0	4	6	1	2,976	0	1	10	19
22	3350.85	70,979	1,347	4,204	0	4	6	0	2,841	0	0	-14	19
23	3351.67	71,758	779	3,728	0	4	7	0	2,850	0	0	-96	11
24	3351.98	72,054	296	2,898	0	4	5	1	2,666	0	1	67	8
25	3352.01	72,083	29	2,639	0	3	7	0	2,521	0	0	-85	7
26	3351.94	72,016	-67	2,572	0	2	5	1	2,781	0	0	146	7
27	3352.01	72,083	67	2,844	0	2	7	0	2,623	0	1	-148	7
28	3352.44	72,494	411	2,605	0	2	6	0	2,346	0	0	156	7
29	3352.21	72,274	-220	2,788	0	2	6	1	2,845	0	0	-158	7
30	3351.90	71,977	-297	2,474	0	2	5	1	2,937	0	1	171	7
Total			-77	86,032	0	127	194	13	85,924	0	11	-94	431

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.90	71,977											
1	3351.36	71,463	-514	2,499	0	1	8	0	2,915	0	1	-90	6
2	3351.67	71,758	295	3,267	0	1	8	1	3,027	0	0	63	6
3	3350.93	71,055	-703	2,565	0	1	9	0	3,146	0	1	-113	6
4	3351.32	71,425	370	3,332	0	1	7	1	3,085	0	0	130	6
5	3351.28	71,387	-38	3,293	0	1	8	1	3,212	0	1	-110	6
6	3351.82	71,901	514	3,368	0	0	8	1	2,828	0	0	-17	6
7	3351.74	71,825	-76	2,865	0	0	7	1	3,097	0	0	164	6
8	3351.32	71,425	-400	2,873	0	0	9	0	3,146	0	1	-117	8
9	3351.20	71,311	-114	2,897	0	0	8	1	3,099	0	0	97	8
10	3350.93	71,055	-256	2,866	0	0	9	0	3,127	0	0	14	10
11	3350.97	71,093	38	2,985	0	0	8	1	2,891	0	1	-46	11
12	3350.73	70,865	-228	2,574	0	0	8	0	2,976	0	0	182	11
13	3351.28	71,387	522	3,633	0	0	8	1	2,981	0	0	-121	11
14	3351.20	71,311	-76	3,100	0	0	9	0	3,058	0	1	-108	12
15	3351.04	71,159	-152	2,766	0	0	8	1	3,019	0	0	110	12
16	3350.89	71,017	-142	2,826	0	0	10	0	2,869	0	0	-89	12
17	3350.73	70,865	-152	2,920	0	0	9	1	3,186	0	1	125	12
18	3350.39	70,544	-321	2,880	0	0	9	1	3,111	0	0	-80	12
19	3350.46	70,610	66	3,088	0	0	9	0	3,029	0	1	17	12
20	3350.85	70,979	369	3,478	0	0	8	1	3,074	0	0	-26	12
21	3350.81	70,941	-38	2,991	0	0	9	1	3,024	0	0	5	12
22	3350.66	70,799	-142	2,976	0	0	9	0	3,017	0	0	-92	12
23	3350.46	70,610	-189	2,953	0	0	9	1	3,115	0	0	-17	12
24	3350.85	70,979	369	3,197	0	0	10	0	2,886	0	1	69	12
25	3351.04	71,159	180	3,201	0	0	10	1	3,022	0	0	12	12
26	3351.90	71,977	818	3,608	0	0	10	0	2,993	0	1	214	12
27	3352.40	72,456	479	3,455	0	0	8	1	2,999	0	0	32	12
28	3352.44	72,494	38	3,057	0	0	9	0	3,005	0	0	-5	12
29	3352.21	72,274	-220	2,792	0	0	7	1	3,111	0	0	107	12
30	3352.29	72,350	76	3,072	0	0	8	0	3,056	0	1	69	12
31	3352.36	72,417	67	2,965	0	0	7	1	3,063	0	0	173	12
Total			440	94,342	0	5	263	18	94,167	0	11	552	317

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3352.36	72,417											
1	3352.44	72,494	77	2,942	0	0	7	1	2,978	0	1	122	0
2	3352.29	72,350	-144	2,984	0	0	6	0	3,023	0	0	-99	0
3	3352.44	72,494	144	2,847	0	0	6	1	2,938	0	0	242	0
4	3352.21	72,274	-220	2,999	0	0	7	0	3,141	0	1	-70	0
5	3351.94	72,016	-258	2,814	0	0	7	1	3,090	0	0	26	0
6	3352.01	72,083	67	2,610	0	0	7	0	2,944	0	0	408	0
7	3351.98	72,054	-29	2,916	0	0	8	1	3,039	0	1	104	0
8	3351.82	71,901	-153	2,960	0	0	9	0	3,146	0	0	42	0
9	3351.47	71,568	-333	2,537	0	0	9	1	3,085	0	0	225	0
10	3351.55	71,644	76	3,102	0	0	9	1	3,021	0	1	6	0
11	3351.63	71,720	76	2,937	0	0	9	1	3,075	0	0	224	0
12	3351.28	71,387	-333	2,812	0	0	11	0	3,188	0	1	55	0
13	3351.12	71,235	-152	2,631	0	0	9	1	3,219	0	0	446	0
14	3350.31	70,469	-766	2,632	0	0	10	0	3,102	0	1	-285	0
15	3350.46	70,610	141	3,082	0	0	10	0	3,122	0	0	191	0
16	3350.35	70,506	-104	3,013	0	0	10	1	3,089	0	0	-17	0
17	3350.46	70,610	104	3,185	0	0	9	0	3,106	0	0	34	0
18	3350.35	70,506	-104	3,039	0	0	9	1	3,160	0	1	28	0
19	3350.25	70,412	-94	3,126	0	0	10	0	3,250	0	0	40	0
20	3350.20	70,365	-47	2,806	0	0	8	1	3,147	0	1	304	0
21	3350.25	70,412	47	3,070	0	0	10	0	3,063	0	0	50	0
22	3350.30	70,459	47	3,275	0	0	8	1	3,171	0	0	-48	0
23	3350.70	70,837	378	3,170	0	0	9	0	3,036	0	0	253	0
24	3350.54	70,686	-151	3,417	0	0	8	1	2,980	0	1	-578	0
25	3349.96	70,139	-547	2,521	0	0	9	0	3,394	0	0	335	0
26	3350.46	70,610	471	3,224	0	0	8	1	3,096	0	1	353	0
27	3350.20	70,365	-245	2,910	0	0	10	0	3,106	0	0	-39	0
28	3350.00	70,176	-189	2,544	0	0	9	1	3,088	0	0	365	0
29	3349.70	69,894	-282	2,815	0	0	9	0	3,099	0	1	12	0
30	3349.23	69,452	-442	2,798	0	0	8	0	3,134	0	0	-98	0
31	3349.00	69,238	-214	3,153	0	0	11	0	3,197	0	0	-159	0
Total			-3,179	90,871	0	0	269	15	96,227	0	11	2,472	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3349.00	69,238											
1	3348.80	69,052	-186	2,900	0	0	11	1	3,061	0	0	-13	11
2	3348.60	68,865	-187	3,125	0	0	10	0	3,256	0	0	-46	11
3	3347.35	67,706	-1,159	1,960	0	0	8	1	3,114	0	1	5	11
4	3348.50	68,772	1,066	3,305	0	0	10	0	3,061	0	0	832	11
5	3348.65	68,912	140	3,375	0	0	8	1	3,126	0	1	-99	11
6	3349.15	69,379	467	3,603	0	0	10	0	3,037	0	0	-89	11
7	3350.11	70,280	901	3,818	0	0	8	1	3,286	0	1	379	11
8	3350.70	70,837	557	3,626	0	0	9	0	3,170	0	0	110	11
9	3350.40	70,554	-283	3,474	0	0	7	1	3,207	0	1	-541	11
10	3350.10	70,271	-283	2,951	0	0	7	0	3,152	0	0	-75	8
11	3350.60	70,742	471	2,934	0	0	7	1	3,057	0	0	602	9
12	3351.20	71,311	569	3,296	0	0	8	0	3,085	0	1	367	6
13	3352.00	72,073	762	3,987	0	0	7	1	3,156	0	0	-61	6
14	3352.40	72,456	383	3,351	0	0	9	0	3,030	0	0	71	6
15	3352.79	72,830	374	3,208	0	0	6	1	3,194	0	1	368	6
16	3352.80	72,839	9	3,012	0	0	8	0	2,950	0	0	-45	6
17	3352.30	72,360	-479	2,639	0	0	7	1	3,196	0	1	87	6
18	3352.05	72,121	-239	2,826	0	0	10	0	3,031	0	0	-24	6
19	3351.95	72,025	-96	3,097	0	0	8	1	3,178	0	1	-5	6
20	3351.55	71,644	-381	2,568	0	0	9	0	3,035	0	0	95	4
21	3352.40	72,456	812	3,106	0	0	10	1	3,077	0	0	794	6
22	3352.50	72,551	95	3,217	0	0	10	1	3,107	0	0	-4	6
23	3351.80	71,882	-669	3,021	0	0	8	1	3,098	0	0	-583	6
24	3351.50	71,596	-286	2,591	0	0	11	0	3,033	0	1	168	6
25	3351.40	71,501	-95	3,042	0	0	7	1	3,103	0	0	-26	6
26	3351.39	71,492	-9	3,145	0	0	9	0	3,125	0	0	-20	6
27	3351.50	71,596	104	3,137	0	0	7	1	2,978	0	0	-47	6
28	3351.40	71,501	-95	2,991	0	0	10	0	3,111	0	1	36	6
29	3350.50	70,648	-853	2,279	0	0	5	0	3,128	0	0	1	6
30	3349.80	69,988	-660	2,515	0	0	6	0	3,109	0	1	-59	6
Total			750	92,099	0	0	250	15	93,251	0	11	2,178	228

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3349.80	69,988											
1	3349.90	70,082	94	2,827	0	0	6	0	3,058	0	0	331	6
2	3350.50	70,648	566	3,293	0	0	1	0	3,011	0	0	285	6
3	3350.60	70,742	95	3,214	0	0	6	1	3,172	0	1	61	6
4	3350.80	70,932	189	3,317	0	0	7	1	2,983	0	0	-137	6
5	3351.20	71,311	379	3,691	0	0	6	1	3,325	0	0	20	6
6	3351.80	71,882	571	3,600	0	0	7	0	3,259	0	1	238	6
7	3352.30	72,360	478	3,533	0	0	7	1	3,143	0	0	96	4
8	3352.50	72,551	192	3,311	0	0	8	0	3,086	0	0	-25	3
9	3352.60	72,647	96	3,258	0	0	7	1	3,083	0	1	-70	0
10	3352.70	72,743	96	3,019	0	0	8	0	3,274	0	0	359	0
11	3352.10	72,169	-575	2,291	0	0	7	1	2,978	0	0	120	0
12	3352.40	72,456	287	3,165	0	0	8	0	2,911	0	1	42	0
13	3351.80	71,882	-574	2,543	0	0	8	0	3,177	0	0	68	0
14	3351.80	71,882	0	2,902	0	0	9	0	3,107	0	1	215	0
15	3351.20	71,311	-571	2,602	0	0	8	0	3,153	0	0	-12	0
16	3351.20	71,311	0	2,958	0	0	8	0	3,117	0	1	168	0
17	3351.10	71,216	-95	3,079	0	0	9	1	3,259	0	0	95	0
18	3351.80	71,882	666	3,557	0	0	8	0	2,992	0	1	110	0
19	3352.00	72,073	191	3,475	0	0	8	0	3,337	0	0	61	0
20	3351.80	71,882	-191	3,170	0	0	7	1	3,479	0	0	126	0
21	3351.40	71,501	-381	2,583	0	0	8	0	3,170	0	0	214	0
22	3351.10	71,216	-285	3,061	0	0	7	1	3,352	0	1	15	0
23	3351.00	71,121	-95	3,041	0	0	8	0	3,188	0	0	60	0
24	3350.70	70,837	-284	2,807	0	0	7	1	3,290	0	1	208	0
25	3349.80	69,988	-849	944	963	0	8	1	2,829	0	0	82	0
26	3349.40	69,613	-375	0	1,295	0	0	0	1,585	0	1	-84	0
27	3348.00	68,307	-1,306	0	1,197	0	16	1	2,664	0	0	178	0
28	3347.50	67,844	-463	422	838	0	11	0	1,885	0	0	173	0
29	3346.80	67,199	-645	0	1,137	0	1	1	1,832	0	0	52	0
30	3346.90	67,291	92	0	1,139	0	13	0	867	0	1	-166	0
31	3347.00	67,383	92	0	1,144	0	7	1	887	0	0	-157	0
Total			-2,605	75,663	7,713	0	229	14	88,453	0	11	2,726	43

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3347.00	67,383											
1	3347.30	67,660	277	0	1,141	0	7	1	761	0	0	-95	0
2	3347.90	68,215	555	0	1,141	0	8	0	875	0	0	297	0
3	3348.20	68,493	278	0	1,135	0	8	0	965	0	1	117	0
4	3348.10	68,400	-93	0	1,139	0	8	0	1,151	0	0	-73	0
5	3349.40	69,613	1,213	1,665	457	0	5	0	708	0	0	-196	0
6	3351.70	71,787	2,174	3,330	0	0	5	0	1,434	0	1	284	0
7	3352.50	72,551	764	2,934	0	0	0	0	2,460	0	0	290	0
8	3352.90	72,935	384	3,358	0	0	12	1	2,813	0	0	-148	0
9	3353.40	73,417	482	2,921	0	0	5	0	2,471	0	1	38	0
10	3352.60	72,647	-770	1,958	0	0	5	0	2,813	0	0	90	0
11	3352.37	72,427	-220	2,647	0	0	5	0	2,990	0	0	128	0
12	3352.34	72,398	-29	2,813	0	0	6	0	2,957	0	1	122	0
13	3352.30	72,360	-38	2,894	0	0	6	0	3,117	0	0	191	0
14	3351.55	71,644	-716	2,348	0	0	5	0	2,947	0	0	-112	0
15	3351.70	71,787	143	3,172	0	0	5	0	3,081	0	1	58	0
16	3352.40	72,456	669	2,975	0	0	7	0	2,369	0	0	70	0
17	3352.80	72,839	383	2,054	0	0	6	1	1,956	0	0	292	0
18	3353.00	73,032	193	1,750	0	0	6	0	1,867	0	1	317	0
19	3352.16	72,226	-806	1,623	0	0	6	0	1,984	0	0	-439	0
20	3351.56	71,653	-573	1,442	0	0	6	0	1,922	0	0	-87	0
21	3351.00	71,121	-532	1,932	0	0	6	0	2,206	0	1	-251	0
22	3351.00	71,121	0	2,230	0	0	6	0	2,150	0	76	2	0
23	3350.30	70,459	-662	1,606	0	0	5	0	2,047	0	200	-16	0
24	3350.65	70,790	331	1,874	0	0	5	0	2,134	0	301	897	0
25	3350.00	70,176	-614	1,519	0	0	6	0	1,870	0	300	43	0
26	3349.40	69,613	-563	1,521	0	0	5	0	1,778	0	300	-1	0
27	3350.11	70,280	667	2,330	0	0	7	0	1,550	0	401	295	0
28	3349.88	70,064	-216	1,928	0	0	6	0	1,950	0	400	212	0
29	3349.84	70,026	-38	2,013	0	0	6	0	1,828	0	400	183	0
30	3349.76	69,951	-75	1,977	0	0	7	0	1,687	0	401	43	0
Total			2,568	58,814	5,013	0	180	3	60,841	0	2,786	2,551	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2003

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3349.76	69,951											
1	3349.45	69,660	-291	1,934	0	0	4	1	2,057	0	576	413	0
2	3349.37	69,585	-75	2,210	0	0	5	0	2,105	0	397	222	0
3	3348.68	68,940	-645	2,183	0	0	5	0	2,364	0	397	-62	0
4	3348.64	68,902	-38	2,449	0	0	5	0	2,245	0	399	162	0
5	3348.56	68,828	-74	2,307	0	0	5	0	2,255	0	397	276	0
6	3348.48	68,753	-75	2,405	0	0	4	0	2,218	0	399	141	0
7	3348.71	68,968	215	2,418	0	0	5	0	1,964	0	397	163	0
8	3349.53	69,735	767	2,966	0	0	4	0	1,974	0	397	176	0
9	3350.42	70,572	837	3,096	0	0	4	0	2,005	0	397	147	0
10	3351.00	71,121	549	3,152	0	1	4	0	2,133	0	397	-70	0
11	3350.50	70,648	-473	2,129	0	0	3	1	2,032	0	397	-169	0
12	3351.04	71,159	511	2,708	0	0	4	0	1,990	0	399	196	0
13	3351.47	71,568	409	2,511	0	0	4	0	1,930	0	397	229	0
14	3351.78	71,863	295	2,758	0	1	4	0	1,964	0	397	-99	0
15	3351.93	72,006	143	2,489	0	0	4	0	2,053	0	399	110	0
16	3351.51	71,606	-400	1,748	0	0	5	0	2,031	0	397	285	0
17	3351.93	72,006	400	2,617	0	1	5	0	1,966	0	397	150	0
18	3351.99	72,063	57	2,554	0	0	5	0	2,013	0	397	-82	0
19	3351.75	71,834	-229	2,258	0	0	4	1	1,985	0	466	-31	0
20	3351.54	71,634	-200	2,458	0	1	6	0	2,086	0	496	-71	0
21	3351.40	71,501	-133	2,422	0	0	5	0	2,052	0	498	0	0
22	3351.52	71,615	114	2,610	0	0	5	0	1,945	0	538	-8	0
23	3352.13	72,197	582	2,306	0	1	5	0	1,767	0	595	642	0
24	3352.21	72,274	77	2,333	0	1	4	0	1,683	0	595	25	0
25	3353.64	73,649	1,375	2,058	0	1,233	5	0	1,470	0	595	154	0
26	3354.45	74,434	785	1,957	0	587	4	0	1,472	0	284	1	0
27	3354.88	74,853	419	1,175	0	60	4	0	788	0	26	2	0
28	3354.30	74,288	-565	345	0	18	4	0	599	0	583	258	0
29	3353.25	73,272	-1,016	927	0	14	4	0	1,554	0	795	396	0
30	3351.47	71,568	-1,704	1,209	0	13	4	0	1,788	0	690	-444	0
31	3350.42	70,572	-996	2,157	0	11	5	0	2,228	0	990	59	0
Total			621	68,849	0	1,942	138	3	58,716	0	14,484	3,171	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3350.42	70,572											
1	3351.12	71,235	663	2,910	0	11	5	0	2,197	0	1	-55	0
2	3351.12	71,235	0	2,689	0	10	6	0	2,641	0	0	-52	0
3	3351.67	71,758	523	2,612	0	10	6	0	2,201	0	1	109	0
4	3352.00	72,073	315	2,645	0	9	7	0	2,397	0	0	65	0
5	3352.41	72,465	392	2,628	0	8	8	0	2,493	0	1	258	0
6	3352.12	72,188	-277	2,124	0	7	6	0	2,763	0	0	361	0
7	3351.70	71,787	-401	2,400	0	7	7	0	2,753	0	1	-47	0
8	3351.50	71,596	-191	2,538	0	6	8	0	2,858	0	0	131	0
9	3351.20	71,311	-285	2,378	0	6	4	1	2,818	0	1	155	0
10	3351.30	71,406	95	2,799	0	5	5	0	2,811	0	0	107	0
11	3351.40	71,501	95	3,038	0	5	5	0	2,985	0	1	43	0
12	3351.60	71,691	190	2,145	0	5	4	0	2,170	0	0	214	0
13	3351.70	71,787	96	2,107	0	5	5	0	2,103	0	1	93	0
14	3351.50	71,596	-191	1,936	0	4	4	0	2,205	0	0	78	0
15	3351.00	71,121	-475	1,935	0	4	4	0	2,319	0	1	-90	0
16	3350.50	70,648	-473	2,322	0	4	5	0	2,872	0	0	78	0
17	3351.10	71,216	568	3,213	0	3	4	0	3,061	0	1	418	0
18	3351.20	71,311	95	3,172	0	3	4	0	3,009	0	0	-67	0
19	3351.50	71,596	285	3,172	0	3	4	0	2,887	0	1	2	0
20	3351.70	71,787	191	2,994	0	3	3	1	2,735	0	59	-8	0
21	3351.40	71,501	-286	3,026	0	3	4	0	3,191	0	151	31	0
22	3351.90	71,977	476	3,246	0	3	4	0	3,072	0	200	504	0
23	3351.60	71,691	-286	2,724	0	2	4	0	2,828	0	200	20	0
24	3351.80	71,882	191	2,674	0	2	4	0	2,601	0	200	320	0
25	3351.70	71,787	-95	2,724	0	3	4	0	2,706	0	200	88	0
26	3350.50	70,648	-1,139	2,017	0	3	4	0	3,002	0	200	47	0
27	3350.20	70,365	-283	2,710	0	3	4	0	2,836	0	200	44	0
28	3350.00	70,176	-189	2,767	0	3	4	0	3,044	0	101	191	0
29	3349.70	69,894	-282	2,497	0	3	4	0	2,903	0	46	172	0
30	3349.55	69,753	-141	2,803	0	2	4	0	2,997	0	0	55	0
31	3350.30	70,459	706	3,715	0	3	4	0	3,012	0	0	4	0
Total			-113	82,660	0	148	148	2	84,470	0	1,567	3,269	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.30	70,459											
1	3351.10	71,216	757	3,591	0	3	3	1	2,988	0	0	155	6
2	3350.90	71,026	-190	2,849	0	3	4	0	3,078	0	1	41	6
3	3351.45	71,549	523	3,367	0	8	5	0	2,909	0	0	62	6
4	3351.40	71,501	-48	2,430	0	5	3	0	2,550	0	1	71	6
5	3351.40	71,501	0	2,368	0	4	4	0	2,419	0	1	52	6
6	3351.90	71,977	476	3,009	0	4	4	0	2,801	0	1	269	6
7	3351.60	71,691	-286	2,482	0	4	4	0	2,764	0	0	-4	6
8	3351.70	71,787	96	2,876	0	3	4	0	2,888	0	1	110	6
9	3352.00	72,073	286	3,140	0	3	4	0	2,988	0	0	135	6
10	3352.00	72,073	0	2,941	0	3	4	0	2,834	0	0	-106	6
11	3352.10	72,169	96	2,870	0	2	4	0	2,787	0	1	16	6
12	3351.90	71,977	-192	2,493	0	2	3	0	2,757	0	0	73	6
13	3351.70	71,787	-190	2,799	0	2	4	0	2,992	0	0	5	6
14	3351.70	71,787	0	2,783	0	2	5	0	2,739	0	1	-40	6
15	3351.70	71,787	0	2,683	0	2	4	1	2,724	0	0	44	6
16	3352.10	72,169	382	2,988	0	2	5	0	2,648	0	0	45	6
17	3352.30	72,360	191	2,737	0	3	5	0	2,602	0	1	59	7
18	3351.90	71,977	-383	1,944	0	4	4	0	2,331	0	0	4	7
19	3352.00	72,073	96	2,318	0	6	4	0	2,282	0	0	58	7
20	3352.00	72,073	0	2,185	0	9	4	0	2,242	0	1	53	7
21	3352.10	72,169	96	1,943	0	19	8	0	2,078	0	1	221	7
22	3352.40	72,456	287	1,888	0	323	5	0	2,042	0	1	124	7
23	3352.20	72,257	-199	2,081	0	234	4	0	2,198	0	122	-190	7
24	3351.90	71,977	-280	1,786	0	97	4	0	2,060	0	115	16	7
25	3351.20	71,311	-666	1,254	0	45	3	0	2,052	0	0	90	7
26	3352.00	72,073	762	2,068	0	1,035	3	0	2,007	0	236	-95	7
27	3351.15	71,264	-809	1,476	0	219	3	0	2,083	0	387	-31	7
28	3350.40	70,554	-710	1,598	0	108	3	0	2,114	0	287	-12	7
29	3350.60	70,742	188	2,309	0	70	2	0	2,069	0	95	-25	7
Total			283	71,256	0	2,224	116	2	73,026	0	1,253	1,200	187

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 29	3350.60	70,742											
1	3350.40	70,554	-188	1,919	0	50	3	0	2,108	0	0	-46	9
2	3350.75	70,884	330	1,947	0	215	3	0	1,782	0	1	-46	11
3	3350.95	71,074	190	2,089	0	135	3	0	1,969	0	42	-20	11
4	3351.10	71,216	142	2,818	0	82	3	0	2,780	0	81	106	11
5	3351.30	71,406	190	2,814	0	54	4	0	2,558	0	0	-116	11
6	3351.40	71,501	95	2,733	0	48	4	0	2,720	0	1	39	11
7	3351.80	71,882	381	3,143	0	41	4	0	2,848	0	0	49	11
8	3351.30	71,406	-476	2,411	0	37	4	0	2,880	0	1	-39	11
9	3350.80	70,932	-474	2,556	0	33	4	0	2,955	0	0	-104	11
10	3349.90	70,082	-850	1,916	0	29	4	0	2,803	0	42	54	11
11	3349.40	69,613	-469	2,692	0	26	4	0	3,057	0	95	-31	11
12	3349.50	69,707	94	2,747	0	23	4	0	2,715	0	95	138	11
13	3349.33	69,547	-160	2,897	0	21	5	0	2,981	0	94	2	11
14	3349.50	69,707	160	2,857	0	19	4	0	2,726	0	24	38	11
15	3349.48	69,688	-19	2,967	0	17	5	0	3,039	0	0	41	11
16	3349.70	69,894	206	2,882	0	15	5	0	2,682	0	1	-3	11
17	3349.90	70,082	188	2,925	0	14	5	0	2,728	0	0	-18	11
18	3350.10	70,271	189	2,690	0	12	5	0	2,682	0	1	175	11
19	3349.90	70,082	-189	2,833	0	11	5	1	2,942	0	1	-84	11
20	3350.00	70,176	94	2,614	0	10	5	1	2,627	0	0	103	11
21	3349.70	69,894	-282	2,627	0	9	6	0	2,872	0	0	-40	11
22	3349.90	70,082	188	2,946	0	8	6	0	2,861	0	0	101	11
23	3348.70	68,958	-1,124	2,346	0	8	6	0	3,301	0	0	-171	11
24	3348.00	68,307	-651	2,707	0	8	5	0	3,356	0	0	-5	11
25	3348.30	68,586	279	3,333	0	7	6	0	3,096	0	0	41	11
26	3349.40	69,613	1,027	3,620	0	8	5	0	2,695	0	0	99	11
27	3349.50	69,707	94	2,859	0	7	6	0	2,689	0	0	-77	11
28	3349.90	70,082	375	2,981	0	6	6	0	2,589	0	0	-17	11
29	3350.20	70,365	283	2,928	0	7	6	0	2,704	0	0	58	11
30	3350.00	70,176	-189	2,477	0	7	5	0	2,631	0	0	-37	12
31	3350.30	70,459	283	3,256	0	6	5	0	2,963	0	0	-11	12
Total			-283	84,530	0	973	145	2	85,339	0	479	179	341

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3350.30	70,459											
1	3349.80	69,988	-471	2,509	0	6	5	0	3,033	0	1	53	6
2	3350.10	70,271	283	3,317	0	7	6	0	3,075	0	0	40	0
3	3350.50	70,648	377	3,287	0	6	7	0	2,906	0	0	-3	0
4	3351.90	71,977	1,329	3,508	0	6	6	0	2,179	0	1	1	0
5	3353.00	73,032	1,055	3,536	0	6	7	0	2,571	0	0	91	0
6	3353.50	73,513	481	3,069	0	6	6	0	2,558	0	1	-29	0
7	3353.00	73,032	-481	1,865	0	6	5	0	2,301	0	0	-46	0
8	3352.53	72,580	-452	1,737	0	5	5	0	2,181	0	1	-7	0
9	3351.90	71,977	-603	2,095	0	5	6	0	2,636	0	0	-61	0
10	3351.50	71,596	-381	2,099	0	5	6	0	2,524	0	0	45	0
11	3350.90	71,026	-570	1,912	0	5	6	0	2,505	0	0	24	0
12	3350.00	70,176	-850	2,099	0	4	6	0	2,924	0	1	-22	4
13	3349.80	69,988	-188	2,464	0	4	5	0	2,702	0	0	51	10
14	3349.72	69,913	-75	2,843	0	4	5	0	2,928	0	0	11	10
15	3349.58	69,782	-131	2,792	0	4	6	0	2,933	0	1	13	10
16	3349.52	69,725	-57	2,855	0	4	5	0	2,921	0	0	10	10
17	3348.87	69,117	-608	2,092	0	7	5	0	2,709	0	0	7	10
18	3348.37	68,651	-466	2,097	0	7	5	0	2,557	0	1	-7	10
19	3347.81	68,131	-520	2,110	0	5	5	0	2,598	0	0	-32	9
20	3348.06	68,363	232	2,688	0	4	5	0	2,435	0	0	-20	6
21	3347.61	67,946	-417	2,537	0	4	5	0	2,948	0	1	-4	0
22	3348.14	68,437	491	3,351	0	4	6	0	2,866	0	0	8	0
23	3348.90	69,145	708	3,745	0	4	5	0	3,112	0	0	76	0
24	3349.46	69,669	524	3,653	0	4	6	0	3,109	0	1	-17	0
25	3349.83	70,016	347	3,419	0	3	5	0	3,103	0	0	33	0
26	3350.42	70,572	556	3,423	0	3	6	0	2,867	0	0	3	0
27	3350.87	70,998	426	3,198	0	3	7	1	2,752	0	1	-14	0
28	3351.26	71,368	370	3,184	0	3	0	1	2,848	0	0	32	0
29	3351.40	71,501	133	2,919	0	3	5	1	2,746	0	0	-37	0
30	3351.88	71,958	457	3,297	0	2	2	0	2,871	0	1	32	0
Total			1,499	83,700	0	139	159	3	82,398	0	11	231	85

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3351.88	71,958											
1	3352.38	72,436	478	3,673	0	3	9	0	3,122	0	0	-67	0
2	3352.69	72,734	298	3,346	0	2	8	0	3,088	0	0	46	0
3	3352.95	72,983	249	3,267	0	2	9	0	3,060	0	0	49	0
4	3352.61	72,657	-326	2,736	0	2	9	1	2,964	0	0	-90	0
5	3352.47	72,523	-134	2,941	0	2	6	0	3,183	0	1	113	0
6	3352.21	72,274	-249	2,779	0	2	9	0	2,973	0	0	-48	0
7	3352.47	72,523	249	3,273	0	2	9	1	3,003	0	0	-13	0
8	3352.61	72,657	134	3,385	0	2	9	0	3,199	0	1	-44	0
9	3352.95	72,983	326	3,071	0	2	9	0	2,933	0	0	195	0
10	3352.55	72,599	-384	2,725	0	2	9	0	3,048	0	0	-54	0
11	3351.93	72,006	-593	2,596	0	2	8	1	3,171	0	1	-10	0
12	3351.90	71,977	-29	3,157	0	2	9	0	3,149	0	0	-30	0
13	3351.99	72,063	86	3,439	0	2	8	0	3,155	0	1	-191	0
14	3352.16	72,226	163	3,213	0	2	8	0	3,166	0	0	122	0
15	3352.61	72,657	431	3,644	0	2	8	1	3,187	0	1	-18	0
16	3353.06	73,089	432	3,737	0	2	7	0	3,323	0	0	23	0
17	3353.06	73,089	0	3,136	0	2	8	0	3,323	0	1	194	0
18	3353.00	73,032	-57	3,165	0	2	7	1	3,207	0	0	-9	0
19	3352.83	72,868	-164	2,929	0	2	7	0	3,249	0	1	162	0
20	3353.09	73,118	250	3,592	0	2	6	0	3,340	0	0	2	0
21	3353.17	73,195	77	3,252	0	2	7	1	3,157	0	1	-11	3
22	3353.06	73,089	-106	3,387	0	2	8	0	3,417	0	0	-70	5
23	3353.09	73,118	29	3,282	0	2	8	0	3,321	0	0	74	5
24	3353.39	73,407	289	3,488	0	2	8	1	3,136	0	1	-55	6
25	3353.39	73,407	0	3,149	0	2	8	0	3,143	0	0	0	6
26	3353.20	73,224	-183	3,053	0	1	8	0	3,186	0	0	-43	6
27	3352.45	72,503	-721	3,354	0	1	8	0	3,201	0	1	-866	6
28	3353.39	73,407	904	3,186	0	1	7	0	3,203	0	0	927	6
29	3353.23	73,253	-154	3,180	0	1	7	0	3,328	0	0	0	6
30	3353.17	73,195	-58	3,213	0	1	7	0	3,257	0	1	-7	6
31	3352.95	72,983	-212	3,117	0	1	7	0	3,366	0	0	43	6
Total			1,025	99,465	0	57	245	7	98,558	0	11	324	61

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3352.95	72,983											
1	3353.00	73,032	49	3,264	0	1	7	1	3,123	0	0	-85	6
2	3352.80	72,839	-193	3,163	0	1	7	0	3,386	0	1	37	6
3	3353.06	73,089	250	3,390	0	1	8	1	3,247	0	1	116	6
4	3353.37	73,388	299	3,681	0	1	9	1	3,289	0	1	-83	6
5	3352.55	72,599	-789	2,260	0	1	9	1	3,098	0	1	59	6
6	3352.75	72,791	192	2,869	0	1	10	1	2,612	0	0	-55	6
7	3353.23	73,253	462	1,751	0	1	10	1	1,407	0	0	128	6
8	3353.06	73,089	-164	1,489	0	1	10	1	1,592	0	0	-51	6
9	3352.97	73,003	-86	1,982	0	1	10	0	1,980	0	1	-78	6
10	3353.09	73,118	115	2,549	0	1	10	1	2,394	0	1	-29	6
11	3353.45	73,465	347	2,618	0	1	9	1	2,272	0	1	11	6
12	3353.00	73,032	-433	2,545	0	1	9	1	3,004	0	0	35	6
13	3353.11	73,137	105	3,307	0	1	9	0	3,236	0	0	42	5
14	3353.09	73,118	-19	3,370	0	1	8	0	3,359	0	0	-23	5
15	3352.83	72,868	-250	2,916	0	1	8	0	3,225	0	0	66	5
16	3353.00	73,032	164	3,422	0	1	7	0	3,238	0	1	-13	5
17	3352.80	72,839	-193	3,069	0	1	8	0	3,264	0	1	10	5
18	3352.75	72,791	-48	3,091	0	1	8	0	3,150	0	1	19	5
19	3352.66	72,705	-86	3,300	0	0	8	0	3,355	0	0	-23	5
20	3352.83	72,868	163	3,318	0	0	8	0	3,152	0	0	5	5
21	3352.80	72,839	-29	3,111	0	0	6	0	3,063	0	0	-71	5
22	3352.55	72,599	-240	3,043	0	0	10	0	3,228	0	0	-45	5
23	3352.65	72,695	96	3,001	0	0	8	0	3,019	0	0	122	5
24	3352.50	72,551	-144	2,922	0	0	8	0	3,001	0	1	-56	5
25	3352.21	72,274	-277	3,099	0	0	8	0	3,327	0	0	-41	5
26	3352.89	72,926	652	3,486	0	0	8	0	2,942	0	0	116	5
27	3352.97	73,003	77	3,220	0	0	8	0	3,097	0	0	-38	5
28	3352.95	72,983	-20	3,051	0	0	9	0	3,062	0	0	0	5
29	3352.58	72,628	-355	2,989	0	0	9	0	3,398	0	0	63	5
30	3352.47	72,523	-105	3,055	0	0	9	0	3,098	0	0	-53	5
Total			-460	88,331	0	18	255	10	88,618	0	11	85	162

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3352.47	72,523											
1	3352.27	72,331	-192	3,028	0	1	10	0	3,195	0	1	-15	5
2	3351.88	71,958	-373	2,858	0	0	10	1	3,204	0	0	-16	5
3	3351.80	71,882	-76	3,129	0	0	10	0	3,206	0	1	12	5
4	3351.79	71,873	-9	3,215	0	1	10	1	3,172	0	0	-42	5
5	3352.16	72,226	353	3,354	0	0	10	0	3,067	0	1	77	5
6	3352.21	72,274	48	3,034	0	0	10	1	3,150	0	0	175	5
7	3352.24	72,302	28	3,272	0	1	10	0	3,184	0	1	-50	5
8	3351.91	71,987	-315	2,824	0	0	10	1	3,169	0	0	41	5
9	3351.85	71,930	-57	3,051	0	0	10	0	3,106	0	1	9	6
10	3351.71	71,796	-134	3,266	0	1	10	1	3,247	0	0	-143	5
11	3351.93	72,006	210	3,390	0	0	10	0	3,277	0	1	108	5
12	3351.82	71,901	-105	3,084	0	0	10	1	3,180	0	1	3	5
13	3351.77	71,853	-48	2,898	0	1	10	0	3,074	0	0	137	5
14	3351.43	71,530	-323	3,049	0	0	10	1	3,193	0	1	-167	5
15	3350.70	70,837	-693	2,582	0	0	10	0	3,141	0	0	-124	5
16	3351.06	71,178	341	3,384	0	1	10	1	3,250	0	1	218	5
17	3350.70	70,837	-341	2,894	0	0	10	0	3,190	0	1	-34	5
18	3351.06	71,178	341	3,460	0	0	10	1	3,121	0	0	13	5
19	3351.15	71,264	86	3,310	0	0	10	0	3,286	0	1	73	6
20	3351.09	71,207	-57	3,102	0	0	10	1	3,177	0	0	29	6
21	3351.26	71,368	161	3,241	0	0	10	0	3,062	0	0	-8	5
22	3351.43	71,530	162	3,379	0	0	10	1	3,038	0	0	-168	5
23	3351.37	71,473	-57	3,082	0	0	10	0	3,303	0	0	174	5
24	3351.60	71,691	218	3,354	0	0	9	1	3,063	0	1	-62	6
25	3351.60	71,691	0	3,356	0	0	9	0	3,303	0	0	-44	6
26	3351.82	71,901	210	3,146	0	0	9	1	2,995	0	0	69	6
27	3352.02	72,092	191	3,554	0	0	10	0	3,340	0	0	-13	6
28	3351.60	71,691	-401	2,775	0	0	10	0	3,135	0	0	-31	6
29	3351.71	71,796	105	3,083	0	0	10	1	3,020	0	0	53	6
30	3351.85	71,930	134	3,157	0	0	10	0	3,047	0	0	34	6
31	3351.65	71,739	-191	3,099	0	0	10	0	3,129	0	5	-146	6
Total			-784	97,410	0	6	307	14	98,024	0	17	162	166

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3351.65	71,739											
1	3351.46	71,558	-181	2,813	0	1	11	0	3,121	0	0	137	5
2	3351.37	71,473	-85	2,850	0	0	11	0	2,883	0	0	-41	5
3	3351.06	71,178	-295	2,875	0	0	10	0	3,187	0	1	28	5
4	3351.01	71,131	-47	3,022	0	0	10	1	3,084	0	0	26	5
5	3350.78	70,913	-218	2,956	0	0	10	0	3,131	0	0	-33	5
6	3350.39	70,544	-369	2,839	0	0	10	1	3,128	0	1	-68	5
7	3350.33	70,487	-57	3,175	0	0	14	0	3,150	0	0	-68	5
8	3350.95	71,074	587	3,712	0	0	7	1	3,146	0	0	29	5
9	3351.29	71,397	323	3,509	0	0	10	0	3,183	0	1	8	5
10	3351.06	71,178	-219	3,000	0	0	8	1	3,215	0	0	5	5
11	3351.01	71,131	-47	2,906	0	0	10	0	3,074	0	1	132	6
12	3350.61	70,752	-379	2,876	0	0	10	1	3,057	0	1	-186	6
13	3350.08	70,252	-500	2,660	0	0	9	0	3,273	0	0	122	6
14	3350.39	70,544	292	3,295	0	0	14	1	3,001	0	0	13	6
15	3351.37	71,473	929	3,977	0	0	11	0	3,026	0	1	-10	5
16	3351.32	71,425	-48	3,023	0	0	10	1	3,178	0	1	119	6
17	3351.06	71,178	-247	3,015	0	0	9	1	3,186	0	0	-66	6
18	3351.15	71,264	86	3,259	0	0	9	0	3,121	0	1	-42	5
19	3351.32	71,425	161	3,204	0	0	8	1	3,124	0	0	90	5
20	3351.43	71,530	105	3,360	0	0	10	0	3,170	0	0	-75	6
21	3351.51	71,606	76	3,184	0	0	9	1	3,120	0	1	23	5
22	3352.27	72,331	725	3,593	0	0	10	0	2,857	0	0	-1	5
23	3352.05	72,121	-210	3,040	0	0	10	1	3,275	0	0	36	6
24	3351.96	72,035	-86	3,077	0	0	10	0	3,103	0	1	-49	6
25	3352.02	72,092	57	3,126	0	0	10	1	2,982	0	0	-76	6
26	3352.10	72,169	77	3,038	0	0	9	0	3,013	0	1	62	5
27	3351.82	71,901	-268	2,827	0	0	9	1	3,065	0	0	-20	6
28	3351.96	72,035	134	3,208	0	0	10	0	3,081	0	1	18	6
29	3352.13	72,197	162	3,205	0	0	9	1	2,982	0	0	-51	6
30	3351.37	71,473	-724	2,384	0	0	9	0	3,110	0	1	12	6
31	3351.51	71,606	133	3,230	0	0	8	1	3,057	0	0	-31	5
Total			-133	96,238	0	1	304	15	96,083	0	13	43	169

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3351.51	71,606											
1	3350.89	71,017	-589	2,530	0	0	9	0	3,120	0	0	10	0
2	3351.14	71,247	230	3,226	0	0	10	0	2,974	0	0	-12	0
3	3351.12	71,235	-12	3,095	0	0	9	0	3,082	0	1	-15	0
4	3351.37	71,473	238	3,224	0	0	11	0	2,962	0	0	-13	0
5	3352.21	72,274	801	3,805	0	0	10	0	3,096	0	0	102	0
6	3352.66	72,705	431	3,429	0	0	10	1	2,939	0	1	-47	0
7	3351.77	71,853	-852	2,303	0	0	10	0	3,259	0	0	114	0
8	3351.82	71,901	48	3,250	0	0	12	0	3,208	0	0	18	0
9	3351.74	71,825	-76	3,248	0	0	9	0	3,270	0	1	-44	0
10	3351.43	71,530	-295	2,930	0	0	11	1	3,222	0	0	9	0
11	3351.91	71,987	457	3,523	0	0	8	0	3,029	0	0	-29	0
12	3351.43	71,530	-457	2,699	0	0	10	0	3,188	0	1	43	0
13	3351.34	71,444	-86	3,267	0	0	10	0	3,357	0	0	14	0
14	3350.98	71,102	-342	2,802	0	0	7	1	3,054	0	0	-82	0
15	3350.08	70,252	-850	2,278	0	0	8	0	3,170	0	1	51	0
16	3350.14	70,308	56	3,283	0	0	9	0	3,285	0	0	67	0
17	3349.94	70,120	-188	2,788	0	0	9	0	3,006	0	0	39	0
18	3349.83	70,016	-104	3,294	0	0	7	1	3,274	0	1	-115	0
19	3350.45	70,601	585	3,695	0	0	9	0	3,118	0	0	17	0
20	3350.61	70,752	151	3,323	0	0	10	0	3,221	0	0	59	0
21	3350.36	70,516	-236	3,301	0	0	9	0	3,334	0	1	-193	0
22	3350.11	70,280	-236	3,026	0	0	7	1	3,237	0	0	-17	0
23	3350.50	70,648	368	3,584	0	0	8	0	3,278	0	0	70	0
24	3350.40	70,554	-94	3,172	0	0	7	0	3,255	0	1	-3	0
25	3351.18	71,292	738	3,942	0	0	8	0	3,219	0	0	23	0
26	3351.12	71,235	-57	3,217	0	0	7	1	3,261	0	0	-5	0
27	3351.20	71,311	76	3,345	0	0	8	0	3,325	0	1	65	0
28	3352.81	72,849	1,538	3,462	0	0	8	0	3,282	0	0	1,366	0
29	3351.74	71,825	-1,024	3,213	0	0	8	0	2,966	0	0	-1,263	0
30	3351.65	71,739	-86	3,618	0	1	8	1	3,645	0	1	-50	0
Total			133	95,872	0	1	266	7	95,636	0	10	179	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.65	71,739											
1	3351.65	71,739	0	3,142	0	0	9	0	3,072	0	0	-61	5
2	3351.93	72,006	267	3,079	0	0	8	1	2,822	0	0	19	5
3	3352.41	72,465	459	3,587	0	0	8	1	3,199	0	1	81	5
4	3351.20	71,311	-1,154	2,238	0	0	8	1	3,311	0	0	-72	5
5	3350.81	70,941	-370	2,623	0	0	9	0	3,014	0	1	31	5
6	3350.61	70,752	-189	3,012	0	0	7	1	3,230	0	0	37	5
7	3350.45	70,601	-151	3,070	0	0	9	0	3,202	0	0	-10	5
8	3350.67	70,809	208	3,321	0	0	6	1	3,140	0	1	35	5
9	3351.06	71,178	369	3,629	0	0	5	1	3,265	0	0	11	5
10	3352.27	72,331	1,153	4,019	0	0	5	1	2,905	0	0	45	5
11	3352.47	72,523	192	3,657	0	0	8	0	3,372	0	1	-84	5
12	3351.05	71,161	-1,362	1,652	0	0	7	1	3,284	0	0	278	5
13	3351.34	71,444	283	3,535	0	0	7	1	2,932	0	0	-312	5
14	3350.98	71,102	-342	2,689	0	0	8	0	3,183	0	1	161	5
15	3351.20	71,311	209	3,264	0	0	8	1	3,095	0	0	49	5
16	3351.34	71,444	133	3,497	0	0	9	0	3,263	0	1	-91	5
17	3352.50	72,551	1,107	4,046	0	0	8	0	3,064	0	0	133	5
18	3352.50	72,551	0	3,227	0	1	7	1	3,238	0	1	19	5
19	3351.99	72,063	-488	1,978	0	334	6	1	2,793	0	0	0	5
20	3353.66	73,668	1,605	2,300	0	2,481	6	1	2,527	0	642	0	5
21	3353.65	73,658	-10	2,831	0	380	2	1	2,207	0	1,008	-3	5
22	3353.00	73,032	-626	2,484	0	151	8	0	2,551	0	703	1	5
23	3353.72	73,726	694	3,088	0	120	5	1	2,202	0	202	-104	5
24	3353.90	73,900	174	2,586	0	79	8	0	2,233	0	203	-47	5
25	3353.76	73,765	-135	2,550	0	49	7	1	2,534	0	69	-123	5
26	3353.49	73,504	-261	1,797	0	32	6	0	2,414	0	0	330	5
27	3353.14	73,166	-338	2,203	0	1,126	5	1	2,884	0	778	1	15
28	3351.93	72,006	-1,160	1,829	0	549	5	1	2,609	0	526	-397	20
29	3351.54	71,634	-372	2,185	0	319	6	0	2,768	0	0	-102	20
30	3351.40	71,501	-133	2,015	0	212	3	1	2,292	0	0	-64	20
31	3352.07	72,140	639	3,224	0	130	5	0	2,216	0	0	-494	20
Total			401	88,357	0	5,963	208	19	88,821	0	4,138	-733	225

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3352.07	72,140											
1	3352.07	72,140	0	1,957	0	71	5	0	1,954	0	1	-68	20
2	3352.55	72,599	459	2,212	0	45	4	0	1,896	0	0	102	20
3	3352.52	72,571	-28	1,804	0	37	5	0	1,727	0	1	-136	19
4	3352.55	72,599	28	2,308	0	34	5	0	2,405	0	0	96	23
5	3352.61	72,657	58	2,870	0	30	4	0	2,715	0	0	-123	24
6	3352.69	72,734	77	2,733	0	27	6	0	2,626	0	1	-50	24
7	3352.52	72,571	-163	2,115	0	23	6	0	2,397	0	0	102	24
8	3352.75	72,791	220	2,730	0	22	6	0	2,796	0	0	270	24
9	3352.55	72,599	-192	2,467	0	23	6	0	2,744	0	1	69	24
10	3352.58	72,628	29	2,980	0	19	6	1	2,971	0	0	8	24
11	3352.44	72,494	-134	2,920	0	17	6	0	2,858	0	153	-54	24
12	3352.27	72,331	-163	3,105	0	16	5	0	2,984	0	239	-56	24
13	3353.11	73,137	806	3,416	0	15	4	0	2,555	0	238	172	24
14	3351.88	71,958	-1,179	1,575	0	15	4	0	2,555	0	239	29	24
15	3349.10	69,332	-2,626	369	0	14	5	0	2,851	0	83	-70	24
16	3347.72	68,048	-1,284	1,561	0	13	4	0	2,807	0	1	-46	23
17	3346.77	67,171	-877	1,996	0	13	5	1	2,920	0	0	40	23
18	3346.88	67,272	101	2,826	0	13	5	0	2,947	0	0	214	23
19	3345.92	66,392	-880	2,471	0	13	5	0	3,133	0	1	-225	23
20	3346.71	67,116	724	3,465	0	13	5	0	2,782	0	0	33	23
21	3347.38	67,733	617	3,828	0	21	5	0	3,191	0	1	-35	23
22	3347.89	68,205	472	3,039	0	28	5	0	2,920	0	0	330	23
23	3348.20	68,493	288	3,061	0	26	4	0	2,749	0	0	-46	23
24	3348.70	68,958	465	3,117	0	23	6	0	2,631	0	0	-38	23
25	3349.74	69,932	974	3,734	0	23	7	0	2,611	0	1	-164	23
26	3349.97	70,148	216	2,881	0	23	6	0	2,859	0	0	177	24
27	3350.28	70,440	292	2,848	0	33	6	0	2,633	0	0	50	24
28	3351.46	71,558	1,118	3,768	0	58	7	0	2,747	0	1	47	24
29	3351.26	71,368	-190	2,688	0	44	6	0	2,704	0	0	-212	24
30	3351.32	71,425	57	2,778	0	32	6	0	2,762	0	1	16	24
Total			-715	79,622	0	784	159	2	80,430	0	962	432	696

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2004

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3351.32	71,425											
1	3351.06	71,178	-247	2,524	0	26	6	0	2,805	0	1	15	24
2	3350.16	70,327	-851	2,119	0	24	7	0	2,993	0	1	7	24
3	3349.18	69,407	-920	1,910	0	22	5	0	2,842	0	1	-4	24
4	3349.13	69,360	-47	2,881	0	22	5	0	3,016	0	1	72	24
5	3349.97	70,148	788	3,563	0	24	4	1	2,877	0	1	84	23
6	3349.43	69,641	-507	2,810	0	24	5	0	3,271	0	1	-64	23
7	3349.43	69,641	0	2,786	0	25	5	0	2,823	0	1	18	23
8	3349.24	69,463	-178	2,626	0	23	6	0	2,865	0	1	45	23
9	3348.38	68,660	-803	2,091	0	22	6	0	2,902	0	1	-7	23
10	3348.09	68,391	-269	2,642	0	21	7	0	3,007	0	1	83	23
11	3347.69	68,020	-371	2,585	0	20	6	0	2,939	0	1	-30	23
12	3349.01	69,248	1,228	3,665	0	19	7	0	2,559	0	1	111	23
13	3347.58	67,918	-1,330	1,470	0	17	7	0	2,775	0	1	-34	23
14	3347.89	68,205	287	2,339	0	16	7	0	2,776	0	1	716	23
15	3347.78	68,103	-102	2,670	0	16	6	1	2,730	0	1	-50	24
16	3347.47	67,817	-286	2,843	0	18	6	0	3,117	0	1	-23	24
17	3347.38	67,733	-84	2,850	0	17	6	0	2,953	0	1	9	23
18	3346.89	67,282	-451	2,678	0	16	6	0	3,083	0	1	-55	23
19	3347.43	67,780	498	3,630	0	15	6	0	3,100	0	1	-40	23
20	3347.55	67,890	110	3,042	0	14	6	0	3,034	0	1	95	23
21	3347.67	68,001	111	3,198	0	14	6	0	3,101	0	1	7	23
22	3347.78	68,103	102	3,360	0	13	5	0	3,202	0	1	-63	23
23	3348.51	68,781	678	3,754	0	12	5	0	3,012	0	1	-70	24
24	3349.29	69,510	729	3,718	0	12	5	1	3,029	0	1	35	24
25	3350.00	70,176	666	3,661	0	11	5	0	3,016	0	1	16	24
26	3351.06	71,178	1,002	4,027	0	11	5	0	3,081	0	1	51	24
27	3351.77	71,853	675	3,444	0	10	5	0	2,777	0	1	4	24
28	3353.17	73,195	1,342	3,159	0	1,002	5	0	2,631	0	185	2	24
29	3353.56	73,571	376	2,298	0	1,936	6	0	1,926	0	1,929	3	24
30	3353.42	73,436	-135	1,912	0	678	5	0	1,968	0	753	1	24
31	3352.55	72,599	-837	1,062	0	648	6	0	2,061	0	317	-163	24
Total			1,174	87,317	0	4,748	177	3	88,271	0	3,211	771	728

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3352.55	72,599											
1	3352.05	72,121	-478	1,232	0	396	3	0	1,665	0	374	-64	24
2	3351.82	71,901	-220	1,549	0	219	4	0	1,773	0	443	232	24
3	3351.32	71,425	-476	2,028	0	424	5	0	2,161	0	669	-93	24
4	3351.06	71,178	-247	2,367	0	345	3	0	2,621	0	362	27	24
5	3351.09	71,207	29	2,311	0	200	5	0	2,410	0	100	33	24
6	3351.40	71,501	294	2,539	0	152	5	0	2,467	0	34	109	24
7	3351.96	72,035	534	2,239	0	780	6	0	2,351	0	131	3	24
8	3354.43	74,414	2,379	1,980	0	4,414	5	0	1,529	0	2,484	3	24
9	3352.72	72,762	-1,652	1,154	0	8,701	6	0	1,056	0	10,448	3	24
10	3353.14	73,166	404	18	0	5,648	3	1	1,137	0	4,122	1	24
11	3351.29	71,397	-1,769	94	0	5,015	3	0	1,234	0	5,645	4	24
12	3350.53	70,676	-721	451	0	1,568	1	0	1,202	0	1,486	-51	24
13	3349.88	70,063	-613	129	0	853	3	0	1,176	0	609	193	24
14	3349.58	69,782	-281	890	0	609	5	0	1,138	0	609	-28	24
15	3349.66	69,857	75	1,025	0	469	6	0	1,061	0	535	183	24
16	3349.23	69,454	-403	1,121	0	469	5	1	1,059	0	433	-495	24
17	3349.80	69,988	534	1,245	0	364	5	0	1,110	0	364	404	24
18	3350.61	70,752	764	1,917	0	248	3	0	1,515	0	236	353	24
19	3350.36	70,516	-236	1,942	0	196	3	0	2,230	0	81	-60	24
20	3350.59	70,733	217	2,062	0	169	2	1	2,136	0	2	127	24
21	3350.92	71,045	312	2,209	0	160	3	0	2,280	0	2	228	24
22	3351.79	71,873	828	2,687	0	154	3	0	2,097	0	2	89	23
23	3352.05	72,121	248	2,458	0	149	3	0	2,254	0	2	-100	23
24	3352.19	72,255	134	2,329	0	149	4	0	2,514	0	2	176	23
25	3352.05	72,121	-134	2,098	0	149	3	0	2,342	0	2	-34	23
26	3351.88	71,958	-163	2,215	0	149	2	0	2,663	0	2	140	26
27	3351.29	71,397	-561	2,055	0	175	1	0	2,797	0	2	9	27
28	3350.95	71,074	-323	1,890	0	165	1	0	2,574	0	2	199	27
29	3351.32	71,425	351	2,381	0	230	1	0	2,254	0	2	-3	27
30	3352.50	72,551	1,126	3,202	0	150	1	0	2,263	0	2	40	27
31	3352.38	72,436	-115	2,155	0	108	1	0	2,404	0	2	29	28
Total			-163	53,972	0	32,977	104	3	59,473	0	29,189	1,657	758

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3352.38	72,436											
1	3352.07	72,140	-296	2,009	0	92	2	0	2,475	0	0	79	29
2	3351.85	71,930	-210	2,079	0	80	1	0	2,501	0	0	133	28
3	3351.85	71,930	0	2,521	0	70	1	0	2,572	0	0	-18	28
4	3351.96	72,035	105	2,615	0	66	1	0	2,679	0	0	104	28
5	3352.25	72,312	277	2,666	0	62	1	0	2,572	0	0	122	28
6	3352.21	72,274	-38	2,722	0	85	0	1	2,926	0	0	82	28
7	3352.72	72,762	488	2,064	0	89	1	0	1,721	0	0	57	28
8	3352.72	72,762	0	1,484	0	79	1	0	1,554	0	0	-8	28
9	3352.33	72,389	-373	1,335	0	75	0	1	1,805	0	0	23	28
10	3351.23	71,340	-1,049	858	0	73	1	0	2,014	0	0	35	28
11	3351.82	71,901	561	2,032	0	875	1	0	2,272	0	73	0	28
12	3352.52	72,571	670	2,254	0	1,391	1	0	2,263	0	268	-443	28
13	3353.00	73,032	461	2,697	0	604	1	0	2,453	0	161	-225	28
14	3352.47	72,523	-509	2,271	0	377	1	0	2,948	0	162	-46	28
15	3352.52	72,571	48	2,540	0	291	2	0	2,620	0	161	0	28
16	3352.30	72,360	-211	2,526	0	242	1	0	2,845	0	160	27	28
17	3352.86	72,897	537	2,771	0	230	2	1	2,298	0	298	135	28
18	3352.24	72,302	-595	1,732	0	616	3	0	2,469	0	430	-41	31
19	3352.78	72,820	518	2,244	0	1,627	4	0	2,267	0	997	-85	35
20	3353.23	73,253	433	2,804	0	1,640	3	0	2,470	0	1,538	0	35
21	3352.30	72,360	-893	2,152	0	2,762	4	0	2,334	0	3,468	-1	36
22	3349.43	69,641	-2,719	15	0	2,595	3	0	2,421	0	2,754	-151	36
23	3346.43	66,859	-2,782	210	0	1,978	3	1	2,465	0	2,019	-482	36
24	3346.61	67,023	164	2,579	0	1,376	3	0	2,396	0	1,181	-211	36
25	3346.65	67,061	38	2,890	0	1,117	4	0	2,788	0	620	-557	36
26	3347.47	67,817	756	3,115	0	951	0	0	2,538	0	606	-165	36
27	3348.79	69,042	1,225	3,870	0	802	0	0	2,700	0	622	-124	36
28	3349.07	69,304	262	2,952	0	695	1	0	2,851	0	621	88	36
Total			-3,132	62,007	0	20,938	47	4	68,217	0	16,139	-1,670	866

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3349.07	69,304											
1	3349.04	69,276	-28	2,788	0	612	0	0	2,727	0	617	-84	36
2	3349.04	69,276	0	2,920	0	549	0	0	2,798	0	615	-56	36
3	3349.13	69,360	84	2,935	0	499	0	0	2,669	0	615	-66	36
4	3349.13	69,360	0	2,995	0	511	0	0	2,781	0	619	-106	36
5	3349.49	69,697	337	3,006	0	486	1	0	2,508	0	619	-27	35
6	3350.36	70,516	819	3,694	0	427	1	1	2,622	0	564	-114	35
7	3350.73	70,865	350	2,689	0	381	1	0	2,342	0	396	19	35
8	3350.70	70,837	-28	2,206	0	348	1	0	2,063	0	393	-125	35
9	3350.87	70,998	161	2,216	0	318	0	0	2,069	0	362	58	35
10	3351.09	71,207	209	2,090	0	301	3	0	1,933	0	292	45	35
11	3350.98	71,102	-104	1,945	0	268	3	1	1,932	0	232	-150	35
12	3351.37	71,473	370	2,362	0	251	1	0	1,999	0	201	-42	35
13	3352.86	72,897	1,424	3,319	0	238	0	0	2,056	0	198	121	35
14	3352.97	73,003	106	2,364	0	234	0	0	2,239	0	204	-49	35
15	3352.47	72,523	-480	1,844	0	221	4	1	2,300	0	198	-42	35
16	3352.24	72,302	-220	1,984	0	202	4	0	2,267	0	200	65	35
17	3351.96	72,035	-268	2,140	0	189	3	0	2,326	0	199	-68	35
18	3351.15	71,264	-771	1,767	0	193	4	0	2,522	0	239	33	35
19	3350.61	70,752	-512	1,986	0	242	1	1	2,500	0	297	59	35
20	3350.67	70,809	57	2,319	0	242	0	0	2,300	0	304	100	35
21	3350.05	70,223	-585	2,116	0	207	0	0	2,387	0	300	-221	35
22	3350.75	70,884	661	2,619	0	323	3	0	2,205	0	301	228	35
23	3351.54	71,634	750	3,116	0	486	3	0	2,336	0	490	-23	35
24	3352.97	73,003	1,368	3,750	0	281	3	0	2,157	0	519	16	35
25	3352.70	72,743	-259	2,128	0	234	1	0	2,082	0	407	-131	35
26	3352.83	72,868	125	2,325	0	207	0	0	2,040	0	334	-33	35
27	3353.87	73,871	1,003	2,859	0	189	0	0	1,949	0	304	208	35
28	3353.96	73,958	87	2,496	0	171	0	0	2,089	0	301	-190	35
29	3353.73	73,736	-223	1,928	0	150	0	0	2,091	0	303	93	35
30	3354.12	74,113	378	2,414	0	135	2	0	1,986	0	252	69	35
31	3353.76	73,765	-349	1,888	0	121	0	0	2,201	0	203	46	35
Total			4,461	77,208	0	9,216	38	4	70,476	0	11,078	-367	1,089

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3353.76	73,765											
1	3353.14	73,166	-599	1,550	0	117	0	0	2,134	0	203	71	0
2	3352.27	72,331	-835	1,302	0	111	0	1	2,183	0	191	127	0
3	3352.19	72,255	-76	2,199	0	110	1	0	2,140	0	198	-46	0
4	3352.13	72,197	-58	2,345	0	105	0	1	2,356	0	152	1	0
5	3352.30	72,360	163	2,521	0	107	1	0	2,476	0	81	93	0
6	3352.19	72,255	-105	2,248	0	106	3	0	2,489	0	80	113	0
7	3352.24	72,302	47	2,570	0	102	3	0	2,491	0	82	-49	0
8	3352.38	72,436	134	2,742	0	101	3	1	2,673	0	80	48	0
9	3352.38	72,436	0	2,539	0	106	4	0	2,552	0	82	-7	0
10	3352.86	72,897	461	2,973	0	95	4	0	2,580	0	81	58	0
11	3352.78	72,820	-77	2,571	0	95	3	1	2,579	0	81	-79	0
12	3352.64	72,686	-134	2,168	0	90	4	0	2,523	0	80	215	0
13	3352.07	72,140	-546	2,199	0	89	0	0	2,522	0	81	-231	0
14	3351.88	71,958	-182	2,240	0	85	1	0	2,587	0	81	162	0
15	3351.15	71,264	-694	2,134	0	84	0	0	2,760	0	81	-71	0
16	3351.20	71,311	47	2,546	0	78	0	0	2,604	0	81	108	0
17	3352.16	72,226	915	3,313	0	78	0	0	2,451	0	81	56	0
18	3352.24	72,302	76	2,837	0	77	0	0	2,827	0	79	68	0
19	3352.64	72,686	384	2,360	0	81	0	0	1,981	0	82	6	0
20	3352.52	72,571	-115	2,365	0	76	0	0	2,581	0	80	105	0
21	3352.19	72,255	-316	2,454	0	71	0	0	2,743	0	82	-16	0
22	3351.77	71,853	-402	2,589	0	75	1	0	2,869	0	85	-111	0
23	3351.77	71,853	0	3,091	0	70	0	0	2,508	0	76	-577	0
24	3351.77	71,853	0	2,777	0	74	0	0	2,649	0	82	-120	0
25	3352.83	72,868	1,015	2,904	0	74	0	0	2,791	0	82	910	0
26	3352.50	72,551	-317	2,090	0	69	0	0	2,471	0	79	74	0
27	3352.13	72,197	-354	2,042	0	68	0	0	2,385	0	82	3	0
28	3352.38	72,436	239	2,314	0	268	0	0	2,282	0	110	49	0
29	3351.48	71,577	-859	1,428	0	163	0	0	2,346	0	148	44	0
30	3351.71	71,796	219	2,545	0	119	0	0	2,265	0	116	-64	0
Total			-1,969	71,956	0	2,944	28	4	74,798	0	2,979	940	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Stream Flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3351.71	71,796											
1	3352.55	72,599	803	3,056	0	96	1	0	2,209	0	99	-40	45
2	3352.28	72,334	-265	2,415	0	81	1	0	2,526	0	100	-134	45
3	3352.44	72,494	160	2,259	0	81	4	0	2,206	0	101	131	45
4	3352.27	72,331	-163	2,047	0	81	5	1	2,294	0	99	108	44
5	3352.16	72,226	-105	2,311	0	87	7	0	2,347	0	99	-50	46
6	3352.41	72,465	239	2,455	0	111	7	0	2,271	0	99	50	47
7	3352.24	72,302	-163	2,058	0	94	0	0	2,292	0	99	76	47
8	3352.89	72,926	624	2,980	0	89	0	1	2,304	0	101	-39	47
9	3352.66	72,705	-221	2,107	0	88	0	0	2,427	0	0	11	47
10	3352.41	72,465	-240	2,029	0	83	3	0	2,201	0	100	-48	46
11	3351.29	71,397	-1,068	1,144	0	77	3	0	2,174	0	73	-39	36
12	3350.70	70,837	-560	1,646	0	76	2	1	2,087	0	88	-104	45
13	3350.87	70,998	161	2,414	0	71	4	0	2,319	0	91	90	46
14	3351.29	71,397	399	2,745	0	66	1	0	2,376	0	89	54	45
15	3351.93	72,006	609	2,922	0	66	0	0	2,373	0	89	83	45
16	3351.34	71,444	-562	1,983	0	69	0	1	2,505	0	88	-20	45
17	3350.61	70,752	-692	1,857	0	64	0	0	2,540	0	91	18	34
18	3350.08	70,252	-500	2,404	0	60	3	0	2,740	0	90	-131	46
19	3349.46	69,669	-583	2,282	0	59	3	0	2,789	0	86	-46	46
20	3349.15	69,379	-290	2,560	0	57	3	1	2,890	0	89	76	46
21	3348.96	69,201	-178	2,532	0	56	1	0	2,584	0	89	-92	45
22	3350.22	70,384	1,183	3,701	0	52	0	0	2,492	0	87	9	46
23	3350.61	70,752	368	3,007	0	51	0	0	2,884	0	89	283	46
24	3349.91	70,092	-660	2,354	0	50	0	1	2,777	0	90	-196	46
25	3349.97	70,148	56	2,596	0	48	3	0	2,643	0	87	145	46
26	3349.86	70,045	-103	2,452	0	45	3	0	2,543	0	0	-54	46
27	3349.52	69,725	-320	2,605	0	44	3	0	2,769	0	0	-197	46
28	3350.14	70,308	583	2,837	0	42	4	0	2,543	0	0	251	45
29	3350.16	70,327	19	2,679	0	41	4	0	2,745	0	0	48	45
30	3349.72	69,913	-414	2,101	0	39	4	0	2,540	0	0	-10	45
31	3349.55	69,753	-160	2,608	0	38	4	0	2,793	0	0	-9	45
Total			-2,043	75,146	0	2,062	73	6	77,183	0	2,213	224	1,394

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3349.55	69,753											
1	3349.38	69,594	-159	2,463	0	40	3	1	2,698	0	0	40	46
2	3349.46	69,669	75	2,630	0	40	5	0	2,571	0	1	-18	46
3	3348.54	68,809	-860	1,971	0	38	5	1	2,889	0	0	26	44
4	3348.20	68,493	-316	2,374	0	37	5	0	2,636	0	1	-85	44
5	3349.43	69,641	1,148	3,603	0	38	5	1	2,647	0	0	160	44
6	3349.63	69,829	188	2,902	0	37	6	0	2,684	0	1	-60	44
7	3349.69	69,885	56	2,665	0	36	1	1	2,713	0	0	70	46
8	3349.49	69,697	-188	2,438	0	35	0	0	2,681	0	1	21	46
9	3350.00	70,176	479	2,988	0	35	2	1	2,493	0	0	-48	46
10	3350.22	70,384	208	2,942	0	35	4	0	2,802	0	1	38	46
11	3350.31	70,469	85	2,708	0	34	2	1	2,664	0	0	10	46
12	3351.06	71,178	709	3,679	0	33	3	0	2,957	0	1	-42	44
13	3350.95	71,074	-104	2,930	0	31	2	1	3,155	0	0	93	46
14	3351.06	71,178	104	2,948	0	30	2	0	2,923	0	1	52	46
15	3351.06	71,178	0	2,826	0	29	2	1	2,930	0	0	78	46
16	3350.78	70,913	-265	2,796	0	28	3	0	3,039	0	1	-46	46
17	3350.39	70,544	-369	2,962	0	28	2	1	3,351	0	0	-5	46
18	3350.33	70,487	-57	2,921	0	28	3	0	3,018	0	1	16	22
19	3350.16	70,327	-160	2,952	0	25	2	1	3,143	0	0	9	0
20	3349.91	70,092	-235	2,892	0	24	2	1	3,054	0	1	-93	24
21	3349.83	70,016	-76	2,596	0	23	2	0	2,752	0	0	59	40
22	3349.07	69,304	-712	2,289	0	22	3	0	2,967	0	1	-52	40
23	3349.04	69,276	-28	2,744	0	22	3	0	2,820	0	0	29	40
24	3349.07	69,304	28	3,220	0	21	3	0	3,145	0	1	-64	40
25	3349.72	69,913	609	3,637	0	20	2	1	3,203	0	0	158	40
26	3350.31	70,469	556	3,838	0	20	3	0	3,281	0	1	-17	40
27	3350.78	70,913	444	3,795	0	19	2	0	3,370	0	0	2	40
28	3350.64	70,780	-133	3,201	0	19	3	0	3,375	0	0	25	40
29	3350.31	70,469	-311	3,217	0	18	3	1	3,379	0	0	-163	40
30	3350.00	70,176	-293	2,933	0	17	3	1	3,333	0	0	94	18
Total			423	88,060	0	862	85	14	88,673	0	13	286	1,196

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3350.00	70,176											
1	3349.55	69,753	-423	2,955	0	17	4	1	3,446	0	1	57	0
2	3349.80	69,988	235	3,532	0	16	5	0	3,297	0	0	-11	0
3	3350.28	70,440	452	3,794	0	16	4	1	3,386	0	1	34	0
4	3351.06	71,178	738	4,016	0	15	5	0	3,389	0	0	101	0
5	3351.18	71,292	114	3,734	0	15	4	1	3,511	0	0	-119	0
6	3351.15	71,264	-28	3,362	0	14	5	0	3,419	0	1	21	0
7	3350.87	70,998	-266	3,209	0	13	6	1	3,510	0	0	29	0
8	3351.15	71,264	266	3,674	0	13	6	0	3,431	0	0	16	0
9	3351.32	71,425	161	3,523	0	12	6	1	3,325	0	1	-41	0
10	3351.93	72,006	581	3,867	0	12	6	0	3,382	0	0	90	0
11	3351.96	72,035	29	3,569	0	12	6	1	3,565	0	0	20	0
12	3351.99	72,063	28	3,387	0	11	0	0	3,268	0	1	-101	0
13	3351.71	71,796	-267	3,037	0	11	0	1	3,478	0	0	164	0
14	3351.09	71,207	-589	3,001	0	10	1	0	3,476	0	0	-123	0
15	3350.47	70,620	-587	3,182	0	10	4	1	3,620	0	1	-153	0
16	3350.14	70,308	-312	3,079	0	10	7	0	3,473	0	0	79	0
17	3351.04	71,159	851	4,054	0	10	5	1	3,411	0	0	204	0
18	3350.92	71,045	-114	3,507	0	9	6	0	3,536	0	1	-87	13
19	3350.70	70,837	-208	3,252	0	9	4	1	3,556	0	0	92	24
20	3351.04	71,159	322	3,590	0	10	5	0	3,290	0	0	17	0
21	3350.25	70,412	-747	2,944	0	10	4	1	3,529	0	1	-166	0
22	3350.50	70,648	236	3,464	0	10	3	0	3,479	0	0	244	0
23	3350.95	71,074	426	3,723	0	10	3	1	3,452	0	0	149	0
24	3351.23	71,340	266	3,872	0	11	4	0	3,458	0	1	-154	0
25	3351.74	71,825	485	3,883	0	10	3	1	3,464	0	0	60	0
26	3351.63	71,720	-105	3,234	0	9	5	0	3,476	0	0	133	0
27	3351.68	71,768	48	3,435	0	8	5	0	3,315	0	1	-74	0
28	3351.51	71,606	-162	3,407	0	8	5	0	3,501	0	0	-71	16
29	3351.40	71,501	-105	3,280	0	8	5	0	3,413	0	0	25	16
30	3352.05	72,121	620	3,763	0	7	5	0	3,295	0	1	151	16
31	3352.16	72,226	105	3,811	0	7	5	0	3,473	0	1	-234	16
Total			2,050	108,140	0	343	136	13	106,624	0	12	352	101

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3352.16	72,226											
1	3352.61	72,657	431	3,388	0	7	5	0	2,983	0	0	24	15
2	3353.62	73,629	972	3,570	0	6	4	0	2,691	0	0	91	16
3	3352.78	72,820	-809	2,280	0	6	5	0	3,052	0	1	-37	16
4	3352.16	72,226	-594	2,924	0	6	3	0	3,496	0	0	-25	16
5	3351.51	71,606	-620	2,785	0	6	4	0	3,434	0	0	27	16
6	3351.18	71,292	-314	3,001	0	6	4	0	3,276	0	1	-40	16
7	3351.60	71,691	399	3,783	0	6	4	0	3,388	0	0	2	16
8	3351.15	71,264	-427	3,037	0	6	4	0	3,435	0	0	-31	16
9	3350.70	70,837	-427	2,914	0	5	7	0	3,539	0	1	201	16
10	3349.86	70,045	-792	2,788	0	5	6	0	3,411	0	0	-168	16
11	3349.60	69,800	-245	2,987	0	5	7	0	3,471	0	0	241	16
12	3348.45	68,725	-1,075	2,534	0	5	7	0	3,378	0	1	-228	16
13	3349.18	69,407	682	3,800	0	5	7	0	3,206	0	0	90	16
14	3350.00	70,176	769	3,901	0	5	6	0	3,259	0	0	128	16
15	3349.18	69,407	-769	2,659	0	5	6	0	3,243	0	1	-183	16
16	3349.58	69,782	375	2,684	0	5	6	0	2,330	0	0	22	16
17	3350.64	70,780	998	3,180	0	5	5	0	2,271	0	0	89	16
18	3351.71	71,796	1,016	3,217	0	4	5	1	2,336	0	1	138	16
19	3351.71	71,796	0	2,749	0	4	5	1	2,646	0	0	-101	16
20	3351.63	71,720	-76	2,764	0	4	4	1	2,664	0	1	-174	16
21	3352.55	72,599	879	3,367	0	4	4	1	2,518	0	1	32	16
22	3352.05	72,121	-478	2,205	0	4	5	1	2,700	0	0	19	16
23	3352.27	72,331	210	2,763	0	4	1	1	2,740	0	0	185	16
24	3351.65	71,739	-592	2,279	0	4	5	1	2,626	0	1	-242	16
25	3351.60	71,691	-48	2,483	0	4	5	1	2,644	0	0	115	17
26	3351.60	71,691	0	2,782	0	4	7	1	2,788	0	1	11	17
27	3351.99	72,063	372	3,017	0	4	6	1	2,627	0	1	-14	17
28	3352.41	72,465	402	3,023	0	4	7	1	2,665	0	0	48	17
29	3351.88	71,958	-507	2,358	0	3	6	1	2,757	0	0	-104	17
30	3351.82	71,901	-57	2,396	0	3	6	1	2,687	0	1	239	17
31	3351.43	71,530	-371	2,530	0	3	5	1	2,756	0	0	-142	17
Total			-696	90,148	0	147	160	14	91,017	0	12	212	502

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3351.43	71,530											
1	3351.57	71,663	133	2,751	0	3	5	0	2,678	0	0	62	16
2	3351.60	71,691	28	3,032	0	3	3	0	2,981	0	0	-23	16
3	3351.40	71,501	-190	2,392	0	3	3	1	2,536	0	1	-44	16
4	3351.57	71,663	162	2,953	0	3	4	0	2,796	0	0	6	16
5	3352.75	72,791	1,128	3,695	0	3	4	0	2,615	0	0	49	16
6	3352.44	72,494	-297	2,553	0	28	4	1	2,722	0	1	-150	16
7	3352.61	72,657	163	2,814	0	42	6	0	2,638	0	0	-49	16
8	3352.52	72,571	-86	2,553	0	30	6	0	2,721	0	0	58	16
9	3352.55	72,599	28	2,661	0	20	5	1	2,632	0	1	-14	16
10	3352.72	72,762	163	3,005	0	17	6	0	2,672	0	0	-181	16
11	3353.62	73,629	867	3,198	0	15	5	0	2,547	0	0	206	16
12	3353.59	73,600	-29	2,517	0	10	5	0	2,511	0	1	-39	16
13	3353.28	73,301	-299	2,472	0	7	5	0	2,761	0	0	-12	16
14	3352.92	72,955	-346	2,234	0	6	3	1	2,647	0	0	65	16
15	3352.95	72,983	28	2,680	0	5	4	0	2,549	0	1	-103	16
16	3352.50	72,551	-432	2,273	0	5	4	0	2,677	0	0	-29	16
17	3352.75	72,791	240	2,571	0	4	4	0	2,470	0	1	140	16
18	3352.89	72,926	135	2,911	0	4	4	0	2,656	0	1	-119	16
19	3352.69	72,734	-192	2,356	0	4	3	1	2,685	0	0	137	16
20	3352.61	72,657	-77	2,481	0	4	1	0	2,640	0	0	79	16
21	3352.30	72,360	-297	2,342	0	5	4	0	2,554	0	1	-85	16
22	3352.66	72,705	345	2,626	0	4	4	0	2,305	0	1	25	16
23	3352.58	72,628	-77	2,237	0	4	2	1	2,306	0	0	-9	16
24	3352.72	72,762	134	2,645	0	4	3	0	2,595	0	0	83	16
25	3353.42	73,436	674	2,953	0	4	3	0	2,301	0	1	22	16
26	3353.42	73,436	0	2,632	0	3	4	0	2,704	0	1	74	16
27	3353.06	73,089	-347	2,423	0	3	3	0	2,520	0	0	-250	16
28	3353.00	73,032	-57	2,476	0	3	3	0	2,563	0	0	30	16
29	3352.27	72,331	-701	1,912	0	3	2	1	2,659	0	1	47	17
30	3351.51	71,606	-725	1,917	0	3	3	0	2,725	0	0	83	17
Total			76	78,265	0	252	116	7	78,366	0	12	60	482

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.51	71,606											
1	3351.51	71,606	0	2,603	0	3	3	0	2,501	0	0	-102	0
2	3351.43	71,530	-76	2,663	0	3	3	0	2,742	0	0	3	0
3	3350.70	70,837	-693	2,298	0	3	2	1	2,890	0	1	-100	0
4	3350.25	70,412	-425	2,145	0	3	3	0	2,603	0	0	33	0
5	3350.16	70,327	-85	2,424	0	3	5	0	2,650	0	0	143	0
6	3350.16	70,327	0	2,693	0	3	4	0	2,732	0	1	41	0
7	3349.69	69,885	-442	2,404	0	3	5	0	2,731	0	0	-113	0
8	3349.83	70,016	131	2,598	0	3	5	0	2,488	0	0	23	0
9	3350.39	70,544	528	3,281	0	3	3	0	2,790	0	1	38	0
10	3349.91	70,092	-452	2,363	0	3	4	0	2,783	0	0	-31	0
11	3349.83	70,016	-76	3,041	0	3	4	0	3,170	0	0	54	0
12	3349.60	69,800	-216	2,828	0	3	3	1	3,059	0	1	17	0
13	3349.69	69,885	85	3,341	0	3	4	0	3,307	0	1	53	0
14	3349.72	69,913	28	3,357	0	3	4	0	3,250	0	0	-78	0
15	3349.94	70,120	207	3,199	0	3	2	0	3,105	0	1	113	0
16	3350.28	70,440	320	3,447	0	4	3	0	3,069	0	0	-59	0
17	3350.81	70,941	501	3,353	0	9	3	0	2,994	0	0	136	0
18	3351.18	71,292	351	3,105	0	17	2	1	2,705	0	1	-62	0
19	3351.29	71,397	105	2,288	0	8	3	0	2,255	0	0	67	0
20	3351.18	71,292	-105	2,401	0	6	3	0	2,472	0	0	-37	0
21	3352.38	72,436	1,144	3,273	0	6	2	0	2,261	0	1	129	0
22	3353.14	73,166	730	2,979	0	5	3	0	2,204	0	0	-47	0
23	3353.31	73,330	164	2,696	0	5	1	0	2,577	0	0	41	0
24	3352.69	72,734	-596	2,381	0	5	2	1	2,952	0	1	-26	0
25	3353.03	73,060	326	2,703	0	5	2	0	2,484	0	0	104	0
26	3352.75	72,791	-269	2,257	0	5	3	0	2,542	0	0	14	0
27	3351.71	71,796	-995	2,033	0	5	2	0	2,918	0	1	-112	0
28	3351.68	71,768	-28	2,814	0	5	0	0	2,863	0	0	16	0
29	3352.02	72,092	324	2,952	0	5	1	0	2,689	0	0	57	0
30	3352.86	72,897	805	3,665	0	5	0	1	2,924	0	1	61	0
31	3352.19	72,255	-642	2,504	0	5	1	0	3,034	0	0	-116	0
Total			649	86,089	0	145	85	5	85,744	0	11	260	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3352.19	72,255											
1	3352.16	72,226	-29	2,766	0	5	3	0	3,008	0	100	311	16
2	3351.48	71,577	-649	2,697	0	5	2	1	3,036	0	156	-156	16
3	3351.54	71,634	57	2,815	0	5	3	0	2,595	0	71	-94	16
4	3351.49	71,581	-53	2,614	0	5	3	1	2,588	0	50	-30	16
5	3352.36	72,417	836	3,020	0	5	1	0	2,324	0	51	188	16
6	3352.64	72,686	269	2,732	0	5	0	0	2,476	0	50	59	16
7	3351.51	71,606	-1,080	2,341	0	5	0	0	3,282	0	51	-93	16
8	3351.26	71,368	-238	2,189	0	5	3	0	2,505	0	50	127	16
9	3351.18	71,292	-76	2,441	0	5	3	0	2,589	0	51	122	16
10	3350.61	70,752	-540	2,365	0	5	3	1	2,739	0	50	-117	16
11	3350.59	70,733	-19	2,660	0	5	3	0	2,699	0	51	69	16
12	3351.57	71,663	930	3,147	0	5	0	0	2,206	0	50	34	16
13	3352.07	72,140	477	2,870	0	5	3	1	2,306	0	51	-37	16
14	3351.65	71,739	-401	2,669	0	5	3	0	2,920	0	222	70	16
15	3350.45	70,601	-1,138	2,100	0	5	3	0	2,838	0	398	-4	16
16	3349.43	69,641	-960	2,692	0	5	3	0	3,328	0	398	72	16
17	3348.68	68,940	-701	2,906	0	5	3	0	3,229	0	398	18	16
18	3347.81	68,131	-809	2,838	0	5	3	0	3,158	0	398	-93	16
19	3347.55	67,890	-241	2,907	0	5	0	0	2,822	0	398	67	16
20	3348.62	68,884	994	3,596	0	5	3	0	2,195	0	398	-11	16
21	3349.07	69,304	420	3,136	0	5	3	0	2,367	0	398	47	16
22	3349.15	69,379	75	2,582	0	5	3	0	2,221	0	398	110	16
23	3349.04	69,276	-103	2,488	0	5	3	0	2,133	0	398	-62	16
24	3350.56	70,705	1,429	3,474	0	5	3	0	1,881	0	398	232	16
25	3349.63	69,829	-876	2,279	0	6	3	0	2,605	0	398	-155	16
26	3349.10	69,332	-497	1,931	0	6	3	0	2,002	0	398	-31	16
27	3350.08	70,252	920	3,431	0	6	3	0	2,174	0	398	58	15
28	3349.83	70,016	-236	2,275	0	6	3	0	2,309	0	180	-25	15
29	3350.08	70,252	236	2,452	0	6	3	0	2,284	0	0	65	15
30	3350.02	70,195	-57	2,133	0	6	3	0	2,299	0	0	106	15
Total			-2,060	80,546	0	150	75	4	77,118	0	6,408	850	476

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2005

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3350.02	70,195											
1	3350.25	70,412	217	2,383	0	6	2	1	2,063	0	198	92	16
2	3350.28	70,440	28	2,114	0	6	3	0	1,769	0	397	77	16
3	3350.98	71,102	662	2,414	0	6	1	0	1,283	0	398	-76	16
4	3351.96	72,035	933	2,663	0	6	1	0	1,464	0	397	126	16
5	3351.15	71,264	-771	1,678	0	6	1	0	1,914	0	397	-143	16
6	3349.32	69,538	-1,726	684	0	6	1	0	2,228	0	299	112	16
7	3349.07	69,304	-234	2,215	0	6	1	1	2,164	0	397	108	16
8	3348.03	68,335	-969	1,742	0	6	1	0	2,267	0	397	-52	16
9	3347.36	67,715	-620	1,813	0	6	1	0	2,108	0	398	68	16
10	3347.44	67,789	74	2,493	0	6	1	0	2,067	0	397	40	16
11	3348.65	68,912	1,123	3,392	0	6	1	0	1,914	0	397	37	16
12	3347.97	68,279	-633	1,895	0	6	1	0	2,086	0	398	-49	16
13	3347.58	67,918	-361	2,125	0	6	1	0	2,253	0	397	159	16
14	3346.79	67,190	-728	2,122	0	6	1	1	2,307	0	397	-150	16
15	3346.71	67,116	-74	2,243	0	6	1	0	2,029	0	397	104	16
16	3346.88	67,272	156	2,674	0	6	1	0	2,166	0	509	152	16
17	3346.74	67,144	-128	2,807	0	6	1	0	2,267	0	547	-126	16
18	3346.54	66,960	-184	2,622	0	6	1	0	2,172	0	547	-92	16
19	3347.22	67,586	626	3,495	0	6	1	0	2,382	0	547	55	16
20	3347.89	68,205	619	3,518	0	6	3	0	2,788	0	198	84	16
21	3348.34	68,623	418	3,314	0	6	2	1	2,888	0	1	-10	16
22	3349.15	69,379	756	3,419	0	6	3	0	2,909	0	0	243	16
23	3349.41	69,622	243	3,641	0	6	3	0	3,114	0	0	-287	16
24	3350.31	70,469	847	3,385	0	6	1	0	2,761	0	1	219	16
25	3350.70	70,837	368	3,467	0	6	0	0	3,109	0	0	4	16
26	3351.04	71,159	322	3,461	0	6	0	0	3,145	0	0	0	16
27	3351.12	71,235	76	3,251	0	6	0	0	3,202	0	1	22	16
28	3350.59	70,733	-502	2,654	0	6	2	1	3,219	0	0	60	15
29	3350.31	70,469	-264	2,554	0	6	3	0	2,743	0	0	-78	15
30	3350.87	70,998	529	2,823	0	6	3	0	2,459	0	1	163	15
31	3351.15	71,264	266	2,566	0	36	3	0	2,355	0	0	22	15
Total			1,069	81,627	0	216	45	5	73,595	0	8,013	884	492

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3351.15	71,264											
1	3351.88	71,958	694	3,344	0	29	3	0	2,757	0	0	81	16
2	3352.47	72,523	565	2,217	0	1,309	3	0	2,659	0	300	1	16
3	3351.71	71,796	-727	2,251	0	285	2	1	2,631	0	347	-282	16
4	3352.24	72,302	506	2,843	0	97	3	0	2,526	0	98	193	20
5	3351.26	71,368	-934	1,795	0	68	3	0	2,808	0	0	14	22
6	3351.09	71,207	-161	2,818	0	53	2	1	3,089	0	1	61	24
7	3351.09	71,207	0	2,929	0	34	3	0	2,808	0	0	-152	24
8	3351.06	71,178	-29	2,783	0	21	2	0	2,879	0	1	49	24
9	3351.51	71,606	428	3,416	0	19	2	1	3,073	0	0	69	24
10	3351.09	71,207	-399	2,764	0	14	3	0	3,246	0	1	73	24
11	3351.15	71,264	57	3,176	0	16	2	0	3,029	0	0	-104	24
12	3351.40	71,501	237	3,388	0	15	1	0	3,282	0	1	118	24
13	3350.95	71,074	-427	2,808	0	21	1	0	3,260	0	1	6	24
14	3351.32	71,425	351	3,229	0	48	1	0	2,929	0	0	4	24
15	3352.02	72,092	667	3,411	0	34	1	0	2,837	0	1	61	24
16	3352.24	72,302	210	3,135	0	23	1	0	2,849	0	1	-97	24
17	3352.69	72,734	432	3,118	0	17	1	0	2,761	0	0	59	24
18	3352.92	72,955	221	3,062	0	15	1	1	2,826	0	1	-27	24
19	3352.89	72,926	-29	2,845	0	15	1	0	2,948	0	0	60	24
20	3352.55	72,599	-327	2,713	0	14	1	0	3,032	0	0	-21	24
21	3352.50	72,551	-48	2,790	0	12	1	0	2,883	0	1	35	24
22	3352.52	72,571	20	2,822	0	11	1	0	2,855	0	0	43	24
23	3351.29	71,397	-1,174	2,145	0	11	0	1	3,126	0	1	-202	24
24	3351.29	71,397	0	3,051	0	11	3	0	3,018	0	0	-41	24
25	3350.73	70,865	-532	2,659	0	11	3	0	3,160	0	1	-38	24
26	3350.47	70,620	-245	2,951	0	11	3	0	3,239	0	0	35	23
27	3349.91	70,092	-528	2,888	0	11	3	0	3,383	0	1	-40	23
28	3350.33	70,487	395	3,388	0	13	3	0	3,216	0	0	213	23
29	3350.39	70,544	57	3,295	0	15	3	0	3,232	0	1	-17	23
30	3350.50	70,648	104	3,224	0	14	3	0	3,058	0	0	-73	23
31	3350.67	70,809	161	2,917	0	12	3	0	2,859	0	1	95	23
Total			-455	90,175	0	2,279	64	5	92,258	0	759	177	708

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.67	70,809											
1	3350.61	70,752	-57	2,843	0	11	3	0	2,874	0	1	-33	24
2	3350.22	70,384	-368	2,409	0	11	3	0	2,794	0	0	9	24
3	3350.05	70,223	-161	2,865	0	11	2	1	2,993	0	1	-40	23
4	3350.36	70,516	293	3,381	0	11	3	0	3,204	0	0	108	23
5	3350.67	70,809	293	3,599	0	11	3	0	3,322	0	1	9	23
6	3350.87	70,998	189	3,409	0	11	3	0	3,223	0	0	-5	23
7	3350.61	70,752	-246	3,190	0	11	2	0	3,480	0	1	36	23
8	3350.61	70,752	0	3,169	0	11	3	0	3,274	0	0	97	23
9	3350.45	70,601	-151	3,204	0	11	3	0	3,343	0	0	-20	23
10	3349.83	70,016	-585	2,929	0	11	3	0	3,506	0	1	-15	23
11	3349.86	70,045	29	3,371	0	11	3	0	3,369	0	1	20	23
12	3350.39	70,544	499	3,472	0	10	2	1	3,068	0	0	88	23
13	3350.25	70,412	-132	3,334	0	10	3	0	3,495	0	1	23	23
14	3350.25	70,412	0	3,443	0	10	3	0	3,340	0	0	-110	23
15	3349.86	70,045	-367	2,927	0	15	3	0	3,356	0	0	50	23
16	3349.83	70,016	-29	3,380	0	12	3	0	3,554	0	1	137	23
17	3349.94	70,120	104	3,501	0	11	3	0	3,392	0	0	-13	23
18	3350.25	70,412	292	3,605	0	15	3	0	3,306	0	1	-18	23
19	3350.87	70,998	586	3,777	0	25	3	0	3,287	0	1	75	23
20	3351.51	71,606	608	3,408	0	19	3	0	2,895	0	1	80	23
21	3352.02	72,092	486	3,269	0	16	3	0	2,782	0	1	-13	23
22	3352.19	72,255	163	3,242	0	15	3	0	3,130	0	0	39	23
23	3352.16	72,226	-29	2,948	0	15	2	1	2,955	0	0	-34	23
24	3351.57	71,663	-563	2,879	0	14	2	0	3,566	0	1	113	23
25	3350.87	70,998	-665	2,879	0	13	2	0	3,426	0	0	-129	23
26	3351.20	71,311	313	3,506	0	14	2	0	3,291	0	0	86	23
27	3351.37	71,473	162	3,296	0	39	2	0	3,435	0	14	278	23
28	3352.38	72,436	963	3,613	0	935	2	0	3,240	0	342	-1	23
Total			1,627	90,848	0	1,309	74	3	90,900	0	369	816	646

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3352.38	72,436											
1	3352.78	72,820	384	3,183	0	144	3	0	2,998	0	86	144	23
2	3352.95	72,983	163	3,359	0	83	3	0	3,265	0	85	74	23
3	3352.33	72,389	-594	2,283	0	144	2	1	3,116	0	85	183	23
4	3352.24	72,302	-87	2,873	0	99	3	0	3,040	0	85	69	23
5	3352.78	72,820	518	3,562	0	71	3	0	2,930	0	85	-97	23
6	3352.95	72,983	163	2,938	0	71	3	0	2,909	0	85	151	23
7	3352.61	72,657	-326	2,599	0	127	3	0	2,994	0	27	-28	23
8	3352.75	72,791	134	3,011	0	89	3	0	3,159	0	0	196	23
9	3352.47	72,523	-268	2,652	0	71	3	0	2,879	0	0	-109	23
10	3351.93	72,006	-517	2,102	0	67	3	0	2,711	0	0	28	23
11	3351.51	71,606	-400	2,099	0	71	0	0	2,751	0	0	181	23
12	3351.26	71,368	-238	2,347	0	71	0	0	2,718	0	0	62	23
13	3351.46	71,558	190	2,223	0	61	0	0	2,502	0	0	408	23
14	3352.05	72,121	563	3,054	0	61	0	0	2,446	0	0	-106	23
15	3352.05	72,121	0	2,312	0	61	2	1	2,300	0	0	-70	23
16	3351.60	71,691	-430	1,772	0	61	3	0	2,283	0	0	23	24
17	3351.40	71,501	-190	2,170	0	83	3	0	2,598	0	0	158	24
18	3352.41	72,465	964	2,389	0	110	0	0	1,572	0	24	61	23
19	3352.86	72,897	432	2,853	0	94	0	0	2,566	0	0	51	23
20	3352.47	72,523	-374	2,237	0	83	0	0	2,699	0	0	5	23
21	3352.10	72,169	-354	2,189	0	137	3	0	2,725	0	50	98	23
22	3351.65	71,739	-430	2,018	0	99	3	0	2,524	0	76	56	23
23	3351.32	71,425	-314	2,098	0	93	3	0	2,536	0	70	104	23
24	3350.67	70,809	-616	1,873	0	88	2	1	2,650	0	0	76	23
25	3350.25	70,412	-397	1,886	0	88	3	0	2,233	0	0	-135	23
26	3350.25	70,412	0	1,981	0	88	3	0	2,101	0	0	35	23
27	3350.28	70,440	28	1,856	0	88	2	0	2,033	0	0	119	23
28	3350.81	70,941	501	1,977	0	412	3	0	2,069	0	0	184	23
29	3350.87	70,998	57	1,350	0	758	2	0	1,556	0	233	-260	23
30	3350.14	70,308	-690	1,153	0	255	3	0	1,934	0	243	82	23
31	3349.38	69,594	-714	1,859	0	185	2	0	2,622	0	108	-26	24
Total			-2,842	72,258	0	4,013	64	3	79,419	0	1,342	1,715	724

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3349.38	69,594											
1	3348.90	69,145	-449	2,051	0	225	3	0	2,728	0	75	81	23
2	3348.56	68,828	-317	2,175	0	154	3	0	2,564	0	51	-28	23
3	3347.69	68,020	-808	1,777	0	106	3	0	2,701	0	0	13	23
4	3348.45	68,725	705	2,358	0	758	3	0	2,209	0	22	-177	23
5	3349.38	69,594	869	1,982	0	1,664	2	1	2,084	0	476	-214	23
6	3348.70	68,958	-636	1,758	0	687	2	0	2,298	0	554	-227	23
7	3347.95	68,261	-697	1,431	0	348	2	0	2,449	0	143	118	23
8	3348.68	68,940	679	2,729	0	259	2	0	2,185	0	143	21	23
9	3349.38	69,594	654	2,875	0	193	3	0	2,383	0	72	44	23
10	3349.18	69,407	-187	2,139	0	163	2	0	2,418	0	1	-68	23
11	3348.26	68,549	-858	1,496	0	136	2	1	2,481	0	1	-5	23
12	3348.26	68,549	0	2,069	0	124	2	0	2,445	0	1	255	23
13	3347.86	68,177	-372	1,965	0	114	2	0	2,234	0	1	-214	23
14	3347.69	68,020	-157	1,138	0	323	1	0	1,926	0	51	360	23
15	3347.81	68,131	111	1,915	0	478	0	0	1,837	0	191	-254	23
16	3348.23	68,521	390	2,345	0	181	0	0	1,869	0	191	-76	23
17	3347.64	67,974	-547	1,685	0	141	0	0	2,224	0	191	42	23
18	3346.57	66,988	-986	1,239	0	114	0	1	2,239	0	189	90	23
19	3345.67	66,164	-824	1,623	0	101	0	0	2,433	0	125	10	23
20	3345.42	65,936	-228	2,132	0	94	0	0	2,488	0	76	110	23
21	3345.53	66,036	100	2,480	0	88	0	0	2,399	0	60	-9	23
22	3346.65	67,061	1,025	3,305	0	88	0	0	2,543	0	51	226	23
23	3348.31	68,595	1,534	3,867	0	88	0	0	2,384	0	50	13	23
24	3347.58	67,918	-677	1,543	0	77	0	1	2,592	0	51	347	23
25	3347.89	68,205	287	2,673	0	69	0	0	2,415	0	50	10	23
26	3347.86	68,177	-28	2,638	0	69	0	0	2,881	0	50	196	23
27	3347.69	68,020	-157	2,669	0	63	0	0	2,866	0	50	27	23
28	3347.41	67,761	-259	2,645	0	62	0	0	2,902	0	51	-13	23
29	3347.55	67,890	129	2,901	0	62	0	0	2,724	0	50	-60	23
30	3348.56	68,828	938	3,600	0	61	0	0	2,795	0	52	124	23
Total			-766	67,203	0	7,090	32	4	72,696	0	3,069	742	695

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3348.56	68,828											
1	3348.45	68,725	-103	2,905	0	61	0	0	2,956	0	50	-63	23
2	3348.48	68,753	28	2,784	0	61	3	0	2,956	0	50	192	23
3	3348.37	68,651	-102	2,798	0	60	1	0	2,865	0	51	-43	23
4	3348.26	68,549	-102	2,881	0	60	1	1	3,052	0	23	34	23
5	3348.45	68,725	176	2,826	0	57	1	0	2,879	0	0	173	23
6	3349.60	69,800	1,075	3,980	0	56	1	0	2,903	0	0	-57	23
7	3350.61	70,752	952	3,984	0	54	1	0	3,042	0	1	-42	23
8	3351.65	71,739	987	4,021	0	53	0	1	3,268	0	1	183	23
9	3352.66	72,705	966	4,023	0	51	1	0	2,994	0	1	-112	23
10	3352.75	72,790	85	3,125	0	50	1	0	3,183	0	0	94	23
11	3352.30	72,360	-430	2,912	0	47	2	0	3,246	0	1	-140	23
12	3352.30	72,360	0	2,904	0	48	3	1	3,092	0	1	145	23
13	3351.93	72,006	-354	2,896	0	45	3	0	3,269	0	1	-22	23
14	3352.07	72,140	134	2,958	0	42	3	0	2,825	0	0	-38	23
15	3352.64	72,686	546	3,404	0	42	2	1	2,911	0	1	15	23
16	3352.75	72,791	105	2,762	0	39	2	1	2,733	0	1	41	23
17	3352.05	72,121	-670	2,247	0	37	3	0	3,006	0	1	56	23
18	3351.20	71,311	-810	2,233	0	36	4	0	3,018	0	0	-57	23
19	3351.26	71,368	57	3,081	0	36	4	0	3,150	0	1	95	23
20	3351.65	71,739	371	3,499	0	34	3	1	2,943	0	1	-214	23
21	3351.74	71,825	86	2,997	0	33	4	0	3,027	0	1	88	23
22	3350.70	70,837	-988	1,810	0	43	4	0	3,046	0	0	209	23
23	3349.97	70,148	-689	2,730	0	41	4	0	3,245	0	1	-210	23
24	3349.35	69,566	-582	2,260	0	36	4	0	2,904	0	0	30	23
25	3349.07	69,304	-262	2,630	0	35	3	1	2,934	0	1	12	23
26	3349.27	69,491	187	3,148	0	35	4	0	3,090	0	0	98	23
27	3349.86	70,045	554	3,439	0	34	4	0	2,938	0	1	24	23
28	3350.39	70,544	499	3,578	0	33	3	1	2,966	0	0	-142	24
29	3351.51	71,606	1,062	3,867	0	31	4	0	2,899	0	1	68	24
30	3351.18	71,292	-314	2,367	0	30	4	0	3,069	0	0	362	24
31	3350.84	70,970	-322	2,903	0	29	5	0	3,176	0	1	-72	24
Total			2,142	93,952	0	1,349	82	8	93,585	0	191	707	717

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3350.84	70,970											
1	3350.95	71,074	104	3,162	0	27	3	0	3,067	0	0	-15	23
2	3350.53	70,676	-398	2,866	0	26	2	1	3,249	0	0	-38	23
3	3350.31	70,469	-207	3,220	0	25	3	0	3,468	0	50	69	23
4	3349.91	70,092	-377	3,213	0	23	2	1	3,472	0	105	-33	23
5	3349.49	69,697	-395	2,905	0	23	3	0	3,359	0	105	144	23
6	3348.90	69,145	-552	2,853	0	21	3	0	3,289	0	99	-35	23
7	3346.46	66,887	-2,258	1,357	0	20	4	1	3,514	0	93	-23	23
8	3346.12	66,575	-312	2,995	0	20	3	0	3,343	0	93	112	23
9	3346.01	66,474	-101	3,242	0	20	3	1	3,305	0	93	39	23
10	3346.83	67,221	747	3,577	0	19	4	0	2,758	0	93	6	23
11	3347.58	67,918	697	3,597	0	19	3	1	2,797	0	93	-25	23
12	3348.48	68,753	835	3,851	0	18	4	0	2,972	0	93	35	23
13	3349.10	69,332	579	3,627	0	17	3	1	2,803	0	93	-165	23
14	3349.43	69,641	309	3,449	0	16	4	0	3,039	0	93	-20	23
15	3349.60	69,800	159	3,326	0	16	2	1	3,295	0	93	208	23
16	3349.07	69,304	-496	3,257	0	15	4	1	3,523	0	93	-147	23
17	3348.82	69,070	-234	3,151	0	14	4	1	3,312	0	93	11	23
18	3349.24	69,463	393	3,569	0	12	5	0	3,202	0	93	112	23
19	3349.29	69,510	47	3,476	0	14	3	1	3,345	0	92	-2	23
20	3349.38	69,594	84	3,802	0	13	4	0	3,626	0	92	-9	23
21	3348.80	69,043	-551	3,153	0	12	5	0	3,565	0	92	-54	23
22	3348.56	68,828	-215	3,409	0	11	5	0	3,539	0	92	1	23
23	3348.23	68,521	-307	3,385	0	11	5	0	3,575	0	92	-31	23
24	3348.11	68,409	-112	3,534	0	10	4	1	3,585	0	91	25	23
25	3348.45	68,725	316	3,890	0	10	5	0	3,560	0	91	72	23
26	3347.89	68,205	-520	3,330	0	10	3	1	3,736	0	89	-31	23
27	3348.03	68,335	130	3,416	0	9	5	0	3,397	0	91	198	23
28	3348.26	68,549	214	3,857	0	9	4	1	3,565	0	89	7	23
29	3348.11	68,409	-140	3,920	0	8	5	0	3,743	0	89	-231	23
30	3347.81	68,131	-278	3,297	0	8	4	1	3,543	0	89	54	23
Total			-2,839	99,686	0	476	111	14	100,546	0	2,564	234	690

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3347.81	68,131											
1	3348.06	68,363	232	3,781	0	8	6	0	3,538	0	89	76	13
2	3348.45	68,725	362	4,149	0	7	5	0	3,650	0	91	-48	23
3	3348.93	69,173	448	3,897	0	7	5	1	3,570	0	91	211	23
4	3349.01	69,248	75	3,923	0	7	6	0	3,530	0	90	-229	23
5	3348.90	69,145	-103	3,598	0	6	6	0	3,726	0	90	115	23
6	3349.38	69,594	449	3,861	0	6	4	1	3,686	0	89	362	23
7	3349.60	69,800	206	4,168	0	6	6	0	3,732	0	89	-141	23
8	3349.74	69,932	132	4,115	0	6	5	0	3,642	0	89	-253	23
9	3350.61	70,752	820	4,165	0	6	5	1	3,464	0	91	210	23
10	3351.12	71,235	483	4,269	0	6	7	0	3,695	0	91	1	23
11	3351.60	71,691	456	4,144	0	6	5	0	3,598	0	91	0	23
12	3351.74	71,825	134	3,813	0	5	5	1	3,513	0	91	-74	23
13	3350.39	70,544	-1,281	2,526	0	5	6	0	3,780	0	34	8	23
14	3350.36	70,516	-28	4,022	0	5	6	0	3,702	0	0	-347	23
15	3350.81	70,941	425	3,797	0	5	6	1	3,720	0	1	351	23
16	3351.65	71,739	798	4,104	0	5	6	0	3,506	0	1	202	23
17	3352.07	72,140	401	3,991	0	5	5	1	3,622	0	1	34	23
18	3351.93	72,006	-134	3,713	0	5	4	1	3,583	0	0	-264	23
19	3351.15	71,264	-742	3,160	0	5	6	0	3,906	0	1	6	23
20	3350.92	71,045	-219	3,227	0	5	5	1	3,510	0	0	65	23
21	3350.52	70,661	-384	3,211	0	5	5	1	3,764	0	1	171	23
22	3350.50	70,648	-13	3,768	0	5	7	0	3,652	0	0	-127	23
23	3350.47	70,620	-28	3,516	0	5	14	0	3,481	0	1	-53	23
24	3350.19	70,355	-265	3,434	0	5	6	1	3,855	0	0	158	23
25	3349.91	70,092	-263	3,265	0	5	7	0	3,608	0	1	83	23
26	3347.24	67,604	-2,488	1,312	0	5	5	1	3,664	0	0	-135	23
27	3346.65	67,061	-543	3,130	0	4	8	0	3,595	0	1	-73	23
28	3345.56	66,064	-997	2,520	0	4	5	0	3,733	0	0	217	23
29	3345.56	66,064	0	3,844	0	4	6	1	3,780	0	1	-60	23
30	3345.11	65,654	-410	3,264	0	4	5	0	3,636	0	0	-37	23
31	3345.22	65,754	100	3,811	0	5	0	1	3,647	0	1	-67	23
Total			-2,377	111,498	0	167	177	13	113,088	0	1,126	362	703

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3345.22	65,754											
1	3345.64	66,137	383	3,880	0	5	5	1	3,504	0	1	9	23
2	3345.31	65,836	-301	3,587	0	5	4	0	3,755	0	0	-134	23
3	3346.23	66,676	840	4,241	0	5	3	1	3,650	0	0	249	23
4	3346.23	66,676	0	3,949	0	5	4	0	3,861	0	1	-88	23
5	3346.82	67,217	541	3,972	0	4	3	1	3,388	0	0	-43	23
6	3347.47	67,817	600	4,135	0	4	4	0	3,680	0	0	145	23
7	3347.92	68,233	416	4,176	0	4	3	1	3,720	0	1	-39	23
8	3348.37	68,651	418	4,146	0	4	4	0	3,723	0	0	-5	23
9	3348.82	69,070	419	4,133	0	4	3	1	3,643	0	0	-71	23
10	3349.18	69,407	337	4,127	0	4	4	0	3,642	0	1	-147	23
11	3349.72	69,913	506	4,024	0	3	5	1	3,548	0	0	33	23
12	3349.88	70,063	150	3,756	0	3	6	0	3,727	0	0	124	23
13	3350.50	70,648	585	4,151	0	3	7	1	3,525	0	1	-35	23
14	3351.09	71,207	559	4,139	0	3	6	0	3,545	0	0	-32	23
15	3351.18	71,292	85	3,828	0	3	6	1	3,737	0	0	-2	23
16	3351.63	71,720	428	3,994	0	3	5	0	3,730	0	1	167	23
17	3351.65	71,739	19	3,750	0	3	6	1	3,566	0	0	-161	23
18	3351.68	71,768	29	3,685	0	3	7	0	3,661	0	0	9	23
19	3351.23	71,340	-428	3,358	0	3	5	1	3,680	0	1	-102	23
20	3351.63	71,720	380	3,860	0	3	6	0	3,563	0	0	87	23
21	3351.77	71,853	133	3,719	0	3	5	1	3,587	0	0	5	23
22	3351.57	71,663	-190	3,465	0	2	4	0	3,539	0	1	-113	23
23	3351.60	71,691	28	3,743	0	2	3	1	3,774	0	0	61	23
24	3351.37	71,473	-218	3,513	0	2	5	0	3,626	0	0	-102	23
25	3350.95	71,074	-399	3,186	0	2	3	1	3,659	0	1	77	23
26	3350.87	70,998	-76	3,708	0	2	5	0	3,720	0	0	-61	23
27	3351.12	71,235	237	3,678	0	2	3	1	3,458	0	0	19	23
28	3351.06	71,178	-57	3,697	0	2	5	0	3,750	0	1	0	23
29	3350.92	71,045	-133	3,657	0	2	3	1	3,693	0	0	-95	23
30	3350.64	70,780	-265	3,380	0	2	4	0	3,800	0	0	157	23
31	3350.39	70,544	-236	3,433	0	2	5	1	3,589	0	0	-76	23
Total			4,790	118,070	0	95	141	16	113,043	0	10	-165	713

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3350.39	70,544											
1	3350.61	70,752	208	3,535	0	2	6	1	3,553	0	1	232	23
2	3350.16	70,327	-425	3,444	0	2	7	0	3,722	0	0	-142	23
3	3349.91	70,092	-235	3,603	0	2	5	1	3,694	0	0	-140	23
4	3350.28	70,440	348	3,739	0	2	7	0	3,730	0	1	345	23
5	3350.00	70,176	-264	3,659	0	2	7	0	3,776	0	0	-142	23
6	3349.72	69,913	-263	3,422	0	2	5	1	3,648	0	0	-33	23
7	3349.86	70,045	132	3,648	0	2	6	0	3,590	0	1	79	23
8	3349.88	70,063	18	3,776	0	2	7	1	3,707	0	0	-45	23
9	3349.43	69,641	-422	3,368	0	2	5	1	3,704	0	0	-82	23
10	3349.86	70,045	404	3,966	0	2	7	0	3,681	0	1	125	23
11	3349.91	70,092	47	3,789	0	29	7	0	3,722	0	0	-42	23
12	3349.74	69,932	-160	3,667	0	34	6	1	3,732	0	0	-122	23
13	3350.05	70,223	291	3,814	0	11	6	0	3,585	0	1	58	23
14	3349.60	69,800	-423	3,278	0	5	6	0	3,676	0	0	-24	23
15	3349.94	70,120	320	3,964	0	3	4	1	3,495	0	0	-147	23
16	3350.67	70,809	689	3,948	0	3	3	1	3,485	0	0	227	23
17	3351.09	71,207	398	4,070	0	2	4	0	3,527	0	0	-143	23
18	3351.26	71,368	161	3,603	0	2	3	1	3,470	0	0	30	23
19	3352.07	72,140	772	3,999	0	2	4	0	3,329	0	1	105	23
20	3351.63	71,720	-420	3,068	0	1	4	0	3,407	0	0	-78	23
21	3351.91	71,987	267	3,482	0	1	3	1	3,252	0	0	40	23
22	3351.99	72,063	76	3,812	0	1	4	0	3,635	0	1	-97	23
23	3352.47	72,523	460	3,806	0	1	4	0	3,787	0	0	444	23
24	3352.75	72,791	268	3,855	0	1	3	1	3,509	0	0	-75	23
25	3352.64	72,686	-105	3,724	0	1	4	0	3,772	0	1	-53	23
26	3352.91	72,941	255	3,540	0	1	4	0	3,496	0	0	214	23
27	3352.52	72,571	-370	3,401	0	1	2	1	3,570	0	0	-199	23
28	3352.05	72,121	-450	3,170	0	1	4	0	3,607	0	0	-10	23
29	3351.51	71,606	-515	3,095	0	1	5	0	3,630	0	0	24	23
30	3351.82	71,901	295	3,606	0	1	3	1	3,478	0	1	171	23
Total			1,357	108,851	0	122	145	13	107,969	0	9	520	690

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.82	71,901											
1	3351.63	71,720	-181	3,752	0	1	4	0	3,741	0	0	-189	24
2	3351.26	71,368	-352	3,302	0	1	4	0	3,681	0	1	31	23
3	3350.98	71,102	-266	3,310	0	1	5	1	3,656	0	0	85	23
4	3350.05	70,223	-879	2,860	0	1	3	0	3,722	0	0	-15	23
5	3350.02	70,195	-28	3,539	0	1	5	0	3,585	0	0	22	0
6	3350.00	70,176	-19	3,334	0	1	4	1	3,423	0	1	75	0
7	3349.94	70,120	-56	3,731	0	1	4	0	3,646	0	0	-138	0
8	3350.05	70,223	103	3,687	0	2	4	0	3,626	0	1	45	0
9	3350.33	70,487	264	3,837	0	2	4	1	3,567	0	0	-3	0
10	3350.33	70,487	0	3,301	0	2	4	0	3,284	0	1	-14	0
11	3350.45	70,601	114	3,608	0	2	4	0	3,564	0	0	72	6
12	3350.25	70,412	-189	3,495	0	2	3	1	3,605	0	0	-77	10
13	3350.47	70,620	208	3,407	0	2	3	0	3,233	0	1	36	10
14	3351.06	71,178	558	3,443	0	2	3	0	2,993	0	0	109	10
15	3351.54	71,634	456	3,651	0	2	3	1	3,232	0	0	39	10
16	3352.05	72,121	487	3,996	0	2	3	0	3,437	0	1	-70	10
17	3352.24	72,302	181	3,364	0	2	3	0	3,262	0	0	80	10
18	3352.05	72,121	-181	3,590	0	2	3	1	3,657	0	0	-112	10
19	3351.85	71,930	-191	3,394	0	2	3	0	3,756	0	1	173	10
20	3351.40	71,501	-429	3,276	0	2	3	0	3,581	0	0	-123	10
21	3351.32	71,425	-76	3,657	0	2	3	1	3,739	0	0	8	10
22	3351.57	71,663	238	3,845	0	2	3	0	3,526	0	1	-79	10
23	3352.05	72,121	458	3,954	0	2	3	0	3,674	0	0	179	10
24	3351.43	71,530	-591	3,329	0	2	3	0	3,781	0	0	-138	10
25	3351.29	71,397	-133	3,332	0	2	3	0	3,526	0	1	63	10
26	3351.12	71,235	-162	3,463	0	2	3	0	3,623	0	0	-1	10
27	3350.92	71,045	-190	3,395	0	2	3	1	3,580	0	0	-3	10
28	3350.84	70,970	-75	3,471	0	2	2	0	3,689	0	1	144	10
29	3350.53	70,676	-294	3,758	0	2	3	0	3,937	0	0	-114	10
30	3350.97	71,089	413	3,893	0	2	3	1	3,454	0	0	-24	10
31	3351.85	71,930	841	3,874	0	2	3	0	3,177	0	0	145	10
Total			29	109,848	0	55	104	9	109,957	0	10	206	299

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3351.85	71,930											
1	3352.16	72,226	296	3,625	0	2	3		3,283	0	0	-45	10
2	3352.16	72,226	0	3,311	0	2	3		3,219	0	1	-90	10
3	3351.18	71,292	-934	2,124	0	2	3		3,112	0	0	55	10
4	3350.75	70,884	-408	2,618	0	2	3		3,056	0	0	31	10
5	3350.84	70,970	86	3,212	0	2	3		3,198	0	1	74	10
6	3350.25	70,412	-558	2,520	0	2	3		3,068	0	0	-9	10
7	3349.49	69,697	-715	2,594	0	2	3		3,287	0	0	-21	10
8	3348.79	69,042	-655	2,757	0	2	3		3,379	0	1	-31	10
9	3346.99	67,374	-1,668	2,089	0	2	3		3,718	0	0	-38	10
10	3345.75	66,233	-1,141	2,938	0	2	3		3,463	0	0	-615	10
11	3345.74	66,221	-12	2,135	0	2	2		2,950	0	1	804	10
12	3344.69	65,273	-948	2,545	0	2	3		3,359	0	0	-133	10
13	3343.96	64,614	-659	2,651	0	2	3		3,369	0	0	60	10
14	3342.61	63,405	-1,209	2,682	0	2	2		3,659	0	1	-231	10
15	3341.88	62,756	-649	2,630	0	2	2		3,577	0	0	298	10
16	3340.90	61,890	-866	2,605	0	2	3		3,434	0	0	-36	10
17	3340.05	61,144	-746	2,605	0	2	3		3,409	0	1	60	10
18	3339.04	60,264	-880	2,421	0	3	3		3,286	0	0	-15	10
19	3340.08	61,171	907	4,035	0	3	2		3,201	0	0	73	10
20	3340.50	61,538	367	4,018	0	3	2		3,353	0	1	-298	10
21	3341.29	62,234	696	3,972	0	3	2		3,314	0	0	38	10
22	3342.05	62,907	673	4,241	0	3	2		3,522	0	0	-47	9
23	3343.17	63,905	998	4,220	0	3	2		3,281	0	1	60	9
24	3343.90	64,560	655	4,198	0	3	2		3,485	0	0	-59	9
25	3345.14	65,682	1,122	4,178	0	3	2		3,181	0	0	124	9
26	3346.77	67,171	1,489	4,149	0	3	3		2,637	0	1	-22	6
27	3347.64	67,974	803	3,352	0	3	3		2,533	0	0	-16	3
28	3345.76	66,246	-1,728	576	0	3	3		2,201	0	0	-103	3
29	3343.99	64,641	-1,605	722	0	3	3		2,395	0	0	68	3
30	3345.22	65,754	1,113	3,705	0	3	3		2,633	0	0	41	3
Total			-6,176	89,428	0	71	80	0	95,562	0	9	-24	264

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2006

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3345.22	65,754											
1	3345.81	66,292	538	4,160	0	3	3	0	3,462	0	0	-160	3
2	3346.77	67,171	879	4,164	0	3	2	0	3,418	0	0	132	3
3	3347.75	68,076	905	4,157	0	3	3	0	3,314	0	1	63	3
4	3348.45	68,725	649	4,147	0	3	2	1	3,541	0	0	43	3
5	3349.04	69,276	551	4,043	0	3	3	0	3,521	0	0	29	3
6	3349.60	69,800	524	4,112	0	3	3	0	3,494	0	1	-93	3
7	3350.61	70,752	952	4,097	0	3	3	0	3,261	0	0	116	2
8	3350.14	70,308	-444	3,033	0	3	2	1	3,411	0	0	-66	2
9	3351.29	71,397	1,089	4,184	0	7	3	0	3,187	0	1	89	2
10	3352.30	72,360	963	4,148	0	11	3	0	3,412	0	0	219	2
11	3352.75	72,791	431	3,860	0	4	3	0	3,279	0	0	-151	2
12	3352.97	73,003	212	3,339	0	3	2	1	3,056	0	1	-70	2
13	3353.23	73,253	250	2,896	0	3	3	0	2,836	0	0	190	2
14	3353.42	73,436	183	2,905	0	3	3	0	2,944	0	0	222	2
15	3353.14	73,166	-270	2,905	0	3	3	0	3,060	0	1	-114	2
16	3353.53	73,542	376	2,788	0	16	3	0	2,486	0	0	61	2
17	3353.87	73,871	329	2,589	0	8	1	0	2,187	0	0	-80	2
18	3354.26	74,249	378	2,694	0	6	3	0	2,280	0	1	-38	2
19	3353.42	73,436	-813	1,661	0	6	3	0	2,731	0	0	254	2
20	3352.89	72,926	-510	2,600	0	6	2	0	2,993	0	0	-121	2
21	3352.64	72,686	-240	2,755	0	6	1	1	3,054	0	1	56	1
22	3352.19	72,255	-431	2,858	0	6	2	0	3,248	0	0	-45	1
23	3352.05	72,121	-134	2,942	0	6	2	0	3,090	0	0	10	2
24	3351.93	72,006	-115	3,477	0	6	2	0	3,482	0	1	-113	1
25	3352.65	72,695	689	3,463	0	6	3	0	3,051	0	0	274	0
26	3352.24	72,302	-393	3,160	0	6	3	0	6,485	0	0	2,929	0
27	3352.38	72,436	134	3,352	0	5	2	0	3,248	0	1	28	1
28	3352.55	72,599	163	3,274	0	5	3	0	3,274	0	0	161	2
29	3351.93	72,006	-593	2,965	0	5	3	0	3,378	0	0	-182	2
30	3352.16	72,226	220	3,199	0	5	3	0	3,137	0	0	156	2
31	3352.19	72,255	29	3,413	0	5	3	0	3,351	0	0	-35	2
Total			6,501	103,340	0	161	79	4	100,671	0	9	3,763	62

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3352.19	72,255											
1	3352.50	72,551	296	3,479	0	5	3	0	3,291	0	1	107	2
2	3352.47	72,523	-28	3,402	0	5	3	0	3,467	0	0	35	2
3	3351.37	71,473	-1,050	2,644	0	5	3	0	3,596	0	0	-100	2
4	3350.73	70,865	-608	2,930	0	5	2	0	3,423	0	0	-118	2
5	3351.04	71,159	294	3,455	0	5	3	0	3,322	0	1	160	2
6	3351.40	71,501	342	3,596	0	5	3	0	3,358	0	0	102	2
7	3350.98	71,102	-399	3,248	0	5	3	0	3,517	0	0	-132	2
8	3351.06	71,178	76	3,352	0	5	3	0	3,480	0	0	202	2
9	3350.92	71,045	-133	3,289	0	5	2	1	3,591	0	1	168	2
10	3350.67	70,809	-236	3,434	0	5	3	0	3,598	0	0	-74	2
11	3350.28	70,440	-369	3,449	0	5	3	0	3,677	0	0	-143	2
12	3350.33	70,487	47	3,456	0	5	3	0	3,442	0	1	32	2
13	3350.25	70,412	-75	3,460	0	5	2	0	3,519	0	0	-19	2
14	3350.14	70,308	-104	3,357	0	5	3	0	3,489	0	0	26	2
15	3350.05	70,223	-85	3,166	0	5	2	0	3,351	0	1	98	2
16	3349.91	70,092	-131	3,439	0	5	2	1	3,534	0	0	-38	2
17	3350.11	70,280	188	3,438	0	5	3	0	3,315	0	0	63	2
18	3349.63	69,829	-451	3,068	0	6	4	0	3,436	0	1	-84	2
19	3352.30	72,360	2,531	3,068	0	6	4	0	3,729	0	0	3,190	2
20	3349.38	69,594	-2,766	3,406	0	6	4	0	3,412	0	0	-2,762	2
21	3350.10	70,271	677	4,054	0	6	6	0	3,274	0	1	-102	2
22	3350.61	70,752	481	3,978	0	6	6	1	3,207	0	0	-289	2
23	3350.87	70,998	246	3,398	0	6	7	0	3,265	0	0	114	2
24	3351.63	71,720	722	3,719	0	6	7	0	2,970	0	1	-25	2
25	3351.82	71,901	181	3,250	0	6	7	0	3,093	0	0	25	2
26	3352.47	72,523	622	3,607	0	6	7	0	3,076	0	0	92	2
27	3353.31	73,330	807	3,566	0	6	7	0	2,797	0	1	40	2
28	3353.85	73,852	522	3,266	0	6	7	0	2,674	0	0	-69	2
29	3352.55	72,599	-1,253	323	0	6	7	0	1,515	0	0	-60	2
30	3351.85	71,930	-669	774	0	6	4	0	1,543	0	1	99	2
31	3350.25	70,412	-1,518	0	0	6	6	0	1,313	0	0	-205	2
Total			-1,843	96,071	0	169	130	3	98,274	0	10	334	68

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3350.25	70,412											
1	3349.72	69,913	-499	572	0	6	7	0	1,342	0	0	272	2
2	3348.64	68,902	-1,011	436	0	6	7	0	1,441	0	0	-5	2
3	3347.69	68,020	-882	362	0	6	4	0	1,233	0	1	-12	2
4	3346.37	66,797	-1,223	205	0	7	4	0	1,482	0	0	51	2
5	3345.28	65,809	-988	405	0	7	4	0	1,280	0	1	-115	2
6	3344.16	64,795	-1,014	111	0	8	3	1	1,318	0	0	189	2
7	3342.30	63,129	-1,666	48	0	7	3	0	1,685	0	0	-33	2
8	3340.84	61,837	-1,292	0	0	7	2	0	1,277	0	1	-19	2
9	3339.35	60,534	-1,303	0	0	7	3	0	1,389	0	0	82	1
10	3337.64	59,056	-1,478	0	0	6	3	0	1,339	0	1	-141	0
11	3335.87	57,546	-1,510	0	0	8	3	0	1,597	0	0	82	0
12	3333.65	55,681	-1,865	0	0	8	3	0	1,776	0	0	-94	2
13	3331.66	54,036	-1,645	0	0	9	3	0	1,642	0	1	-8	2
14	3329.47	52,260	-1,776	0	0	8	2	0	1,754	0	0	-28	1
15	3327.25	50,492	-1,768	0	0	8	2	0	1,817	0	0	43	0
16	3325.09	48,802	-1,690	0	0	7	2	0	1,837	0	1	143	0
17	3322.87	47,097	-1,705	211	0	7	2	0	1,981	0	0	60	1
18	3324.86	48,624	1,527	3,399	0	7	2	0	1,972	0	0	95	2
19	3326.55	49,941	1,317	3,625	0	25	2	0	2,603	0	0	272	2
20	3328.77	51,699	1,758	3,801	0	18	2	0	2,452	0	1	394	2
21	3330.14	52,800	1,101	3,676	0	17	2	0	2,647	0	0	57	2
22	3331.85	54,192	1,392	3,855	0	32	2	0	2,530	0	0	37	2
23	3334.61	56,484	2,292	3,963	0	84	3	0	1,623	0	0	-129	2
24	3336.66	58,217	1,733	3,246	0	40	2	0	1,660	0	1	110	2
25	3338.48	59,779	1,562	3,390	0	26	3	0	1,866	0	0	15	2
26	3340.73	61,740	1,961	4,015	0	17	2	0	2,036	0	0	-33	2
27	3343.23	63,959	2,219	3,991	0	115	3	0	2,116	0	40	272	4
28	3345.19	65,727	1,768	3,705	0	95	3	0	1,920	0	61	-48	6
Total			-4,685	43,016	0	598	83	1	49,615	0	109	1,509	52

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3345.19	65,727											
1	3346.88	67,272	1,545	3,746	0	43	3	0	2,258	0	0	17	6
2	3349.04	69,276	2,004	4,133	0	25	2	0	2,203	0	1	52	6
3	3350.61	70,752	1,476	3,816	0	23	3	0	2,075	0	0	-285	6
4	3352.75	72,791	2,039	3,850	0	21	2	1	2,216	0	1	388	6
5	3352.07	72,140	-651	1,636	0	19	3	0	2,253	0	0	-50	6
6	3351.15	71,264	-876	2,120	0	18	2	0	2,848	0	1	-163	6
7	3350.87	70,998	-266	2,699	0	17	3	0	3,037	0	0	58	6
8	3351.40	71,501	503	3,203	0	15	2	1	2,826	0	0	114	6
9	3350.16	70,327	-1,174	1,926	0	14	3	0	3,160	0	0	49	6
10	3350.02	70,195	-132	2,950	0	13	3	0	2,913	0	0	-179	6
11	3351.29	71,397	1,202	3,712	0	12	3	1	2,764	0	0	246	6
12	3352.07	72,140	743	3,836	0	10	2	0	3,033	0	1	-67	6
13	3351.48	71,577	-563	2,536	0	10	3	0	3,024	0	0	-82	6
14	3350.81	70,941	-636	2,164	0	9	2	1	2,765	0	0	-41	6
15	3350.45	70,601	-340	2,370	0	8	4	0	2,797	0	0	83	6
16	3350.02	70,195	-406	2,723	0	8	4	0	3,153	0	1	21	6
17	3350.36	70,516	321	3,224	0	7	4	0	2,861	0	0	-45	6
18	3351.06	71,178	662	3,194	0	7	4	0	2,628	0	0	93	6
19	3351.06	71,178	0	2,917	0	7	4	0	3,004	0	0	84	6
20	3351.15	71,264	86	2,806	0	7	4	0	2,678	0	1	-44	6
21	3351.71	71,796	532	3,030	0	14	5	0	2,599	0	0	92	6
22	3351.32	71,425	-371	2,500	0	12	4	1	2,712	0	1	-165	6
23	3351.63	71,720	295	2,336	0	10	8	0	2,439	0	0	396	6
24	3352.13	72,197	477	3,030	0	9	6	0	2,382	0	1	-173	6
25	3352.52	72,571	374	2,665	0	8	7	0	2,417	0	0	125	6
26	3352.52	72,571	0	2,556	0	7	7	0	2,478	0	0	-78	6
27	3351.43	71,530	-1,041	1,836	0	11	3	0	2,826	0	1	-58	6
28	3350.70	70,837	-693	1,950	0	10	4	0	2,750	0	0	101	6
29	3349.83	70,016	-821	2,326	0	9	2	0	3,134	0	0	-20	6
30	3349.27	69,491	-525	2,437	0	8	2	1	3,014	0	1	48	6
31	3348.82	69,070	-421	2,733	0	6	3	0	3,125	0	0	-32	6
Total			3,343	86,960	0	397	111	6	84,372	0	10	485	195

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3348.82	69,070											
1	3348.93	69,173	103	3,124	0	7	2	1	3,067	0	0	42	0
2	3349.18	69,407	234	3,186	0	6	3	0	2,940	0	0	-15	0
3	3349.46	69,669	262	3,489	0	6	3	0	3,126	0	1	-103	0
4	3347.55	67,890	-1,779	1,192	0	6	2	0	3,295	0	0	321	0
5	3344.77	65,346	-2,544	516	0	5	2	1	3,159	0	1	98	0
6	3344.91	65,473	127	3,314	0	5	3	0	2,992	0	0	-197	0
7	3345.98	66,447	974	3,597	0	5	2	0	2,859	0	1	234	0
8	3347.16	67,530	1,083	3,957	0	5	3	1	2,742	0	0	-133	0
9	3348.48	68,753	1,223	3,824	0	5	3	0	2,723	0	1	121	0
10	3349.35	69,566	813	3,542	0	5	3	0	2,824	0	0	93	0
11	3349.83	70,016	450	3,420	0	5	2	1	2,920	0	0	-52	0
12	3350.95	71,074	1,058	3,932	0	5	3	0	3,015	0	1	140	0
13	3351.40	71,501	427	3,651	0	5	5	0	3,107	0	0	-117	0
14	3352.27	72,331	830	3,747	0	5	3	1	2,821	0	0	-97	0
15	3352.95	72,983	652	3,560	0	5	4	0	2,926	0	1	19	0
16	3353.53	73,542	559	3,139	0	6	6	0	2,543	0	0	-37	0
17	3353.57	73,581	39	4,486	0	5	3	1	2,504	0	1	-1,943	0
18	3353.42	73,436	-145	2,502	0	5	4	0	2,595	0	0	-53	0
19	3353.17	73,195	-241	2,336	0	5	4	0	2,614	0	1	37	0
20	3352.95	72,983	-212	2,265	0	10	4	1	2,521	0	0	40	0
21	3352.41	72,465	-518	2,567	0	9	3	0	3,060	0	67	36	0
22	3352.66	72,705	240	3,190	0	6	4	0	2,804	0	96	-52	0
23	3353.20	73,224	519	3,268	0	6	3	1	2,780	0	97	126	0
24	3352.42	72,475	-749	2,962	0	5	5	0	2,543	0	97	-1,071	0
25	3353.73	73,736	1,261	2,989	0	5	4	0	2,645	0	99	1,015	0
26	3353.42	73,436	-300	2,436	0	5	4	1	2,642	0	33	-61	0
27	3352.66	72,705	-731	1,979	0	5	4	0	2,808	0	1	98	0
28	3353.45	73,465	760	3,537	0	5	4	0	2,740	0	0	-38	0
29	3352.75	72,791	-674	1,886	0	4	3	1	2,589	0	0	29	0
30	3352.89	72,926	135	3,162	0	4	3	0	2,994	0	0	-34	0
Total			3,856	90,755	0	162	103	10	84,898	0	498	-1,552	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3352.89	72,926											
1	3351.06	71,178	-1,748	1,083	0	4	1	0	2,839	0	0	4	7
2	3350.50	70,648	-530	2,451	0	4	1	0	3,074	0	0	90	6
3	3350.61	70,752	104	3,159	0	4	6	1	3,128	0	1	77	6
4	3351.04	71,159	407	3,103	0	4	6	1	2,927	0	0	235	6
5	3350.45	70,601	-558	2,578	0	4	7	0	2,892	0	0	-241	6
6	3350.28	70,440	-160	2,572	0	3	6	1	2,573	0	1	-155	6
7	3350.19	70,355	-85	2,957	0	3	8	0	3,165	0	0	128	6
8	3350.11	70,280	-75	2,841	0	3	5	1	2,898	0	0	-15	6
9	3350.16	70,327	47	2,731	0	3	7	1	2,751	0	1	73	6
10	3349.91	70,092	-235	2,889	0	3	6	0	3,144	0	0	23	6
11	3349.91	70,092	0	3,234	0	2	7	0	3,148	0	1	-81	6
12	3349.90	70,079	-13	2,952	0	2	6	1	2,991	0	1	32	6
13	3350.16	70,327	248	3,109	0	2	7	0	2,874	0	0	18	6
14	3350.22	70,384	57	3,332	0	2	5	1	3,272	0	1	1	6
15	3349.80	69,988	-395	2,866	0	2	7	0	3,249	0	1	-7	6
16	3349.69	69,885	-103	3,012	0	2	6	1	3,106	0	0	-4	6
17	3349.77	69,960	75	3,060	0	2	6	0	3,069	0	0	89	6
18	3350.05	70,223	263	3,440	0	2	6	1	3,058	0	1	-112	6
19	3350.19	70,355	132	3,394	0	2	7	0	3,264	0	1	8	6
20	3349.63	69,829	-527	2,347	0	2	6	1	2,949	0	0	80	6
21	3349.77	69,960	132	3,303	0	2	8	0	3,243	0	1	79	6
22	3350.75	70,884	924	3,777	0	2	8	0	2,835	0	0	-11	5
23	3350.56	70,705	-180	3,109	0	2	8	1	3,243	0	0	-38	3
24	3350.50	70,648	-57	3,000	0	2	8	0	2,941	0	1	-108	0
25	3350.67	70,809	161	3,315	0	1	8	0	3,318	0	0	170	0
26	3351.20	71,311	502	3,648	0	1	8	1	3,145	0	0	7	4
27	3351.99	72,063	752	3,849	0	1	9	0	3,102	0	1	14	7
28	3352.89	72,926	862	3,860	0	1	6	0	2,977	0	0	-16	7
29	3353.25	73,272	347	3,417	0	1	6	1	3,001	0	0	-64	6
30	3353.87	73,871	599	3,361	0	1	7	0	2,842	0	1	87	7
31	3353.09	73,118	-753	2,338	0	1	8	0	2,930	0	0	-154	7
Total			192	94,087	0	69	198	13	93,948	0	13	208	178

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3353.09	73,118											
1	3352.44	72,494	-624	2,120	0	1	8	0	2,905	0	0	168	0
2	3350.94	71,063	-1,431	1,925	0	1	9	0	3,210	0	0	-138	0
3	3350.92	71,045	-18	3,407	0	1	11	1	3,402	0	1	-11	0
4	3350.89	71,017	-28	3,165	0	1	8	0	3,244	0	0	58	0
5	3350.56	70,705	-312	2,913	0	1	9	0	3,217	0	0	0	0
6	3350.31	70,469	-236	2,996	0	1	9	1	3,189	0	1	-33	0
7	3349.60	69,800	-669	2,661	0	1	10	1	3,206	0	0	-114	0
8	3349.60	69,800	0	3,226	0	1	8	0	3,316	0	0	97	0
9	3350.00	70,176	376	3,468	0	1	9	1	3,185	0	1	103	0
10	3350.59	70,733	557	3,637	0	1	10	0	3,083	0	0	12	0
11	3350.84	70,970	237	3,499	0	0	9	0	3,303	0	0	50	0
12	3350.84	70,970	0	3,281	0	0	11	1	3,123	0	0	-146	0
13	3350.53	70,676	-294	2,971	0	0	12	0	3,232	0	0	-21	0
14	3349.72	69,913	-763	2,323	0	0	4	0	3,322	0	0	240	0
15	3348.79	69,042	-871	2,534	0	0	8	1	3,158	0	1	-237	0
16	3347.92	68,233	-809	2,414	0	0	12	1	3,285	0	0	75	0
17	3346.85	67,245	-988	2,102	0	0	10	0	3,201	0	0	121	0
18	3346.63	67,043	-202	3,323	0	0	9	1	3,514	0	1	0	0
19	3344.74	65,319	-1,724	1,896	0	0	10	0	3,296	0	0	-314	0
20	3344.21	64,840	-479	2,816	0	0	6	0	3,340	0	0	51	0
21	3343.65	64,336	-504	2,843	0	0	7	1	3,253	0	0	-86	0
22	3342.61	63,405	-931	2,853	0	0	7	0	3,581	0	0	-196	0
23	3342.81	63,583	178	3,464	0	0	7	0	3,330	0	0	51	0
24	3343.28	64,004	421	3,686	0	0	8	1	3,512	0	1	257	0
25	3343.51	64,210	206	3,608	0	0	7	0	3,369	0	0	-26	0
26	3344.44	65,047	837	3,972	0	0	10	0	3,339	0	0	214	0
27	3344.32	64,939	-108	3,242	0	0	9	1	3,255	0	1	-84	0
28	3344.66	65,246	307	3,654	0	0	12	0	3,330	0	0	-5	0
29	3345.25	65,782	536	3,866	0	0	13	0	3,329	0	0	12	0
30	3345.64	66,137	355	3,734	0	0	12	1	3,332	0	1	-33	0
Total			-6,981	91,599	0	10	274	12	98,361	0	8	65	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3345.64	66,137											
1	3346.26	66,703	566	3,820	0	0	11	0	3,302	0	0	59	6
2	3346.64	67,048	345	2,852	0	0	12	1	3,532	0	1	1,039	6
3	3346.37	66,804	-244	3,384	0	0	13	0	3,519	0	0	-96	6
4	3346.88	67,272	468	3,814	0	0	13	1	3,502	0	0	170	6
5	3346.85	67,245	-27	3,623	0	0	13	0	3,628	0	1	-8	6
6	3346.85	67,245	0	3,558	0	0	12	1	3,531	0	0	-14	6
7	3346.88	67,272	27	3,538	0	0	11	0	3,549	0	0	49	6
8	3346.68	67,089	-183	3,317	0	0	12	1	3,663	0	0	176	6
9	3346.43	66,859	-230	3,554	0	0	11	0	3,544	0	1	-228	6
10	3346.01	66,474	-385	3,012	0	0	12	1	3,367	0	0	-17	6
11	3346.26	66,703	229	3,703	0	0	10	0	3,482	0	0	18	6
12	3346.91	67,300	597	3,967	0	0	13	1	3,525	0	0	169	5
13	3346.54	66,960	-340	3,443	0	0	8	0	3,519	0	1	-255	4
14	3347.10	67,475	515	3,718	0	0	10	0	3,281	0	0	88	4
15	3347.81	68,131	656	3,896	0	0	9	1	3,222	0	0	-8	4
16	3348.65	68,912	781	4,013	0	0	9	0	3,300	0	0	77	4
17	3349.35	69,566	654	4,093	0	0	9	1	3,317	0	0	-112	4
18	3350.25	70,412	846	4,023	0	0	11	0	3,246	0	1	81	4
19	3350.59	70,733	321	3,875	0	0	12	1	3,357	0	0	-184	4
20	3351.04	71,159	426	3,719	0	0	10	1	3,290	0	0	8	4
21	3351.65	71,739	580	3,705	0	0	9	0	3,252	0	0	136	4
22	3351.82	71,901	162	3,591	0	0	10	1	3,407	0	1	-10	4
23	3352.38	72,436	535	3,908	0	0	11	1	3,330	0	0	-31	4
24	3352.52	72,571	135	3,312	0	0	10	0	3,274	0	0	107	4
25	3352.52	72,571	0	3,158	0	0	10	1	3,189	0	0	42	4
26	3352.30	72,360	-211	3,233	0	0	13	0	3,426	0	1	-4	4
27	3352.16	72,226	-134	3,338	0	0	8	1	3,275	0	0	-188	4
28	3352.37	72,420	194	3,466	0	0	12	0	3,163	0	0	-97	4
29	3352.44	72,494	74	3,414	0	0	10	1	3,400	0	0	71	4
30	3352.38	72,436	-58	3,209	0	0	12	0	3,368	0	1	114	4
31	3352.47	72,523	87	3,225	0	0	9	1	3,205	0	0	77	0
Total			6,386	110,481	0	0	335	16	104,965	0	8	1,229	149

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3352.47	72,523											
1	3352.30	72,360	-163	3,118	0	0	12	0	3,268	0	1	0	0
2	3351.96	72,035	-325	3,028	0	0	12	1	3,352	0	0	12	0
3	3351.85	71,930	-105	3,159	0	0	9	0	3,391	0	0	136	0
4	3351.63	71,720	-210	3,363	0	0	11	1	3,309	0	1	-251	0
5	3351.63	71,720	0	3,176	0	0	12	1	3,183	0	0	20	0
6	3351.40	71,501	-219	3,026	0	0	11	0	3,247	0	0	13	0
7	3351.34	71,444	-57	3,346	0	0	11	1	3,435	0	1	45	0
8	3350.84	70,970	-474	3,039	0	0	12	0	3,373	0	0	-128	0
9	3350.84	70,970	0	3,228	0	0	11	1	3,386	0	0	170	0
10	3350.67	70,809	-161	3,434	0	0	12	1	3,391	0	0	-191	0
11	3350.70	70,837	28	3,417	0	0	12	0	3,356	0	0	-21	0
12	3351.40	71,501	664	4,035	0	0	10	1	3,379	0	0	19	0
13	3349.72	69,913	-1,588	1,790	0	0	12	0	3,468	0	1	103	0
14	3349.74	69,932	19	3,554	0	0	10	1	3,396	0	0	-128	0
15	3350.19	70,355	423	3,754	0	0	10	0	3,256	0	0	-65	0
16	3350.25	70,412	57	3,347	0	0	8	1	3,249	0	1	-31	0
17	3350.56	70,705	293	3,494	0	0	11	0	3,241	0	0	51	0
18	3350.84	70,970	265	3,436	0	0	12	1	3,127	0	0	-31	0
19	3351.63	71,720	750	3,625	0	0	11	0	2,808	0	0	-56	0
20	3352.38	72,436	716	3,669	0	0	10	1	2,947	0	0	5	0
21	3352.52	72,571	135	2,907	0	0	10	0	2,697	0	0	-65	0
22	3352.47	72,523	-48	2,494	0	0	11	1	2,671	0	1	142	0
23	3352.72	72,762	239	2,825	0	0	11	0	2,482	0	0	-93	0
24	3352.24	72,302	-460	2,620	0	0	12	1	2,956	0	0	-111	0
25	3352.30	72,360	58	2,628	0	0	12	0	2,597	0	1	40	0
26	3352.72	72,762	402	2,997	0	0	12	1	2,613	0	0	31	0
27	3352.55	72,599	-163	2,682	0	0	11	0	2,746	0	0	-88	0
28	3352.41	72,465	-134	2,590	0	0	12	1	2,771	0	0	60	0
29	3352.07	72,140	-325	2,253	0	0	11	0	2,606	0	0	39	0
30	3351.71	71,796	-344	0	0	0	11	1	2,740	0	0	2,408	0
31	3352.33	72,389	593	3,031	0	0	10	0	2,617	0	1	190	0
Total			-134	93,065	0	0	343	16	95,058	0	8	2,226	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3352.33	72,389											
1	3352.61	72,657	268	2,862	0	0	12	0	2,504	0	0	-78	0
2	3352.50	72,551	-106	2,644	0	0	12	0	2,659	0	0	-79	0
3	3349.72	69,913	-2,638	19	0	0	12	1	2,828	0	1	185	0
4	3348.28	68,567	-1,346	1,771	0	0	13	0	3,023	0	0	-81	0
5	3348.26	68,549	-18	2,928	0	0	13	0	2,964	0	0	31	0
6	3348.40	68,679	130	3,323	0	0	14	1	3,129	0	1	-48	0
7	3348.48	68,753	74	3,198	0	0	9	0	3,114	0	0	-1	0
8	3349.13	69,360	607	3,712	0	0	13	1	2,965	0	0	-126	0
9	3350.36	70,516	1,156	3,632	0	0	10	1	2,686	0	1	222	0
10	3350.28	70,440	-76	3,307	0	0	12	0	3,276	0	0	-95	0
11	3349.83	70,016	-424	2,262	0	0	12	0	2,701	0	1	28	0
12	3346.85	67,245	-2,771	18	0	0	10	1	2,706	0	0	-72	0
13	3343.87	64,533	-2,712	0	0	0	10	0	2,697	0	0	-5	0
14	3341.07	62,040	-2,493	0	0	0	12	1	2,382	0	1	-97	0
15	3341.77	62,658	618	3,078	0	0	7	1	2,475	0	0	23	0
16	3343.51	64,210	1,552	3,995	0	0	10	0	2,522	0	0	89	0
17	3343.51	64,210	0	2,815	0	0	10	0	2,566	0	0	-239	0
18	3343.65	64,336	126	2,486	0	0	9	1	2,498	0	1	149	0
19	3343.57	64,264	-72	2,473	0	0	11	0	2,434	0	1	-99	0
20	3344.46	65,065	801	3,367	0	0	11	0	2,649	0	0	94	0
21	3345.25	65,782	717	3,072	0	0	10	1	2,373	0	0	29	0
22	3346.99	67,374	1,592	3,567	0	0	11	0	1,981	0	0	17	0
23	3348.87	69,117	1,743	3,749	0	0	8	0	2,026	0	0	28	0
24	3350.61	70,752	1,635	3,864	0	0	7	1	2,239	0	1	19	0
25	3352.30	72,360	1,608	3,648	0	0	10	0	2,024	0	0	-6	0
26	3352.61	72,657	297	2,644	0	0	8	0	2,122	0	0	-217	0
27	3353.76	73,765	1,108	2,997	0	0	10	1	2,132	0	1	255	0
28	3353.09	73,118	-647	1,741	0	0	11	0	2,305	0	0	-72	0
29	3353.20	73,224	106	1,939	0	0	12	0	1,846	0	0	25	0
30	3353.42	73,436	212	2,372	0	0	11	1	2,190	0	0	42	0
Total			1,047	77,483	0	0	320	12	76,016	0	9	-79	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3353.42	73,436											
1	3352.41	72,465	-971	1,491	0	0	11	0	2,393	0	0	-58	0
2	3352.05	72,121	-344	1,880	0	0	10	1	2,241	0	0	28	0
3	3351.93	72,006	-115	2,287	0	0	8	0	2,454	0	1	61	0
4	3352.19	72,255	249	2,720	0	0	9	0	2,331	0	0	-131	0
5	3352.05	72,121	-134	2,409	0	0	11	1	2,542	0	0	11	0
6	3351.93	72,006	-115	2,114	0	0	9	0	2,208	0	1	-11	0
7	3351.88	71,958	-48	2,712	0	0	9	0	2,580	0	0	-171	0
8	3351.99	72,063	105	2,527	0	0	9	1	2,502	0	0	90	0
9	3352.19	72,255	192	2,536	0	0	10	0	2,524	0	1	191	0
10	3352.41	72,465	210	2,514	0	0	7	0	2,589	0	0	292	0
11	3351.96	72,035	-430	1,906	0	0	8	0	2,279	0	0	-49	0
12	3351.63	71,711	-324	2,196	0	0	9	0	2,499	0	1	-11	0
13	3351.51	71,606	-105	2,090	0	0	7	0	2,267	0	0	79	0
14	3352.36	72,417	811	3,070	0	0	8	0	2,167	0	1	-83	0
15	3352.75	72,791	374	2,304	0	0	8	0	2,082	0	0	160	0
16	3352.95	72,983	192	2,339	0	0	7	0	1,973	0	0	-167	0
17	3352.86	72,897	-86	1,732	0	0	9	1	1,796	0	0	-12	0
18	3353.09	73,118	221	2,017	0	0	9	0	1,840	0	1	54	0
19	3352.89	72,926	-192	1,685	0	0	9	0	1,792	0	1	-75	0
20	3352.66	72,705	-221	1,701	0	0	9	0	1,825	0	0	-88	0
21	3352.64	72,686	-19	1,779	0	0	9	0	1,949	0	1	161	0
22	3352.10	72,169	-517	1,278	0	0	9	0	1,666	0	0	-120	0
23	3352.05	72,121	-48	1,830	0	0	10	1	1,916	0	0	49	0
24	3352.04	72,107	-14	1,097	0	0	12	1	2,253	0	0	1,155	0
25	3350.33	70,487	-1,620	1,789	0	0	10	1	2,204	0	0	-1,194	0
26	3349.77	69,960	-527	1,973	0	0	10	1	2,445	0	0	-44	0
27	3349.60	69,800	-160	2,197	0	0	10	1	2,408	0	1	63	0
28	3350.87	70,998	1,198	3,629	0	0	10	1	2,435	0	0	15	0
29	3351.98	72,053	1,055	2,452	0	0	10	0	2,451	0	0	1,064	0
30	3351.15	71,264	-789	2,831	0	0	10	0	2,564	0	0	-1,046	0
31	3351.26	71,368	104	2,402	0	0	4	0	2,335	0	0	41	0
Total			-2,068	67,487	0	0	280	10	69,510	0	9	253	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3351.26	71,368											
1	3351.40	71,501	133	2,683	0	0	9	0	2,553	0	0	12	0
2	3352.07	72,140	639	3,169	0	0	9	0	2,517	0	1	-3	0
3	3352.30	72,360	220	2,713	0	0	9	0	2,501	0	0	17	0
4	3353.42	73,436	1,076	3,554	0	0	9	1	2,395	0	0	-73	0
5	3353.42	73,436	0	2,517	0	0	9	0	2,673	0	1	166	0
6	3352.16	72,226	-1,210	1,731	0	0	10	0	2,805	0	0	-126	0
7	3352.13	72,197	-29	2,474	0	0	10	0	2,522	0	0	29	0
8	3352.72	72,762	565	3,238	0	0	11	0	2,665	0	1	4	0
9	3352.50	72,551	-211	2,366	0	0	8	0	2,468	0	0	-102	0
10	3352.96	72,993	442	2,428	0	0	9	1	2,365	0	0	389	0
11	3353.42	73,436	443	3,067	0	0	12	0	2,483	0	1	-129	0
12	3353.03	73,060	-376	2,095	0	0	9	0	2,227	0	0	-235	0
13	3353.00	73,032	-28	2,384	0	0	8	0	2,516	0	0	112	0
14	3352.72	72,762	-270	2,494	0	0	9	0	2,577	0	1	-177	0
15	3352.50	72,551	-211	2,535	0	0	9	0	2,747	0	0	10	0
16	3352.52	72,571	20	2,544	0	0	8	0	2,694	0	0	178	0
17	3351.88	71,958	-613	2,085	0	0	9	0	2,737	0	1	49	0
18	3352.24	72,302	344	2,363	0	0	8	0	1,999	0	0	-12	0
19	3352.05	72,121	-181	1,609	0	0	8	0	1,712	0	0	-70	0
20	3352.16	72,226	105	1,808	0	0	7	0	1,752	0	1	57	0
21	3351.82	71,901	-325	1,675	0	0	8	0	1,908	0	0	-84	0
22	3352.47	72,523	622	1,963	0	0	9	1	1,482	0	0	151	0
23	3352.27	72,331	-192	1,520	0	0	8	0	1,601	0	1	-102	0
24	3352.66	72,705	374	1,747	0	0	9	0	1,319	0	0	-45	0
25	3352.75	72,791	86	1,615	0	0	9	0	1,490	0	1	-29	0
26	3352.64	72,686	-105	1,647	0	0	10	0	1,786	0	0	44	0
27	3352.41	72,465	-221	1,272	0	0	10	0	1,525	0	0	42	0
28	3352.17	72,235	-230	1,466	0	0	10	0	1,618	0	0	-68	0
29	3352.52	72,571	336	1,659	0	0	8	0	1,583	0	0	268	0
30	3352.05	72,121	-450	1,407	0	1	5	0	1,812	0	0	-41	0
Total			753	65,828	0	10	266	3	65,032	0	9	225	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2007

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3352.05	72,121											
1	3352.07	72,140	19	1,570	0	1	4	0	1,485	0	0	-63	0
2	3352.21	72,274	134	1,676	0	1	5	0	1,530	0	0	-8	0
3	3352.19	72,255	-19	1,578	0	1	6	0	1,616	0	0	24	0
4	3351.77	71,853	-402	694	0	1	4	0	1,097	0	1	5	0
5	3350.73	70,865	-988	0	0	1	4	0	969	0	0	-16	0
6	3349.91	70,092	-773	329	0	1	4	0	1,153	0	1	55	0
7	3350.50	70,648	556	1,436	0	52	5	0	1,063	0	0	136	0
8	3351.01	71,131	483	1,319	0	14	5	0	974	0	1	130	0
9	3351.20	71,311	180	1,379	0	7	5	0	981	0	0	-220	0
10	3351.46	71,558	247	1,247	0	5	5	0	1,131	0	1	132	0
11	3351.85	71,930	372	1,250	0	4	5	0	880	0	0	3	0
12	3351.29	71,397	-533	634	0	4	4	1	1,128	0	1	-37	0
13	3350.70	70,837	-560	475	0	3	6	0	1,087	0	0	55	0
14	3351.01	71,131	294	1,364	0	3	6	0	1,068	0	0	1	0
15	3351.09	71,201	70	1,222	0	3	6	0	1,013	0	0	-136	0
16	3351.40	71,501	300	1,102	0	3	5	0	1,057	0	1	258	0
17	3351.15	71,264	-237	1,238	0	3	6	0	1,191	0	0	-281	0
18	3351.40	71,501	237	1,148	0	3	6	0	1,188	0	0	280	0
19	3351.34	71,444	-57	1,239	0	7	5	0	1,120	0	0	-178	0
20	3351.63	71,720	276	1,137	0	4	6	0	987	0	1	129	0
21	3352.07	72,140	420	1,351	0	4	6	0	1,016	0	0	87	0
22	3352.38	72,436	296	1,387	0	3	5	0	925	0	0	-164	0
23	3353.87	73,871	1,435	2,399	0	3	6	0	897	0	0	-64	0
24	3354.15	74,143	272	1,296	0	3	5	0	933	0	1	-88	0
25	3354.88	74,848	705	1,462	0	3	5	0	952	0	0	197	0
26	3354.29	74,278	-570	546	0	3	5	0	1,089	0	0	-25	0
27	3353.20	73,224	-1,054	0	0	3	5	0	974	0	0	-78	0
28	3352.95	72,983	-241	1,623	0	3	6	0	1,823	0	1	-37	0
29	3352.52	72,571	-412	1,064	0	3	5	0	1,804	0	0	330	0
30	3352.52	72,571	0	1,979	0	3	5	0	1,893	0	0	-84	0
31	3352.52	72,571	0	2,059	0	3	5	0	1,965	0	0	-92	0
Total			450	37,203	0	153	160	1	36,989	0	9	253	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3352.52	72,571											
1	3352.55	72,599	28	2,002	0	3	5	0	1,940	0	1	-30	0
2	3352.55	72,599	0	1,972	0	3	5	0	1,930	0	0	-39	0
3	3352.71	72,753	154	1,848	0	2	6	0	1,767	0	1	77	0
4	3353.00	73,032	279	1,863	0	30	6	0	1,927	0	0	319	0
5	3353.45	73,465	433	1,918	0	629	6	0	2,262	0	262	416	3
6	3353.59	73,600	135	1,746	0	457	6	0	2,084	0	369	391	6
7	3353.42	73,436	-164	1,979	0	184	6	0	2,200	0	177	56	6
8	3352.97	73,003	-433	1,853	0	91	5	1	2,199	0	29	-143	6
9	3352.27	72,331	-672	1,425	0	58	6	0	2,208	0	1	61	6
10	3351.82	71,901	-430	1,458	0	41	5	0	1,963	0	0	39	6
11	3351.29	71,397	-504	1,319	0	32	4	0	1,784	0	1	-65	6
12	3351.47	71,560	163	1,710	0	25	4	0	1,573	0	1	7	6
13	3352.41	72,465	905	2,374	0	21	5	0	1,672	0	1	188	6
14	3352.36	72,417	-48	1,738	0	19	4	0	1,746	0	0	-55	6
15	3352.27	72,331	-86	1,630	0	17	4	0	1,764	0	1	36	6
16	3352.27	72,331	0	1,681	0	15	4	0	1,791	0	1	100	6
17	3351.85	71,930	-401	1,691	0	15	5	0	1,994	0	1	-106	6
18	3351.63	71,720	-210	1,508	0	14	5	0	1,869	0	0	143	6
19	3351.57	71,663	-57	1,758	0	13	4	0	1,725	0	1	-97	6
20	3352.72	72,754	1,091	2,802	0	13	2	0	1,623	0	0	-98	6
21	3352.74	72,782	28	1,697	0	17	5	0	1,870	0	1	190	6
22	3352.75	72,791	9	1,911	0	13	5	0	1,985	0	0	75	7
23	3352.33	72,389	-402	1,533	0	16	5	0	1,876	0	1	-69	7
24	3352.55	72,599	210	1,951	0	42	4	0	1,886	0	0	108	7
25	3352.72	72,762	163	1,858	0	127	6	0	1,956	0	45	185	7
26	3353.00	73,032	270	1,181	0	94	5	0	1,315	0	45	360	7
27	3353.84	73,842	810	950	0	1,746	5	0	1,189	0	692	0	7
28	3353.25	73,272	-570	1,218	0	1,699	5	0	1,330	0	1,492	-660	7
29	3353.82	73,821	549	882	0	418	5	0	849	0	543	646	7
30	3353.93	73,929	108	795	0	189	5	0	819	0	99	48	7
31	3353.98	73,978	49	671	0	119	5	0	763	0	32	59	7
Total			1,407	50,922	0	6,160	155	1	53,859	0	3,797	2,137	170

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3353.98	73,978											
1	3354.07	74,065	87	615	0	117	5	0	655	0	0	15	7
2	3353.79	73,794	-271	536	0	111	5	0	988	0	1	76	7
3	3353.84	73,842	48	543	0	225	4	0	790	0	0	74	7
4	3353.45	73,465	-377	281	0	255	4	0	644	0	36	-229	7
5	3352.97	73,003	-462	0	0	146	5	0	630	0	79	106	7
6	3352.50	72,551	-452	0	0	119	3	1	647	0	31	111	7
7	3351.96	72,035	-516	0	0	110	0	0	635	0	0	9	7
8	3351.40	71,501	-534	111	0	109	9	0	739	0	1	-5	9
9	3351.37	71,473	-28	401	0	109	5	0	551	0	0	18	11
10	3351.71	71,796	323	1,039	0	104	5	0	744	0	1	-70	11
11	3351.93	72,006	210	1,259	0	102	5	0	1,091	0	0	-55	11
12	3351.98	72,048	42	1,411	0	107	3	1	1,499	0	1	28	11
13	3351.82	71,901	-147	1,454	0	112	4	0	1,623	0	0	-86	11
14	3351.71	71,796	-105	1,473	0	110	5	0	1,916	0	1	234	11
15	3352.05	72,121	325	2,158	0	92	5	0	1,587	0	30	-303	11
16	3353.09	73,118	997	2,164	0	86	4	0	1,253	0	80	84	11
17	3353.45	73,465	347	1,580	0	79	3	1	1,315	0	80	87	11
18	3352.86	72,897	-568	779	0	74	4	0	1,373	0	80	36	11
19	3352.86	72,897	0	1,376	0	73	4	0	1,356	0	79	-9	11
20	3352.47	72,523	-374	811	0	90	5	0	1,378	0	79	187	11
21	3351.85	71,930	-593	1,003	0	102	4	0	1,463	0	79	-152	11
22	3351.51	71,606	-324	475	0	272	3	1	1,292	0	79	304	11
23	3351.40	71,501	-105	674	0	242	4	0	758	0	79	-180	11
24	3352.97	73,003	1,502	1,625	0	414	4	0	697	0	79	243	11
25	3352.97	73,003	0	866	0	298	4	0	991	0	77	-91	11
26	3352.50	72,551	-452	493	0	193	4	0	1,018	0	77	-39	11
27	3351.63	71,720	-831	264	0	166	4	0	1,176	0	77	-4	11
28	3350.98	71,102	-618	421	0	153	4	0	1,150	0	79	41	11
29	3351.15	71,264	162	1,292	0	135	4	0	1,248	0	56	43	11
Total			-2,714	25,104	0	4,305	123	4	31,207	0	1,263	474	286

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 29	3351.15	71,264											
1	3351.91	71,987	723	1,712	0	128	4	0	1,175	0	0	62	11
2	3352.66	72,705	718	1,443	0	109	4	0	969	0	0	139	11
3	3352.21	72,274	-431	1,032	0	96	1	0	1,419	0	0	-139	11
4	3351.67	71,758	-516	767	0	91	4	0	1,386	0	0	16	11
5	3351.43	71,530	-228	1,224	0	91	4	0	1,571	0	0	32	14
6	3350.84	70,970	-560	1,077	0	89	3	1	1,613	0	35	-74	18
7	3350.78	70,913	-57	1,557	0	84	4	0	1,670	0	70	46	18
8	3349.77	69,960	-953	1,231	0	83	5	0	1,655	0	81	-526	18
9	3350.67	70,809	849	2,173	0	78	4	0	1,837	0	81	520	18
10	3350.61	70,752	-57	2,145	0	72	4	0	2,105	0	81	-84	18
11	3350.14	70,308	-444	1,541	0	71	4	0	1,915	0	81	-56	18
12	3350.73	70,865	557	2,614	0	71	4	0	2,154	0	81	111	18
13	3350.45	70,601	-264	2,153	0	66	5	0	2,349	0	81	-48	18
14	3350.70	70,837	236	2,382	0	66	3	0	2,239	0	81	111	18
15	3350.95	71,074	237	2,358	0	63	3	1	2,047	0	81	-52	18
16	3351.87	71,949	875	3,017	0	61	5	0	2,034	0	81	-83	18
17	3351.82	71,901	-48	2,211	0	59	3	0	2,268	0	82	35	18
18	3351.93	72,006	105	2,079	0	57	4	0	1,936	0	82	-9	18
19	3352.05	72,121	115	1,935	0	54	4	0	1,828	0	82	40	18
20	3352.41	72,465	344	2,661	0	52	4	0	2,177	0	82	-106	18
21	3351.91	71,987	-478	1,203	109	50	4	0	3,910	0	82	2,156	18
22	3351.29	71,397	-590	1,181	0	48	4	0	1,714	0	82	-19	18
23	3351.12	71,235	-162	1,707	0	47	3	1	1,817	0	82	-13	18
24	3350.75	70,884	-351	1,735	0	45	4	0	1,986	0	82	-59	18
25	3350.36	70,516	-368	1,684	0	43	4	0	1,958	0	82	-51	18
26	3350.45	70,601	85	1,959	0	42	4	0	1,906	0	82	76	18
27	3350.59	70,733	132	725	0	39	4	0	1,828	0	82	1,282	16
28	3350.14	70,308	-425	1,879	0	38	4	0	2,290	0	82	34	0
29	3350.19	70,355	47	1,904	0	35	4	0	1,817	0	82	11	0
30	3351.63	71,720	1,365	3,182	0	33	4	0	1,879	0	82	115	0
31	3351.99	72,063	343	2,588	0	32	4	0	2,154	0	82	-37	0
Total			799	57,059	109	1,993	119	3	59,606	0	2,064	3,430	443

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3351.99	72,063											
1	3351.96	72,035	-28	2,153	0	32	5	0	2,131	0	79	2	0
2	3351.93	72,006	-29	1,813	0	30	5	0	1,756	0	66	-45	0
3	3351.63	71,720	-286	1,849	0	29	5	0	2,118	0	50	9	0
4	3351.55	71,644	-76	1,633	0	28	4	1	1,439	0	79	-214	0
5	3351.57	71,663	19	1,235	0	28	4	0	1,363	0	79	202	0
6	3351.63	71,720	57	0	0	27	5	0	0	0	79	114	0
7	3351.48	71,577	-143	1,040	0	26	5	0	1,046	0	77	-81	0
8	3351.40	71,501	-76	1,489	0	26	3	1	1,468	0	77	-42	0
9	3351.77	71,853	352	1,885	0	25	5	0	1,467	0	77	-9	0
10	3351.57	71,663	-190	1,585	0	25	5	0	1,750	0	62	17	0
11	3351.63	71,720	57	1,924	0	24	4	0	1,797	0	0	-90	0
12	3351.71	71,796	76	1,898	0	23	4	0	1,869	0	1	29	0
13	3351.06	71,178	-618	1,371	0	23	2	1	2,063	0	0	54	0
14	3351.18	71,292	114	2,284	0	22	4	0	2,100	0	1	-87	0
15	3351.91	71,987	695	2,842	0	22	5	0	2,124	0	0	-40	0
16	3352.78	72,820	833	3,064	0	21	6	0	2,307	0	1	62	0
17	3351.88	71,958	-862	1,246	0	21	4	1	2,172	0	0	48	0
18	3351.96	72,035	77	1,999	0	21	7	0	1,945	0	1	10	0
19	3351.04	71,159	-876	1,325	0	20	7	0	2,163	0	0	-51	0
20	3351.43	71,530	371	1,982	0	20	6	0	1,602	0	1	-22	0
21	3351.37	71,473	-57	1,872	0	20	6	1	1,915	0	0	-27	0
22	3351.20	71,311	-162	1,588	0	19	1	0	1,835	0	1	68	0
23	3351.37	71,473	162	1,684	0	19	2	0	1,458	0	0	-81	0
24	3351.71	71,796	323	1,857	0	18	2	1	1,536	0	1	-12	0
25	3351.20	71,311	-485	1,310	0	18	4	0	1,835	0	0	26	0
26	3351.37	71,473	162	1,647	0	17	6	0	1,612	0	1	117	0
27	3351.12	71,235	-238	1,798	0	17	6	0	2,065	0	0	18	0
28	3351.29	71,397	162	1,941	0	16	6	0	1,961	0	1	173	0
29	3351.63	71,720	323	2,343	0	16	5	0	1,969	0	0	-62	0
30	3351.48	71,577	-143	1,944	0	16	5	0	2,036	0	1	-61	0
Total			-486	52,601	0	669	138	6	52,902	0	735	25	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3351.48	71,577											
1	3351.48	71,571	-6	2,344	0	16	6	0	2,036	0	0	-324	25
2	3351.96	72,035	464	2,582	0	15	7	0	2,214	0	0	88	48
3	3352.16	72,226	191	2,033	0	15	5	1	1,998	0	0	147	48
4	3352.13	72,197	-29	1,972	0	14	7	0	1,902	0	0	-106	48
5	3352.07	72,140	-57	1,999	0	13	8	0	1,967	0	0	-94	48
6	3352.47	72,523	383	1,968	0	13	7	0	1,733	0	0	142	48
7	3352.30	72,360	-163	1,791	0	12	6	1	1,870	0	0	-89	48
8	3352.52	72,571	211	1,790	0	11	6	0	1,606	0	0	22	48
9	3352.50	72,551	-20	1,819	0	11	7	0	1,799	0	0	-44	48
10	3352.16	72,226	-325	1,581	0	11	5	1	1,903	0	0	-8	48
11	3352.27	72,331	105	1,694	0	10	6	0	1,432	0	0	-161	48
12	3352.36	72,417	86	1,817	0	10	7	0	1,806	0	1	73	48
13	3351.95	72,016	-401	1,302	0	10	6	0	1,648	0	0	-59	47
14	3351.96	72,035	19	1,482	0	9	6	1	1,381	0	1	-83	45
15	3351.93	72,006	-29	1,186	0	9	6	0	1,363	0	0	145	45
16	3351.26	71,368	-638	793	0	8	7	0	1,293	0	1	-138	45
17	3351.20	71,311	-57	1,348	0	8	5	1	1,366	0	0	-41	45
18	3351.77	71,853	542	1,848	0	7	6	0	1,364	0	1	58	45
19	3351.48	71,577	-276	1,145	0	7	7	0	1,522	0	0	101	45
20	3351.18	71,292	-285	1,053	0	7	7	0	1,296	0	1	-41	45
21	3350.87	70,998	-294	1,010	0	8	7	1	1,266	0	0	-38	45
22	3349.83	70,016	-982	526	0	7	9	0	1,515	0	1	10	45
23	3350.16	70,327	311	1,749	0	35	9	0	1,514	0	0	50	45
24	3350.59	70,733	406	1,603	0	18	8	1	1,215	0	1	10	45
25	3351.23	71,340	607	1,786	0	15	8	0	1,206	0	0	20	45
26	3352.13	72,197	857	1,993	0	15	6	0	1,102	0	1	-42	45
27	3352.19	72,255	58	1,184	0	14	6	1	1,134	0	0	1	34
28	3351.91	71,987	-268	1,043	0	14	6	0	1,289	0	1	-29	24
29	3351.91	71,987	0	1,144	0	13	7	0	1,070	0	0	-80	24
30	3351.74	71,825	-162	1,037	0	12	6	0	1,263	0	1	59	24
31	3351.51	71,606	-219	866	0	11	7	0	1,009	0	1	-79	24
Total			29	47,488	0	378	206	8	47,082	0	11	-530	1,310

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3351.51	71,606											
1	3351.29	71,397	-209	1,169	0	11	5	0	1,337	0	0	-47	24
2	3350.53	70,676	-721	1,075	0	10	5	1	1,706	0	0	-94	24
3	3349.91	70,092	-584	1,274	0	9	7	0	1,960	0	1	101	24
4	3349.86	70,045	-47	1,805	0	9	6	0	1,749	0	0	-106	24
5	3349.74	69,932	-113	1,727	0	8	7	1	1,920	0	0	80	24
6	3349.24	69,463	-469	1,737	0	8	8	0	2,132	0	1	-73	24
7	3349.04	69,276	-187	1,780	0	7	8	0	1,891	0	0	-75	24
8	3350.25	70,412	1,136	3,102	0	7	7	1	1,947	0	0	-18	23
9	3350.75	70,884	472	2,470	0	6	8	0	1,908	0	0	-88	23
10	3351.85	71,930	1,046	2,778	0	6	8	0	1,912	0	1	183	23
11	3352.05	72,121	191	1,981	0	5	7	1	1,736	0	0	-51	23
12	3351.71	71,796	-325	1,759	0	5	8	0	2,030	0	0	-51	23
13	3351.29	71,397	-399	1,427	0	5	7	0	1,831	0	1	8	23
14	3350.73	70,865	-532	1,169	0	4	8	0	1,664	0	0	-33	23
15	3352.02	72,090	1,225	3,087	0	4	8	0	1,875	0	0	17	23
16	3351.74	71,825	-265	2,130	0	3	7	1	2,431	0	1	42	23
17	3351.63	71,720	-105	2,378	0	3	8	0	2,364	0	0	-114	23
18	3351.82	71,898	178	2,764	0	3	6	0	2,533	0	0	-50	23
19	3351.40	71,501	-397	2,135	0	3	6	0	2,570	0	1	42	23
20	3350.67	70,809	-692	1,957	0	3	7	0	2,687	0	0	42	23
21	3349.63	69,829	-980	1,827	0	2	5	1	2,695	0	0	-108	24
22	3350.99	71,112	1,283	3,349	0	2	6	0	2,114	0	1	53	24
23	3350.97	71,088	-24	2,996	0	2	6	0	2,996	0	0	-20	24
24	3350.89	71,017	-71	2,561	0	2	5	1	2,688	0	0	60	24
25	3351.09	71,207	190	2,829	0	2	7	0	2,640	0	1	7	24
26	3350.59	70,728	-479	1,958	0	2	6	0	2,453	0	0	20	24
27	3350.56	70,704	-24	2,425	0	1	6	0	2,404	0	0	-40	24
28	3350.61	70,752	48	2,497	0	1	5	1	2,379	0	1	-64	24
29	3351.04	71,159	407	2,859	0	1	6	0	2,352	0	0	-95	24
30	3350.92	71,045	-114	2,189	0	1	6	0	2,372	0	1	75	24
Total			-561	65,194	0	135	200	8	65,276	0	10	-396	709

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3350.92	71,045											
1	3351.04	71,159	114	2,377	0	1	5	1	2,194	0	1	-63	24
2	3351.09	71,207	48	2,042	0	1	6	0	1,956	0	0	-33	24
3	3350.75	70,884	-323	2,037	0	1	5	1	2,257	0	0	-98	24
4	3351.63	71,720	836	2,932	0	1	7	0	2,109	0	1	20	24
5	3351.09	71,207	-513	1,637	0	1	5	1	2,087	0	0	-58	24
6	3351.71	71,796	589	2,699	0	1	7	0	2,208	0	0	104	24
7	3350.64	70,780	-1,016	1,670	0	1	6	1	2,562	0	1	-117	24
8	3349.94	70,120	-660	1,779	0	1	8	0	2,387	0	0	-45	24
9	3350.36	70,516	396	2,309	0	0	7	0	2,109	0	0	203	24
10	3350.14	70,308	-208	2,322	0	0	6	1	2,505	0	0	-18	24
11	3349.83	70,016	-292	2,274	0	0	8	0	2,562	0	1	5	24
12	3348.54	68,809	-1,207	750	0	0	8	0	1,793	0	0	-156	24
13	3349.24	69,463	654	2,950	0	1	7	1	2,339	0	0	50	24
14	3350.77	70,903	1,440	3,135	0	1	8	0	2,342	0	1	655	24
15	3349.97	70,148	-755	1,881	0	0	7	0	1,978	0	0	-651	24
16	3350.42	70,572	424	2,744	0	0	6	1	2,301	0	0	-12	24
17	3349.88	70,063	-509	1,865	0	0	7	0	2,251	0	0	-116	24
18	3349.88	70,063	0	2,050	0	0	6	1	2,087	0	1	45	24
19	3349.83	70,016	-47	1,987	0	0	7	0	2,043	0	0	16	22
20	3351.04	71,159	1,143	3,201	0	0	5	1	1,980	0	0	-72	22
21	3351.40	71,501	342	2,237	0	0	7	0	1,957	0	1	70	22
22	3351.15	71,264	-237	1,647	0	0	7	0	1,743	0	0	-134	22
23	3350.84	70,970	-294	1,726	0	0	5	1	2,016	0	0	2	22
24	3350.56	70,705	-265	1,849	0	0	6	0	2,080	0	1	-27	22
25	3350.45	70,601	-104	1,902	0	0	7	0	2,038	0	0	39	22
26	3350.45	70,601	0	1,905	0	0	5	1	1,905	0	1	7	22
27	3351.18	71,292	691	2,710	0	0	7	0	1,953	0	0	-59	22
28	3350.50	70,648	-644	1,723	0	0	5	1	2,281	0	0	-80	22
29	3350.39	70,544	-104	1,982	0	0	7	0	2,042	0	1	-36	22
30	3350.22	70,384	-160	1,985	0	0	6	1	2,178	0	0	40	22
31	3350.00	70,176	-208	1,971	0	0	7	0	2,172	0	0	0	22
Total			-869	66,278	0	10	200	13	66,415	0	10	-519	712

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.00	70,176											
1	3349.72	69,913	-263	1,893	0	0	6	0	2,081	0	0	-69	23
2	3349.55	69,753	-160	2,199	0	0	6	0	2,240	0	0	-113	22
3	3350.50	70,648	895	2,942	0	0	6	1	2,133	0	1	94	22
4	3350.05	70,223	-425	1,955	0	0	7	0	2,299	0	0	-74	23
5	3349.97	70,148	-75	2,134	0	0	7	0	2,164	0	0	-38	17
6	3349.91	70,092	-56	2,292	0	0	7	1	2,379	0	1	40	9
7	3350.02	70,195	103	2,391	0	0	7	1	2,207	0	0	-73	3
8	3350.25	70,412	217	2,255	0	0	8	0	2,155	0	0	125	0
9	3350.25	70,412	0	2,150	0	0	7	1	2,060	0	1	-81	0
10	3351.65	71,739	1,327	3,472	0	0	8	0	2,148	0	0	11	0
11	3351.48	71,577	-162	2,287	0	0	8	0	2,360	0	0	-81	0
12	3351.51	71,606	29	2,349	0	0	7	1	2,207	0	1	-104	0
13	3351.51	71,606	0	2,115	0	0	9	0	2,142	0	0	36	6
14	3351.63	71,720	114	2,155	0	0	7	0	2,125	0	0	91	10
15	3351.18	71,292	-428	1,714	0	0	7	1	2,069	0	1	-64	10
16	3350.75	70,884	-408	1,712	0	0	8	0	2,143	0	0	31	10
17	3352.02	72,092	1,208	3,374	0	0	8	0	2,149	0	0	-9	10
18	3351.77	71,853	-239	1,976	0	0	7	1	2,107	0	1	-99	10
19	3351.82	71,901	48	2,070	0	0	8	0	2,010	0	0	-4	10
20	3351.71	71,796	-105	2,046	0	0	7	0	2,057	0	0	-87	10
21	3352.02	72,092	296	1,932	0	0	5	1	1,679	0	1	50	10
22	3352.40	72,456	364	1,795	0	0	6	0	1,474	0	0	49	10
23	3351.93	72,006	-450	934	0	0	5	0	1,381	0	0	2	10
24	3352.70	72,743	737	2,436	0	0	4	1	1,516	0	1	-177	10
25	3352.55	72,599	-144	1,545	0	0	6	0	1,641	0	0	-42	10
26	3352.24	72,302	-297	1,298	0	0	6	0	1,586	0	0	-3	10
27	3351.93	72,006	-296	1,217	0	0	7	1	1,500	0	1	-4	10
28	3351.29	71,397	-609	1,215	0	0	7	0	1,555	0	0	-262	10
29	3350.89	71,017	-380	1,304	0	0	8	0	1,915	0	0	239	10
30	3350.56	70,705	-312	1,296	0	0	6	1	1,554	0	1	-46	10
31	3351.93	72,006	1,301	2,794	0	0	8	0	1,512	0	0	27	10
Total			1,830	63,247	0	0	214	11	60,548	0	10	-634	297

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3351.93	72,006											
1	3351.63	71,720	-286	1,475	0	0	8	0	1,608	0	0	-145	10
2	3351.93	72,006	286	1,555	0	0	7	0	1,300	0	0	38	10
3	3352.05	72,121	115	1,375	0	0	6	1	1,197	0	1	-55	10
4	3351.46	71,558	-563	921	0	0	7	0	1,493	0	0	16	10
5	3351.06	71,178	-380	1,022	0	0	6	0	1,340	0	0	-56	10
6	3350.95	71,074	-104	1,053	0	0	4	1	1,143	0	1	-8	10
7	3351.54	71,634	560	1,837	0	0	5	0	1,355	0	0	83	10
8	3350.92	71,045	-589	1,041	0	0	4	0	1,500	0	0	-126	10
9	3350.50	70,648	-397	1,027	0	0	4	1	1,400	0	1	-18	9
10	3350.05	70,223	-425	1,074	85	0	4	0	1,530	0	0	-50	8
11	3349.43	69,641	-582	831	164	0	5	0	1,516	0	0	-56	9
12	3348.45	68,725	-916	1,193	0	0	3	1	1,719	0	1	-385	10
13	3348.20	68,493	-232	1,114	0	0	5	0	1,374	0	0	33	10
14	3349.91	70,092	1,599	4,197	0	0	5	0	1,435	0	0	-1,158	10
15	3349.58	69,782	-310	1,466	0	0	4	1	1,660	0	1	-110	5
16	3349.86	70,045	263	1,834	0	0	5	0	1,654	0	0	88	4
17	3349.91	70,092	47	1,652	0	0	5	0	1,721	0	0	121	3
18	3349.52	69,725	-367	1,417	0	0	6	1	1,702	0	1	-74	3
19	3348.76	69,014	-711	864	0	0	7	0	1,615	0	0	47	8
20	3348.54	68,809	-205	1,276	0	0	6	0	1,485	0	0	10	10
21	3350.45	70,601	1,792	3,491	0	0	5	1	1,587	0	1	-105	10
22	3350.45	70,601	0	1,614	0	0	6	0	1,630	0	0	22	10
23	3350.36	70,516	-85	1,369	0	0	5	1	1,419	0	0	-29	10
24	3349.97	70,148	-368	1,239	0	0	7	0	1,637	0	1	38	10
25	3349.43	69,641	-507	1,238	0	0	6	0	1,613	0	0	-126	10
26	3348.87	69,117	-524	1,236	0	0	5	1	1,747	0	0	-7	10
27	3348.76	69,014	-103	1,240	0	0	4	0	1,393	0	1	55	10
28	3350.50	70,648	1,634	2,939	0	0	3	1	1,334	0	0	33	10
29	3350.56	70,705	57	1,558	0	0	4	0	1,522	0	0	25	10
30	3350.81	70,941	236	1,510	0	0	4	0	1,332	0	1	63	10
Total			-1,065	45,658	249	0	155	10	44,961	0	10	-1,836	260

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3350.81	70,941											
1	3350.61	70,752	-189	1,303	0	0	5	0	1,419	0	0	-68	10
2	3350.70	70,837	85	1,333	0	0	6	0	1,215	0	0	-27	10
3	3350.39	70,544	-293	1,173	0	0	6	0	1,409	0	1	-50	10
4	3350.02	70,195	-349	1,027	0	0	4	1	1,425	0	0	54	10
5	3351.40	71,501	1,306	2,697	0	0	5	0	1,361	0	0	-25	9
6	3350.95	71,074	-427	896	0	0	5	0	1,337	0	1	20	9
7	3349.49	69,697	-1,377	0	0	0	5	0	1,351	0	0	-21	8
8	3347.75	68,076	-1,621	11	0	0	3	1	1,484	0	0	-144	6
9	3347.92	68,233	157	1,408	0	0	4	0	1,267	0	1	21	6
10	3347.86	68,177	-56	1,589	0	0	4	0	1,617	0	0	-24	6
11	3348.00	68,307	130	1,695	0	0	4	0	1,503	0	0	-58	6
12	3349.94	70,120	1,813	3,417	0	0	4	0	1,630	0	1	31	6
13	3349.83	70,016	-104	1,720	0	0	4	0	1,801	0	0	-19	6
14	3349.94	70,120	104	1,714	0	0	3	1	1,443	0	0	-163	6
15	3349.29	69,510	-610	998	0	0	4	0	1,571	0	1	-32	6
16	3348.23	68,521	-989	802	0	0	4	0	1,789	0	0	2	6
17	3347.83	68,150	-371	985	0	0	4	0	1,412	0	0	60	6
18	3347.10	67,475	-675	774	0	0	3	1	1,408	0	1	-36	6
19	3349.18	69,407	1,932	2,775	0	0	4	0	982	0	0	143	6
20	3348.93	69,173	-234	1,131	0	0	4	0	1,323	0	0	-38	6
21	3348.48	68,753	-420	815	0	0	4	0	1,179	0	1	-51	6
22	3348.23	68,521	-232	985	0	0	3	1	1,231	0	0	18	6
23	3348.20	68,493	-28	958	0	0	4	0	1,045	0	0	63	6
24	3347.89	68,205	-288	970	0	0	4	0	1,158	0	1	-95	6
25	3347.78	68,103	-102	863	0	0	3	1	1,027	0	0	66	6
26	3349.18	69,407	1,304	2,257	0	0	4	0	983	0	0	34	6
27	3348.96	69,201	-206	1,067	0	0	4	0	1,243	0	1	-25	6
28	3349.07	69,304	103	1,232	0	0	5	1	1,127	0	0	4	6
29	3348.93	69,173	-131	1,165	0	0	5	0	1,210	0	0	-81	6
30	3348.93	69,173	0	930	0	0	4	0	924	0	1	-1	6
31	3349.07	69,304	131	1,046	0	0	3	1	887	0	0	-24	6
Total			-1,637	39,736	0	0	129	8	40,761	0	10	-465	204

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3349.07	69,304											
1	3349.38	69,594	290	1,084	0	0	4	0	858	0	1	69	6
2	3350.39	70,544	950	1,946	0	0	4	0	895	0	0	-97	6
3	3350.47	70,620	76	946	0	0	2	1	884	0	0	17	6
4	3350.16	70,327	-293	561	0	0	2	0	808	0	1	-43	6
5	3349.24	69,463	-864	270	0	0	4	0	1,055	0	0	-75	6
6	3349.27	69,491	28	696	0	0	4	0	774	0	0	110	6
7	3349.01	69,248	-243	528	0	0	3	0	676	0	1	-91	6
8	3348.56	68,828	-420	549	0	1	3	0	656	0	0	-311	6
9	3348.65	68,912	84	653	0	0	2	1	662	0	0	96	6
10	3348.42	68,698	-214	437	0	0	3	0	665	0	1	18	6
11	3348.23	68,521	-177	506	0	0	4	0	689	0	0	10	6
12	3348.31	68,595	74	740	0	1	3	0	635	0	0	-29	6
13	3348.28	68,567	-28	623	0	0	3	0	690	0	1	43	6
14	3347.86	68,177	-390	438	0	0	3	0	762	0	0	-63	6
15	3347.64	67,974	-203	430	0	0	3	0	701	0	0	71	6
16	3349.52	69,725	1,751	2,567	0	0	3	0	731	0	1	-81	6
17	3349.43	69,641	-84	672	0	1	3	0	686	0	0	-68	6
18	3349.49	69,697	56	602	0	0	3	0	649	0	0	106	6
19	3349.27	69,491	-206	434	0	0	2	1	679	0	1	43	6
20	3348.90	69,145	-346	439	0	0	3	0	680	0	0	-102	6
21	3348.59	68,856	-289	427	0	1	2	0	671	0	0	-44	6
22	3348.45	68,725	-131	432	0	0	1	0	676	0	1	115	6
23	3349.24	69,463	738	1,534	0	0	2	0	665	0	0	-129	6
24	3348.93	69,173	-290	379	0	0	4	0	660	0	0	-5	6
25	3348.68	68,940	-233	380	0	1	2	0	671	0	1	60	6
26	3348.45	68,725	-215	379	0	0	3	0	688	0	0	97	6
27	3348.48	68,753	28	633	0	0	2	1	668	0	0	66	6
28	3349.66	69,857	1,104	1,710	0	0	3	0	605	0	1	3	6
29	3350.87	70,998	1,141	1,808	0	1	3	0	650	0	0	-15	5
30	3352.08	72,143	1,145	1,746	0	1	1	0	687	0	0	86	5
Total			2,839	24,549	0	7	84	4	21,476	0	10	-143	178

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2008

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3352.08	72,143											
1	3352.07	72,140	-3	723	0	0	3	0	662	0	0	-61	6
2	3352.16	72,226	86	855	0	0	3	0	734	0	0	-32	6
3	3352.13	72,197	-29	601	0	0	3	0	588	0	1	-38	6
4	3351.82	71,901	-296	150	0	0	2	0	357	0	0	-87	6
5	3351.68	71,768	-133	0	16	0	1	0	178	0	1	31	6
6	3351.63	71,720	-48	0	0	0	0	0	170	0	0	122	6
7	3351.65	71,739	19	230	0	0	0	0	193	0	1	-17	6
8	3351.26	71,368	-371	141	0	0	0	0	402	0	0	-110	6
9	3350.81	70,941	-427	19	0	0	3	1	391	0	1	-50	6
10	3350.56	70,705	-236	19	0	0	5	0	364	0	0	114	6
11	3350.16	70,327	-378	18	0	0	4	0	376	0	1	-15	6
12	3349.69	69,885	-442	20	0	0	3	0	382	0	0	-77	6
13	3349.35	69,566	-319	0	0	0	3	0	348	0	0	32	6
14	3349.24	69,463	-103	308	0	0	3	1	318	0	0	-89	6
15	3349.38	69,594	131	106	0	14	0	0	278	0	1	290	6
16	3349.29	69,510	-84	150	0	4	6	1	241	0	0	10	6
17	3349.13	69,360	-150	18	0	4	0	0	323	0	0	151	6
18	3349.15	69,379	19	301	0	3	0	0	326	0	0	41	6
19	3349.10	69,332	-47	215	0	3	0	0	311	0	1	47	6
20	3348.93	69,173	-159	234	0	3	5	0	303	0	0	-88	6
21	3349.52	69,725	552	745	0	3	5	0	279	0	0	88	6
22	3349.21	69,435	-290	333	0	4	4	1	627	0	0	5	6
23	3348.48	68,753	-682	174	0	8	0	0	869	0	1	6	6
24	3348.23	68,521	-232	207	0	5	6	0	388	0	0	-50	6
25	3348.82	69,070	549	310	0	212	3	0	355	0	0	385	6
26	3348.76	69,014	-56	321	0	63	1	0	374	0	0	-65	6
27	3348.79	69,042	28	310	0	18	0	0	365	0	1	66	6
28	3349.74	69,932	890	1,247	0	12	6	0	318	0	0	-45	6
29	3350.02	70,195	263	542	0	11	4	0	366	0	0	80	6
30	3350.02	70,195	0	194	0	11	4	0	252	0	1	52	5
31	3350.02	70,195	0	191	0	11	6	0	176	0	0	-20	5
Total			-1,948	8,682	16	389	83	4	11,614	0	10	676	184

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3350.02	70,195											
1	3350.02	70,195	0	339	0	9	6	0	283	0	1	-58	6
2	3349.94	70,120	-75	171	0	10	6	0	220	0	0	-30	6
3	3349.83	70,016	-104	155	0	10	6	0	220	0	0	-43	6
4	3350.05	70,223	207	365	0	10	5	0	212	0	1	50	6
5	3350.22	70,384	161	359	0	10	3	0	190	0	0	-15	6
6	3350.25	70,412	28	169	0	9	1	0	244	0	0	95	6
7	3350.14	70,308	-104	170	0	10	1	0	312	0	1	30	5
8	3349.97	70,148	-160	169	0	10	5	0	236	0	0	-98	5
9	3349.88	70,063	-85	0	0	10	5	1	189	0	0	100	5
10	3349.83	70,016	-47	129	0	10	6	0	167	0	0	-13	5
11	3349.77	69,960	-56	147	0	10	6	0	163	0	1	-43	5
12	3349.69	69,885	-75	137	0	10	3	0	228	0	0	9	6
13	3349.66	69,857	-28	230	0	11	4	0	157	0	0	-108	6
14	3349.80	69,988	131	211	0	11	3	0	127	0	0	39	6
15	3349.94	70,120	132	213	0	11	3	0	103	0	1	15	6
16	3349.93	70,110	-10	311	0	10	4	0	135	0	0	-192	6
17	3350.08	70,252	142	181	0	10	3	0	165	0	1	120	6
18	3350.00	70,176	-76	181	0	10	3	0	244	0	0	-20	6
19	3349.94	70,120	-56	182	0	10	3	0	202	0	1	-42	6
20	3349.91	70,092	-28	181	0	10	4	1	232	0	0	18	6
21	3350.19	70,355	263	216	0	10	3	0	244	0	0	284	6
22	3349.86	70,045	-310	179	0	11	4	0	242	0	0	-254	6
23	3349.86	70,045	0	181	0	15	4	0	245	0	1	54	6
24	3349.77	69,960	-85	172	0	32	4	0	249	0	0	-36	6
25	3349.60	69,800	-160	183	0	25	4	0	233	0	0	-131	6
26	3349.83	70,016	216	182	0	22	4	0	179	0	0	195	6
27	3349.69	69,885	-131	183	0	17	4	0	234	0	1	-92	6
28	3349.69	69,885	0	201	0	15	4	0	218	0	0	6	6
29	3349.60	69,800	-85	215	0	13	4	0	229	0	0	-80	6
30	3349.72	69,913	113	198	0	13	3	0	168	0	0	73	6
31	3349.83	70,016	103	177	0	13	3	0	135	0	1	52	5
Total			-179	6,087	0	387	122	2	6,405	0	10	-114	180

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3349.83	70,016											
1	3349.69	69,885	-131	180	0	12	3	0	182	0	2	-136	11
2	3349.72	69,913	28	185	0	12	3	0	99	0	2	-65	11
3	3349.86	70,045	132	137	0	12	3	0	120	0	2	108	11
4	3349.88	70,063	18	144	0	12	3	0	181	0	2	48	11
5	3349.91	70,092	29	142	0	17	4	0	161	0	2	37	14
6	3350.25	70,412	320	140	0	193	3	0	167	0	38	195	46
7	3350.64	70,780	368	140	0	281	3	0	142	0	84	176	46
8	3350.81	70,941	161	140	0	150	3	0	94	0	84	52	46
9	3351.29	71,397	456	268	0	176	3	0	106	0	84	205	46
10	3351.18	71,291	-106	14	0	110	1	0	112	0	84	-33	46
11	3350.92	71,045	-246	0	18	85	6	1	162	0	84	-96	46
12	3350.95	71,074	29	0	18	71	3	0	81	0	31	55	46
13	3351.09	71,207	133	18	9	69	3	0	66	0	4	110	46
14	3351.06	71,178	-29	0	18	63	3	0	72	0	2	-33	46
15	3351.09	71,207	29	0	18	58	3	0	30	0	2	-12	46
16	3351.65	71,739	532	19	0	406	2	0	101	0	35	245	46
17	3351.91	71,987	248	26	0	306	6	1	84	0	83	90	46
18	3351.82	71,901	-86	107	0	150	3	0	108	0	83	-149	45
19	3351.93	72,006	105	107	0	122	3	0	118	0	83	80	45
20	3351.82	71,901	-105	21	0	100	4	0	117	0	84	-21	45
21	3352.05	72,121	220	21	0	89	3	0	75	0	82	270	45
22	3351.79	71,873	-248	0	0	93	3	0	16	0	83	-239	45
23	3351.74	71,825	-48	0	21	107	3	0	70	0	81	-22	45
24	3351.71	71,796	-29	0	21	110	3	0	98	0	84	25	45
25	3351.65	71,739	-57	21	0	112	3	0	142	0	3	-42	45
26	3351.54	71,634	-105	0	20	96	3	0	145	0	2	-71	45
27	3351.51	71,606	-28	21	0	87	3	0	215	0	2	84	45
28	3351.37	71,473	-133	0	21	79	2	0	122	0	2	-107	45
Total			1,457	1,851	164	3,178	88	2	3,186	0	1,214	754	1,105

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3351.37	71,473											
1	3351.40	71,501	28	0	21	74	3	0	111	0	0	47	18
2	3351.37	71,473	-28	0	21	72	3	0	105	0	0	-13	18
3	3351.37	71,473	0	0	20	71	3	0	49	0	1	-38	18
4	3351.63	71,720	247	0	20	78	4	0	51	0	0	204	18
5	3351.37	71,473	-247	0	20	91	3	0	91	0	0	-264	18
6	3351.80	71,882	409	20	0	71	3	0	299	0	1	621	18
7	3351.32	71,425	-457	133	0	62	2	1	239	0	0	-410	18
8	3350.98	71,102	-323	0	21	58	3	0	236	0	0	-163	18
9	3350.82	70,949	-153	0	21	54	3	0	251	0	1	27	18
10	3350.53	70,676	-273	0	21	48	3	0	342	0	0	3	18
11	3350.25	70,412	-264	0	20	46	3	0	283	0	0	-44	18
12	3350.31	70,469	57	311	0	42	3	0	336	0	0	43	18
13	3350.02	70,195	-274	188	0	39	3	0	462	0	1	-35	18
14	3349.97	70,148	-47	188	0	37	3	0	237	0	0	-32	18
15	3349.83	70,016	-132	188	0	35	3	0	464	0	1	113	18
16	3349.66	69,857	-159	176	0	33	2	1	338	0	0	-27	18
17	3349.55	69,753	-104	225	0	32	3	0	364	0	1	7	18
18	3349.41	69,622	-131	219	0	30	3	0	404	0	0	27	18
19	3349.27	69,491	-131	295	0	29	3	0	423	0	1	-28	18
20	3349.01	69,248	-243	220	0	29	3	0	495	0	0	6	18
21	3348.48	68,753	-495	207	0	27	3	0	725	0	1	0	18
22	3348.11	68,409	-344	220	0	36	3	0	1,310	0	0	713	18
23	3347.53	67,872	-537	222	0	36	2	1	745	0	0	-47	18
24	3346.88	67,272	-600	0	19	31	3	0	626	0	1	-20	18
25	3346.23	66,676	-596	171	0	29	3	0	808	0	0	15	18
26	3345.47	65,982	-694	267	0	27	4	0	802	0	0	-182	18
27	3345.08	65,627	-355	293	0	24	4	0	754	0	0	86	18
28	3344.89	65,455	-172	370	0	18	3	0	754	0	1	198	18
29	3347.69	68,020	2,565	3,168	0	19	3	0	537	0	0	-82	18
30	3349.94	70,120	2,100	2,548	0	19	3	0	477	0	1	14	17
31	3350.42	70,572	452	846	0	17	3	0	454	0	0	46	17
Total			-901	10,475	204	1,314	93	3	13,572	0	11	785	555

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3350.42	70,572											
1	3351.40	70,705	133	606	0	18	3	0	444	0	0	-44	18
2	3351.37	70,752	47	530	0	18	3	0	466	0	0	-32	18
3	3351.37	70,884	132	685	0	18	3	0	500	0	54	-14	18
4	3351.63	70,998	114	620	0	17	2	1	451	0	69	0	18
5	3351.37	71,178	180	635	0	16	3	0	469	0	0	1	18
6	3351.80	71,720	542	717	0	15	3	0	490	0	1	304	18
7	3351.32	71,853	133	684	0	16	3	0	508	0	0	-56	18
8	3350.98	72,121	268	698	0	16	2	1	481	0	0	38	18
9	3350.82	72,274	153	681	0	16	3	0	485	0	1	-55	18
10	3350.53	72,252	-22	683	66	16	3	0	470	0	0	-314	18
11	3350.25	72,272	20	640	0	16	5	1	496	0	0	-134	18
12	3350.31	72,599	327	368	0	14	0	0	460	0	1	406	18
13	3350.02	72,251	-348	280	0	14	3	0	460	0	0	-179	18
14	3349.97	72,226	-25	280	0	14	4	0	473	0	0	158	18
15	3349.83	72,121	-105	412	0	14	3	1	480	0	1	-46	18
16	3349.66	71,958	-163	236	0	13	3	0	480	0	0	71	18
17	3349.55	71,606	-352	233	0	12	3	0	529	0	1	-64	18
18	3349.41	71,425	-181	233	0	11	0	0	454	0	0	29	18
19	3349.27	71,159	-266	195	0	11	5	1	423	0	1	-42	18
20	3349.01	70,865	-294	233	0	11	3	0	507	0	0	-28	18
21	3348.48	70,601	-264	322	0	11	4	0	704	0	1	112	18
22	3348.11	70,308	-293	363	0	11	3	0	548	0	0	-116	18
23	3347.53	70,148	-160	314	0	11	3	1	522	0	1	42	18
24	3346.88	69,960	-188	376	0	11	3	0	508	0	0	-64	18
25	3346.23	69,932	-28	441	0	11	3	0	514	0	1	38	18
26	3345.47	71,501	1,569	2,093	0	11	3	0	541	0	0	9	18
27	3345.08	71,606	105	652	0	11	2	1	505	0	1	-49	18
28	3344.89	71,720	114	585	0	11	2	0	557	0	0	77	18
29	3347.69	71,501	-219	276	0	11	3	0	550	0	0	47	18
30	3349.94	71,530	29	632	0	11	3	0	580	0	0	-31	18
Total			958	15,703	66	406	86	7	15,055	0	133	64	527

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3349.94	71,530											
1	3350.75	70,884	-646	439	0	10	2	1	951	0	0	-141	17
2	3350.42	70,572	-312	429	0	10	3	0	792	0	0	44	18
3	3351.40	71,501	929	1,442	0	9	3	0	581	0	1	63	17
4	3351.06	71,178	-323	639	0	9	4	0	845	0	0	-122	18
5	3350.70	70,837	-341	537	0	9	2	1	873	0	0	-11	18
6	3350.22	70,384	-453	528	0	8	0	0	996	0	1	8	18
7	3349.94	70,120	-264	359	0	7	0	0	576	0	0	-54	18
8	3349.72	69,913	-207	485	0	7	1	0	717	0	0	19	18
9	3350.56	70,705	792	1,318	0	6	4	1	484	0	1	-42	18
10	3352.92	72,955	2,250	2,831	0	6	5	0	617	0	0	35	17
11	3352.72	72,762	-193	523	0	6	4	0	673	0	1	-44	18
12	3352.38	72,436	-326	325	0	5	4	0	585	0	0	-67	18
13	3351.82	71,901	-535	147	50	5	3	1	706	0	1	-26	18
14	3351.46	71,558	-343	192	0	5	4	0	516	0	0	-20	18
15	3351.32	71,425	-133	440	0	5	4	0	550	0	0	-24	18
16	3350.78	70,913	-512	19	0	4	4	1	558	0	0	28	18
17	3350.75	70,884	-29	567	0	4	4	0	684	0	1	89	18
18	3350.84	70,970	86	819	0	3	5	0	584	0	0	-147	17
19	3350.22	70,384	-586	28	0	3	3	1	712	0	0	99	18
20	3349.83	70,016	-368	316	0	3	4	0	568	0	0	-115	17
21	3349.46	69,669	-347	321	0	3	5	0	674	0	1	9	17
22	3349.27	69,491	-178	469	0	3	3	1	568	0	0	-78	17
23	3349.46	69,669	178	777	0	3	4	0	562	0	0	-36	17
24	3349.86	70,045	376	1,026	0	2	5	0	614	0	0	-33	17
25	3350.45	70,601	556	1,198	0	2	4	1	743	0	1	105	17
26	3350.45	70,601	0	684	0	2	5	0	524	0	0	-157	17
27	3350.42	70,572	-29	560	0	2	5	0	593	0	0	7	17
28	3350.56	70,705	133	684	0	2	5	0	548	0	1	1	17
29	3350.73	70,865	160	618	0	2	5	0	561	0	0	106	17
30	3350.73	70,865	0	672	0	1	5	0	515	0	0	-153	17
31	3350.92	71,045	180	675	0	1	5	0	481	0	1	-9	17
Total			-485	20,067	50	147	114	8	19,951	0	10	-666	539

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3350.92	71,045											
1	3351.01	71,131	86	741	0	1	6	0	703	0	0	53	0
2	3350.47	70,620	-511	617	0	1	12	0	888	0	0	-229	0
3	3350.25	70,412	-208	292	0	1	4	1	703	0	1	208	0
4	3349.83	70,016	-396	615	0	2	7	0	899	0	0	-107	0
5	3349.58	69,782	-234	804	0	2	5	0	1,060	0	0	26	0
6	3348.73	68,986	-796	883	0	2	3	1	1,568	0	0	-109	0
7	3349.35	69,566	580	2,035	0	2	3	0	1,449	0	1	-4	0
8	3349.88	70,063	497	1,878	0	2	3	0	1,420	0	0	41	0
9	3349.38	69,594	-469	1,235	0	2	2	1	1,648	0	0	-55	0
10	3349.27	69,491	-103	1,402	0	2	3	0	1,781	0	0	277	0
11	3349.24	69,463	-28	1,419	0	2	3	0	1,630	0	1	185	0
12	3349.18	69,407	-56	1,789	0	2	2	1	1,828	0	0	-16	0
13	3349.46	69,669	262	1,884	0	2	3	0	1,740	0	0	119	0
14	3349.69	69,885	216	1,842	0	2	3	0	1,584	0	0	-41	0
15	3350.00	70,176	291	1,840	0	2	2	1	1,604	0	1	57	0
16	3348.59	68,856	-1,320	436	0	2	3	0	1,695	0	0	-60	0
17	3347.89	68,205	-651	753	0	2	3	0	1,495	0	1	94	0
18	3346.96	67,346	-859	950	0	1	2	1	1,683	0	0	-124	0
19	3346.96	67,346	0	1,620	0	1	3	0	1,738	0	1	121	0
20	3347.33	67,687	341	2,135	0	1	3	0	1,778	0	0	-14	0
21	3348.90	69,145	1,458	2,974	0	1	2	1	1,494	0	0	-20	0
22	3349.01	69,248	103	2,076	0	1	3	0	1,903	0	0	-68	0
23	3348.96	69,201	-47	1,668	0	1	4	0	1,696	0	1	-15	0
24	3349.55	69,753	552	2,329	0	1	3	1	1,850	0	0	76	0
25	3350.22	70,384	631	1,691	909	1	4	0	1,879	0	0	-87	0
26	3350.39	70,544	160	2,636	0	1	4	0	2,359	0	0	-114	0
27	3351.18	71,292	748	2,850	0	1	3	1	2,114	0	1	17	0
28	3351.15	71,264	-28	2,742	0	0	4	0	1,912	0	0	-854	0
29	3352.05	72,121	857	1,880	0	0	4	0	2,056	0	0	1,037	0
30	3351.88	71,958	-163	2,299	0	0	3	1	2,427	0	1	-30	0
Total			913	48,315	909	37	109	10	48,584	0	9	364	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.88	71,958											
1	3351.71	71,796	-162	2,055	0	0	6	0	2,123	0	0	-88	15
2	3351.57	71,663	-133	2,042	0	0	6	0	2,284	0	0	115	15
3	3351.04	71,159	-504	1,965	0	0	5	1	2,419	0	1	-43	15
4	3350.89	71,017	-142	1,938	0	0	6	0	2,097	0	0	23	15
5	3350.75	70,884	-133	2,051	0	0	7	0	2,215	0	0	38	15
6	3350.39	70,544	-340	1,991	0	0	5	1	2,229	0	1	-95	15
7	3350.00	70,176	-368	1,939	0	0	6	0	2,230	0	0	-71	15
8	3350.14	70,308	132	2,154	0	0	5	1	1,994	0	0	-22	15
9	3350.56	70,705	397	2,413	0	0	5	1	1,957	0	1	-52	15
10	3350.19	70,355	-350	1,782	0	0	6	0	2,020	0	0	-106	15
11	3349.97	70,148	-207	1,786	0	0	6	0	1,972	0	0	-15	15
12	3350.92	71,045	897	2,685	0	0	5	1	1,812	0	1	31	15
13	3350.56	70,705	-340	1,689	0	0	6	0	1,955	0	0	-68	15
14	3350.56	70,705	0	1,986	0	0	6	0	2,054	0	0	74	15
15	3350.47	70,620	-85	2,120	0	0	5	1	2,128	0	1	-70	15
16	3350.47	70,620	0	2,197	0	0	6	0	2,094	0	0	-97	15
17	3350.16	70,327	-293	1,784	0	0	5	1	1,977	0	0	-94	15
18	3350.42	70,572	245	2,041	0	0	5	1	1,832	0	1	43	15
19	3351.23	71,340	768	2,681	0	0	7	0	1,965	0	0	59	15
20	3350.73	70,865	-475	2,025	0	0	6	0	2,386	0	0	-108	15
21	3350.45	70,601	-264	1,893	0	0	6	1	2,103	0	1	-46	15
22	3350.05	70,223	-378	1,703	0	0	5	1	2,078	0	0	3	15
23	3349.60	69,800	-423	1,866	0	0	6	0	2,206	0	0	-77	15
24	3349.72	69,913	113	2,271	0	0	5	1	2,180	0	1	29	15
25	3350.47	70,620	707	3,005	0	0	7	0	2,332	0	0	41	15
26	3351.23	71,340	720	2,924	0	0	7	0	2,200	0	0	3	15
27	3351.18	71,292	-48	2,219	0	0	6	1	2,166	0	1	-93	15
28	3351.34	71,444	152	2,331	0	0	6	0	2,096	0	0	-77	15
29	3351.18	71,292	-152	1,987	0	0	6	0	2,210	0	0	77	15
30	3350.84	70,970	-322	1,826	0	0	7	1	2,048	0	0	-92	15
31	3350.53	70,676	-294	1,881	0	0	6	0	2,098	0	0	-71	15
Total			-1,282	65,230	0	0	180	13	65,460	0	9	-850	465

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.53	70,676											
1	3350.92	71,045	369	2,328	0	0	6	0	1,793	0	0	-160	15
2	3351.63	71,720	675	2,376	0	0	5	1	1,853	0	0	158	15
3	3351.40	71,501	-219	2,250	0	0	6	0	2,422	0	1	-40	15
4	3350.92	71,045	-456	1,942	0	0	7	0	2,352	0	0	-39	15
5	3351.20	71,311	266	1,345	0	0	7	0	1,100	0	0	28	15
6	3350.19	70,355	-956	1,041	0	0	7	1	1,934	0	0	-55	15
7	3349.43	69,641	-714	1,027	0	0	7	0	1,663	0	0	-71	15
8	3348.59	68,856	-785	1,239	0	0	6	0	1,903	0	1	-114	15
9	3349.52	69,725	869	2,663	0	0	5	1	1,831	0	0	43	15
10	3350.25	70,412	687	2,466	0	0	7	0	1,828	0	0	56	15
11	3350.16	70,327	-85	2,064	0	0	8	0	1,995	0	0	-146	15
12	3350.28	70,440	113	2,017	0	0	5	1	1,843	0	1	-54	15
13	3350.16	70,327	-113	1,832	0	0	6	0	2,037	0	0	98	15
14	3349.94	70,120	-207	1,816	0	0	6	1	1,997	0	0	-19	10
15	3350.89	71,017	897	2,816	0	0	6	0	1,850	0	0	-63	6
16	3351.79	71,873	856	2,916	0	0	7	0	2,018	0	1	-34	5
17	3352.50	72,551	678	2,799	0	0	5	1	2,054	0	0	-61	5
18	3351.88	71,958	-593	1,518	0	0	7	0	2,195	0	0	91	5
19	3351.29	71,397	-561	0	1,433	0	7	0	2,044	0	0	57	1
20	3350.61	70,752	-645	0	1,547	0	6	1	2,185	0	1	1	0
21	3350.56	70,705	-47	0	2,196	0	7	0	2,201	0	0	-35	2
22	3350.50	70,648	-57	0	2,197	0	7	0	2,045	0	0	-202	4
23	3350.25	70,412	-236	0	2,103	0	6	1	2,250	0	1	-81	4
24	3350.25	70,412	0	0	2,197	0	6	0	2,185	0	0	-6	4
25	3350.31	70,469	57	0	2,201	0	6	0	2,169	0	0	31	4
26	3350.02	70,195	-274	0	2,201	0	5	1	2,303	0	1	-165	4
27	3349.38	69,594	-601	0	2,199	0	6	0	2,716	0	0	-78	4
28	3349.01	69,248	-346	0	2,205	0	6	0	2,569	0	0	24	4
29	3349.63	69,829	581	0	2,992	0	5	1	2,110	0	0	-295	4
30	3350.25	70,412	583	0	2,992	0	6	0	2,261	0	0	-142	4
31	3350.39	70,544	132	0	3,002	0	7	0	2,585	0	1	-277	2
Total			-132	36,455	29,465	0	193	10	64,291	0	8	-1,550	270

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3350.39	70,544											
1	3350.92	71,045	501	0	2,704	0	5	0	2,375	0	1	178	4
2	3351.18	71,292	247	1,052	1,418	0	7	0	2,118	0	0	-98	3
3	3350.61	70,752	-540	1,641	0	0	7	0	2,200	0	1	27	5
4	3350.36	70,516	-236	1,855	0	0	5	1	2,064	0	0	-21	5
5	3350.36	70,516	0	1,928	0	0	6	0	1,941	0	0	19	6
6	3351.32	71,425	909	3,003	0	0	7	0	2,059	0	0	-28	6
7	3351.29	71,397	-28	1,943	0	0	6	0	1,967	0	0	2	6
8	3350.84	70,970	-427	1,922	0	0	5	1	2,251	0	1	-91	6
9	3350.67	70,809	-161	1,973	0	0	6	0	2,079	0	0	-49	6
10	3350.36	70,516	-293	1,742	0	0	5	1	2,025	0	0	-4	6
11	3350.25	70,412	-104	741	0	0	6	0	1,755	0	0	916	6
12	3351.06	71,178	766	2,399	0	0	6	1	1,701	0	0	75	6
13	3352.16	72,226	1,048	2,835	0	0	6	0	1,731	0	1	-49	6
14	3352.21	72,274	48	2,091	0	0	6	0	1,927	0	0	-110	4
15	3351.68	71,768	-506	1,462	0	0	6	0	1,926	0	0	-36	2
16	3351.63	71,720	-48	1,879	0	0	6	1	1,898	0	0	-22	3
17	3351.12	71,235	-485	1,368	0	0	6	0	1,932	0	1	86	3
18	3351.32	71,425	190	1,754	0	0	6	0	1,501	0	0	-57	3
19	3350.95	71,074	-351	1,433	0	0	6	0	1,713	0	0	-65	3
20	3350.84	70,970	-104	1,782	0	0	6	1	1,790	0	0	-89	3
21	3350.84	70,970	0	1,698	0	0	6	0	1,721	0	1	30	3
22	3351.34	71,444	474	2,365	0	0	6	0	1,842	0	0	-43	3
23	3350.87	70,998	-446	1,250	0	0	6	0	1,733	0	0	43	3
24	3351.40	71,501	503	2,106	0	0	6	1	1,561	0	0	-35	3
25	3349.58	69,782	-1,719	1,175	0	0	7	0	2,798	0	1	-88	3
26	3350.28	70,440	658	2,386	0	0	6	0	1,733	0	0	11	3
27	3350.53	70,676	236	1,980	0	0	5	1	1,747	0	0	9	3
28	3350.28	70,440	-236	1,745	0	0	6	0	1,993	0	0	18	3
29	3349.77	69,960	-480	1,722	0	0	7	0	2,181	0	1	-13	3
30	3349.86	70,045	85	2,385	0	0	5	1	2,161	0	0	-133	3
Total			-499	53,615	4,122	0	179	9	58,423	0	8	383	120

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3349.86	70,045											
1	3349.83	70,016	-29	2,250	0	0	8	0	2,349	0	0	78	3
2	3349.91	70,092	76	2,380	0	0	7	0	2,350	0	1	54	3
3	3351.29	71,397	1,305	3,749	0	0	5	0	2,303	0	0	-136	3
4	3352.61	72,657	1,260	4,046	0	0	5	1	2,705	0	0	-75	3
5	3350.39	70,544	-2,113	643	0	0	5	0	2,738	0	0	-13	3
6	3347.58	67,918	-2,626	0	0	0	5	0	2,598	0	0	-23	3
7	3345.87	66,347	-1,571	0	889	0	5	0	2,415	0	1	-39	3
8	3346.12	66,575	228	562	2,186	0	4	1	2,461	0	0	-54	2
9	3346.60	67,015	440	2,942	0	0	5	0	2,418	0	0	-79	3
10	3347.92	68,233	1,218	3,659	0	0	4	0	2,419	0	0	-18	3
11	3349.01	69,248	1,015	3,548	0	0	4	1	2,498	0	1	-29	3
12	3350.11	70,280	1,032	3,227	0	0	4	0	2,250	0	0	59	3
13	3350.84	70,970	690	2,811	0	0	4	0	2,317	0	0	200	3
14	3350.92	71,045	75	2,616	0	0	5	0	2,397	0	0	-139	3
15	3351.06	71,178	133	2,686	0	0	5	0	2,520	0	1	-27	3
16	3350.56	70,705	-473	2,233	0	0	5	0	2,685	0	0	-16	3
17	3351.18	71,292	587	3,109	0	0	5	1	2,562	0	0	46	3
18	3352.16	72,226	934	3,582	0	0	5	0	2,691	0	0	48	3
19	3351.13	71,245	-981	3,059	0	0	5	0	2,892	0	1	-1,142	3
20	3351.82	71,901	656	2,826	0	0	5	1	3,012	0	0	848	3
21	3351.32	71,425	-476	2,512	0	0	5	0	3,094	0	0	111	3
22	3351.15	71,264	-161	3,077	0	0	5	0	3,254	0	1	22	3
23	3350.81	70,941	-323	2,905	0	0	5	0	3,187	0	0	-36	3
24	3351.18	71,292	351	3,313	0	0	5	0	2,925	0	0	-32	3
25	3350.47	70,620	-672	2,354	0	0	5	1	3,088	0	1	69	3
26	3350.14	70,308	-312	2,650	0	0	5	0	3,063	0	0	106	3
27	3350.33	70,487	179	3,485	0	0	5	0	3,042	0	0	-259	3
28	3349.86	70,045	-442	2,605	0	0	5	0	3,011	0	1	-30	2
29	3349.74	69,932	-113	2,847	0	0	5	0	2,970	0	0	15	3
30	3349.69	69,885	-47	3,013	0	0	5	0	3,027	0	0	-28	3
31	3350.87	70,998	1,113	3,682	0	0	5	0	2,700	0	1	137	3
Total			953	82,371	3,075	0	155	6	83,941	0	9	-382	93

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3350.87	70,998											
1	3352.13	72,197	1,199	3,910	0	0	4	0	2,619	0	0	-88	3
2	3351.79	71,873	-324	1,814	0	0	4	0	2,125	0	0	-9	3
3	3351.48	71,577	-296	1,819	0	0	4	0	2,109	0	1	-1	3
4	3350.98	71,102	-475	1,981	0	0	5	0	2,514	0	0	63	3
5	3350.16	70,327	-775	1,922	0	0	5	0	2,600	0	0	-92	3
6	3349.69	69,885	-442	2,035	0	0	5	0	2,529	0	0	57	3
7	3350.56	70,705	820	3,334	0	0	5	0	2,542	0	1	34	3
8	3351.40	71,501	796	3,205	0	0	5	0	2,473	0	0	69	3
9	3350.59	70,733	-768	2,000	0	0	5	1	2,730	0	0	-32	3
10	3350.11	70,280	-453	2,208	0	0	4	0	2,641	0	0	-16	3
11	3349.86	70,037	-243	2,290	0	0	4	0	2,609	0	1	81	3
12	3349.49	69,697	-340	2,320	0	0	5	0	2,590	0	0	-65	3
13	3349.43	69,641	-56	2,475	0	0	5	0	2,517	0	0	-9	3
14	3349.60	69,800	159	2,838	0	2	4	0	2,615	0	0	-62	3
15	3351.09	71,207	1,407	3,844	0	0	4	0	2,476	0	1	44	3
16	3350.98	71,102	-105	2,472	0	0	4	0	2,584	0	0	11	3
17	3351.26	71,368	266	2,653	0	0	4	0	2,481	0	0	98	3
18	3350.50	70,648	-720	2,175	0	0	4	0	2,841	0	0	-50	3
19	3349.66	69,857	-791	1,633	0	2	3	1	2,402	0	1	-19	3
20	3349.43	69,641	-216	2,340	0	0	3	0	2,491	0	0	-62	3
21	3349.97	70,148	507	2,870	0	0	3	0	2,433	0	0	73	3
22	3350.92	71,045	897	3,295	0	0	3	0	2,339	0	0	-56	3
23	3351.15	71,264	219	2,652	0	0	3	0	2,439	0	1	10	3
24	3351.51	71,606	342	1,846	0	2	3	0	1,472	0	0	-31	3
25	3351.54	71,634	28	743	0	0	3	0	776	0	0	64	3
26	3351.51	71,606	-28	637	0	0	3	0	683	0	0	21	3
27	3351.34	71,444	-162	632	0	0	3	0	722	0	1	-68	3
28	3351.29	71,397	-47	634	0	0	3	0	698	0	0	20	3
29	3351.37	71,473	76	639	0	0	2	1	660	0	0	100	4
30	3351.40	71,501	28	713	0	0	3	0	677	0	1	-4	4
Total			503	63,929	0	6	116	3	63,387	0	8	82	95

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2009

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3351.40	71,501											
1	3351.37	71,473	-28	621	0	1	3	0	654	0	0	7	3
2	3351.63	71,720	247	717	0	0	4	0	529	0	0	63	2
3	3351.71	71,796	76	582	0	0	3	0	476	0	0	-27	0
4	3351.48	71,577	-219	570	0	0	4	0	810	0	1	26	0
5	3351.40	71,501	-76	582	0	1	4	0	572	0	0	-83	0
6	3351.37	71,473	-28	574	0	0	4	0	592	0	0	-6	0
7	3351.48	71,577	104	641	0	13	8	0	812	0	0	270	0
8	3351.63	71,720	143	776	0	7	3	0	498	0	1	-138	0
9	3351.73	71,815	95	623	0	2	4	0	577	0	0	51	0
10	3351.63	71,720	-95	349	0	2	4	0	415	0	0	-27	0
11	3351.63	71,720	0	394	0	3	4	0	432	0	1	40	0
12	3352.10	72,169	449	284	0	250	4	0	426	0	54	399	0
13	3352.24	72,302	133	272	0	174	2	1	405	0	109	204	0
14	3352.21	72,274	-28	482	0	25	4	0	420	0	54	-57	0
15	3351.09	71,207	-1,067	221	0	12	4	0	307	0	0	-989	0
16	3351.01	71,123	-84	10	0	8	4	0	289	0	1	192	0
17	3351.74	71,825	702	140	0	7	5	0	233	0	0	793	0
18	3351.51	71,606	-219	124	0	6	3	0	321	0	0	-25	0
19	3351.18	71,292	-314	13	0	6	8	0	379	0	1	55	0
20	3351.09	71,207	-85	182	0	6	4	0	359	0	0	90	0
21	3351.01	71,131	-76	329	0	6	4	0	241	0	0	-166	0
22	3351.29	71,397	266	426	0	5	3	1	320	0	1	160	0
23	3351.29	71,397	0	437	0	6	4	0	317	0	0	-122	0
24	3351.01	71,131	-266	16	0	6	4	0	295	0	0	11	0
25	3350.78	70,913	-218	14	0	6	3	0	310	0	1	76	0
26	3350.36	70,516	-397	14	0	5	3	0	345	0	0	-68	0
27	3350.28	70,440	-76	371	0	5	4	0	364	0	0	-84	0
28	3350.42	70,572	132	359	0	5	3	0	288	0	1	60	0
29	3350.56	70,705	133	452	0	5	3	0	287	0	0	-34	0
30	3350.25	70,412	-293	16	0	5	3	0	272	0	0	-39	0
31	3350.00	70,176	-236	17	0	5	3	0	269	0	0	14	0
Total			-1,325	10,608	0	582	119	2	12,814	0	225	645	5

1/ Project water delivered from Mojave Siphon in exchange for like amount of Natural Streamflow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3350.00	70,176											
1	3349.66	69,857	-319	0	17	5	4	0	288	0	1	-48	0
2	3349.43	69,641	-216	0	10	5	4	0	284	0	1	58	0
3	3349.07	69,304	-337	0	17	5	5	0	281	0	1	-72	0
4	3348.68	68,940	-364	0	17	5	3	0	281	0	1	-101	0
5	3348.37	68,651	-289	0	17	5	4	0	393	0	1	87	0
6	3347.92	68,233	-418	0	17	5	4	0	409	0	1	-26	0
7	3347.44	67,789	-444	0	0	5	5	0	485	0	1	42	0
8	3347.08	67,457	-332	0	17	5	4	0	344	0	1	-5	0
9	3346.63	67,043	-414	0	16	4	4	0	444	0	1	15	0
10	3346.12	66,575	-468	0	18	4	4	0	470	0	1	-15	0
11	3345.64	66,137	-438	0	16	4	3	0	450	0	1	-4	0
12	3345.11	65,654	-483	0	18	4	4	0	510	0	1	10	0
13	3344.21	64,840	-814	0	17	4	4	0	710	0	53	-68	0
14	3343.42	64,129	-711	0	17	4	3	0	545	0	80	-104	0
15	3342.44	63,253	-876	0	18	5	4	0	892	0	81	78	0
16	3341.40	62,331	-922	0	18	5	5	0	828	0	81	-31	0
17	3340.79	61,793	-538	0	19	5	3	0	784	0	81	306	0
18	3339.83	60,952	-841	0	18	289	3	1	961	0	81	-102	0
19	3338.85	60,100	-852	0	19	112	1	0	1,075	0	79	172	4
20	3338.06	59,417	-683	0	18	281	0	0	1,235	0	79	332	6
21	3339.10	60,316	899	257	0	1,328	0	0	747	0	129	190	6
22	3339.61	60,760	444	537	0	703	0	0	746	0	159	109	6
23	3339.21	60,412	-348	354	0	264	0	0	813	0	159	6	6
24	3339.16	60,369	-43	758	0	174	10	1	804	0	105	-55	6
25	3339.18	60,386	17	755	0	136	1	0	846	0	80	53	8
26	3339.24	60,438	52	592	0	134	8	0	573	0	80	-13	10
27	3339.18	60,386	-52	740	0	154	4	0	797	0	82	-63	10
28	3339.13	60,342	-44	789	0	126	4	0	880	0	85	10	10
29	3339.66	60,804	462	992	0	99	4	0	659	0	84	118	10
30	3339.32	60,508	-296	688	0	83	4	0	934	0	83	-46	10
31	3339.49	60,656	148	718	0	70	4	0	615	0	34	13	10
Total			-9,520	7,180	324	4,032	109	2	20,083	0	1,709	847	104

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3339.49	60,656											
1	3339.47	60,638	-18	732	0	66	4	0	839	0	1	28	10
2	3339.55	60,708	70	771	0	66	4	0	770	0	1	8	10
3	3339.41	60,586	-122	432	0	70	3	0	657	0	1	37	10
4	3339.47	60,638	52	785	0	88	4	0	706	0	1	-110	10
5	3339.49	60,656	18	777	0	95	2	0	951	0	1	100	10
6	3341.57	62,481	1,825	762	0	1,956	1	0	802	0	125	35	10
7	3341.60	62,508	27	297	0	461	0	0	670	0	206	145	10
8	3341.74	62,632	124	0	10	272	1	0	84	0	206	133	10
9	3341.94	62,809	177	0	10	251	2	0	0	0	206	124	10
10	3342.11	62,960	151	0	10	234	2	0	0	0	115	24	10
11	3342.30	63,129	169	0	0	202	2	0	0	0	89	58	10
12	3342.39	63,209	80	0	10	264	2	1	0	0	218	27	16
13	3342.25	63,084	-125	0	0	264	0	0	0	0	228	-161	24
14	3342.30	63,129	45	0	10	185	1	0	0	0	80	-69	24
15	3342.47	63,280	151	0	10	141	0	0	0	0	80	80	24
16	3342.39	63,209	-71	0	0	121	0	0	0	0	41	-151	24
17	3342.53	63,333	124	58	10	108	0	0	44	0	1	-7	24
18	3343.28	64,004	671	931	10	101	3	0	320	0	1	-47	24
19	3344.13	64,768	764	967	11	96	3	0	268	0	1	-38	24
20	3343.93	64,587	-181	0	13	95	1	0	306	0	1	19	24
21	3345.17	65,709	1,122	1,434	0	94	0	0	305	0	20	-81	24
22	3345.64	66,137	428	733	0	122	0	0	306	0	109	-12	24
23	3346.26	66,703	566	706	0	98	3	0	315	0	32	112	24
24	3346.85	67,245	542	892	0	83	4	0	340	0	1	-88	25
25	3347.19	67,558	313	625	0	78	4	0	367	0	40	21	25
26	3347.86	68,177	619	1,103	0	77	3	0	420	0	91	-47	25
27	3349.63	69,829	1,652	1,576	0	507	1	0	394	0	367	331	25
28	3350.53	70,676	847	1,525	0	367	1	0	374	0	517	-153	25
Total			10,020	15,106	104	6,562	50	1	9,238	0	2,780	317	515

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3350.53	70,676											
1	3350.67	70,809	133	562	0	225	0	0	391	0	288	25	14
2	3350.50	70,648	-161	343	0	167	0	0	364	0	198	-109	0
3	3350.33	70,487	-161	345	0	152	0	0	388	0	198	-72	0
4	3350.31	70,469	-18	364	0	163	1	0	345	0	198	-1	12
5	3350.31	70,469	0	369	0	130	1	0	347	0	119	-32	26
6	3350.56	70,705	236	413	0	137	1	0	316	0	73	76	26
7	3350.67	70,809	104	350	0	171	1	0	313	0	73	-30	26
8	3350.56	70,705	-104	1,158	0	148	1	0	1,199	0	73	-137	30
9	3350.67	70,809	104	1,243	0	165	4	1	1,272	0	75	48	36
10	3350.81	70,941	132	532	0	137	2	0	389	0	75	-71	36
11	3350.75	70,884	-57	260	0	91	1	0	375	0	75	43	36
12	3350.56	70,705	-179	146	0	81	1	0	361	0	75	31	36
13	3350.36	70,516	-189	186	0	101	1	0	357	0	75	-43	36
14	3350.25	70,412	-104	313	0	91	1	0	366	0	75	-66	36
15	3350.28	70,440	28	361	0	86	1	0	349	0	75	6	36
16	3350.25	70,412	-28	222	0	84	1	0	361	0	2	30	38
17	3349.77	69,960	-452	246	0	77	1	0	732	0	2	-40	36
18	3349.72	69,913	-47	776	0	76	1	0	945	0	2	49	36
19	3349.86	70,045	132	954	0	76	1	1	818	0	2	-76	36
20	3349.86	70,045	0	735	0	71	1	0	786	0	2	-17	36
21	3349.83	70,016	-29	511	0	70	1	0	613	0	2	6	36
22	3349.88	70,063	47	976	0	70	1	0	940	0	2	-56	36
23	3349.58	69,782	-281	744	0	70	1	0	1,068	0	52	26	36
24	3349.66	69,857	75	777	0	70	1	0	719	0	78	26	36
25	3349.63	69,829	-28	837	0	69	1	0	684	0	78	-171	36
26	3349.88	70,063	234	828	0	69	1	0	659	0	78	75	38
27	3349.58	69,782	-281	773	0	69	1	0	890	0	77	-155	38
28	3349.60	69,800	18	861	0	67	1	0	783	0	77	-49	38
29	3349.83	70,016	216	962	0	66	1	0	867	0	77	133	38
30	3349.83	70,016	0	1,032	0	66	1	0	910	0	77	-110	38
31	3349.97	70,148	132	1,040	0	66	1	0	972	0	77	76	38
Total			-528	19,219	0	3,181	32	2	19,879	0	2,430	-585	968

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3349.97	70,148											
1	3349.86	70,045	-103	1,028	0	69	0	0	937	0	83	-180	36
2	3350.05	70,223	178	1,020	0	67	0	0	932	0	85	108	36
3	3350.14	70,308	85	1,030	0	67	0	0	826	0	85	-101	36
4	3350.10	70,267	-41	1,032	0	67	0	0	926	0	85	-129	36
5	3350.50	70,648	381	1,035	0	531	1	0	867	0	357	40	36
6	3350.11	70,280	-368	1,024	0	292	1	0	1,264	0	397	-22	36
7	3350.05	70,223	-57	1,187	0	123	1	0	1,306	0	129	69	36
8	3349.69	69,885	-338	1,038	0	91	1	0	1,263	0	99	-104	36
9	3349.86	70,045	160	1,465	0	80	0	0	1,408	0	99	122	36
10	3349.58	69,782	-263	1,256	0	72	1	0	1,491	0	99	0	36
11	3349.55	69,753	-29	1,309	0	72	1	0	1,168	0	99	-142	36
12	3349.72	69,913	160	1,398	0	297	1	0	1,644	0	99	209	36
13	3348.68	68,940	-973	1,210	0	161	1	0	2,160	0	99	-84	36
14	3348.54	68,809	-131	2,494	0	120	1	0	2,640	0	100	-4	36
15	3348.59	68,856	47	2,450	0	100	0	0	2,444	0	0	-59	36
16	3348.17	68,465	-391	1,934	0	90	1	1	2,373	0	0	-40	36
17	3349.07	69,304	839	2,847	0	83	0	0	2,097	0	0	6	36
18	3350.67	70,809	1,505	3,198	0	77	0	0	1,940	0	0	170	36
19	3350.67	70,809	0	2,223	0	77	0	0	2,216	0	0	-84	36
20	3350.33	70,487	-322	2,316	0	86	1	0	2,613	0	0	-110	36
21	3350.39	70,544	57	2,591	0	107	3	0	2,711	0	0	73	36
22	3350.25	70,412	-132	2,494	0	143	3	0	2,705	0	40	-21	37
23	3351.43	71,521	1,109	1,996	0	119	0	0	2,072	0	100	1,166	37
24	3351.38	71,478	-43	2,354	0	107	5	0	2,138	0	100	-261	37
25	3351.35	71,444	-34	2,784	0	100	3	0	2,127	0	100	-688	37
26	3351.62	71,704	260	2,197	0	90	3	0	2,018	0	100	94	37
27	3351.43	71,530	-174	2,019	0	86	0	0	2,111	0	100	-68	37
28	3351.46	71,558	28	2,342	0	92	3	0	2,253	0	100	-50	37
29	3351.79	71,873	315	2,142	0	87	0	0	1,899	0	100	85	37
30	3350.73	70,865	-1,008	1,412	0	81	0	0	2,182	0	100	-219	37
Total			717	54,825	0	3,634	31	1	54,731	0	2,757	-222	1,094

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3350.73	70,865											
1	3350.73	70,865	0	1,662	0	56	0	0	1,832	0	81	195	37
2	3350.70	70,828	-37	1,718	0	71	0	0	1,631	0	0	-195	37
3	3350.75	70,884	56	1,759	0	65	0	0	1,774	0	0	6	37
4	3351.01	71,131	247	1,863	0	60	1	1	1,825	0	0	151	37
5	3350.98	71,094	-37	1,727	0	56	1	0	1,896	0	0	77	37
6	3350.93	71,054	-40	1,719	0	54	1	0	1,721	0	0	-91	37
7	3350.90	71,018	-36	1,760	0	52	0	0	1,622	0	0	-226	37
8	3350.86	70,979	-39	1,553	0	48	0	1	1,553	0	0	-86	37
9	3350.82	70,945	-34	2,075	0	46	0	0	1,481	0	0	-674	37
10	3350.78	70,907	-38	1,767	0	43	0	0	1,793	0	0	-55	37
11	3350.74	70,871	-36	1,722	0	40	0	0	1,728	0	0	-70	37
12	3352.07	72,140	1,269	1,707	107	38	0	0	1,557	0	0	974	37
13	3351.73	71,812	-328	1,548	0	36	1	1	1,874	0	0	-36	37
14	3351.71	71,796	-16	1,692	0	35	1	0	1,805	0	0	63	37
15	3352.07	72,140	344	1,862	0	33	1	0	1,604	0	0	54	37
16	3352.13	72,197	57	2,087	0	32	1	0	2,066	0	0	5	37
17	3352.36	72,417	220	2,523	0	33	1	0	2,315	0	0	-20	37
18	3352.47	72,523	106	2,317	0	35	2	0	2,232	0	0	-12	36
19	3351.82	71,901	-622	1,803	0	33	2	1	2,473	0	0	18	36
20	3351.57	71,663	-238	1,853	0	33	2	0	2,157	0	0	35	36
21	3351.20	71,311	-352	1,897	0	32	2	0	2,242	0	0	-37	36
22	3351.26	71,368	57	2,254	0	32	2	0	2,138	0	0	-89	36
23	3352.61	72,657	1,289	2,726	0	40	3	0	1,488	0	0	14	36
24	3352.55	72,599	-58	2,447	0	35	3	0	2,516	0	0	-21	36
25	3352.33	72,389	-210	1,900	0	33	3	0	2,195	0	0	55	37
26	3351.91	71,987	-402	1,884	0	32	3	0	2,175	0	0	-140	37
27	3351.40	71,501	-486	1,738	0	32	3	0	2,217	0	27	-9	37
28	3351.29	71,397	-104	2,119	0	32	3	0	2,279	0	27	54	37
29	3351.63	71,720	323	2,656	0	29	3	0	2,279	0	28	-52	36
30	3352.38	72,436	716	2,744	0	28	3	0	1,969	0	29	-55	36
31	3352.64	72,686	250	2,261	0	27	3	0	2,083	0	29	77	36
Total			1,821	61,343	107	1,251	45	4	60,520	0	221	-90	1,134

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3352.64	72,686											
1	3352.78	72,820	134	2,064	0	27	3	0	1,990	0	26	62	36
2	3352.19	72,255	-565	1,763	0	25	3	0	2,141	0	26	-183	36
3	3351.99	72,063	-192	1,847	0	25	3	0	2,087	0	26	52	36
4	3352.16	72,226	163	2,455	0	22	3	1	2,317	0	26	33	36
5	3352.24	72,302	76	2,108	0	21	3	0	2,070	0	26	46	36
6	3352.24	72,302	0	2,588	0	20	3	0	2,601	0	26	22	36
7	3352.02	72,092	-210	2,417	0	43	2	1	2,691	0	26	50	36
8	3351.63	71,720	-372	2,264	0	76	3	0	2,668	0	26	-15	36
9	3351.77	71,853	133	3,109	0	51	2	0	3,096	0	26	97	36
10	3351.93	72,006	153	3,345	0	41	3	1	3,204	0	26	1	36
11	3352.16	72,226	220	3,368	0	34	3	0	3,172	0	26	19	36
12	3352.24	72,302	76	3,147	0	33	3	0	3,031	0	26	-44	36
13	3352.19	72,255	-47	3,088	0	31	3	1	3,056	0	26	-80	36
14	3352.95	72,983	728	3,348	0	23	3	0	2,671	0	26	57	36
15	3352.61	72,657	-326	2,544	0	20	3	0	2,731	0	26	-130	36
16	3352.55	72,599	-58	2,810	0	19	1	1	2,922	0	26	63	36
17	3352.04	72,111	-488	2,787	0	16	1	0	2,809	0	26	-455	36
18	3351.54	71,634	-477	1,926	0	15	1	0	2,849	0	26	458	36
19	3351.29	71,397	-237	2,605	0	15	1	1	2,810	0	26	-19	36
20	3352.07	72,140	743	3,619	0	13	1	0	2,820	0	26	-42	36
21	3351.93	72,006	-134	3,011	0	13	1	0	3,026	0	26	-105	36
22	3351.63	71,720	-286	3,172	0	13	2	1	3,398	0	26	-44	36
23	3351.63	71,720	0	3,410	0	12	3	0	3,515	0	26	122	36
24	3350.81	70,941	-779	2,818	0	11	3	0	3,460	0	26	-119	36
25	3350.70	70,837	-104	3,196	0	10	2	1	3,314	0	26	33	36
26	3350.39	70,544	-293	3,197	0	9	3	0	3,407	0	26	-63	37
27	3350.56	70,705	161	3,425	0	9	3	0	3,254	0	26	10	37
28	3350.59	70,733	28	3,372	0	9	3	1	3,354	0	25	30	37
29	3350.14	70,308	-425	2,842	0	8	3	0	3,322	0	24	74	37
30	3350.02	70,195	-113	3,265	0	8	3	0	3,360	0	24	1	37
Total			-2,491	84,910	0	672	75	9	87,146	0	770	-73	1,089

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3350.02	70,195											
1	3349.94	70,120	-75	3,228	0	8	4	0	3,300	0	26	19	36
2	3349.83	70,016	-104	3,564	0	7	4	0	3,635	0	26	-10	36
3	3350.29	70,446	430	3,604	0	6	4	1	3,543	0	26	394	36
4	3350.25	70,408	-38	3,566	0	6	4	0	3,444	0	26	-136	36
5	3350.21	70,366	-42	3,897	0	6	4	0	3,435	0	26	-480	36
6	3350.50	70,648	282	3,705	0	5	4	1	3,472	0	26	75	36
7	3350.81	70,941	293	3,699	0	4	4	0	3,480	0	26	100	36
8	3350.64	70,780	-161	3,479	0	3	4	0	3,503	0	26	-110	37
9	3350.70	70,837	57	3,569	0	3	4	0	3,466	0	26	-19	37
10	3350.84	70,970	133	3,469	0	3	4	1	3,428	0	26	120	37
11	3350.89	71,017	47	3,010	0	3	4	0	2,902	0	25	-35	37
12	3351.40	71,501	484	3,362	0	3	4	0	2,816	0	25	-36	37
13	3351.15	71,264	-237	2,767	0	3	4	0	2,994	0	25	17	37
14	3351.01	71,131	-133	2,814	0	3	5	1	2,886	0	23	-35	37
15	3350.70	70,837	-294	2,700	0	3	4	0	2,876	0	24	-93	37
16	3350.61	70,752	-85	2,486	0	3	5	0	2,674	0	23	128	37
17	3349.91	70,092	-660	2,493	0	3	4	0	3,072	0	25	-56	37
18	3349.38	69,594	-498	2,887	0	3	5	1	3,301	0	25	-56	37
19	3349.58	69,782	188	3,424	0	2	4	0	3,379	0	25	170	37
20	3349.24	69,463	-319	3,316	0	2	4	0	3,477	0	25	-131	37
21	3349.07	69,304	-159	3,435	0	2	4	1	3,604	0	25	38	36
22	3349.18	69,407	103	3,556	0	2	4	0	3,447	0	25	21	36
23	3349.24	69,463	56	3,580	0	2	4	0	3,371	0	25	-126	36
24	3349.60	69,800	337	3,585	0	1	3	1	3,313	0	25	93	36
25	3349.94	70,120	320	3,542	0	1	4	0	3,249	0	25	55	36
26	3349.77	69,960	-160	3,617	0	1	4	0	3,530	0	25	-219	36
27	3350.25	70,412	452	3,681	0	1	4	1	3,353	0	25	153	36
28	3350.25	70,412	0	3,679	0	1	4	0	3,550	0	25	-101	36
29	3349.91	70,092	-320	3,292	0	1	4	0	3,566	0	25	-18	36
30	3350.28	70,440	348	3,665	0	1	4	0	3,291	0	25	2	36
31	3350.61	70,752	312	3,661	0	0	4	1	3,373	0	25	54	36
Total			557	104,332	0	92	126	9	102,730	0	779	-223	1,129

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.61	70,752											
1	3350.73	70,865	113	3,655	0	1	5	0	3,365	0	25	-148	35
2	3351.04	71,159	294	3,747	0	0	4	1	3,382	0	25	-41	35
3	3351.37	71,473	314	3,644	0	0	4	0	3,437	0	25	136	35
4	3351.40	71,501	28	3,661	0	0	1	1	3,536	0	25	-70	35
5	3351.40	71,501	0	3,758	0	0	7	0	3,689	0	25	-37	35
6	3351.29	71,397	-104	3,569	0	0	6	0	3,590	0	25	-52	35
7	3351.32	71,425	28	3,662	0	0	7	0	3,738	0	25	136	35
8	3350.92	71,045	-380	3,562	0	0	6	1	3,761	0	25	-149	35
9	3351.06	71,178	133	3,465	0	0	6	0	3,399	0	25	98	35
10	3351.32	71,425	247	3,814	0	0	6	0	3,458	0	25	-78	35
11	3351.29	71,397	-28	3,799	0	0	6	0	3,676	0	25	-120	35
12	3351.82	71,901	504	3,603	0	0	4	1	3,269	0	26	201	35
13	3351.82	71,901	0	3,624	0	0	6	0	3,529	0	26	-63	35
14	3352.05	72,121	220	3,752	0	0	3	1	3,485	0	26	-17	35
15	3352.05	72,121	0	3,648	0	0	5	0	3,517	0	26	-100	35
16	3352.16	72,226	105	3,652	0	0	3	1	3,516	0	26	-1	35
17	3352.27	72,331	105	3,622	0	0	5	0	3,543	0	26	57	35
18	3352.30	72,360	29	3,659	0	0	3	0	3,570	0	26	-31	35
19	3352.41	72,465	105	3,673	0	0	3	0	3,568	0	26	29	35
20	3352.05	72,121	-344	3,318	0	0	3	1	3,559	0	26	-73	35
21	3351.63	71,720	-401	3,122	0	0	2	0	3,531	0	26	36	35
22	3351.12	71,235	-485	3,129	0	0	4	0	3,536	0	26	-48	35
23	3351.06	71,178	-57	3,593	0	0	3	0	3,588	0	13	-46	35
24	3351.06	71,178	0	3,560	0	0	5	1	3,541	0	1	-12	23
25	3351.18	71,292	114	3,635	0	0	4	0	3,525	0	1	9	8
26	3351.06	71,178	-114	3,641	0	0	6	0	3,814	0	1	66	0
27	3350.73	70,865	-313	3,635	0	0	7	0	3,840	0	1	-100	0
28	3350.67	70,809	-56	3,592	0	0	6	1	3,684	0	1	44	0
29	3350.56	70,705	-104	3,727	0	0	5	0	3,674	0	1	-151	0
30	3350.45	70,601	-104	3,653	0	0	4	0	3,770	0	1	18	0
31	3350.39	70,544	-57	3,761	0	0	3	1	3,740	0	1	-73	0
Total			-208	111,935	0	1	142	10	110,830	0	580	-582	829

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3350.39	70,544											
1	3350.50	70,648	104	3,767	0	0	4	0	3,597	0	1	-61	0
2	3350.75	70,884	236	3,758	0	0	4	0	3,567	0	0	49	0
3	3350.73	70,865	-19	3,776	0	0	3	1	3,722	0	0	-69	0
4	3350.75	70,884	19	3,598	0	0	5	0	3,739	0	1	166	0
5	3350.75	70,884	0	3,678	0	0	4	0	3,664	0	0	-10	0
6	3350.61	70,752	-132	3,661	0	0	4	0	3,731	0	0	-58	0
7	3350.61	70,752	0	3,673	0	0	3	1	3,677	0	0	8	0
8	3350.61	70,752	0	3,657	0	0	5	0	3,558	0	1	-93	0
9	3350.75	70,884	132	3,780	0	0	4	0	3,698	0	0	54	0
10	3350.61	70,752	-132	3,683	0	0	4	0	3,792	0	0	-19	0
11	3350.16	70,327	-425	3,478	0	0	4	1	3,961	0	1	64	0
12	3349.86	70,045	-282	3,447	0	0	4	0	3,646	0	0	-79	0
13	3349.74	69,932	-113	3,571	0	0	4	0	3,551	0	0	-129	0
14	3349.94	70,120	188	3,684	0	0	4	0	3,645	0	0	153	0
15	3349.94	70,120	0	3,655	0	0	5	1	3,534	0	1	-114	0
16	3349.66	69,857	-263	3,412	0	0	4	0	3,564	0	0	-107	0
17	3349.49	69,697	-160	3,591	0	0	4	0	3,856	0	0	109	0
18	3349.94	70,120	423	3,839	0	0	4	0	3,388	0	1	-23	0
19	3349.83	70,016	-104	3,675	0	0	4	1	3,641	0	0	-133	0
20	3350.11	70,280	264	3,684	0	0	4	0	3,549	0	0	133	0
21	3350.39	70,544	264	3,774	0	0	3	1	3,467	0	1	-38	0
22	3350.11	70,280	-264	3,328	0	0	4	0	3,572	0	0	-16	0
23	3349.94	70,120	-160	3,498	0	0	4	1	3,607	0	0	-46	0
24	3350.33	70,487	367	3,752	0	0	4	0	3,400	0	1	20	0
25	3350.75	70,884	397	3,836	0	0	4	0	3,459	0	0	24	0
26	3350.98	71,102	218	3,619	0	0	4	0	3,406	0	0	9	0
27	3350.38	70,535	-567	3,277	0	0	4	1	3,435	0	1	-403	0
28	3350.19	70,355	-180	3,621	0	0	4	0	4,192	0	0	395	0
29	3349.88	70,063	-292	3,645	0	0	4	0	3,943	0	0	10	0
30	3349.77	69,960	-103	3,784	0	0	4	1	3,901	0	0	19	0
Total			-584	109,201	0	0	121	9	109,462	0	9	-184	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3349.77	69,960											
1	3349.32	69,538	-422	2,731	795	0	6	0	4,005	0	0	63	0
2	3349.29	69,510	-28	2,007	1,176	0	5	0	3,408	0	0	202	0
3	3349.46	69,669	159	2,009	719	0	5	0	2,623	0	0	59	0
4	3346.96	67,346	-2,323	429	0	0	5	0	2,657	0	0	-90	0
5	3344.44	65,047	-2,299	21	0	0	4	0	2,316	0	0	0	0
6	3342.02	62,880	-2,167	16	0	1	0	1	2,143	0	1	-39	0
7	3339.55	60,708	-2,172	15	0	1	0	0	2,055	0	0	-133	0
8	3337.33	58,790	-1,918	110	0	1	0	0	1,929	0	1	-99	0
9	3338.03	59,391	601	2,641	0	1	1	0	2,065	0	0	25	0
10	3339.07	60,290	899	2,967	0	1	1	0	2,088	0	1	21	0
11	3340.00	61,101	811	2,892	0	0	0	0	2,134	0	0	53	0
12	3340.98	61,960	859	2,972	0	0	0	0	2,167	0	1	55	0
13	3341.88	62,756	796	2,976	0	0	0	0	2,141	0	0	-39	0
14	3342.36	63,182	426	2,914	0	0	0	0	2,514	0	1	27	0
15	3342.58	63,378	196	2,933	0	0	3	1	2,515	0	0	-218	0
16	3343.28	64,004	626	2,911	0	1	5	0	2,521	0	1	241	0
17	3343.62	64,309	305	2,947	0	1	4	0	2,554	0	0	-85	0
18	3344.07	64,713	404	3,032	0	1	4	0	2,545	0	1	-79	0
19	3344.44	65,047	334	2,818	0	1	4	0	2,605	0	0	124	0
20	3345.47	65,982	935	2,757	522	1	3	1	2,387	0	1	47	0
21	3345.92	66,392	410	3,051	0	1	4	0	2,610	0	0	-28	0
22	3345.98	66,447	55	2,379	0	1	4	0	2,299	0	1	-21	0
23	3345.67	66,164	-283	2,801	0	1	6	0	3,088	0	0	9	0
24	3345.81	66,292	128	2,978	0	1	2	1	2,825	0	1	-22	0
25	3345.87	66,347	55	838	2,231	1	4	0	2,795	0	41	-175	0
26	3345.90	66,374	27	0	2,622	1	4	0	2,339	0	101	-152	0
27	3345.76	66,246	-128	0	2,981	1	3	0	2,853	0	113	-141	0
28	3345.90	66,374	128	0	2,981	1	3	0	2,830	0	113	92	0
29	3345.59	66,091	-283	0	2,981	1	0	1	2,700	0	113	-451	0
30	3345.81	66,292	201	0	2,981	1	1	0	2,706	0	113	39	0
31	3345.84	66,319	27	0	2,981	1	0	0	2,715	0	113	-127	0
Total			-3,641	54,145	22,970	21	81	5	79,132	0	717	-842	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3345.84	66,319											
1	3345.62	66,118	-201	0	2,981	1	0	0	2,862	0	197	-124	0
2	3345.33	65,854	-264	0	2,981	1	0	0	2,870	0	197	-179	0
3	3345.05	65,600	-254	1,249	1,726	1	0	0	2,992	0	197	-41	0
4	3345.08	65,627	27	2,972	0	1	0	0	2,841	0	197	92	0
5	3344.97	65,527	-100	2,921	0	1	0	0	2,673	0	197	-152	0
6	3346.23	66,676	1,149	3,064	0	1	3	0	1,771	0	197	55	0
7	3347.55	67,890	1,214	3,198	0	1	4	0	1,812	0	197	28	0
8	3347.97	68,275	385	3,086	0	2	4	0	2,447	0	197	-55	0
9	3348.79	69,042	767	3,611	0	1	6	1	2,920	0	197	279	0
10	3348.76	69,014	-28	3,773	0	1	0	0	3,344	0	197	-261	0
11	3348.56	68,828	-186	3,887	0	1	0	0	3,715	0	197	-162	0
12	3348.93	69,173	345	3,887	0	1	0	0	3,474	0	197	128	0
13	3349.07	69,304	131	3,777	0	1	0	0	3,547	0	197	97	0
14	3349.13	69,360	56	3,774	0	1	0	0	3,492	0	197	-30	0
15	3349.32	69,538	178	3,777	0	1	0	0	3,429	0	197	26	0
16	3348.79	69,042	-496	3,480	0	1	0	0	3,743	0	197	-37	0
17	3347.97	68,279	-763	3,114	0	1	2	0	3,723	0	197	44	0
18	3348.03	68,335	56	3,197	0	1	3	0	3,044	0	197	102	0
19	3348.76	69,014	679	3,738	0	1	3	0	2,779	0	197	-81	0
20	3350.67	70,809	1,795	3,955	0	63	4	1	2,214	0	197	193	0
21	3351.85	71,930	1,121	3,781	0	27	4	0	2,637	0	197	151	0
22	3352.13	72,197	267	3,952	0	13	4	0	3,554	0	197	57	0
23	3352.07	72,140	-57	3,735	0	8	4	0	3,551	0	197	-48	0
24	3351.77	71,853	-287	3,691	0	7	0	0	3,809	0	197	21	0
25	3351.65	71,739	-114	3,728	0	6	4	1	3,601	0	197	-45	0
26	3351.51	71,606	-133	3,864	0	6	0	0	3,817	0	197	11	0
27	3351.43	71,530	-76	3,720	0	5	0	0	3,694	0	197	90	0
28	3350.59	70,733	-797	3,070	0	5	0	0	3,529	0	196	-147	0
29	3350.59	70,733	0	2,824	0	5	0	0	2,704	0	196	71	0
30	3350.25	70,412	-321	2,066	0	5	0	0	2,260	0	30	-102	0
Total			4,093	94,891	7,688	175	45	3	92,848	0	5,741	-24	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2010

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3350.25	70,412											
1	3349.38	69,594	-818	1,125	0	5	4	0	1,870	0	2	-72	0
2	3348.54	68,809	-785	1,322	0	5	3	0	2,376	0	1	268	0
3	3347.24	67,604	-1,205	1,267	0	5	3	0	2,233	0	1	-240	0
4	3344.86	65,428	-2,176	387	0	5	3	0	2,384	0	1	-180	0
5	3342.61	63,405	-2,023	206	0	5	3	0	2,359	0	1	129	0
6	3340.22	61,293	-2,112	147	0	9	3	0	2,311	0	2	48	0
7	3337.53	58,961	-2,332	19	0	6	4	0	2,336	0	1	-16	0
8	3334.58	56,458	-2,503	20	0	6	3	0	2,501	0	1	-24	0
9	3332.16	54,446	-2,012	19	0	6	3	0	2,092	0	1	59	0
10	3329.16	52,011	-2,435	20	0	6	3	0	2,312	0	1	-145	0
11	3327.70	50,848	-1,163	1,063	0	6	3	0	2,324	0	1	96	0
12	3328.20	51,245	397	2,920	0	6	3	0	2,330	0	1	-195	0
13	3328.23	51,268	23	3,031	0	6	0	0	2,814	0	1	-199	0
14	3327.39	50,602	-666	1,382	0	6	0	0	2,490	0	1	437	0
15	3326.04	49,541	-1,061	417	0	6	0	0	1,420	0	1	-63	0
16	3325.59	49,190	-351	1,066	0	6	0	0	1,527	0	1	105	0
17	3327.31	50,539	1,349	3,690	25	13	0	0	2,577	0	1	199	0
18	3328.93	51,827	1,288	4,073	0	86	0	0	2,854	0	1	-16	0
19	3332.70	54,891	3,064	4,054	0	1,780	0	0	2,864	0	1	95	0
20	3337.13	58,619	3,728	3,735	0	4,087	0	0	2,824	0	692	-578	0
21	3338.65	59,926	1,307	4,201	0	2,339	0	0	2,846	0	2,433	46	0
22	3341.88	62,756	2,830	3,931	0	5,410	0	0	2,299	0	4,255	43	0
23	3341.88	62,756	0	3,624	0	864	6	1	2,145	0	2,343	7	0
24	3343.09	63,833	1,077	3,742	0	454	0	0	2,128	0	990	-1	0
25	3345.22	65,754	1,921	3,923	0	398	0	0	2,090	0	436	126	0
26	3347.16	67,530	1,776	3,869	0	440	0	0	2,133	0	198	-202	0
27	3349.60	69,800	2,270	3,893	0	660	0	0	2,098	0	198	13	0
28	3351.26	71,368	1,568	3,779	0	583	6	0	2,195	0	198	-395	0
29	3351.51	71,606	238	3,031	0	517	6	0	2,906	0	208	-190	0
30	3351.85	71,930	324	3,738	0	452	6	0	3,068	0	175	-618	0
31	3351.71	71,796	-134	2,922	0	387	1	0	2,983	0	194	-265	0
Total			1,384	70,616	25	18,564	63	1	73,689	0	12,342	-1,726	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3351.71	71,796											
1	3352.02	72,092	296	3,157	0	141	0	0	2,892	0	144	34	0
2	3351.93	72,006	-86	2,804	0	128	0	0	2,947	0	99	28	0
3	3352.19	72,255	249	2,742	0	150	0	0	2,677	0	99	133	0
4	3352.13	72,197	-58	2,457	0	115	0	0	2,537	0	99	6	0
5	3352.18	72,245	48	2,513	0	128	0	0	1,594	0	99	-900	0
6	3352.47	72,523	278	2,314	0	158	18	0	2,978	0	99	901	0
7	3352.02	72,092	-431	1,379	0	154	0	0	1,858	0	99	-7	0
8	3350.67	70,809	-1,283	938	6	146	8	0	2,162	0	99	-103	0
9	3349.24	69,463	-1,346	0	691	141	5	0	1,941	0	99	-133	0
10	3347.47	67,817	-1,646	0	419	129	5	0	2,190	0	99	100	0
11	3344.86	65,428	-2,389	0	213	126	0	0	2,448	0	99	-181	0
12	3342.13	62,978	-2,450	16	82	116	7	1	2,624	0	75	43	0
13	3339.77	60,900	-2,078	16	276	112	4	0	2,502	0	0	24	0
14	3337.08	58,576	-2,324	16	0	112	3	0	2,286	0	0	-163	0
15	3334.78	56,626	-1,950	16	0	114	1	0	2,147	0	0	68	0
16	3332.28	54,545	-2,081	27	0	109	0	0	2,136	0	0	-81	0
17	3332.58	54,792	247	2,817	0	108	0	0	2,653	0	54	29	0
18	3333.12	55,240	448	3,231	0	106	0	0	2,810	0	99	20	0
19	3333.65	55,681	441	3,664	0	100	0	0	3,293	0	99	69	0
20	3334.07	56,031	350	3,516	0	94	0	0	3,062	0	99	-99	0
21	3334.72	56,576	545	3,599	0	90	0	0	3,103	0	99	58	0
22	3335.47	57,208	632	3,650	0	88	0	0	3,131	0	99	124	0
23	3335.95	57,614	406	3,644	0	83	0	0	3,107	0	99	-115	0
24	3336.57	58,141	527	3,640	0	81	0	0	3,196	0	99	101	0
25	3337.02	58,525	384	3,584	0	76	0	0	3,156	0	99	-21	0
26	3337.11	58,601	76	3,586	0	71	0	0	3,504	0	99	22	0
27	3336.99	58,499	-102	2,403	0	67	0	0	2,431	0	99	-42	0
28	3337.13	58,619	120	3,695	0	67	0	0	3,516	0	99	-27	0
29	3336.94	58,456	-163	3,299	0	65	0	0	3,581	0	99	153	0
30	3337.08	58,576	120	3,496	0	68	0	0	3,202	0	99	-143	0
31	3336.74	58,285	-291	3,568	0	71	0	0	3,715	0	99	-116	0
Total			-13,511	69,787	1,687	3,314	51	1	85,379	0	2,654	-213	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3336.74	58,285											
1	3336.68	58,234	-51	3,213	0	64	0	0	3,420	0	100	192	0
2	3336.49	58,072	-162	3,493	0	59	5	1	3,559	0	102	-47	0
3	3336.99	58,499	427	3,502	0	54	3	0	3,048	0	101	23	0
4	3337.67	59,081	582	3,454	0	54	4	0	2,820	0	102	0	0
5	3338.59	59,874	793	3,715	0	53	3	0	2,925	0	102	55	0
6	3339.89	61,004	1,130	3,838	0	53	4	0	2,765	0	101	109	0
7	3341.23	62,181	1,177	4,024	0	53	3	1	2,912	0	101	117	0
8	3342.02	62,880	699	3,875	0	52	3	0	3,012	0	102	-111	0
9	3342.86	63,628	748	3,991	0	48	3	0	3,093	0	101	-94	0
10	3343.68	64,362	734	3,661	0	46	3	0	2,910	0	101	41	0
11	3344.74	65,319	957	3,748	0	44	1	0	2,817	0	102	85	0
12	3346.32	66,758	1,439	3,761	0	44	0	0	2,359	0	101	94	0
13	3347.69	68,020	1,262	3,544	0	43	0	0	2,188	0	102	-35	0
14	3349.35	69,566	1,546	3,586	0	42	0	0	2,067	0	101	86	2
15	3350.33	70,487	921	3,618	0	40	0	0	2,569	0	102	-66	4
16	3350.56	70,705	218	2,983	0	178	0	0	2,894	0	103	54	4
17	3350.84	70,970	265	3,005	0	132	0	0	2,762	0	103	-7	2
18	3351.01	71,131	161	2,982	0	193	0	0	2,984	0	104	74	0
19	3351.01	71,131	0	2,291	0	554	0	0	2,704	0	103	-38	0
20	3350.39	70,544	-587	804	362	259	0	0	1,827	0	104	-81	0
21	3351.18	71,283	739	2,550	0	180	0	0	2,036	0	103	148	0
22	3351.21	71,313	30	2,190	0	158	0	0	1,978	0	103	-237	0
23	3352.27	72,331	1,018	3,585	0	139	0	0	2,665	0	103	62	0
24	3351.46	71,558	-773	1,844	0	139	0	0	2,589	0	129	-38	0
25	3351.40	71,501	-57	2,341	0	181	0	0	2,454	0	199	74	0
26	3351.74	71,825	324	2,555	0	490	0	0	2,104	0	397	-220	0
27	3350.21	70,374	-1,451	1,921	0	242	0	0	2,248	0	481	-885	0
28	3350.18	70,344	-30	1,180	0	217	0	0	2,212	0	481	1,266	0
Total			12,059	85,254	362	3,811	32	2	73,921	0	4,036	623	12

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3350.18	70,344											
1	3350.17	70,332	-12	2,314	0	212	0	0	2,248	0	476	186	0
2	3349.69	69,885	-447	1,960	0	221	2	0	2,152	0	476	2	0
3	3349.38	69,594	-291	2,385	0	264	1	0	2,181	0	476	-282	0
4	3349.52	69,725	131	2,555	0	255	1	0	2,298	0	476	96	0
5	3349.60	69,800	75	2,491	0	230	1	0	2,354	0	476	185	0
6	3350.33	70,487	687	3,300	0	225	1	0	2,351	0	357	-129	0
7	3350.11	70,280	-207	2,176	0	360	0	0	2,353	0	276	-114	0
8	3350.08	70,252	-28	2,400	0	272	4	1	2,376	0	276	-43	0
9	3349.83	70,016	-236	2,688	0	217	3	1	2,909	0	276	48	0
10	3348.82	69,070	-946	2,611	0	198	2	1	3,377	0	276	-99	0
11	3348.70	68,958	-112	3,008	0	189	3	0	3,252	0	276	222	0
12	3348.34	68,623	-335	3,485	0	176	2	1	3,438	0	276	-279	0
13	3348.48	68,753	130	3,244	0	163	3	0	3,376	0	276	378	0
14	3348.68	68,940	187	3,238	0	149	3	0	3,000	0	268	71	0
15	3349.77	69,960	1,020	4,003	0	142	2	1	2,887	0	198	-37	0
16	3350.59	70,733	773	3,580	0	136	3	0	3,015	0	204	279	0
17	3350.47	70,620	-113	2,768	0	131	3	0	2,814	0	200	5	0
18	3350.50	70,648	28	1,905	0	134	3	0	1,201	0	200	-607	0
19	3350.56	70,705	57	1,889	0	158	2	0	1,793	0	200	5	0
20	3351.01	71,131	426	1,921	0	398	0	0	1,788	0	200	95	0
21	3351.37	71,473	342	1,587	355	453	0	0	1,888	0	200	35	0
22	3351.71	71,796	323	2,175	0	327	0	0	2,084	0	200	105	0
23	3351.48	71,577	-219	1,995	0	285	0	0	2,225	0	200	-74	0
24	3351.29	71,397	-180	1,870	0	352	0	0	2,007	0	200	-195	0
25	3351.40	71,501	104	1,540	0	570	0	0	1,754	0	200	-52	0
26	3351.15	71,264	-237	1,484	0	398	0	0	1,825	0	200	-94	0
27	3351.51	71,606	342	1,759	0	381	0	0	1,579	0	200	-19	0
28	3351.32	71,425	-181	1,856	0	343	0	0	2,071	0	200	-109	0
29	3351.26	71,368	-57	2,336	0	326	0	0	2,410	0	200	-109	0
30	3351.18	71,292	-76	2,556	0	309	0	0	2,736	0	200	-5	0
31	3351.12	71,235	-57	2,026	0	271	0	0	2,190	0	200	36	0
Total			891	75,105	355	8,245	39	5	73,932	0	8,339	-499	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3351.12	71,235											
1	3350.95	71,074	-161	1,855	0	242	0	0	2,056	0	202	0	0
2	3351.09	71,207	133	2,101	0	225	0	0	1,821	0	202	-170	0
3	3351.63	71,720	513	2,524	0	207	0	1	2,082	0	202	68	0
4	3351.34	71,444	-276	2,052	0	193	0	0	2,222	0	202	-97	0
5	3351.26	71,368	-76	2,372	0	181	3	0	2,540	0	165	79	0
6	3351.29	71,397	29	2,901	72	171	3	0	2,990	0	99	-23	0
7	3350.61	70,752	-645	2,102	0	171	3	1	2,774	0	99	-41	0
8	3350.50	70,648	-104	2,639	0	171	4	0	2,805	0	99	-6	0
9	3351.37	71,473	825	3,454	0	163	2	0	2,778	0	99	87	0
10	3352.16	72,226	753	3,650	0	154	3	0	2,847	0	99	-102	0
11	3352.24	72,302	76	2,800	0	150	3	0	2,763	0	99	-9	0
12	3353.00	73,032	730	2,975	0	141	2	1	2,407	0	99	123	0
13	3353.17	73,195	163	2,753	0	136	2	0	2,503	0	99	-122	0
14	3352.69	72,734	-461	2,033	0	131	3	0	2,504	0	99	-19	0
15	3352.78	72,820	86	2,927	0	130	0	0	2,839	0	99	-33	0
16	3353.14	73,166	346	2,939	0	128	1	0	2,636	0	99	16	0
17	3353.70	73,707	541	2,846	0	121	0	1	2,401	0	93	69	0
18	3353.59	73,600	-107	2,474	0	122	0	0	2,514	0	87	-102	0
19	3353.76	73,765	165	2,880	0	116	0	0	2,810	0	87	66	0
20	3353.31	73,330	-435	3,000	0	109	0	0	3,413	0	87	-44	0
21	3352.86	72,897	-433	2,787	0	109	0	0	3,340	0	87	98	0
22	3352.44	72,494	-403	2,672	0	107	0	1	3,023	0	87	-71	0
23	3352.75	72,791	297	3,411	0	103	0	0	3,114	0	87	-16	0
24	3352.38	72,436	-355	2,937	0	103	0	0	3,174	0	87	-134	0
25	3352.07	72,140	-296	2,953	0	96	0	0	3,236	0	86	-23	0
26	3352.07	72,140	0	3,131	0	90	3	0	3,126	0	86	-6	0
27	3351.54	71,634	-506	2,619	0	90	3	1	3,111	0	86	-14	0
28	3351.71	71,796	162	3,357	0	89	3	0	3,274	0	86	79	0
29	3351.15	71,264	-532	2,891	0	84	3	0	3,400	0	86	-18	0
30	3351.29	71,397	133	3,290	0	79	3	0	3,089	0	86	-58	0
Total			162	83,325	72	4,112	44	6	83,592	0	3,283	-422	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3351.29	71,397											
1	3351.51	71,606	209	3,297	0	80	3	0	3,114	0	81	30	0
2	3351.01	71,131	-475	2,661	0	79	2	1	3,123	0	81	-8	0
3	3350.70	70,837	-294	3,024	0	73	0	0	3,227	0	81	-83	0
4	3350.64	70,780	-57	3,147	0	68	4	2	3,272	0	81	87	0
5	3350.39	70,544	-236	2,964	0	67	3	1	3,146	0	81	-36	0
6	3349.94	70,120	-424	2,065	855	67	1	1	3,422	0	81	94	0
7	3350.05	70,223	103	3,800	0	63	1	0	3,670	0	81	-8	0
8	3350.02	70,195	-28	3,671	0	67	0	1	3,552	0	81	-132	0
9	3350.14	70,308	113	3,647	0	67	0	0	3,629	0	81	109	0
10	3350.19	70,355	47	3,845	0	62	0	1	3,740	0	81	-38	0
11	3350.50	70,648	293	3,953	0	61	0	0	3,658	0	81	18	0
12	3350.02	70,195	-453	3,292	0	55	0	0	3,662	0	81	-57	0
13	3350.22	70,384	189	3,854	0	55	0	1	3,770	0	83	134	0
14	3350.33	70,487	103	4,054	0	55	0	0	3,798	0	83	-125	0
15	3351.18	71,292	805	3,954	0	96	0	0	3,225	0	83	63	0
16	3350.73	70,865	-427	2,775	0	84	0	0	3,194	0	15	-77	0
17	3351.15	71,264	399	3,526	0	80	0	1	3,082	0	40	-84	0
18	3352.10	72,169	905	3,703	0	88	2	0	2,877	0	86	79	0
19	3352.61	72,657	488	2,661	872	80	2	0	2,953	0	86	-84	0
20	3353.84	73,842	1,185	3,440	975	69	2	0	2,674	0	86	-537	0
21	3353.42	73,436	-406	1,773	0	64	2	0	2,248	0	86	93	0
22	3353.84	73,842	406	3,555	0	64	2	0	3,018	0	86	-107	0
23	3353.65	73,658	-184	2,840	0	62	2	1	2,921	0	86	-76	0
24	3353.62	73,629	-29	2,424	0	58	3	0	2,427	0	86	5	0
25	3353.11	73,137	-492	1,898	0	56	3	1	2,321	0	86	-35	0
26	3353.11	73,137	0	1,590	0	54	5	0	1,530	0	86	-23	0
27	3352.97	73,003	-134	2,297	0	52	4	1	2,410	0	86	18	0
28	3352.52	72,571	-432	2,114	0	53	5	0	2,462	0	86	-46	0
29	3352.50	72,551	-20	2,241	0	67	7	0	2,234	0	86	-1	0
30	3352.33	72,389	-162	2,238	0	54	1	0	2,375	0	86	8	0
31	3351.77	71,853	-536	2,151	0	48	3	1	2,625	0	86	-20	0
Total			456	92,454	2,702	2,048	57	13	93,359	0	2,484	-835	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3351.77	71,853											
1	3351.57	71,663	-190	2,404	0	46	0	0	2,493	0	84	-63	0
2	3351.48	71,577	-86	2,492	0	45	0	0	2,558	0	83	18	0
3	3351.63	71,720	143	2,499	0	45	0	0	2,360	0	84	43	0
4	3351.99	72,063	343	2,488	0	44	0	0	2,154	0	83	48	0
5	3352.16	72,226	163	2,493	0	44	0	0	2,224	0	84	-66	0
6	3352.55	72,599	373	2,522	0	45	0	0	2,209	0	83	98	0
7	3352.72	72,762	163	2,501	0	43	0	0	2,299	0	84	2	0
8	3352.58	72,628	-134	2,413	0	39	0	0	2,422	0	83	-81	0
9	3351.93	72,006	-622	2,182	0	35	3	1	2,627	0	84	-124	0
10	3351.77	71,853	-153	2,313	0	33	4	1	2,473	0	83	62	0
11	3351.74	71,825	-28	2,262	0	32	4	1	2,422	0	84	189	0
12	3351.63	71,720	-105	2,388	0	30	4	1	2,369	0	83	-66	0
13	3351.82	71,901	181	2,718	0	28	4	1	2,433	0	84	-43	0
14	3351.18	71,292	-609	1,711	405	26	5	1	2,536	0	83	-126	0
15	3351.85	71,930	638	2,818	0	25	3	1	2,292	0	35	126	0
16	3352.10	72,169	239	2,707	0	24	2	1	2,538	0	16	65	0
17	3351.60	71,691	-478	2,688	0	23	4	1	3,068	0	38	-78	0
18	3352.24	72,302	611	3,802	0	22	0	1	3,217	0	37	42	0
19	3352.55	72,599	297	3,984	0	22	0	0	3,510	0	38	-161	0
20	3352.50	72,551	-48	3,129	0	21	0	0	3,192	0	37	31	0
21	3352.44	72,494	-57	3,163	0	20	0	0	3,204	0	38	2	0
22	3352.64	72,686	192	3,123	0	19	0	0	2,965	0	25	40	0
23	3352.47	72,523	-163	2,864	0	18	0	0	3,081	0	26	62	0
24	3352.02	72,092	-431	2,494	0	18	0	0	2,899	0	37	-7	0
25	3352.24	72,302	210	3,754	0	17	0	0	3,402	0	37	-122	0
26	3352.55	72,599	297	3,868	0	17	0	0	3,496	0	37	-55	0
27	3352.52	72,571	-28	3,390	0	15	0	0	3,472	0	37	76	0
28	3352.33	72,389	-182	3,709	0	15	4	1	3,869	0	37	5	0
29	3351.96	72,035	-354	3,725	0	15	3	1	3,933	0	37	-120	0
30	3351.99	72,063	28	3,997	0	15	6	1	3,876	0	37	-64	0
Total			210	86,601	405	841	46	13	85,593	0	1,717	-268	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.99	72,063											
1	3352.16	72,226	163	3,935	0	15	6	0	3,821	0	11	51	0
2	3352.66	72,705	479	4,055	0	15	6	1	3,573	0	0	-11	0
3	3353.00	73,032	327	4,042	0	15	6	0	3,788	0	1	65	0
4	3352.86	72,897	-135	3,777	0	14	6	0	3,929	0	0	9	0
5	3352.66	72,705	-192	3,286	302	14	5	1	3,764	0	1	-23	0
6	3352.30	72,360	-345	3,693	0	14	6	0	4,009	0	0	-37	0
7	3352.38	72,436	76	3,895	0	13	6	0	3,827	0	0	1	0
8	3352.19	72,255	-181	3,815	0	12	3	1	4,021	0	1	18	0
9	3352.05	72,121	-134	3,714	0	12	4	0	3,803	0	0	-53	0
10	3352.16	72,226	105	3,886	0	11	3	0	3,759	0	0	-30	0
11	3352.13	72,197	-29	3,940	0	10	3	0	3,994	0	1	19	0
12	3352.19	72,255	58	3,785	0	10	2	1	3,704	0	0	-30	0
13	3351.79	71,873	-382	3,527	0	9	4	0	3,818	0	0	-96	0
14	3352.13	72,197	324	4,032	0	9	2	0	3,734	0	1	21	0
15	3351.79	71,873	-324	3,743	0	8	3	1	4,002	0	0	-69	0
16	3351.68	71,768	-105	3,742	0	8	4	0	3,862	0	1	12	0
17	3351.71	71,796	28	3,941	0	7	3	1	3,904	0	0	-12	0
18	3351.82	71,901	105	3,923	0	7	4	0	3,889	0	0	68	0
19	3351.65	71,739	-162	3,708	0	7	3	0	3,773	0	1	-99	0
20	3351.79	71,873	134	3,825	0	6	3	1	3,785	0	0	92	0
21	3351.09	71,207	-666	3,357	0	6	1	1	3,910	0	1	-116	0
22	3351.15	71,264	57	3,889	0	6	2	0	3,859	0	0	23	0
23	3350.42	70,572	-692	3,432	0	5	1	0	3,977	0	1	-150	0
24	3350.16	70,327	-245	3,732	0	5	3	1	4,069	0	0	91	0
25	3349.69	69,885	-442	3,614	0	5	4	0	4,008	0	0	-49	0
26	3348.70	68,958	-927	3,331	0	4	2	0	4,127	0	0	-133	0
27	3348.62	68,884	-74	3,629	0	4	3	1	3,928	0	0	225	0
28	3348.37	68,651	-233	3,665	0	4	5	0	3,816	0	0	-81	0
29	3348.76	69,014	363	4,112	0	11	5	0	3,725	0	0	-30	0
30	3348.99	69,229	215	3,871	0	8	6	1	3,661	0	0	4	0
31	3349.27	69,491	262	3,960	0	9	6	0	3,858	0	0	157	0
Total			-2,572	116,856	302	281	120	11	119,697	0	20	-163	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3349.27	69,491											
1	3349.46	69,669	178	4,078	0	8	5	0	3,831	0	0	-72	0
2	3349.15	69,379	-290	3,713	0	8	7	0	4,028	0	1	25	0
3	3348.48	68,753	-626	3,344	0	7	3	0	3,878	0	0	-96	0
4	3348.28	68,567	-186	3,487	0	7	4	0	3,798	0	0	122	0
5	3348.34	68,623	56	3,643	0	6	6	0	3,833	0	0	246	0
6	3348.03	68,335	-288	3,371	0	5	3	0	3,788	0	1	128	0
7	3348.17	68,465	130	3,983	0	5	3	0	3,746	0	0	-109	0
8	3348.42	68,698	233	4,003	0	5	3	0	3,785	0	0	13	0
9	3348.76	69,014	316	3,936	0	5	3	0	3,608	0	0	-14	0
10	3348.93	69,173	159	3,942	0	4	3	0	3,558	0	1	-225	0
11	3349.07	69,304	131	3,874	0	4	3	0	3,646	0	0	-98	0
12	3349.41	69,622	318	3,769	0	4	3	0	3,499	0	0	47	0
13	3349.49	69,697	75	3,863	0	4	4	0	3,577	0	0	-211	0
14	3350.02	70,195	498	3,848	0	3	3	0	3,452	0	1	103	0
15	3350.33	70,487	292	3,894	0	3	3	0	3,546	0	0	-56	0
16	3350.98	71,102	615	3,192	0	3	4	0	3,380	0	0	804	0
17	3351.34	71,444	342	3,912	0	3	4	0	3,449	0	0	-120	0
18	3351.99	72,063	619	3,972	0	2	4	0	3,431	0	1	81	0
19	3351.63	71,720	-343	3,152	0	2	4	0	3,539	0	0	46	0
20	3351.79	71,873	153	3,799	0	2	5	0	3,504	0	0	-139	0
21	3352.19	72,255	382	3,680	124	2	5	0	3,458	0	0	39	0
22	3351.82	71,901	-354	0	2,980	1	5	0	3,189	0	0	-141	0
23	3351.63	71,720	-181	0	2,981	1	5	0	2,979	0	1	-178	0
24	3351.43	71,530	-190	0	2,981	1	6	0	3,060	0	0	-106	0
25	3351.20	71,311	-219	0	2,981	1	7	0	3,074	0	0	-120	0
26	3350.81	70,941	-370	1,285	2,025	1	7	0	3,504	0	1	-169	0
27	3351.32	71,425	484	3,934	0	1	6	0	3,482	0	0	37	0
28	3351.91	71,987	562	4,057	0	1	5	0	3,504	0	0	13	0
29	3352.33	72,389	402	4,022	0	1	5	0	3,576	0	1	-39	0
30	3352.72	72,762	373	3,508	195	1	5	0	3,416	0	0	90	0
31	3353.03	73,060	298	3,769	0	1	1	0	3,482	0	1	12	0
Total			3,569	99,030	14,267	102	134	0	109,600	0	9	-87	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3353.03	73,060											
1	3351.88	71,958	-1,102	2,662	0	1	6	0	3,622	0	1	-136	0
2	3351.57	71,663	-295	3,335	0	1	6	0	3,534	0	0	-91	0
3	3351.57	71,663	0	3,670	0	1	6	1	3,577	0	0	-87	0
4	3351.79	71,873	210	3,911	0	1	6	0	3,727	0	1	32	0
5	3352.19	72,255	382	3,872	0	1	5	0	3,590	0	0	104	0
6	3352.05	72,121	-134	3,816	0	1	5	0	3,955	0	0	9	0
7	3352.10	72,169	48	3,840	0	1	4	1	3,752	0	1	-35	0
8	3351.99	72,063	-106	3,898	0	1	3	0	3,986	0	0	-16	0
9	3351.63	71,720	-343	3,901	0	1	3	0	4,240	0	0	-2	0
10	3350.67	70,809	-911	3,273	0	1	3	0	4,171	0	1	-10	0
11	3350.25	70,412	-397	3,626	0	1	3	1	4,135	0	0	115	0
12	3350.50	70,648	236	3,663	0	1	3	0	3,315	0	0	-110	0
13	3351.18	71,292	644	3,595	96	1	3	0	3,036	0	1	-8	0
14	3351.88	71,958	666	3,979	0	1	3	0	3,276	0	0	-35	0
15	3352.78	72,820	862	3,897	0	1	3	1	3,044	0	1	13	0
16	3352.89	72,926	106	3,307	0	1	3	0	3,213	0	1	15	0
17	3352.64	72,686	-240	3,301	0	1	3	0	3,488	0	1	-50	0
18	3353.25	73,272	586	3,845	0	1	3	0	3,266	0	1	10	0
19	3353.20	73,224	-48	3,636	0	1	3	1	3,656	0	50	25	0
20	3352.86	72,897	-327	3,463	0	1	3	0	3,620	0	110	-58	0
21	3352.24	72,302	-595	3,168	0	1	4	0	3,663	0	159	62	0
22	3352.05	72,121	-181	3,536	0	1	3	0	3,601	0	198	84	0
23	3352.05	72,121	0	3,762	0	1	3	1	3,407	0	198	-154	0
24	3352.24	72,302	181	3,768	0	1	4	0	3,494	0	198	108	0
25	3352.24	72,302	0	3,954	0	0	3	0	3,635	0	198	-118	0
26	3352.41	72,465	163	3,934	0	0	3	0	3,589	0	198	19	0
27	3352.19	72,255	-210	3,845	0	0	3	1	3,741	0	297	-13	0
28	3351.71	71,796	-459	3,912	0	0	3	0	4,084	0	297	13	0
29	3350.39	70,544	-1,252	2,657	0	0	3	0	3,616	0	297	7	0
30	3350.59	70,733	189	3,502	0	0	3	1	3,108	0	233	32	0
Total			-2,327	108,528	96	24	109	8	108,141	0	2,442	-275	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3350.59	70,733											
1	3351.34	71,444	711	3,843	0	1	3	0	2,911	0	202	-17	0
2	3352.24	72,302	858	3,871	0	1	3	0	2,788	0	202	-21	0
3	3352.21	72,274	-28	3,111	0	1	2	1	2,810	0	202	-125	0
4	3352.78	72,820	546	3,423	0	2	3	0	2,725	0	202	51	0
5	3352.89	72,926	106	2,761	0	38	3	0	2,587	0	202	99	0
6	3352.83	72,868	-58	2,625	0	12	3	0	2,581	0	202	91	0
7	3352.69	72,734	-134	2,606	0	7	3	1	2,434	0	202	-107	0
8	3352.47	72,523	-211	2,527	0	4	3	0	2,565	0	202	28	0
9	3352.41	72,465	-58	2,686	0	4	3	0	2,575	0	202	32	0
10	3352.07	72,140	-325	2,583	0	4	3	0	2,588	0	202	-119	0
11	3351.82	71,901	-239	487	1,863	3	2	1	2,421	0	167	-1	0
12	3351.71	71,796	-105	769	2,114	3	3	0	2,715	0	153	-120	0
13	3351.88	71,958	162	2,853	0	3	3	0	2,617	0	153	79	0
14	3352.05	72,121	163	2,884	0	3	3	0	2,602	0	153	34	0
15	3352.38	72,436	315	3,014	0	3	3	1	2,376	0	153	-169	0
16	3352.66	72,705	269	3,045	0	3	5	0	2,511	0	153	-110	0
17	3352.24	72,302	-403	2,359	0	3	5	0	2,640	0	153	33	0
18	3351.40	71,501	-801	2,195	0	3	4	1	2,937	0	153	96	0
19	3351.40	71,501	0	3,094	0	3	5	0	2,875	0	153	-64	0
20	3351.71	71,796	295	2,964	0	3	4	0	2,535	0	153	20	0
21	3352.05	72,121	325	2,825	0	3	4	1	2,329	0	153	-16	0
22	3352.16	72,226	105	3,066	0	3	4	0	2,753	0	153	-54	0
23	3353.11	73,137	911	3,629	0	3	5	0	2,730	0	153	167	0
24	3351.20	71,311	-1,826	899	0	3	5	0	2,595	0	61	-67	0
25	3348.68	68,940	-2,371	22	0	3	5	0	2,393	0	2	4	0
26	3345.92	66,392	-2,548	21	0	4	5	1	2,470	0	2	-95	0
27	3343.23	63,959	-2,433	21	0	4	4	0	2,393	0	1	-60	0
28	3341.04	62,013	-1,946	401	0	4	3	0	2,343	0	1	-4	0
29	3340.84	61,837	-176	2,091	0	3	2	0	2,310	0	1	43	0
30	3341.35	62,287	450	2,713	0	3	2	0	2,322	0	1	59	0
31	3341.82	62,703	416	2,779	0	3	1	1	2,361	0	60	57	0
Total			-8,030	72,167	3,977	140	106	8	79,792	0	4,152	-256	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3341.82	62,703											
1	3340.90	61,890	-813	1,982	0	3	2	0	2,448	0	136	-212	0
2	3341.37	62,304	414	2,685	0	3	1	0	2,286	0	136	149	0
3	3341.60	62,508	204	2,417	0	3	1	0	2,038	0	136	-41	0
4	3341.77	62,658	150	2,491	0	6	1	1	2,395	0	136	186	0
5	3342.92	63,681	1,023	3,568	0	12	1	0	2,370	0	136	-50	0
6	3344.46	65,065	1,384	3,831	0	8	1	0	2,384	0	136	66	0
7	3346.01	66,474	1,409	3,791	0	9	1	0	2,311	0	136	57	0
8	3347.33	67,687	1,213	3,593	0	8	1	0	2,336	0	136	85	0
9	3348.56	68,828	1,141	3,787	0	8	1	0	2,281	0	136	-236	0
10	3350.14	70,308	1,480	3,992	0	8	1	0	2,371	0	135	-13	0
11	3351.29	71,397	1,089	3,751	0	8	1	1	2,886	0	135	353	0
12	3351.96	72,035	638	3,708	0	8	1	0	2,507	0	135	-435	0
13	3352.36	72,417	382	3,543	0	8	1	0	2,772	0	135	-261	0
14	3352.36	72,417	0	2,803	0	8	1	0	2,229	0	135	-446	0
15	3351.09	71,207	-1,210	2,454	0	8	1	0	2,918	0	135	-618	0
16	3349.77	69,960	-1,247	1,852	0	7	1	0	2,860	0	135	-110	0
17	3348.57	68,837	-1,123	1,966	0	7	1	0	2,789	0	135	-171	0
18	3348.31	68,595	-242	2,956	0	8	2	0	2,915	0	135	-154	0
19	3346.23	66,676	-1,919	1,189	0	8	1	0	2,829	0	135	-151	0
20	3347.44	67,789	1,113	3,897	0	28	2	0	2,769	0	135	94	0
21	3347.67	68,001	212	3,254	0	62	1	0	2,778	0	135	-190	0
22	3347.33	67,687	-314	3,241	0	25	1	0	3,300	0	135	-144	0
23	3347.13	67,503	-184	3,210	0	15	2	1	3,294	0	135	23	0
24	3346.23	66,676	-827	3,126	0	12	2	0	3,628	0	135	-200	0
25	3345.28	65,809	-867	3,101	0	10	2	0	3,661	0	135	-180	0
26	3344.80	65,373	-436	3,523	0	10	2	0	3,737	0	135	-95	0
27	3344.38	64,993	-380	3,590	0	8	2	0	3,755	0	135	-86	0
28	3344.38	64,993	0	3,594	0	8	1	0	3,839	0	136	374	0
29	3343.78	64,452	-541	3,735	0	8	1	0	3,488	0	136	-659	0
30	3344.52	65,120	668	3,778	0	8	1	0	3,122	0	136	141	0
Total			2,417	94,408	0	332	38	3	85,296	0	4,062	-2,924	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2011

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3344.52	65,120											
1	3345.03	65,582	462	4,019	0	6	2	0	3,223	0	114	-224	0
2	3345.36	65,882	300	3,758	0	6	1	0	3,224	0	113	-126	0
3	3345.78	66,264	382	3,761	0	6	1	0	3,286	0	114	16	0
4	3345.73	66,219	-45	3,312	0	6	1	0	3,245	0	113	-4	0
5	3345.64	66,137	-82	3,561	0	6	1	0	3,492	0	114	-42	0
6	3345.59	66,091	-46	3,947	0	6	1	0	3,670	0	113	-215	0
7	3345.78	66,264	173	3,739	0	6	0	1	3,634	0	114	177	0
8	3345.70	66,191	-73	3,723	0	6	1	0	3,613	0	113	-75	0
9	3346.23	66,676	485	3,870	0	6	1	0	3,149	0	114	-127	0
10	3347.16	67,530	854	3,904	0	6	2	0	2,954	0	113	13	0
11	3348.45	68,725	1,195	3,920	0	7	1	0	2,538	0	114	-79	0
12	3349.72	69,913	1,188	3,836	0	9	0	1	2,420	0	113	-123	0
13	3348.37	68,651	-1,262	1,243	0	11	1	0	2,396	0	114	-5	0
14	3348.99	69,229	578	3,149	0	10	1	0	2,477	0	113	10	0
15	3347.02	67,401	-1,828	716	0	9	1	0	2,365	0	114	-73	0
16	3346.32	66,758	-643	1,691	0	9	1	0	2,195	0	113	-34	0
17	3345.81	66,292	-466	1,869	0	9	2	1	2,103	0	114	-124	0
18	3347.78	68,103	1,811	3,544	0	8	4	0	1,834	0	113	210	0
19	3347.95	68,261	158	2,313	0	8	3	0	2,020	0	114	-26	0
20	3349.04	69,276	1,015	3,160	0	8	3	0	2,068	0	114	32	0
21	3349.83	70,016	740	2,575	0	8	3	0	1,877	0	114	151	0
22	3350.64	70,780	764	2,754	0	8	2	0	1,959	0	114	77	0
23	3349.72	69,913	-867	1,266	0	7	1	0	1,885	0	114	-140	0
24	3349.07	69,304	-609	1,408	0	6	1	0	1,923	0	113	14	0
25	3348.28	68,567	-737	1,197	0	6	1	0	1,757	0	114	-68	0
26	3347.30	67,660	-907	1,052	0	6	1	0	1,780	0	114	-70	0
27	3346.09	66,548	-1,112	1,132	0	6	0	0	1,993	0	113	-144	0
28	3346.32	66,758	210	2,472	0	6	0	0	2,031	0	114	-123	0
29	3346.26	66,703	-55	2,269	0	6	0	0	2,163	0	113	-54	0
30	3346.88	67,272	569	2,703	0	6	0	0	2,190	0	114	164	0
31	3347.69	68,020	748	3,120	0	6	0	0	2,262	0	113	-3	0
Total			2,900	84,983	0	219	38	3	77,726	0	3,521	-1,014	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3347.69	68,020											
1	3349.60	69,800	1,780	3,803	0	5	0	0	2,038	0	1	11	0
2	3351.71	71,796	1,996	3,972	0	5	0	0	2,004	0	0	23	0
3	3352.44	72,494	698	2,869	0	6	0	0	1,998	0	0	-179	0
4	3352.92	72,955	461	2,406	0	5	0	0	1,984	0	0	34	0
5	3353.00	73,032	77	2,102	0	5	0	0	2,069	0	1	40	0
6	3352.92	72,955	-77	1,767	0	5	1	0	1,821	0	0	-27	0
7	3352.61	72,657	-298	1,269	0	5	2	0	1,588	0	0	18	0
8	3352.41	72,465	-192	1,528	0	5	3	0	1,549	0	1	-172	0
9	3352.24	72,302	-163	1,621	0	5	3	0	1,736	0	0	-50	0
10	3352.30	72,360	58	1,851	0	5	2	1	1,720	0	0	-75	0
11	3352.16	72,226	-134	1,553	0	6	3	0	1,688	0	1	-1	0
12	3352.16	72,226	0	1,637	0	6	3	0	1,609	0	0	-31	0
13	3351.93	72,006	-220	1,851	0	6	3	0	2,065	0	0	-9	0
14	3352.02	72,092	86	2,125	0	6	4	0	2,011	0	1	-29	0
15	3352.44	72,494	402	2,383	0	6	3	0	1,980	0	0	-4	0
16	3352.66	72,705	211	1,179	160	6	3	0	1,033	0	0	-98	0
17	3352.97	73,003	298	1,081	0	6	4	0	832	0	1	48	0
18	3353.00	73,032	29	750	0	6	3	0	803	0	0	79	0
19	3352.69	72,734	-298	750	0	6	3	0	930	0	0	-121	0
20	3352.16	72,226	-508	1,061	0	6	1	0	1,501	0	1	-72	0
21	3351.93	72,006	-220	1,610	0	11	0	1	1,817	0	0	-23	0
22	3352.30	72,360	354	2,054	0	12	0	0	1,704	0	0	-8	0
23	3351.93	72,006	-354	1,481	0	14	0	0	1,886	0	1	38	0
24	3351.77	71,853	-153	1,886	0	12	0	0	1,801	0	0	-250	0
25	3351.93	72,006	153	1,945	0	11	0	0	1,925	0	0	122	0
26	3352.38	72,436	430	2,513	0	10	0	0	2,160	0	0	67	0
27	3351.48	71,577	-859	2,000	0	10	0	0	2,897	0	0	28	0
28	3351.23	71,340	-237	3,097	0	10	0	0	2,989	0	1	-354	0
29	3351.99	72,063	723	3,542	0	10	0	0	2,895	0	0	66	0
30	3351.71	71,796	-267	2,656	0	10	0	0	2,819	0	0	-114	0
31	3351.48	71,577	-219	2,627	0	8	0	0	2,881	0	0	27	0
Total			3,557	62,969	160	229	41	2	58,733	0	9	-1,016	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3351.48	71,577											
1	3350.95	71,074	-503	1,848	0	8	0	0	2,189	0	0	-170	0
2	3350.73	70,865	-209	1,744	0	8	0	0	1,898	0	1	-62	0
3	3350.56	70,705	-160	1,687	0	8	0	0	1,884	0	0	29	0
4	3351.48	71,577	872	2,732	0	8	0	0	1,878	0	0	10	0
5	3352.07	72,140	563	2,486	0	8	0	0	1,966	0	1	36	0
6	3351.57	71,663	-477	1,304	0	7	0	0	1,731	0	0	-57	0
7	3351.18	71,292	-371	1,034	0	7	3	0	1,345	0	0	-64	0
8	3351.09	71,207	-85	859	0	7	3	0	839	0	1	-108	0
9	3351.01	71,131	-76	951	0	7	3	0	1,025	0	0	-6	0
10	3351.09	71,207	76	1,118	0	7	3	0	972	0	0	-74	0
11	3351.40	71,501	294	1,054	0	7	3	0	823	0	1	60	0
12	3351.48	71,577	76	1,077	0	7	3	0	0	0	0	-1,005	0
13	3351.63	71,720	143	901	0	8	3	0	826	0	0	63	0
14	3351.99	72,063	343	1,223	0	8	4	0	821	0	1	-62	0
15	3352.47	72,523	460	1,192	0	11	3	0	845	0	0	105	0
16	3352.30	72,360	-163	732	0	12	3	0	803	0	0	-101	0
17	3352.44	72,494	134	1,038	0	10	3	1	945	0	1	36	0
18	3352.47	72,523	29	593	174	9	3	0	813	0	0	69	0
19	3352.52	72,571	48	835	0	9	3	1	717	0	0	-75	0
20	3352.61	72,657	86	924	0	10	3	0	808	0	1	-36	0
21	3352.52	72,571	-86	932	0	9	3	0	968	0	0	-56	0
22	3352.61	72,657	86	747	0	8	1	0	861	0	0	193	0
23	3352.47	72,523	-134	753	0	8	0	0	840	0	1	-54	0
24	3352.19	72,255	-268	647	0	7	0	0	947	0	0	25	0
25	3351.71	71,796	-459	581	0	7	0	0	960	0	0	-87	0
26	3351.71	71,796	0	820	0	9	0	0	845	0	1	17	0
27	3351.40	71,501	-295	69	0	16	0	0	1,125	0	0	745	0
28	3350.95	71,074	-427	657	0	16	0	0	1,116	0	0	16	0
29	3350.87	70,998	-76	942	0	16	0	0	959	1	0	-74	0
Total			-579	31,480	174	262	47	2	31,749	1	9	-687	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 29	3350.87	70,998											
1	3351.63	71,720	722	1,429	0	14	0	0	956	0	0	235	0
2	3351.54	71,634	-86	1,121	0	14	0	0	936	0	0	-285	0
3	3351.63	71,720	86	938	0	13	0	0	946	0	0	81	0
4	3351.63	71,720	0	1,238	0	13	0	0	1,224	0	1	-26	0
5	3352.02	72,092	372	1,457	0	12	0	0	1,081	0	0	-16	0
6	3351.63	71,720	-372	797	0	11	0	1	1,172	0	0	-7	0
7	3351.71	71,796	76	1,198	0	12	0	0	1,166	0	1	33	0
8	3351.93	72,006	210	1,215	0	10	0	0	998	0	0	-17	0
9	3351.91	71,987	-19	1,069	0	9	0	0	1,101	0	0	4	0
10	3351.79	71,873	-114	1,063	0	9	0	0	1,192	0	1	7	0
11	3351.77	71,853	-20	1,017	0	8	0	0	1,002	0	0	-43	0
12	3351.71	71,796	-57	1,101	0	7	0	0	1,236	0	0	71	0
13	3351.48	71,577	-219	1,113	0	7	0	0	1,262	0	1	-76	0
14	3351.04	71,159	-418	753	0	6	0	0	1,309	0	0	132	0
15	3350.42	70,572	-587	706	0	6	0	0	1,203	0	0	-96	0
16	3350.14	70,308	-264	867	0	6	3	0	1,108	0	1	-25	0
17	3350.45	70,601	293	989	0	128	3	0	1,014	0	0	193	0
18	3350.73	70,865	264	1,046	0	61	0	0	815	0	0	-28	0
19	3350.78	70,913	48	1,053	0	45	7	0	1,004	0	1	-38	0
20	3351.18	71,292	379	1,201	0	42	3	0	912	0	0	51	0
21	3350.87	70,998	-294	583	0	40	3	0	862	0	0	-52	0
22	3350.14	70,308	-690	231	0	38	3	0	922	0	1	-33	0
23	3349.43	69,641	-667	231	0	36	3	1	956	0	0	26	0
24	3348.93	69,173	-468	492	0	34	3	0	889	0	0	-102	0
25	3348.82	69,070	-103	439	0	98	4	0	832	0	1	197	0
26	3348.93	69,173	103	874	0	175	3	0	949	0	0	6	0
27	3348.84	69,089	-84	691	0	115	2	0	939	0	0	51	0
28	3348.76	69,014	-75	681	0	92	3	0	746	0	1	-98	0
29	3348.70	68,958	-56	823	0	72	0	0	838	0	0	-113	0
30	3348.17	68,465	-493	331	0	57	1	0	906	0	0	26	0
31	3348.40	68,679	214	945	0	53	0	0	801	0	0	17	0
Total			-2,319	27,692	0	1,243	41	2	31,277	0	9	75	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3348.40	68,679											
1	3349.21	69,435	756	1,490	0	113	1	0	804	0	1	-41	0
2	3348.93	69,173	-262	815	0	91	1	0	924	0	0	-243	0
3	3349.15	69,379	206	1,197	0	76	1	0	1,062	0	0	-4	0
4	3348.84	69,089	-290	1,453	0	66	1	0	1,688	0	0	-120	0
5	3348.65	68,912	-177	1,649	0	57	1	0	1,827	0	0	-55	0
6	3348.03	68,335	-577	1,493	0	48	1	0	1,992	0	0	-125	0
7	3349.15	69,379	1,044	2,933	0	41	1	0	1,950	0	1	22	0
8	3349.69	69,885	506	2,634	0	33	1	0	2,041	0	0	-119	0
9	3350.00	70,176	291	2,298	0	28	1	0	1,668	0	0	-366	0
10	3349.07	69,304	-872	1,665	0	23	0	1	2,735	0	0	176	0
11	3349.52	69,725	421	2,403	0	50	0	0	2,196	0	1	165	0
12	3349.69	69,885	160	2,402	0	40	0	0	2,218	0	0	-64	0
13	3349.97	70,148	263	2,326	0	121	1	0	2,266	0	0	83	0
14	3351.40	71,501	1,353	3,366	0	188	1	0	1,986	0	1	-213	0
15	3352.55	72,599	1,098	3,077	0	145	1	0	2,061	0	0	-62	0
16	3352.78	72,820	221	2,255	0	115	1	0	2,056	0	0	-92	0
17	3352.69	72,734	-86	2,208	0	90	1	0	2,285	0	1	-97	0
18	3352.78	72,820	86	2,096	0	70	1	0	2,103	0	0	24	0
19	3352.78	72,820	0	2,396	0	54	1	0	2,222	0	0	-227	0
20	3352.80	72,839	19	2,141	0	41	0	0	2,237	0	1	75	0
21	3352.72	72,762	-77	2,254	0	34	0	1	2,384	0	0	20	0
22	3353.03	73,060	298	2,647	0	31	1	0	2,266	0	0	-113	0
23	3352.16	72,224	-836	678	0	29	1	0	1,833	0	1	292	0
24	3350.30	70,458	-1,766	18	0	27	0	0	1,809	0	1	-1	0
25	3348.40	68,679	-1,779	17	0	25	0	0	1,731	0	1	-89	0
26	3347.13	67,503	-1,176	513	0	38	1	0	1,648	0	60	-18	0
27	3347.13	67,503	0	2,939	0	35	1	0	2,821	0	91	-61	0
28	3347.36	67,715	212	3,433	0	31	0	0	3,111	0	91	-50	0
29	3348.03	68,335	620	3,634	0	29	0	1	2,914	0	32	-96	0
30	3348.73	68,986	651	3,532	18	27	1	0	2,944	0	1	20	0
Total			307	61,962	18	1,796	21	3	61,782	0	284	-1,379	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3348.73	68,986											
1	3348.93	69,173	187	3,235	0	26	2	0	2,926	0	1	-145	26
2	3349.15	69,379	206	3,222	0	25	2	0	2,975	0	0	-64	25
3	3349.32	69,538	159	3,231	0	23	2	0	3,062	0	0	-31	23
4	3349.72	69,913	375	3,203	0	21	2	0	2,842	0	0	-5	21
5	3350.00	70,176	263	3,474	0	18	2	0	3,032	0	1	-194	18
6	3350.39	70,544	368	3,427	0	16	1	0	3,068	0	0	-6	16
7	3350.61	70,752	208	3,415	0	15	2	1	3,134	0	0	-85	15
8	3350.84	70,970	218	3,374	0	13	2	0	3,217	0	0	50	13
9	3350.98	71,102	132	3,497	0	13	2	0	3,333	0	1	-42	13
10	3350.61	70,752	-350	3,184	0	12	2	1	3,482	0	0	-61	12
11	3350.89	71,017	265	3,518	0	12	2	0	3,293	0	0	30	12
12	3351.20	71,311	294	3,526	0	12	2	0	3,215	0	1	-26	12
13	3352.19	72,255	944	4,024	0	11	2	1	3,079	0	0	-9	11
14	3352.72	72,762	507	3,523	0	11	2	0	3,023	0	1	-1	11
15	3352.58	72,628	-134	3,235	0	10	2	0	3,369	0	0	-8	10
16	3352.80	72,839	211	3,433	0	10	2	0	3,096	0	0	-134	10
17	3352.89	72,926	87	3,043	0	9	2	0	3,055	0	1	93	9
18	3352.44	72,494	-432	2,682	0	9	2	1	2,967	0	0	-153	9
19	3352.19	72,255	-239	3,029	0	8	2	0	3,145	0	0	-129	8
20	3352.30	72,360	105	3,220	0	8	2	0	3,180	0	1	60	8
21	3352.27	72,331	-29	3,226	0	7	2	0	3,208	0	0	-52	8
22	3352.27	72,331	0	3,149	0	7	2	1	3,143	0	1	-9	8
23	3352.52	72,571	240	3,336	0	7	1	0	3,072	0	0	-30	7
24	3352.66	72,705	134	3,345	0	7	1	0	3,170	0	0	-47	7
25	3352.83	72,868	163	3,143	0	6	1	0	2,988	0	1	4	6
26	3353.17	73,195	327	3,102	0	6	1	1	2,688	0	0	-91	6
27	3353.11	73,137	-58	2,702	0	6	1	0	2,669	0	0	-96	6
28	3353.28	73,301	164	2,744	0	6	1	1	2,600	0	0	16	6
29	3353.25	73,272	-29	2,636	0	5	1	0	2,596	0	0	-73	5
30	3353.14	73,166	-106	2,736	0	4	1	0	2,804	0	1	-40	5
31	3353.17	73,195	29	2,555	0	4	1	1	2,395	0	0	-133	5
Total			4,209	99,169	0	347	52	8	93,826	0	10	-1,411	347

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3353.17	73,195											
1	3353.17	73,195	0	2,729	0	5	0	0	2,812	0	1	79	5
2	3353.42	73,436	241	2,511	0	4	7	0	2,231	0	0	-36	4
3	3353.87	73,871	435	2,698	0	4	3	1	2,297	0	1	35	4
4	3353.79	73,794	-77	2,706	0	3	3	0	2,666	0	0	-117	3
5	3353.37	73,388	-406	2,449	0	3	2	1	2,859	0	0	4	3
6	3352.89	72,926	-462	2,478	0	3	3	0	2,788	0	1	-151	3
7	3352.52	72,571	-355	2,147	0	2	2	1	2,564	0	0	63	2
8	3352.19	72,255	-316	2,344	0	2	3	0	2,632	0	0	-27	2
9	3352.16	72,226	-29	2,416	0	2	2	1	2,629	0	1	186	2
10	3351.93	72,006	-220	2,299	0	2	3	0	2,584	0	0	66	2
11	3351.85	71,930	-76	2,530	0	1	2	1	2,541	0	0	-63	1
12	3351.74	71,822	-108	2,431	0	1	3	0	2,638	0	1	102	1
13	3351.71	71,796	-26	2,509	0	1	3	1	2,525	0	0	-7	1
14	3351.85	71,930	134	2,599	0	1	3	0	2,432	0	0	-31	1
15	3351.51	71,606	-324	2,526	0	1	3	1	2,621	0	1	-225	1
16	3351.71	71,796	190	2,771	0	1	4	0	2,601	0	0	23	1
17	3352.61	72,657	861	3,285	0	1	4	0	2,440	0	1	20	1
18	3352.58	72,628	-29	2,605	0	1	5	0	2,492	0	0	-138	1
19	3352.05	72,121	-507	2,075	0	1	3	1	2,593	0	1	15	1
20	3351.71	71,796	-325	2,405	0	1	6	0	2,603	0	0	-122	1
21	3351.51	71,606	-190	2,427	0	1	3	0	2,511	0	1	-103	1
22	3351.54	71,634	28	2,522	0	0	4	1	2,552	0	0	63	0
23	3351.74	71,825	191	2,877	0	0	4	0	2,572	0	0	-110	0
24	3352.52	72,571	746	3,388	0	0	5	0	2,589	0	1	-47	0
25	3352.44	72,494	-77	2,525	0	0	3	1	2,486	0	0	-112	0
26	3352.27	72,331	-163	2,507	0	0	4	0	2,621	0	0	-45	0
27	3351.85	71,930	-401	2,286	0	0	4	1	2,614	0	1	-67	0
28	3351.63	71,720	-210	2,544	0	0	4	0	2,692	0	0	-58	0
29	3351.37	71,473	-247	2,515	0	0	4	1	2,614	0	0	-143	0
30	3351.63	71,720	247	2,825	0	0	6	0	2,574	0	1	3	0
Total			-1,475	76,929	0	41	105	12	77,373	0	12	-943	41

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.63	71,720											
1	3352.13	72,197	477	3,146	0	0	4	0	2,487	0	0	-178	0
2	3352.21	72,274	77	1,661	0	0	5	0	2,531	0	0	952	0
3	3351.18	71,292	-982	2,567	0	0	3	1	2,571	0	1	-973	0
4	3351.29	71,397	105	2,607	0	0	5	0	2,426	0	0	-71	0
5	3351.46	71,558	161	2,599	0	0	4	0	2,376	0	0	-58	0
6	3351.40	71,501	-57	2,203	0	0	4	1	2,327	0	1	73	0
7	3351.29	71,397	-104	2,516	0	0	4	0	2,526	0	0	-90	0
8	3351.85	71,930	533	2,692	0	0	5	0	2,106	0	0	-48	0
9	3351.63	71,720	-210	1,603	0	0	3	1	2,255	0	1	447	0
10	3351.32	71,425	-295	2,034	0	0	5	0	2,400	0	0	76	0
11	3350.75	70,884	-541	1,722	0	0	4	1	2,217	0	0	-41	0
12	3349.86	70,045	-839	1,496	0	0	5	0	2,343	0	1	14	0
13	3349.41	69,622	-423	1,859	0	0	6	1	2,377	0	0	102	0
14	3349.83	70,016	394	2,831	0	0	5	0	2,315	0	0	-117	0
15	3350.61	70,752	736	3,075	0	0	4	1	2,282	0	1	-51	0
16	3350.50	70,648	-104	2,485	0	0	6	0	2,563	0	0	-20	0
17	3349.83	70,016	-632	1,679	0	0	6	0	2,342	0	0	37	0
18	3349.41	69,622	-394	2,043	0	0	3	1	2,291	0	1	-141	0
19	3349.72	69,913	291	2,368	0	0	4	0	2,284	0	0	211	0
20	3349.66	69,857	-56	2,414	0	0	4	0	2,288	0	0	-178	0
21	3350.16	70,327	470	2,850	0	0	4	1	2,279	0	1	-95	0
22	3351.23	71,340	1,013	3,212	0	0	6	0	2,166	0	0	-27	0
23	3351.32	71,425	85	2,223	0	0	3	1	2,186	0	0	52	0
24	3351.40	71,501	76	2,212	0	0	4	0	2,190	0	1	59	0
25	3351.29	71,397	-104	2,156	0	0	4	1	2,187	0	0	-68	0
26	3350.73	70,865	-532	1,636	0	0	4	0	2,256	0	0	92	0
27	3350.47	70,620	-245	2,286	0	0	5	1	2,279	0	1	-245	0
28	3350.61	70,752	132	2,614	0	0	4	0	2,384	0	0	-94	0
29	3350.92	71,045	293	2,594	0	0	5	0	2,257	0	0	-39	0
30	3350.92	71,045	0	2,379	0	0	4	1	2,359	0	0	-15	0
31	3350.84	70,970	-75	2,290	0	0	5	0	2,361	0	0	1	0
Total			-750	72,052	0	0	137	12	72,211	0	9	-433	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3350.84	70,970											
1	3350.84	70,970	0	2,393	0	0	5	0	2,357	0	1	-30	0
2	3350.53	70,676	-294	2,111	0	0	5	1	2,425	0	0	26	0
3	3350.33	70,487	-189	1,874	0	0	6	0	2,175	0	0	118	0
4	3350.02	70,195	-292	2,356	0	0	5	1	2,507	0	1	-134	0
5	3350.64	70,780	585	3,048	0	0	6	0	2,417	0	0	-40	0
6	3350.61	70,752	-28	2,048	0	0	5	1	1,981	0	1	-88	0
7	3350.61	70,752	0	2,084	0	0	6	0	2,088	0	0	10	0
8	3350.95	71,074	322	2,184	0	0	5	1	1,993	0	1	138	0
9	3350.70	70,837	-237	1,951	0	0	5	0	2,094	0	0	-89	0
10	3349.94	70,120	-717	1,345	0	0	3	1	2,033	0	0	-25	0
11	3349.72	69,913	-207	1,862	0	0	4	0	2,098	0	0	33	0
12	3349.83	70,016	103	2,251	0	0	3	1	2,108	0	1	-35	0
13	3349.94	70,120	104	2,199	0	0	4	0	2,126	0	0	35	0
14	3350.02	70,195	75	2,078	0	0	4	1	1,974	0	0	-24	0
15	3349.52	69,725	-470	1,861	0	0	4	0	2,146	0	1	-180	0
16	3349.72	69,913	188	2,105	0	0	4	1	2,029	0	0	117	0
17	3349.94	70,120	207	2,550	0	0	5	0	2,318	0	0	-20	0
18	3350.28	70,440	320	2,313	0	0	5	1	2,011	0	1	25	0
19	3350.73	70,865	425	2,443	0	0	4	0	1,936	0	0	-78	0
20	3350.53	70,676	-189	2,376	0	0	4	1	2,530	0	0	-30	0
21	3350.73	70,865	189	2,345	0	0	6	0	2,232	0	0	82	0
22	3350.61	70,752	-113	2,107	0	0	3	1	2,188	0	0	-28	0
23	3349.94	70,120	-632	2,183	0	0	5	0	2,717	0	0	-93	0
24	3350.08	70,252	132	2,910	0	0	4	1	2,638	0	1	-134	0
25	3350.02	70,195	-57	2,591	0	0	5	0	2,594	0	0	-49	0
26	3350.64	70,780	585	3,415	0	0	4	1	2,689	0	0	-136	0
27	3350.61	70,752	-28	2,717	0	0	5	0	2,577	0	1	-162	0
28	3350.84	70,970	218	2,613	0	0	4	1	2,228	0	0	-162	0
29	3350.39	70,544	-426	1,879	0	0	5	0	2,231	0	0	-69	0
30	3350.16	70,327	-217	2,069	0	0	5	1	2,315	0	0	35	0
31	3349.94	70,120	-207	2,461	0	0	5	0	2,609	0	0	-54	0
Total			-850	70,722	0	0	144	15	70,364	0	9	-1,040	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3349.94	70,120											
1	3350.81	70,941	821	3,132	0	0	6	0	2,560	0	0	255	0
2	3351.63	71,720	779	3,443	0	0	7	0	2,643	0	1	-13	0
3	3351.71	71,796	76	2,769	0	0	7	0	2,676	0	0	-10	0
4	3352.47	72,523	727	3,085	0	0	8	0	2,559	0	0	209	0
5	3353.11	73,137	614	3,185	0	0	7	0	2,608	0	1	45	0
6	3352.89	72,926	-211	2,403	0	0	5	0	2,630	0	0	21	0
7	3352.52	72,571	-355	2,296	0	0	6	0	2,684	0	0	39	0
8	3352.27	72,331	-240	2,347	0	0	5	0	2,575	0	1	-6	0
9	3352.36	72,417	86	2,484	0	0	5	0	2,614	0	0	221	0
10	3352.16	72,226	-191	2,232	0	0	6	0	2,583	0	0	166	0
11	3351.63	71,720	-506	2,287	0	0	6	0	2,702	0	1	-84	0
12	3351.40	71,501	-219	2,418	0	0	4	0	2,599	0	0	-34	0
13	3351.79	71,873	372	2,630	0	0	5	0	2,210	0	0	-43	0
14	3351.12	71,235	-638	1,797	0	0	5	0	2,332	0	1	-97	0
15	3350.08	70,252	-983	1,670	0	0	4	0	2,421	0	0	-228	0
16	3350.53	70,676	424	3,164	0	0	5	0	2,700	0	0	-35	0
17	3350.61	70,752	76	2,569	0	0	4	0	2,543	0	1	55	0
18	3350.64	70,780	28	2,865	0	0	5	0	2,753	0	0	-79	0
19	3350.28	70,440	-340	2,497	0	0	5	0	2,796	0	0	-36	0
20	3349.55	69,753	-687	2,211	0	0	4	0	2,744	0	1	-149	0
21	3348.65	68,912	-841	2,022	0	0	5	0	2,864	0	0	6	0
22	3349.18	69,407	495	3,014	0	0	6	0	2,584	0	0	71	0
23	3350.39	70,544	1,137	3,317	0	0	6	0	2,399	0	1	226	0
24	3351.40	71,501	957	3,382	0	0	8	0	2,427	0	0	10	0
25	3351.93	72,006	505	2,927	0	0	5	0	2,426	0	0	9	0
26	3351.77	71,853	-153	2,254	0	0	6	0	2,459	0	1	59	0
27	3350.89	71,017	-836	2,013	0	0	7	0	2,650	0	0	-192	0
28	3350.08	70,252	-765	2,052	0	0	6	0	2,701	0	0	-110	0
29	3350.53	70,676	424	3,055	0	0	6	0	2,715	0	0	90	0
30	3351.12	71,235	559	3,077	0	0	8	0	2,685	0	0	175	0
Total			1,115	78,597	0	0	172	0	77,842	0	9	541	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.12	71,235											
1	3351.18	71,292	57	2,841	0	0	5	0	2,737	0	0	-42	0
2	3351.15	71,264	-28	2,874	0	0	5	1	2,922	0	0	26	0
3	3350.53	70,676	-588	2,736	0	0	6	0	3,204	0	1	-113	0
4	3348.79	69,042	-1,634	1,682	0	0	5	1	3,209	0	0	-101	0
5	3348.34	68,623	-419	3,253	0	0	5	0	3,729	0	0	62	0
6	3348.87	69,117	494	3,678	0	0	0	1	3,515	0	1	333	0
7	3349.38	69,594	477	3,848	0	0	8	0	3,563	0	0	200	0
8	3349.94	70,120	526	3,881	0	0	4	1	3,588	0	0	238	0
9	3350.56	70,705	585	3,681	124	0	1	0	3,059	0	1	-159	0
10	3350.31	70,469	-236	3,024	0	0	0	1	3,100	0	0	-159	0
11	3350.61	70,752	283	2,604	0	0	0	0	2,437	0	0	116	0
12	3351.65	71,739	987	3,722	0	0	0	0	2,564	0	0	-171	0
13	3352.07	72,140	401	3,748	0	0	0	0	3,418	0	1	72	0
14	3352.69	72,734	594	3,844	0	0	0	0	3,286	0	0	36	0
15	3352.97	73,003	269	3,601	0	0	0	1	3,168	0	0	-163	0
16	3353.42	73,436	433	3,740	0	0	3	0	3,265	0	0	-39	0
17	3353.25	73,272	-164	3,361	0	0	3	1	3,495	0	1	-25	0
18	3353.42	73,436	164	3,535	0	0	4	0	3,427	0	0	60	0
19	3353.25	73,263	-173	3,292	0	0	4	1	3,388	0	0	-72	0
20	3353.56	73,571	308	3,209	0	0	4	0	3,177	0	1	281	0
21	3353.31	73,330	-241	3,281	0	0	3	1	3,496	0	0	-22	0
22	3352.58	72,628	-702	2,895	0	0	4	0	3,631	0	0	38	0
23	3352.21	72,274	-354	2,910	0	0	4	1	3,356	0	1	98	0
24	3351.46	71,558	-716	2,667	0	1	4	0	3,323	0	0	-57	0
25	3350.42	70,572	-986	2,610	0	1	4	1	3,482	0	0	-110	0
26	3350.45	70,601	29	3,432	0	1	4	0	3,434	0	0	34	0
27	3350.87	70,998	397	3,624	0	0	4	1	3,238	0	0	16	0
28	3351.43	71,530	532	3,722	0	0	4	0	3,255	0	1	70	0
29	3351.63	71,720	190	3,510	0	0	4	1	3,368	0	0	53	0
30	3351.79	71,873	153	3,692	0	0	5	0	3,498	0	0	-36	0
31	3352.19	72,255	382	3,674	0	0	4	1	3,323	0	1	37	0
Total			1,020	102,171	124	3	101	14	101,655	0	9	501	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3352.19	72,255											
1	3352.19	72,255	0	3,451	0	0	4	1	3,412	0	0	-34	0
2	3352.64	72,686	431	3,802	0	0	4	0	3,409	0	0	42	0
3	3352.52	72,571	-115	3,931	0	0	4	0	4,014	0	0	-28	0
4	3353.25	73,272	701	4,152	0	0	4	1	3,440	0	0	-6	0
5	3350.98	71,102	-2,170	927	0	0	4	0	3,188	0	0	95	0
6	3348.11	68,409	-2,693	11	0	0	3	0	2,734	0	0	34	0
7	3345.28	65,809	-2,600	13	0	0	1	1	2,516	0	0	-95	0
8	3342.44	63,253	-2,556	23	0	0	1	0	2,679	0	0	101	0
9	3339.47	60,638	-2,615	15	0	0	2	0	2,669	0	0	41	0
10	3339.94	61,048	410	2,966	0	0	1	0	2,531	0	0	-24	0
11	3341.57	62,481	1,433	3,960	0	0	1	0	2,463	0	0	-63	0
12	3343.28	64,004	1,523	3,678	0	0	2	0	2,190	0	0	37	0
13	3345.00	65,554	1,550	3,760	0	0	1	0	2,319	0	0	110	0
14	3346.35	66,786	1,232	3,543	0	0	2	0	2,286	0	0	-23	0
15	3347.36	67,715	929	3,345	0	0	2	1	2,384	0	70	41	0
16	3347.89	68,205	490	3,008	0	0	1	1	2,421	0	99	4	0
17	3348.48	68,753	548	3,159	0	0	1	0	2,388	0	153	-69	0
18	3348.93	69,173	420	3,065	0	0	1	0	2,427	0	202	-15	0
19	3348.84	69,089	-84	2,477	0	0	1	0	2,286	0	202	-72	0
20	3348.93	69,173	84	1,602	0	0	1	0	1,296	0	204	-17	0
21	3349.32	69,538	365	1,634	0	0	1	1	1,078	0	206	17	0
22	3349.43	69,641	103	1,666	0	0	1	0	1,238	0	207	-117	0
23	3350.71	70,843	1,202	1,989	0	0	1	0	1,294	0	205	713	0
24	3350.73	70,857	14	1,592	0	0	1	0	1,175	0	205	-197	0
25	3350.45	70,601	-256	1,638	0	0	2	0	1,150	0	205	-537	0
26	3352.05	72,121	1,520	3,021	0	0	1	0	1,253	0	205	-42	0
27	3352.30	72,360	239	1,603	0	0	2	0	1,235	0	210	83	0
28	3352.72	72,762	402	1,897	0	0	2	0	1,207	0	210	-76	0
29	3352.89	72,926	164	1,643	0	0	2	1	1,260	0	210	-6	0
30	3352.13	72,197	-729	399	0	0	2	0	1,003	0	210	87	0
Total			-58	67,970	0	0	57	7	64,945	0	3,003	-16	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2012

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3352.13	72,197											
1	3351.37	71,473	-724	0	0	0	3	0	937	0	0	216	8
2	3351.37	71,473	0	8	0	1	3	0	1,073	0	0	1,067	8
3	3348.62	68,884	-2,589	9	0	2	3	0	1,112	0	1	-1,484	8
4	3347.55	67,890	-994	9	0	2	3	0	942	0	0	-60	8
5	3346.37	66,804	-1,086	0	10	1	3	0	1,066	0	0	-28	8
6	3345.33	65,854	-950	0	9	1	3	0	954	0	1	-2	8
7	3344.46	65,065	-789	0	9	1	4	1	761	0	0	-33	8
8	3344.89	65,455	390	1,203	0	1	3	0	813	0	0	2	8
9	3345.22	65,754	299	1,293	0	1	3	0	915	0	1	-76	8
10	3345.78	66,264	510	1,187	0	1	4	0	645	0	0	-29	8
11	3346.60	67,015	751	1,466	0	1	3	0	667	0	0	-46	8
12	3347.36	67,715	700	1,335	0	1	3	0	698	0	0	65	8
13	3348.34	68,623	908	1,284	0	60	3	0	529	0	1	97	8
14	3349.07	69,304	681	1,252	0	20	2	0	569	0	0	-20	8
15	3350.45	70,601	1,297	1,988	0	12	1	0	640	0	0	-62	8
16	3352.33	72,389	1,788	2,438	0	8	1	0	684	0	0	27	8
17	3353.25	73,272	883	1,459	0	5	1	0	522	0	1	-57	9
18	3352.92	72,955	-317	87	0	20	2	0	545	0	0	123	15
19	3352.41	72,465	-490	275	0	12	0	0	644	0	0	-133	20
20	3351.85	71,930	-535	491	0	8	3	0	902	0	1	-128	20
21	3351.65	71,739	-191	355	0	7	1	0	681	0	0	129	20
22	3351.93	72,006	267	999	0	6	1	0	603	0	0	-134	20
23	3352.24	72,302	296	921	0	5	0	1	602	0	1	-26	20
24	3352.19	72,255	-47	574	0	5	0	0	600	0	0	-26	20
25	3352.19	72,255	0	579	0	5	0	0	601	0	0	17	20
26	3352.19	72,255	0	576	0	11	0	0	645	0	1	59	20
27	3351.93	72,006	-249	617	0	7	0	0	772	0	0	-101	20
28	3351.85	71,930	-76	602	0	6	0	0	676	0	0	-8	16
29	3351.57	71,663	-267	822	0	2	0	0	1,164	0	1	74	15
30	3350.70	70,837	-826	982	0	2	0	0	1,697	0	0	-113	13
31	3349.83	70,016	-821	998	0	3	0	0	1,848	0	0	26	13
Total			-2,181	23,809	28	217	53	2	25,507	0	9	-664	389

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3349.83	70,016											
1	3350.11	70,280	264	2,156	0	5	3	0	1,866		0	-28	13
2	3350.42	70,572	292	2,202	0	5	3	0	1,823		0	-89	14
3	3350.81	70,941	369	2,113	0	5	3	0	1,755		1	10	14
4	3351.23	71,340	399	2,272	0	5	3	0	1,732		0	-143	15
5	3352.92	72,955	1,615	2,073	0	5	4	0	612		0	153	14
6	3353.14	73,166	211	904	0	5	6	0	489		1	-202	14
7	3352.22	72,280	-886	13	0	5	5	0	467		0	-432	14
8	3352.13	72,197	-83	156	0	4	4	0	679		0	440	14
9	3351.40	71,501	-696	13	0	4	5	0	639		1	-68	14
10	3350.95	71,074	-427	14	0	6	2	0	634		0	189	14
11	3350.39	70,544	-530	13	244	6	2	0	725		0	-66	12
12	3350.42	70,572	28	0	1,710	4	1	1	1,608		1	-75	12
13	3351.12	71,235	663	0	2,324	4	1	0	1,772		0	108	12
14	3351.01	71,131	-104	0	1,937	4	1	0	1,795		0	-249	11
15	3350.87	70,998	-133	0	1,527	5	1	0	1,793		1	130	11
16	3350.47	70,620	-378	1,248	363	4	1	0	1,865		0	-127	11
17	3349.91	70,092	-528	1,210	0	4	1	0	1,822		0	81	11
18	3350.05	70,223	131	2,186	0	4	3	0	2,005		1	-50	11
19	3350.19	70,355	132	2,361	0	4	5	0	2,246		0	18	11
20	3350.02	70,195	-160	2,116	0	4	4	0	2,151		0	-125	11
21	3349.88	70,063	-132	1,935	0	4	1	0	2,113		1	44	11
22	3349.13	69,360	-703	1,691	0	4	8	0	2,331		0	-59	11
23	3348.45	68,725	-635	1,899	0	4	4	0	2,261		0	-273	11
24	3348.03	68,335	-390	1,499	0	9	4	1	2,165		1	273	11
25	3348.03	68,335	0	1,910	0	24	5	0	2,012		0	83	11
26	3349.55	69,753	1,418	3,310	0	21	5	0	1,869		0	-39	11
27	3351.12	71,235	1,482	3,216	0	15	3	1	1,781		1	37	11
28	3351.79	71,873	638	2,464	0	12	5	0	1,837		0	4	11
29	3351.57	71,663	-210	1,786	0	11	6	0	1,925		0	-76	11
30	3352.07	72,140	477	2,350	0	10	1	0	1,854		0	-28	11
31	3351.79	71,873	-267	1,453	0	10	1	0	1,768		0	39	11
Total			1,857	44,563	8,105	216	102	3	50,394	0	9	-520	374

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3351.79	71,873											
1	3352.41	72,465	592	2,505	0	10	0	0	1,876		0	-47	11
2	3352.97	73,003	538	2,746	0	10	0	0	2,153		1	-64	11
3	3353.09	73,118	115	2,368	0	10	10	0	2,284		0	31	11
4	3353.42	73,436	318	2,620	0	10	2	0	2,285		0	-25	11
5	3351.71	71,796	-1,640	681	0	10	1	0	2,365		0	35	11
6	3350.42	70,572	-1,224	1,100	0	10	2	0	2,261		1	-70	6
7	3350.53	70,676	104	2,387	0	9	1	0	2,263		0	-28	0
8	3350.92	71,045	369	2,530	0	11	1	0	2,200		0	29	0
9	3351.19	71,302	257	2,496	0	12	2	0	2,226		1	-22	0
10	3350.59	70,733	-569	1,508	0	11	1	0	2,172		0	85	0
11	3350.11	70,280	-453	1,536	0	10	2	0	1,908		0	-89	0
12	3349.43	69,641	-639	1,334	0	8	1	0	1,987		1	8	0
13	3348.40	68,679	-962	876	0	8	1	0	1,841		0	-4	0
14	3348.48	68,753	74	1,695	0	8	1	0	1,603		0	-25	0
15	3348.65	68,912	159	1,970	0	8	1	0	1,735		1	-82	0
16	3349.15	69,379	467	2,595	0	8	2	0	2,215		0	81	0
17	3349.26	69,482	103	2,139	0	8	1	0	2,027		0	-16	0
18	3349.52	69,725	243	2,001	0	8	2	0	1,654		1	-109	0
19	3349.52	69,752	27	1,573	0	8	1	0	1,662		0	109	0
20	3349.60	69,800	48	961	0	10	3	0	871		0	-49	0
21	3350.36	70,516	716	1,912	0	12	1	0	1,188		1	-18	0
22	3351.04	71,159	643	1,752	0	9	1	0	1,112		0	-5	0
23	3351.63	71,720	561	1,794	0	8	1	0	1,208		0	-32	0
24	3352.24	72,302	582	1,803	0	7	2	0	1,198		1	-27	0
25	3352.38	72,436	134	1,441	0	6	1	0	1,222		0	-90	0
26	3351.77	71,853	-583	758	0	6	2	0	1,354		0	9	0
27	3351.71	71,796	-57	1,355	0	6	0	0	1,490		1	73	0
28	3351.18	71,292	-504	974	0	7	3	0	1,470		0	-12	0
Total			-581	49,410	0	248	46	0	49,830	0	9	-354	61

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3351.18	71,292											
1	3351.12	71,235	-57	1,311	0	8	3	0	1,453		0	80	0
2	3351.18	71,292	57	1,524	0	7	3	0	1,513		1	43	0
3	3351.40	71,501	209	1,618	0	7	3	0	1,299		0	-114	0
4	3351.43	71,530	29	1,327	0	9	3	0	1,288		0	-15	0
5	3351.51	71,606	76	1,469	0	10	4	0	1,404		1	6	0
6	3351.51	71,606	0	1,220	0	10	2	0	1,264		0	37	0
7	3351.63	71,720	114	1,066	0	13	3	0	1,094		0	132	0
8	3351.65	71,739	19	1,098	0	21	0	0	1,002		1	-97	0
9	3351.96	72,035	296	1,199	0	21	7	0	857		0	-60	0
10	3352.41	72,465	430	1,006	0	18	3	0	699		0	108	0
11	3352.47	72,523	58	1,054	0	16	4	0	905		1	-102	0
12	3352.19	72,255	-268	577	0	14	3	0	841		0	-15	0
13	3351.96	72,035	-220	597	0	13	4	0	839		0	13	0
14	3351.71	71,796	-239	712	0	11	3	0	781		0	-178	0
15	3351.63	71,720	-76	727	0	10	3	0	878		1	69	0
16	3351.74	71,825	105	974	0	9	2	0	902		0	27	0
17	3352.19	72,255	430	1,254	0	7	1	0	776		0	-54	0
18	3351.88	71,958	-297	578	0	7	1	0	926		0	45	0
19	3351.63	71,720	-238	693	0	6	2	0	937		1	3	0
20	3351.88	71,958	238	996	0	6	2	0	769		0	6	0
21	3352.07	72,140	182	1,045	0	6	1	0	782		0	-86	0
22	3352.19	72,255	115	1,046	0	6	1	0	977		1	43	0
23	3352.19	72,255	0	999	0	6	1	0	945		0	-59	0
24	3352.41	72,465	210	1,109	0	7	1	0	883		0	-21	0
25	3352.86	72,897	432	1,087	0	7	1	0	804		0	143	0
26	3352.33	72,389	-508	574	0	7	2	0	990		1	-96	0
27	3352.19	72,255	-134	1,049	0	6	2	0	1,115		0	-73	0
28	3351.82	71,901	-354	680	0	6	3	0	1,027		0	-10	0
29	3351.63	71,720	-181	948	0	6	3	0	1,127		1	-4	0
30	3351.18	71,292	-428	881	0	6	3	0	1,102		0	-210	0
31	3351.15	71,264	-28	1,058	0	7	3	0	1,174		0	84	0
Total			-28	31,476	0	292	78	0	31,353	0	9	-356	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3351.15	71,264											
1	3351.18	71,292	28	1,198	0	7	4	0	1,201		0	28	0
2	3351.15	71,264	-28	1,284	0	6	2	0	1,223		0	-93	0
3	3350.59	70,733	-531	718	0	6	4	1	1,161		1	-88	0
4	3349.83	70,016	-717	269	0	6	3	0	1,086		0	97	0
5	3349.94	70,120	104	1,211	0	6	0	0	1,070		1	-42	0
6	3349.83	70,016	-104	1,009	0	6	6	1	975		0	-137	0
7	3350.47	70,620	604	1,596	0	5	3	0	1,009		1	16	0
8	3350.53	70,676	56	1,323	0	6	3	0	1,219		0	-51	0
9	3349.94	70,120	-556	470	0	5	4	0	1,093		1	67	0
10	3349.27	69,491	-629	1,181	0	5	4	0	1,615		0	-196	0
11	3348.79	69,042	-449	1,093	0	5	4	1	1,433		1	-108	0
12	3347.89	68,205	-837	585	0	5	6	0	1,412		0	-9	0
13	3347.75	68,076	-129	1,154	0	4	5	0	1,321		1	40	0
14	3347.89	68,205	129	1,418	0	4	7	0	1,219		0	-67	0
15	3347.81	68,131	-74	1,399	0	4	2	0	1,340		1	-134	0
16	3348.17	68,465	334	1,526	0	4	0	1	1,256		0	61	0
17	3348.26	68,549	84	1,448	0	4	1	0	1,261		0	-106	0
18	3348.40	68,679	130	1,582	0	4	0	0	1,357		1	-98	0
19	3349.01	69,248	569	1,843	0	4	0	0	1,283		0	5	0
20	3348.79	69,042	-206	920	0	4	3	0	1,194		0	67	0
21	3350.14	70,308	1,266	2,547	0	4	3	0	1,192		1	-89	0
22	3351.82	71,901	1,593	2,906	0	4	3	0	1,339		0	25	0
23	3351.46	71,558	-343	1,072	0	4	3	1	1,428		0	13	0
24	3351.12	71,235	-323	1,035	0	4	3	0	1,336		0	-23	0
25	3351.34	71,444	209	1,546	0	4	2	0	1,317		0	-22	0
26	3350.53	70,676	-768	618	0	4	3	0	1,177		0	-210	0
27	3352.21	72,274	1,598	2,669	0	3	3	0	1,178		0	107	0
28	3352.89	72,926	652	1,865	0	3	2	0	1,092		0	-122	0
29	3353.20	73,224	298	1,498	0	3	1	1	1,252		0	51	0
30	3352.97	73,003	-221	1,498	0	3	1	0	1,252		0	-469	0
Total			1,739	40,481	0	136	85	6	37,291	0	9	-1,487	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3352.97	73,003											
1	3352.66	72,705	-298	1,230	0	3	5	1	1,249		0	-276	0
2	3353.28	73,301	596	1,861	0	3	5	0	1,255		0	-8	0
3	3352.58	72,628	-673	785	0	3	5	1	1,349		1	-105	0
4	3352.19	72,255	-373	790	0	3	5	0	1,229		0	68	0
5	3351.96	72,035	-220	905	0	4	5	1	1,123		1	1	0
6	3351.91	71,987	-48	1,284	0	8	5	0	1,364		0	29	0
7	3351.74	71,825	-162	1,214	0	8	5	1	1,340		1	-37	0
8	3351.63	71,720	-105	1,270	0	5	5	0	1,260		0	-115	0
9	3351.74	71,825	105	1,311	0	4	5	0	1,194		0	-11	0
10	3351.51	71,606	-219	943	0	4	5	0	1,143		0	-18	0
11	3351.85	71,930	324	1,604	0	3	0	0	1,204		1	-78	0
12	3352.83	72,868	938	2,052	0	3	5	1	1,075		0	-36	0
13	3353.03	73,060	192	1,514	0	3	0	0	1,271		0	-54	0
14	3352.80	72,839	-221	955	0	3	5	0	1,253		1	80	0
15	3352.66	72,705	-134	1,085	0	3	5	0	1,228		0	11	0
16	3352.44	72,494	-211	1,099	0	3	5	0	1,272		0	-36	0
17	3352.16	72,226	-268	1,128	0	3	0	1	1,387		1	-10	0
18	3352.21	72,274	48	1,492	0	2	5	0	1,404		0	-37	0
19	3351.99	72,063	-211	1,246	0	2	3	0	1,377		0	-79	0
20	3351.85	71,930	-133	1,139	0	2	5	0	1,277		0	8	0
21	3351.51	71,606	-324	972	0	2	5	1	1,234		1	-57	0
22	3351.23	71,340	-266	853	0	2	5	0	1,113		0	-3	0
23	3350.92	71,045	-295	968	0	2	0	0	1,258		1	-6	0
24	3350.75	70,884	-161	928	0	2	5	1	1,056		0	-29	0
25	3350.16	70,327	-557	715	0	2	5	0	1,216		0	-53	0
26	3350.98	71,102	775	2,040	0	2	5	0	1,136		1	-125	0
27	3351.91	71,987	885	1,921	0	1	5	1	1,063		0	32	0
28	3351.46	71,558	-429	774	0	1	5	0	1,174		0	-25	0
29	3350.84	70,970	-588	565	0	1	5	0	1,096		0	-53	0
30	3350.47	70,620	-350	812	0	1	0	0	1,160		0	-3	0
31	3350.50	70,648	28	1,247	0	1	5	1	1,098		0	-116	0
Total			-2,355	36,702	0	89	128	10	37,858	0	9	-1,141	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3350.50	70,648											
1	3351.29	71,397	749	1,829	0	1	4	0	1,054	0	-23	0	0
2	3351.91	71,987	590	1,676	0	1	4	1	1,195	0	113	0	0
3	3351.20	71,311	-676	618	0	1	6	0	1,261	0	-28	0	0
4	3350.95	71,074	-237	807	0	1	4	0	1,085	1	46	0	0
5	3350.53	70,676	-398	963	0	0	4	1	1,233	0	-123	0	0
6	3350.61	70,752	76	1,348	0	0	5	0	1,227	1	-39	0	0
7	3350.73	70,865	113	1,036	0	0	4	1	1,163	0	245	0	0
8	3350.61	70,752	-113	1,031	0	0	6	1	1,164	0	27	0	0
9	3351.63	71,720	968	2,092	0	0	6	0	1,077	1	-40	0	0
10	3351.46	71,558	-162	1,036	0	0	7	1	1,156	0	-34	0	0
11	3351.15	71,264	-294	694	11	0	6	0	1,044	0	51	2	0
12	3351.15	71,258	-6	1,205	0	0	6	0	1,099	0	-106	4	0
13	3351.46	71,552	294	1,312	0	0	5	1	1,106	0	94	5	0
14	3351.23	71,340	-212	913	0	0	7	0	1,126	0	8	4	0
15	3350.87	70,998	-342	833	0	0	5	1	1,164	1	-4	5	0
16	3350.73	70,865	-133	1,073	0	0	7	0	1,089	0	-110	5	0
17	3350.61	70,752	-113	1,060	0	0	6	1	1,107	0	-59	4	0
18	3350.39	70,544	-208	949	0	0	5	0	1,224	1	73	5	0
19	3350.45	70,601	57	1,256	0	0	4	1	1,136	0	-58	5	0
20	3350.39	70,544	-57	1,064	0	0	5	0	1,143	1	28	5	0
21	3350.16	70,327	-217	933	0	0	4	1	1,110	0	-35	4	0
22	3350.08	70,252	-75	932	0	0	5	0	1,094	0	92	5	0
23	3349.72	69,913	-339	763	0	0	7	0	1,132	1	38	5	0
24	3349.27	69,491	-422	722	0	0	3	1	1,140	0	0	5	0
25	3348.82	69,070	-421	730	0	0	1	0	1,106	1	-43	5	0
26	3349.04	69,276	206	1,282	0	0	0	1	1,115	0	40	5	0
27	3349.58	69,782	506	1,661	0	0	0	0	1,125	0	-30	5	0
28	3349.63	69,829	47	1,529	0	0	4	1	1,262	1	-214	5	0
29	3350.16	70,327	498	1,700	0	0	5	0	1,197	0	0	5	0
30	3351.51	71,606	1,279	2,420	0	0	4	1	1,170	0	34	5	0
Total			958	35,467	11	4	139	14	34,304	9	-57	93	0

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3351.51	71,606											
1	3351.71	71,796	190	1,235	0	0	7	1	1,140		0	103	4
2	3351.18	71,292	-504	924	0	0	4	1	1,183		0	-240	4
3	3351.18	71,292	0	1,145	0	0	7	0	1,213		1	76	4
4	3351.09	71,207	-85	1,237	0	0	7	0	1,294		0	-21	4
5	3351.37	71,473	266	1,379	0	0	7	1	1,088		0	-17	4
6	3351.63	71,720	247	1,619	0	0	8	0	1,311		1	-52	4
7	3352.07	72,140	420	1,709	0	0	8	0	1,123		0	-158	4
8	3352.21	72,274	134	1,479	0	0	7	1	1,203		0	-134	4
9	3352.30	72,360	86	1,286	0	0	8	0	1,186		1	-5	4
10	3352.66	72,705	345	1,470	0	0	8	0	1,157		0	40	4
11	3352.52	72,571	-134	1,274	0	0	8	1	1,292		0	-107	4
12	3352.21	72,274	-297	1,082	0	0	5	0	1,356		1	-17	4
13	3352.21	72,274	0	1,377	0	0	7	0	1,279		0	-91	4
14	3352.75	72,791	517	1,829	0	0	5	1	1,331		0	25	4
15	3352.66	72,705	-86	1,235	0	0	5	1	1,330		1	16	4
16	3352.36	72,417	-288	1,218	0	0	6	0	1,401		0	-99	4
17	3351.99	72,063	-354	1,134	0	0	5	1	1,374		0	-108	4
18	3351.54	71,634	-429	933	0	0	6	0	1,291		1	-64	4
19	3351.46	71,558	-76	1,357	0	0	4	1	1,364		0	-64	4
20	3351.68	71,768	210	1,624	0	0	3	1	1,386		0	-24	4
21	3352.30	72,360	592	2,069	0	0	3	1	1,442		1	-30	4
22	3352.21	72,274	-86	1,258	0	0	4	0	1,267		0	-73	4
23	3351.93	72,006	-268	1,161	0	0	3	1	1,427		0	2	4
24	3351.63	71,720	-286	1,256	0	0	4	0	1,418		1	-119	4
25	3351.48	71,577	-143	1,250	0	0	3	1	1,348		0	-41	4
26	3351.23	71,340	-237	1,047	0	0	3	1	1,277		0	-3	4
27	3351.96	72,035	695	1,774	0	0	4	0	1,207		1	133	4
28	3352.30	72,360	325	1,752	0	0	3	1	1,152		0	-271	4
29	3352.07	72,140	-220	1,031	0	0	3	1	1,253		0	6	4
30	3351.63	71,720	-420	1,070	0	0	4	0	1,384		0	-102	4
31	3351.37	71,473	-247	1,074	0	0	4	0	1,167		0	-150	4
Total			-133	41,288	0	0	163	16	39,644	0	9	-1,589	132

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3351.37	71,473											
1	3351.32	71,425	-48	1,064	0	0	5	0	1,135		0	28	10
2	3351.26	71,368	-57	1,143	0	0	5	0	1,219		0	24	10
3	3351.46	71,558	190	1,569	0	0	5	3	1,174		1	-196	10
4	3352.07	72,140	582	1,722	0	0	6	0	1,197		0	63	10
5	3351.91	71,987	-153	1,043	0	0	6	0	1,070		0	-120	10
6	3352.07	72,140	153	1,311	0	0	6	1	1,150		1	0	10
7	3351.93	72,006	-134	1,316	0	0	7	0	1,362		0	-81	10
8	3351.93	72,006	0	1,273	0	0	7	0	1,224		0	-42	10
9	3351.71	71,796	-210	1,101	0	0	7	0	1,187		0	-117	10
10	3352.07	72,140	344	1,728	0	0	7	0	1,226		0	-151	10
11	3352.58	72,628	488	1,645	0	0	7	1	1,159		0	10	10
12	3352.66	72,705	77	1,269	0	0	7	1	1,130		0	-54	10
13	3352.52	72,571	-134	1,072	0	0	7	1	1,160		1	-37	10
14	3352.36	72,417	-154	1,058	0	0	8	0	1,137		0	-67	10
15	3352.44	72,494	77	1,238	0	0	8	0	1,198		1	46	10
16	3352.21	72,274	-220	988	0	0	7	0	1,198		0	-3	10
17	3352.44	72,494	220	1,379	0	0	8	0	1,099		0	-52	10
18	3352.58	72,628	134	1,403	0	0	5	0	1,157		1	-106	10
19	3352.60	72,647	19	887	0	0	5	1	1,049		0	187	10
20	3351.76	71,835	-812	1,152	0	0	5	1	1,123		1	-834	10
21	3351.74	71,825	-10	896	0	0	7	0	1,153		0	254	10
22	3351.51	71,606	-219	902	0	0	6	0	1,129		0	14	10
23	3351.06	71,178	-428	881	0	0	6	0	1,139		1	-163	10
24	3351.49	71,587	409	1,192	0	0	6	0	1,061		0	284	10
25	3351.47	71,568	-19	1,433	0	0	6	0	1,117		0	-329	10
26	3351.99	72,063	495	1,479	0	0	5	0	1,215		0	236	10
27	3351.52	71,615	-448	919	0	0	5	0	1,228		1	-133	10
28	3351.05	71,169	-446	729	0	0	5	1	1,181		0	12	10
29	3350.98	71,102	-67	1,035	0	0	5	0	975		0	-122	11
30	3350.67	70,809	-293	794	0	0	5	1	1,254		1	174	11
31	3351.03	71,150	341	1,668	0	0	5	0	1,151		0	-171	11
Total			-323	37,289	0	0	189	11	35,957	0	9	-1,446	313

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3351.03	71,150											
1	3351.28	71,387	237	1,487	0	0	5	1	1,245		0	1	10
2	3351.73	71,815	428	1,619	0	0	5	0	1,189		1	4	10
3	3351.80	71,882	67	1,354	0	0	6	0	1,288		0	7	10
4	3351.54	71,634	-248	1,046	0	0	4	1	1,256		0	-33	10
5	3351.17	71,283	-351	1,079	0	0	4	0	1,396		1	-29	10
6	3350.86	70,989	-294	979	0	0	4	0	1,228		0	-41	10
7	3351.11	71,226	237	1,677	0	0	4	0	1,449		0	13	10
8	3351.77	71,853	627	2,181	0	0	3	1	1,376		1	-173	10
9	3351.31	71,416	-437	1,054	0	0	4	0	1,552		0	65	10
10	3350.84	70,970	-446	1,032	0	0	4	0	1,489		0	15	10
11	3350.54	70,686	-284	1,085	0	0	5	0	1,240		1	-123	10
12	3350.07	70,242	-444	1,011	0	0	4	1	1,370		0	-80	10
13	3349.63	69,829	-413	1,016	0	0	4	0	1,396		0	-29	10
14	3349.87	70,054	225	1,521	0	0	4	1	1,250		0	-41	10
15	3350.02	70,195	141	1,523	0	0	5	0	1,371		0	-6	10
16	3350.02	70,195	0	1,242	0	0	4	1	1,240		0	3	10
17	3350.09	70,261	66	1,424	0	0	6	0	1,263		1	-88	10
18	3350.54	70,686	425	1,970	0	0	6	0	1,519		0	-20	10
19	3350.91	71,036	350	1,628	0	0	6	0	1,257		0	-15	10
20	3350.77	70,903	-133	1,095	0	0	6	1	1,232		1	12	10
21	3351.00	71,121	218	1,352	0	0	5	0	1,109		0	-20	11
22	3351.56	71,653	532	1,466	0	0	5	0	1,172		0	243	11
23	3351.30	71,406	-247	1,261	0	0	7	0	1,134		1	-366	11
24	3351.38	71,482	76	1,136	0	0	4	1	1,055		0	0	11
25	3351.31	71,416	-66	1,080	0	0	6	0	986		0	-154	11
26	3351.30	71,406	-10	1,083	0	0	7	0	1,018		1	-67	11
27	3351.06	71,178	-228	853	0	0	5	0	1,012		0	-64	11
28	3351.60	71,691	513	1,552	0	0	5	1	1,072		0	39	11
29	3351.91	71,987	296	1,373	0	0	6	0	1,083		0	12	11
30	3351.99	72,063	76	1,193	0	0	5	0	1,055		0	-57	11
Total			913	39,372	0	0	148	9	37,302	0	8	-992	310

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3351.99	72,063											
1	3351.82	71,901	-162	1,047	0	0	5	0	1,141		64	1	10
2	3351.91	71,987	86	668	599	0	4	0	1,054		99	-24	10
3	3351.20	71,311	-676	0	1,232	0	4	0	1,755		99	-50	10
4	3350.61	70,752	-559	216	1,338	0	3	1	1,977		99	-33	10
5	3350.00	70,176	-576	1,384	0	0	4	0	1,854		99	-3	10
6	3350.13	70,299	123	1,837	0	0	4	0	1,790		40	120	10
7	3349.32	69,538	-761	1,107	0	0	4	0	1,878		0	14	10
8	3348.49	68,763	-775	1,175	0	0	4	0	1,849		1	-96	10
9	3348.92	69,164	401	2,001	0	0	2	1	1,699		0	102	10
10	3348.54	68,803	-361	1,497	0	0	2	0	1,766		0	-90	10
11	3348.09	68,391	-412	1,527	0	0	3	0	1,891		1	-44	10
12	3349.17	69,397	1,006	2,698	0	0	2	0	1,660		0	-30	10
13	3349.70	69,894	497	2,275	0	0	4	0	1,677		0	-97	10
14	3350.15	70,318	424	2,206	0	0	2	1	1,719		0	-60	10
15	3349.92	70,101	-217	1,378	0	0	3	0	1,670		1	79	10
16	3350.08	70,252	151	1,840	0	0	4	0	1,700		0	15	10
17	3349.99	70,167	-85	1,822	0	0	4	0	1,851		0	-52	10
18	3350.08	70,252	85	2,003	0	0	3	1	1,933		0	19	10
19	3351.04	71,159	907	2,599	0	0	4	0	1,752		1	65	10
20	3351.68	71,768	609	2,537	0	0	4	0	1,879		0	-45	10
21	3351.52	71,615	-153	1,607	0	0	4	0	1,775		0	19	10
22	3351.37	71,473	-142	1,847	0	0	4	0	1,881		1	-103	10
23	3351.22	71,330	-143	1,745	0	0	3	1	1,866		0	-18	10
24	3351.08	71,197	-133	1,783	0	0	4	0	1,873		0	-39	10
25	3351.06	71,178	-19	1,758	0	0	4	0	1,726		1	-46	10
26	3351.37	71,473	295	2,067	0	0	4	0	1,772		0	4	10
27	3351.96	72,035	562	2,424	0	0	3	1	1,710		1	-147	10
28	3351.89	71,968	-67	1,602	0	0	4	0	1,804		0	139	9
29	3352.11	72,178	210	1,875	0	0	4	0	1,689		1	29	9
30	3351.80	71,882	-296	1,506	0	0	4	0	1,653		0	-145	9
31	3351.81	71,892	10	1,644	0	0	3	1	1,645		1	16	9
Total			-171	51,675	3,169	0	110	7	53,889	0	509	-500	302

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3351.81	71,892											
1	3351.97	72,044	152	1,854	0	0	4	0	1,765		0	67	10
2	3352.50	72,551	507	2,079	0	0	3	1	1,597		0	29	10
3	3353.02	73,051	500	1,588	0	0	4	0	1,212		1	129	10
4	3352.80	72,839	-212	1,083	0	0	4	0	1,133		0	-158	9
5	3352.28	72,341	-498	852	0	0	4	0	1,200		0	-146	10
6	3352.10	72,169	-172	891	0	0	4	0	1,135		1	77	10
7	3352.27	72,331	162	1,268	0	0	3	0	1,195		0	92	10
8	3352.34	72,398	67	1,372	0	0	3	0	1,284		0	-18	10
9	3352.34	72,398	0	1,408	0	0	3	0	1,358		1	-46	10
10	3352.73	72,772	374	1,864	0	0	3	0	1,397		0	-90	10
11	3352.88	72,916	144	1,316	0	0	3	0	1,169		0	0	10
12	3352.49	72,542	-374	886	0	0	3	0	1,244		1	-12	11
13	3352.41	72,465	-77	1,122	0	0	3	0	1,275		0	79	11
14	3352.57	72,619	154	1,325	0	0	3	0	1,174		0	6	11
15	3352.64	72,686	67	1,232	0	0	3	0	1,087		1	-74	11
16	3352.79	72,830	144	1,456	0	0	3	0	1,282		0	-27	11
17	3352.93	72,964	134	1,475	0	0	2	1	1,235		0	-103	10
18	3352.94	72,974	10	1,213	0	0	2	0	1,183		1	-17	10
19	3353.02	73,051	77	1,278	0	0	3	0	1,173		0	-25	10
20	3352.93	72,964	-87	1,265	0	0	3	0	1,312		0	-37	10
21	3353.02	73,051	87	1,203	0	19	3	0	1,302		1	171	10
22	3352.19	72,255	-796	1,140	0	7	3	0	1,852		0	-88	10
23	3351.95	72,025	-230	1,631	0	2	3	0	1,830		0	-30	10
24	3353.77	73,774	1,749	3,557	0	1	3	0	1,802		1	-3	10
25	3353.99	73,987	213	1,804	0	1	3	0	1,665		0	76	12
26	3353.84	73,842	-145	1,350	0	1	3	0	1,324		0	-169	15
27	3353.83	73,832	-10	1,706	0	1	1	0	1,641		1	-74	16
28	3353.80	73,803	-29	811	0	1	0	0	876		0	35	16
29	3353.09	73,118	-685	11	0	1	0	0	727		0	30	16
30	3352.20	72,264	-854	0	0	0	0	0	834		0	-20	16
Total			372	40,040	0	34	82	2	39,263	0	9	-346	338

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2013

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3352.20	72,264											
1	3351.35	71,454	-810	6	0	1	0	0	809		0	-8	16
2	3350.53	70,676	-778	5	0	1	0	0	813		0	29	16
3	3349.46	69,669	-1,007	1	0	1	3	0	843		1	-162	16
4	3348.71	68,968	-701	0	0	0	4	0	895		0	198	16
5	3347.00	67,383	-1,585	0	0	0	5	0	727		0	-853	16
6	3346.97	67,355	-28	0	0	1	6	1	720		0	698	16
7	3346.21	66,657	-698	0	0	0	1	0	726		1	30	16
8	3345.61	66,109	-548	0	0	0	0	0	530		0	-18	16
9	3345.17	65,709	-400	0	0	1	0	0	240		0	-161	16
10	3344.99	65,545	-164	0	0	1	0	0	267		0	102	16
11	3344.80	65,373	-172	0	0	1	0	0	215		1	43	16
12	3344.53	65,129	-244	0	0	1	0	0	233		0	-12	16
13	3344.23	64,858	-271	0	0	1	4	0	241		0	-27	16
14	3343.66	64,344	-514	0	0	1	4	1	501		0	-9	16
15	3343.05	63,798	-546	0	0	1	4	0	545		1	3	17
16	3342.24	63,075	-723	0	0	1	6	0	755		0	37	17
17	3341.23	62,181	-894	0	0	1	6	0	892		0	3	17
18	3339.92	61,031	-1,150	0	0	1	6	0	1,116		0	-29	17
19	3338.94	60,178	-853	0	0	1	7	0	820		1	-26	17
20	3337.94	59,314	-864	0	0	1	7	0	858		0	0	17
21	3337.93	59,305	-9	763	0	1	8	0	761		0	-4	17
22	3339.14	60,351	1,046	1,397	0	1	8	0	377		0	33	17
23	3340.32	61,381	1,030	1,359	0	1	6	0	395		1	72	17
24	3341.50	62,419	1,038	1,388	0	1	2	0	369		0	20	17
25	3343.15	63,887	1,468	1,981	0	1	0	0	410		0	-104	17
26	3344.31	64,930	1,043	1,379	0	1	0	0	391		0	54	17
27	3345.42	65,936	1,006	1,416	0	1	0	0	427		1	17	17
28	3346.52	66,942	1,006	1,539	0	2	3	0	518		0	-14	17
29	3347.81	68,131	1,189	1,717	0	2	5	0	515		0	-10	17
30	3348.64	68,902	771	1,279	0	2	4	0	539		0	33	17
31	3350.08	70,252	1,350	1,834	0	2	4	0	468		1	-13	17
Total			-2,012	16,064	0	31	103	2	17,916	0	8	-78	513

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

January 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Dec 31	3350.08	70,252											
1	3351.92	71,997	1,745	2,454	0	2	4	0	713	0	0	6	17
2	3353.17	73,195	1,198	1,731	0	2	4	0	525	0	0	-6	17
3	3353.05	73,080	-115	380	0	2	4	0	478	0	1	-14	17
4	3352.93	72,964	-116	377	0	2	4	0	507	0	0	16	17
5	3352.78	72,820	-144	354	0	2	5	0	475	0	0	-20	17
6	3352.54	72,590	-230	220	0	2	7	0	458	0	1	14	17
7	3352.13	72,197	-393	14	0	2	3	0	401	0	0	-5	17
8	3351.69	71,777	-420	16	0	1	5	0	429	0	0	-3	17
9	3351.76	71,844	67	576	0	1	3	0	499	0	1	-7	17
10	3351.66	71,749	-95	395	0	1	4	0	462	0	0	-25	17
11	3352.03	72,102	353	802	0	1	4	1	470	0	0	25	17
12	3351.81	71,892	-210	450	0	1	4	0	639	0	1	-17	17
13	3351.64	71,730	-162	390	0	1	3	0	543	0	0	-7	17
14	3351.69	71,777	47	387	0	1	4	0	349	0	0	12	17
15	3351.43	71,530	-247	326	0	1	4	0	552	0	0	-18	17
16	3351.31	71,416	-114	389	0	1	4	0	481	0	1	-18	17
17	3351.29	71,397	-19	403	0	1	3	0	439	0	0	19	17
18	3351.56	71,653	256	675	0	1	4	0	406	0	0	-10	16
19	3352.23	72,293	640	1,121	0	1	3	0	497	0	0	18	16
20	3351.89	71,968	-325	321	0	1	3	0	653	0	1	10	16
21	3351.59	71,682	-286	383	0	1	4	0	658	0	0	-8	16
22	3351.40	71,501	-181	384	0	1	3	0	544	0	0	-19	16
23	3351.29	71,397	-104	445	0	1	3	1	550	0	0	4	16
24	3351.11	71,226	-171	431	0	1	3	0	635	0	1	36	16
25	3351.26	71,368	142	652	0	1	3	0	514	0	0	6	16
26	3351.28	71,387	19	594	0	1	3	0	556	0	0	-17	16
27	3351.33	71,435	48	621	0	1	3	0	550	0	0	-21	16
28	3351.28	71,387	-48	373	0	1	4	0	403	0	1	-14	16
29	3351.30	71,406	19	606	0	1	3	0	615	0	0	30	16
30	3351.24	71,349	-57	507	0	1	4	0	546	0	0	-15	16
31	3351.21	71,321	-28	527	0	4	4	0	531	0	0	-24	16
Total			1,069	17,304	0	41	116	2	16,078	0	8	-72	513

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

February 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jan 31	3351.21	71,321											
1	3351.32	71,425	104	539	0	2	4	0	482	0	0	49	16
2	3351.33	71,435	10	486	0	2	3	0	466	0	1	-8	16
3	3351.28	71,387	-48	497	0	2	4	0	533	0	0	-10	16
4	3351.20	71,311	-76	501	0	3	4	0	550	0	0	-26	16
5	3351.07	71,188	-123	515	0	3	2	0	640	0	0	1	16
6	3351.03	71,150	-38	590	0	3	3	0	615	0	1	-12	16
7	3350.94	71,064	-86	552	0	3	3	0	536	0	0	-102	16
8	3351.59	71,682	618	1,054	0	3	3	0	530	0	0	94	16
9	3352.16	72,226	544	1,125	0	4	3	1	542	0	0	-39	16
10	3352.08	72,149	-77	454	0	4	3	0	528	0	0	-4	16
11	3352.02	72,092	-57	515	0	4	3	0	537	0	1	-35	16
12	3352.00	72,073	-19	530	0	3	2	0	557	0	0	7	16
13	3352.00	72,073	0	496	0	3	2	0	492	0	0	-5	16
14	3351.97	72,044	-29	530	0	3	2	0	555	0	0	-5	16
15	3351.81	71,892	-152	518	0	3	3	0	644	0	1	-25	16
16	3351.80	71,882	-10	507	0	2	3	0	514	0	0	-2	16
17	3351.63	71,720	-162	366	0	2	3	0	510	0	0	-17	16
18	3351.59	71,682	-38	525	0	2	2	0	550	0	1	-12	16
19	3351.53	71,625	-57	526	0	2	3	0	581	0	0	-1	16
20	3350.68	70,818	-807	498	0	2	3	0	525	0	0	-779	16
21	3351.45	71,549	731	430	0	2	3	0	434	0	1	737	16
22	3351.45	71,549	0	566	0	2	3	0	577	0	0	12	16
23	3352.30	72,360	811	1,492	0	1	3	0	651	0	0	-28	15
24	3352.09	72,159	-201	373	0	1	3	0	574	0	1	3	15
25	3352.25	72,312	153	366	0	1	3	0	212	0	0	1	15
26	3352.05	72,121	-191	0	8	2	3	0	211	0	0	13	15
27	3351.88	71,958	-163	0	7	6	3	0	190	0	0	17	19
28	3352.33	72,389	431	0	5	385	2	0	130	0	27	200	22
Total			1,068	14,551	20	454	80	1	13,866	0	34	24	453

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

March 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Feb 28	3352.33	72,389											
1	3352.50	72,551	162	0	4	414	3	0	152	0	79	-22	24
2	3352.38	72,436	-115	19	0	202	0	0	162	0	79	-95	24
3	3352.25	72,312	-124	54	0	93	6	0	165	0	79	-21	24
4	3352.05	72,121	-191	0	11	38	3	0	142	0	79	-16	24
5	3351.89	71,968	-153	0	11	26	3	0	134	0	79	27	24
6	3351.66	71,749	-219	0	9	22	3	0	154	0	79	-14	24
7	3351.53	71,625	-124	0	7	19	3	0	115	0	55	23	24
8	3351.25	71,359	-266	0	9	17	3	0	286	0	0	-3	24
9	3351.12	71,235	-124	0	9	14	2	0	142	0	1	-2	24
10	3350.98	71,102	-133	0	7	12	3	0	151	0	0	2	24
11	3350.76	70,894	-208	0	9	10	3	1	203	0	1	-19	24
12	3350.48	70,629	-265	0	9	9	3	0	294	0	0	14	24
13	3350.23	70,393	-236	16	0	9	2	0	283	0	1	25	24
14	3350.24	70,403	10	277	0	9	4	0	272	0	0	-1	24
15	3350.19	70,355	-48	278	0	8	2	0	323	0	1	-8	24
16	3349.93	70,111	-244	0	11	8	3	0	267	0	0	7	24
17	3349.78	69,969	-142	0	11	7	3	0	162	0	1	6	24
18	3349.54	69,744	-225	0	13	7	0	0	239	0	0	-6	24
19	3349.35	69,566	-178	0	11	6	7	0	216	0	1	30	24
20	3349.30	69,519	-47	265	0	6	2	0	324	0	0	8	24
21	3349.24	69,463	-56	225	0	7	3	0	270	0	1	-14	7
22	3349.49	69,697	234	490	0	6	1	0	280	0	0	19	0
23	3349.49	69,697	0	304	0	6	2	0	321	0	1	14	0
24	3349.50	69,707	10	315	0	5	1	0	302	0	0	-7	0
25	3349.41	69,622	-85	214	0	5	2	0	275	0	1	-27	0
26	3349.39	69,603	-19	270	0	8	0	0	304	0	0	7	0
27	3349.30	69,519	-84	219	0	10	2	0	299	0	0	-12	0
28	3349.32	69,538	19	302	0	8	1	0	340	0	0	50	0
29	3349.30	69,519	-19	302	0	7	1	0	304	0	0	-23	0
30	3349.29	69,510	-9	305	0	7	2	0	293	0	0	-26	0
31	3349.29	69,510	0	316	0	6	1	0	289	0	0	-32	0
Total			-2,879	4,171	131	1,011	74	1	7,463	0	540	-116	494

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

April 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Mar 31	3349.29	69,510											
1	3349.39	69,603	93	314	0	22	1	0	285	0	0	43	0
2	3349.44	69,650	47	264	0	24	1	0	259	0	0	19	0
3	3349.57	69,772	122	304	0	21	2	0	217	0	1	17	0
4	3349.64	69,838	66	223	0	18	1	1	146	0	0	-27	0
5	3350.20	70,365	527	635	0	16	3	0	116	0	0	-5	0
6	3350.17	70,337	-28	187	0	14	3	0	230	0	1	5	0
7	3350.26	70,421	84	261	0	12	3	0	167	0	0	-19	14
8	3350.72	70,856	435	732	0	11	4	0	312	0	0	8	20
9	3350.69	70,828	-28	141	0	10	3	0	179	0	0	3	24
10	3350.53	70,676	-152	183	0	9	3	0	269	0	0	-72	24
11	3350.42	70,572	-104	226	0	8	4	0	353	0	0	19	24
12	3350.26	70,421	-151	269	0	7	2	0	385	0	0	-40	24
13	3350.19	70,355	-66	196	0	7	4	1	316	0	0	52	24
14	3350.13	70,299	-56	185	0	6	3	0	248	0	1	5	24
15	3349.86	70,045	-254	11	0	6	3	0	271	0	0	3	24
16	3349.80	69,988	-57	226	0	5	3	0	246	0	1	-38	24
17	3349.72	69,913	-75	226	0	5	3	0	285	0	0	-18	24
18	3349.66	69,857	-56	225	0	4	3	0	277	0	0	-5	24
19	3349.67	69,866	9	225	0	5	1	0	258	0	1	39	24
20	3349.64	69,838	-28	222	0	4	1	0	258	0	0	5	24
21	3349.77	69,960	122	397	0	4	1	1	284	0	0	7	24
22	3350.05	70,223	263	579	0	3	1	0	271	0	0	-47	24
23	3350.23	70,393	170	484	0	3	0	0	308	0	1	-8	24
24	3350.30	70,459	66	431	0	3	3	0	278	0	0	-87	24
25	3350.53	70,676	217	412	0	4	1	0	302	0	0	104	24
26	3350.89	71,017	341	667	0	22	2	0	319	0	1	-26	24
27	3351.32	71,425	408	797	0	9	2	0	380	0	0	-16	24
28	3351.64	71,730	305	493	0	7	3	1	205	0	0	14	24
29	3352.02	72,092	362	488	0	5	3	0	77	0	1	-50	24
30	3352.23	72,293	201	554	0	3	6	0	333	0	0	-17	24
Total			2,783	10,557	0	277	73	4	7,834	0	8	-132	562

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

May 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Apr 30	3352.23	72,293											
1	3352.41	72,465	172	535	0	4	7	0	344	0	0	-16	24
2	3352.24	72,302	-163	271	0	3	7	0	438	0	0	8	24
3	3352.23	72,293	-9	391	0	2	1	1	377	0	1	-22	24
4	3352.32	72,379	86	538	0	2	0	0	407	0	0	-47	24
5	3352.17	72,235	-144	318	0	2	0	0	335	0	0	-129	24
6	3352.23	72,293	58	180	0	2	4	0	182	0	1	63	24
7	3352.15	72,216	-77	368	0	2	2	1	448	0	0	4	24
8	3352.20	72,264	48	362	0	2	3	0	327	0	0	14	24
9	3352.09	72,159	-105	285	0	1	4	0	370	0	0	-17	24
10	3352.24	72,302	143	632	0	1	4	1	399	0	1	-85	24
11	3352.54	72,590	288	861	0	1	4	0	623	0	0	53	24
12	3352.29	72,350	-240	430	0	1	6	0	686	0	0	21	24
13	3351.70	71,787	-563	369	0	1	5	0	889	0	0	-39	24
14	3351.25	71,359	-428	497	0	1	5	1	885	0	1	-34	24
15	3350.94	71,064	-295	353	0	1	6	0	700	0	0	57	24
16	3350.26	70,421	-643	0	0	1	6	0	647	0	0	9	24
17	3350.04	70,214	-207	485	0	1	5	0	646	0	0	-42	24
18	3350.00	70,176	-38	750	0	1	4	1	786	0	1	3	24
19	3349.55	69,753	-423	346	0	1	5	0	735	0	0	-30	24
20	3349.72	69,913	160	886	0	1	5	0	680	0	0	-42	24
21	3349.64	69,838	-75	742	0	1	4	1	830	0	0	17	24
22	3350.04	70,214	376	894	0	1	4	0	505	0	1	-9	24
23	3350.10	70,271	57	661	0	1	5	0	594	0	0	-6	24
24	3350.31	70,469	198	810	0	1	3	1	602	0	0	-7	24
25	3350.44	70,591	122	759	0	1	5	0	640	0	0	7	24
26	3350.40	70,554	-37	551	0	1	5	0	634	0	1	51	24
27	3350.42	70,572	18	616	0	1	5	0	568	0	0	-26	24
28	3350.39	70,544	-28	641	0	0	5	0	614	0	0	-50	15
29	3350.33	70,487	-57	554	0	0	5	0	607	0	0	1	0
30	3350.28	70,440	-47	585	0	0	5	0	612	0	1	-14	0
31	3350.22	70,384	-56	537	0	0	5	0	578	0	0	-10	0
Total			-1,909	16,207	0	38	134	7	17,688	0	8	-317	663

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

June 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
May 31	3350.22	70,384											
1	3350.06	70233	-151	531	0	0	7	0	662	0	0	-13	0
2	3349.95	70129	-104	553	0	0	4	0	610	0	0	-43	0
3	3350.00	70176	47	762	0	0	5	1	689	0	1	-19	0
4	3350.00	70176	0	624	0	0	6	0	608	0	0	-10	0
5	3350.07	70242	66	658	0	0	6	0	492	0	0	-94	0
6	3350.11	70280	38	614	0	0	7	0	600	0	0	31	0
7	3350.05	70223	-57	572	0	0	6	1	622	0	1	1	0
8	3350.33	70487	264	925	0	0	7	0	628	0	0	-26	0
9	3350.09	70261	-226	599	0	0	7	0	813	0	0	-5	0
10	3349.98	70158	-103	565	0	0	7	0	642	0	0	-19	0
11	3350.06	70233	75	740	0	0	7	1	614	0	1	-42	0
12	3350.00	70176	-57	604	0	0	7	0	613	0	0	-41	0
13	3349.94	70120	-56	607	0	0	8	0	650	0	0	-5	0
14	3349.96	70139	19	735	0	0	9	0	642	0	0	-65	0
15	3350.17	70337	198	915	0	0	6	1	697	0	1	-12	0
16	3350.24	70403	66	751	0	0	8	0	633	0	0	-44	0
17	3350.23	70393	-10	637	0	0	8	0	639	0	0	0	0
18	3350.14	70308	-85	627	0	0	9	0	687	0	0	-16	0
19	3349.94	70120	-188	599	0	0	6	1	756	0	1	-23	0
20	3349.84	70026	-94	631	0	0	8	0	717	0	0	0	6
21	3349.41	69622	-404	596	0	0	10	0	838	0	0	-152	10
22	3349.49	69697	75	738	0	0	8	0	743	0	0	88	10
23	3349.13	69360	-337	634	0	0	7	1	933	0	1	-29	10
24	3349.45	69660	300	851	0	0	7	0	575	0	0	31	10
25	3349.78	69969	309	908	0	0	9	0	535	0	0	-55	10
26	3350.25	70412	443	1,153	0	0	7	0	642	0	0	-61	10
27	3350.56	70705	293	876	0	0	9	1	606	0	1	34	10
28	3350.56	70705	0	659	0	0	7	0	645	0	0	-7	10
29	3350.58	70724	19	607	0	0	7	0	592	0	0	11	10
30	3350.50	70648	-76	636	0	0	5	1	684	0	1	-21	10
Total			264	20,907	0	0	214	8	19,807	0	8	-606	101

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

July 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jun 30	3350.50	70,648											
1	3350.33	70,487	-161	579	0	0	3	0	723	0	0	-14	0
2	3350.77	70,903	416	715	0	0	0	0	658	0	0	359	0
3	3350.04	70,214	-689	478	0	0	0	1	767	0	1	-398	0
4	3349.99	70,167	-47	545	0	0	9	0	590	0	0	7	0
5	3349.97	70,148	-19	719	0	0	14	0	711	0	0	-13	0
6	3349.91	70,092	-56	757	0	0	10	0	782	0	0	-21	0
7	3350.07	70,242	150	795	0	0	11	1	623	0	1	-9	0
8	3349.91	70,092	-150	524	0	0	11	0	624	0	0	-39	0
9	3349.76	69,951	-141	631	0	0	8	0	724	0	0	-40	0
10	3349.50	69,707	-244	493	0	0	9	1	705	0	0	-22	0
11	3349.48	69,688	-19	776	0	0	9	0	762	0	1	-23	0
12	3349.45	69,660	-28	767	0	0	9	0	769	0	0	-17	0
13	3349.80	69,988	328	1,103	0	0	7	1	797	0	0	30	0
14	3349.81	69,998	10	878	0	0	8	0	939	0	0	79	0
15	3349.95	70,129	131	903	0	0	7	0	661	0	1	-103	0
16	3349.98	70,158	29	803	0	0	7	1	738	0	0	-28	0
17	3350.39	70,544	386	1,100	0	0	7	0	684	0	0	-23	0
18	3350.10	70,271	-273	484	0	0	6	0	701	0	1	-49	0
19	3349.95	70,129	-142	644	0	0	7	1	792	0	0	14	0
20	3350.02	70,195	66	779	0	0	7	0	706	0	0	0	0
21	3349.90	70,082	-113	627	0	0	8	0	707	0	0	-25	0
22	3350.00	70,176	94	703	0	0	8	1	569	0	0	-31	0
23	3349.80	69,988	-188	633	0	0	6	0	804	0	0	-11	0
24	3349.71	69,904	-84	746	0	0	8	0	818	0	1	-3	0
25	3349.74	69,932	28	766	0	0	7	1	683	0	0	-47	0
26	3349.84	70,026	94	811	0	0	7	0	726	0	0	16	0
27	3350.15	70,318	292	1,002	0	0	8	0	695	0	1	-6	0
28	3350.16	70,327	9	757	0	0	8	1	714	0	0	-25	0
29	3350.00	70,176	-151	650	0	0	8	0	817	0	0	24	0
30	3349.69	69,885	-291	525	0	0	9	1	763	0	1	-42	0
31	3349.45	69,660	-225	648	0	0	6	0	869	0	0	2	0
Total			-988	22,341	0	0	232	10	22,621	0	8	-458	405

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

August 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Jul 31	3349.45	69,660											
1	3349.54	69,744	84	728	0	0	8	0	609	0	0	-27	2
2	3349.86	70,045	301	962	0	0	10	0	624	0	0	-27	2
3	3350.00	70,176	131	917	0	0	6	0	801	0	1	22	2
4	3350.15	70,318	142	810	0	0	8	0	612	0	0	-48	2
5	3350.10	70,271	-47	611	0	0	9	0	668	0	0	19	2
6	3350.20	70,365	94	807	0	0	6	0	645	0	0	-62	2
7	3350.20	70,365	0	641	0	0	10	0	631	0	1	1	2
8	3350.14	70,308	-57	660	0	0	6	0	683	0	0	-28	2
9	3349.83	70,016	-292	653	0	0	9	0	865	0	0	-71	2
10	3349.77	69,960	-56	804	0	0	8	0	881	0	0	29	2
11	3349.59	69,791	-169	607	0	0	0	0	757	0	1	-18	2
12	3349.73	69,922	131	805	0	0	14	0	655	0	0	-5	2
13	3349.71	69,904	-18	692	0	0	8	0	663	0	0	-39	2
14	3349.58	69,782	-122	687	0	0	8	0	814	0	0	13	2
15	3349.66	69,857	75	799	0	0	8	0	699	0	1	-16	2
16	3349.78	69,969	112	803	0	0	0	0	659	0	0	-32	2
17	3349.70	69,894	-75	795	0	0	15	0	861	0	0	6	2
18	3349.65	69,847	-47	683	0	0	9	0	698	0	0	-23	2
19	3349.78	69,969	122	979	0	0	7	0	803	0	1	-46	2
20	3349.66	69,857	-112	607	0	0	7	0	695	0	0	-17	3
21	3349.65	69,847	-10	804	0	0	7	0	725	0	0	-82	3
22	3349.79	69,979	132	804	0	0	8	0	734	0	0	70	3
23	3349.99	70,167	188	930	0	0	5	0	695	0	1	-41	3
24	3350.29	70,450	283	1,011	0	0	6	0	709	0	0	-13	3
25	3350.37	70,525	75	810	0	0	7	0	697	0	0	-31	3
26	3350.44	70,591	66	808	0	0	7	0	719	0	0	-16	3
27	3350.48	70,629	38	813	0	0	8	0	753	0	1	-13	3
28	3350.59	70,733	104	806	0	0	6	0	665	0	0	-31	3
29	3350.74	70,875	142	812	0	0	7	0	662	0	0	-1	3
30	3350.61	70,752	-123	646	0	0	7	0	735	0	0	-27	3
31	3350.43	70,582	-170	648	0	0	8	0	755	0	0	-55	3
Total			922	23,942	0	0	231	0	22,172	0	7	-611	74

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

September 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Aug 31	3350.43	70,582											
1	3350.41	70,563	-19	678	0	0	8	0	729	0	0	40	10
2	3350.25	70,412	-151	646	0	0	6	0	714	0	0	-77	10
3	3350.21	70,374	-38	584	0	0	6	1	654	0	1	40	10
4	3350.25	70,412	38	585	0	0	7	0	521	0	0	-19	10
5	3350.18	70,346	-66	409	0	0	8	0	500	0	0	33	10
6	3350.19	70,355	9	571	0	0	5	0	547	0	1	-9	10
7	3350.78	70,913	558	1,120	0	0	7	0	531	0	0	-24	10
8	3350.44	70,591	-322	181	0	0	4	0	489	0	0	-10	10
9	3350.30	70,459	-132	312	0	0	6	1	419	0	1	-17	10
10	3350.24	70,403	-56	411	0	0	4	0	503	0	0	40	10
11	3350.06	70,233	-170	407	0	0	6	0	541	0	0	-30	10
12	3350.00	70,176	-57	502	0	0	6	0	552	0	1	0	10
13	3349.93	70,111	-65	479	0	0	5	0	523	0	0	-16	10
14	3350.04	70,214	103	543	0	0	4	0	470	0	0	34	10
15	3350.14	70,308	94	544	0	0	5	1	439	0	0	-5	10
16	3350.10	70,271	-37	498	0	0	5	0	448	0	0	-82	10
17	3350.20	70,365	94	520	0	0	4	0	429	0	0	7	10
18	3350.08	70,252	-113	514	0	0	4	0	445	0	0	-178	10
19	3350.23	70,393	141	550	0	0	3	1	463	0	1	59	10
20	3351.06	71,178	785	1,260	0	0	3	0	428	0	0	-44	10
21	3351.97	72,044	866	1,331	0	0	3	0	468	0	0	6	10
22	3351.89	71,968	-76	381	0	0	3	0	456	0	1	3	10
23	3351.35	71,454	-514	0	0	0	3	0	493	0	0	-18	10
24	3350.84	70,970	-484	0	0	0	3	1	490	0	0	10	10
25	3350.44	70,591	-379	0	0	0	3	0	395	0	0	19	10
26	3350.03	70,205	-386	198	0	0	3	0	520	0	0	-61	11
27	3350.01	70,186	-19	431	0	0	4	1	456	0	0	11	11
28	3350.66	70,799	613	1,133	0	0	5	0	491	0	0	-24	11
29	3350.64	70,780	-19	467	0	0	5	0	462	0	0	-19	11
30	3350.63	70,771	-9	428	0	0	5	0	429	0	0	-3	11
Total			189	15,683	0	0	142	6	15,005	0	6	-335	305

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

October 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Sep 30	3350.63	70,771											
1	3350.57	70,714	-57	388	0	0	4	0	427	0	0	-14	9
2	3350.47	70,620	-94	330	0	0	4	0	394	0	0	-26	9
3	3350.96	71,083	463	844	0	0	5	0	383	0	0	7	9
4	3350.93	71,055	-28	414	0	0	4	0	417	0	1	-20	9
5	3350.70	70,837	-218	214	0	0	4	1	408	0	0	-19	9
6	3350.70	70,837	0	382	0	0	4	0	414	0	0	36	9
7	3350.44	70,591	-246	212	0	0	5	0	421	0	0	-32	9
8	3350.42	70,572	-19	372	0	0	5	0	353	0	0	-33	9
9	3350.43	70,582	10	374	0	0	5	1	362	0	1	5	9
10	3350.29	70,450	-132	398	0	0	5	0	501	0	0	-24	9
11	3350.32	70,478	28	538	0	0	5	0	535	0	0	30	9
12	3350.26	70,421	-57	517	0	0	4	0	522	0	0	-48	9
13	3350.10	70,271	-150	500	0	0	4	0	593	0	1	-52	9
14	3350.12	70,289	18	598	0	0	5	0	588	0	0	13	9
15	3350.20	70,365	76	456	0	0	4	1	404	0	0	29	9
16	3350.35	70,506	141	614	0	0	4	0	464	0	0	-5	9
17	3350.36	70,516	10	469	0	0	5	0	438	0	0	-16	9
18	3350.81	70,941	425	815	0	0	5	0	349	0	0	-36	9
19	3350.69	70,828	-113	249	0	0	5	0	403	0	1	47	9
20	3350.92	71,045	217	294	327	0	5	0	380	0	0	-19	9
21	3351.13	71,245	200	0	506	0	4	1	343	0	0	42	9
22	3351.18	71,292	47	0	556	0	5	0	522	0	0	18	9
23	3351.12	71,235	-57	0	518	0	5	1	564	0	1	-4	9
24	3351.19	71,302	67	0	576	0	4	0	461	0	0	-44	9
25	3351.15	71,264	-38	0	576	0	3	0	578	0	0	-33	9
26	3351.08	71,197	-67	0	600	0	3	0	595	0	1	-68	9
27	3351.04	71,159	-38	0	601	0	3	0	595	0	0	-41	9
28	3351.16	71,273	114	0	556	0	2	0	446	0	0	6	9
29	3351.50	71,596	323	452	369	0	2	0	499	0	0	3	9
30	3352.11	72,178	582	951	225	0	0	0	582	0	1	-11	9
31	3352.20	72,264	86	0	596	0	3	0	476	0	0	-31	10
Total			1,493	10,381	6,006	0	125	5	14,417	0	7	-340	292

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

November 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Oct 31	3352.20	72,264											
1	3352.48	72,532	268	9	481	0	1	0	294	0	0	73	9
2	3352.43	72,484	-48	10	280	0	1	0	282	0	0	-55	9
3	3352.29	72,350	-134	11	87	0	3	0	220	0	0	-9	9
4	3352.07	72,140	-210	11	0	0	3	0	214	0	1	-3	9
5	3351.81	71,892	-248	11	0	0	3	1	264	0	0	9	9
6	3351.59	71,682	-210	9	0	0	3	0	201	0	0	-15	9
7	3351.31	71,416	-266	12	0	0	5	0	272	0	0	-1	9
8	3351.21	71,321	-95	11	298	0	6	0	364	0	0	-34	9
9	3351.04	71,159	-162	9	298	0	5	0	388	0	0	-76	9
10	3350.78	70,913	-246	11	232	0	4	0	398	0	0	-87	9
11	3350.58	70,724	-189	9	199	0	5	0	337	0	1	-54	9
12	3350.40	70,554	-170	11	199	0	5	0	348	0	0	-27	9
13	3350.70	70,837	283	175	469	0	4	0	367	0	0	10	9
14	3350.58	70,724	-113	247	55	0	4	0	374	0	0	-37	9
15	3350.49	70,639	-85	11	233	0	5	0	348	0	0	24	9
16	3350.15	70,318	-321	9	36	0	4	0	363	0	1	2	9
17	3350.12	70,287	-31	11	372	0	3	0	381	0	0	-30	9
18	3350.00	70,176	-111	9	286	0	4	0	405	0	0	3	9
19	3349.99	70,167	-9	11	406	0	4	0	399	0	1	-22	9
20	3350.11	70,280	113	10	583	0	3	0	459	0	0	-18	9
21	3350.40	70,554	274	10	596	0	3	1	351	0	0	23	9
22	3350.51	70,657	103	12	517	0	3	0	381	0	0	-42	9
23	3350.66	70,799	142	10	524	0	4	0	354	0	1	-33	9
24	3350.91	71,036	237	10	551	0	5	0	256	0	0	-63	9
25	3351.01	71,131	95	11	397	0	5	0	252	0	0	-56	9
26	3350.96	71,083	-48	10	298	0	4	0	291	0	0	-61	9
27	3350.94	71,064	-19	10	258	0	1	0	293	0	0	7	9
28	3350.85	70,979	-85	11	278	0	1	0	325	0	0	-48	9
29	3350.80	70,932	-47	11	278	0	0	0	301	0	1	-34	9
30	3350.59	70,733	-199	10	278	0	0	0	431	0	0	-56	9
Total			-1,531	712	8,489	0	101	2	9,913	0	6	-710	270

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 29. Silverwood Lake

Daily Operation

(in acre-feet except as noted)

Capacity: 74,970 ac-ft

December 2014

Date	Water Surface Elevation (in feet)	Storage	Storage Change	Inflow			Outflow					Computed Losses (-) And Gains (+)	Las Flores Ranch Exchange 1/
							Project			Del. To Mojave W.A.	Natural To Mojave River		
				Mojave Siphon Power-plant	Mojave Bypass Flume	Natural Stream Flow	Delivered to CLAWA	Rec.	San Bernardino Tunnel				
Nov 30	3350.59	70,733											
1	3350.56	70,705	-28	10	278	6	0	0	316	0	0	-6	9
2	3350.61	70,752	47	10	278	37	3	0	316	0	1	42	9
3	3350.72	70,856	104	9	278	13	3	0	246	0	0	53	9
4	3351.08	71,197	341	11	278	3	3	0	128	0	0	180	9
5	3351.07	71,188	-9	11	93	2	3	1	124	0	1	14	9
6	3350.82	70,951	-237	9	0	2	3	0	243	0	0	-2	9
7	3350.50	70,648	-303	10	0	1	4	0	324	0	0	14	9
8	3350.50	70,648	0	10	278	1	3	0	264	0	1	-21	9
9	3350.35	70,506	-142	9	70	1	4	0	240	0	0	22	9
10	3350.24	70,402	-104	303	182	1	3	0	601	0	1	15	9
11	3349.78	69,969	-433	1,040	0	84	0	0	1,402	0	0	-155	9
12	3350.37	70,525	556	1,581	0	25	0	0	1,379	0	58	387	9
13	3350.23	70,393	-132	1,267	0	11	11	1	1,360	0	43	5	9
14	3349.72	69,913	-480	810	0	7	6	0	1,308	0	0	17	9
15	3349.39	69,603	-310	207	625	6	4	0	1,095	0	0	-49	9
16	3349.46	69,669	66	2	967	22	5	0	918	0	0	-2	9
17	3349.83	70,016	347	3	715	13	0	0	411	0	1	28	17
18	3350.00	70,176	160	3	596	9	9	0	350	0	0	-89	19
19	3349.93	70,111	-65	8	358	7	4	0	394	0	0	-40	19
20	3349.82	70,007	-104	8	278	6	6	0	367	0	1	-22	19
21	3349.69	69,885	-122	8	278	6	5	0	391	0	0	-18	19
22	3349.63	69,829	-56	8	362	5	4	0	407	0	0	-20	19
23	3349.61	69,810	-19	9	292	5	2	0	281	0	0	-42	19
24	3349.63	69,829	19	9	278	5	1	0	223	0	1	-48	19
25	3349.63	69,829	0	8	278	4	0	0	251	0	0	-39	19
26	3349.62	69,819	-10	7	278	4	0	0	228	0	0	-71	19
27	3349.59	69,791	-28	7	278	4	0	0	260	0	0	-57	19
28	3349.56	69,763	-28	7	278	4	0	0	281	0	0	-36	19
29	3349.56	69,763	0	9	278	3	0	0	261	0	1	-28	19
30	3349.35	69,566	-197	9	278	3	4	0	261	0	0	-222	19
31	3349.48	69,680	114	9	278	3	7	0	278	0	0	109	19
Total			-1,053	5,411	8,430	303	97	2	14,908	0	109	-81	427

1/ Project water delivered from Mojave Siphon in exchange for like amount of natural stream flow.

Table 38. Southern Field Division Energy Data

(in kWh) **January 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,354,496
2	2,023,200
3	2,043,936
4	1,893,696
5	2,185,440
6	2,586,624
7	2,490,336
8	2,457,600
9	2,644,704
10	2,594,208
11	2,521,056
12	2,462,400
13	2,606,592
14	2,643,840
15	2,921,952
16	2,882,592
17	2,922,432
18	2,984,640
19	2,788,992
20	2,973,504
21	2,851,296
22	3,143,424
23	2,752,992
24	2,835,840
25	2,282,784
26	2,176,800
27	2,490,528
28	2,605,536
29	2,452,896
30	2,693,088
31	2,734,368
Total	80,001,792

(in kWh) **February 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,861,952
2	2,707,584
3	2,766,432
4	2,631,648
5	2,512,512
6	2,657,376
7	2,805,696
8	2,944,704
9	2,854,368
10	2,936,736
11	2,565,024
12	2,277,216
13	2,295,456
14	2,340,384
15	2,472,384
16	2,170,272
17	2,066,688
18	2,539,488
19	2,533,536
20	2,436,288
21	2,470,848
22	2,548,512
23	2,631,648
24	2,518,176
25	2,282,112
26	2,493,024
27	2,255,424
28	2,588,928
29	2,580,672
Total	73,745,088

(in kWh) **March 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,535,552
2	2,851,968
3	2,785,056
4	2,840,544
5	3,068,448
6	2,980,128
7	2,833,920
8	2,779,200
9	2,716,128
10	2,866,752
11	2,378,016
12	2,549,952
13	2,606,208
14	2,732,832
15	2,449,824
16	2,434,176
17	2,910,720
18	2,810,208
19	3,127,680
20	3,282,240
21	3,202,272
22	3,188,640
23	3,184,224
24	3,172,896
25	3,042,528
26	2,956,992
27	3,241,248
28	2,731,008
29	3,330,816
30	2,775,360
31	2,801,376
Total	89,166,912

Table 38. Southern Field Division Energy Data

(in kWh) **April 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,075,840
2	2,862,336
3	3,182,400
4	2,790,624
5	3,289,536
6	2,964,288
7	2,788,800
8	2,790,528
9	2,590,464
10	2,888,064
11	2,633,088
12	2,549,376
13	2,561,472
14	3,038,784
15	3,004,224
16	2,925,312
17	3,209,088
18	2,934,912
19	2,598,144
20	2,595,744
21	2,686,176
22	2,388,864
23	2,375,808
24	2,844,672
25	2,520,768
26	2,445,888
27	2,359,008
28	3,116,544
29	3,135,936
30	3,045,024
Total	84,191,712

(in kWh) **May 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,165,504
2	2,660,640
3	2,782,464
4	2,535,552
5	2,724,960
6	3,127,584
7	2,408,064
8	2,802,336
9	2,936,256
10	3,384,096
11	3,025,056
12	2,665,728
13	2,512,800
14	2,485,632
15	3,333,024
16	2,844,864
17	3,032,832
18	2,864,160
19	2,910,240
20	3,265,152
21	2,753,664
22	2,902,656
23	2,947,392
24	3,136,128
25	2,629,056
26	2,151,168
27	2,214,816
28	2,372,352
29	2,337,024
30	2,541,888
31	2,372,352
Total	85,825,440

(in kWh) **June 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,101,728
2	2,404,992
3	2,599,008
4	2,399,904
5	2,738,112
6	2,404,416
7	2,825,664
8	2,815,968
9	3,068,256
10	2,559,264
11	2,797,248
12	2,958,336
13	3,017,568
14	2,872,128
15	2,653,344
16	2,650,656
17	2,763,552
18	2,596,896
19	2,941,536
20	2,805,696
21	2,718,336
22	3,045,792
23	2,929,536
24	2,918,688
25	2,847,456
26	3,207,840
27	3,196,896
28	2,958,048
29	2,746,656
30	3,026,688
Total	83,570,208

Table 38. Southern Field Division Energy Data

(in kWh) **July 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,727,552
2	2,711,520
3	2,622,720
4	2,631,072
5	2,750,784
6	2,548,032
7	2,847,456
8	2,559,648
9	2,494,176
10	2,752,032
11	2,787,744
12	2,627,424
13	2,754,528
14	2,530,272
15	2,205,888
16	2,589,792
17	2,736,768
18	2,397,984
19	2,481,504
20	2,759,904
21	2,680,512
22	3,146,400
23	3,116,544
24	3,179,040
25	2,950,944
26	3,016,704
27	3,007,776
28	2,971,872
29	2,824,704
30	3,081,408
31	2,966,304
Total	85,459,008

(in kWh) **August 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,937,696
2	3,313,632
3	2,715,648
4	2,900,256
5	2,725,920
6	2,768,736
7	2,919,936
8	2,801,952
9	2,900,160
10	2,749,920
11	2,929,248
12	2,623,296
13	2,810,496
14	2,842,080
15	3,260,352
16	2,647,392
17	2,868,384
18	3,161,376
19	3,088,128
20	3,459,552
21	2,753,568
22	3,299,424
23	3,312,672
24	2,774,976
25	2,910,240
26	2,874,912
27	2,934,144
28	3,020,256
29	2,792,064
30	2,806,560
31	3,112,512
Total	91,015,488

(in kWh) **September 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,992,512
2	2,523,456
3	2,667,744
4	2,678,304
5	3,032,160
6	2,560,128
7	2,692,416
8	2,844,480
9	2,773,536
10	2,863,872
11	2,750,208
12	2,935,968
13	2,561,664
14	2,790,240
15	2,533,056
16	2,909,088
17	2,578,944
18	3,058,464
19	2,660,256
20	2,858,880
21	2,784,384
22	2,887,968
23	3,109,728
24	2,269,440
25	2,723,136
26	2,808,576
27	2,393,376
28	2,778,912
29	2,638,752
30	2,075,136
Total	81,734,784

Table 38. Southern Field Division Energy Data

(in kWh) **October 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,545,152
2	2,314,080
3	2,632,992
4	2,851,104
5	2,465,184
6	2,625,888
7	2,539,968
8	2,634,432
9	2,617,728
10	2,504,928
11	2,477,952
12	2,600,352
13	2,688,096
14	2,826,912
15	2,854,080
16	2,972,832
17	2,802,720
18	2,892,864
19	2,658,720
20	2,887,584
21	2,950,368
22	3,132,384
23	3,167,712
24	2,947,104
25	2,971,200
26	2,922,720
27	3,269,376
28	2,533,536
29	2,124,960
30	2,645,088
31	2,355,648
Total	84,413,664

(in kWh) **November 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,003,072
2	2,777,664
3	3,076,224
4	3,172,896
5	3,185,280
6	3,225,408
7	2,997,792
8	3,199,488
9	3,306,528
10	3,261,888
11	3,144,768
12	3,182,016
13	3,399,264
14	2,776,800
15	3,455,712
16	3,075,072
17	3,034,080
18	3,069,984
19	3,220,512
20	2,980,704
21	3,430,944
22	3,393,696
23	3,023,424
24	3,450,336
25	3,085,440
26	3,279,264
27	3,232,128
28	3,087,360
29	3,105,120
30	3,229,248
Total	94,862,112

(in kWh) **December 2000**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,170,112
2	3,300,000
3	3,308,160
4	3,506,784
5	3,048,576
6	3,452,352
7	3,226,176
8	3,438,048
9	3,034,560
10	3,557,856
11	3,460,608
12	3,149,760
13	3,280,320
14	3,534,816
15	2,893,536
16	3,340,704
17	3,258,816
18	3,241,824
19	3,112,128
20	2,936,928
21	2,937,984
22	2,913,024
23	3,226,656
24	2,773,152
25	2,498,400
26	2,865,792
27	3,067,296
28	2,823,072
29	2,596,224
30	2,514,336
31	2,883,744
Total	96,351,744

Table 38. Southern Field Division Energy Data

(in kWh) **January 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,111,168
2	2,957,664
3	2,865,888
4	2,821,152
5	3,353,088
6	2,746,272
7	3,331,008
8	2,977,824
9	2,748,384
10	2,492,736
11	1,390,464
12	1,200,672
13	1,885,632
14	2,061,024
15	2,182,272
16	1,623,264
17	2,028,768
18	1,593,984
19	1,426,464
20	1,484,160
21	749,376
22	991,680
23	1,190,496
24	878,592
25	999,936
26	653,664
27	573,984
28	733,440
29	1,341,696
30	1,935,648
31	1,933,632
Total	58,264,032

(in kWh) **February 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,798,752
2	1,940,736
3	1,866,528
4	1,639,488
5	889,920
6	867,072
7	910,464
8	692,852
9	1,385,088
10	2,112,480
11	1,692,960
12	1,629,792
13	1,439,616
14	1,680,864
15	1,217,952
16	1,946,112
17	1,801,056
18	1,814,592
19	1,426,848
20	1,507,296
21	1,258,752
22	1,168,416
23	1,355,424
24	2,064,576
25	1,344,192
26	1,466,880
27	1,417,440
28	1,483,296
Total	41,819,444

(in kWh) **March 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,504,992
2	1,964,832
3	1,798,752
4	1,791,360
5	1,400,832
6	1,408,416
7	1,529,760
8	1,375,104
9	1,365,792
10	2,098,272
11	1,660,224
12	1,682,880
13	1,958,208
14	2,007,264
15	1,885,152
16	2,860,224
17	2,194,368
18	2,662,848
19	2,680,896
20	2,136,672
21	2,169,984
22	1,914,720
23	2,144,736
24	1,728,864
25	2,310,336
26	2,270,688
27	2,113,824
28	2,218,944
29	2,254,080
30	2,295,264
31	2,239,488
Total	61,627,776

Table 38. Southern Field Division Energy Data

(in kWh) **April 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,355,552
2	2,715,552
3	2,325,792
4	2,690,208
5	2,705,280
6	2,957,472
7	2,269,152
8	2,103,264
9	2,205,216
10	2,705,088
11	2,818,176
12	2,485,440
13	2,194,752
14	2,280,672
15	1,971,936
16	2,637,984
17	2,039,424
18	2,282,208
19	2,035,968
20	1,654,176
21	1,632,768
22	1,866,336
23	1,670,016
24	1,789,056
25	1,696,128
26	2,015,136
27	1,867,968
28	2,389,920
29	2,118,048
30	2,566,944
Total	67,045,632

(in kWh) **May 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,002,560
2	2,146,656
3	1,887,456
4	2,392,704
5	2,243,040
6	1,866,528
7	2,389,728
8	2,446,272
9	2,326,752
10	2,315,904
11	2,424,288
12	2,255,424
13	2,337,312
14	2,761,536
15	2,379,264
16	2,349,696
17	2,237,376
18	2,258,496
19	2,312,544
20	2,623,872
21	2,260,128
22	2,468,640
23	2,553,120
24	2,459,904
25	2,497,056
26	2,323,776
27	2,410,752
28	2,343,936
29	2,468,544
30	2,527,584
31	2,303,424
Total	72,574,272

(in kWh) **June 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,442,432
2	2,132,736
3	2,362,368
4	2,302,560
5	2,282,016
6	2,264,448
7	2,181,696
8	2,330,208
9	1,960,224
10	2,279,424
11	2,789,760
12	2,555,040
13	2,745,408
14	2,802,528
15	2,681,472
16	2,624,352
17	2,202,336
18	2,354,592
19	2,614,368
20	2,369,952
21	2,236,224
22	2,883,936
23	2,635,392
24	2,913,984
25	2,930,400
26	2,882,880
27	2,861,568
28	2,933,568
29	2,906,016
30	2,375,712
Total	75,837,600

Table 38. Southern Field Division Energy Data

(in kWh) **July 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,731,008
2	2,592,576
3	2,579,328
4	2,805,792
5	2,675,520
6	2,464,416
7	2,708,640
8	2,645,088
9	2,516,256
10	2,940,864
11	3,029,184
12	2,566,176
13	2,514,048
14	2,221,152
15	2,437,632
16	2,467,008
17	2,374,944
18	2,323,776
19	2,319,264
20	2,351,808
21	2,204,544
22	2,358,336
23	2,249,568
24	2,389,728
25	2,624,832
26	2,499,360
27	2,443,488
28	2,417,472
29	2,548,224
30	2,688,384
31	2,646,816
Total	78,335,232

(in kWh) **August 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,828,928
2	2,591,904
3	2,286,912
4	2,103,840
5	2,528,832
6	2,539,968
7	2,418,816
8	2,666,496
9	2,742,336
10	2,222,208
11	2,726,112
12	2,203,776
13	2,845,440
14	2,265,600
15	2,573,280
16	2,742,432
17	2,690,016
18	2,581,248
19	2,127,264
20	2,315,040
21	2,259,168
22	2,332,416
23	2,453,088
24	2,613,600
25	2,432,160
26	2,411,136
27	2,292,768
28	2,639,424
29	2,881,344
30	2,632,320
31	2,466,528
Total	77,414,400

(in kWh) **September 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,348,160
2	2,299,680
3	2,537,184
4	2,582,592
5	2,262,336
6	2,692,416
7	2,265,696
8	2,498,784
9	2,155,488
10	2,431,392
11	2,361,792
12	2,293,728
13	2,086,848
14	2,366,400
15	1,957,056
16	2,034,528
17	2,382,528
18	2,279,040
19	2,416,032
20	2,169,792
21	2,191,104
22	2,321,376
23	1,984,128
24	2,159,808
25	2,472,768
26	2,159,520
27	2,359,680
28	2,532,000
29	2,525,472
30	2,330,304
Total	69,457,632

Table 38. Southern Field Division Energy Data

(in kWh) **October 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,225,376
2	2,515,680
3	2,229,312
4	2,538,144
5	2,838,336
6	2,470,368
7	2,507,520
8	2,756,544
9	2,556,288
10	2,904,000
11	2,450,784
12	2,299,968
13	2,342,496
14	2,153,760
15	2,292,480
16	2,261,856
17	2,555,808
18	2,348,352
19	2,294,016
20	2,290,752
21	2,596,704
22	2,490,144
23	2,663,712
24	2,402,496
25	2,774,592
26	2,396,256
27	2,600,160
28	2,072,736
29	1,515,264
30	1,180,128
31	1,300,800
Total	72,824,832

(in kWh) **November 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,810,560
2	2,316,960
3	2,752,704
4	2,321,472
5	2,394,144
6	2,807,328
7	2,313,888
8	2,720,352
9	2,621,088
10	2,490,912
11	2,588,832
12	2,419,392
13	1,946,208
14	2,305,344
15	2,311,872
16	2,503,296
17	2,424,576
18	2,497,824
19	2,652,576
20	2,555,040
21	2,768,928
22	2,413,536
23	2,843,232
24	2,484,864
25	2,413,056
26	1,937,472
27	1,504,992
28	1,810,272
29	890,400
30	934,848
Total	68,755,968

(in kWh) **December 2001**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,269,888
2	628,416
3	1,126,848
4	1,611,744
5	2,250,528
6	2,219,808
7	2,265,792
8	2,462,016
9	1,814,976
10	2,097,888
11	2,031,648
12	2,033,760
13	1,977,696
14	1,594,176
15	1,273,152
16	801,312
17	1,444,704
18	2,023,296
19	1,674,336
20	2,118,720
21	1,834,368
22	1,396,800
23	1,487,712
24	3,297,888
25	2,815,488
26	2,964,768
27	2,929,728
28	2,639,904
29	822,048
30	1,674,336
31	1,972,800
Total	58,556,544

Table 38. Southern Field Division Energy Data

(in kWh) **January 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,566,336
2	2,042,688
3	2,546,976
4	2,537,184
5	2,539,680
6	2,804,736
7	2,894,400
8	2,878,176
9	2,503,776
10	2,489,280
11	2,641,344
12	2,395,680
13	2,503,968
14	2,672,160
15	2,564,928
16	2,630,976
17	2,619,552
18	2,666,976
19	2,521,152
20	2,517,312
21	2,453,568
22	2,530,176
23	2,474,688
24	2,373,408
25	2,341,824
26	2,173,056
27	2,147,328
28	2,306,592
29	2,292,384
30	2,093,280
31	2,280,576
Total	76,004,160

(in kWh) **February 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,321,376
2	2,121,888
3	2,135,616
4	2,497,536
5	2,484,768
6	2,526,336
7	2,568,480
8	2,554,560
9	2,433,408
10	2,546,016
11	2,649,792
12	2,601,696
13	2,626,272
14	2,892,096
15	2,700,288
16	2,713,344
17	2,688,480
18	2,640,480
19	2,399,136
20	2,136,288
21	2,295,264
22	2,325,216
23	2,275,104
24	2,414,016
25	2,376,384
26	2,116,992
27	2,350,848
28	2,044,416
Total	68,436,096

(in kWh) **March 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,376,000
2	2,178,816
3	1,920,768
4	2,232,768
5	2,146,176
6	2,088,543
7	2,076,096
8	2,181,696
9	2,431,200
10	1,577,760
11	2,113,728
12	2,065,440
13	2,132,064
14	2,148,768
15	2,098,944
16	2,008,320
17	2,098,464
18	2,076,576
19	2,154,624
20	1,974,816
21	1,636,896
22	2,424,960
23	1,809,792
24	1,935,168
25	2,171,040
26	2,005,728
27	1,952,160
28	2,080,704
29	1,806,432
30	2,119,392
31	1,936,608
Total	63,960,447

Table 38. Southern Field Division Energy Data

(in kWh) **April 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,986,528
2	2,254,464
3	2,476,512
4	2,422,080
5	2,328,672
6	2,313,696
7	2,109,696
8	2,510,304
9	2,401,344
10	1,924,128
11	2,067,264
12	1,779,360
13	2,276,832
14	2,208,672
15	2,084,832
16	2,289,888
17	2,186,592
18	2,300,160
19	2,436,192
20	1,888,512
21	2,114,208
22	2,306,976
23	2,228,256
24	2,363,328
25	2,337,696
26	2,315,904
27	2,316,768
28	2,489,952
29	2,312,160
30	2,575,680
Total	67,606,656

(in kWh) **May 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,691,168
2	2,789,760
3	2,746,176
4	2,646,624
5	2,418,720
6	2,623,776
7	2,593,632
8	2,610,432
9	2,858,784
10	2,853,504
11	2,628,384
12	2,926,272
13	2,852,256
14	2,901,120
15	2,817,312
16	3,167,520
17	3,450,240
18	2,801,376
19	3,051,936
20	3,197,376
21	2,742,528
22	2,690,784
23	2,927,904
24	3,179,136
25	3,414,432
26	2,382,912
27	2,662,368
28	2,660,448
29	2,877,312
30	2,791,296
31	2,826,912
Total	87,782,400

(in kWh) **June 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,864,256
2	2,874,240
3	3,005,568
4	2,808,096
5	2,888,640
6	2,800,416
7	2,909,856
8	2,747,136
9	3,027,840
10	3,142,560
11	2,895,264
12	3,164,832
13	2,599,392
14	3,110,208
15	2,787,552
16	2,672,256
17	2,909,280
18	2,944,416
19	2,908,992
20	2,858,400
21	3,002,112
22	2,773,824
23	2,862,528
24	2,816,160
25	2,940,000
26	2,900,736
27	3,178,752
28	2,910,720
29	2,874,912
30	2,888,352
Total	87,067,296

Table 38. Southern Field Division Energy Data

(in kWh) **July 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,705,856
2	2,751,840
3	2,551,872
4	2,801,376
5	2,925,792
6	3,008,928
7	3,058,368
8	3,291,552
9	3,237,408
10	3,168,672
11	3,179,520
12	3,569,280
13	2,020,800
14	3,210,624
15	3,229,632
16	3,382,944
17	3,306,528
18	3,137,568
19	3,344,640
20	3,123,264
21	3,148,032
22	3,229,440
23	3,380,256
24	2,978,400
25	2,807,712
26	3,379,104
27	3,367,008
28	3,480,000
29	3,450,816
30	3,556,992
31	3,350,208
Total	97,134,432

(in kWh) **August 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,492,576
2	3,495,360
3	3,446,688
4	3,652,320
5	3,529,248
6	3,218,016
7	3,498,240
8	3,492,672
9	3,742,464
10	3,230,880
11	3,463,008
12	3,472,032
13	3,306,816
14	3,520,032
15	3,424,608
16	3,493,920
17	3,422,784
18	3,443,040
19	3,404,352
20	3,438,912
21	3,500,256
22	3,342,528
23	3,457,536
24	3,452,256
25	3,494,208
26	3,156,288
27	3,169,824
28	3,134,304
29	3,089,376
30	3,423,648
31	3,171,360
Total	105,579,552

(in kWh) **September 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,420,768
2	3,362,112
3	3,326,784
4	3,602,112
5	3,520,992
6	3,744,672
7	3,642,816
8	3,686,880
9	3,717,792
10	3,649,344
11	3,393,600
12	3,529,056
13	3,761,184
14	3,622,752
15	3,520,128
16	3,426,048
17	3,745,248
18	3,567,552
19	3,768,288
20	3,613,824
21	3,702,624
22	3,531,936
23	3,561,312
24	3,843,648
25	3,793,728
26	3,799,584
27	3,758,496
28	3,610,272
29	3,764,736
30	3,674,784
Total	108,663,072

Table 38. Southern Field Division Energy Data

(in kWh) **October 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,441,792
2	3,287,616
3	3,210,240
4	3,305,856
5	3,119,328
6	3,457,920
7	3,438,912
8	3,032,736
9	3,083,904
10	3,121,824
11	3,347,904
12	3,038,208
13	3,129,888
14	3,302,592
15	2,949,408
16	3,050,016
17	2,967,072
18	2,981,664
19	3,076,704
20	2,772,096
21	2,805,600
22	2,796,192
23	2,833,152
24	2,879,232
25	2,824,800
26	2,582,400
27	2,903,712
28	2,916,960
29	2,684,928
30	2,597,568
31	2,713,344
Total	93,653,568

(in kWh) **November 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,911,968
2	2,523,840
3	2,628,096
4	2,767,104
5	2,960,160
6	3,184,224
7	2,988,384
8	2,773,632
9	2,350,080
10	2,440,896
11	2,483,616
12	2,728,704
13	2,868,192
14	2,682,624
15	2,761,824
16	2,649,792
17	2,936,928
18	3,101,184
19	3,214,560
20	3,304,320
21	3,166,752
22	3,253,344
23	3,223,008
24	3,451,008
25	3,240,000
26	2,771,616
27	2,801,184
28	3,036,768
29	2,844,576
30	2,727,264
Total	86,775,648

(in kWh) **December 2002**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,767,680
2	2,764,224
3	2,984,928
4	2,900,832
5	2,998,944
6	2,788,512
7	2,952,480
8	2,820,288
9	1,945,440
10	1,786,176
11	1,852,128
12	1,801,824
13	1,654,080
14	1,574,688
15	1,764,192
16	1,725,408
17	2,313,024
18	1,242,528
19	1,511,424
20	1,561,728
21	1,334,304
22	2,342,592
23	2,437,152
24	2,563,872
25	2,565,600
26	2,656,704
27	2,528,160
28	2,441,856
29	2,413,920
30	2,131,872
31	1,929,408
Total	69,055,968

Table 38. Southern Field Division Energy Data

(in kWh) **January 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,878,432
2	1,898,976
3	1,930,560
4	1,752,192
5	2,289,120
6	2,497,440
7	1,734,816
8	1,788,672
9	1,544,928
10	926,208
11	832,704
12	1,006,752
13	924,288
14	1,465,728
15	1,678,272
16	1,496,832
17	1,917,312
18	1,800,768
19	1,842,624
20	1,771,008
21	1,615,296
22	1,491,072
23	1,445,376
24	1,735,104
25	1,607,040
26	1,365,696
27	1,465,440
28	2,131,488
29	2,184,000
30	2,494,464
31	2,498,688
Total	53,011,296

(in kWh) **February 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,418,048
2	2,543,136
3	2,268,864
4	2,205,984
5	2,176,608
6	2,319,072
7	2,155,008
8	2,216,160
9	2,244,288
10	2,245,248
11	1,838,304
12	1,843,776
13	1,647,360
14	1,630,752
15	1,693,344
16	1,674,624
17	1,712,832
18	1,732,608
19	1,924,320
20	1,581,888
21	1,511,424
22	1,626,624
23	1,586,688
24	1,915,680
25	1,713,216
26	2,145,120
27	2,661,696
28	3,012,768
Total	56,245,440

(in kWh) **March 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,421,920
2	3,165,888
3	2,960,256
4	2,743,392
5	2,916,576
6	3,321,504
7	3,355,296
8	3,505,344
9	3,763,680
10	3,197,664
11	3,246,240
12	3,482,592
13	3,190,560
14	3,473,568
15	3,603,840
16	3,390,912
17	3,336,864
18	3,376,800
19	3,044,832
20	2,966,496
21	3,263,808
22	2,855,616
23	2,815,968
24	2,594,016
25	2,508,384
26	2,602,272
27	2,891,040
28	3,016,896
29	3,620,736
30	3,676,800
31	3,544,128
Total	98,853,888

Table 38. Southern Field Division Energy Data

(in kWh) **April 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,432,000
2	3,602,400
3	3,609,408
4	3,611,712
5	3,501,888
6	2,954,784
7	3,182,304
8	3,146,304
9	3,424,512
10	3,336,096
11	2,946,048
12	3,314,592
13	3,046,656
14	3,037,728
15	2,886,048
16	2,814,144
17	2,600,352
18	2,543,136
19	2,520,384
20	2,361,216
21	2,104,512
22	1,860,768
23	2,201,856
24	2,387,808
25	3,034,272
26	3,304,320
27	3,626,112
28	3,441,888
29	3,538,464
30	3,599,520
Total	90,971,232

(in kWh) **May 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,757,920
2	4,027,296
3	3,737,952
4	3,739,488
5	3,122,016
6	3,145,056
7	3,510,816
8	3,402,912
9	3,447,744
10	3,335,520
11	3,142,752
12	3,644,256
13	3,620,256
14	3,803,616
15	3,680,640
16	3,802,272
17	3,766,464
18	3,774,528
19	3,635,808
20	3,448,704
21	3,576,480
22	3,328,032
23	3,952,224
24	3,895,104
25	4,068,576
26	3,925,920
27	3,669,120
28	3,582,816
29	3,697,152
30	3,655,200
31	4,048,992
Total	112,945,632

(in kWh) **June 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,942,336
2	3,763,872
3	3,662,976
4	3,535,008
5	3,470,304
6	3,687,168
7	3,756,480
8	3,715,392
9	3,774,720
10	3,758,496
11	3,731,616
12	3,352,896
13	3,288,864
14	3,224,640
15	2,976,672
16	3,298,176
17	3,254,784
18	3,616,032
19	3,722,304
20	3,672,000
21	3,624,960
22	3,477,120
23	3,452,256
24	3,217,632
25	3,071,040
26	3,382,848
27	3,183,552
28	2,902,080
29	3,472,224
30	3,576,288
Total	104,564,736

Table 38. Southern Field Division Energy Data

(in kWh) **July 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,532,704
2	3,667,104
3	3,794,208
4	3,754,368
5	3,885,504
6	3,458,880
7	3,743,904
8	3,817,632
9	3,736,032
10	3,751,200
11	3,529,632
12	3,616,320
13	3,639,744
14	3,702,048
15	3,660,384
16	3,457,728
17	3,849,696
18	3,742,464
19	3,686,208
20	3,736,800
21	3,667,104
22	3,645,312
23	3,749,472
24	3,471,072
25	3,660,576
26	3,639,072
27	3,632,448
28	3,616,800
29	3,754,848
30	3,690,144
31	3,699,168
Total	113,988,576

(in kWh) **August 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,592,224
2	3,673,056
3	3,590,688
4	3,799,968
5	3,721,152
6	3,539,808
7	3,666,048
8	3,805,344
9	3,739,584
10	3,678,720
11	3,710,016
12	3,845,088
13	3,848,832
14	3,727,008
15	3,762,720
16	3,726,528
17	3,755,232
18	3,797,184
19	3,874,944
20	3,765,024
21	3,690,912
22	3,773,856
23	3,679,008
24	3,616,224
25	4,069,344
26	3,696,960
27	3,708,768
28	3,709,536
29	3,715,872
30	3,790,368
31	3,862,464
Total	115,932,480

(in kWh) **September 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,708,864
2	3,892,896
3	3,727,392
4	3,666,432
5	3,746,976
6	3,665,184
7	3,976,416
8	3,830,400
9	3,841,248
10	3,806,976
11	3,657,216
12	3,693,120
13	3,793,824
14	3,688,512
15	3,828,864
16	3,559,872
17	3,846,720
18	3,678,720
19	3,814,752
20	3,681,792
21	3,745,536
22	3,734,016
23	3,698,304
24	3,654,912
25	3,741,888
26	3,718,176
27	3,615,648
28	3,779,328
29	3,782,784
30	3,758,400
Total	112,335,168

Table 38. Southern Field Division Energy Data

(in kWh) **October 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,692,640
2	3,645,696
3	3,843,744
4	3,620,832
5	4,014,912
6	3,942,048
7	3,782,208
8	3,740,640
9	3,724,416
10	3,923,808
11	3,615,360
12	3,547,104
13	3,830,112
14	3,739,584
15	3,779,328
16	3,754,944
17	3,916,512
18	3,624,960
19	4,028,064
20	4,173,120
21	3,797,088
22	4,016,256
23	3,817,728
24	3,935,232
25	3,293,760
26	1,257,696
27	3,257,088
28	2,329,728
29	2,264,832
30	1,046,016
31	1,080,768
Total	106,036,224

(in kWh) **November 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	943,104
2	1,073,664
3	1,158,528
4	1,425,216
5	850,752
6	1,739,520
7	2,978,400
8	3,441,120
9	3,028,608
10	3,409,440
11	3,622,368
12	3,585,120
13	3,657,024
14	3,481,632
15	3,749,568
16	2,906,304
17	2,425,248
18	2,321,088
19	2,458,272
20	2,350,368
21	2,708,352
22	2,625,312
23	2,519,616
24	2,580,768
25	2,263,008
26	2,161,152
27	1,893,504
28	2,384,160
29	2,244,288
30	2,076,576
Total	74,062,080

(in kWh) **December 2003**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,504,448
2	2,599,392
3	2,852,640
4	2,698,368
5	2,754,816
6	2,723,712
7	2,391,264
8	2,390,496
9	2,467,296
10	2,604,096
11	2,504,640
12	2,471,424
13	2,392,128
14	2,422,848
15	2,538,624
16	2,508,288
17	2,417,472
18	2,456,832
19	2,498,880
20	2,574,432
21	2,524,224
22	2,408,352
23	2,194,176
24	2,087,712
25	1,808,736
26	1,815,840
27	956,832
28	710,400
29	1,908,000
30	2,211,936
31	2,760,480
Total	72,158,784

Table 38. Southern Field Division Energy Data

(in kWh) **January 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,722,464
2	3,240,192
3	2,729,952
4	2,959,488
5	3,074,400
6	3,387,360
7	3,339,840
8	3,459,648
9	3,442,272
10	3,412,224
11	3,631,296
12	2,654,112
13	2,624,160
14	2,713,056
15	2,841,504
16	3,519,744
17	3,724,992
18	3,665,280
19	3,507,168
20	3,297,312
21	3,865,632
22	3,741,600
23	3,456,096
24	3,207,552
25	3,315,264
26	3,706,368
27	3,452,160
28	3,694,752
29	3,533,280
30	3,619,680
31	3,655,968
Total	103,194,816

(in kWh) **February 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,640,992
2	3,729,600
3	3,533,568
4	3,150,048
5	3,002,304
6	3,417,312
7	3,381,600
8	3,539,040
9	3,658,656
10	3,477,312
11	3,405,120
12	3,375,936
13	3,632,640
14	3,357,888
15	3,354,912
16	3,229,824
17	3,204,768
18	2,868,672
19	2,829,408
20	2,775,840
21	2,584,512
22	2,536,416
23	2,704,416
24	2,568,096
25	2,553,600
26	2,481,408
27	2,555,328
28	2,608,224
29	2,570,496
Total	89,727,936

(in kWh) **March 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,613,120
2	2,196,000
3	2,421,888
4	3,405,696
5	3,142,464
6	3,343,584
7	3,485,856
8	3,518,304
9	3,598,464
10	3,384,768
11	3,699,552
12	3,321,984
13	3,631,488
14	3,341,664
15	3,704,736
16	3,295,296
17	3,346,272
18	3,309,792
19	3,594,528
20	3,224,928
21	3,509,376
22	3,476,064
23	4,000,128
24	4,053,984
25	3,738,336
26	3,334,752
27	3,282,912
28	3,173,280
29	3,295,488
30	3,195,648
31	3,594,432
Total	104,234,784

Table 38. Southern Field Division Energy Data

(in kWh) **April 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,650,688
2	3,694,752
3	3,557,952
4	2,757,312
5	3,103,296
6	3,145,440
7	2,842,560
8	2,676,576
9	3,156,288
10	3,095,424
11	3,081,504
12	3,579,648
13	3,299,904
14	3,563,424
15	3,570,528
16	3,552,768
17	3,310,656
18	3,146,784
19	3,138,432
20	2,959,488
21	3,574,464
22	3,481,536
23	3,764,832
24	3,775,584
25	3,764,736
26	3,492,576
27	3,367,008
28	3,471,456
29	3,365,376
30	3,502,656
Total	100,443,648

(in kWh) **May 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,768,576
2	3,725,088
3	3,695,808
4	3,617,184
5	3,871,968
6	3,616,704
7	3,617,088
8	3,844,512
9	3,564,960
10	3,673,632
11	3,834,432
12	3,811,296
13	3,791,712
14	3,845,664
15	3,878,592
16	3,976,224
17	3,960,288
18	3,877,152
19	3,892,704
20	4,008,672
21	3,784,800
22	4,074,528
23	3,986,400
24	3,785,088
25	3,804,576
26	3,819,264
27	3,854,976
28	3,862,752
29	3,990,048
30	3,923,808
31	4,024,416
Total	118,782,912

(in kWh) **June 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,728,160
2	4,064,736
3	3,882,720
4	3,941,664
5	3,764,640
6	3,167,520
7	1,772,640
8	1,990,848
9	2,434,848
10	2,969,088
11	2,799,552
12	3,666,528
13	3,927,840
14	4,041,504
15	3,898,272
16	3,914,784
17	3,947,520
18	3,774,912
19	4,016,352
20	3,839,808
21	3,697,728
22	3,877,152
23	3,676,224
24	3,639,840
25	3,992,736
26	3,570,048
27	3,754,752
28	3,718,176
29	4,046,304
30	3,722,592
Total	107,239,488

Table 38. Southern Field Division Energy Data

(in kWh) **July 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,819,744
2	3,878,112
3	3,873,408
4	3,836,928
5	3,703,488
6	3,820,320
7	3,833,760
8	3,820,608
9	3,761,472
10	3,911,712
11	3,949,440
12	3,773,376
13	3,650,400
14	3,839,712
15	3,763,296
16	3,884,832
17	3,836,448
18	3,758,016
19	3,945,024
20	3,784,032
21	3,676,320
22	3,674,976
23	3,958,464
24	3,695,808
25	3,945,024
26	3,594,336
27	3,989,856
28	3,784,704
29	3,641,664
30	3,674,976
31	3,784,512
Total	117,864,768

(in kWh) **August 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,763,680
2	3,512,832
3	3,852,288
4	3,708,768
5	3,766,368
6	3,786,624
7	3,801,984
8	3,806,496
9	3,826,656
10	3,859,296
11	3,726,720
12	3,672,768
13	3,934,656
14	3,644,352
15	3,673,344
16	3,814,848
17	3,831,264
18	3,776,256
19	3,787,872
20	3,835,488
21	3,765,216
22	3,462,816
23	3,939,456
24	3,737,376
25	3,580,032
26	3,641,184
27	3,645,408
28	3,693,024
29	3,611,040
30	3,760,032
31	3,677,280
Total	112,218,144

(in kWh) **September 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,745,248
2	3,579,936
3	3,717,216
4	3,546,240
5	3,739,392
6	3,575,520
7	3,886,368
8	3,831,456
9	3,900,384
10	3,881,760
11	3,684,480
12	3,854,784
13	4,002,048
14	3,714,720
15	3,816,960
16	3,959,616
17	3,629,664
18	3,901,248
19	3,786,912
20	3,890,304
21	4,015,488
22	3,909,024
23	3,950,304
24	3,922,464
25	3,880,416
26	3,938,400
27	3,980,448
28	3,899,616
29	3,569,280
30	4,417,344
Total	115,127,040

Table 38. Southern Field Division Energy Data

(in kWh) **October 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,668,832
2	3,430,752
3	3,897,888
4	3,948,768
5	3,643,200
6	3,933,312
7	3,857,952
8	3,796,704
9	3,939,360
10	3,550,080
11	4,073,376
12	3,936,768
13	3,568,800
14	3,836,256
15	3,749,856
16	3,924,480
17	3,730,272
18	3,927,168
19	3,393,792
20	3,096,576
21	2,726,304
22	3,107,328
23	2,737,248
24	2,769,120
25	3,121,344
26	2,967,744
27	3,513,024
28	3,214,176
29	3,357,216
30	2,822,496
31	2,731,488
Total	105,240,192

(in kWh) **November 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,418,624
2	2,265,024
3	2,120,160
4	2,934,432
5	3,287,232
6	3,199,200
7	2,944,704
8	3,365,280
9	3,300,864
10	3,539,808
11	3,359,904
12	3,544,320
13	3,108,864
14	3,064,320
15	3,427,008
16	3,379,968
17	3,472,608
18	3,476,256
19	3,656,160
20	3,356,448
21	3,738,336
22	3,488,064
23	3,302,976
24	3,157,056
25	3,168,000
26	3,420,576
27	3,185,952
28	3,325,248
29	3,269,184
30	3,365,760
Total	96,642,336

(in kWh) **December 2004**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,419,424
2	3,609,312
3	3,455,808
4	3,632,736
5	3,505,344
6	3,932,256
7	3,442,848
8	3,466,176
9	3,516,096
10	3,624,096
11	3,563,712
12	3,091,008
13	3,374,016
14	2,372,448
15	3,317,952
16	3,733,152
17	3,530,208
18	3,725,280
19	3,722,400
20	3,660,096
21	3,742,752
22	3,855,648
23	3,645,024
24	3,658,944
25	3,659,904
26	3,741,696
27	3,396,864
28	3,209,376
29	2,337,984
30	2,402,112
31	2,527,296
Total	103,344,672

Table 38. Southern Field Division Energy Data

(in kWh) **January 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,053,632
2	2,197,056
3	2,615,712
4	3,222,336
5	2,909,760
6	2,986,656
7	2,880,384
8	1,851,456
9	1,276,032
10	1,412,160
11	1,539,168
12	1,491,936
13	1,462,944
14	1,377,888
15	1,294,560
16	1,300,896
17	1,368,192
18	1,879,680
19	2,691,264
20	2,659,392
21	2,758,656
22	2,532,384
23	2,742,720
24	3,037,632
25	2,860,800
26	3,182,880
27	3,338,784
28	3,136,800
29	2,757,792
30	2,778,816
31	2,951,904
Total	69,598,368

(in kWh) **February 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,025,440
2	3,045,504
3	3,139,488
4	3,217,152
5	3,131,904
6	3,549,120
7	2,118,336
8	1,880,928
9	2,224,896
10	2,483,616
11	2,796,576
12	2,769,408
13	3,016,320
14	3,573,792
15	3,221,856
16	3,483,552
17	2,828,928
18	3,039,840
19	2,820,576
20	3,028,512
21	2,840,064
22	2,970,048
23	3,021,504
24	2,899,296
25	3,384,768
26	3,119,136
27	3,269,088
28	3,438,624
Total	83,338,272

(in kWh) **March 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,304,480
2	3,385,117
3	3,254,272
4	3,368,384
5	3,059,415
6	3,192,553
7	2,863,697
8	2,536,214
9	2,516,475
10	2,370,728
11	2,372,567
12	2,423,230
13	2,514,824
14	2,744,294
15	2,852,878
16	2,810,839
17	2,883,159
18	3,067,455
19	3,040,852
20	2,808,327
21	2,907,140
22	2,666,317
23	2,864,745
24	2,673,388
25	2,585,018
26	2,498,724
27	2,413,914
28	2,590,783
29	2,589,369
30	2,445,491
31	2,712,144
Total	86,316,792

Table 38. Southern Field Division Energy Data

(in kWh) **April 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,627,225
2	2,704,717
3	2,626,889
4	2,880,083
5	3,018,028
6	3,011,125
7	3,042,474
8	3,224,051
9	3,110,918
10	3,135,206
11	3,113,034
12	3,047,666
13	3,067,553
14	3,167,652
15	3,361,491
16	3,173,764
17	2,981,655
18	3,439,122
19	1,955,409
20	3,161,017
21	3,364,765
22	3,484,691
23	3,029,945
24	3,216,238
25	3,375,692
26	3,016,841
27	2,890,487
28	2,771,381
29	2,866,159
30	2,779,559
Total	90,644,838

(in kWh) **May 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,692,118
2	3,065,526
3	2,672,607
4	2,766,456
5	5,712,302
6	2,767,652
7	2,800,653
8	2,818,898
9	2,931,626
10	2,681,744
11	2,652,779
12	2,536,214
13	2,810,384
14	2,839,854
15	2,864,606
16	3,021,578
17	3,031,408
18	3,253,115
19	3,293,503
20	3,491,614
21	3,099,070
22	3,024,357
23	3,479,925
24	3,342,939
25	3,244,492
26	3,105,281
27	3,370,906
28	3,084,682
29	3,285,028
30	3,101,800
31	3,391,901
Total	96,235,018

(in kWh) **June 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,300,178
2	3,148,042
3	3,474,337
4	3,198,398
5	3,161,195
6	3,253,115
7	3,275,643
8	3,238,568
9	3,053,906
10	3,416,733
11	3,199,970
12	3,571,173
13	3,779,618
14	3,524,189
15	3,501,206
16	3,656,240
17	4,008,406
18	3,651,632
19	3,790,526
20	3,639,171
21	3,340,259
22	3,541,604
23	3,401,958
24	3,794,996
25	3,812,460
26	3,930,785
27	4,016,080
28	4,039,606
29	4,053,521
30	3,971,707
Total	106,745,223

Table 38. Southern Field Division Energy Data

(in kWh) **July 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,101,365
2	3,955,142
3	4,062,451
4	4,044,818
5	4,189,438
6	4,091,129
7	4,183,495
8	4,053,778
9	4,001,167
10	4,064,735
11	4,252,729
12	4,054,312
13	4,065,981
14	4,147,122
15	4,329,806
16	4,162,994
17	4,102,888
18	4,233,732
19	4,255,103
20	3,971,727
21	4,211,808
22	4,167,178
23	4,148,655
24	4,138,568
25	4,166,594
26	4,122,953
27	3,994,244
28	4,215,012
29	4,061,017
30	3,972,340
31	4,163,746
Total	127,686,027

(in kWh) **August 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,616,347
2	3,283,970
3	3,654,094
4	4,181,052
5	4,112,737
6	3,942,909
7	4,057,625
8	4,112,886
9	4,236,254
10	4,089,962
11	4,135,888
12	4,019,630
13	3,870,926
14	3,907,882
15	3,876,157
16	2,833,614
17	2,758,683
18	2,856,260
19	3,229,688
20	3,259,019
21	3,048,289
22	3,276,958
23	3,320,916
24	3,179,242
25	3,230,014
26	3,347,874
27	3,187,994
28	3,248,645
29	3,358,712
30	3,193,710
31	3,315,190
Total	109,743,127

(in kWh) **September 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,258,347
2	3,607,081
3	3,081,201
4	3,382,575
5	3,173,101
6	3,318,691
7	3,213,044
8	3,304,668
9	3,198,062
10	3,239,784
11	3,107,654
12	3,057,615
13	3,362,747
14	3,206,270
15	3,097,933
16	3,248,774
17	2,999,674
18	3,229,480
19	3,289,310
20	3,213,202
21	3,106,883
22	2,830,172
23	2,814,023
24	3,165,595
25	2,809,751
26	3,283,683
27	3,073,803
28	3,119,324
29	3,242,385
30	3,320,184
Total	95,355,014

Table 38. Southern Field Division Energy Data

(in kWh) **October 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,059,138
2	3,314,191
3	3,513,004
4	3,171,509
5	3,218,275
6	3,284,751
7	3,327,393
8	3,011,224
9	3,341,386
10	3,290,318
11	3,804,292
12	3,701,493
13	3,950,396
14	3,900,040
15	3,712,075
16	3,676,177
17	3,617,524
18	3,311,650
19	2,766,179
20	3,000,682
21	2,776,483
22	2,728,056
23	3,120,570
24	3,576,236
25	3,054,866
26	3,115,605
27	3,493,443
28	3,472,182
29	3,272,360
30	3,529,707
31	3,575,643
Total	103,686,847

(in kWh) **November 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,561,491
2	3,586,392
3	3,122,083
4	3,095,223
5	2,809,415
6	2,981,606
7	3,828,006
8	3,014,547
9	3,059,395
10	3,235,255
11	3,211,205
12	2,688,103
13	2,778,046
14	3,453,886
15	3,404,737
16	3,889,626
17	3,799,318
18	3,695,580
19	3,408,218
20	2,673,121
21	2,878,115
22	2,712,530
23	2,614,666
24	2,305,103
25	3,175,524
26	2,450,326
27	2,651,909
28	2,791,752
29	2,772,251
30	2,804,084
Total	92,451,513

(in kWh) **December 2005**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,519,373
2	2,147,439
3	1,569,966
4	1,791,673
5	2,355,785
6	2,682,318
7	2,662,579
8	2,778,105
9	2,569,343
10	2,521,133
11	2,329,391
12	2,545,649
13	2,742,692
14	2,810,206
15	2,481,131
16	2,656,507
17	2,786,135
18	2,659,711
19	2,921,796
20	3,417,267
21	3,532,199
22	3,549,387
23	3,764,953
24	3,344,907
25	3,773,586
26	3,822,409
27	3,862,391
28	3,887,955
29	3,313,143
30	2,977,601
31	2,829,747
Total	89,606,477

Table 38. Southern Field Division Energy Data

(in kWh) **January 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,327,186
2	3,207,407
3	3,194,057
4	3,091,070
5	3,381,309
6	3,737,075
7	3,418,345
8	3,497,360
9	3,738,865
10	3,904,282
11	3,653,936
12	3,940,892
13	3,918,137
14	3,558,910
15	3,464,082
16	3,432,674
17	3,394,274
18	3,436,758
19	3,607,783
20	3,687,263
21	3,506,507
22	3,503,689
23	3,779,688
24	3,661,007
25	3,795,560
26	3,909,375
27	4,080,864
28	3,895,619
29	3,912,994
30	3,712,184
31	3,494,116
Total	111,843,265

(in kWh) **February 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,502,087
2	3,427,957
3	3,640,852
4	3,862,006
5	4,001,800
6	3,897,112
7	4,191,752
8	3,944,858
9	4,001,642
10	4,206,507
11	4,029,341
12	3,731,606
13	4,190,941
14	4,025,287
15	3,992,781
16	4,246,618
17	4,086,966
18	3,989,666
19	3,966,861
20	3,529,608
21	3,384,227
22	3,784,326
23	3,576,157
24	4,272,547
25	4,072,073
26	3,972,191
27	4,114,933
28	3,923,616
Total	109,566,317

(in kWh) **March 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,619,976
2	3,948,645
3	3,782,892
4	3,692,168
5	3,574,970
6	3,540,150
7	3,625,514
8	3,829,074
9	3,484,593
10	3,280,212
11	3,342,059
12	3,313,904
13	3,041,762
14	2,986,521
15	2,795,985
16	2,804,994
17	3,148,151
18	1,930,568
19	3,145,411
20	3,320,451
21	3,314,735
22	3,095,392
23	3,125,030
24	3,261,205
25	2,708,614
26	2,567,395
27	2,477,779
28	2,528,906
29	1,909,820
30	2,337,104
31	3,134,059
Total	96,668,038

Table 38. Southern Field Division Energy Data

(in kWh) **April 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,236,561
2	3,048,200
3	3,257,634
4	2,654,035
5	2,553,659
6	2,759,068
7	2,925,129
8	2,657,219
9	2,890,457
10	2,931,408
11	3,018,968
12	2,940,674
13	2,732,882
14	2,327,581
15	2,240,734
16	2,292,692
17	2,691,466
18	2,687,935
19	2,927,017
20	3,007,615
21	2,894,353
22	3,065,585
23	2,897,706
24	3,131,547
25	2,929,984
26	3,472,943
27	3,452,561
28	3,477,729
29	3,226,206
30	3,338,795
Total	87,668,345

(in kWh) **May 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,569,403
2	3,562,905
3	3,414,705
4	3,639,330
5	3,474,703
6	3,484,573
7	3,649,130
8	3,930,894
9	3,595,115
10	3,814,033
11	3,900,752
12	3,700,168
13	3,915,961
14	3,430,380
15	3,497,280
16	3,286,788
17	3,612,559
18	3,548,062
19	3,714,191
20	3,503,382
21	3,621,875
22	3,641,199
23	3,861,798
24	3,480,924
25	3,538,805
26	3,707,071
27	3,542,405
28	3,586,867
29	3,523,467
30	3,666,762
31	3,798,319
Total	112,213,805

(in kWh) **June 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,683,109
2	3,827,383
3	4,090,022
4	4,093,078
5	3,989,320
6	3,873,457
7	4,170,540
8	3,989,063
9	3,904,302
10	3,330,222
11	3,359,335
12	3,554,608
13	3,389,003
14	3,652,423
15	3,928,085
16	4,185,275
17	3,902,947
18	3,828,708
19	4,015,279
20	4,325,969
21	4,230,914
22	4,220,392
23	4,254,875
24	4,265,941
25	4,253,036
26	4,419,027
27	4,046,351
28	4,208,871
29	4,382,041
30	4,138,261
Total	119,511,837

Table 38. Southern Field Division Energy Data

(in kWh) **July 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,222,577
2	4,341,673
3	4,255,578
4	4,206,260
5	4,417,761
6	4,404,351
7	4,372,271
8	4,312,253
9	4,153,699
10	4,387,737
11	4,281,220
12	4,206,903
13	4,463,538
14	4,407,387
15	4,379,144
16	4,178,263
17	4,311,412
18	4,274,110
19	4,620,777
20	4,194,462
21	4,462,678
22	4,319,769
23	4,153,540
24	4,475,742
25	4,265,496
26	4,320,550
27	4,277,354
28	4,424,248
29	4,435,433
30	4,336,224
31	4,331,903
Total	134,194,314

(in kWh) **August 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,184,711
2	4,507,565
3	4,295,125
4	4,554,757
5	4,034,761
6	4,360,918
7	4,407,892
8	4,429,361
9	4,327,907
10	4,343,443
11	4,205,736
12	4,415,249
13	4,206,220
14	4,218,888
15	4,442,049
16	4,415,941
17	4,261,294
18	4,356,576
19	4,380,192
20	4,248,111
21	4,266,110
22	4,158,623
23	4,469,452
24	4,302,284
25	4,343,374
26	4,396,519
27	4,137,065
28	4,445,451
29	4,368,987
30	4,448,180
31	4,276,246
Total	134,208,989

(in kWh) **September 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,225,910
2	4,397,063
3	4,385,562
4	4,364,438
5	4,423,695
6	4,331,833
7	4,277,077
8	4,383,653
9	4,398,457
10	4,368,147
11	4,394,393
12	4,420,006
13	4,272,538
14	4,354,153
15	4,174,387
16	4,149,782
17	4,213,825
18	4,145,510
19	3,993,720
20	4,072,231
21	3,918,374
22	4,243,038
23	4,154,895
24	4,199,525
25	4,465,279
26	4,174,357
27	4,247,547
28	4,306,379
29	4,312,322
30	4,171,578
Total	127,939,676

Table 38. Southern Field Division Energy Data

(in kWh) **October 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,446,153
2	4,384,513
3	4,365,744
4	4,432,585
5	4,233,040
6	4,097,943
7	4,348,269
8	4,315,773
9	4,218,928
10	3,914,636
11	4,177,848
12	4,263,400
13	3,894,215
14	3,588,845
15	3,863,894
16	4,084,869
17	3,892,771
18	4,315,091
19	4,413,202
20	4,241,673
21	4,389,250
22	4,170,649
23	4,318,908
24	4,433,544
25	4,163,370
26	4,282,367
27	4,252,413
28	4,378,600
29	4,663,598
30	4,145,955
31	3,739,755
Total	130,431,804

(in kWh) **November 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,864,834
2	3,815,566
3	3,715,190
4	3,636,116
5	3,786,570
6	3,673,645
7	3,970,797
8	4,023,991
9	4,353,372
10	4,093,127
11	3,538,123
12	3,998,645
13	3,985,156
14	4,304,005
15	4,211,264
16	4,056,260
17	4,033,544
18	3,874,199
19	3,803,333
20	3,988,914
21	3,943,473
22	4,160,255
23	3,868,127
24	4,124,644
25	3,823,635
26	3,218,503
27	3,106,408
28	2,715,071
29	2,943,651
30	3,213,499
Total	113,843,918

(in kWh) **December 2006**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,103,946
2	4,087,085
3	3,971,252
4	4,221,826
5	4,187,994
6	4,164,982
7	3,913,786
8	4,076,464
9	3,806,210
10	4,049,881
11	3,904,144
12	3,714,735
13	3,445,263
14	3,598,428
15	3,715,803
16	3,065,318
17	2,711,303
18	2,774,318
19	3,314,053
20	3,603,521
21	3,703,402
22	3,937,915
23	3,742,019
24	4,168,898
25	3,692,830
26	4,087,559
27	3,911,323
28	3,922,182
29	4,039,517
30	3,779,925
31	4,027,017
Total	117,442,900

Table 38. Southern Field Division Energy Data

(in kWh) **January 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,952,512
2	4,150,761
3	4,225,761
4	4,094,749
5	3,985,888
6	4,023,695
7	4,192,840
8	4,160,947
9	4,257,575
10	4,277,492
11	4,357,654
12	4,112,273
13	4,198,873
14	4,159,949
15	3,985,087
16	4,218,167
17	3,958,831
18	4,095,856
19	4,415,902
20	4,077,047
21	3,927,462
22	3,851,770
23	3,919,996
24	3,587,352
25	3,723,042
26	3,723,962
27	3,438,390
28	3,271,746
29	1,868,651
30	1,901,681
31	1,593,710
Total	117,709,622

(in kWh) **February 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,626,909
2	1,750,554
3	1,487,480
4	1,802,660
5	1,537,599
6	1,584,138
7	2,045,817
8	1,550,178
9	1,692,583
10	1,614,468
11	1,953,847
12	2,164,409
13	1,990,615
14	2,142,336
15	2,208,080
16	2,232,091
17	2,406,527
18	2,367,237
19	3,078,966
20	2,932,941
21	3,160,908
22	3,032,743
23	1,972,656
24	2,026,711
25	2,292,909
26	2,482,872
27	2,593,078
28	2,342,830
Total	60,074,140

(in kWh) **March 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,773,675
2	2,715,447
3	2,568,374
4	2,740,131
5	2,732,021
6	3,420,283
7	3,634,276
8	3,413,894
9	3,803,056
10	3,563,538
11	3,318,720
12	3,665,318
13	3,671,648
14	3,360,611
15	3,376,216
16	3,812,470
17	3,476,088
18	3,156,210
19	3,617,979
20	3,269,650
21	3,188,074
22	3,283,890
23	3,013,746
24	2,926,968
25	2,981,982
26	3,017,959
27	3,414,399
28	3,325,158
29	3,772,300
30	3,645,876
31	3,766,317
Total	102,426,276

Table 38. Southern Field Division Energy Data

(in kWh) **April 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,703,758
2	3,553,441
3	3,749,426
4	3,945,036
5	3,794,086
6	3,609,415
7	3,481,903
8	3,354,292
9	3,277,344
10	3,393,424
11	3,558,989
12	3,647,824
13	3,753,896
14	3,446,737
15	3,569,818
16	3,082,367
17	3,086,709
18	3,166,871
19	3,188,410
20	3,101,187
21	3,690,269
22	3,410,868
23	3,249,703
24	3,258,544
25	3,221,648
26	3,189,231
27	3,405,409
28	3,336,303
29	3,163,815
30	3,609,227
Total	102,999,951

(in kWh) **May 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,474,862
2	3,711,185
3	3,762,273
4	3,557,041
5	3,494,917
6	3,130,271
7	3,783,040
8	3,530,864
9	3,327,937
10	3,759,494
11	3,779,964
12	3,593,048
13	3,466,416
14	3,906,359
15	3,883,238
16	3,736,640
17	3,690,318
18	3,693,701
19	3,912,451
20	3,550,208
21	3,892,415
22	3,423,398
23	3,879,697
24	3,555,400
25	3,950,672
26	3,778,530
27	3,756,428
28	3,602,215
29	3,625,465
30	3,441,693
31	3,534,919
Total	113,185,057

(in kWh) **June 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,507,486
2	3,880,864
3	4,058,475
4	3,891,634
5	3,863,776
6	3,821,954
7	3,831,191
8	3,946,826
9	3,814,438
10	3,698,418
11	3,942,000
12	3,761,343
13	3,857,367
14	3,938,232
15	3,797,340
16	3,925,900
17	3,846,687
18	4,133,287
19	3,928,797
20	3,985,344
21	3,906,299
22	4,218,354
23	3,950,613
24	4,143,038
25	3,990,279
26	3,935,344
27	3,910,631
28	3,904,866
29	3,930,192
30	3,973,655
Total	117,294,630

Table 38. Southern Field Division Energy Data

(in kWh) **July 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,939,419
2	4,170,214
3	4,170,283
4	4,155,508
5	4,317,069
6	4,175,079
7	4,208,277
8	4,337,391
9	4,204,104
10	4,051,088
11	4,098,873
12	4,175,059
13	4,194,551
14	3,941,080
15	3,879,262
16	3,978,896
17	3,994,956
18	3,903,283
19	4,024,308
20	3,956,042
21	3,919,086
22	4,094,571
23	3,997,350
24	3,957,229
25	3,855,568
26	4,121,410
27	3,953,036
28	3,831,833
29	4,095,777
30	4,063,133
31	3,876,780
Total	125,640,516

(in kWh) **August 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,942,524
2	4,015,328
3	4,069,680
4	3,992,435
5	3,851,582
6	3,927,057
7	4,135,611
8	4,059,326
9	4,075,218
10	4,077,977
11	4,048,032
12	4,049,693
13	4,145,481
14	4,058,782
15	3,921,786
16	3,909,068
17	3,881,863
18	3,787,401
19	3,405,053
20	3,568,572
21	3,286,412
22	3,244,205
23	2,988,657
24	3,576,009
25	3,159,840
26	3,181,794
27	3,326,691
28	3,352,987
29	3,149,436
30	3,314,211
31	3,171,924
Total	114,674,634

(in kWh) **September 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,052,087
2	3,241,060
3	3,416,466
4	3,643,809
5	3,578,807
6	3,732,634
7	3,737,886
8	3,581,883
9	3,255,063
10	3,929,015
11	3,256,665
12	3,265,477
13	3,240,180
14	2,870,105
15	2,995,580
16	3,060,848
17	3,080,765
18	2,961,659
19	2,914,498
20	3,215,516
21	2,860,819
22	2,393,918
23	2,455,736
24	2,706,121
25	2,457,763
26	2,585,186
27	2,607,417
28	2,806,873
29	2,227,818
30	2,668,345
Total	91,800,000

Table 38. Southern Field Division Energy Data

(in kWh) **October 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,914,241
2	2,729,262
3	2,930,152
4	2,895,669
5	3,095,125
6	2,690,002
7	3,124,802
8	3,051,780
9	3,071,430
10	2,720,204
11	2,777,097
12	2,996,727
13	2,770,105
14	2,647,933
15	2,527,146
16	2,403,036
17	2,201,068
18	2,251,305
19	2,194,413
20	2,227,482
21	2,350,376
22	2,016,644
23	2,328,886
24	2,703,046
25	2,658,801
26	2,936,205
27	2,926,216
28	2,922,458
29	2,850,168
30	2,990,793
31	2,770,253
Total	83,672,824

(in kWh) **November 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,008,614
2	3,053,738
3	3,015,210
4	2,907,644
5	3,192,969
6	3,314,330
7	3,040,754
8	3,231,408
9	3,003,323
10	2,900,247
11	3,027,818
12	2,715,556
13	3,086,808
14	3,115,793
15	3,322,231
16	3,260,146
17	3,309,761
18	2,418,127
19	2,070,332
20	2,095,659
21	2,313,677
22	1,802,611
23	1,926,246
24	1,576,602
25	1,805,775
26	2,168,770
27	1,844,670
28	1,962,045
29	1,922,577
30	2,200,930
Total	78,614,369

(in kWh) **December 2007**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,800,860
2	1,849,476
3	1,962,460
4	1,298,339
5	1,118,631
6	1,364,616
7	1,256,121
8	1,136,620
9	1,147,360
10	1,344,037
11	1,029,074
12	1,367,712
13	1,309,513
14	1,299,466
15	1,212,866
16	1,252,393
17	1,441,159
18	1,430,558
19	1,338,528
20	1,168,424
21	1,207,338
22	1,087,253
23	1,051,078
24	1,100,168
25	1,114,419
26	1,320,945
27	1,216,535
28	2,242,148
29	2,221,074
30	2,314,883
31	2,425,623
Total	44,429,678

Table 38. Southern Field Division Energy Data

(in kWh) **January 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,374,931
2	2,356,586
3	2,167,069
4	2,327,907
5	2,747,132
6	2,546,430
7	2,705,192
8	2,675,752
9	2,705,350
10	2,423,190
11	2,186,116
12	1,921,262
13	2,046,885
14	2,139,844
15	2,153,817
16	2,196,766
17	2,457,358
18	2,303,689
19	2,125,445
20	1,993,325
21	2,294,769
22	2,453,422
23	2,311,135
24	2,331,685
25	2,404,826
26	1,633,871
27	1,467,751
28	1,626,048
29	1,024,120
30	978,402
31	916,970
Total	65,997,043

(in kWh) **February 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	777,739
2	1,214,834
3	951,978
4	759,266
5	741,584
6	761,165
7	748,507
8	887,282
9	668,018
10	927,670
11	1,354,589
12	1,862,174
13	2,008,772
14	2,335,206
15	1,962,500
16	1,526,503
17	1,613,153
18	1,675,227
19	1,670,441
20	1,682,991
21	1,813,538
22	1,596,311
23	902,739
24	825,999
25	1,204,272
26	1,239,933
27	1,440,694
28	1,407,249
29	1,510,255
Total	38,070,589

(in kWh) **March 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,414,142
2	1,176,691
3	1,733,159
4	1,706,685
5	1,930,518
6	1,992,870
7	2,068,493
8	2,047,933
9	2,254,005
10	2,584,088
11	2,369,887
12	2,658,782
13	2,905,390
14	2,753,372
15	2,519,769
16	2,521,905
17	2,792,029
18	2,400,494
19	2,267,069
20	2,671,183
21	2,131,102
22	2,114,112
23	2,232,021
24	2,460,473
25	2,416,802
26	2,342,603
27	2,263,973
28	2,804,401
29	2,253,590
30	2,318,226
31	2,654,727
Total	70,760,492

Table 38. Southern Field Division Energy Data

(in kWh) **April 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,644,165
2	2,172,083
3	2,627,828
4	1,766,812
5	1,674,169
6	1,194,838
7	1,260,285
8	1,804,233
9	1,812,549
10	2,186,056
11	2,227,344
12	2,318,374
13	2,565,022
14	2,603,382
15	2,613,093
16	2,812,362
17	2,625,089
18	2,414,369
19	2,673,734
20	1,968,958
21	2,370,945
22	2,264,913
23	2,014,102
24	1,807,911
25	2,201,750
26	1,937,322
27	2,479,183
28	2,354,955
29	2,431,458
30	2,560,107
Total	66,387,391

(in kWh) **May 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,741,980
2	2,743,176
3	2,474,298
4	2,354,371
5	2,417,850
6	2,151,978
7	2,313,934
8	1,972,814
9	2,240,407
10	2,360,403
11	1,775,771
12	2,231,814
13	2,042,197
14	1,695,589
15	1,660,562
16	1,575,850
17	1,680,854
18	1,671,994
19	1,864,033
20	1,592,642
21	1,556,814
22	1,868,631
23	1,860,097
24	1,483,881
25	1,469,976
26	1,349,387
27	1,387,975
28	1,587,935
29	1,298,259
30	1,547,983
31	1,214,953
Total	58,188,410

(in kWh) **June 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,648,991
2	2,097,320
3	2,396,390
4	2,165,773
5	2,358,396
6	2,619,551
7	2,334,968
8	2,389,666
9	2,340,457
10	2,358,534
11	2,156,052
12	2,473,081
13	2,265,941
14	2,055,498
15	2,309,078
16	2,927,947
17	2,896,816
18	3,084,998
19	3,132,180
20	3,268,463
21	3,275,752
22	2,585,216
23	3,596,005
24	3,250,742
25	3,224,496
26	2,989,537
27	2,915,071
28	2,931,992
29	2,894,709
30	2,880,548
Total	79,824,169

Table 38. Southern Field Division Energy Data

(in kWh) **July 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,662,678
2	2,400,415
3	2,777,047
4	2,599,634
5	2,551,414
6	2,702,195
7	3,121,717
8	2,910,769
9	2,574,456
10	3,074,585
11	3,139,241
12	2,193,523
13	2,850,267
14	2,877,235
15	2,422,547
16	2,818,790
17	2,762,807
18	2,567,870
19	2,514,745
20	2,437,045
21	2,391,386
22	2,133,683
23	2,458,505
24	2,550,366
25	2,496,153
26	2,341,288
27	2,385,483
28	2,766,466
29	2,508,841
30	2,665,961
31	2,672,557
Total	81,329,668

(in kWh) **August 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,555,568
2	2,746,015
3	2,624,951
4	2,797,973
5	2,652,838
6	2,905,756
7	2,712,540
8	2,605,904
9	2,515,506
10	2,627,700
11	2,897,488
12	2,712,164
13	2,638,786
14	2,611,729
15	2,546,104
16	2,643,285
17	2,651,820
18	2,586,165
19	2,448,250
20	2,529,322
21	2,041,930
22	1,807,249
23	1,700,870
24	1,871,924
25	2,014,794
26	1,939,745
27	1,836,719
28	2,185,819
29	2,074,832
30	1,895,797
31	1,855,785
Total	74,235,324

(in kWh) **September 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,965,051
2	1,581,418
3	1,447,636
4	1,792,336
5	1,632,921
6	1,377,067
7	1,648,289
8	1,829,875
9	1,712,579
10	1,874,604
11	1,856,260
12	2,103,352
13	1,661,353
14	1,752,670
15	2,031,181
16	2,047,528
17	2,133,752
18	2,112,965
19	2,000,959
20	1,836,422
21	1,965,536
22	2,028,610
23	1,749,535
24	2,033,772
25	1,991,149
26	2,159,632
27	1,710,354
28	1,639,626
29	1,879,796
30	1,634,958
Total	55,191,189

Table 38. Southern Field Division Energy Data

(in kWh) **October 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,750,653
2	1,491,475
3	1,733,317
4	1,745,471
5	1,659,553
6	1,637,203
7	1,654,203
8	1,818,246
9	1,548,724
10	1,949,921
11	1,818,434
12	2,001,741
13	2,222,013
14	1,770,975
15	1,948,774
16	2,208,544
17	1,725,900
18	1,719,403
19	1,168,107
20	1,602,551
21	1,453,085
22	1,538,172
23	1,292,267
24	1,442,128
25	1,268,701
26	1,196,648
27	1,517,890
28	1,394,047
29	1,498,902
30	1,119,343
31	1,070,639
Total	49,967,029

(in kWh) **November 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,032,892
2	1,077,067
3	1,069,175
4	970,441
5	1,289,794
6	915,348
7	800,396
8	783,040
9	781,270
10	779,450
11	808,752
12	743,097
13	811,857
14	906,240
15	826,958
16	867,642
17	807,387
18	757,733
19	800,346
20	798,170
21	786,541
22	792,217
23	780,340
24	768,532
25	787,757
26	805,726
27	782,545
28	695,144
29	758,979
30	817,257
Total	25,402,097

(in kWh) **December 2008**

East Branch	
Date	Devil Canyon Powerplant Generation
1	787,777
2	874,466
3	675,742
4	421,114
5	197,102
6	189,537
7	218,730
8	492,919
9	476,098
10	439,883
11	458,445
12	462,757
13	416,614
14	379,559
15	324,258
16	275,742
17	368,186
18	388,479
19	369,976
20	359,316
21	326,879
22	760,601
23	1,045,570
24	407,981
25	393,364
26	424,011
27	394,017
28	344,482
29	388,331
30	275,040
31	200,682
Total	13,537,658

Table 38. Southern Field Division Energy Data

(in kWh) **January 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	335,217
2	253,040
3	253,046
4	242,931
5	217,117
6	282,687
7	371,517
8	275,978
9	218,072
10	197,140
11	190,022
12	259,451
13	165,920
14	129,752
15	95,126
16	161,825
17	198,796
18	293,035
19	242,764
20	261,308
21	277,075
22	274,675
23	279,208
24	284,223
25	261,526
26	191,816
27	280,717
28	261,987
29	275,663
30	179,791
31	140,521
Total	7,351,946

(in kWh) **February 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	198,983
2	118,757
3	119,257
4	197,975
5	166,496
6	177,786
7	148,658
8	85,540
9	99,749
10	109,454
11	173,992
12	81,270
13	89,780
14	81,436
15	26,744
16	105,440
17	101,473
18	129,852
19	117,605
20	112,525
21	86,090
22	8,924
23	78,548
24	103,936
25	146,948
26	151,402
27	238,190
28	121,799
Total	3,378,611

(in kWh) **March 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	106,618
2	98,219
3	23,270
4	39,708
5	92,099
6	351,511
7	278,543
8	270,410
9	288,709
10	405,432
11	330,397
12	384,851
13	538,952
14	265,788
15	566,298
16	401,303
17	436,198
18	484,294
19	512,237
20	600,242
21	879,012
22	704,851
23	882,338
24	756,731
25	965,632
26	946,156
27	894,611
28	893,945
29	607,579
30	528,350
31	497,664
Total	15,031,948

Table 38. Southern Field Division Energy Data

(in kWh) **April 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	484,981
2	523,620
3	584,975
4	530,064
5	571,259
6	598,410
7	624,553
8	584,863
9	598,000
10	574,783
11	609,030
12	562,064
13	560,603
14	579,564
15	588,481
16	586,235
17	647,647
18	552,686
19	511,888
20	623,002
21	858,226
22	689,393
23	650,419
24	628,394
25	645,566
26	675,792
27	629,381
28	689,587
29	675,090
30	712,818
Total	18,351,374

(in kWh) **May 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,169,186
2	963,767
3	728,222
4	1,057,846
5	1,058,274
6	1,227,496
7	685,048
8	861,534
9	579,157
10	743,386
11	822,190
12	702,702
13	863,698
14	608,800
15	663,131
16	699,948
17	864,569
18	730,699
19	898,913
20	709,855
21	854,921
22	707,990
23	702,713
24	770,162
25	938,470
26	651,564
27	743,429
28	683,539
29	702,788
30	636,631
31	597,629
Total	24,628,255

(in kWh) **June 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	889,402
2	1,135,123
3	876,514
4	1,113,764
5	1,307,372
6	1,962,673
7	1,801,796
8	1,769,026
9	2,039,904
10	1,866,474
11	1,812,071
12	2,201,112
13	2,085,440
14	1,900,523
15	1,928,660
16	2,028,604
17	1,794,532
18	2,020,165
19	2,168,791
20	2,216,981
21	1,863,900
22	2,364,955
23	2,077,488
24	2,287,832
25	2,316,362
26	2,893,763
27	2,595,532
28	2,352,197
29	2,527,204
30	2,961,248
Total	59,159,408

Table 38. Southern Field Division Energy Data

(in kWh) **July 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,604,996
2	2,799,076
3	2,954,038
4	2,563,830
5	2,715,329
6	2,727,947
7	2,742,354
8	2,470,900
9	2,425,385
10	2,500,348
11	2,444,494
12	2,238,131
13	2,418,743
14	2,538,713
15	2,626,466
16	2,590,546
17	2,443,363
18	2,278,030
19	2,439,608
20	2,916,666
21	2,600,546
22	2,571,736
23	2,729,016
24	2,695,734
25	2,874,726
26	2,713,964
27	2,683,483
28	2,600,150
29	2,743,024
30	2,540,905
31	2,596,824
Total	80,789,069

(in kWh) **August 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,220,034
2	2,297,988
3	2,991,370
4	2,910,020
5	1,357,441
6	2,392,160
7	2,042,345
8	2,341,739
9	2,261,297
10	2,264,839
11	2,464,769
12	2,299,943
13	2,525,688
14	2,476,073
15	2,297,333
16	2,498,252
17	2,547,277
18	2,729,012
19	2,518,859
20	2,694,323
21	2,724,768
22	2,537,755
23	2,794,583
24	2,712,172
25	2,680,304
26	2,830,633
27	3,265,261
28	3,155,274
29	2,615,087
30	2,806,596
31	3,161,693
Total	79,414,888

(in kWh) **September 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,945,135
2	2,629,476
3	2,692,624
4	2,529,140
5	2,406,308
6	2,550,013
7	2,439,932
8	2,781,241
9	2,580,304
10	2,485,976
11	2,152,246
12	2,090,740
13	2,140,070
14	2,362,460
15	2,400,293
16	2,349,904
17	2,386,256
18	1,839,463
19	2,107,825
20	2,205,806
21	2,117,938
22	2,263,910
23	2,140,992
24	1,936,523
25	3,328,448
26	2,138,692
27	2,154,568
28	2,453,958
29	2,685,463
30	2,676,283
Total	71,971,988

Table 38. Southern Field Division Energy Data

(in kWh) **October 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,860,513
2	2,903,890
3	2,861,197
4	3,335,364
5	3,376,937
6	3,195,252
7	2,980,872
8	3,043,444
9	2,994,966
10	2,999,693
11	3,094,337
12	2,684,081
13	2,770,740
14	2,956,774
15	3,119,980
16	3,302,496
17	3,143,599
18	3,293,611
19	3,542,627
20	3,671,546
21	3,789,774
22	3,968,302
23	3,853,433
24	3,549,758
25	3,755,995
26	3,731,108
27	3,720,787
28	3,696,628
29	3,641,159
30	3,701,628
31	3,346,031
Total	102,886,520

(in kWh) **November 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,257,762
2	2,609,341
3	2,574,007
4	3,067,906
5	3,146,612
6	3,082,799
7	3,082,633
8	2,989,717
9	3,278,016
10	3,185,705
11	3,161,668
12	3,136,896
13	3,026,066
14	3,148,387
15	2,976,876
16	3,101,202
17	3,021,600
18	3,407,915
19	2,860,492
20	3,017,513
21	2,969,611
22	2,854,501
23	2,969,712
24	1,763,172
25	891,616
26	801,922
27	867,899
28	835,142
29	781,186
30	817,826
Total	76,685,700

(in kWh) **December 2009**

East Branch	
Date	Devil Canyon Powerplant Generation
1	781,121
2	617,818
3	546,631
4	988,848
5	675,205
6	691,902
7	985,993
8	579,463
9	677,646
10	468,914
11	491,976
12	472,129
13	454,842
14	471,467
15	343,552
16	325,613
17	272,675
18	378,490
19	456,412
20	428,512
21	278,773
22	377,964
23	371,790
24	338,278
25	357,588
26	411,300
27	434,326
28	333,436
29	329,224
30	318,892
31	315,022
Total	14,975,798

Table 38. Southern Field Division Energy Data

(in kWh) **January 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	343,256
2	335,527
3	332,575
4	331,236
5	474,642
6	496,699
7	591,019
8	414,569
9	534,254
10	552,676
11	487,825
12	581,594
13	836,964
14	632,020
15	1,070,939
16	984,794
17	931,669
18	1,153,901
19	1,306,786
20	1,514,549
21	917,831
22	877,334
23	965,102
24	948,946
25	1,006,650
26	690,743
27	972,256
28	1,062,151
29	774,785
30	1,130,310
31	721,080
Total	23,974,682

(in kWh) **February 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,016,842
2	923,648
3	814,334
4	872,669
5	1,160,150
6	981,432
7	827,215
8	22
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	42,790
18	375,883
19	312,160
20	362,678
21	359,899
22	363,985
23	373,144
24	403,873
25	439,250
26	505,188
27	471,589
28	444,240
Total	11,050,992

(in kWh) **March 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	468,432
2	429,797
3	461,365
4	407,311
5	408,514
6	371,315
7	366,250
8	1,490,033
9	1,561,003
10	441,439
11	416,761
12	400,856
13	396,943
14	408,161
15	381,416
16	396,101
17	893,020
18	1,155,049
19	989,723
20	948,758
21	718,801
22	1,143,486
23	1,316,855
24	864,396
25	812,142
26	784,494
27	1,087,243
28	943,096
29	1,054,631
30	1,112,810
31	1,199,405
Total	23,829,606

Table 38. Southern Field Division Energy Data

(in kWh) **April 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,154,560
2	1,146,082
3	1,007,572
4	1,137,866
5	1,061,258
6	1,577,855
7	1,638,886
8	1,573,182
9	1,758,067
10	1,850,684
11	1,438,852
12	2,034,490
13	2,682,443
14	3,250,692
15	3,020,393
16	2,926,469
17	2,596,676
18	2,401,571
19	2,741,537
20	3,233,592
21	3,356,932
22	3,319,412
23	2,589,520
24	2,650,453
25	2,641,745
26	2,514,470
27	2,621,729
28	2,785,532
29	2,359,080
30	2,700,241
Total	67,771,840

(in kWh) **May 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,256,836
2	2,010,881
3	2,199,568
4	2,235,416
5	2,345,648
6	2,133,360
7	2,013,185
8	1,924,751
9	1,824,786
10	2,207,603
11	2,123,636
12	1,929,506
13	2,301,365
14	2,239,920
15	1,984,450
16	2,539,354
17	2,861,849
18	2,746,670
19	2,978,359
20	2,659,046
21	2,746,699
22	2,651,306
23	1,834,070
24	3,115,843
25	2,710,274
26	2,667,488
27	2,725,276
28	2,792,804
29	2,813,119
30	2,446,362
31	2,586,996
Total	74,606,429

(in kWh) **June 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,469,877
2	2,642,425
3	2,595,809
4	2,877,196
5	2,570,310
6	3,210,775
7	3,327,145
8	3,300,181
9	3,784,619
10	3,898,040
11	3,870,259
12	3,706,164
13	3,747,582
14	3,301,070
15	3,376,282
16	3,582,598
17	3,469,860
18	3,513,874
19	3,470,188
20	3,475,958
21	3,645,288
22	4,099,518
23	4,229,694
24	4,142,250
25	4,014,832
26	4,116,017
27	3,921,142
28	4,055,389
29	4,020,872
30	4,062,416
Total	106,497,630

Table 38. Southern Field Division Energy Data

(in kWh) **July 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,978,342
2	4,366,429
3	4,266,713
4	4,162,846
5	4,154,296
6	4,173,721
7	4,182,584
8	4,207,154
9	4,166,413
10	4,146,134
11	3,547,678
12	3,391,740
13	3,644,219
14	3,514,529
15	3,496,295
16	3,278,034
17	3,725,053
18	3,999,204
19	4,086,943
20	4,180,309
21	4,329,389
22	4,156,643
23	4,077,860
24	4,010,958
25	3,939,872
26	4,257,353
27	4,056,851
28	4,283,914
29	4,270,838
30	3,977,777
31	4,087,310
Total	124,117,402

(in kWh) **August 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,071,197
2	4,069,231
3	4,145,170
4	4,247,104
5	4,438,019
6	4,316,785
7	4,472,935
8	4,505,159
9	4,113,454
10	4,173,566
11	4,404,884
12	3,936,762
13	4,239,806
14	4,193,964
15	4,235,443
16	4,218,563
17	4,258,274
18	4,294,552
19	4,294,793
20	4,284,868
21	4,246,092
22	4,237,340
23	4,298,666
24	4,258,544
25	4,235,810
26	4,536,425
27	4,568,184
28	4,413,010
29	4,404,974
30	4,510,742
31	4,468,234
Total	133,092,551

(in kWh) **September 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,305,506
2	4,274,964
3	4,440,560
4	4,475,070
5	4,392,965
6	4,462,106
7	4,410,896
8	4,299,052
9	4,435,063
10	4,540,079
11	4,707,050
12	4,362,451
13	4,261,421
14	4,372,211
15	4,235,612
16	4,280,526
17	4,591,256
18	4,087,490
19	4,356,914
20	4,241,358
21	4,126,547
22	4,283,996
23	4,346,068
24	4,104,122
25	4,172,292
26	4,073,141
27	4,146,872
28	4,939,913
29	4,610,045
30	4,622,893
Total	130,958,442

Table 38. Southern Field Division Energy Data

(in kWh) **October 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,736,808
2	4,086,454
3	3,190,655
4	3,226,129
5	2,800,879
6	2,584,253
7	2,465,561
8	2,312,136
9	2,482,038
10	2,521,714
11	2,557,530
12	2,606,418
13	2,590,693
14	3,021,109
15	3,039,037
16	3,050,248
17	3,090,992
18	3,083,656
19	3,159,202
20	2,893,381
21	3,161,207
22	2,783,765
23	3,714,203
24	3,424,950
25	3,381,836
26	2,827,008
27	3,448,415
28	3,398,022
29	3,258,331
30	3,266,770
31	3,285,014
Total	95,448,413

(in kWh) **November 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,452,148
2	3,477,737
3	3,612,881
4	3,426,811
5	3,235,403
6	2,120,180
7	2,159,046
8	2,940,102
9	3,527,230
10	4,016,822
11	4,462,747
12	4,161,337
13	4,242,128
14	4,173,491
15	4,111,510
16	4,435,517
17	4,399,427
18	3,607,085
19	3,423,236
20	2,690,734
21	3,207,118
22	4,267,030
23	4,259,142
24	4,531,046
25	4,296,276
26	4,542,599
27	4,404,838
28	4,235,285
29	3,278,236
30	2,743,693
Total	111,440,833

(in kWh) **December 2010**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,264,371
2	2,889,702
3	2,718,418
4	2,886,170
5	2,856,550
6	2,785,396
7	2,814,138
8	2,998,350
9	2,518,643
10	2,775,348
11	2,789,334
12	2,784,499
13	3,242,851
14	2,949,836
15	1,700,485
16	1,769,080
17	3,028,529
18	3,352,878
19	3,388,216
20	3,343,558
21	3,371,778
22	2,771,716
23	2,593,670
24	2,575,177
25	2,528,464
26	2,590,034
27	2,557,980
28	2,672,366
29	3,527,600
30	3,724,402
31	3,616,711
Total	88,386,250

Table 38. Southern Field Division Energy Data

(in kWh) **January 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,505,136
2	3,579,498
3	3,285,684
4	3,129,192
5	3,154,403
6	2,491,078
7	2,278,217
8	2,665,447
9	2,382,721
10	2,683,609
11	3,008,059
12	3,214,217
13	3,052,274
14	2,798,600
15	2,616,732
16	2,594,120
17	3,182,620
18	3,385,462
19	3,931,553
20	3,668,504
21	3,690,342
22	3,757,680
23	3,732,646
24	3,799,890
25	3,774,989
26	4,156,567
27	2,963,250
28	4,182,970
29	4,267,109
30	3,823,916
31	4,399,740
Total	103,156,225

(in kWh) **February 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,065,847
2	4,209,700
3	3,654,986
4	3,396,244
5	3,502,559
6	3,333,539
7	3,503,725
8	3,624,653
9	3,711,308
10	3,493,562
11	3,409,470
12	2,845,786
13	2,650,212
14	2,499,901
15	3,123,778
16	3,523,399
17	3,363,415
18	3,619,008
19	3,291,084
20	2,215,516
21	2,466,936
22	2,400,808
23	3,243,233
24	3,147,120
25	2,997,072
26	2,555,186
27	2,731,198
28	2,683,044
Total	89,262,288

(in kWh) **March 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,720,934
2	2,597,616
3	2,629,908
4	2,781,374
5	2,851,344
6	2,845,984
7	2,877,372
8	2,897,478
9	3,540,006
10	4,107,132
11	3,969,918
12	4,174,175
13	3,605,519
14	3,677,317
15	3,462,329
16	3,617,284
17	3,377,488
18	2,152,836
19	2,189,560
20	2,187,565
21	2,342,426
22	2,516,641
23	2,742,606
24	2,467,440
25	2,159,204
26	2,243,934
27	1,928,700
28	2,530,944
29	2,920,698
30	3,314,477
31	2,258,384
Total	89,688,593

Table 38. Southern Field Division Energy Data

(in kWh) **April 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,496,848
2	2,208,596
3	2,536,380
4	2,703,971
5	3,084,689
6	3,628,397
7	3,372,743
8	3,424,504
9	3,392,273
10	3,469,594
11	3,370,601
12	2,940,041
13	3,080,527
14	3,084,919
15	3,499,999
16	3,256,441
17	2,968,996
18	3,114,616
19	3,462,318
20	4,124,909
21	4,063,244
22	3,731,220
23	3,828,532
24	3,890,113
25	3,951,605
26	3,807,695
27	3,785,429
28	3,982,561
29	4,128,584
30	3,764,848
Total	102,155,191

(in kWh) **May 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,800,948
2	3,810,607
3	3,910,853
4	3,987,018
5	3,827,693
6	4,086,932
7	4,402,994
8	4,293,763
9	4,385,754
10	4,497,808
11	4,413,467
12	4,412,574
13	4,529,056
14	4,553,366
15	3,904,250
16	3,873,524
17	3,753,479
18	3,509,388
19	3,598,085
20	3,295,418
21	2,792,740
22	3,705,725
23	3,551,681
24	2,961,727
25	2,829,877
26	1,613,624
27	2,943,936
28	2,989,159
29	2,711,538
30	2,887,438
31	3,184,531
Total	113,018,954

(in kWh) **June 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,017,455
2	3,102,512
3	2,871,583
4	2,613,820
5	2,707,700
6	2,688,980
7	2,779,679
8	2,935,548
9	3,191,947
10	3,011,335
11	2,959,283
12	2,872,292
13	2,952,918
14	3,082,414
15	2,786,026
16	3,092,548
17	3,631,075
18	3,876,257
19	4,188,794
20	3,832,510
21	3,826,793
22	3,590,294
23	3,743,294
24	3,521,923
25	4,105,339
26	4,203,011
27	4,199,044
28	4,622,656
29	4,679,456
30	4,609,919
Total	103,296,406

Table 38. Southern Field Division Energy Data

(in kWh) **July 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,555,692
2	4,274,856
3	4,514,962
4	4,676,731
5	4,493,599
6	4,757,620
7	4,562,993
8	4,764,982
9	4,513,871
10	4,499,680
11	4,730,407
12	4,433,861
13	4,565,084
14	4,472,471
15	4,758,772
16	4,600,768
17	4,659,674
18	4,613,886
19	4,519,357
20	4,517,269
21	4,648,104
22	4,530,640
23	4,707,032
24	4,816,994
25	4,751,176
26	4,865,501
27	4,674,917
28	4,527,428
29	4,437,220
30	4,355,492
31	4,573,015
Total	142,374,053

(in kWh) **August 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,546,649
2	4,731,401
3	4,617,180
4	4,520,048
5	4,537,706
6	4,504,104
7	4,462,960
8	4,505,911
9	4,313,819
10	4,250,765
11	4,336,488
12	4,187,959
13	4,296,953
14	4,146,602
15	4,237,762
16	4,051,325
17	4,114,037
18	4,106,855
19	4,228,279
20	4,203,288
21	4,148,935
22	3,831,181
23	3,579,750
24	3,667,849
25	3,688,574
26	4,196,650
27	4,144,601
28	4,186,793
29	4,235,245
30	4,073,072
31	4,154,904
Total	130,807,645

(in kWh) **September 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,333,180
2	4,237,790
3	4,286,678
4	4,432,298
5	4,265,370
6	4,685,796
7	4,472,863
8	4,680,169
9	4,952,635
10	4,865,886
11	4,853,376
12	3,947,605
13	3,629,588
14	3,903,113
15	3,637,602
16	3,838,828
17	4,142,138
18	3,914,860
19	4,300,646
20	4,305,989
21	4,345,592
22	4,247,489
23	4,055,782
24	4,134,236
25	4,281,826
26	4,201,981
27	4,274,122
28	4,561,553
29	4,212,140
30	3,634,628
Total	127,635,761

Table 38. Southern Field Division Energy Data

(in kWh) **October 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,445,492
2	3,324,071
3	3,348,554
4	3,252,974
5	3,108,136
6	3,080,246
7	2,951,323
8	3,081,683
9	3,072,344
10	3,060,828
11	2,936,218
12	3,257,305
13	3,135,956
14	3,127,280
15	2,871,306
16	3,037,255
17	3,191,962
18	3,545,849
19	3,489,660
20	2,947,338
21	2,736,166
22	3,331,098
23	3,296,128
24	3,117,348
25	2,755,667
26	2,768,933
27	2,705,227
28	2,639,153
29	2,633,422
30	2,642,522
31	2,674,706
Total	94,566,150

(in kWh) **November 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,741,576
2	2,611,674
3	2,307,708
4	2,705,486
5	2,694,298
6	2,720,329
7	2,632,727
8	2,669,173
9	2,607,214
10	2,706,012
11	2,881,152
12	3,306,456
13	3,420,360
14	3,393,454
15	3,434,936
16	3,362,155
17	3,252,542
18	3,451,302
19	3,330,097
20	3,259,418
21	3,276,385
22	3,826,069
23	3,918,636
24	4,331,448
25	4,396,342
26	4,479,300
27	4,503,611
28	4,591,861
29	4,221,583
30	3,796,805
Total	100,830,110

(in kWh) **December 2011**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,934,476
2	3,897,353
3	3,944,527
4	3,893,288
5	4,165,870
6	4,386,132
7	4,365,148
8	4,333,446
9	3,850,085
10	3,608,366
11	3,106,048
12	2,989,462
13	2,956,774
14	3,045,197
15	2,912,702
16	2,696,098
17	2,586,240
18	2,245,118
19	2,469,596
20	2,543,886
21	2,303,100
22	2,412,734
23	2,313,115
24	2,383,139
25	2,149,819
26	2,180,923
27	2,454,980
28	2,476,364
29	2,652,077
30	2,655,050
31	2,752,013
Total	94,663,127

Table 38. Southern Field Division Energy Data

(in kWh) **January 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,489,065
2	2,464,445
3	2,467,008
4	2,448,799
5	2,560,579
6	2,241,896
7	1,938,830
8	1,891,235
9	2,135,790
10	2,098,969
11	2,062,296
12	1,947,762
13	2,560,734
14	2,500,387
15	2,456,525
16	1,281,233
17	1,013,832
18	976,716
19	1,172,952
20	1,912,828
21	2,272,144
22	2,139,422
23	2,371,169
24	2,266,765
25	2,411,114
26	2,722,903
27	3,594,265
28	3,711,917
29	3,612,182
30	3,523,028
31	3,603,622
Total	72,850,414

(in kWh) **February 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,766,308
2	2,409,152
3	2,403,418
4	2,384,161
5	2,486,736
6	2,255,602
7	1,620,576
8	1,017,475
9	1,241,564
10	1,187,129
11	996,167
12	1,275,340
13	997,848
14	982,879
15	1,021,892
16	989,892
17	1,133,478
18	953,737
19	836,777
20	951,293
21	1,150,506
22	1,014,336
23	990,529
24	1,124,233
25	1,161,140
26	1,020,812
27	1,371,964
28	1,359,335
29	1,162,354
Total	40,266,634

(in kWh) **March 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,147,896
2	1,132,873
3	1,144,890
4	1,503,353
5	1,320,034
6	1,436,724
7	1,427,800
8	1,210,756
9	1,343,804
10	1,464,894
11	1,220,224
12	1,523,538
13	1,551,215
14	1,609,164
15	1,494,842
16	1,379,261
17	1,275,941
18	1,016,960
19	1,268,694
20	1,148,393
21	1,074,920
22	1,142,456
23	1,192,460
24	1,111,979
25	1,050,124
26	1,184,123
27	1,168,484
28	926,928
29	1,056,917
30	1,126,116
31	1,019,095
Total	38,674,858

Table 38. Southern Field Division Energy Data

(in kWh) **April 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,030,050
2	1,187,273
3	1,349,071
4	2,134,055
5	2,297,455
6	2,505,431
7	2,459,444
8	2,579,137
9	2,626,909
10	2,908,962
11	2,768,634
12	2,790,022
13	2,834,791
14	2,499,264
15	2,592,616
16	2,590,168
17	2,878,780
18	2,635,866
19	2,770,765
20	2,785,385
21	2,980,800
22	2,827,735
23	2,285,996
24	2,291,177
25	2,185,603
26	2,078,762
27	3,473,543
28	3,833,201
29	3,618,601
30	3,673,055
Total	77,472,551

(in kWh) **May 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,634,470
2	3,702,128
3	3,799,008
4	3,550,565
5	3,729,859
6	3,781,692
7	3,823,589
8	3,913,258
9	4,043,077
10	4,194,616
11	3,963,348
12	3,956,728
13	3,794,162
14	3,743,665
15	3,976,952
16	3,797,107
17	3,774,424
18	3,674,650
19	3,860,456
20	3,876,966
21	3,909,614
22	3,856,014
23	3,786,552
24	3,895,088
25	3,677,872
26	3,338,888
27	3,308,044
28	3,211,808
29	3,212,014
30	3,464,723
31	2,983,637
Total	115,234,974

(in kWh) **June 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,468,323
2	2,787,073
3	2,866,187
4	3,296,966
5	3,520,429
6	3,419,363
7	3,182,818
8	3,253,115
9	3,242,513
10	3,201,343
11	3,138,120
12	3,249,601
13	3,120,196
14	3,004,740
15	3,247,722
16	3,205,267
17	3,006,130
18	3,084,228
19	3,215,272
20	3,214,901
21	3,100,550
22	3,156,440
23	3,176,705
24	3,207,841
25	3,076,114
26	3,229,542
27	3,235,248
28	3,334,313
29	3,229,772
30	3,199,108
Total	95,669,939

Table 38. Southern Field Division Energy Data

(in kWh) **July 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,085,268
2	3,134,088
3	3,192,433
4	2,999,714
5	2,954,214
6	2,870,172
7	3,121,009
8	2,614,612
9	2,794,619
10	2,974,028
11	2,748,107
12	2,877,620
13	2,939,778
14	2,855,902
15	2,830,309
16	3,174,448
17	2,903,008
18	2,829,852
19	2,810,596
20	2,812,378
21	2,794,817
22	2,673,886
23	2,688,800
24	2,701,699
25	2,693,768
26	2,788,765
27	2,814,419
28	2,942,654
29	2,785,792
30	2,909,704
31	2,899,800
Total	89,216,258

(in kWh) **August 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,890,721
2	3,000,337
3	2,682,515
4	3,026,347
5	2,958,358
6	2,480,184
7	2,587,637
8	2,465,543
9	2,584,717
10	2,508,703
11	2,560,723
12	2,558,441
13	2,590,049
14	2,424,006
15	2,639,293
16	2,506,093
17	2,873,786
18	2,474,532
19	2,383,358
20	3,128,504
21	2,729,984
22	2,701,138
23	3,365,431
24	3,253,223
25	3,207,427
26	3,316,162
27	3,160,102
28	2,755,379
29	2,806,189
30	2,777,656
31	3,224,257
Total	86,620,795

(in kWh) **September 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,171,586
2	3,263,710
3	3,318,188
4	3,171,553
5	3,210,746
6	3,197,268
7	3,294,659
8	3,188,952
9	3,222,720
10	3,179,617
11	3,312,716
12	3,199,795
13	2,714,900
14	2,870,672
15	2,975,864
16	3,294,180
17	3,134,502
18	3,368,765
19	3,429,086
20	3,380,317
21	3,497,692
22	3,141,817
23	2,944,141
24	2,971,645
25	2,980,980
26	3,016,501
27	3,247,236
28	3,306,766
29	3,349,699
30	3,272,987
Total	95,629,262

Table 38. Southern Field Division Energy Data

(in kWh) **October 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	3,340,894
2	3,577,522
3	3,891,150
4	3,883,950
5	4,477,640
6	4,279,687
7	4,325,947
8	4,365,680
9	3,766,540
10	3,812,256
11	2,891,869
12	2,968,207
13	4,041,252
14	3,897,155
15	3,777,170
16	3,875,807
17	4,096,955
18	4,038,419
19	3,996,389
20	3,780,468
21	4,127,191
22	4,256,096
23	3,973,788
24	3,929,054
25	4,079,297
26	4,038,394
27	3,834,547
28	3,870,702
29	3,985,859
30	4,119,908
31	3,948,347
Total	121,248,140

(in kWh) **November 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	4,021,128
2	4,026,319
3	4,591,069
4	4,081,003
5	3,818,891
6	3,277,105
7	3,040,832
8	3,212,316
9	3,197,142
10	3,050,734
11	2,962,717
12	2,653,949
13	2,801,059
14	2,758,367
15	2,868,534
16	2,898,720
17	2,830,727
18	2,880,691
19	2,706,116
20	1,537,729
21	1,248,707
22	1,456,650
23	1,535,436
24	1,377,054
25	1,335,168
26	1,481,551
27	1,476,281
28	1,439,608
29	1,502,906
30	1,169,413
Total	77,237,923

(in kWh) **December 2012**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,085,548
2	1,261,958
3	1,299,204
4	1,088,773
5	1,257,736
6	1,115,939
7	885,776
8	951,624
9	1,094,220
10	747,385
11	771,106
12	825,588
13	609,937
14	657,284
15	744,372
16	805,144
17	596,819
18	652,820
19	837,554
20	1,175,137
21	871,942
22	755,258
23	751,252
24	752,638
25	750,168
26	808,970
27	988,160
28	845,971
29	1,415,218
30	2,225,599
31	2,315,840
Total	30,944,941

Table 38. Southern Field Division Energy Data

(in kWh) **January 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,362,082
2	2,282,990
3	2,166,203
4	2,157,160
5	787,327
6	603,166
7	567,608
8	857,682
9	761,198
10	762,880
11	917,467
12	2,020,234
13	2,192,548
14	2,211,358
15	2,209,748
16	2,316,442
17	2,241,580
18	2,477,754
19	2,779,211
20	2,677,338
21	2,624,753
22	2,920,460
23	2,928,056
24	2,578,734
25	2,483,413
26	2,302,078
27	2,187,450
28	2,265,286
29	2,385,608
30	2,320,589
31	2,193,001
Total	62,541,403

(in kWh) **February 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,334,827
2	2,662,330
3	2,824,758
4	2,823,804
5	2,929,108
6	2,798,114
7	2,794,032
8	2,716,736
9	2,735,233
10	2,681,557
11	2,358,500
12	2,448,108
13	2,288,617
14	1,979,204
15	2,163,794
16	2,735,262
17	2,525,278
18	2,057,072
19	2,039,040
20	1,039,759
21	1,452,017
22	1,336,475
23	1,473,005
24	1,464,689
25	1,488,506
26	1,650,989
27	1,815,714
28	1,789,096
Total	61,405,625

(in kWh) **March 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,785,812
2	1,860,250
3	1,586,772
4	1,589,803
5	1,744,056
6	1,564,906
7	1,347,628
8	1,237,824
9	1,036,490
10	862,092
11	1,142,262
12	1,055,977
13	1,056,190
14	979,150
15	1,109,653
16	1,101,614
17	938,243
18	1,125,965
19	1,136,020
20	954,605
21	977,386
22	1,221,469
23	1,201,396
24	1,092,524
25	1,014,577
26	1,254,503
27	1,418,162
28	1,307,430
29	1,412,071
30	1,409,504
31	1,416,316
Total	38,940,649

Table 38. Southern Field Division Energy Data

(in kWh) **April 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,487,707
2	1,516,702
3	1,443,218
4	1,322,482
5	1,341,803
6	1,208,581
7	1,255,543
8	1,520,701
9	1,356,473
10	2,037,179
11	1,795,367
12	1,774,915
13	1,675,141
14	1,514,128
15	1,674,360
16	1,573,243
17	1,567,930
18	1,647,436
19	1,594,840
20	1,457,136
21	1,464,347
22	1,659,924
23	1,737,446
24	1,614,258
25	1,616,180
26	1,467,184
27	1,471,248
28	1,378,778
29	1,581,052
30	1,852,099
Total	46,607,400

(in kWh) **May 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,569,049
2	1,571,591
3	1,676,419
4	1,514,567
5	1,374,113
6	1,687,435
7	1,667,912
8	1,552,626
9	1,467,155
10	1,396,566
11	1,467,313
12	1,319,508
13	1,543,968
14	1,445,512
15	1,462,630
16	1,563,091
17	1,716,952
18	1,739,480
19	1,696,626
20	1,569,971
21	1,524,830
22	1,371,856
23	1,547,035
24	1,305,166
25	1,500,102
26	1,405,843
27	1,300,216
28	1,438,524
29	1,330,924
30	1,408,266
31	1,347,970
Total	46,483,214

(in kWh) **June 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,292,702
2	1,470,280
3	1,520,478
4	1,303,157
5	1,458,734
6	1,470,910
7	1,387,681
8	1,391,983
9	1,293,145
10	1,379,747
11	1,234,490
12	1,309,122
13	1,328,195
14	1,341,086
15	1,399,212
16	1,303,330
17	1,305,814
18	1,473,404
19	1,357,470
20	1,370,102
21	1,328,670
22	1,310,706
23	1,362,478
24	1,354,824
25	1,278,090
26	1,336,993
27	1,372,284
28	1,579,439
29	1,495,429
30	1,456,279
Total	41,266,235

Table 38. Southern Field Division Energy Data

(in kWh) **July 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,398,967
2	1,458,364
3	1,503,911
4	1,598,371
5	1,354,648
6	1,634,195
7	1,402,042
8	1,496,106
9	1,477,264
10	1,427,155
11	1,608,502
12	1,694,023
13	1,592,993
14	1,655,957
15	1,655,536
16	1,751,152
17	1,713,197
18	1,646,474
19	1,698,869
20	1,754,896
21	1,790,791
22	1,562,137
23	1,745,878
24	1,766,765
25	1,677,578
26	1,586,912
27	1,491,325
28	1,437,160
29	1,561,468
30	1,713,697
31	1,452,470
Total	49,308,800

(in kWh) **August 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,415,830
2	1,517,285
3	1,454,616
4	1,482,926
5	1,320,998
6	1,418,242
7	1,684,278
8	1,521,515
9	1,482,131
10	1,527,134
11	1,441,631
12	1,406,214
13	1,438,060
14	1,411,819
15	1,487,653
16	1,490,890
17	1,362,791
18	1,428,934
19	1,327,201
20	1,360,948
21	1,432,206
22	1,400,659
23	1,409,702
24	1,309,788
25	1,384,556
26	1,489,363
27	1,512,832
28	1,461,031
29	1,194,286
30	1,559,614
31	1,428,858
Total	44,563,990

(in kWh) **September 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,545,793
2	1,478,484
3	1,595,257
4	1,550,786
5	1,743,883
6	1,529,078
7	1,809,781
8	1,718,827
9	1,902,708
10	1,831,457
11	1,524,809
12	1,681,254
13	1,740,172
14	1,554,451
15	1,717,794
16	1,539,547
17	1,558,904
18	1,908,670
19	1,565,024
20	1,530,522
21	1,371,956
22	1,457,478
23	1,429,409
24	1,260,839
25	1,203,390
26	1,254,802
27	1,230,350
28	1,299,964
29	1,297,796
30	1,268,330
Total	46,101,517

Table 38. Southern Field Division Energy Data

(in kWh) **October 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,378,235
2	1,293,530
3	2,145,794
4	2,390,483
5	2,239,549
6	2,184,793
7	2,286,349
8	2,263,489
9	2,088,850
10	2,091,168
11	2,235,604
12	2,031,815
13	2,052,886
14	2,104,841
15	2,044,123
16	2,077,355
17	2,260,494
18	2,362,867
19	2,150,305
20	2,304,166
21	2,169,662
22	2,295,482
23	2,283,595
24	2,289,269
25	2,112,822
26	2,173,133
27	2,095,063
28	2,219,440
29	2,073,848
30	2,031,473
31	2,018,426
Total	65,748,910

(in kWh) **November 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	2,167,571
2	1,957,248
3	1,453,262
4	1,375,236
5	1,522,303
6	1,257,566
7	1,457,687
8	1,588,932
9	1,687,637
10	1,732,028
11	1,452,845
12	1,500,804
13	1,583,291
14	1,456,200
15	1,345,730
16	1,587,503
17	1,531,361
18	1,450,440
19	1,436,245
20	1,612,213
21	1,609,974
22	2,318,195
23	2,279,722
24	2,243,178
25	1,976,054
26	1,733,447
27	2,033,208
28	1,058,180
29	880,117
30	1,005,811
Total	48,293,989

(in kWh) **December 2013**

East Branch	
Date	Devil Canyon Powerplant Generation
1	975,964
2	978,037
3	1,030,658
4	989,874
5	946,109
6	858,409
7	855,828
8	605,578
9	264,841
10	305,874
11	244,001
12	259,956
13	277,110
14	602,993
15	649,973
16	907,002
17	1,076,119
18	1,321,852
19	964,357
20	1,014,890
21	909,036
22	426,506
23	450,295
24	416,308
25	467,132
26	449,186
27	491,450
28	605,642
29	601,776
30	626,458
31	545,094
Total	21,118,309

Table 38. Southern Field Division Energy Data

(in kWh) **January 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	845,615
2	612,198
3	559,811
4	595,973
5	549,180
6	529,096
7	462,492
8	500,756
9	582,106
10	534,017
11	546,628
12	760,961
13	634,964
14	394,459
15	643,982
16	560,675
17	508,295
18	468,112
19	574,520
20	777,049
21	775,955
22	629,377
23	637,301
24	744,167
25	598,720
26	648,396
27	638,510
28	460,379
29	718,934
30	629,028
31	615,265
Total	18,736,920

(in kWh) **February 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	560,120
2	537,487
3	619,556
4	641,160
5	750,416
6	724,874
7	636,271
8	617,731
9	657,029
10	628,758
11	623,894
12	647,143
13	573,718
14	666,439
15	756,839
16	602,068
17	590,803
18	647,680
19	684,198
20	613,876
21	510,710
22	678,708
23	759,218
24	673,690
25	254,797
26	255,020
27	225,738
28	156,560
Total	16,294,504

(in kWh) **March 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	186,523
2	203,191
3	191,768
4	170,690
5	160,571
6	179,903
7	133,805
8	361,879
9	172,364
10	176,044
11	233,708
12	336,535
13	324,734
14	328,450
15	386,651
16	323,233
17	190,238
18	288,846
19	256,932
20	395,431
21	332,586
22	342,454
23	393,440
24	369,212
25	335,866
26	369,695
27	366,458
28	418,054
29	385,909
30	372,553
31	352,019
Total	9,039,743

Table 38. Southern Field Division Energy Data

(in kWh) **April 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	350,554
2	308,189
3	261,266
4	171,353
5	138,352
6	272,736
7	195,631
8	380,621
9	203,591
10	320,764
11	415,249
12	454,644
13	367,150
14	280,404
15	307,404
16	280,249
17	325,670
18	318,780
19	291,258
20	294,224
21	325,768
22	308,732
23	353,581
24	320,760
25	351,803
26	367,884
27	444,856
28	230,630
29	87,174
30	388,094
Total	9,117,371

(in kWh) **May 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	402,833
2	512,928
3	442,818
4	480,604
5	390,744
6	197,878
7	523,656
8	381,236
9	426,406
10	475,369
11	759,679
12	824,306
13	1,071,796
14	1,057,180
15	834,642
16	769,230
17	767,740
18	952,243
19	876,168
20	794,326
21	981,385
22	583,423
23	702,014
24	719,798
25	744,818
26	742,342
27	663,808
28	711,914
29	712,667
30	717,214
31	677,754
Total	20,898,918

(in kWh) **June 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	784,440
2	713,941
3	818,424
4	726,552
5	652,298
6	716,465
7	760,147
8	759,481
9	977,580
10	757,199
11	723,643
12	734,418
13	769,918
14	759,787
15	835,769
16	746,525
17	758,704
18	840,049
19	920,675
20	866,621
21	1,014,606
22	895,129
23	1,137,319
24	675,158
25	623,596
26	764,518
27	699,955
28	772,340
29	699,725
30	811,285
Total	23,716,267

Table 38. Southern Field Division Energy Data

(in kWh) **July 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	864,788
2	779,551
3	908,406
4	691,160
5	849,834
6	942,674
7	731,300
8	734,389
9	865,991
10	836,503
11	909,130
12	919,883
13	959,360
14	1,131,174
15	783,302
16	881,928
17	813,888
18	850,352
19	955,242
20	839,664
21	841,882
22	679,475
23	985,349
24	995,566
25	840,118
26	888,980
27	847,202
28	872,500
29	993,200
30	919,357
31	1,057,378
Total	27,169,528

(in kWh) **August 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	733,547
2	755,240
3	983,203
4	757,606
5	830,808
6	794,664
7	777,881
8	848,621
9	1,046,786
10	1,096,927
11	921,179
12	787,828
13	807,196
14	997,873
15	850,932
16	799,646
17	1,062,774
18	848,725
19	980,968
20	846,518
21	886,439
22	894,294
23	847,361
24	866,030
25	845,028
26	871,585
27	923,310
28	810,810
29	804,812
30	895,363
31	920,992
Total	27,094,946

(in kWh) **September 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	888,080
2	869,188
3	808,942
4	637,582
5	609,437
6	665,194
7	647,489
8	601,034
9	510,062
10	615,654
11	666,050
12	673,762
13	635,105
14	570,665
15	536,026
16	543,110
17	518,659
18	530,734
19	578,207
20	521,950
21	575,878
22	546,865
23	595,224
24	593,327
25	468,302
26	639,554
27	555,617
28	603,302
29	565,942
30	522,576
Total	18,293,515

Table 38. Southern Field Division Energy Data

(in kWh) **October 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	519,811
2	472,918
3	464,846
4	510,458
5	500,998
6	497,549
7	502,056
8	424,112
9	424,930
10	616,032
11	654,833
12	643,082
13	730,102
14	717,667
15	486,187
16	556,369
17	535,003
18	418,687
19	486,590
20	455,522
21	418,334
22	642,424
23	684,763
24	556,952
25	699,329
26	707,051
27	723,931
28	534,744
29	593,273
30	707,134
31	573,001
Total	17,458,690

(in kWh) **November 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	329,738
2	326,750
3	250,952
4	240,826
5	309,812
6	216,184
7	312,451
8	425,966
9	460,613
10	469,750
11	397,037
12	405,644
13	439,895
14	456,696
15	418,093
16	427,972
17	446,612
18	479,675
19	473,072
20	546,656
21	412,906
22	450,281
23	416,639
24	290,966
25	284,256
26	334,282
27	335,279
28	383,702
29	343,289
30	513,425
Total	11,599,420

(in kWh) **December 2014**

East Branch	
Date	Devil Canyon Powerplant Generation
1	364,028
2	369,475
3	281,804
4	133,261
5	125,410
6	279,965
7	384,847
8	301,453
9	280,548
10	735,257
11	1,730,815
12	1,696,158
13	1,672,499
14	1,606,943
15	1,378,433
16	1,146,658
17	482,357
18	406,958
19	469,735
20	438,077
21	476,431
22	495,950
23	324,720
24	255,344
25	284,274
26	262,199
27	300,301
28	326,704
29	301,576
30	303,124
31	322,056
Total	17,937,360

Table 38. Southern Field Division Energy Data

(in kWh) **January 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	246,632
2	347,756
3	275,242
4	254,182
5	226,822
6	271,418
7	274,572
8	502,697
9	514,886
10	450,569
11	165,679
12	406,382
13	697,255
14	668,434
15	591,412
16	502,049
17	558,482
18	569,354
19	424,555
20	621,266
21	531,684
22	477,727
23	621,277
24	363,478
25	244,548
26	122,630
27	106,366
28	113,681
29	96,689
30	101,146
31	204,696
Total	11,553,566

(in kWh) **February 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	401,411
2	559,642
3	587,513
4	628,682
5	489,982
6	729,565
7	795,254
8	563,069
9	648,662
10	796,702
11	658,472
12	662,551
13	626,148
14	777,910
15	822,276
16	655,286
17	840,881
18	756,101
19	676,937
20	845,622
21	738,778
22	779,911
23	838,188
24	892,166
25	849,560
26	1,776,276
27	1,469,297
28	1,515,445
Total	22,382,287

(in kWh) **March 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,519,722
2	1,357,132
3	1,439,748
4	1,510,358
5	869,828
6	1,006,657
7	1,250,870
8	986,717
9	1,136,923
10	1,466,118
11	1,177,949
12	1,171,195
13	1,219,158
14	1,180,462
15	1,062,112
16	1,222,438
17	1,339,042
18	1,305,914
19	1,320,289
20	1,149,516
21	1,208,747
22	1,261,843
23	1,100,048
24	1,097,089
25	1,314,698
26	1,299,892
27	1,415,966
28	1,316,894
29	1,332,144
30	1,279,004
31	1,253,653
Total	38,572,128

Table 38. Southern Field Division Energy Data

(in kWh) **April 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	1,244,700
2	1,149,739
3	1,395,691
4	1,089,824
5	1,185,188
6	1,348,229
7	879,934
8	888,109
9	1,230,851
10	1,092,420
11	1,339,470
12	1,191,748
13	1,380,935
14	800,615
15	773,662
16	846,205
17	733,324
18	814,154
19	794,398
20	913,817
21	785,369
22	644,537
23	957,550
24	797,008
25	720,835
26	664,909
27	759,251
28	615,535
29	634,604
30	757,555
Total	28,430,165

(in kWh) **May 2015**

East Branch	
Date	Devil Canyon Powerplant Generation
1	859,838
2	702,126
3	818,273
4	769,082
5	650,855
6	686,732
7	995,126
8	704,898
9	612,173
10	601,657
11	716,731
12	711,616
13	743,324
14	587,542
15	645,732
16	647,478
17	564,786
18	424,148
19	552,481
20	686,930
21	508,183
22	356,227
23	686,912
24	550,526
25	646,650
26	547,078
27	514,886
28	506,146
29	532,375
30	737,204
31	753,919
Total	20,021,634

Appendix F

Current License Articles

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APPENDIX F

CURRENT LICENSE ARTICLES

License Article	Summary of Article Subject
Article 1	The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.
Article 2	No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.
Article 3	The project works shall be constructed in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct. Upon the completion of the project, or at such other time as the Commission may direct, the Licensee shall submit to the Commission for approval revised exhibits insofar as necessary to show any divergence from or variations in the project area and project boundary as finally located or in the project works as actually constructed when compared with the area and boundary shown and the works described in the license or in the exhibits approved by the Commission, together with a statement in writing setting forth the reasons which in the opinion of the Licensee necessitated or justified variation in or divergence from the approved exhibits. Such revised exhibits shall, if and when approved by the Commission, be made a part of the license under the provisions of Article 2 hereof.
Article 4	The construction, operation, and maintenance of the project and any work incidental to additions or alterations shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of the project and for any subsequent alterations to the project. The Licensee shall also furnish to said representative such further information as he may require concerning the construction, operation, and maintenance of the project, and of

License Article	Summary of Article Subject
	any alteration thereof, and shall notify him of the date upon which work will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.
Article 5	The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction, maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights of occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.
Article 8	The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the state and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character and locations of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.
Article 9	The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

License Article	Summary of Article Subject
Article 10	The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.
Article 11	Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.
Article 14	In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.
Article 15	The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.
Article 16	Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.
Article 17	The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during

License Article	Summary of Article Subject
	the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.
Article 18	So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.
Article 19	In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.
Article 20	The Licensee shall consult with the appropriate State and Federal agencies and, within one year of the date of issuance of this license, shall submit for Commission approval a plan for clearing the reservoir area. Further, the Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. Upon approval of the clearing plan all clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statues and regulations.
Article 21	Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.
Article 26	Timber on lands of the United States cut, used, or destroyed in the construction and maintenance of the project works, or in the clearing of said lands, shall be paid for, and the resulting slash and debris disposed of, in accordance with the requirements of the agency of the United States having jurisdiction over said lands. Payment for merchantable timber shall be at current stumpage rates, and payment for young growth timber below merchantable size shall be at current damage appraisal values. However, the agency of the United States having jurisdiction may sell or dispose of the merchantable timber to others than the Licensee: Provided, That timber so sold or disposed of shall be cut and removed from the area prior to, or without undue interference with, clearing operations of the Licensee and in coordination with the Licensee's project construction schedules. Such sale or disposal to others shall not relieve the Licensee of responsibility for the clearing and disposal of all slash and debris from project lands.

License Article	Summary of Article Subject
Article 27	The Licensee shall do everything reasonably within its power, and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon the request of officers of the agency concerned, to prevent, to make advance preparations for suppression of, and to suppress fires on the lands to be occupied or used under the license. The Licensee shall be liable for and shall pay the costs incurred by the United States in suppressing fires caused from the construction, operation, or maintenance of the project works or of the works appurtenant or accessory thereto under the license.
Article 29	The Licensee shall be liable for injury to, or destruction of, any buildings, bridges, roads, trails, lands, or other property of the United States, occasioned by the construction, maintenance, or operation of the project works or of the works appurtenant or accessory thereto under the license. Arrangements to meet such liability, either by compensation for such injury or destruction, or by reconstruction or repair of damaged property, or otherwise, shall be made with the appropriate department or agency of the United States.
Article 30	The Licensee shall allow any agency of the United States, without charge, to construct or permit to be constructed on, through, and across those project lands which are lands of the United States such conduits, chutes, ditches, railroads, roads, trails, telephone and power lines, and other routes or means of transportation and communication as are not inconsistent with the enjoyment of said lands by the Licensee for the purposes of the license. This license shall not be construed as conferring upon the Licensee any right of use, occupancy, or enjoyment of the lands of the United States other than for the construction, operation, and maintenance of the project as stated in the license.
Article 31	In the construction and maintenance of the project, the location and standards of roads and trails on lands of the United States and other uses of lands of the United States, including the location and condition of quarries, borrow pits, and spoil disposal areas, shall be subject to the approval of the department or agency of the United States having supervision over the lands involved.
Article 32	The Licensee shall make provision, or shall bear the reasonable cost, as determined by the agency of the United States affected, of making provision for avoiding inductive interference between any project transmission line or other project facility constructed, operated, or maintained under the license, and any radio installation, telephone line, or other communication facility installed or constructed before or after construction of such project transmission line or other project facility and owned, operated, or used by such agency of the United States in administering the lands under its jurisdiction.
Article 33	The Licensee shall make use of the Commission's guidelines and other recognized guidelines for treatment of transmission line rights-of-way, and shall clear such portions of transmission line rights-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall keep the areas so designated clear of new growth, all refuse, and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with the transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place.
Article 34	The Licensee shall cooperate with the United States in the disposal by the United States, under the Act of July 31, 1947, 61 Stat. 681, as amended (30 U.S.C. sec. 601, et seq.), of mineral and vegetative materials from lands of the United States occupied by the project or any part thereof: Provided, That such disposal has been authorized by the

License Article	Summary of Article Subject
	Commission and that it does not unreasonably interfere with the occupancy of such lands by the Licensee for the purposes of the license: Provided further, That in the event of disagreement, any question of unreasonable interference shall be determined by the Commission after notice and opportunity for hearing.
Article 35	If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.
Article 36	The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.
Article 37	The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.
Article 38	The Licensees shall file with the Commission’s authorized representative and Director, Office of Electric Power Regulation, one copy each of the contract plans and specifications prior to the start of construction. The Director, Office of Electric Power Regulation, may require such appropriate changes to the plans and specifications as necessary to assure a safe and adequate project.
Article 39	The Licensees shall install such instrumentation and other devices as may be necessary for monitoring the performance of project structures. The plan of instrumentation and a schedule of recording instrument readings shall be furnished to the Commission. The Licensees shall furnish periodically to the Commission, as may be requested by the Commission’s authorized representative, a report and analysis of the instrument readings.
Article 40	The Licensees shall, in good faith and with due diligence, prosecute construction of the project facilities and shall complete such construction not later than December 31, 1985, except that construction of the San Luis Obispo facility should be completed not later than December 31, 1987.
Article 42	The Licensees shall submit to the Commission for the Alamo power plant an economic analysis and revised Exhibit L drawings, and shall not commence construction until the Commission has approved the revised Exhibit L drawings.
Article 43	The Licensees shall coordinate the final design and operation plans of project facilities with the District Engineer, United States Army Engineer District, Los Angeles, California,

<table>
<tr><th>License Article</th><th>Summary of Article Subject</th></tr>
<tr><td></td><td>for compatibility with Corps of Engineers' plans to assure maximum practicable joint benefits in the Santa Clara and Santa Ana River basins.</td></tr>
<tr><td>Article 44</td><td>The Licensees shall file a revised Exhibits K, L, and M:
(1) within one year of the date of issuance of this license for the constructed project facilities, and
(2) for the unconstructed power facilities, within one year after their completion.</td></tr>
<tr><td>Article 45</td><td>The Licensees shall pay to the United States the following annual charges effective the date of this order is issued:
A. For the purpose of reimbursing the United States for the cost of administration of Part I of the Act, a reasonable annual charge as determined by the Commission in accordance with the provisions of its Regulations, in effect from time to time.
(1) The State of California Department of Water Resources. The authorized installed capacity is 354,700 kilowatts effective the first day of the month in which the Alamo Power Drop Development and Mojave Siphon Development were removed from the licensed project.
(2) City of Los Angeles Department of Water and Power. The authorized installed capacity for such purpose is 1,700,000 horsepower as summarized in Table 2 for the on-line date of each unit.
Table 2
Installed Capacity for Annual Charges Purposes
FERC Project No. 2426
<table>
<tr><th>Unit No.</th><th>On-line Date</th><th>Installed Capacity (kW)</th><th>Installed Capacity (horsepower)</th></tr>
<tr><td>1</td><td>07-11-73</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td>2</td><td>07-09-74</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td>3</td><td>07-13-76</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td>4</td><td>06-16-77</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td>5</td><td>12-16-77</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td>6</td><td>08-11-78</td><td>212,500</td><td>283,333.3</td></tr>
<tr><td></td><td></td><td>Total</td><td>1,700,000</td></tr>
</table>
(B) For the purpose of recompensing the United States for the use, occupancy and enjoyment of its lands, exclusive of transmission line rights-of-way, an amount as may be determined from time to time pursuant to the Commission's Regulations.
(1) State of California Department of Water Resources: 5,002.87 acres.
(2) City of Los Angeles Department of Water and Power: 155.00 acres.
(C) For the purpose of recompensing the United States for the use, occupancy and enjoyment of its lands for transmission line rights-of-way, an amount as may be determined from time to time pursuant to the Commission's Regulations.
(1) State of California Department of Water Resources: 49.40 acres.
(2) City of Los Angeles Department of Water and Power: 138.23 acres.</td></tr>
</table>

License Article	Summary of Article Subject
Article 46	The Commission reserves the right to determine what additional transmission facilities, if any, shall be included in this license as part of the project.
Article 47	The Licensees shall continue to consult with the California Department of Parks and Recreation and arrange for its archeologist to determine the extent of any archeological and historical survey and salvage excavation necessary, prior to construction, and cooperate in any way needed to assure such survey and salvage operations are conducted and completed prior to any future construction and/or flooding, whichever is applicable. Upon completion of any archeological survey and/or salvage, reports of such activities or findings shall be filed with the Commission and the Heritage Conservation and Recreation Service of the U.S. Department of the Interior.
Article 48	The Licensees shall consult with appropriate Federal and State agencies and professional land use planners in developing plans to blend project facilities including transmission lines into the natural environs, and shall exercise care to ensure that project construction and maintenance activities cause minimal adverse effects on scenic values. Following completion of construction at each project site, Licensees shall clean up each area and dispose of all rubbish, trash, unused construction materials, temporary structures and other debris and materials and take such other measures needed to restore the scenic values of the project areas, to the satisfaction of the Commission's authorized representative.
Article 49	The Licensees shall, following consultation with appropriate Federal, State, and local agencies, file for Commission review its plans for the preservation and enhancement of the environment as it may be affected by the design and location of project works including transmission lines, giving appropriate consideration to recognized guidelines for protecting the environment and beneficial uses, including wildlife, of the transmission line rights-of-way.
Article 50	The Licensees shall, within two years from the date of issuance of this order, file for Commission approval a revised Exhibit R which conforms to Section 4.41 Exhibit R of the Commission Regulations under the Federal Power Act. The revised Exhibit R shall consider, among other things, the need for: (1) camping facilities, a visitor center, and other facilities to provide for the optimum level of recreational development at Pyramid Lake; (2) construction and development of the proposed Frenchman Flat Reservoir and its associated recreational facilities; and (3) recreational development of the Upper Castaic area for camping, picnicking, and other associated recreation activities, specifically excluding any use by the public of the water surface or subsurface of Elderberry Forebay.
Article 51	The Licensees shall, within two years from the issuance of this order, file for Commission approval a revised Exhibit S which conforms to Section 4.41 Exhibit S of the Commission Regulations under the Federal Power Act. The revised Exhibit S shall include, but not be limited to (1) the results of studies conducted to determine the effect of the project's operation on the fishery resources of project waters, including bioassay procedures conducted by the Licensees, in consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game, to minimize the impact of the use of algicides in project reservoirs, by determining the application rate that would protect non-target organisms where widespread applications of algicide are planned; (2) a specific plan, including construction schedules and costs, if any, for implementing any mitigative or enhancement measures recommended by the study for the maintenance and protection of the fisheries resource of the project waters; (3) the results of a study to be conducted in cooperation with the "Condor Recovery Team", to determine the effects of the project's construction, operation and maintenance on the endangered California

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	Condor and its critical habitat in the Pyramid Reservoir and Piru Creek areas; and (4) detailed plans for any measures necessary to mitigate the loss of wildlife resources due to construction and operation of the project, including transmission line rights-of-way. Such plans shall include a description of lands, if any, which may be reserved for wildlife mitigation purposes.
Article 52	Stream releases from Pyramid Dam into Piru Creek shall match natural surface inflow into Pyramid Lake to the extent operationally feasible and consistent with safety requirements, as further described in the following guidelines: • Natural inflow to Pyramid Lake will be released into Piru Creek at a rate of up to about 18,000 cubic feet per second (cfs), which is the maximum safe, designed release from Pyramid Dam. The exact maximum safe release depends on the lake surface water elevation at the time of the release. • Storm releases from Pyramid Dam into Piru Creek may be held back at less than 18,000 cfs if higher releases are deemed a threat to life, safety, or property at Pyramid Dam or downstream of the dam. • The licensees may elect to appropriate inflow to Pyramid Lake above the safe release flows under the provisions of its existing water rights. • Up to 3,150 acre-feet of State Water Project water would be delivered to United Water Conservation District via middle Piru Creek (from Pyramid Dam) between November 1 and the end of February of each water year. During this period, water deliveries may be made over a period of a few days, ramping flows up and down to simulate the hydrograph of a typical storm event, or they may be released more gradually over a longer period. • Releases from Pyramid Dam could be increased by up to 50 cfs for short periods to exercise the Pyramid Dam radial gate and stream release valves; test emergency power sources; conduct tests mandated by the Commission; or meet other short-term operational or maintenance requirements. No such testing would take place between March 15 and June 15. Testing would also be avoided to the extent possible between June 16 and July 31. Tests may be conducted at any time between August 1 and March 14, provided that flows do not increase by more than 50 cfs above current base flows during the event and that the event does not last longer than 15 minutes. Scheduled tests requiring larger releases or lasting longer than 15 minutes would require prior notification to the U.S. Fish and Wildlife Service (FWS). Unscheduled releases due to equipment failure or emergency situations must be reported to the FWS no later than three business days after the event. • The gaging station on upper Piru Creek (located north of Pyramid Lake) provides 24-hour averages; therefore, instantaneous peak stream releases may be attenuated. Unlike the natural inflow hydrograph, which typically peaks sharply, the stream release hydrograph of middle Piru Creek may be attenuated. • A multiplier is used to account for those portions of Pyramid Lake watershed that are not tributaries of upper Piru Creek and Cañada de los Alamos upstream of their respective gaging stations. This may result in some deviations for individual storm events due to localized variations in storm water intensity. • Because of operational constraints, the stream release hydrograph of middle Piru Creek would typically gage measured inflow. The valves at Pyramid Dam can be adjusted for release flows of less than 3 cfs; however, the precise measurement of released flows less than 3 cfs may not be possible due to operational constraints of the dam's gaging instrumentation.
Article 53	The Licensees, for the purpose of assessing the quality of the aquatic environment in project reservoirs and in streams below project reservoirs, shall conduct water quality

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	monitoring programs at selected representative locations within the project reservoirs and in Piru Creek and West Fork-Mojave River below the project reservoirs. The monitoring program shall be developed after consultation with the Fish and Wildlife Service of the U.S; Department of the Interior, U.S. Forest Service, and the California Department of Fish and Game. Monitoring shall continue for a minimum period of five years. Sampling shall be done at least once each month and shall include temperature and dissolved oxygen profiles, and physical, mineral, nutrient, and phytoplankton measurements as deemed necessary through consultation with the above agencies. Insofar as possible, this program may be implemented through the existing water quality monitoring programs being conducted in project reservoirs. Following the conclusion of the study, a final report shall be filed with the Commission showing the findings of this program together with the recommendations of the Licensees and the cooperating agencies for any further studies or proposals for maintenance or improvement of the aquatic environment of the reservoirs and/or stream reaches below the project dams as shown to be desirable. The Commission reserves the right, after notice and opportunity for hearing, to require additional studies and require such reasonable changes in the project and its operation as may be found necessary or appropriate to maintain or enhance the aquatic environment, consistent with the primary purpose of the project.
Article 54	The Licensees shall provide without charge to the Forest Service, a permanent water source (pipe and valve) at locations near the Osito Canyon Spoil Area and the south portal of the Angeles Tunnel, the exact locations to be agreed upon between the Licensees and the Forest Service. Water from these sources shall be made available throughout the year for fire suppression, wildlife management, and recreational purposes. The Licensees and the Forest Service shall determine the quantities of water to be delivered. In the event the Licensees and Forest Service cannot agree on release quantities and/or schedules for such releases, the Commission reserves the right to determine quantities and/or schedules.
Article 55	The Licensees shall, in cooperation with the Forest Service, provide for post-operational studies to determine the effects of the Castaic pumped storage operation on the stability of the Pyramid Reservoir shoreline, and shall take appropriate corrective actions, where necessary, to protect any affected recreational facilities and the natural resource values of the shoreline.
Article 56	The Licensees shall make available to the Forest Service upon request, water in an amount equal in volume to the subterranean water captured by the San Bernardino Tunnel groundwater system. The quantity of water to be delivered shall be determined by the Licensees and the Forest Service. In the event an agreement cannot be reached between the parties, the Commission reserves the right to determine such quantities, after notice and opportunity for hearing.
Article 57	The Licensees shall consult with the U.S. Forest Service to determine measures which are necessary to minimize the impact on, or to restore Federal lands disturbed by stripping, grading, excavating or other associated activities attributed to the construction of the project. Where practicable, disturbed areas shall be restored by utilizing accepted landscaping methods and revegetative measures. A plan specifying such landscaping methods and revegetative measures to be taken, shall be filed with the Commission within two years from the date of issuance of this order.
Article 58	The Licensees in the interest of providing public recreation shall maintain Silverwood Lake and Pyramid Reservoir surface elevations at the highest, most practicable levels commensurate with other project purposes during the summer recreation season. The

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	Licensee shall, within two years of the date of issuance of this order, file with the Commission its operational plan for reservoir surface elevation maintenance.
Article 59	Licensees shall file with the Commission, implement, and modify when appropriate, an emergency action plan designed to provide an early warnings to upstream and/or downstream inhabitants and property owners if there should be an impending or actual sudden release of water caused by an accident to, or failure of, project structures. Such plan, to be submitted within one year of the date of issuance of the license, shall include, but not be limited to, instructions to be provided on a continuing basis to operators and attendants for actions they are to take in the event of an emergency; detailed and documented plans for notifying law enforcement agents, appropriate Federal, State, and local agencies, operators of water-related facilities, and those residents and owners of properties that could be endangered; actions that would be taken to reduce the inflow to the reservoir, if such is possible, by limiting the outflow from upstream dams or control structures; and actions to reduce downstream flows by controlling the outflow from dams located on tributaries to the stream on which the project is located. Licensees shall also submit a summary of the study used as a basis for determining the areas that may be affected by such an emergency occurrence, including criteria and assumptions used. Licensees shall monitor any changes in upstream or downstream conditions which may influence possible flows or affect areas susceptible to damage, and shall promptly make and file with the Commission appropriate changes in such emergency action plan.
Article 60	The Licensees shall, to the satisfaction of the Commission's authorized representative, install and operate such signs, lights, sirens or other devices below the powerhouses to warn the public of fluctuations in flow from the project, and shall install such signs, lights and other safety devices above the powerhouse intakes and spillways as may be reasonably needed to protect the public in its recreational use of the project lands and waters.
Article 61	The Licensee, Department of Water Resources, shall consult and cooperate with owners and operators of gas and oil pipelines requiring relocation as a result of the construction of the Pyramid Reservoir to minimize the possibility of interferences with either the pipelines or project operation. To the extent that lands of the National Forests will be utilized for the relocation of the pipelines, necessary permission must be obtained from the United States Forest Service. To the extent that the relocated pipelines will cross project lands of the Licensees, written approval for these rights-of-way must be obtained in accordance with Article 5 as modified by Article 44. In the event that no agreement is reached which will allow satisfactory pipeline and project operations, the Commission retains authority to consider and resolve all issues subject to its jurisdiction which are not resolved relating to conflicts between project and pipeline operations, after notice and opportunity for a further hearing.
Article 62	The operations of the Licensees, so far as they affect the use of waters of navigable waterways and the use, storage, and discharge of waters of the streams affected by the project, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interests of navigation, and as the Commission may prescribe for the protection of life, health, and property, reasonably consistent with the purposes of the project.
Article 63	The Licensees shall permit the agency of the United States having jurisdiction over the lands affected, or persons or corporations authorized by the United States and having no alternate water supply, to use water for fire suppression purposes from any stream, conduit or body of water, natural or artificial, used by the Licensees in the operation of the project works covered by the License. The Licensees shall also permit the aforesaid agency of the United States to use water for recreation purposes up to the amount

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	allocated to recreation by the Licensees in their recreation plans. The Licensee may require the payment of reasonable charges by the agency using project water for recreation pursuant to this article.
Article 64	Licensees shall file with the Commission the actual dates of commencement of commercial operation of each existing generating unit, and each new unit as it becomes operational. The dates of commercial operation of existing units shall be filed within 6 months of the date of issuance of this license.
Article 65	(a) In accordance with the provisions of this article, the Licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain other types of use and occupancy, without prior Commission approval. The Licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the Licensee shall also have continuing responsibility to supervise and control the uses and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the Licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the Licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, cancelling the permission to use and occupy the project lands and waters and requiring the removal of any noncomplying structures and facilities. (b) The types of use and occupancy of project lands and waters for which the Licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities; and (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the Licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The Licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the uses and occupancies for which it grants permissions are maintained in good repair and comply with applicable State and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the Licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the Licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the Licensee's costs of administering the permit program. The Commission reserves the right to require the Licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modifications of those standards, guidelines, or procedures. (c) The Licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges and roads for which all necessary State and Federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures

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	within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the Licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. (d) The Licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary State and Federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary Federal and State water quality certificates or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary Federal and State approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from the edge of the project reservoir at normal maximum surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 45 days before conveying any interest in project lands under this paragraph (d), the Licensee must file a letter to the Director, Office of Electric Power Regulation, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any Federal or State agency official consulted, and any Federal or State approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the Licensee to file an application for prior approval, the Licensee may convey the intended interest at the end of that period. (e) The following additional conditions apply to any intended conveyance under paragraphs (c) or (d) of this article: (1) Before conveying the interest, the Licensee shall consult with Federal and State fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer. (2) Before conveying the interest, the Licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value. (3) The instrument of conveyance must include covenants running with the land adequate to ensure that: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; and (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project. (4) The Commission reserves the right to require the Licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the

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	protection and enhancement of the project's scenic, recreational, and other environmental values. (f) The conveyance of an interest in project lands under this article does not in itself chancre the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.
Article 69	The Licensee shall within six months of completion of construction of the Mojave Siphon Powerplant file in accordance with the Commission's rules and regulations revised Exhibit F drawings showing the project as-built.
Article 301	*(Devil Canyon only; as added by 41 FERC ¶ 62,301).* The licensee shall commence construction of project works within two years from the issuance date of this order and shall complete construction of the project within four years from the issuance date of this order. *(Mojave Siphon only; as added by 51 FERC ¶ 62,090).* The licensee shall begin construction of the amended project works within 2 years and shall complete construction of the project within 4 years from the issuance date of this order. This article supersedes both article 70 of the Order Amending License (Major) issued August 12, 1982 (20 FERC ¶ 62,266), and paragraph (A) of the Order Granting Extension Of Time for the deadline for completing project construction until July 31, 1990, issued June 14, 1988.
Article 302	*(Devil Canyon only; as added by 41 FERC ¶ 62,301).* The licensee shall at least 60 days prior to start of construction, submit one copy to the Commission's Regional Director and two copies to the Director, Division of Inspections, of the final contract drawings and specifications for pertinent features of the project, such as water retention structures, powerhouse, and water conveyance structures. The Director, Division of Inspections, may require changes in the plans and specifications to assure a safe and adequate project. *(Mojave Siphon only; as added by 51 FERC ¶ 62,090).* At least 60 days before starting construction, the licensee shall submit one copy to the Commission's Regional Director and two copies to the Director of the Division of Inspections and Dam Safety, of the final contract drawings and specifications for pertinent features of the project, such as water-retention structures, all necessary transmission facilities, the powerhouse, and water conveyance structures. The Director of the Division of Inspections and Dam Safety, may require changes in the plans and specifications.
Article 303	*(Devil Canyon only; as added by 41 FERC ¶ 62,301)*. The licensee shall review and approve the design of contractor-designed cofferdams and deep excavations prior to the start of construction and shall ensure that construction of cofferdams and deep excavations is consistent with the approved design. At least 30 days prior to start of construction of the cofferdam, the licensee shall submit to the Commission's Regional Director and Director, Division of Inspections, one copy each of the approved cofferdam construction drawings and specifications and the letter(s) of approval. *(Mojave Siphon only; as added by 51 FERC ¶ 62,090).* Within 90 days after completing construction, the licensee shall file for the Commission approval revised exhibits A, F,

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	and G to describe and show the amended project as built. This article supersedes article 71 of the order amending license issued August 12, 1982 (20 FERC ¶ 62,266).
Article 304	*(Devil Canyon only; as added by 41 FERC ¶ 62,301).* The licensee shall within 90 days of completion of construction of the amended Devil Canyon Powerplant file, for approval by Commission, revised Exhibits A, F, and G to describe and show the amended Devil Canyon Powerplant as built.
Article 305	The licensee shall prior to implementing the subsurface exploration program of the afterbay site submit for review to the San Francisco Regional Director and the Director, Division of Dam Safety and Inspections, details on the proposed program. Among other things the plan should be fully developed specifying the number of borings, location, and type of testing proposed for the soil samples.
Article 306	The licensee shall commence construction of the amended project within two years from the issuance date of this order and shall complete construction of the project within four years from the issuance date of this order.
Article 307	The licensee shall, 60 days after the transfer of land from the Bureau of Land Management to the City of San Bernardino, file with the Commission a copy of the executed transfer showing the change of land ownership. Additionally, the licensee shall file documentation showing that the licensee has obtained all easements necessary to construct the Second Afterbay.
Article 308	The licensee shall, at least 60 days prior to start of construction, submit one copy to the Commission's Regional Director and two copies to the Director, Division of Dam Safety and Inspections of the final contract drawings and specifications for pertinent features of the project such as water retention structures, powerhouse, and water conveyance structures. At least 30 days before submitting the plans and specifications a supporting design report showing the final design of the project water retaining and conveyance features should be submitted for review. Included in the design report should be copies of the boring logs of the second afterbay site, the engineers evaluation of the subsurface investigation, stability analysis of the cut slopes under all credible loading conditions, final design details of the reservoir underdrain system and the design details for all water retaining and conveyance structures. The licensee shall not commence construction of any project structure until the design report and plans and specifications have been reviewed by the Commission. The Director, Division of Dam Safety and Inspections, may require changes in the plans and specifications to assure a safe and adequate project.
Article 401	*(Devil Canyon only; as added by 41 FERC ¶ 62,301)*. The licensee, after consultation with the California Department of Fish and Game (DFG), shall develop a plan to monitor project-induced fish mortality at the Devil Canyon Hydroelectric Project. Within 4 months after the date of issuance of the license amendment, the licensee shall file for Commission approval a copy of the monitoring plan and a schedule for filing the results of the monitoring program. The Commission reserves the right to require modifications to the plan and to the schedule. The results of the monitoring shall be submitted to the Commission according to the approved schedule, with the comments from DFG on the results. If the results of the monitoring show that project operation adversely affects the fish resources of Silverwood Lake, the licensee also shall file for Commission approval measures, to include but not be limited to modifications to project structures and operation or other compensatory measures such as fish stocking, that would minimize or compensate for project-induced adverse effects on fish resources. Comments from the DFG must be included in this filing. The Commission reserves the right to require changes to the proposed measures.

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	(Mojave Siphon only; as added by 51 FERC ¶ 62,090). The erosion control plan consisting of the last two paragraphs of page 2 of additional information that includes diverting runoff from excavated areas, conveying flows down lined channels or pipes, installation of an underground drainage system around the power plant, and lining roadside ditches to carry runoff to culverts under the roadway, dated August 16, 1989, is approved and made part of this license and shall be expanded and implemented with the following modifications. Along with final plans and specifications required by Article 302, the licensee shall file a modified plan to control erosion, prevent slope instability, and minimize the quantity of sediment resulting from project construction and operation. The plan shall include: (1) a description of the actual site conditions; (2) detailed descriptions, design drawings, and specific topographic locations of all control measures, and (3) provisions for protecting and stabilizing cutslopes and spoil piles. The plan shall incorporate recommendations made by the Soil Conservation Service in a letter dated August 16, 1989. For areas to be revegetated, the plan shall (1) identify species mix, (2) seeding rate, (3) mulch, and (4) soil amendments. The Commission may require changes to the plan to ensure adequate protection of the environmental, scenic, and cultural values of the project area.
Article 402	The licensee shall install, operate, and maintain warning signs and a siren to warn boaters and bank fishermen of sudden increases in discharge from the existing chute, proposed as the project bypass facility, at least 90 days before starting project operation. Within 60 days after completing installation of the system, the licensee shall file with the Commission, as-built drawings of the warning system that show the location and design of the warning signs and siren system.
Article 403	The licensee shall implement the revegetation plan providing for the restoration of upland vegetative cover and wildlife habitat, consisting of pages 3 through 6, line 12, in the additional information dated August 16, 1989. The measures shall be implemented according to the schedule outlined in the plan. The licensee shall file with the Commission a monitoring report on the success of revegetation 3 years after completion of construction. If revegetation is not successful, the licensee shall include in the monitoring report, for Commission approval, additional proposed mitigative measures, prepared after consulting with the U.S. Fish and Wildlife Service, the Soil Conservation Service, and the California Department of Fish and Game, to ensure the success of revegetation. Comments of the consulted agencies shall be included with the measures.
Article 404	The licensee, after consulting with the U.S. Fish and Wildlife Service, the Soil Conservation Service, and the California Department of Fish and Game, and at least 90 days before starting any project related land-disturbing, land-clearing, or spoil-producing activities, shall file for Commission approval a plan for in-kind riparian habitat replacement. The replacement vegetation shall provide the equivalent value to wildlife as lost habitat due to project construction. The plan shall include: (1) maps showing the location of all replacement habitat, site boundaries, size of each site, and physical and habitat features; (2) a description of planting methods, fertilization and irrigation requirements, and a planting schedule; (3) a description of the soil and substrate conditions at the replacement sites; (4) a monitoring program that includes goals and criteria for successful establishment of riparian vegetation, sampling procedures, and reporting requirements; (5) procedures to implement if monitoring reveals that establishment of vegetation is not successful; and (6) an implementation schedule that provides for habitat replacement as soon as possible. Agency comments shall be included in the filing.

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	The Commission reserves the right to require changes to the plan. The licensee shall not start any land-clearing, land-disturbing, or spoil-producing activities until the Commission approves the plan.
Article 405	The licensee, after consultation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game, shall survey: (1) areas comprising potential habitat for the Mojave tarweed (*Hemizonia mohavensis*) within and adjacent to the construction corridor of the second barrel crossing Horsethief Canyon and Creek; and (2) riparian areas affected by project construction for the western pond turtle (*Clemmys marmorata*). The licensee shall file the survey results with the Commission at least 90 days before starting any project-related landclearing, land-disturbing, or spoil-producing activities. If the survey shows Mojave tarweed or the western pond turtle exists in areas that potentially will be disturbed by construction activities, the licensee shall include with the survey results, for Commission approval, a plan for protecting the plant and/or turtle, prepared after consulting with the U.S. Fish and Wildlife Service and the California Department of Fish and Game. The plan shall evaluate mitigating any loss of the tarweed by transplanting or seed propagation and shall include provisions for capturing and returning any pond turtles that may be found. Comments from the consulted agencies shall be included with the plan. The Commission reserves the right to require changes to the plan. The licensee shall not start any land-clearing, land-disturbing, or spoil-producing activities until the Commission approves the plan.
Article 406	The licensee, after consultation with the California State Historic Preservation Officer (SHPO) and San Bernardino County (County), and before starting any land-disturbing, land-clearing, or spoil-producing activities associated with construction of the project, shall implement the cultural resources management plan to avoid and protect archeological sites filed with the Commission on January 10, 1990. Within 3 years after the date of this order, the licensee shall file copies of: (1) reports prepared on excavations and other activities identified in the plan to mitigate and avoid impacts to archeological sites, and (2) letters from the SHPO and the County commenting on the adequacy of the reports to ensure avoidance and protection of these sites. The plan shall adhere to the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. The licensee shall make funds available in a reasonable amount for implementing the cultural resources management plan, conducting avoidance and mitigative work, and documenting these activities in reports. If the licensee, the SHPO, and the County cannot agree on the amount of money to be spent for these activities, the Commission reserves the right to require the licensee to conduct the necessary work at the licensee's own expense.
Article 407	The licensee shall resurvey site CA-SBR-501 using current recordation standards should site CA-SBR-501 be exposed when Silverwood Lake is lowered as authorized in this order. The results of the new survey shall be filed with the Commission and the California State Historic Preservation Officer (SHPO). If the licensee discovers any previously unidentified archaeological or historic sites during the course of constructing or developing project works or other facilities at the project, the licensee shall stop all land-clearing and land-disturbing activities in the vicinity of the sites, shall consult with the SHPO, and shall file, for Commission approval, a cultural resources management plan prepared by a qualified specialist. The management plan shall include the following: (1) a description of each discovered property, indicating whether it is listed on or eligible to be listed on the National Register of Historic Places, (2) a description of the potential effect on each discovered property,

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	(3) proposed measures for avoiding or mitigating effects, (4) documentation of the nature and extent of consultation, and (5) a schedule for mitigating effects and conducting additional studies. The Commission reserves the right to require changes to the plan.
Article 408	The licensee must use gray-brown earth tones consistent with the local desert colors on all exterior surfaces of the powerhouse, as described on page 6 of the applicant's response to request for additional information, dated November 20, 1989. This color scheme must also be used on the exterior surfaces of all other licensed structures.
Article 409	The licensee, after consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service and within 90 days from the issuance of this order, shall file for Commission approval a detailed revegetation plan for the 225-acre second afterbay site. The plan shall include, but not be limited to, the recommendations of the FWS for a revegetation plan, as stated in the letter dated October 31, 1988, from Nancy Kaufman to Viju Patel, CA Department of Water Resources. If the licensee does not agree with any of the FWS' recommendations, the licensee shall provide an explanation of the reasons for not agreeing with the recommendation(s). The comments of the consulted agencies shall be included with the plan. The Commission reserves the right to require changes to the plan.
Article 410	The licensee shall continue consultation with the City of San Bernardino and San Bernardino County to develop a plan to mitigate for the loss of the Pinecrest Air Park hangglider landing site. The plan shall be filed for Commission approval within 1 year from the issuance date of this order and shall include comments from the consulted agencies. The Commission reserves the right to require changes to the plan.
Article 411	The mitigative measures on pages E-4 through E-6, E-8 and E-9 of the application for amendment of license filed on January 23, 1989, pertaining to vegetation, wildlife, soil erosion, surface water drainage, and fish are approved. The licensee, within 90 days of the issuance date of this order, shall file, for Commission approval, an implementation plan for the approved mitigative measures. The plan shall include, but not be limited to, a map showing the location of measures and an implementation schedule. The Commission reserves the right to require changes to the plan. [Actions to implement Article 411 were filed with the Commission as follows: Request to modify Article 411 filed on October 7, 1996 and approved by 77 FERC ¶ 62,138 (1996). *(A) Article 411 of the Order Amending License, issued July 23, 1990, is amended to delete the requirement for artificial wildlife drinkers.*]
Article 412	The licensee shall retain, prior to the start of construction, a qualified biologist (designated the bald eagle biologist) to perform and supervise all work required to implement the incidental take terms and conditions contained in the U.S. Fish and Wildlife Service's (FWS) biological opinion dated September 26, 1994. The bald eagle biologist shall be approved by the FWS.
Article 413	Blasting shall be minimized to the maximum extent possible. The following restrictions on blasting apply for the duration of all construction authorized by this order: *From November 15 to July 15* 1. The licensee shall not exceed four blasting events per day between 10:00am and 3:00pm. 2. When blasting is performed at a depth of less than 20 feet, the licensee shall use blast mats, earth padding, or other similar devices or methods, as necessary, to reduce the effects of blasting.

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	3. Restriction number 1 in this Ordering Paragraph is waived should blasting be performed at or below 20 feet deep where such blasting does not cause ground vibrations greater than 0.02 inch per second as measured by a blast seismograph installed near the Miller Canyon arm bald eagle nest. 4. All blasting restrictions in this Ordering Paragraph are waived should the licensee's bald eagle biologist, in consultation with the U.S. Fish and Wildlife Service (FWS), determine that all nesting bald eagles are absent from Silverwood Lake for at least 7 days and are not expected to return that season, and other non-nesting bald eagles are not using areas within 0.5 mile of any blasting. *From July 16 to November 14* No blasting restrictions. The licensee shall keep adequate records of each blasting event including: date, time, depth, and resulting seismograph readings. These records shall be presented to Commission and FWS representatives upon request.
Article 414	The following restriction on night lighting shall apply for the duration of all construction authorized by this order: *From November 15 to July 15* Night lighting shall be used in a manner to prevent the direct illumination of non-work areas to the extent possible. The licensee shall use screens, shades, and other devices as necessary, and shall place lights as low as possible, to direct light onto work areas and access roads only. To the extent possible, lighting shall point away from the Miller Canyon arm bald eagle nest and any roosting areas, and generators used for lighting shall be placed on the west side of the project site. *From July 16 to November 14* No night lighting restrictions.
Article 415	Within 60 days from the date of this order, the licensee shall file a plan with the Commission for implementing the U.S. Fish and Wildlife Service's (FWS) terms and conditions numbers 3, 4, 7, 8, and 9, contained in its biological opinion dated September 26, 1994. This plan is for Commission approval. The licensee shall consult with the FWS while developing the plan and shall obtain FWS comments on the plan prior to filing it with the Commission. The Commission reserves the right to make changes to the plan.
Article 417	To the extent possible, breeding bald eagles at Silverwood Lake shall be trapped and fitted with biotelemetry transmitters at the first possible opportunity between: November 15, 1995 and January 15, 1996; and November 15, 1996 and January 15, 1997. Breeding bald eagles shall not be trapped outside of the above dates, unless determined permissible by the licensee's bald eagle biologist in consultation with the U.S. Fish and Wildlife Service (FWS). The licensee shall use a biotelemetry transmitter approved by the FWS which is accurate to within 6,000 feet of true location. Should any breeding bald eagles be fitted with biotelemetry transmitters during the period specified in this Ordering Paragraph, the licensee shall track these eagles bi-weekly using the Argos Data Collection and Location System (satellite tracking) or other system approved by the FWS for four years beyond the date of each eagle being fitted with a transmitter. The FWS shall be notified within 10 days of any transmitter-fitted bald eagle not located after 45 days. A monitoring report with the licensee's bi-weekly data shall be submitted to the FWS every 6 months starting from the date the first bald eagle is fitted with a transmitter. This report shall contain: (1) a description of how many eagles were trapped and fitted with transmitters, (2) the location and movements of eagles fitted with transmitters, giving latitude and longitude, and (3) maps showing bi-weekly data, as appropriate. The due

License Article	Summary of Article Subject
	date for submitting monitoring reports with the FWS shall be adjusted, to the extent possible, to coincide with the due date of any other required bald eagle monitoring reports. At the end of the four-year monitoring period (on December 31 of that year), the licensee shall submit a final monitoring report to the FWS and the Commission which compiles and summarizes all data collected.

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2009-0007

In the Matter of Petitions for Reconsideration of Water Quality Certification for the

RE-OPERATION OF PYRAMID DAM FOR
THE CALIFORNIA AQUEDUCT HYDROELECTRIC PROJECT
FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2426

SOURCE: Piru Creek

COUNTY: Los Angeles and Ventura Counties

ORDER PARTIALLY GRANTING PETITION FOR RECONSIDERATION AND AUTHORIZING ISSUANCE OF REVISED WATER QUALITY CERTIFICATION

BY THE BOARD:

1.0 INTRODUCTION

California Trout, Inc. and Friends of the River (collectively, Petitioner) petition the State Water Resources Control Board (State Water Board) for reconsideration of the State Water Board Executive Director's certification of a proposed amendment to the Federal Energy Regulatory Commission (FERC) license for FERC hydroelectric Project 2426 (Project) as complying with the requirements of section 401 of the Clean Water Act (33 U.S.C. § 1341). The State Water Board finds that portions of the petition for reconsideration have merit, and thus modifies the certification as described below, and approves the certification as modified. (Cal. Code Regs., tit. 23, § 3869.)

2.0 FACTUAL BACKGROUND

The California Department of Water Resources (DWR) and the City of Los Angeles (collectively Applicant or Licensee) applied to FERC for an amendment to the current license for FERC Project No. 2426 on March 17, 2005. FERC Project No. 2426 includes a number of hydroelectric developments that are situated along the length of the California Aqueduct. The application for the license amendment only addresses operation of Pyramid Dam and associated impacts to the 18-mile reach of Piru Creek between Pyramid Dam and Lake Piru. Lake Piru is a non-Project facility operated by United Water Conservation District.

Amendments to the FERC license requested in Applicant's application included the modification of minimum flow requirements for Piru Creek below Pyramid Dam that were required under Article 52 and Exhibit S of the existing FERC license, directing Applicant to establish and maintain a year-round trout fishery. After the United States Fish and Wildlife Service (FWS) informed Applicant that the flow regime was adversely affecting the arroyo toad (*Bufo californicus*), a species listed as endangered under the federal Endangered Species Act, Applicant requested the license amendment to avoid incidental take of the arroyo toad. The requested license amendment incorporates an operating schedule Applicant developed in consultation with FWS, the California Department of Fish and Game (DFG), the U.S. Department of Agriculture, the United States Forest Service (Forest Service), and other interested agencies and parties.

On February 10, 2005, prior to submittal of the application for a license amendment, Licensee submitted a request to FERC for a temporary waiver from the minimum flow releases under FERC license Article 52. FERC approved the temporary waiver on April 12, 2005, and DWR has since that date been operating Pyramid Dam flow releases to simulate natural flow conditions using the same operating guidelines that would be implemented under the license amendment.

The DWR water right at Pyramid Dam is authorized under Water Right Permit 18709 (Application 25988) issued by the State Water Board. Permit 18709 is for year-round storage of 55,000 acre-feet of water collected from Piru Creek. Pyramid Dam is also designated as a point of rediversion under various permits and licenses held by DWR that authorize water to be

conveyed through the California Aqueduct for distribution at various facilities. Fish and wildlife enhancement is an authorized purpose of use under Water Right Permit 18709, but the permit does not include any requirements for minimum flows in Piru Creek.[1]

Before FERC may issue a new license, Applicant must obtain water quality certification under section 401 of the Clean Water Act from the State Water Board. (33 U.S.C. § 1341.) The State Water Board must certify that the Project will comply with the applicable provisions of the Clean Water Act, including water quality standards set forth in the Water Quality Control Plan for the Los Angeles Regional Water Quality Control Board (Basin Plan). (*Ibid.*) The State Water Board must analyze the overall effect of the Project license amendment on water quality and include conditions in the certification, if necessary, to adequately protect the designated beneficial uses identified in the Basin Plan.[2]

The State Water Board Executive Director certified the license amendment on December 9, 2008. On January 7, 2009, the State Water Board received a petition for reconsideration and request for stay from Petitioner, pursuant to California Code of Regulations, title 23, section 3867. Petitioner requests that the State Water Board revoke the certification, prepare a subsequent or supplemental Environmental Impact Report (EIR), and adopt the conditions recommended in the petition. Petitioner also requests a stay on the certification pending a decision on reconsideration, pursuant to California Code of Regulations, title 23, section 3869, subdivision (d). A notice regarding the petition was issued by the State Water Board on January 30, 2009, that included a request for comments or responses to the petition to be received within 20 days. Comment letters were received before the end of the 20-day period from the following parties:

[1] In Water Right Decision 1586 (1982) the State Water Board approved applications for the appropriation of water from the Santa Clara River and its tributaries, including Application 25988. Permit 18709 included conditions requiring DWR to fund and make water available for a steelhead study to be conducted by the Department of Fish and Game, and reserved jurisdiction to adopt new permit conditions upon the completion of the study. The study identified the need for fish passage facilities and minimum flows below another project approved in Decision 1586, the United Water Conservation District's Vern Freeman Diversion Dam, but concluded that ample flow is available in the system for upstream and downstream migration without the need to release water from the other projects approved in Decision 1586. Based on the results of the study, the State Water Board amended the permit for the Vern Freeman Diversion Dam to require bypass flows and a fish ladder, and deleted the study requirements and reservation of jurisdiction from Permit 18709. (State Water Board Order WR 87-8.)

[2] The existing beneficial uses identified for Piru Creek in the Basin Plan include: agricultural supply (AGR); industrial process supply (PROC); groundwater recharge (GWR); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater habitat (WARM); cold freshwater habitat (COLD); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); and spawning, reproduction, and/or early development for fish (SPWN).

- United States Fish and Wildlife Service
- California Department of Water Resources
- Dr. Samuel Sweet
- State Water Contractors, Inc.

Three late comment letters were received after the end of the 20-day period from the following parties:

- United Water Conservation District
- Land Protection Partners on behalf of Friends of the River and California Trout, Inc. (2 letters)

Because the State Water Board is providing an opportunity for comment on a draft order before it adopts a final order, and the comments would be timely for that purpose, the State Water Board has considered the three late comment letters.

3.0 APPLICABLE LAW

An interested person may petition the State Water Board for reconsideration of an action or failure to act. (Cal. Code Regs., tit. 23, § 3867.) Following a petition for reconsideration, the State Water Board may

(1) refuse to reconsider the action or failure to act if the petition fails to raise substantial issues that are appropriate for reconsideration;
(2) deny the petition upon a finding that the original action or failure to act was appropriate and proper;
(3) set aside or modify, if possible, the previous action or take new appropriate action; or
(4) direct the executive director to take appropriate action.

(Cal. Code Regs., tit. 23, § 3869, subd. (a).)

4.0 ARGUMENTS AND DISCUSSION

4.1 The 401 Certification did not Violate the Clean Water Act or other State and Federal Water Quality Requirements

Petitioner contends that the certification fails to include conditions necessary to protect the beneficial uses of Piru Creek, to meet the water quality objectives in the Basin Plan, and to satisfy antidegradation requirements. For the reasons set forth in sections 4.1.1 through 4.1.3, the State Water Board concludes these contentions are without merit.

4.1.1 The 401 Certification protects the beneficial uses of Piru Creek

The State Water Board may deny or condition certification as necessary to comply with applicable water quality standards. (Wat. Code, § 13160; Cal Code Regs., tit. 23, §§ 3837, subd. (b)(1) & 3859, subd. (a). See generally *PUD No. 1 v. Washington Department of Ecology* (1994) 511 U.S. 700, 704-705 [water quality standards include designated uses, criteria, and antidegradation requirements]; see also Wat. Code, § 13050, subds. (f) & (h) [the Porter-Cologne Water Quality Control Act uses the terms beneficial use and objectives instead of designated use and criteria].) Petitioner claims that a report by Land Protection Partners (LPP) that accompanied the petition shows that the certification conditions are insufficient to protect the beneficial uses for Piru Creek for a number of reasons. The report recommends an alternative flow schedule that includes the following requirements:

- From the first winter storm to March 15, a volume of water equivalent to that which flows into Pyramid Lake shall be released from it, within the operational constraints of Pyramid Dam.
- At a period of at least once every five to seven years, a release event of significant volume adequate to produce scouring flows must be implemented if such flows do not occur naturally from rainfall events.
- Any water deliveries shall take place during the winter period (November to February) and be released to emulate the flows of a winter storm in volume and timing.
- From March 15 through August 31, water shall be released at a minimum of 15 cubic feet per second (cfs) or natural inflows to Pyramid Lake, whichever is greater, then decreased by 1 cfs every 2 days between September 1 and September 20 to achieve and maintain a 5 cfs minimum flow from September 20 until the first winter storm.

- Flows shall be increased gradually to meet the 15 cfs flows in March during years when flows are less than 15 cfs leading up to March 15.

The State Water Board finds that the report fails to provide substantial support for the assertion that the certification conditions are insufficient to protect the beneficial uses for Piru Creek.

First, the report alleges that the elimination of minimum summer instream flows may actually hurt the arroyo toad by eliminating shallow pool conditions necessary for successful breeding, forcing the toads to share the remaining deeper pools with predatory bullfrogs.
Dr. Samuel S. Sweet, a professor in the Department of Ecology, Evolution and Marine Biology at the University of California, Santa Barbara, has conducted the majority of life history studies of arroyo toads, which occurred primarily in the Los Padres National Forest. Dr. Sweet has authored several reports on the ecology and status of arroyo toads for the Forest Service and describes the major characteristics of arroyo toad breeding pools in a 1992 report[3] as, "proximity to sandy terrace habitat; minimal current; majority of pool < 1 inch deep; substrate of sand, gravel, or pebbles; gently sloping shoreline, or central bar; and bordering vegetation low or set back such that most of the pool is open to the sky." Based on this description of breeding habitat, under a scenario of gradually diminishing summer flows (i.e., without the 15 cfs minimum called for by Petitioner), arroyo toads would not be expected to inhabit the deeper pools where bullfrogs are more likely to occur. Furthermore, it is unlikely that absence of the enhanced summer flow advocated by the Petitioner would result in elimination of breeding pools during the breeding season. According to the FWS Recovery Plan for the arroyo toad,[4] arroyo toads may begin breeding as early as January in Southern California (late March in the northern portion of their range), with peak metamorphosis from larval to juvenile life stages occurring from late April to mid-May (late June to mid-July in the north). While breeding activity may continue as late as July, depending upon the condition of the female, a lack of augmented summer flows would not eliminate the low flow, shallow pools favored by the arroyo toad as breeding habitat.

FWS also addresses the impact minimum summer stream flows of 15 cfs would likely have on arroyo toad habitat in Piru Creek in its comment letter as follows:

[3] Sweet, S. S. (1992) Initial report on the ecology and status of the arroyo toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of southern California, with management recommendations and technical Appendix. U. S. Department of Agriculture, Forest Service, Los Padres National Forest.

[4] USFWS (1999) Arroyo southwestern toad (*Bufo microscaphus californicus*) recovery plan. Portland, Oregon.

> Maintaining summer flows at 15 cfs would channelize segments of Piru Creek that would otherwise be shallow pools and open sand and gravel flood terraces. The steady release of water would create entrenched channels with encroaching vegetation and would give opportunities for non-native predators (e.g., largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyanellus*), crayfish (*Procambarus clarkii*), and bullfrogs (*Rana catesbeiana*)) to proliferate by expanding habitat for these species within Piru Creek.

These comments offer a convincing argument against the 15 cfs summer flows. The State Water Board finds that elimination of minimum summer instream flows would not harm the arroyo toad, and that adopting the alternative flow schedule recommended by Petitioner would harm the arroyo toad.

The petition further alleges that California red-legged frog (CRLF) larvae may require breeding pools as late as June or July. While it is true that some CRLF may require breeding pools in June or July (the species historically has been found over a substantial portion of the state at elevations that range from sea level to about 5,000 feet), information contained in the FWS CRLF Recovery Plan[5] states that most adult frogs lay their eggs in March and that eggs develop into tadpoles 20 to 22 days later. CRLF tadpoles typically metamorphose into juveniles 11 to 20 weeks after becoming tadpoles and inhabit shallow water (10 to 20 inches) prior to metamorphosis. The gradual reduction of instream flow during the summer that is expected to occur under the current certification conditions would not eliminate this shallow water habitat. Moreover, according to Cook,[6] the timing of metamorphosis in red-legged frogs "is an important adaptation to California's Mediterranean climate, where ephemeral water bodies hydrate in the winter and are dry by late summer or fall." Consequently, restoration of a more natural flow regime in Piru Creek is not expected to harm any CRLF that may be present.

The petition contends that under the alternative flow regime described above:

[5] USFWS (2002) Recovery plan for the California red-legged frog (*Rana aurora draytonii*). Portland, Oregon.

[6] Cook, D. (1997) Biology of the California red-legged frog: a synopsis. Transactions of the Western Section of the Wildlife Society 33:79-82.

a) the flow regime would be sufficient to sustain native trout populations and coldwater fish habitat;
b) scouring (from winter flows) would preserve essential arroyo toad breeding habitat by eliminating vegetation and exotic plant species on the banks of the creek;
c) summer instream flows would help buffer arroyo toad and CRLF from adverse impacts of bullfrogs by creating a sufficient variety and number of pools and habitat so reproduction of the native species is maximized and the species are able to segregate into their preferred habitats;
d) an adaptive management program would ensure that adverse impacts of the license amendment would be mitigated; and
e) removal of adult bullfrogs from arroyo toad breeding habitat would be a more effective method of dealing with this invasive predator than reducing summer instream flows.

The winter flows called for in Petitioner's proposal are largely the same as those contained in the water quality certification, and the modifications Petitioner would make to the winter flow regime[7] are not necessary to protect beneficial uses. The alternative flow regime's provision for augmented summer flow releases and the adaptive management program proposed by the Petitioner would not be appropriate for several reasons. As stated previously, maintaining summer instream flows would channelize segments of Piru Creek, would promote the encroachment of vegetation, and would not necessarily segregate native species, but may in fact provide opportunities for non-native predators to proliferate. The adaptive management program, which includes selectively removing adult bullfrogs from arroyo toad breeding habitat during the breeding season, implies the need for intensive, long-term management actions that, as FWS notes in its comment letter on the petition, would not be consistent with the goals of the Endangered Species Act. Moreover, no evidence or supporting information is provided in the Petitioner's report to support the claim that maintaining summer instream flows would create a sufficient variety and number of pools to maximize arroyo toad reproduction while also segregating native and non-native species.

[7] The alternative flow regime in the petition includes a provision for additional winter flow releases "of significant volume adequate to produce scouring flows" that would be implemented at a period of at least once every five to seven years, if such flows do not occur naturally from rain events.

Additionally, there is insufficient evidence or data to support Petitioner's claim that the alternative flow regime is well suited to support native trout populations. The LPP report states that summer flows are beneficial to native fish based on a study that focuses on Putah Creek, which is located in a very different environmental setting in northern California. On Putah Creek, releases during the summer of stored water that would otherwise be exported from the watershed serve to compensate, in part, for major reductions in pre-project winter flows. (Cf. State Water Board Decision 869 (1957) at pp. 11-14 [discussing effects of the Solano Project on streamflows and groundwater recharge].) In contrast, the FERC license amendment seeks to restore the natural flow regime to which the fish are adapted. In fact, comments filed by the National Marine Fisheries Service (NOAA Fisheries) on the Draft EIR state that the Project would have overall beneficial effects on populations of native rainbow trout by restoring natural migration flow opportunities, reducing non-native aquatic predators, and restoring natural fluvial geomorphic processes.

The State Board also agrees with comments made by FWS and Dr. Sweet that the provision for sediment replenishment below Pyramid Dam included in the Petitioner's proposal is unnecessary and not supported scientifically. Most of the arroyo toad habitat is located in the lower half of the Project reach below the confluence with tributaries that provide a source of sediment. FWS field observations have provided additional documentation showing that sufficient sediment input occurs locally (i.e., from the middle Piru Creek tributaries). Additionally, DWR's EIR states that channel degradation is an ongoing process under the current condition, and although importation of sediment by truck was investigated, it was determined to be impractical.

4.1.2 The certification provides reasonable assurance that the project will comply with numerical water quality objectives

Petitioner next argues that the certification requires reconsideration because the State Water Board "failed to ensure that the Project would not violate numerical water quality standards for temperature and dissolved oxygen" and claims that, "the State Board did not include any conditions in the 401 certification that address the violation of water quality standards that will result from this Project." (Petition, p. 10.)

The Petition does not explain how the proposed changes would affect dissolved oxygen or temperature levels, but rather cites to previous letters submitted by Petitioner to the State Water

Board. (Nov. 2, 2007 letter p. 9-10; Dec. 4, 2008 letter p. 2.) These letters in turn cite to the DWR EIR and the FERC Environmental Assessment (EA).

4.1.2.1 Temperature

The Basin Plan objectives for temperature are as follows

- Discharges of wastewater can cause unnatural and/or rapid changes in the temperature of receiving waters that can adversely affect aquatic life.

- The ***natural receiving water temperature*** of all regional waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses. Alterations that are allowed must meet the requirements below.

- For waters designated WARM, water temperature shall not be altered by more than 5°F ***above the natural temperature*****.** At no time shall these WARM-designated waters be raised above 80°F ***as a result of waste discharges***.

- For waters designated COLD, water temperature shall not be altered by more than 5°F ***above the natural temperature.***

(Basin Plan, p. 3-16 (emphasis added).)

The portions of the EIR and EA to which Petitioner cites acknowledge that temperature will likely increase, particularly between June and September, as a result of the Project. (FERC EA p. 54.) The EA also acknowledges that even with flows as high as 27 cfs, instantaneous water temperature occasionally exceeded 80°F. (FERC EA p. 16-17.) Petitioner fails to note, however, that those same sections of the EA point out that under the Project, "water temperatures are likely to be equal to or slightly lower than those that would be experienced under natural conditions without the project. Thermal stratification, which is common in reservoirs such as Pyramid Lake, would cause the discharge water to be cooler than the natural inflow to Pyramid Lake during the warmest parts of the year." (FERC EA, p. 54.) As further recognized in the EA, water temperatures are not expected to exceed those that occurred under natural conditions, thus the Basin Plan objectives are unlikely to be exceeded. (FERC EA, p. 54.) By their language, the objectives (as cited above) only apply to alteration of natural receiving water temperature.

Furthermore, temperatures above 80°F only violate the Basin Plan objectives where they are "a result of waste discharges." Temperatures in excess of 80°F may be a result of waste

discharges in a scenario, unlike here, where warmer water is being discharged into a colder body of water. Where the discharge is the entire natural flow of the creek, and the temperature of the discharge is no higher than what would occur under natural conditions, high temperatures are not "a result" of the discharge. Any increase in summer temperatures as compared to the flow regime under FERC license Article 52 is not caused by the discharge, but by the fact that the discharge is no longer augmenting flows to a rate more than would occur naturally. The objective, which applies generally to all discharges in the region, including municipal and industrial discharges, cannot reasonably be construed to require dischargers to increase the volume of their discharges to prevent naturally occurring low flow conditions from resulting in temperatures in excess of 80°F.

For these reasons, the Project, by its nature, complies with water quality standards for temperature.

4.1.2.2 Dissolved oxygen

The Basin Plan objectives for dissolved oxygen are as follows

- At a minimum, the mean annual dissolved oxygen concentration of all waters shall be greater than 7 mg/L, and no single determination shall be less than 5.0 mg/L, **except when natural conditions cause lesser concentrations**.

- The dissolved oxygen content of all surface waters designated as WARM shall not be depressed below 5 mg/L **as a result of waste discharges**.

- The dissolved oxygen content of all surface waters designated as COLD shall not be depressed below 6 mg/L **as a result of waste discharges**.

- The dissolved oxygen content of all surface waters designated as both COLD and SPWN shall not be depressed below 7 mg/L **as a result of waste discharges**.

(Basin Plan, p. 3-11 (emphasis added).)

As with temperature, as discussed above, any reduction in dissolved oxygen concentration as a result of this Project will occur because "natural conditions cause lesser concentrations," and not "as a result" of waste discharges. (DWR EIR, p. 3-72.) Again, the Project complies with dissolved oxygen objectives.

4.1.3 The certification does not violate state and federal antidegradation policies

Warm (WARM) and cold (COLD) freshwater habitats are both beneficial uses of the creek, as are wildlife habitat (WILD) and rare, threatened, or endangered species (RARE). (LARQCB, Los Angeles Basin Plan 2-2 (1994).)

The federal antidegradation policy requires, in pertinent part, that:

> (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
>
> (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected, unless the State finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully.
>
> (40 C.F.R. § 131.12(a).)

State policy for water quality control requires that where water quality is better than required by the applicable Basin Plan objectives, that water quality will be maintained unless it has been demonstrated that a change: 1) is consistent with the maximum benefit to the people of the State, 2) does not unreasonably affect present and anticipated beneficial uses of the waters, and 3) does not result in water quality less than that prescribed in the Basin Plan. (State Water Board Resolution 68-16; see also State Water Board Order WQ 86-17 [State Water Board Resolution 68-16 incorporates the federal antidegradation policy as applied to situations where the federal antidegradation policy is applicable].)

The federal antidegradation policy and State Water Board Resolution 68-16 apply to reductions in water quality. (See State Water Board Decision 1631 (1994) at p. 151.) This includes consideration of changes that have already occurred, if they occurred after the state and federal policies took effect, but have not been reviewed for consistency with those policies. (See *id.* at pp. 151-152 ["The federal antidegradation policy applies to reductions in water quality which occurred or threatened to occur after the policy was adopted."]) Where the approval under consideration involves both beneficial and adverse changes in water quality, the State or Regional Water Board considering the approval reviews whether the adverse changes are consistent with antidegradation policies. Accordingly, this section evaluates whether reducing

summer instream flows to naturally occurring flows is consistent with the federal antidegradation policy and State Water Board Resolution 68-16.[8]

The proposed change in flows serves important social and environmental development. Water development and water conservation projects may be considered to be important social and economic developments that justify a lowering of water quality. (See Wat. Code, § 13000.) Similarly, environmental protection may constitute important social development, justifying a change in water quality, even if no other social or economic benefits to the community are demonstrated. (See Letter from William R. Attwater to Regional Water Board Executive Officers, *Federal Antidegradation Policy* (Sept. 7, 1987) http://www.waterboards.ca.gov/water_issues/programs/tmdl/records/state_board/2003/ref1948.pdf.) It would be inconsistent with the policies of the Clean Water Act and the Porter-Cologne Water Quality Control Act if economic concerns could warrant reductions in water quality, but conflicting water quality concerns could not. Thus, for example, if a discharge point is moved to less sensitive waters, the improvement in water quality at the original discharge point may justify the reduction in water quality at the new discharge point. (*Ibid.*)

Similarly, where there are two conflicting uses, the quality of water for one use may be reduced where the change improves water quality for the other, in appropriate circumstances. Improvement to one beneficial use offset by detriment to another less sensitive use is valid in much the same way that movement of a discharge to less sensitive waters is permissible. (See 40 C.F.R. § 131.11(a)(1).) Absent the ability to balance conflicting uses in this way, it would be difficult to synthesize the requirements for Clean Water Act water quality standards. (See 40 C.F.R. §§ 131.11, 131.12.) Furthermore, if the law did not permit changes in water quality to protect endangered species where those changes would adversely affect other species, the State Water Board's only available course of action would be to permit continued take of the species and then remove the RARE use from the creek once the species went extinct. This

[8] Arguably, even the changes in summer instream flows are not reductions in water quality. As noted above, NOAA Fisheries commented on the Draft EIR that the Project would have beneficial effects on populations of native rainbow trout for reasons that include reducing non-native aquatic predation. The NOAA Fisheries comments were addressed to the overall effect of the modified flow regime, however, including the effects of higher winter flows. Moreover, the changes in water quality during the summer involve both benefits, through reduction in predation by non-native species, and adverse changes, through reductions in the area with flows and temperatures suitable for trout. Because this order concludes that any reductions in water quality are consistent with antidegradation requirements, it is not necessary to determine whether antidegradation requirements apply, or should be considered inapplicable based on the view that the changes in water quality are improvements, not reductions.

would be inconsistent with the basic purposes of the Clean Water Act and the federal Endangered Species Act. (See 33 U.S.C. § 1251(a); 16 U.S.C. § 1531.)[9]

Piru Creek is designated for multiple uses, including habitat for fish (COLD) and habitat for endangered toads (RARE). To the extent the scientific evidence indicates that these uses require conflicting parameters,[10] the State Water Board should adopt certification conditions that protect the species that are more vulnerable to harm from changes in flow or other water quality conditions. Changing flows to protect the arroyo toad may have a detrimental effect on trout, but this must be weighed against the harm that would be caused to the arroyo toad by maintaining flows for trout. Assuming that we must choose between the two species, the proper course is to protect the more sensitive native endangered toad rather than the non-endangered trout. (40 C.F.R. 131.11(a)(1) ["For waters with multiple use designations, the criteria shall support the most sensitive use."].)[11] Protecting the more sensitive use maximizes the benefit to the people of the State. It is a reasonable use of the water – indeed, a contrary pattern of usage would be unreasonable. It will not result in water quality less than prescribed in the Basin Plan.[12] While the certification may not fully protect trout for the entire reach in which they now live, Petitioner does not assert that the fish will not be able to migrate to other locations (including Lake Piru) when conditions in the creek reach are not suitable. For these reasons, the conditions under the certification comply with the antidegradation law. (State Water Board Resolution 68-16; 40 C.F.R § 131.12.)

In approving issuance of the certification, the State Water Board is protecting all beneficial uses, and allowing reductions in the water quality supporting one use only to the extent necessary to improve water quality for another more sensitive use. Consistent with the federal antidegradation policy, the certification protects instream beneficial uses, and any reductions in

[9] In its comment letter on the petition, the FWS stated its intention to uphold its responsibility to protect the arroyo toad under the Endangered Species Act should the State Water Board certify a project that would cause take of the species.

[10] Where protection of both species is possible, both should be protected. While this will not be possible under the regime proposed by Petitioner (*see* section 4.1.1, *supra*), it is possible under the regime proposed by Applicant (*see* section 4.2.1.2, *post*).

[11] According to NMFS, no steelhead are present in Piru Creek. (Letter from NMFS to FERC, Appendix B to the Petition for Reconsideration, p. 5.) Although there is habitat appropriate for steelhead, and evidence that trout in the creek are derived from steelhead populations breeding below the dams or prior to their construction, the creek does not have access seaward to support an anadromous fishery. If conditions were to change such that passage was possible, it might constitute cause to reopen the certification under condition 19 of the certification.

[12] See section 4.1.2, *supra*, for discussion of particular standards.

enhanced water quality for trout provided by flows in excess of natural conditions are necessary to accommodate the preservation of the arroyo toad, an endangered species dependent on the water quality conditions provided for under the certification. Consistent with State Water Board Resolution 68-16, the certification is consistent with the Basin Plan and with the maximum benefit of the people of the state. By contrast, Petitioner's alternative flow regime would not meet state and federal water quality requirements because it would not protect the most sensitive uses. (40 C.F.R. 131.11(a)(1).)

4.2 The State Water Board's Actions Comply with the California Environmental Quality Act (CEQA)

4.2.1 Petitioner's arguments are not new information or changed circumstances requiring the preparation of a subsequent or supplemental EIR

DWR issued a final EIR in February 2005 entitled *Environmental Impact Report for the Simulation of Natural Flows in Middle Piru Creek* (State Clearinghouse No. 2004051123). DWR circulated the draft EIR for public comment, including submission of copies to the State Clearinghouse for distribution to state agencies (including the State Water Board, Division of Water Rights) before applying for water quality certification by the State Water Board.[13] As a responsible agency, the State Water Board relies on the EIR prepared by the lead agency, DWR, but makes its own determination as to whether and with what conditions to approve the

[13] The certification incorrectly stated that the State Water Board was not consulted as a responsible agency. Although DWR did not identify the State Water Board as a responsible agency, the State Water Board was included among the agencies that received copies of DWR's notice of preparation and Draft EIR from the State Clearinghouse. The modifications to the certification made by this order include deletion of the statement that the State Water Board was not consulted.

project, taking into consideration the information provided in the lead agency's EIR. (Pub. Resources Code, §§ 21080.1, subd. (a), 21167.2, see *id.* §§ 21002.1, subd. (d).)[14]

The Guidelines for Implementation of the California Environmental Quality Act (Cal. Code Regs., tit. 15, § 15000 et seq. (CEQA Guidelines)) specify that after an EIR has been certified, a subsequent EIR is not required unless the lead agency first "determines, on the basis of substantial evidence in the light of the whole record" that CEQA Guidelines, section 15162 applies. (See also CEQA Guidelines, § 15052 [a shift in lead agency designation, where a responsible agency considering an approval assumes the role of lead agency, may occur if a subsequent EIR is required under section 15162]; CEQA Guidelines, § 15053 [allowing use of a supplemental EIR where a subsequent EIR would otherwise be required, but only minor additions or changes are needed].)

Petitioner argues that under CEQA Guidelines section 15162, "the State Water Board must prepare a subsequent or supplemental EIR to analyze any changed circumstances and new information that was not available at the time the EIR was certified." Contrary to Petitioner's assertion, a subsequent or supplemental EIR is not required simply because there is a changed circumstance or new information. Section 15162 sets other limitations that substantially restrict the circumstances under which changed circumstances or new information may require the preparation of a subsequent or supplemental EIR.

A subsequent or supplemental EIR is not required for changed circumstances unless those changes are substantial and will require major revisions to the EIR due to the involvement of

[14] Petitioner argues that the State Water Board cannot issue the certification if it determines the EIR prepared by DWR is inadequate. (Petition, p. 11.) To the extent Petitioner is arguing that a subsequent or supplemental EIR may be required simply because a responsible agency determines that the lead agency's EIR was inadequate at the time it was certified, the argument is based on a misreading of the regulation on which Petitioner relies.

Petitioner points to section 15096, subdivision (a), which provides that a responsible agency complies with CEQA "by considering the EIR or negative declaration prepared by the lead agency and by reaching its own conclusions on whether and how to approve the project." This means that the responsible agency decides for itself whether and on what conditions to approve the project, based on the lead agency's environmental document and other information in the record. (See also Cal. Code Regs., tit. 14, § 15096, subd. (h).) It does not mean that the responsible agency second guesses the lead agency's certification of the adequacy of the environmental document, and decides whether or not to approve the project based on the adequacy of the environmental document, instead of making its decision based on the merits of the project or the environmental impacts of the project as identified in the lead agency's environmental document.

Except where substantial changes or new information requires a subsequent or supplemental environmental document under Public Resources Code section 21166, Public Resources Code section 21167.2, the State Water Board, when acting as responsible agency, is required to conclusively presume a lead agency's EIR is adequate once the time to challenge the lead agency's approval has expired.

new significant environmental effects or a substantial increase in the severity of previously identified significant environmental effects. (CEQA Guidelines, § 15162, subd. (a)(2).)

A subsequent or supplemental EIR is not required for new information unless that information is of substantial importance and it was not and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified. (*Id.*, § 15162(a)(3).) In addition, the new information must show:

(1) the project will have one or more significant effects not discussed in the certified EIR;
(2) significant effects previously examined will be substantially more severe than shown in the EIR;
(3) mitigation measures previously found not to be feasible would in fact be feasible; or
(4) mitigation measures or alternatives that are considerably different than those analyzed in the EIR would substantially reduce significant effects on the environment.

(*Ibid.)*

The information provided by Petitioner does not meet these requirements, as discussed in the following sections.

4.2.1.1 Information provided by petitioner

The Petitioner submits the following information, asserting that it fulfills the requirements of section 15162 of the CEQA Guidelines. (Petition, p. 12.)

- A 2006 study conducted for the California Department of Fish and Game (DFG) entitled "Population structure and ancestry of *O. mykiss* populations in South-Central California based on genetic analysis of microsatellite data", authored by Derek Girman and John Carlos Garza, that demonstrates that juvenile trout collected in middle and upper Piru Creek are genetically related to steelhead.

- A report entitled "Middle Piru Creek Arroyo Toad (Bufo californicus) Clutch Surveys 2005", prepared by Nancy Sandburg for the California Department of Water Resources in 2006 (Sandburg Report), that describes the results of arroyo toad monitoring activities conducted in middle Piru Creek during the spring and summer of 2005.

- Recent studies and reports that were submitted as attachments to a December 4, 2008 letter to the Deputy Director for Water Rights prior to issuance of the certification that describe water management and the impact of climate change on water resources in California that includes the following documents:

    - Kiparsky and Gleick (2003) “Climate Change and California Water Resources: A Survey and Summary of the Literature”;
    - California Climate Change Center (2006) “Our Changing Climate”;
    - DWR (2008) “Managing an Uncertain Future”; and
    - State of California (2008) “The State Water Project Delivery Reliability Report”.

- A publication released in November 2008 by California Trout entitled, “SOS: California's Native Fish Crisis", that is based on a peer-reviewed study authored by Dr. Peter Moyle, Dr. Joshua Israel and Sabra Purdy entitled, “Salmon, Steelhead and Trout in California: Status of an Emblematic Fauna.” These reports describe the life history and current status of 32 native salmonid species located throughout California and the many factors that have led to their steep decline. The reports also provide recommendations for management actions to address the decline. Both reports were included in the December 4, 2008 submittal to the Deputy Director for Water Rights.

- A report entitled “Alternate Flow Regime to Protect Rare Native Species in Middle Piru Creek (Los Angeles and Ventura Counties, California)”, prepared by Land Protection Partners (LPP), that describes the alternate flow regime proposed by the Petitioner and presents an analysis of its impact to native species that inhabit middle Piru Creek.

4.2.1.2 The 2006 DFG study showing that trout are related to native steelhead in Piru Creek is not new information requiring a subsequent or supplemental EIR

The 2006 DFG study examines the genetic population structure and ancestry of central and southern California wild trout populations based on samples collected at 20 sites within five coastal drainage basins extending from Monterey Bay south to Ventura County. In the vicinity of the Project reach, fish samples were collected in the Piru Creek drainage at three locations: (1) Lockwood Creek, (2) Piru Creek at Gold Hill (the latter two located above Pyramid Dam), and (3) Frenchman’s Flat, located below Pyramid Dam. Fish samples were also collected downstream of Santa Felicia Dam at two locations on tributaries to the Santa Clara River and from the Fillmore Hatchery, the origin of the trout stocked in Piru Creek. In general, the study found basin-specific lineages that indicated similarity among fish collected both above and below dams in each of the five drainage basins included in the study. The study also found that the trout population in the Santa Clara River (which includes Piru Creek) was the most distinct of the populations in the five basins. The authors suggest this is a consequence of greater

influence of hatchery introgression on these populations, which tended to cluster more closely with the Fillmore Hatchery trout samples.

The Petitioner claims that these results are new information requiring a subsequent or supplemental EIR. The information contained in the 2006 DFG study is not entirely new, however. (See CEQA Guidelines, § 15162, subd. (a)(3) [new information must be of substantial importance].) Comments submitted by NOAA Fisheries on the draft EIR mentioned preliminary results from the DFG study indicating that "native rainbow trout in the middle reaches of Piru Creek are closely related to other trout populations in the Santa Clara River with access to the ocean." Furthermore, the possibility that remnant populations of native steelhead exist in middle Piru Creek was acknowledged as "conceivable" in DWR's Final Environmental Impact Report (FEIR) in response to comments submitted by California Trout. (DWR FEIR, Appendix A, p. 8.) A study confirming the existence of conditions that the EIR already recognizes as possible and does not dismiss as speculative or unlikely does not amount to new information of substantial importance requiring preparation of a subsequent or supplemental EIR. (See CEQA Guidelines, § 15162, subd. (a)(3).)

Finally, NOAA Fisheries stated in a January 11, 2005 comment letter on the draft EIR that "the proposal to change the Pyramid Reservoir operations to more closely simulate the natural variability of stream flows within the middle reaches of Piru Creek, while intended primarily to restore habitat conditions for the federally endangered Arroyo toad (*Bufo californicus*), is generally compatible with and complementary to NOAA Fisheries' on-going efforts to recover historic steelhead populations in the Piru/Santa Clara River drainages." If restoration to natural conditions will be beneficial to recovery of steelhead, the presence of remnant steelhead populations it is not a significant impact warranting a subsequent EIR. (CEQA Guidelines, § 15162, subd. (a)(3)(A)&(B).)

4.2.1.3 Information in the Sandburg Report concerning the arroyo toad and CRLF is not new information warranting a subsequent EIR

The Sandburg Report presents the results of monthly arroyo toad breeding surveys conducted in the spring and summer of 2005 following high flood flows during the previous winter. 2005 was the first year that DWR released winter flows from Pyramid Dam based on a strategy similar to the flow provisions contained in the water quality certification. The report describes how higher-than-normal winter flows flushed silt and encroaching vegetation from the stream

channel, thereby creating more and better habitat for arroyo toad breeding. These higher flows extended later into the spring and summer than is typical due to greater than average rainfall in the vicinity of middle Piru Creek (48.4 inches in 2005 *vs*. 19.6 inches for an average year). The changes in habitat brought on by the high winter flows resulted in exceptional breeding activity, with high numbers of arroyo toad egg clutches (145-165 clutches) observed in the lower portion of the Project reach between Lake Piru and Ruby Canyon (approximately three miles).

Petitioner's claim that the Sandburg Report supports their proposal for enhanced summer flows is not substantiated. First, it is not appropriate to consider only one year of arroyo toad breeding data as justification for the flow regime proposed by the Petitioner, especially when the data cover the first year of a new flow regime that included the higher winter flows that the Sandburg Report credits for enhanced habitat. Second, while it is true that the breeding surveys conducted by Nancy Sandburg in 2005 indicated successful arroyo toad reproduction during a year with consistently high summer flows, a more recent breeding survey also conducted by Nancy Sandburg in 2007 shows successful arroyo toad breeding (106 clutches observed) during a year characterized by low rainfall and resulting low summer flows. The 2007 report goes on to state that prior to natural flow simulation beginning in 2005, arroyo toad habitat conditions were degraded as a result of augmented, sustained summer flows, irregular releases, and decreased winter flows, resulting in total annual clutch counts of 12, 0, and 13 clutches respectively in 2002, 2003, and 2004. Moreover, while the 2007 report concludes that winter high flows appear to be the most important factor in maintaining appropriate habitat conditions for arroyo toad breeding and foraging, the report also concludes that lower summer flows are a necessary complement to retard riparian and aquatic vegetative growth and reduce the presence and reproduction of arroyo toad predators.

With respect to the presence of larvae of the threatened California red-legged frog detected in the project reach in 2005, the threats to red-legged frogs identified by FWS for the habitat unit that encompasses the Project reach include predation by non-native species, e.g. bullfrogs. The simulated natural flow regime described in the water quality certification would lead to the continued reduction of bullfrog populations within middle Piru Creek, thereby enhancing habitat for the California red-legged frog. The EIR concludes that, "if present, no significant impacts to [red-legged frogs] would be expected to occur from implementation of the proposed project." (DWR EIR, p. 3-35.) In light of this statement's inclusion in the EIR, the new information confirming presence of red-legged frogs does not show any significant effect not discussed in

the EIR. Consequently, the information contained in the 2005 Sandburg Report does not justify preparation of additional CEQA documentation. (See CEQA Guidelines, § 15162, subd. (a)(3)(A).)

4.2.1.4 Changes due to global warming do not require a subsequent EIR

Petitioner contends that changes in the amount and timing of rainfall in California have changed the circumstances under which the project will operate.[15] Petitioner does not demonstrate, however, that information of substantial importance concerning climate change was not available at the time DWR's EIR was prepared. Both the existence of climate change and the potential for effects on California water supplies were well known in February 2005, when the final EIR was certified. (See, e.g., Kiparsky & Glieck, *Climate Change and California Water Resources: A Survey and Summary of the Literature* (2003) included in California Trout's December 4, 2008 submittal.)

Petitioner's argument amounts to a complaint that the original DWR EIR did not adequately analyze the impacts of climate change. But the time to challenge perceived deficiencies in the DWR EIR has long since passed, and an attempt to do so now is untimely. (Pub. Resources Code, §§ 21167, 21167.2.) A subsequent or supplemental EIR may be required based on changes in the project, changed circumstances or new information that could not reasonably have been analyzed in the original EIR. (See *id.* § 21166; CEQA Guidelines, § 15162.) Except where the approval under consideration by the State Water Board involves activities outside the scope of the project considered in the lead agency's EIR, a circumstance not present here, the State Water Board as responsible agency cannot require preparation of a subsequent or supplemental EIR to correct alleged deficiencies in the lead agency's EIR that were known or should have been known at the time the lead agency certified the EIR. (Pub. Resources Code, § 21167.2.)

[15]Petitioner does not explain how this general information is relevant to conditions under which this certification will apply. Petitioner refers to changes in California in general, without identifying any information concerning rainfall in the general location of the project. Nor does Petitioner provide any information relevant to how soon these changes in amount and timing of rainfall are likely will occur. The water quality certification being challenged by Petitioner will be in effect for a limited period. The certification is for an amendment to a FERC license. The license itself expires in 2022, after which a new certification will be required for relicensing, although FERC may issue annual licenses if relicensing proceedings are not completed within that period.

4.2.1.5 The 2008 California Trout report by investigators at UC Davis on the status of salmonids in California is not new information warranting a subsequent EIR

The Southern California steelhead distinct population segment was first listed by NOAA Fisheries as endangered under the Endangered Species Act in 1997, a status that NOAA Fisheries reaffirmed in 2006. Most, if not all, of the factors that have led to the widespread decline in native steelhead populations in California that are discussed in the 2008 California Trout report were known at the time the EIR was written. For example, when the initial status review of west coast steelhead was completed in 1996, a supplemental document was released by NOAA Fisheries entitled "Factors for Decline: A Supplement to the Notice of Determination for West Coast Steelhead under the Endangered Species Act." This document provided a thorough review of factors that have led to the decline of steelhead and covered virtually all of the same concerns that are brought up in the 2008 report published by California Trout. While the California Trout report may contain additional specifics regarding the effects of human activity on native steelhead, it does not amount to new information that was not known and could not have been known with reasonable diligence in 2005. (CEQA Guidelines, § 15162, subd. (a)(3).)

4.2.1.6 The Land Protection Partners report about breeding habits and needs of the arroyo toad is not new information warranting a subsequent EIR

The Land Protection Partners report submitted by the Petitioner presents an analysis of the impacts of the flow regime contained in the water quality certification and the alternate flow regime proposed by the Petitioner on the arroyo toad and other sensitive amphibian and reptile species, native fishes, exotic predators and exotic plants. It begins with an assessment of impacts to arroyo toads associated with the release of winter flows based, in part, on a comparison between Piru Creek and the Santa Margarita watershed, located near Camp Pendleton in San Diego County, followed by an assessment of the impact that eliminating augmented summer flows has on sensitive species. The report asserts that the reduction in summer flows will lead to greater depredation of arroyo toads by bullfrogs and will eliminate or decrease arroyo toad recruitment during dry years. The report then discusses the Petitioner's alternate flow regime and describes the rationale for selecting 15 cfs as the summer flow target, which is based on the 75th percentile flow from a 17-year stream gage record for Piru Creek at Bucks Creek above Pyramid Lake. The report claims that scientific literature and observations on Piru Creek show that additional summer water releases benefit sensitive native species. The report then describes the adaptive management and mitigation measures proposed by the

Petitioner, which include sediment replenishment in the upper portion of the reach below Pyramid Dam and selective removal of adult bullfrogs from arroyo toad breeding habitat during the breeding season.

In general, Petitioner's claim that the report contains new and previously unavailable information about arroyo toad breeding habits is unsubstantiated, since the report makes observations regarding the characteristics of suitable arroyo toad breeding habitat that are similar to observations found in previously published reports on the topic. (*See, e.g.,* Sweet, S., Initial Report on the Ecology and Status of the Arroyo Toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California, with Management Recommendations (1992); USFWS, Arroyo Southwestern Toad (*Bufo microscaphus californicus*) Recovery Plan (1999).) The report's claim that the elimination of augmented summer flows in Piru Creek will decrease or eliminate arroyo toad recruitment during dry years is contradicted by previous field-based research by various authors (including Dr. Samuel Sweet) and by the breeding surveys discussed above that were conducted in middle Piru Creek in spring and summer of 2007, a year for which precipitation was characterized as significantly below average in Southern California.[16] There is nothing provided in the LPP report to support the claim that additional summer water releases as proposed by petitioner would benefit sensitive native species.

Thus, much of the information in the report is not of substantial importance, but is cumulative of other information about arroyo toad habitat that was already available when the EIR was certified. To the extent that the report's claims are new – specifically the claim that elimination of augmented summer flows will decrease arroyo toad recruitment – the new information is unpersuasive in light of other, more thorough scientific reports in the record. Under section 15162 of the CEQA Guidelines, a subsequent or supplemental EIR is not required simply because a new report claims that new or substantially more severe environmental impacts will occur -- there must be new information that "shows" those impacts will occur. (CEQA Guidelines, section 15162, subd. (a)(3).)

[16] DWR Bulletin 120 for May 2007 states that October through April (seasonal) precipitation in the South Coast Region was only 30 percent of normal for the 2006-2007 water year.

4.2.1.7 Imposition of monitoring requirements does not establish that there are unmitigated impacts

Petitioner contends that the State Water Board's inclusion of a monitoring requirement in the certification, requiring DWR to conduct annual breeding surveys of the arroyo toad, amounts to an admission that the project will adversely affect the arroyo toad and a deferral of mitigation for those impacts. There is no legal or factual basis for this argument. The monitoring requirement cited by Petitioner is a water quality monitoring requirement, adopted under the Porter Cologne Water Quality Control Act, not a mitigation monitoring requirement or other condition adopted to meet the requirements of CEQA (Compare Wat. Code, § 13381 with Pub. Resources Code, § 21081.6.)

As part of water quality certification, the State Water Board may require monitoring, studies, or other information "as may be reasonably required." (Wat. Code, § 13383.) There is no requirement that there be a potential for adverse environmental impacts within the meaning of CEQA before the State Water Board may impose these requirements. These requirements may be established for water quality purposes, which include restoring water quality, not just avoiding adverse impacts of a project within the meaning of CEQA. (Compare Wat. Code, §§ 13000 [attain the highest level of water quality which is feasible], 33 U.S.C. § 1251 [restore and maintain the integrity of the nation's waters] with CEQA Guidelines, § 15382, subd. (g) [defining significant effect on the environment as a substantial, or potentially substantial, "adverse change" in the physical environment].) Thus, even in the absence of any potential adverse change from a modified flow regime – or even where, as here, the flow regime will improve conditions for the arroyo toad – the State Water Board may require monitoring, studies, or other information for other reasons. These include obtaining information that may provide the basis for further adjustments in the flow regime if those adjustments would provide greater benefit. Monitoring and reporting may also be imposed to provide background information on water quality conditions, to evaluate the effectiveness of measures established to improve water quality, or for other reasonable purposes. Establishing monitoring conditions or other requirements for providing additional information simply acknowledges that there is a benefit in obtaining additional information, and that under the circumstances it is not unreasonable to require the regulated entity to provide that information. As the certification condition notes, "Monitoring for . . . listed . . . species . . . is included to better understand how implementation of

the Project affects these species and will allow for collection of information about their status in middle Piru Creek."

4.2.2 Because the certification does not include appropriate CEQA findings, the State Water Board will amend the certification to make those findings

The EIR found significant impacts from alteration of drainage patterns resulting in erosion, exposure of people to danger caused by flooding, and reduced angling opportunities. (EIR, p. ES-5 & ES-6.) Petitioner accurately notes that the certification as issued did not include findings on these impacts as required by CEQA Guidelines sections 15091 and 15096, subdivision (h).[17] The certification will be amended to include the following findings.

The EIR identified three significant impacts from the project.

Impact H-3: The proposed project could alter the existing drainage pattern in a manner which would result in erosion and lead to potential damage to existing infrastructure.

To mitigate this impact to a less than significant level, the State Water Board will include Mitigation Measure H-3 from the EIR, as modified to ensure that the measure is enforceable by the State Water Board, as a condition of the certification to avoid erosion damage to infrastructure, as follows:

> DWR shall perform an engineering analysis to determine the potential for expected releases to damage Old Highway 99, the Old Highway 99 bridges, utilities, and other infrastructure in or adjacent to the channel, and shall submit the analysis for approval by the Deputy Director for Water Rights no later than one year from issuance of the FERC license amendment. DWR shall make any revisions to the engineering analysis that are required by the Deputy Director for Water Rights, within the period specified by the Deputy Director for Water Rights. In accordance with section 4.2.3 of this order, concerning the mitigation monitoring program, the engineering analysis shall be used as a basis for establishing procedures and guidelines for monitoring erosion at infrastructure during flood releases. DWR shall monitor erosion at key potential infrastructure damage areas during large flow releases and temporarily curtail releases

[17] It should be noted that while Petitioner properly raises concerns about the lack of findings in the original certification, the alternative flow regime recommended by Petitioner would not serve to avoid or mitigate impacts from erosion or exposure of people to danger caused by flooding. Like the flow regime approved by the certification, Petitioner's alternative flow regime would provide for high flows at times those high flows would occur naturally, to the extent consistent with the operational constraints of Pyramid Dam.

should the monitoring determine the infrastructure to be at risk. If the monitoring program determines that the infrastructure is at risk, DWR shall submit plans for engineered erosion protection for approval by the Deputy Director for Water Rights, and install engineered erosion protection as approved by the Deputy Director for Water Rights.

Impact H-8: The proposed project could expose people or structures to a risk of loss, injury or death involving flooding, including flooding as a result of the failure of a dam.

To mitigate this impact to a less than significant level, the State Water Board will include Mitigation Measure H-8 from the EIR, as modified to ensure that the measure is enforceable by the State Water Board, as a condition of the certification, as follows:

DWR shall work with the USFS and landowners to develop a warning system and signage program to warn the public of dangerously high flows in middle Piru Creek, and shall submit the proposed warning system and signage program for approval by the Deputy Director for Water Rights within one year of the date of this order or within one month after issuance of the FERC license amendment, whichever occurs first. DWR shall make any revisions to the warning system and signage program that are required by the Deputy Director for Water Rights within the period specified by the Deputy Director for Water Rights. DWR shall implement the warning system and signage program as approved by the Deputy Director. In accordance with section 4.2.3 of this order, concerning the mitigation monitoring program, DWR will inspect signage at least annually and repair or replace warning signs as needed.

Impact R-3: The impact to recreational opportunities for anglers identified in the EIR results from the reduction in naturally reproducing trout that is expected to occur.

The EIR identifies Mitigation Measure R-3, which involves stocking some or all of an additional 1000 pounds of trout in Piru Creek in the upper portion of the reach in addition to the 3,000 pounds that DFG typically stocks at Frenchman's Flat, to mitigate this impact to a less than significant level. Implementation of this measure is within the responsibility and jurisdiction of DFG and potentially other public agencies, and not the State Water Board.

DFG's fish stocking program has been challenged in litigation based on claims of harm to native trout and amphibians, and a court order requires DFG to complete an EIR on its stocking program. The court asked DFG to negotiate with the plaintiffs in the litigation to seek an agreement as to where fish stocking may continue pending completion of the EIR, which DFG anticipates will be completed in 2010. DFG and the plaintiffs reached an agreement setting criteria for where fish stocking may continue. Based on those criteria, DFG prepared a list of streams where fish stocking would continue and where it would be discontinued. Piru Creek is listed as a stream where fish will not be stocked, meaning that the fish stocking at Frenchman's Flat will be discontinued until after the program is reevaluated based on the EIR. In view of the environmental and legal concerns with respect to fish planting in stream reaches with native amphibian populations and DFG's decision to stop fish planting on Piru Creek, the State Water Board finds that expanding fish planting on Piru Creek as mitigation for the modification of instream flow requirements approved by this certification is infeasible.[18]

The additional fish stocking proposed in Mitigation Measure R-3 would occur upstream of a physical barrier that typically prevents fish stocked at Frenchman's Flat from moving upstream. Fish caught upstream of this barrier were believed to be from a naturally reproducing population, and the reach is currently managed as a catch-and-release area.[19] While the EIR concludes that Mitigation Measure R-3 would mitigate impacts on recreational angling opportunities to less than significant levels, implementation of Mitigation Measure R-3 would be inconsistent with the option of managing the upper portion of the reach as a fishery based on a naturally reproducing population.

The EIR also includes another option, labeled Alternative 2: Reversion to FERC License 2426 Article 52 Flow Requirements, which would avoid adverse impacts on recreational opportunities for anglers. Alternative 2 would return to the flow release schedule used prior to the temporary waiver from FERC. This alternative is not feasible due to impacts to the endangered arroyo

[18] This finding is based on the information currently available to the State Water Board and the need to complete the water quality certification process within a reasonable period. After completing the EIR on its fish stocking program and evaluating the effects of fish stocking on Piru Creek, DFG may reinstate fish stocking at Frenchman's Flat or expand fish stocking to include the upper portion of the reach if DFG determines that the action is consistent with protection of endangered species and is otherwise appropriate.

[19] The Draft EIR states that DFG fishery biologists had recently determined that trout located above the barrier were of the same genetic stock as trout released at Frenchman's Flat. However, in light of more recent evidence contained in the 2006 DFG study showing that trout collected in Piru Creek at Frenchman's Flat are genetically similar to trout collected at other locations in the Santa Clara River basin, the mitigation measure proposed in the EIR to plant trout above the passage barrier may no longer be appropriate.

toad. Alternative 2 would not achieve the primary purpose of the proposed project, which is to revise the stream release schedule from Pyramid Dam to avoid the incidental take of the endangered arroyo toad due to water releases into middle Piru Creek. In addition, Alternative 2 is infeasible because it does not meet state and federal water quality requirements. By failing to establish a flow regime protective of the arroyo toad, Alternative 2 would not protect the most sensitive uses. (40 C.F.R. 131.11(a)(1).)

Petitioner's alternative flow regime could serve to mitigate lost recreational opportunities for anglers, but is infeasible for the same reasons that Alternative 2 is infeasible. Higher flows that might provide better angling opportunities would adversely affect the endangered arroyo toad, which would violate water quality requirements and be inconsistent with the policies of the federal Endangered Species Act.

Petitioner's alternative flow regime poses an additional problem. Because it would maintain high winter flows consistent with natural inflows to Pyramid Lake, while requiring higher than natural releases from Pyramid Lake at other times of the year, Petitioner's alternative flow regime would require releases from Pyramid Lake in excess of the total natural inflow. The water for these additional deliveries would necessarily come from water discharged into Pyramid Lake from the California Aqueduct, meaning that the additional flows required by Petitioner's alternative flow regime would come at the expense of higher diversions from the Delta or reduced water deliveries in the State Water Project service area. As discussed above, restoration of natural conditions will be beneficial to steelhead recovery. If the artificially high flows between March 15 and August 31 called for by Petitioner's alternative flow regime were provided by increased Delta diversions, the potential for adverse impacts on species in the Delta would greatly outweigh benefits to recreational angling in Piru Creek. (See, generally, Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (2006) at p. 5.) If these flows were made available through reduced State Water Project deliveries, the benefits to the recreational trout fishery would be outweighed by the adverse social and economic impacts of reduced deliveries.[20]

[20] See, for example, Howitt, R.E, MacEwan, D and Medellín-Azuara, J. (2009) Economic impacts of reductions in Delta exports on Central Valley agriculture. Giannini Foundation of Agricultural Economics Agricultural and Resource Economics Update, Vol. 12, No. 3.

4.2.3. Mitigation Monitoring or Reporting Requirements

Section 15097 of the CEQA Guidelines requires that when a public agency makes a finding that it has adopted mitigation measures to avoid or reduce the adverse impacts of a project, the public agency shall adopt a mitigation monitoring or reporting requirement.

In section 4.2.2 above, the State Water Board adopts mitigation measures for Impact H-3 and Impact H-8. The monitoring or reporting requirements for these impacts are as follows:

Monitoring or reporting requirement for impact H-3:

DWR shall complete an engineering analysis for infrastructure adjacent to Piru Creek and make any revisions required by the Deputy Director for Water Rights, as required in section 4.2.2 above. DWR shall develop procedures and guidelines to monitor erosion based on the engineering analysis within the specified timeframes of the analysis as approved by the Deputy Director for Water Rights, and submit those procedures and guidelines to the Deputy Director for approval. DWR will implement those procedures and guidelines as approved by the Deputy Director for Water Rights, including monitoring erosion at key areas during large flow releases, and installing and maintaining engineered erosion protection as needed in at risk areas. Engineered erosion protection will be monitored following large storm events, defined as storm events that generate flows of 1,000 cfs or more in upper Piru Creek, to determine whether erosion damage has occurred. If damage has occurred, DWR will notify the Forest Service and FWS.

DWR shall prepare and submit to the Deputy Director for Water Rights annual reports that include the results of the monitoring and document the installation of any engineered erosion protection as approved by the Deputy Director. Annual reports shall be submitted by October 1 of each year after the procedures and guidelines to monitor erosion are approved by the Deputy Director for Water Rights.

Monitoring or reporting requirement for impact H-8:

DWR shall develop a warning system and signage program to warn the public of dangerously high flows in middle Piru Creek and shall implement the system and program as approved by the Deputy Director for Water Rights, as provided in section 4.2.2 above. DWR shall inspect the signage at least annually and repair or replace warning signs as needed.

DWR shall prepare and submit to the Deputy Director for Water Rights annual reports that document the implementation of the warning system and signage program, including the results of inspections and the repair or replacement of warning signs. Annual reports shall be submitted by October 1 of each year after the warning system and signage program are approved by the Deputy Director for Water Rights. DWR shall provide a copy of the report to the Forest Service.

4.2.4. Statement of Overriding Considerations

As discussed in Section 4.2.1 above, the EIR found that all of the adverse impacts of the project could be mitigated to a less than significant level. The State Water Board has adopted the mitigation necessary to mitigate impacts H-3 and H-8. With respect to impact R-3, however, the State Water Board found that that specific legal and environmental concerns make it infeasible to adopt the mitigation measure or alternative identified in the final EIR that would avoid or mitigate this impact. Because the State Water Board concludes that the project should proceed even though this impact will not be mitigated, the State Water Board makes this finding of overriding considerations:

The revised stream release schedule provided by the project is reasonably necessary to avoid the incidental take of the endangered arroyo toad. In addition to substantially improving habitat for the arroyo toad, the more natural water flow schedule provided by the project is consistent with state and federal water quality requirements and is compatible with NOAA Fisheries' ongoing efforts to recover historic steelhead populations in the Piru Creek/Santa Clara River drainages. The fish and wildlife and water quality benefits of the project outweigh the adverse impacts on recreational angling opportunities.

5.0 STAY

At the same time that Petitioner requested reconsideration, it also requested a stay of the certification during the pendency of the petition for reconsideration. As the reconsideration process is complete, the issue of whether to issue a stay is moot.

6.0 CONCLUSION

For the reasons discussed above, the petition for reconsideration is granted in part. The certification will be amended to incorporate the necessary CEQA findings, along with the conditions of approval and mitigation monitoring and reporting requirements necessary to effectuate those findings. As amended by this order, the certification is appropriate and proper.

ORDER

IT IS HEREBY ORDERED that the certification of the amendment to FERC License No. 2426 for purposes of compliance with section 401 of the Clean Water Act is amended and attached to this order.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 4, 2009.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Arthur G. Baggett, Jr. Board Member Tam M. Doduc
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend
Clerk to the Board

Attachment

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for the

RE-OPERATION OF PYRAMID DAM FOR

THE CALIFORNIA AQUEDUCT HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION PROJECT NO. 2426

SOURCE: Piru Creek

COUNTY: Los Angeles and Ventura Counties

Introduction

The California Department of Water Resources (DWR) and the City of Los Angeles (collectively Licensee) applied to the Federal Energy Regulatory Commission (FERC) on March 17, 2005 for an amendment to the current FERC license for the reoperation of Pyramid Dam (Project), a part of the California Aqueduct Hydroelectric Project, FERC Project No. 2426. FERC Project No. 2426 includes a number of hydroelectric developments that are situated along the length of the California Aqueduct. The application for the license amendment only addresses operation of Pyramid Dam and associated impacts to the 18 mile reach of Piru Creek between Pyramid Dam and Lake Piru. Lake Piru is a non-Project facility operated by United Water Conservation District. A map of the Project vicinity is shown in Attachment A. DWR utilizes Piru Creek for conveyance of State Water Project (SWP) water to its long term contractors. Between 1996 and 2002, total annual outflow at Pyramid Lake ranged between approximately 10,000 – 70,000 acre-feet of water.

Amendments to the FERC license requested in Licensee's application include the modification of minimum flow requirements for Piru Creek below Pyramid Dam required under Article 52 and Exhibit S of the current FERC license, which require Licensee to establish and maintain a year-round trout fishery. DWR requested the license amendment to avoid incidental take of the arroyo toad (*Bufo californicus*), a species listed by the United States Fish and Wildlife Service (FWS) as endangered under the Endangered Species Act. Prior to submittal of the application for a license amendment, Licensee submitted a request to FERC for a temporary waiver from the minimum flow releases under FERC license Article 52 on February 10, 2005. FERC approved the temporary waiver on April 12, 2005. Consequently, DWR has already begun operating Pyramid Dam flow releases to simulate natural flow conditions using the same operating guidelines that will be implemented under the requested license amendment.

The DWR water right at Pyramid Dam and Lake Piru is authorized under Water Right Permit 18709 (Application 25988) issued by the State Water Resources Control Board (State Water Board) and documentation is recorded with the Division of Water Rights (Division). Water Right Permit 18709 is for year round storage of 55,000 acre-feet of water collected from Piru Creek. The beneficial uses of water identified in Permit 18709 are irrigation; domestic; municipal; industrial; water quality; recreational; fish and wildlife preservation and enhancement; and incidental power generation. Lake Piru is also designated as a point of rediversion under various permits and licenses held by DWR that authorize water to be conveyed through the California Aqueduct for distribution at various facilities.

Before FERC can issue a license amendment for the Project, Licensee must obtain water quality certification under section 401 of the Clean Water Act from the State Water Board. (33 U.S.C. § 1341.) The State Water Board must certify that the Project will comply with the applicable provisions of the Clean Water Act, including water quality standards set forth in the Water Quality Control Plan for the California Regional Water Quality Control Board, Los Angeles Region (Basin Plan). The State Water Board must analyze the overall effect of the Project license amendment on water quality and include conditions in the certification, if necessary, to adequately protect the designated beneficial uses identified in the Basin Plan.

Water Quality Certification Conditions

Operational Guidelines to Simulate Natural Hydrology

Article 52 of the current FERC license dictates a continuous minimum stream flow release below Pyramid Dam of 5 cubic feet per second (cfs) from November 16 through April 30, and 10 cfs from May 1 through November 15. This article also includes a requirement for release of additional flow up to 25 cfs from Pyramid Dam into Piru Creek, depending upon the predicted maximum air temperature in the Project area. Additional requirements related to the maintenance of stream flow for the purpose of maintaining a year-round trout fishery are contained in Exhibit S of the current license.

In 2003, FWS expressed concern about higher than natural perennial stream flows in Piru Creek and their impacts to the endangered arroyo toad population that is known to inhabit middle Piru Creek, which is the reach between Lake Piru and Pyramid Dam. These concerns included the effects of increased summer stream flows on non-native species that prey on the toads, such as bullfrogs and crayfish. Additionally, the natural scouring events that are necessary to maintain arroyo toad habitat and that would normally occur during winter storm events are prevented due to the flow management practices under the current license conditions. In communicating their concerns about impacts to arroyo toads, the FWS provided recommendations for managing water releases in Piru Creek that are compatible with survival and recovery of the arroyo toad. These recommendations have been incorporated into the operational scheme proposed by DWR in its license amendment application to FERC.

DWR will operate Pyramid Dam to reflect natural flow conditions by releasing flows from Pyramid Lake to middle Piru Creek at a rate up to approximately 18,000 cfs, which is the maximum volume of water that can be safely released from Pyramid Dam. Inflow to Pyramid Lake will be measured at existing gauging stations that are located above Pyramid Lake on upper Piru Creek and Cañada de los Alamos. A multiplier will be used to account for portions of the Pyramid Lake watershed that are not tributary to either upper Piru Creek or Cañada de los Alamos. Due to operational constraints, the stream release into middle Piru Creek at Pyramid Dam will typically lag measured inflow by approximately one day. Implementation of the proposed project will result in greater volumes of water passing through middle Piru Creek during the rainy season (typically November through April). During the dry season (May through October), flows in middle Piru Creek will gradually diminish in response to decreasing surface water inflow to Pyramid Lake. On rare occasions during dry years, inflow to Pyramid Lake may be reduced to zero.

Radial Gate Testing

Sudden increases or decreases in stream flows can be disruptive to aquatic organisms, especially when they occur during critical life history stages. For this reason, short-term increases in flow to middle Piru Creek associated with testing of the radial gates, stream release valves, or other requirements to test equipment at Pyramid Dam are prohibited between March 15 and June 15 and will be avoided to the extent possible between June 16 and July 31. Scheduled tests that require releases that last longer than 15 minutes will require prior notification to the FWS. This allows the radial gates at Pyramid Dam to be exercised, and provides for testing equipment, as mandated by FERC or other agencies, that would otherwise increase flows by up to 50 cfs for short periods of time.

Monitoring Requirements

Monitoring for federally listed threatened and endangered species and for California species of special concern within the Project area is included to better understand how implementation of the Project affects these species and will allow for collection of information about their status in middle Piru Creek. DWR will develop a monitoring plan that includes annual breeding surveys for federally listed arroyo toads and that may also include surveys for California red-legged frogs, and for two California species of special concern: Southwestern pond turtles and Two-striped garter snakes. The monitoring plan may also need to include surveys for exotic species known to occur in middle Piru Creek, such as bullfrogs and crayfish, which are known to prey upon arroyo toads.

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

1. The federal Clean Water Act (33 U.S.C. §§ 1251 *et seq.*) was enacted "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." (33 U.S.C. § 1251(a).) Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Section 401 of the Clean Water Act directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with the Clean Water Act and with any other appropriate requirement of state law. Section 401 further provides that state certification conditions shall become conditions of any federal license or permit for the project.

2. The State Water Board is the State agency responsible for certification in California. (Wat. Code, § 13160.) The State Water Board has delegated this function to the Executive Director by regulation. (Cal. Code Regs., tit. 23, § 3838, subd. (a).)

3. The California Regional Water Quality Control Boards have adopted, and the State Water Board and the US Environmental Protection Agency have approved, water quality control plans (Basin Plans) for each watershed basin in the State. The Basin Plans designate the beneficial uses of waters within each watershed basin and water quality objectives designed to protect those uses. Section 303 of the Clean Water Act requires the states to develop and adopt water quality standards. (33 U.S.C. § 1313.) The beneficial uses together with the water quality objectives that are contained in the basin plans constitute state water quality standards under section 303. The State Water Board has also considered the existing water quality conditions and Project related controllable factors.

4. The Los Angeles Regional Water Quality Control Board (Los Angeles Board), has adopted the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, which identifies industrial service and process supply; agricultural supply; groundwater recharge; freshwater replenishment; water contact recreation; non-contact recreation; warm freshwater habitat; cold freshwater habitat; wildlife habitat; rare, threatened or endangered species habitat; spawning, reproduction, and/or early development habitat; and wetland habitat as existing beneficial uses for Piru Creek between Pyramid Lake and Lake Piru. Additionally, municipal and domestic supply is identified as a potential beneficial use.

5. On June 12, 2008, FERC issued the final environmental assessment (Final EA) for the Project, pursuant to the requirements of the National Environmental Policy Act. The Final EA presents an evaluation of the Project, addresses potential environmental impacts, and includes responses to comments received on the draft

environmental assessment. The Final EA also includes a Finding of No Significant Impact (FONSI).

6. DWR is the lead agency for the Project for purposes of the California Environmental Quality Act (CEQA). (Pub. Resources Code, §§ 21000 *et seq*.) DWR released a Notice of Preparation of a draft environmental impact report (EIR) on May 19, 2004 and held a public scoping meeting on June 17, 2004 in Santa Clarita. DWR subsequently released a draft EIR entitled *The Simulation of Natural Flows in Middle Piru Creek* in November 2004 (State Clearinghouse No. 2004051123) and held a public comment meeting in December 2004. A Final EIR was released in January 2005. The Final EIR was certified by the Director of DWR and a Notice of Determination was filed with the State Office of Planning and Research on February 15, 2005. DWR incorporated conditions into the Project designed to protect the environment.

7. The State Water Board, as a responsible agency under CEQA, has reviewed and considered the documents produced by DWR to support the environmental review required for the issuance of the Section 401 Water Quality Certification. The State Water Board will file a Notice of Determination within five days from the issuance of this amended certification.

8. DWR found three significant impacts that were disclosed in the EIR. These are designated as Impact H-3: alteration of drainage patterns resulting in erosion; Impact H-8: exposure of people to danger caused by flooding; and Impact R-3: reduced angling opportunities. (Final EIR, p. ES-5 & ES-6.) Mitigation measures that will reduce the severity of impacts to less than significant are included as conditions of this certification for Impacts H-3 and H-8. With respect to impact R-3, the State Water Board order approving this amended certification makes findings that alternatives and mitigation measures that would avoid or mitigate this impact are infeasible, and makes a finding of overriding considerations.

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER BOARD CERTIFIES THAT THE OPERATION OF THE CALIFORNIA AQUEDUCT HYDROELECTRIC PROJECT BY THE CALIFORNIA DEPARTMENT OF WATER RESOURCES AND THE CITY OF LOS ANGELES UNDER AN AMENDED LICENSE ISSUED BY FERC will comply with sections 301, 302, 303, 306 and 307 of the Clean Water Act, and with applicable provisions of state law, provided that the California Department of Water Resources complies with the following terms and conditions:

1. Pyramid Dam Stream Flow Conditions

   Stream releases from Pyramid Dam into Piru Creek shall match natural inflow into Pyramid Lake to the extent operationally feasible and consistent with safety requirements, as described in the following guidelines:

   A. Natural inflow to Pyramid Lake will be released into middle Piru Creek at a rate up to approximately 18,000 cfs, which is the maximum safe designed release from Pyramid Dam.

   B. Storm releases into middle Piru Creek may be held back at less than the maximum safe designed release of 18,000 cfs if higher releases are deemed a threat to life, safety, or property at Pyramid Dam or downstream of the dam.

   C. DWR may elect to appropriate inflow to Pyramid Lake above the safe release flows under the provisions of its existing water rights.

   D. Up to 3,150 acre feet of State Water Project water may be delivered to United Water Conservation District via middle Piru Creek between November 1 and the end of February of each water year. During this period, water deliveries may be made over a period of a few days, ramping flows up and down to simulate the hydrograph of a typical storm event, or they may be released more gradually over a longer period.

   E. Radial Gate Testing

      Releases into middle Piru Creek may be increased for short periods of time to exercise the Pyramid Dam radial gate and stream release valves, to test emergency power sources, to conduct tests mandated by FERC, or to meet short-term operational or maintenance requirements. No such testing will be scheduled between March 15 and June 15. Testing will also be avoided to the extent possible between June 16 and July 31. When testing is conducted, flows shall not increase by more than 50 cfs above current base flows and release events shall not last longer than 15 minutes. Scheduled tests that require larger releases or last longer than 15 minutes require prior notification to the FWS. Unscheduled releases due to equipment failure or emergency situations must be reported to the FWS no later than three business days after the event.

F. All flow requirements of this certification are subject to temporary modification if required by equipment malfunction, emergency conditions or law enforcement activity, or critical electric system emergency beyond the control of the Licensee. The Licensee shall provide advance notification to the FWS prior to any temporary modification, when possible. If advance notification is not possible because an event is unforeseeable, Licensee shall notify the FWS no later than 48 hours from the time that any temporary modification has occurred.

2. Arroyo Toad and Sensitive Species Monitoring Condition

Within one year of issuance of the license amendment, DWR shall file with FERC a plan approved by the Deputy Director for Water Rights for annual breeding surveys of the arroyo toad in middle Piru Creek. Monitoring shall occur, at a minimum, in the lower portion of middle Piru Creek between Lake Piru and Ruby Canyon (a distance of approximately 2 to 3 miles) and shall be conducted by a qualified biologist with experience in identifying arroyo toad larvae and tadpoles. An annual monitoring report shall be submitted to the Deputy Director by October 1 of each year that includes the results of the breeding surveys as well as flow data to document daily releases at Pyramid Dam. If three years of monitoring indicate that the arroyo toad population has shown improvement under the flow modifications identified in this certification, DWR, upon consultation with the State Water Board and FWS, may modify the monitoring frequency required to demonstrate the presence of arroyo toads.

3. Mitigation for the potential increased erosion and damage to existing infrastructure.

DWR shall perform an engineering analysis to determine the potential for expected flow releases to damage Old Highway 99, the Old Highway 99 bridges, utilities, and other infrastructure in or adjacent to the channel, and submit the analysis for approval by the Deputy Director for Water Rights no later than one year from issuance of the FERC license amendment.

- DWR shall make any revisions to the engineering analysis that are required by the Deputy Director for Water Rights, within the period specified by the Deputy Director for Water Rights.
- DWR shall develop procedures and guidelines to monitor erosion based on the engineering analysis within the specified timeframes of the analysis as approved by the Deputy Director for Water Rights, and submit those procedures and guidelines to the Deputy Director for Water Rights for approval.
- DWR shall implement those procedures and guidelines as approved by the Deputy Director for Water Rights, including monitoring erosion at key areas during large flow releases.
- If the monitoring program determines that the infrastructure is at risk, DWR shall temporarily curtail releases, and submit plans for engineered erosion protection for approval by the Deputy Director for Water Rights.

- DWR shall monitor engineered erosion protection following large storm events, defined as storm events that generate flows of 1,000 cfs or more in upper Piru Creek, to determine whether erosion damage has occurred. If damage has occurred, DWR will notify the Forest Service and the FWS.
- DWR shall prepare and submit to the Deputy Director for Water Rights annual reports that includes the results of monitoring under this condition and documents the installation of any engineered erosion protection as approved by the Deputy Director for Water Rights. Annual reports shall be submitted by October 1 of each year after the procedures and guidelines to monitor erosion are approved by the Deputy Director for Water Rights.

4. Mitigation for the potential to expose people or structures to a risk of loss, injury or death due to flooding, including flooding as a result of the failure of a dam.

   DWR shall work with the USFS and landowners to develop a warning system and signage program to warn the public of dangerously high flows in middle Piru Creek.

   - DWR shall submit the proposed warning system and signage program for approval by the Deputy Director for Water Rights within one year of the date of this order or within one month after issuance of the FERC license amendment, whichever occurs first.
   - DWR shall make any revisions to the warning system and signage program that are required by the Deputy Director for Water Rights, within the period specified by the Deputy Director for Water Rights.
   - DWR shall implement the warning system and signage program as approved by the Deputy Director for Water Rights.
   - DWR shall inspect the signage at least annually and repair or replace warning signs as needed.
   - DWR shall prepare and submit to the Deputy Director for Water Rights annual reports that documents the implementation of the warning system and signage program, including the results of inspections and the repair or replacement of warning signs. Annual reports shall be submitted by October 1 of each year after the warning system and signage program are approved by the Deputy Director for Water Rights, with copies provided to the Forest Service.

5. This certification is contingent on compliance with all applicable requirements of the Los Angeles Board Basin Plan, except as may be modified by the specific conditions in this certification.

6. Notwithstanding any more specific conditions in this certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control

7. Licensee must submit any change to the California Aqueduct Hydroelectric Project that affects the operation of Pyramid Dam that would have a significant or material effect on the findings, conclusions, or conditions of this certification to the Deputy Director for prior review and written approval.

8. DWR shall provide State Water Board staff access to Project sites to document compliance with this certification.

9. The authorization to operate the Project pursuant to this certification is conditioned upon payment of all applicable fees for review and processing of the application for water quality certification and administering the State's water quality certification program, including but not limited to: timely payment of any annual fees or similar charges that may be imposed by future statutes or regulations for the State's reasonable costs of a program to monitor and oversee compliance with conditions of water quality certification.

10. This certification is not intended and shall not be construed to apply to issuance of any FERC license or FERC license amendment other than the FERC license amendment specifically identified in the Licensee's application for certification.

11. This certification does not authorize any act which results in the taking of a threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish & G. Code §§ 2050 *et seq.*) or the federal Endangered Species Act (16 U.S.C. §§ 1531 *et seq.*). If a take will result from any act authorized under this certification or water rights held by the Licensee, the Licensee shall obtain authorization for the take prior to any construction or operation of the Project. The Licensee shall be responsible for meeting all requirements of the applicable Endangered Species Act for the Project authorized under this certification.

12. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

13. In response to a suspected violation of any condition of this certification, the State Water Board may require the holder of any federal permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs,

14. In response to any violation of the conditions of this certification, the State Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

15. DWR must submit any change to the Project operation that would have a significant or material effect on the findings, conclusions, or conditions of this certification, to the Deputy Director for prior and written approval.

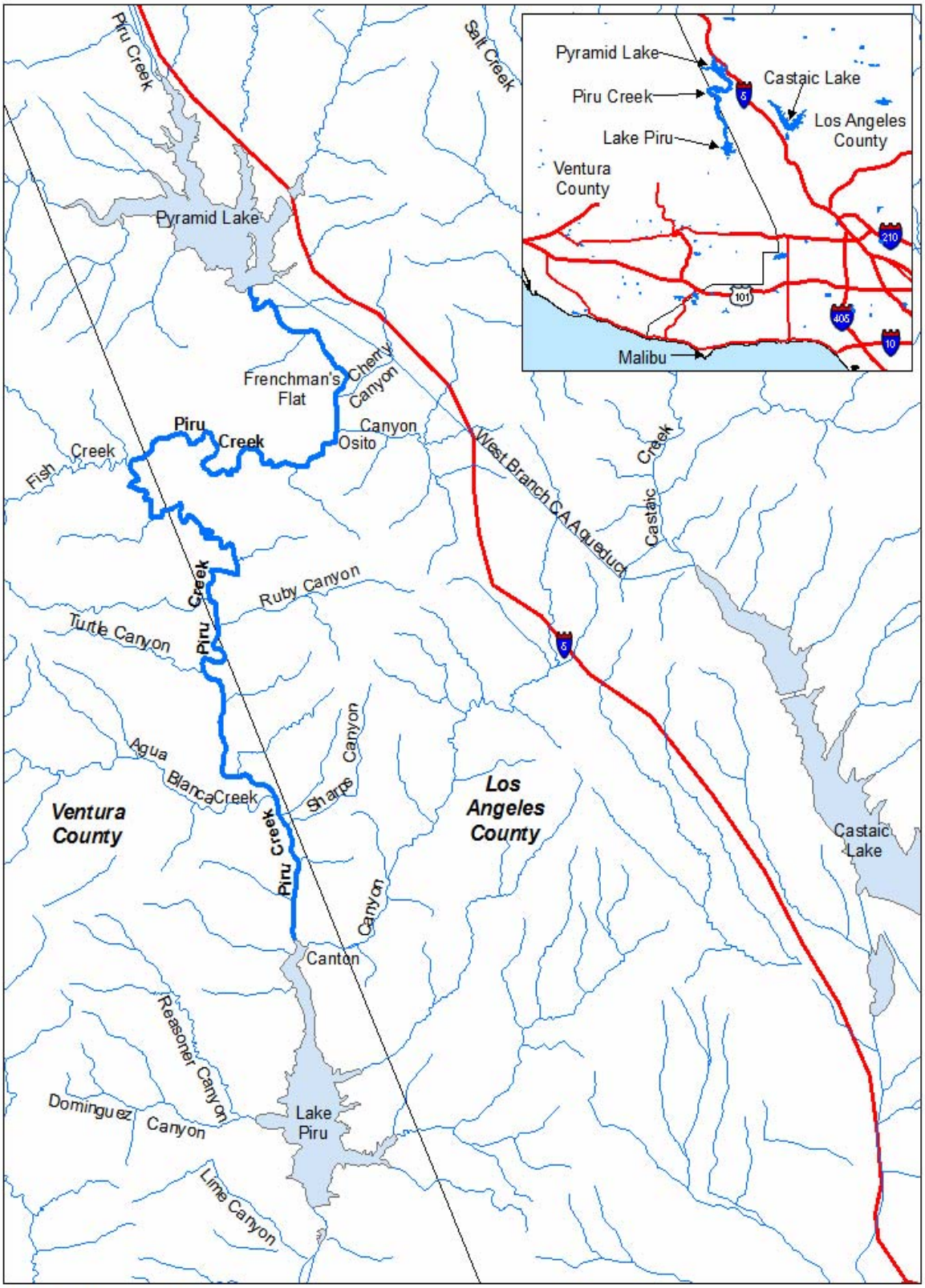
16. This certification is subject to modification upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with § 3867).

17. The State Water Board reserves authority to modify this certification if monitoring results indicate that continued operation of the Project will violate water quality objectives or impair the beneficial uses of Piru Creek.

18. The State Water Board may add to or modify the conditions of this certification, as appropriate, to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

19. The State Water Board may add to or modify the conditions of this certification as appropriate to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or protect beneficial uses of water.

20. The State Water Board shall provide notice and an opportunity for hearing in exercising its authority under conditions 17, 18, and 19 above.



Attachment A

Appendix G

Custom USDA Soil Resource Reports

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United States Department of Agriculture

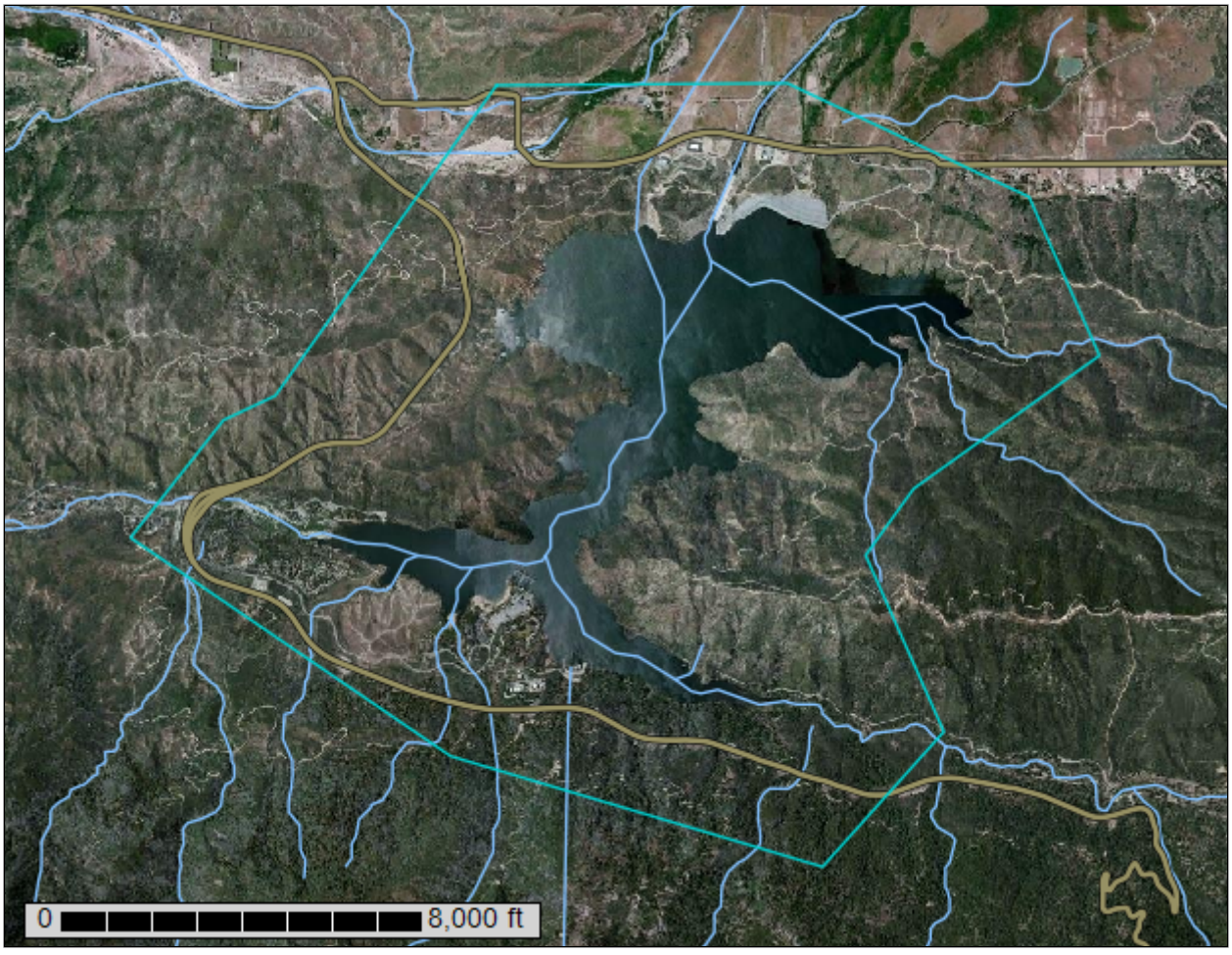
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Bernardino County, California, Mojave River Area; and San Bernardino National Forest Area, California

Silverwood Lake Area



November 4, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

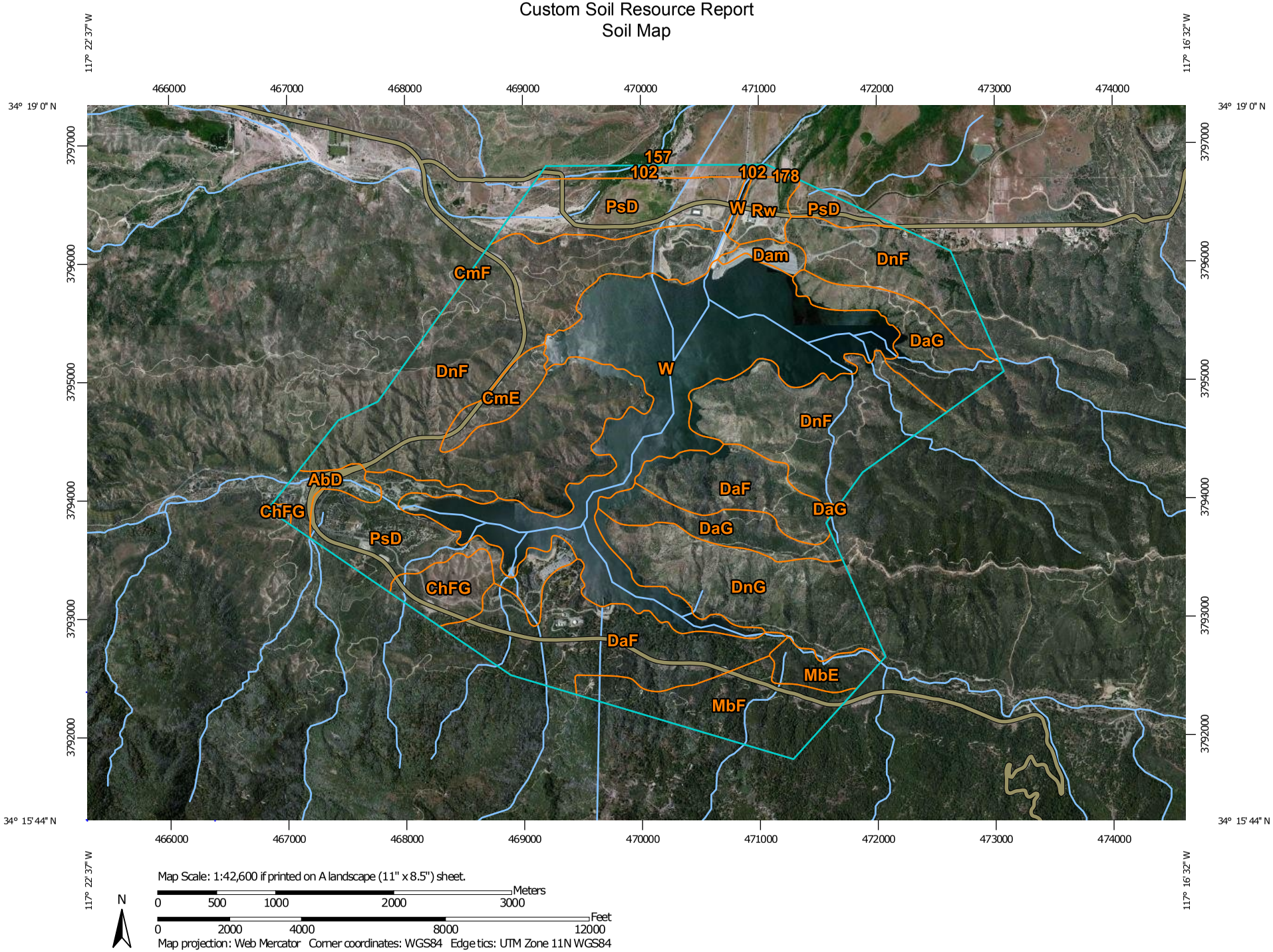
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 7, Sep 8, 2014

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 7, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Jul 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Bernardino County, California, Mojave River Area (CA671)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
102	AVAWATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*	51.3	1.1%
157	RIVERWASH	0.7	0.0%
178	WATER	1.8	0.0%
Subtotals for Soil Survey Area		**53.8**	**1.1%**
Totals for Area of Interest		**4,738.1**	**100.0%**

San Bernardino National Forest Area, California (CA777)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
AbD	Soboba-Hanford families association, 2 to 15 percent slopes	54.9	1.2%
ChFG	Typic Xerorthents, warm-Typic Haploxeralfs-Badland complex, 30 to 100 percent slopes	94.2	2.0%
CmE	Modesto-Osito families association, 15 to 30 percent slopes	68.4	1.4%
CmF	Osito-Modesto families association, 30 to 50 percent slopes	1.0	0.0%
DaF	Pacifico-Wapi families complex, 30 to 50 percent slopes	546.3	11.5%
DaG	Wapi-Pacifico families-Rock outcrop complex, 50 to 75 percent slopes	292.8	6.2%
Dam	Dams	30.3	0.6%
DnF	Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes	1,499.6	31.6%
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	341.5	7.2%
MbE	Morical-Wind River families complex, 15 to 30 percent slopes	65.7	1.4%
MbF	Morical-Wind River families complex, 30 to 50 percent slopes	228.6	4.8%
PsD	Avawatz-Oak Glen, dry families association, 2 to 15 percent slopes	514.8	10.9%
Rw	Riverwash	57.4	1.2%

San Bernardino National Forest Area, California (CA777)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
W	Water areas	888.7	18.8%
Subtotals for Soil Survey Area		**4,684.3**	**98.9%**
Totals for Area of Interest		**4,738.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County, California, Mojave River Area

102—AVAWATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*

Map Unit Setting

National map unit symbol: hkr6
Elevation: 3,400 to 5,200 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 150 to 250 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Avawatz and similar soils: 50 percent
Oak glen and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avawatz

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 15 inches: sandy loam
H2 - 15 to 60 inches: loamy sand

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: COARSE LOAMY (R020XE003CA)

Description of Oak Glen

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Alluvium derived from granite sources

Typical profile

H1 - 0 to 22 inches: sandy loam
H2 - 22 to 60 inches: sandy loam

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: COARSE LOAMY (R020XE003CA)

Minor Components

Haploxerolls

Percent of map unit: 5 percent
Landform: Fan remnants

Xerofluvents

Percent of map unit: 5 percent

157—RIVERWASH

Map Unit Setting

National map unit symbol: hksz
Elevation: 650 to 4,000 feet
Mean annual precipitation: 3 to 6 inches
Mean annual air temperature: 59 to 66 degrees F
Frost-free period: 180 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverwash: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Channels
Down-slope shape: Linear

Across-slope shape: Linear

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

Minor Components

Villa

Percent of map unit: 5 percent

Victorville

Percent of map unit: 5 percent

178—WATER

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

San Bernardino National Forest Area, California

AbD—Soboba-Hanford families association, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: htr5
Elevation: 1,600 to 4,000 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Soboba family and similar soils: 50 percent
Hanford family and similar soils: 30 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soboba Family

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: very cobbly loamy sand
H2 - 8 to 24 inches: very cobbly loamy sand
H3 - 24 to 60 inches: stratified very cobbly sand to very cobbly loamy fine sand

Properties and qualities

Slope: 2 to 10 percent
Percent of area covered with surface fragments: 3.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.67 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Description of Hanford Family

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 6 inches: sandy loam
H2 - 6 to 60 inches: sandy loam

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components

Riverwash

Percent of map unit: 10 percent

Soboba family, nonskeletal

Percent of map unit: 10 percent

ChFG—Typic Xerorthents, warm-Typic Haploxeralfs-Badland complex, 30 to 100 percent slopes

Map Unit Setting

National map unit symbol: htrh
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Typic xerorthents, warm, and similar soils: 35 percent
Typic haploxeralfs and similar soils: 30 percent
Badland: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Typic Xerorthents, Warm

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 30 inches: sandy loam
H3 - 30 to 34 inches: weathered bedrock

Properties and qualities

Slope: 40 to 70 percent
Depth to restrictive feature: 20 to 34 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Description of Typic Haploxeralfs

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 2 inches: gravelly sandy loam
H2 - 2 to 10 inches: gravelly sandy clay loam
H3 - 10 to 22 inches: gravelly loam
H4 - 22 to 39 inches: gravelly sandy loam
H5 - 39 to 43 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 39 to 43 inches to paralithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

Description of Badland

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e

CmE—Modesto-Osito families association, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: htrj
Elevation: 1,800 to 4,200 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Modesto family and similar soils: 40 percent
Osito family and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Modesto Family

Setting

Landform: Hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 28 inches: sandy clay loam
H3 - 28 to 50 inches: fine sandy loam
H4 - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 50 to 54 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Description of Osito Family

Setting

Landform: Hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 5 inches: coarse sandy loam
H2 - 5 to 13 inches: coarse sandy loam
H3 - 13 to 17 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: 13 to 17 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

CmF—Osito-Modesto families association, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: htrk
Elevation: 1,800 to 4,200 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Osito family and similar soils: 40 percent
Modesto family and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Osito Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 5 inches: coarse sandy loam
H2 - 5 to 13 inches: coarse sandy loam
H3 - 13 to 17 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 13 to 17 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

Description of Modesto Family

Setting

Landform: Hills

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 28 inches: loam
H3 - 28 to 50 inches: fine sandy loam
H4 - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 50 to 54 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

DaF—Pacifico-Wapi families complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: htrn
Elevation: 5,000 to 8,000 feet
Mean annual precipitation: 20 to 35 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Pacifico family and similar soils: 50 percent
Wapi family and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pacifico Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave

Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile
H1 - 0 to 3 inches: loamy coarse sand
H2 - 3 to 15 inches: loamy coarse sand
H3 - 15 to 19 inches: weathered bedrock

Properties and qualities
Slope: 30 to 50 percent
Depth to restrictive feature: 15 to 19 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Description of Wapi Family

Setting
Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile
H1 - 0 to 7 inches: loamy sand
H2 - 7 to 10 inches: gravelly loamy sand
H3 - 10 to 15 inches: weathered bedrock
H4 - 15 to 19 inches: unweathered bedrock

Properties and qualities
Slope: 30 to 50 percent
Depth to restrictive feature: 10 to 15 inches to paralithic bedrock; 15 to 19 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 0.6 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

DaG—Wapi-Pacifico families-Rock outcrop complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: htrp
Elevation: 4,000 to 7,800 feet
Mean annual precipitation: 20 to 35 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Wapi family and similar soils: 35 percent
Pacifico family and similar soils: 30 percent
Rock outcrop: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wapi Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 10 inches: gravelly loamy sand
H3 - 10 to 15 inches: weathered bedrock
H4 - 15 to 19 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 10 to 15 inches to paralithic bedrock; 15 to 19 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 0.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Description of Pacifico Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 3 inches: loamy coarse sand
H2 - 3 to 15 inches: loamy coarse sand
H3 - 15 to 19 inches: weathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 15 to 19 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Description of Rock Outcrop

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 4 inches: unweathered bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8e

Dam—Dams

Map Unit Composition

Dam: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

DnF—Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: htry
Elevation: 1,790 to 6,400 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Trigo family and similar soils: 60 percent
Lithic xerorthents, warm, and similar soils: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Trigo Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 3 inches: coarse sandy loam
H2 - 3 to 12 inches: coarse sandy loam
H3 - 12 to 16 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 12 to 16 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Available water storage in profile: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

Description of Lithic Xerorthents, Warm

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 18 inches: gravelly sandy loam
H2 - 18 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 18 to 22 inches to lithic bedrock
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

DnG—Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: htrz
Elevation: 1,790 to 6,400 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Trigo family and similar soils: 50 percent
Lithic xerorthents, warm, and similar soils: 20 percent
Minor components: 30 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Trigo Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 3 inches: coarse sandy loam
H2 - 3 to 12 inches: coarse sandy loam
H3 - 12 to 16 inches: weathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 12 to 16 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Description of Lithic Xerorthents, Warm

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 18 inches: gravelly sandy loam
H2 - 18 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 18 to 22 inches to lithic bedrock
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Minor Components

Rock outcrop

Percent of map unit: 8 percent

Unnamed, shallow fine sandy loam soils

Percent of map unit: 8 percent

Springdale family

Percent of map unit: 7 percent

Ramona family

Percent of map unit: 7 percent

MbE—Morical-Wind River families complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: htsv
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Morical family and similar soils: 50 percent
Wind river family and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Morical Family

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 50 inches: loam
H3 - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 50 to 54 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Description of Wind River Family

Setting
Landform: Mountains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile
H1 - 0 to 19 inches: sandy loam
H2 - 19 to 34 inches: sandy loam
H3 - 34 to 45 inches: sandy loam
H4 - 45 to 49 inches: weathered bedrock

Properties and qualities
Slope: 15 to 30 percent
Depth to restrictive feature: 45 to 49 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

MbF—Morical-Wind River families complex, 30 to 50 percent slopes

Map Unit Setting
National map unit symbol: htsw

Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 25 to 35 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Morical family and similar soils: 40 percent
Wind river family and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Morical Family

Setting

Landform: Mountains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 8 inches: loam
H2 - 8 to 50 inches: loam
H3 - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 50 to 54 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

Description of Wind River Family

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 19 inches: sandy loam
H2 - 19 to 34 inches: sandy loam
H3 - 34 to 45 inches: sandy loam

H4 - 45 to 49 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 45 to 49 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A

PsD—Avawatz-Oak Glen, dry families association, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: htsz
Elevation: 3,200 to 6,000 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Avawatz family and similar soils: 50 percent
Oak glen family, dry, and similar soils: 25 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Avawatz Family

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: gravelly loamy coarse sand
H2 - 8 to 24 inches: gravelly coarse sand
H3 - 24 to 60 inches: stratified gravelly loamy coarse sand to loamy coarse sand

Properties and qualities

Slope: 2 to 10 percent

Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.67 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Description of Oak Glen Family, Dry

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 14 inches: sandy loam
H2 - 14 to 23 inches: coarse sandy loam
H3 - 23 to 60 inches: loamy sand

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components

Wilshire family

Percent of map unit: 9 percent

Riverwash

Percent of map unit: 8 percent

Hodgson family

Percent of map unit: 8 percent

Rw—Riverwash

Map Unit Setting

National map unit symbol: htt3
Elevation: 1,600 to 6,000 feet
Mean annual precipitation: 10 to 35 inches
Mean annual air temperature: 46 to 64 degrees F
Frost-free period: 120 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Riverwash: 80 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and qualities

Slope: 2 to 10 percent
Frequency of flooding: Frequent

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

W—Water areas

Map Unit Composition

Water: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

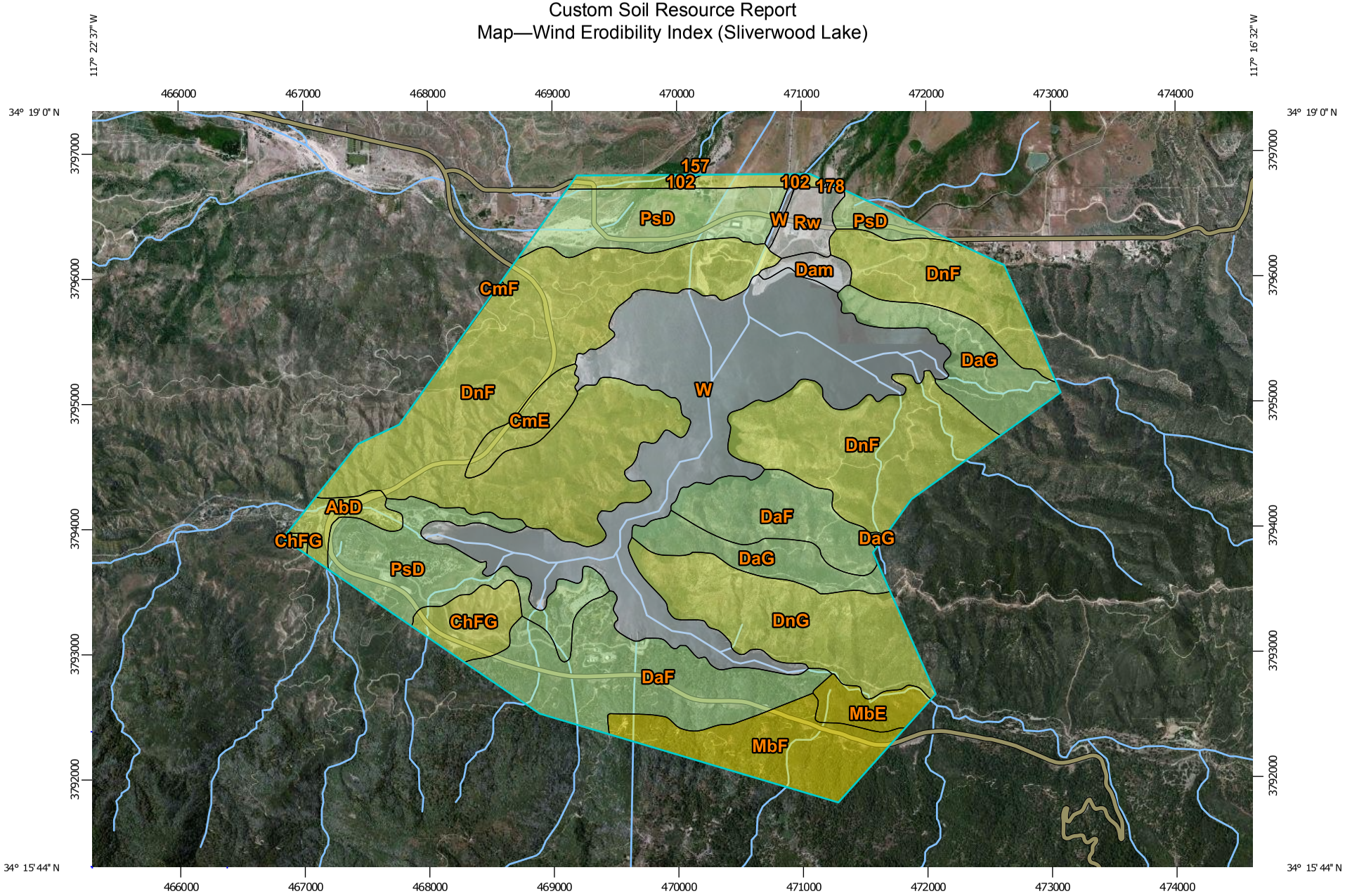
Soil Erosion Factors

Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

Wind Erodibility Index (Sliverwood Lake)

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Custom Soil Resource Report
Map—Wind Erodibility Index (Sliverwood Lake)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

0
38
48
56
86
134
160
180
220
250
310
Not rated or not available

Soil Rating Lines

0
38
48
56
86
134
160
180
220
250
310
Not rated or not available

Soil Rating Points

0
38
48
56
86
134
160
180
220
250
310
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 7, Sep 8, 2014

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 7, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Jul 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Wind Erodibility Index (Sliverwood Lake)

Wind Erodibility Index— Summary by Map Unit — San Bernardino County, California, Mojave River Area (CA671)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
102	AVAWATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*	86	51.3	1.1%
157	RIVERWASH		0.7	0.0%
178	WATER		1.8	0.0%
Subtotals for Soil Survey Area			**53.8**	**1.1%**
Totals for Area of Interest			**4,738.1**	**100.0%**

Wind Erodibility Index— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
AbD	Soboba-Hanford families association, 2 to 15 percent slopes	86	54.9	1.2%
ChFG	Typic Xerorthents, warm-Typic Haploxeralfs-Badland complex, 30 to 100 percent slopes	86	94.2	2.0%
CmE	Modesto-Osito families association, 15 to 30 percent slopes	86	68.4	1.4%
CmF	Osito-Modesto families association, 30 to 50 percent slopes	86	1.0	0.0%
DaF	Pacifico-Wapi families complex, 30 to 50 percent slopes	134	546.3	11.5%
DaG	Wapi-Pacifico families-Rock outcrop complex, 50 to 75 percent slopes	134	292.8	6.2%
Dam	Dams		30.3	0.6%
DnF	Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes	86	1,499.6	31.6%
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	86	341.5	7.2%
MbE	Morical-Wind River families complex, 15 to 30 percent slopes	56	65.7	1.4%
MbF	Morical-Wind River families complex, 30 to 50 percent slopes	56	228.6	4.8%

Wind Erodibility Index— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
PsD	Avawatz-Oak Glen, dry families association, 2 to 15 percent slopes	134	514.8	10.9%
Rw	Riverwash		57.4	1.2%
W	Water areas		888.7	18.8%
Subtotals for Soil Survey Area			**4,684.3**	**98.9%**
Totals for Area of Interest			**4,738.1**	**100.0%**

Rating Options—Wind Erodibility Index (Sliverwood Lake)

Units of Measure: tons per acre per year

Aggregation Method: Dominant Condition

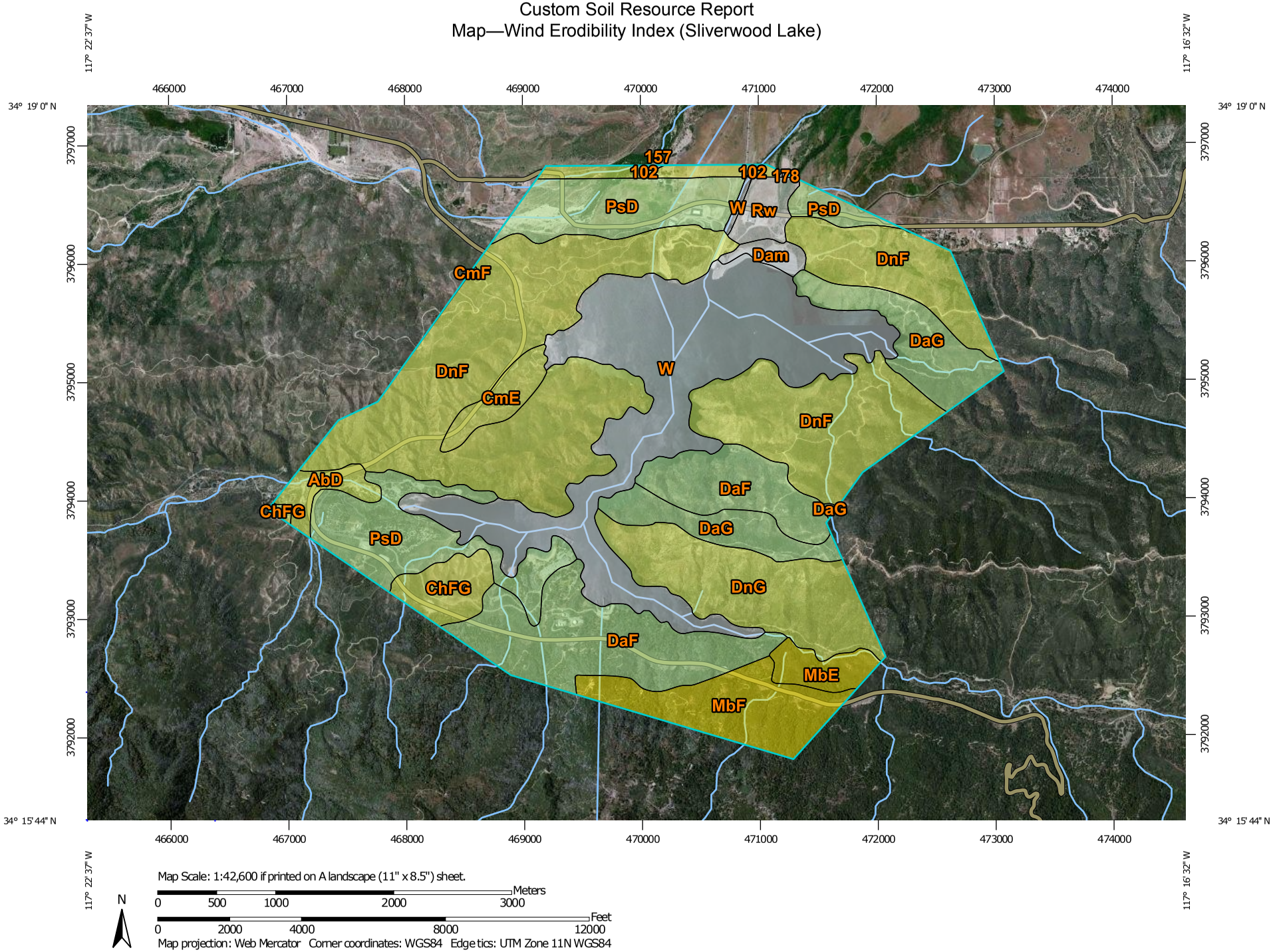
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Wind Erodibility Index (Sliverwood Lake)

The wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Custom Soil Resource Report
Map—Wind Erodibility Index (Sliverwood Lake)



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

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Soil Rating Polygons

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48
56
86
134
160
180
220
250
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Not rated or not available

Soil Rating Lines

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38
48
56
86
134
160
180
220
250
310
Not rated or not available

Soil Rating Points

0
38
48
56
86
134
160
180
220
250
310
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 7, Sep 8, 2014

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 7, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Jul 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Wind Erodibility Index (Sliverwood Lake)

Wind Erodibility Index— Summary by Map Unit — San Bernardino County, California, Mojave River Area (CA671)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
102	AVAWATZ-OAK GLEN ASSOCIATION, GENTLY SLOPING*	86	51.3	1.1%
157	RIVERWASH		0.7	0.0%
178	WATER		1.8	0.0%
Subtotals for Soil Survey Area			**53.8**	**1.1%**
Totals for Area of Interest			**4,738.1**	**100.0%**

Wind Erodibility Index— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
AbD	Soboba-Hanford families association, 2 to 15 percent slopes	86	54.9	1.2%
ChFG	Typic Xerorthents, warm-Typic Haploxeralfs-Badland complex, 30 to 100 percent slopes	86	94.2	2.0%
CmE	Modesto-Osito families association, 15 to 30 percent slopes	86	68.4	1.4%
CmF	Osito-Modesto families association, 30 to 50 percent slopes	86	1.0	0.0%
DaF	Pacifico-Wapi families complex, 30 to 50 percent slopes	134	546.3	11.5%
DaG	Wapi-Pacifico families-Rock outcrop complex, 50 to 75 percent slopes	134	292.8	6.2%
Dam	Dams		30.3	0.6%
DnF	Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes	86	1,499.6	31.6%
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	86	341.5	7.2%
MbE	Morical-Wind River families complex, 15 to 30 percent slopes	56	65.7	1.4%
MbF	Morical-Wind River families complex, 30 to 50 percent slopes	56	228.6	4.8%

Wind Erodibility Index— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	**Map unit name**	**Rating (tons per acre per year)**	**Acres in AOI**	**Percent of AOI**
PsD	Avawatz-Oak Glen, dry families association, 2 to 15 percent slopes	134	514.8	10.9%
Rw	Riverwash		57.4	1.2%
W	Water areas		888.7	18.8%
Subtotals for Soil Survey Area			**4,684.3**	**98.9%**
Totals for Area of Interest			**4,738.1**	**100.0%**

Rating Options—Wind Erodibility Index (Sliverwood Lake)

Units of Measure: tons per acre per year

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

United States Department of Agriculture

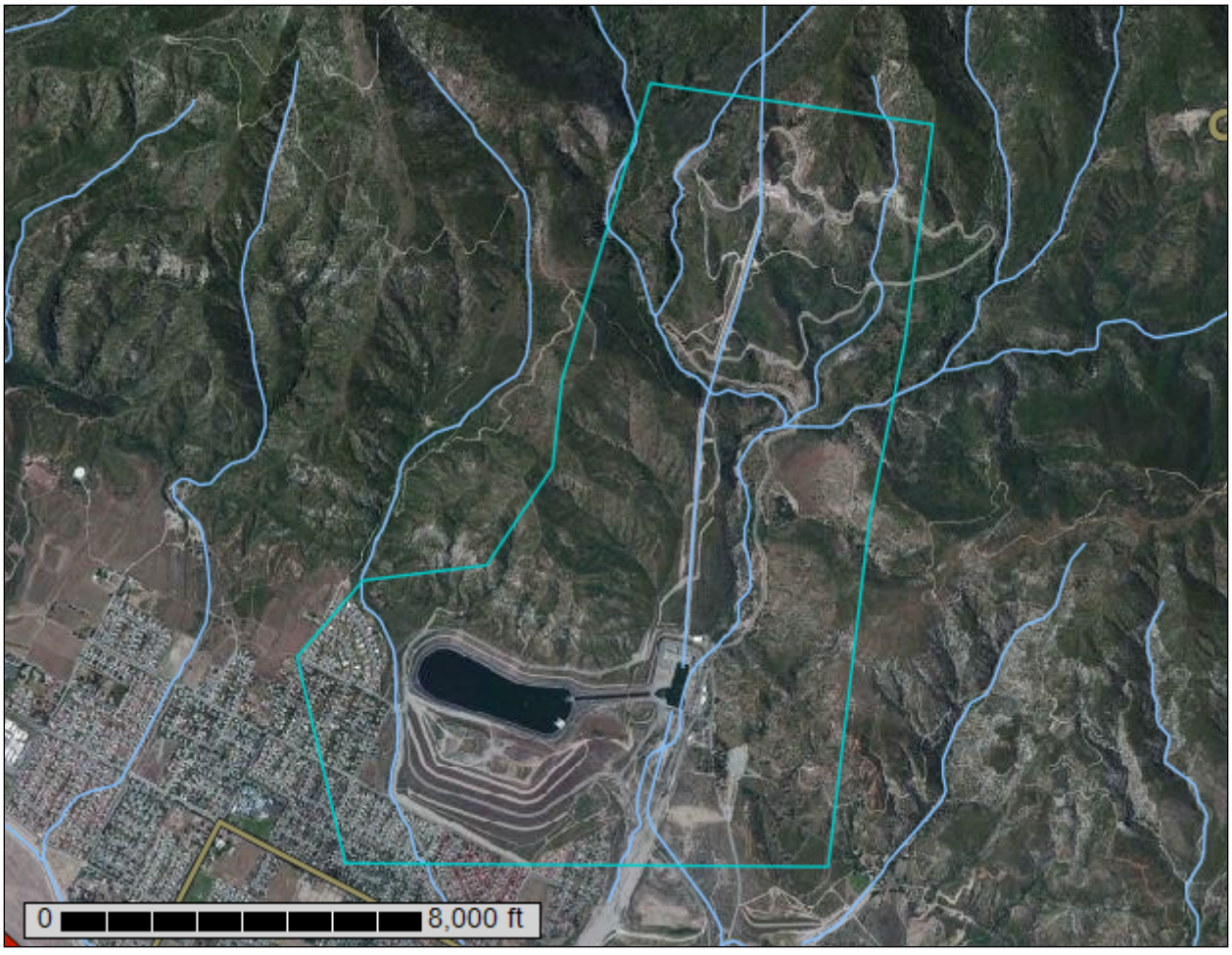
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Bernardino County Southwestern Part, California, and San Bernardino National Forest Area, California

Devil Canyon



November 4, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

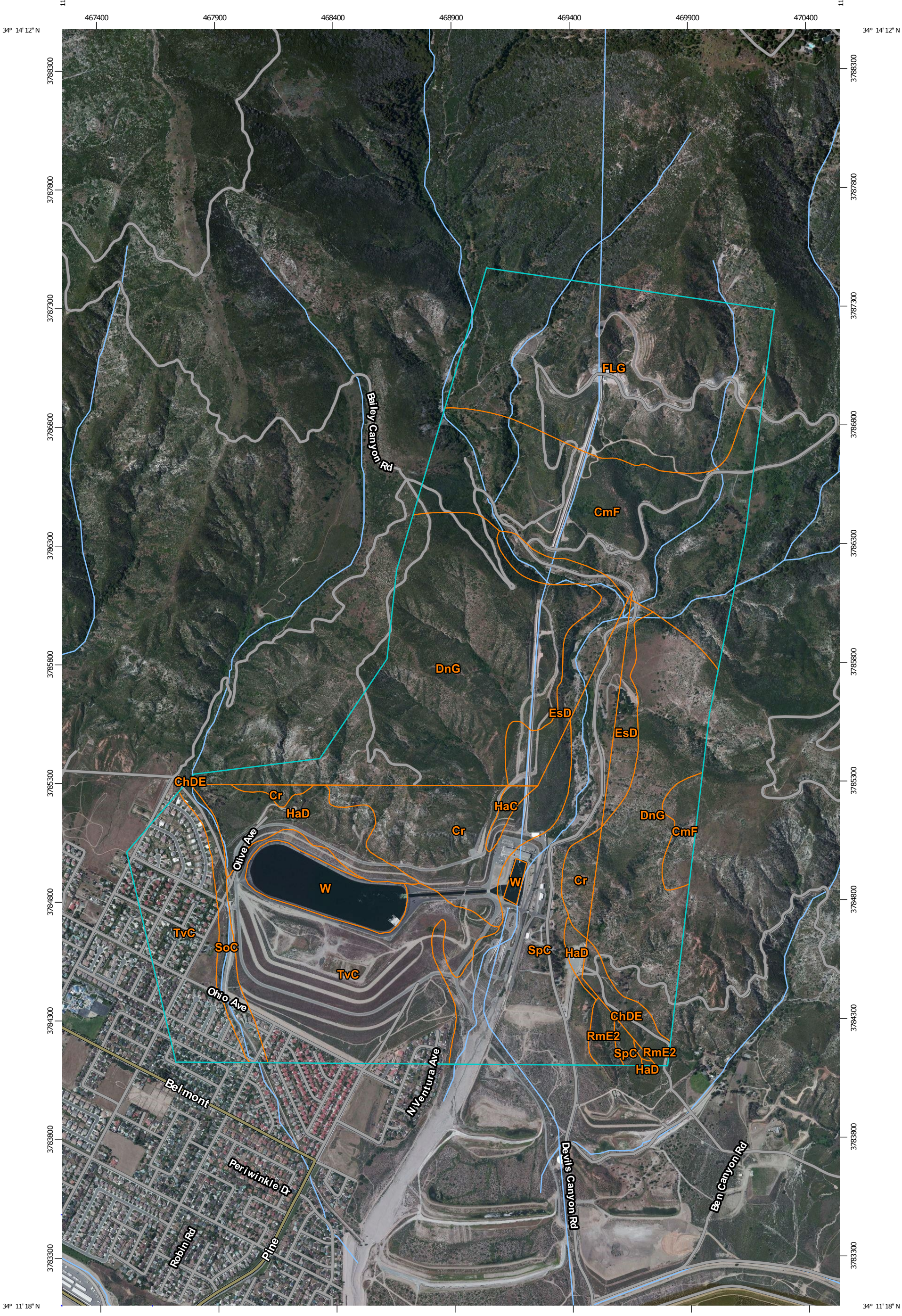
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 7, Sep 3, 2015

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 7, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 25, 2010—Jun 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Bernardino County Southwestern Part, California (CA677)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Cr	Cieneba-Rock outcrop complex, 30 to 50 percent slopes, MLRA 20	95.3	6.8%
HaC	Hanford coarse sandy loam, 2 to 9 percent slopes	4.6	0.3%
HaD	Hanford coarse sandy loam, 9 to 15 percent slopes	47.0	3.4%
RmE2	Ramona sandy loam, 15 to 30 percent slopes, eroded	7.2	0.5%
SoC	Soboba gravelly loamy sand, 0 to 9 percent slopes	21.2	1.5%
SpC	Soboba stony loamy sand, 2 to 9 percent slopes	136.0	9.7%
TvC	Tujunga gravelly loamy sand, 0 to 9 percent slopes	233.5	16.7%
W	Water	38.0	2.7%
Subtotals for Soil Survey Area		**582.8**	**41.7%**
Totals for Area of Interest		**1,398.8**	**100.0%**

San Bernardino National Forest Area, California (CA777)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
ChDE	Ramona family-Typic Xerorthents, warm association, 2 to 30 percent slopes	14.2	1.0%
CmF	Osito-Modesto families association, 30 to 50 percent slopes	201.6	14.4%
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	331.3	23.7%
EsD	Riverwash-Soboba families association, 2 to 15 percent slopes	60.4	4.3%
FLG	Springdale family-Lithic Xerorthents association,dry, 50 to 75 percent slopes	208.4	14.9%
Subtotals for Soil Survey Area		**816.0**	**58.3%**
Totals for Area of Interest		**1,398.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly

indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Bernardino County Southwestern Part, California

Cr—Cieneba-Rock outcrop complex, 30 to 50 percent slopes, MLRA 20

Map Unit Setting

National map unit symbol: 2tb7z
Elevation: 500 to 5,500 feet
Mean annual precipitation: 10 to 39 inches
Mean annual air temperature: 45 to 64 degrees F
Frost-free period: 240 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Cieneba and similar soils: 60 percent
Rock outcrop: 30 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cieneba

Setting

Landform: Mountain slopes, hillslopes
Down-slope shape: Linear, convex, concave
Across-slope shape: Convex, concave
Parent material: Residuum weathered from granite

Typical profile

A - 0 to 8 inches: sandy loam
C - 8 to 14 inches: sandy loam

Properties and qualities

Slope: 30 to 50 percent
Percent of area covered with surface fragments: 10.0 percent
Depth to restrictive feature: 12 to 20 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

Description of Rock Outcrop

Setting

Landform: Ridges, mountain slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

Minor Components

Typic xerorthent, eroded

Percent of map unit: 5 percent

Typic xerorthent, moderately deep

Percent of map unit: 5 percent

HaC—Hanford coarse sandy loam, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: hck3
Elevation: 150 to 900 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 250 to 280 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Hanford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 60 inches: fine sandy loam, sandy loam, coarse sandy loam
H2 - 12 to 60 inches:
H2 - 12 to 60 inches:

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 20.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components

Greenfield, sandy loam

Percent of map unit: 10 percent

Tujunga, loamy sand

Percent of map unit: 5 percent

HaD—Hanford coarse sandy loam, 9 to 15 percent slopes

Map Unit Setting

National map unit symbol: hck4
Elevation: 150 to 900 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 250 to 280 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hanford and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hanford

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 12 inches: sandy loam
H2 - 12 to 60 inches: fine sandy loam, sandy loam, coarse sandy loam
H2 - 12 to 60 inches:
H2 - 12 to 60 inches:

Properties and qualities

Slope: 9 to 15 percent
Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Very high (about 20.3 inches)

Interpretive groups
Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components

Greenfield, sandy loam
Percent of map unit: 10 percent

Ramona, sandy loam
Percent of map unit: 5 percent

RmE2—Ramona sandy loam, 15 to 30 percent slopes, eroded

Map Unit Setting
National map unit symbol: hckl
Elevation: 250 to 3,500 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 230 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition
Ramona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ramona

Setting
Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 23 inches: sandy loam
H2 - 23 to 32 inches: loam
H3 - 32 to 54 inches: sandy clay loam, clay loam

H3 - 32 to 54 inches: sandy loam, loam
H4 - 54 to 60 inches:
H4 - 54 to 60 inches:

Properties and qualities

Slope: 15 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

Minor Components

Greenfield, sandy loam

Percent of map unit: 10 percent

Monserate, sandy loam

Percent of map unit: 5 percent

SoC—Soboba gravelly loamy sand, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: hckt
Elevation: 30 to 4,200 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 61 to 63 degrees F
Frost-free period: 175 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Soboba and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soboba

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear

Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile
H1 - 0 to 12 inches: gravelly loamy sand
H2 - 12 to 36 inches: very gravelly loamy sand
H3 - 36 to 60 inches: very stony sand

Properties and qualities
Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water storage in profile: Low (about 3.2 inches)

Interpretive groups
Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A

Minor Components

Delhi, fine sand
Percent of map unit: 5 percent

Unnamed
Percent of map unit: 5 percent

Tujunga, gravelly loam
Percent of map unit: 3 percent

Unnamed
Percent of map unit: 2 percent
Landform: Drainageways

SpC—Soboba stony loamy sand, 2 to 9 percent slopes

Map Unit Setting
National map unit symbol: hckv
Elevation: 10 to 4,200 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 210 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Soboba and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Soboba

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

A - 0 to 10 inches: very stony loamy sand
C - 10 to 60 inches: very stony sand

Properties and qualities

Slope: 2 to 9 percent
Percent of area covered with surface fragments: 0.1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.0 mmhos/cm)
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A

Minor Components

Hanford

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Tujunga, gravelly loamy coarse sand

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear

Ramona

Percent of map unit: 5 percent
Landform: Alluvial fans, terraces
Landform position (three-dimensional): Tread

Down-slope shape: Linear
Across-slope shape: Linear

TvC—Tujunga gravelly loamy sand, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: hcl2
Elevation: 10 to 1,500 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 250 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Tujunga and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tujunga

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granite

Typical profile

H1 - 0 to 36 inches: gravelly loamy sand
H2 - 36 to 60 inches: gravelly sand, gravelly loamy sand
H2 - 36 to 60 inches:

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Minor Components

Unnamed
Percent of map unit: 5 percent
Landform: Drainageways

Soboba, gravelly loamy sand
Percent of map unit: 5 percent

Delhi, fine sand
Percent of map unit: 5 percent

W—Water

Map Unit Composition
Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

San Bernardino National Forest Area, California

ChDE—Ramona family-Typic Xerorthents, warm association, 2 to 30 percent slopes

Map Unit Setting

National map unit symbol: htrg
Elevation: 2,000 to 4,000 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Ramona family and similar soils: 60 percent
Typic xerorthents, warm, and similar soils: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ramona Family

Setting

Landform: Terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 18 inches: gravelly sandy loam
H3 - 18 to 48 inches: cobbly sandy clay loam
H4 - 48 to 60 inches: gravelly sandy loam
H5 - 60 to 70 inches: gravelly loamy coarse sand

Properties and qualities

Slope: 2 to 20 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Description of Typic Xerorthents, Warm

Setting

Landform: Terraces

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from sedimentary rock

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 30 inches: sandy loam
H3 - 30 to 34 inches: weathered bedrock

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: 20 to 34 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

CmF—Osito-Modesto families association, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: htrk
Elevation: 1,800 to 4,200 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Osito family and similar soils: 40 percent
Modesto family and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Osito Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from sandstone

Typical profile

H1 - 0 to 5 inches: coarse sandy loam
H2 - 5 to 13 inches: coarse sandy loam
H3 - 13 to 17 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 13 to 17 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: D

Description of Modesto Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 8 inches: fine sandy loam
H2 - 8 to 28 inches: loam
H3 - 28 to 50 inches: fine sandy loam
H4 - 50 to 54 inches: weathered bedrock

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 50 to 54 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C

DnG—Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: htrz
Elevation: 1,790 to 6,400 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days
Farmland classification: Not prime farmland

Map Unit Composition

Trigo family and similar soils: 50 percent
Lithic xerorthents, warm, and similar soils: 20 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Trigo Family

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 3 inches: coarse sandy loam
H2 - 3 to 12 inches: coarse sandy loam
H3 - 12 to 16 inches: weathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 12 to 16 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Description of Lithic Xerorthents, Warm

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granodiorite

Typical profile

H1 - 0 to 18 inches: gravelly sandy loam
H2 - 18 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 75 percent
Depth to restrictive feature: 18 to 22 inches to lithic bedrock
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Minor Components

Rock outcrop

Percent of map unit: 8 percent

Unnamed, shallow fine sandy loam soils

Percent of map unit: 8 percent

Springdale family

Percent of map unit: 7 percent

Ramona family

Percent of map unit: 7 percent

EsD—Riverwash-Soboba families association, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: hts5
Elevation: 1,600 to 4,000 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 55 to 64 degrees F
Frost-free period: 150 to 200 days

Farmland classification: Not prime farmland

Map Unit Composition

Riverwash: 50 percent
Soboba family and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Alluvial flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Properties and qualities

Slope: 2 to 10 percent
Frequency of flooding: Frequent

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w

Description of Soboba Family

Setting

Landform: Alluvial flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Alluvium

Typical profile

H1 - 0 to 8 inches: very cobbly loamy sand
H2 - 8 to 24 inches: very cobbly sand
H3 - 24 to 60 inches: stratified very cobbly sand to very cobbly loamy fine sand

Properties and qualities

Slope: 5 to 15 percent
Percent of area covered with surface fragments: 3.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.67 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

FLG—Springdale family-Lithic Xerorthents association,dry, 50 to 75 percent slopes

Map Unit Setting

National map unit symbol: htsc
Elevation: 3,000 to 7,000 feet
Mean annual precipitation: 15 to 25 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 175 days
Farmland classification: Not prime farmland

Map Unit Composition

Springdale family, dry, and similar soils: 40 percent
Lithic xerorthents, dry, and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Springdale Family, Dry

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 5 inches: gravelly loamy coarse sand
H2 - 5 to 25 inches: very gravelly loamy sand
H3 - 25 to 45 inches: very gravelly coarse sand
H4 - 45 to 49 inches: unweathered bedrock

Properties and qualities

Slope: 50 to 70 percent
Depth to restrictive feature: 45 to 49 inches to lithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A

Description of Lithic Xerorthents, Dry

Setting

Landform: Mountains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Mountainflank
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from granite

Typical profile

H1 - 0 to 18 inches: very gravelly loamy sand
H2 - 18 to 22 inches: unweathered bedrock

Properties and qualities

Slope: 60 to 75 percent
Depth to restrictive feature: 18 to 22 inches to lithic bedrock
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 1.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Erosion Factors

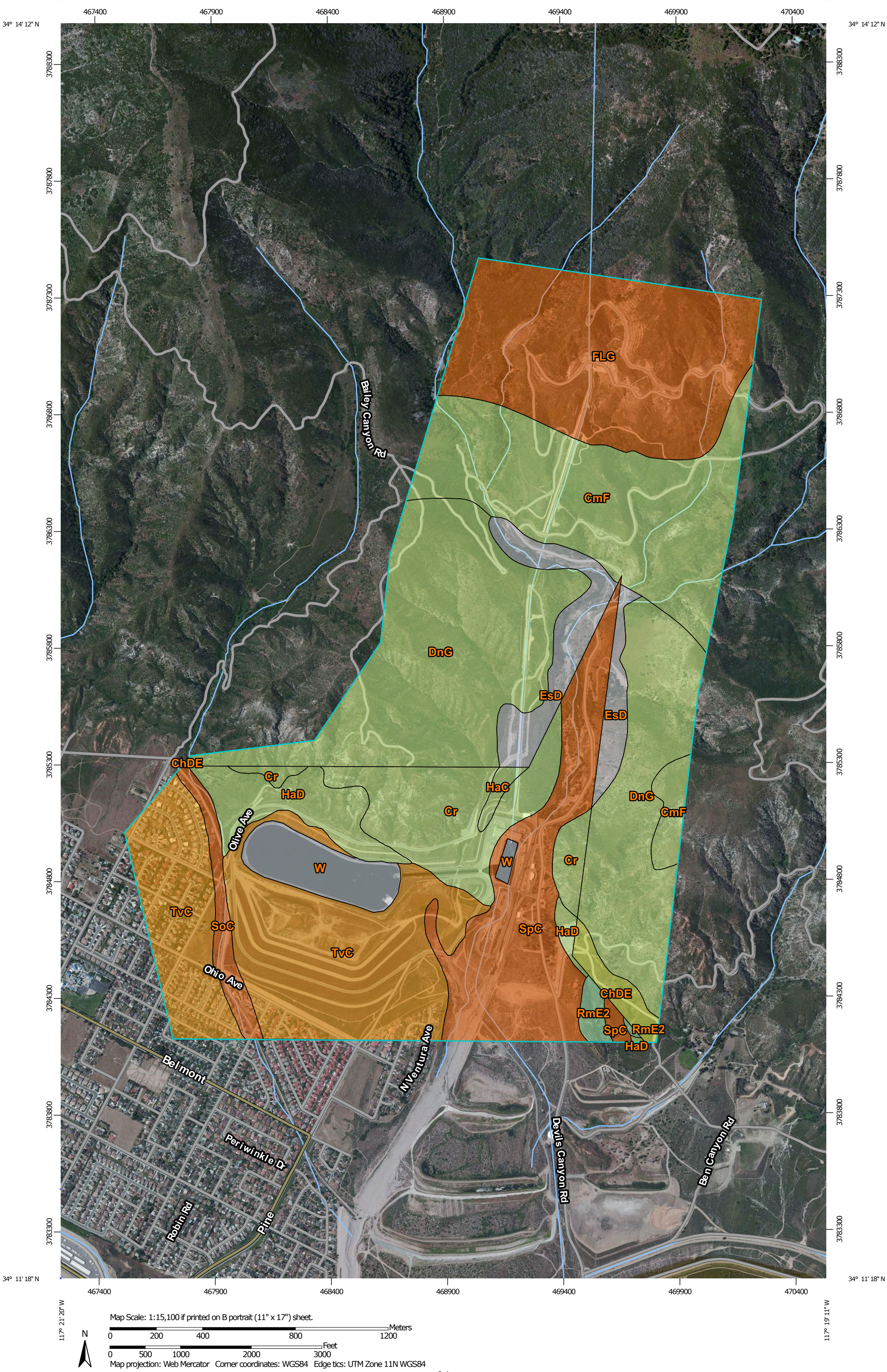
Soil Erosion Factors are soil properties and interpretations used in evaluating the soil for potential erosion. Example soil erosion factors can include K factor for the whole soil or on a rock free basis, T factor, wind erodibility group and wind erodibility index.

K Factor, Whole Soil (Devil Canyon)

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Custom Soil Resource Report
Map—K Factor, Whole Soil (Devil Canyon)



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Soil Rating Lines
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Soil Rating Points
- .02
- .05
- .10
- .15
- .17
- .20
- .24
- .28
- .32
- .37
- .43
- .49
- .55
- .64
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County Southwestern Part, California
Survey Area Data: Version 7, Sep 3, 2015

Soil Survey Area: San Bernardino National Forest Area, California
Survey Area Data: Version 7, Sep 30, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 25, 2010—Jun 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—K Factor, Whole Soil (Devil Canyon)

K Factor, Whole Soil— Summary by Map Unit — San Bernardino County Southwestern Part, California (CA677)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
Cr	Cieneba-Rock outcrop complex, 30 to 50 percent slopes, MLRA 20	.24	95.3	6.8%
HaC	Hanford coarse sandy loam, 2 to 9 percent slopes	.24	4.6	0.3%
HaD	Hanford coarse sandy loam, 9 to 15 percent slopes	.24	47.0	3.4%
RmE2	Ramona sandy loam, 15 to 30 percent slopes, eroded	.28	7.2	0.5%
SoC	Soboba gravelly loamy sand, 0 to 9 percent slopes	.05	21.2	1.5%
SpC	Soboba stony loamy sand, 2 to 9 percent slopes	.05	136.0	9.7%
TvC	Tujunga gravelly loamy sand, 0 to 9 percent slopes	.10	233.5	16.7%
W	Water		38.0	2.7%
Subtotals for Soil Survey Area			**582.8**	**41.7%**
Totals for Area of Interest			**1,398.8**	**100.0%**

K Factor, Whole Soil— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
ChDE	Ramona family-Typic Xerorthents, warm association, 2 to 30 percent slopes	.20	14.2	1.0%
CmF	Osito-Modesto families association, 30 to 50 percent slopes	.24	201.6	14.4%
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	.24	331.3	23.7%
EsD	Riverwash-Soboba families association, 2 to 15 percent slopes		60.4	4.3%
FLG	Springdale family-Lithic Xerorthents association,dry, 50 to 75 percent slopes	.05	208.4	14.9%

K Factor, Whole Soil— Summary by Map Unit — San Bernardino National Forest Area, California (CA777)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Subtotals for Soil Survey Area			816.0	58.3%
Totals for Area of Interest			1,398.8	100.0%

Rating Options—K Factor, Whole Soil (Devil Canyon)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Appendix H

Section 4.0 Tables

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Table H-1. Special Status Plant Species Evaluated for Potential Occurrence within the Project Boundary

Common Name/ Scientific Name	Status[1]	Flowering Period	Elevation Range (feet)	Habitat Associations Summary	Occurrence Within the Project Boundary
Singlewhorl Burrobrush (*Ambrosia monogyra*)	2B.2	August - November	33 - 1640	Sandy substrates within: • Chaparral • Sonoran desert scrub	Potential habitat present.
California Androsace (*Androsace elongata* ssp. *acuta*)	4.2	March - June	492 - 3937	• Chaparral • Cismontane woodland • Coastal scrub • Meadows and seeps • Pinyon and juniper woodland • Valley and foothill grassland	Potential habitat present.
Mexican Mosquito Fern (*Azolla microphylla*)	4.2	August	98 - 328	• Marshes and swamps (ponds, slow water)	Potential habitat present.
Catalina Mariposa lily (*Calochortus catalinae*)	4.2	February - June	49 - 2297	• Chaparral • Cismontane woodland • Coastal scrub • Valley and foothill grassland	Potential habitat present.
Palmer's mariposa Lily (*Calochortus palmeri* var. *palmeri*)	1B.2, SBNF	April - July	2329 - 7841	Mesic areas in: • Chaparral • Lower montane coniferous forest • Meadows and seeps	CNDDB occurrences in SWL quad. Potential to occur in upland areas, riparian forest, or wetlands adjacent to Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
Plummer's Mariposa Lily (*Calochortus plummerae*)	4.2	May - July	328 – 5577	Granitic, rocky substrates within: • Chaparral • Cismontane woodland • Coastal scrub • Lower montane coniferous forest • Valley and foothill grassland	CNDDB occurrences in SWL quad near Cottonwood campground. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
White Pygmy-poppy (*Canbya candida*)	4.2, SBNF	March - June	1969 - 4790	Gravelly, sandy, or granitic substrates within: • Mojavean desert scrub • Pinyon and juniper woodland	CNDDB occurrences in SWL quad. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
San Bernardino Mountains owl's-clover (*Castilleja lasiorhyncha*)	1B.2, SBNF	May - August	4265 - 7841	Mesic areas in: • Chaparral • Meadows and seeps • Pebble (pavement) plain • Riparian woodland • Upper montane coniferous forest	CNDDB occurrences in SWL and SBN quads
Mojave Paintbrush (*Castilleja plagiotoma*)	4.3, SBNF	April - June	984 – 8202	• Lower montane coniferous forest • Pinyon and juniper woodland	Potential habitat present.
Parry's Spineflower (*Chorizanthe parryi* var. *parryi*)	1B.1, SBNF, BLM	April - June	902 - 4003	Sandy or rocky substrates, openings within: • Chaparral • Cismontane woodland • Coastal scrub • Valley and foothill grassland	CNDDB occurrences in SBN quad. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).

Table H-1. Special Status Plant Species Evaluated for Potential Occurrence within the Project Boundary (continued)

Common Name/ Scientific Name	Status[1]	Flowering Period	Elevation Range (feet)	Habitat Associations Summary	Occurrence Within the Project Boundary
Mojave Tarplant (*Deinandra mohavensis*)	1B.3, CE, SBNF,BLM	May – January	2100-5249	Mesic areas in: • Chaparral • Coastal scrub • Riparian scrub	Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014), although CNDDB (2015) indicates that the nearest recorded population (Mojave River at Deep Creek downstream of Cedar Springs Dam) may be extirpated.
Southern Sierra Woolly Sunflower (*Eriophyllum lanatum* var. *obovatum*)	4.3	June – July	3655 – 8202	Sandy loam substrates within: • Lower montane coniferous forest • Upper montane coniferous forest	Potential habitat present.
Pine Green-gentian (*Frasera neglecta*)	4.3	May – July	4593 – 8202	• Lower montane coniferous forest • Pinyon and juniper woodland • Upper montane coniferous forest	Potential habitat present.
California Satin (*Imperata brevifolia*)	2B.1, SBNF	September – May	0 – 3986	Mesic areas in: • Chaparral • Coastal scrub • Mojavean desert scrub • Meadows and seeps (often alkali) • Riparian scrub	CNDDB occurrences in SBN quad. Potential to occur in upland or riparian areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
Southern California Black Walnut (*Juglans californica*)	4.2	March – August	164 – 2953	Alluvial areas within: • Chaparral • Cismontane woodland • Coastal scrub • Riparian woodland	Potential habitat present.
Duran's Rush (*Juncus duranii*)	4.3	July – August	5801 – 9199	Mesic areas in: • Lower montane coniferous forest • Meadows and seeps • Upper montane coniferous forest	Potential habitat present.
Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*)	4.2	March – August	98 – 5906	Openings in: • Chaparral • Cismontane woodland • Coastal scrub • Lower montane coniferous forest • Riparian woodland	Potential habitat present.
Parish's Desert-thorn (*Lycium parishii*)	2B.3	March – April	443 – 3281	• Coastal scrub • Sonoran desert scrub	CNDDB occurrences in SBN quad, but currently presumed extirpated
Hall's Monardella (*Monardella macrantha* ssp. *hallii*)	1B.3, SBNF	June - October	2395-7201	• Broadleafed upland forest • Chaparral • Cismontane woodland • Lower montane coniferous forest • Valley and foothill grassland	Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014)
California Muhly (*Muhlenbergia californica*)	4.3	June - September	328 - 6562	Mesic sites, seeps, and streambanks within: • Chaparral • Coastal scrub • Lower montane coniferous forest • Meadows and seeps	Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014)

Table H-1. Special Status Plant Species Evaluated for Potential Occurrence within the Project Boundary (continued)

Common Name/ Scientific Name	Status[1]	Flowering Period	Elevation Range (feet)	Habitat Associations Summary	Occurrence Within the Project Boundary
Short-jointed Beavertail (*Opuntia basilaris* var. *brachyclada*)	1B.2, SBNF, BLM	April - August	1394 - 5906	• Chaparral • Mojavean desert scrub • Pinyon and juniper woodland	CNDDB occurrences in SWL quad. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
Mojave Phacelia (*Phacelia mohavensis*)	4.3	April - August	4593 - 8202	Sandy or gravelly substrates within: • Cismontane woodland • Lower montane coniferous forest • Meadows and seeps • Pinyon and juniper woodland	Potential habitat present.
Woolly Chaparral-pea (*Pickeringia montana* var. *tomentosa*)	4.3	May - August	0 - 5577	Gabbroic, granitic, clay substrates in chaparral	Potential habitat present.
Black Bog-rush (*Schoenus nigricans*)	2B.2, SBNF	August - September	492 - 6562	• Marshes and swamps	CNDDB occurrences in SBN quad. Potential to occur in Silverwood Lake shoreline areas and adjacent wetlands (DWR 2014, Environmental Science Associates 2014).
Southern Mountains Skullcap (*Scutellaria bolanderi* ssp. *austromontana*)	1B.2, SBNF	June - August	1394 - 6562	Mesic areas in: • Chaparral • Cismontane woodland • Lower montane coniferous forest	CNDDB occurrences in SWL quad. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
Chickweed Oxytheca (*Sidotheca caryophylloides*)	4.3, SBNF	July - September	3655 - 8530	• Lower montane coniferous forest (sandy)	Potential habitat present.
Laguna Mountains Jewel-flower (*Streptanthus bernardinus*)	4.3	May - August	2198 - 8202	• Chaparral • Lower montane coniferous forest	Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
Southern Jewel-flower (*Streptanthus campestris*)	1B.3, SBNF, BLM	April - July	2953 - 7546	Rocky substrates within: • Chaparral • Lower montane coniferous forest • Pinyon and juniper woodland	CNDDB occurrences in SBN quad. Potential to occur in upland areas surrounding Silverwood Lake (DWR 2014, Environmental Science Associates 2014).
San Bernardino Aster (*Symphyotrichum defoliatum*)	1.B.2, SBNF, BLM	July - November	7 - 6693	Near ditches, streams, springs within: • Cismontane woodland • Coastal scrub • Lower montane coniferous forest • Meadows and seeps • Marshes and swamps • Valley and foothill grassland (vernally mesic)	CNDDB occurrence in SBN quad. Potential to occur in Silverwood Lake shoreline areas and adjacent wetlands (DWR 2014, Environmental Science Associates 2014)

Table H-1. Special Status Plant Species Evaluated for Potential Occurrence within the Project Boundary (continued)

Common Name/ Scientific Name	Status[1]	Flowering Period	Elevation Range (feet)	Habitat Associations Summary	Occurrence Within the Project Boundary
Lemmon's Syntrichopappus (*Syntrichopappus lemmonii*)	4.3	April - June	1640 - 6004	Sandy or gravelly substrates within: • Chaparral • Pinyon and juniper woodland	Potential habitat present.

Sources: CNDDB 2015, CNPS 2015, BLM 2015, USFS 2013
Notes:
[1]CNPS Status:
1A = presumed extirpated in California and either rare or extinct elsewhere
1B = rare, threatened, or endangered in California and elsewhere
2A = presumed extirpated in California, but common elsewhere
2B = rare, threatened, or endangered in California, but more common elsewhere
3 = more information is needed
4 = plants of limited distribution
Threat Ranks (number following period):
1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
The following quads were queried: SWL = Silverwood Lake, SBN = San Bernardino North
Key:
BLM = Bureau of Land Management
CE = California Endangered
CNDDB = California Natural Diversity Database
CNPS = California Native Plants Society
CR = California Rare
SBF = San Bernardino National Forest
SBN = San Bernardino North
SWL = Silverwood Lake

Table H-2. Non-Native Invasive Plant Species with Known or Potential Occurrence within the Project Boundary

Scientific Name	Common Name	Cal-IPC Rating[1]	CFDA Rating[2]	USFS SBNF[3]	Habitats Associations	Potential to Occur within the Project Boundary
Ageratina adenophora	Sticky Snakeroot (Eupatory, Croftonweed, Thoroughwort, Catweed, Hemp Agrimony, Sticky Agrimony, Sticky Eupatorium)	Moderate	--	Yes	Coastal scrub, slopes, riparian areas.	Potential habitat present.
Agrostis stolonifera	Creeping Bentgrass (Carpet Bent, Creeping Bent, Redtop Bent, Seaside Bentgrass)	Limited	--	--	Grasslands and disturbed areas	Potential habitat present.
Ailanthus altissima	Tree Of Heaven (Chinese Sumac, Paradise-Tree, Copal-tree)	Moderate	C	Yes	Riparian, grasslands, oak woodlands, disturbed areas	Potential habitat present.
Arundo donax	Giant Reed	High	B	Yes	Riparian, wetlands, disturbed sites	Potential habitat present.
Avena barbata and *A. fatua*	Slender Oat, Wild Oat	Moderate	--	--	Grasslands, coastal sage scrub, disturbed, areas with sandy/poor soils	Potential habitat present.
Brassica nigra	Black Mustard	Moderate	--	Yes	Grasslands, coastal sage scrub, disturbed areas	Documented in vicinity of Devil Canyon Second Afterbay (Herzog 2004)
Brassica rapa	Field Mustard (Turnip)	Moderate	--	--	Various	Potential habitat present.
Brassica tournefortii	Asian Mustard (Sahara Mustard, Morrocan Mustard)	High	--	Yes	Washes, coastal scrub, disturbed areas in the Mojave desert	Potential habitat present.
Bromus diandrus	Ripgut Brome (Great Brome, Ripgut Grass)	Moderate	--	Yes	Grasslands, coastal sage	Potential habitat present.
Bromus hordeaceus	Soft Brome (Soft Chess, Lopgrass)	Limited	--	--	Grasslands, disturbed and open areas at low elevations	Potential habitat present.
Bromus madritensis ssp. *rubens*	Red Brome (Foxtail Chess)	High	--	Yes	Grasslands, scrub, desert scrub type conversions. Disturbed areas, roadsides, agricultural fields, rangelands, and forestry sites, in addition to native communities	Potential habitat present.
Bromus tectorum	Cheatgrass (Downy Brome)	High	--	Yes	Forest, woodland, grassland, desert, chaparral, and rangeland	Potential habitat present.
Centaurea melitensis	Malta Star-Thistle (Tocalote)	Moderate	C	Yes	Disturbed and open areas, including grasslands, open woodlands, agricultural fields, and roadsides	Potential habitat present.
Centaurea solstitialis	Yellow Star-Thistle	High	C	Yes	Open hills, grasslands, open woodlands, fields, roadsides, and rangelands	Potential habitat present.
Cirsium vulgare	Bull Thistle	Moderate	C	Yes	Riparian, marshes, meadows	Potential habitat present.
Cortaderia jubata	Purple Pampas Grass (Jubatagrass, Pampasgrass, Pink Pampasgrass)	High	B	--	Dunes, bluffs, and disturbed areas, including inland areas where temperatures are moderated by fog	Potential habitat present.
Cortaderia selloana	Uruguayan Pampas Grass (Pampasgrass, White Pampasgrass)	High	--	Yes	Dunes, bluffs, coastal shrublands and marshes, inland riparian areas, and disturbed areas	Potential habitat present.
Crocosmia x crocosmiiflora	Montbretia	Limited	--	--	Disturbed areas, including roadsides, coastal scrub, prairie and forests. Ornamental escapee that is commonly found near urban areas.	Potential habitat present.
Cynodon dactylon	Bermudagrass (Couch Grass, Devil Grass, Wire Grass, Vine Grass)	Moderate	--	--	Grasslands, riparian areas	Potential habitat present.
Cynosurus echinatus	Bristly Dogtail Grass (Annual Dogtail, Hedgehog Dogtail, Hedgehoggy)	Moderate	--	--	Lower elevations along trails and disturbed areas in both open and wooded areas	Potential habitat present.

Table H-2. Non-Native Invasive Plant Species with Known or Potential Occurrence within the Project Boundary (continued)

Scientific Name	Common Name	Cal-IPC Rating[1]	CFDA Rating[2]	USFS SBNF[3]	Habitats Associations	Potential to Occur within the Project Boundary
Dactylis glomerata	Orchardgrass	Limited	--	--	Pasture and various natural areas	Potential habitat present.
Elaeagnus angustifolia	Russian Olive (Oleaster)	Moderate	--	--	Disturbed, seasonally moist places, generally below 5,000 feet elevation	Potential habitat present.
Erodium cicutarium	Redstem Stork's Bill (Filaree, Redstem Filaree)	Limited	--	--	Roadsides, grasslands, fields, and semi-desert areas	Potential habitat present.
Eucalyptus camaldulensis	River Red Gum (Red Gum, Red River Gum)	Limited	--	--	Riparian areas	Potential habitat present.
Eucalyptus globulus	Tasmanian Bluegum (Blue Gum, Blue Gum Eucalyptus, Common Eucalyptus, Southern Blue Gum, Victorian Blue Gum)	Limited	--	Yes	Riparian, grasslands	Potential habitat present.
Ficus carica	Edible Fig	Moderate	--	Yes	Riparian woodlands	Potential habitat present.
Foeniculum vulgare	Sweet Fennel (Fennel, Sweet Anise)	High	--	Yes	Grasslands, coastal scrub, riparian, and wetlands	Potential habitat present.
Genista monspessulana	French Broom (Soft Broom, Canary Broom, Montepellier Broom)	Moderate	C	--	Coastal scrub, oak woodlands, grasslands	Potential habitat present.
Geranium dissectum	Cutleaf Geranium	Limited	--	--	Disturbed areas, grasslands, and hedge banks	Potential habitat present.
Hedera helix and *H. canariensis*	English Ivy, Algerian Ivy	Limited	--	Yes	Coast forests, riparian	Potential habitat present.
Picris (=Helminthotheca) echioides	Bristly Oxtongue (Bugloss, Bugloss-Picris)	Limited	--	Yes	Disturbed sites	Documented in Silverwood Lake (Environmental Science Associates 2014)
Hirschfeldia incana	Shortpod Mustard (Mediterranean Mustard, Summer Mustard, Greek Mustard)	Moderate	--	--	Coastal scrub and grasslands	Potential habitat present.
Holcus lanatus	Common Velvetgrass (Yorkshire Fog)	Moderate	--	Yes	Coastal grasslands, wetlands	Potential habitat present.
Hypochaeris glabra	Smooth Cat's Ear	Limited	--	--	Disturbed places, such as roadsides and landscaped areas, as well as grasslands, woodland, and scrub	Potential habitat present.
Lobularia maritima	Sweet Alyssum (Sweet Alison, Seaside Alyssum, Seaside Lobularia)	Limited	--	--	Scrub, prairies and riparian areas	Potential habitat present.
Lolium perenne ssp. *multiflorum*	Italian Ryegrass	Moderate	--	Yes	Coastal scrub, grasslands	Potential habitat present.
Marrubium vulgare	Horehound (White Horehound)	Limited	--	--	Disturbed grasslands scrub and riparian areas	Documented in vicinity of Devil Canyon Powerplant Second Afterbay (Herzog 2004)
Medicago polymorpha	Burclover (Burr Medic, California Burclover)	Limited	--	Yes	Disturbed areas, including roadsides, grasslands and moist sites	Potential habitat present.
Nicotiana glauca	Tree Tobacco	Moderate	--	Yes	Disturbed soils, vacant lots, along roadsides, streamsides, and other riparian areas	Documented in (removed from) Devil Canyon Powerplant area (DWR 2001).
Pennisetum setaceum	Crimson Fountaingrass (Purple Fountain Grass, Tender Fountain Grass)	Moderate	--	Yes	Grasslands, desert canyons, roadsides	Potential habitat present.
Phoenix canariensis	Canary Island Date Palm	Moderate	--	--	Ornamental escapee found in stream corridors and occasionally in landscaped areas.	Potential habitat present.
Piptatherum miliaceum	Smilograss	Limited	--	--	Dry or moist sites in disturbed areas, along roadsides and ditches, riparian areas	Potential habitat present.

Table H-2. Non-Native Invasive Plant Species with Known or Potential Occurrence within the Project Boundary (continued)

Scientific Name	Common Name	Cal-IPC Rating[1]	CFDA Rating[2]	USFS SBNF[3]	Habitats Associations	Potential to Occur within the Project Boundary
Polypogon monspeliensis	Annual Rabbitsfoot Grass (Rabbitfoot Polypogon, Annual Beardgrass, Rabbitfootgrass, Tawny Beardgrass)	Limited	--	--	Grasslands, common in moist to wet areas	Potential habitat present.
Potamogeton crispus	Curly Pondweed (Curly-leaved Pondweed, Curled Pondweed)	Limited	--	Yes	Ponds, lakes, streams	Potential habitat present.
Pyracantha angustifolia, P. crenulata	Narrowleaf Firethorn, Scarlet Firethorn	Limited	--	--	Disturbed sites, along roadsides, and in coastal scrub, prairie, and riparian areas	Potential habitat present.
Ricinus communis	Castorbean	Limited	--	Yes	Riparian	Potential habitat present.
Robinia pseudoacacia	Black Locust	Limited	--	Yes	Riparian, canyons, can grow on a wide range of sites, but grows best on rich, moist, limestone-derived soils. It does not do well on heavy or poorly drained soils, although it appears to be tolerant of some flooding	Potential habitat present.
Rubus armeniacus	Himalayan Blackberry	High	--	Yes	Riparian, marshes, oak woodlands	Potential habitat present.
Rumex crispus	Curly Dock	Limited	--	--	Can grow in many habitats, including grassy places, disturbed areas, and roadsides but is primarily found in flood plains and in agricultural areas.	Potential habitat present.
Salsola soda	Oppositeleaf Russian Thistle	Limited	C	--	Found throughout the Mohave Desert in California, prefers loose, sandy soils in desert scrub and disturbed areas, such as roadsides and cultivated fields	Potential habitat present.
Salsola tragus	Prickly Russian Thistle (Common Saltwort, Russian Tumbleweed, Tumbleweed, Tumbling Weed, Windwitch, Witchweed, Prickly Glasswort)	Limited	C	Yes	Agricultural areas, desert, roadsides, disturbed areas	Potential habitat present.
Saponaria officinalis	Bouncingbet (Bouncing Betty, Soapwort, Goodbye Summer)	Limited	C	Yes	Meadows, riparian	Potential habitat present.
Schedonorus (=Festuca) arundinacea	Tall Fescue	Moderate	--	Yes	Coastal scrub, grasslands	Potential habitat present.
Schinus molle	Peruvian Peppertree	Limited	--	Yes	Riparian	Potential habitat present.
Schismus arabicus, S. barbatus	Arabian Schismus, Common Mediterranean Grass	Limited	--	Yes	Mojave desert shrublands and disturbed areas	Potential habitat present.
Silybum marianum	Blessed Milkthistle (Milk Thistle, Variegated Thistle, Virgin Mary's Thistle, Lady's Milk, Holy Thistle, Spotted Thistle, Cabbage Thistle, Spotted Thistle, St. Mary's Thistle, White Thistle)	Limited	--	Yes	Disturbed, overgrazed, moist pasturelands, fencelines, and other areas	Documented in Devil Canyon and Mount of Santa Ana River Canyon
Sisymbrium irio	London Rocket	Moderate	--	--	Abandoned fields, waste places, and roadsides	Potential habitat present.
Spartium junceum	Spanish Broom	High	C	Yes	Coastal scrub, grasslands, wetlands, oak woodland, roadcuts	Documented in (removed from) Devil Canyon Powerplant area (DWR 2001).
Tamarix parviflora	Smallflower Tamarisk (Athel, Athel Pine, Tamarisk, Evergreen Saltcedar)	Limited	B	Yes	Desert washes, riparian, seeps and springs	Potential habitat present.

Table H-2. Non-Native Invasive Plant Species with Known or Potential Occurrence within the Project Boundary (continued)

Scientific Name	Common Name	Cal-IPC Rating[1]	CFDA Rating[2]	USFS SBNF[3]	Habitats Associations	Potential to Occur within the Project Boundary
Tamarix ramosissima	Saltcedar (Tamarisk)	Limited	B	Yes	Desert washes, riparian, seeps and springs	Documented in (removed from) Devil Canyon Powerplant area (DWR 2001).
Verbascum thapsus	Common Mullein (Wooly Mullei, Lungwort, Feltwort, Torches, Jacob's Staff, Velvetplant, Old Man's Flannel, Miner's Candle)	Limited	--	Yes	Meadows, sagebrush, pinyon-juniper woodlands	Potential habitat present.
Vinca major	Bigleaf Periwinkle (Periwinkle, Greater Periwinkle, Blue Periwinkle, Myrtle)	Limited	--	Yes	Ornamental escapee that is rapidly spreading in foothill woodlands and desert areas	Potential habitat present.
Vulpia (=Festuca) myuros	Annual Fescue	Moderate	--	Yes	Coastal scrub, grasslands	Potential habitat present.

Sources: Cal-IPC 2015, CDFA 2010, USFS 2005; The following quads were queried: Silverwood Lake, San Bernardino North
Notes:
[1]Cal-IPC Ratings:
High - These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
Moderate - These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
Limited - These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.
[2]CDFA Ratings:
A - An organism of known economic importance subject to state (or commissioner when acting as a state agent) enforced action involving: eradication, quarantine regulation, containment, rejection, or other holding action.
B - An organism of known economic importance subject to: eradication, containment, control or other holding action at the discretion of the individual county agricultural commissioner. OR An organism of known economic importance subject to state endorsed holding action and eradication only when found in a nursery.
C - An organism subject to no state enforced action outside of nurseries except to retard spread. At the discretion of the county agricultural commissioner. OR An organism subject to no state enforced action except to provide for pest cleanliness in nurseries.
[3]Noxious or invasive plant species listed as occurring or potentially occurring on USFS land in USFS 2005.
Key:
Cal-IPC = California Invasive Plant Council
CDFA = California Department of Food and Agriculture
SBNF = San Bernardino National Forest
USFS = U.S. Forest Service

Table H-3. Special-Status Wildlife Species Occurring or Potentially Occurring in the Project Area

Common Name/ Scientific Name	Status	Habitat Association Summary	Temporal and Spatial Distribution[1]	Occurrence in Project Area[2]
Large-blotched Ensatina (*Ensatina klauberi*)	SSC, FSS	Occurs mostly in oak and pine woodlands chaparral, and talus in the Peninsular Ranges (San Jacinto Mountains and south), but intergrades with other forms of *Ensatina* that occur in the San Bernardino Mountains. Found under surface objects, in rodent burrows, and other subterranean retreats.	Yearlong – COW, CSC, MCH, MCP, MHW, MHC, PPN, SMC, VRI	No records. Intergrade forms of "blotched" *Ensatina* have been found north of Big Bear Lake more than 15 miles east of Project area.
San Gabriel Slender Salamander (*Batrachoseps gabrieli*)	FSS	Occurs in or adjacent to stable talus slopes along a band extending from the upper parts of the San Gabriel River watershed (San Gabriel Mountains, Los Angeles County) to Waterman Canyon (San Bernardino Mountains, San Bernardino County). Found under rocks, rotted woody debris, or vegetation in areas of mixed conifer forest or chaparral.	Yearlong – BAR, MHW, MHC, SMC	Two records in the CNDDB from the Project vicinity (DEV, SBN quads). No records in Project area.
Desert Night Lizard (*Xantusia vigilis vigilis*)	SSC, FSS	Occurs in arid and semi-arid areas, closely associated with Joshua trees. Found in rotted stumps, under logs, leaf litter, and in rodent burrows,	Yearlong – AGS, DSC, DSW, SGB	No records.
Coast Horned Lizard (*Phrynosoma blainvillii*)	SSC	Occurs in scrubland, grassland, coniferous woods, and broadleaf woodlands where there are openings for basking; areas with loamy or sandy soil suitable for burrowing; scattered shrubs or clumps of grass for hiding cover; and ant colonies (a primary food source). Often found on edges of arroyo bottoms, dry washes, and along dirt roads.	Yearlong – AGS, CRC, COW, CSC, MCH, MHC, PP, VRI	27 records in the CNDDB from the Project vicinity (AVS, CAJ, DEV, HAM, LAR, SBN, and SWL quads). No records in Project area.
Orange-throated Whiptail (*Aspidoscelis hyperythra*)	SSC	Occurs mostly in Orange, Riverside and San Diego Counties; within San Bernardino County only known from the area south of the City of San Bernardino. Found in coastal scrub, chaparral, and valley-foothill hardwood, especially in openings with well-drained, compacted soils, patches of sandy soil, and rocks.	Yearlong – CRC, COW, CSC, MCH	One record in CNDDB from the Project vicinity (SBN quad). No records in Project area.
Southern California Legless Lizard (*Anniella stebbinsi*)	SSC, FSS	Because this taxon was only recently described as a separate species, information on habitats is limited, but includes coastal sand dunes, sandy washes, alluvial fans, desert scrub, and chaparral. Range is within the coastal plain south of the Transverse Ranges into northern Baja California. Formerly classified as *A. pulchra pulchra* (silvery legless lizard)	Yearlong – CRC, COW, CSC, DSC, DSW, MCH, VRI	One record in CNDDB from the Project vicinity (DEV quad). No records in Project area.
Southern Rubber Boa (*Charina umbratica*)	ST, FSS	The species range is not well documented, but includes parts of the San Bernardino Mountains east of Strawberry Peak and in the San Jacinto Mountains. Found in open coniferous and oak-conifer forests above 5,000 feet elevation.	Yearlong– MCP, MHW, MHC, MRI, PPN, SMC, VRI	16 records in CNDDB from the Project vicinity (HAM quad, exact locations suppressed). No records in Project area.
Northern Three-lined Rosy Boa (*Lichanura orcuttii* [*trivirgata*])	FSS	Found in various arid and semi-arid habitats, including rocky deserts, canyons, and shrubby areas, particularly in riparian sites.	Yearlong – CRC, CSC, DSC, DSW, MCH. MCP	Three records in CNDDB from the Project vicinity (DEV, LAR, and SBN quads). No records in Project area.
San Bernardino Ring-necked Snake (*Diadophis punctatus modestus*)	SSC, FSS	The species occurs in a wide variety of moist habitats including woodland openings, rocky slopes, chaparral, wet meadows, and farmland, where there is suitable surface cover.	Yearlong – AGS, CRC, COW, CSC, DSC, MCH, MCP, MHW, MHC, PPN, SMC, URB, VRI	Four records in CNDDB from the Project vicinity (SBN and SWL quads). No records in Project area.
San Bernardino Mountain Kingsnake (*Lampropeltis zonata parvirubra*)	SSC, FSS	Found in montane, forested areas of Southern California, including the San Jacinto, San Bernardino, and San Gabriel Mountains, often in rocky sites.	Yearlong – AGS, COW, MCH, MCP, MHW, MHC, MRI, PP, SMC, VRI	No records.
Coast Patch-nosed Snake (*Salvadora hexalepis virgultea*)	SSC	Occurs in coastal California from San Luis Obispo County to Baja California in coastal plain, canyons, rocky hillsides, and brushy areas. In San Bernardino County likely limited to low elevation coastal plain.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, SGB, VRI	No records.
Common Loon (*Gavia immer*)	SSC	Winters on lakes, reservoirs, rivers, estuaries, and coastlines. Nests on lakes and other open water areas where there is minimal disturbance. Does not nest in San Bernardino County.	Winter – LAC	No records in CNDDB from the Project vicinity (which only includes nesting records). However, known to winter within the Project boundary at Silverwood Lake.

Table H-3. Special-Status Wildlife Species Occurring or Potentially Occurring in the Project Area (continued)

Common Name/ Scientific Name	Status	Habitat Association Summary	Temporal and Spatial Distribution[1]	Occurrence in Project Area[2]
American white pelican (*Pelecanus erythrorhynchos*)	SSC	Wintering and post-breeding pelicans occur (sometimes in large numbers) along the coast, and on lakes, reservoirs, rivers, estuaries, bays, and marshes. Rarely breeds in southern California, except along Colorado River	Summer – BAR Yearlong – LAC	No records.
Least bittern (*Ixobrychus exilis)*	SSC, BCC	Occurs in freshwater or brackish marshes with tall, dense emergent vegetation. A secretive species that can be difficult to document.	Summer – LAC	No records.
Redhead (*Aythya Americana*)	SSC	Winters and rests during migration in open water on lakes, ponds, and reservoirs. Nests in emergent wetlands, especially where dense cattails or tule are interspersed with open water.	Winter – LAC	No records.
Northern Goshawk (*Accipiter gentilis*)	FP, SSC, FSS, BCC	Year-round resident of forested habitats, particularly mature coniferous and mixed forests. Evidently few known recent occurrences in the San Bernardino Mountains	Winter – CRC, COW, MCH, SGB, VRI Yearlong – MCP, MHW, MHC, MRI, PPN, SMC	No records.
Golden Eagle (*Aquila chrysaetos*)	FP, BCC	Generally open country, open wooded country, and barren areas, especially in hilly or mountainous regions.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, SGB, SMC, URB, VRI	No records in CNDDB. Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006). Reported by HELIX (2014) from north of Project area.
Northern harrier (*Circus cyaneus*)	SSC	Marshes, meadows, grasslands, open rangelands, emergent wetlands, and cultivated fields.	Winter – CRC, DSC, DSW, MCH Summer – MCP, MHW Yearlong – AGS, BAR, COW, CSC, LAC, SGB, URB, VRI	No records in CNDDB. Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006).
White-tailed kite (*Elanus leucurus*)	FP	Savanna, open woodland, marshes, partially cleared lands and cultivated fields, mostly in lowland situations.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, MCH, URB, VRI	No records.
Prairie Falcon (*Falco mexicanus*)	BCC	Savanna, perennial grasslands, rangeland, and desert scrub. Nests on cliff ledges.	Not reported by WHR	No records in CNDDB. Reported by HELIX (2014) from north of Project area.
American peregrine falcon (*Falco peregrinus anatum*)	FP, BCC	Breeds in open landscapes with cliffs. Winters in any open habitat, mudflats, coastlines, lake edges and mountain chains, especially in areas where potential prey (other birds) are numerous.	Yearlong – AGS, BAR, CRC, COW, CSC, LAC, MCH, MCP, MHW, MHC, PPN, SGB, SMC, URB, VRI	No records.
Bald eagle (*Haliaeetus leucocephalus*)	SE, FP, FSS, BCC	Breeding habitat usually close to coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources. Preferentially roosts in conifers or other sheltered sites in winter in some areas.	Winter – CRC, CSC, MCH, MCP Yearlong – AGS, BAR, COW, LAC, MHW, MHC, MRI, PPN, SGB, SMC, VRI	Five records in CNDDB from the Project vicinity (HAM, LAR, and SWL quads), including occurrences at Silverwood Lake (mostly wintering and no successful nesting).
Long-eared owl (*Asio otus*)	SSC	Riparian bottomland forest with over story of willows and cottonwoods; riparian forest along stream corridors (often dominated by live oak trees). Wooded areas with dense vegetation needed for roosting and nesting, adjacent open areas needed for hunting.	Yearlong – AGS, CRC, COW, DSC, MCH, MCP, MHW, MWC, PPN, SGB, SMC, VRI Summer - MRI	No records.
Burrowing owl (*Athene cunicularia*)	SSC, BCC	Open grasslands and savanna, sometimes in open areas such as vacant lots near human habitation or airports.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, SGB, URB, VRI	17 records in CNDDB from the Project vicinity (AVS, DEV and HES quads). No records in Project area.
California spotted owl (*Strix occidentalis occidentalis*)	SSC, FSS, BCC	Mixed forests dominated by black oak, lodgepole pine, red fir from 1200 to 5500 feet elevation	Yearlong – COW, MHW, MHC, PPN, SMC, VRI	No records in Project area, but occurs in forests south of Silverwood Lake outside of Project boundary.

Table H-3. Special-Status Wildlife Species Occurring or Potentially Occurring in the Project Area (continued)

Common Name/ Scientific Name	Status	Habitat Association Summary	Temporal and Spatial Distribution[1]	Occurrence in Project Area[2]
Olive-sided flycatcher (*Contopus cooperi*)	SSC, BCC	Non-breeding habitat includes a variety of forest, woodland, and open areas with scattered trees, especially where tall dead snags are present. Primary habitat is mature, evergreen montane forest. Breeds in various forest and woodland habitats.	Summer – CRC, MCH, MHW, MHC, PPN, SMC	No records.
Vermilion flycatcher (*Pyrocephalus rubinus*)	SSC	Occurs in widely scattered locations of scrub desert, cultivated lands, riparian woodlands, usually near water, including ditches, ponds, and irrigation. Trees and tall shrubs used for nesting and roosting.	Not reported by WHR	No records in CNDDB. No records in CNDDB. Reported by HELIX (2014) from north of Project area. No records in Project area.
Purple martin (*Progne subis*)	SSC	Found in a wide variety of forest and woodland areas, where open and partly open sites occur, frequently near water or around towns, where dragonflies and other large, aerial insects are available prey.	Summer – AGS, COW, LAC, MHW, MHC PPN, SMC, URB, VRI	No records.
Le Conte's thrasher (*Toxostoma lecontei*)	SSC, BCC	Closely associated with saltbush and found in relatively open areas including desert scrub and dry washes.	Yearlong – DSC, DSW	Four records in CNDDB from the Project vicinity (AVS, DES, and HES quads). Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006). No records in Project area.
Loggerhead shrike *Lanius ludovicianus*	SSC, BCC	Open country with scattered trees and shrubs, savanna, desert scrub, and, occasionally, open woodland; often perches on poles, wires or fence posts	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MHW, MHC, PPN, SGB, VRI Winter – URB	No records in CNDDB. Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006). Reported by HELIX (2014) from north of Project area. No records in Project area.
Gray vireo (*Vireo vicinior*)	SSC, FSS, BCC	Dry chaparral; west of desert in chamise-dominated habitat, mountains of Mojave Desert; associated with juniper and sagebrush	Summer – CRC, MCH	Two records in CNDDB from the Project vicinity (HES quad). No records in Project area.
Yellow warbler (*Setophaga petechia*)	SSC, BCC	Open scrub, second-growth woodland, thickets, farmlands, and gardens, especially near water; riparian woodlands, especially areas with willows.	Migrant – CRC, CSC, DSW, MCH Summer – COW, MCH, MHW, MHC, PPN, SMC, URB, VRI	One record in CNDDB in Project vicinity (HES quad). Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006). Reported by HELIX (2014) from north of Project area. No records in Project area.
Yellow-breasted chat (*Icteria virens*)	SSC	Second growth, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows, including low wet places near streams, pond edges, or swamps; thickets with few tall trees; early successional stages of forest regeneration; commonly in sites close to human habitation.	Migrant – CSC Summer – VRI Yearlong - VRI	No records.
Grasshopper sparrow (*Ammodramus savannarum*)	SSC	Prefer grasslands of intermediate height for breeding and often associated with clumped vegetation, interspersed with patches of bare ground. In San Bernardino County likely limited to South Coast bioregion.	Summer – AGS	No records.
Bell's sage sparrow (*Artemisiospiza belli belli*)	BCC	Strongly associated with sagebrush for breeding. Also found in salt-bush brushland, shadscale, antelope brush, rabbitbrush, mesquite, and chaparral.	Winter – DSC Yearlong – CRC, CSC, MCH, MCP, SGB	One record in CNDDB from the Project vicinity (DEV quad). Observed within 1 mile north of Silverwood Lake (Aspen Environmental Group 2006).
Vesper sparrow (*Pooecetes gramineus affinis*)	SSC, BCC	Found in various open habitats with grass, including sagebrush steppe, meadows, pastures and roadsides.	Winter – AGS, COW, MCH Summer – MCP, SGB	No records.
Summer tanager (*Pirang rubra*)	SSC	Breeds near gaps and edges of open forests (deciduous trees, mixed pine-oak woodlands). Found along streams with willows, cottonwoods, mesquite and saltcedar.	Summer – VRI Migrant – DSW	No records.

Table H-3. Special-Status Wildlife Species Occurring or Potentially Occurring in the Project Area (continued)

Common Name/ Scientific Name	Status	Habitat Association Summary	Temporal and Spatial Distribution[1]	Occurrence in Project Area[2]
Tricolored blackbird (*Agelaius tricolor*)	SSC, BCC	Freshwater marshes of cattails, tule, and sedges. Nests in vegetation of marshes or thickets, sometimes nests on the ground. Historically strongly tied to emergent marshes; in recent decades much nesting has shifted to non-native vegetation.	Yearlong – AGS, URB, VRI	No records.
Yellow-headed blackbird (*Xanthocephalus xanthocephalus*)	SSC	Fresh-water marshes of cattail, tule, or bulrushes. Nests in wet grasses, reeds, and cattails. Also in open cultivated lands, pastures and fields.	Summer – AGS Yearlong - LAC	No records.
Pallid bat (*Antrozous pallidus*)	SSC, FSS	Arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevices or buildings, less often in caves, tree hollows, mines, etc.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, SGB, SMC, VRI Summer - URB	No records.
Townsend's big-eared bat (*Corynorhinus townsendii*)	SSC, FSS	Maternity and hibernation colonies typically are in caves and mine tunnels. Prefers relatively cold places for hibernation, often near entrances and in well-ventilated areas.	Yearlong – BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, SGB, SMC, URB, VRI Summer – AGS	One record in CNDDB from the Project vicinity (AVS quad). No records in Project area.
Spotted bat (*Euderma maculatum*)	SSC	Solitary bat found in arid deserts, grasslands, and conifer forests where there are suitable roots, including crevices in cliffs, caves, and building. Possibly occupies coniferous stands in summer and migrates to lower elevations in late summer/early fall.	Yearlong – AGS, COW, CSC, DSC, DSW, MCP, MHC, PPN, SGB, SMC, URB, VRI	No records.
Western mastiff bat (*Eumops perotis*)	SSC	Roosts in crevices and shallow caves on the sides of cliffs and rock walls, and occasionally buildings. Roosts usually high above ground with unobstructed approach. Most roosts are not used throughout the year. May alternate between different day roosts.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, URB, VRI	Three records in CNDDB from the Project vicinity (HAM quad). No records in Project area.
Western red bat (*Lasiurus blossevillii*)	SSC	Roosts in foliage (mostly in trees), forages in open areas (not including deserts) from sea level up through mixed conifer forests. Typically occurs near edges and in habitat mosaics. Migrates between summer and winter ranges.	Yearlong – AGS, CRC, COW, CSC, MCP, MHC, URB, VRI Summer - LAC, MCH, MHW, PPN, SMC	No records.
Western yellow bat (*Lasiurus xanthinus*)	SSC	Roosts in trees in valley foothill riparian, desert riparian, desert wash and palm oasis habitats. In California recorded only at sites below 2000 feet elevation. Migrates between summer and winter ranges.	Yearlong – COW Migrant – VRI Summer - DSW	No records.
San Diego black-tailed jackrabbit (*Lepus californicus bennetti*)	SSC	The species occurs in open country with scattered thickets or patches of shrubs, including open plains, fields, and deserts. The sub-species is restricted to the South Coast bioregion.	Yearlong – AGS, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, SGB, SMC, URB, VRI	No records.
San Bernardino northern flying squirrel (*Glaucomys sabrinus californicus*)	SSC, FSS	Occurs mostly in coniferous and mixed forest, and sometimes in deciduous woodlands in relatively high elevation parts of the San Bernardino Mountains and, at least historically, the San Jacinto Mountains. Trees and snags with cavities are likely important as nesting sites.	Yearlong – COW, MHW, MHC, PPN, SMC, VRI	Five records in CNDDB from Project vicinity (HAM, SBN, and SWL quads), including one within Project area in forests on south side of Silverwood Lake.
Mojave Ground Squirrel (*Xerospermophilus mohavensis*)	CT	Burrowing species associated with various habitat types in the western Mojave Desert, including areas of saltscrub, Joshua tree woodland, and creosote scrub. Populations may decline sharply during drought conditions.	Yearlong –‘ AGS, DSC	Three records in CNDDB from Project vicinity (AVS and HES quads). No records in Project area.
San Diego pocket mouse (*Chaetodipus fallax*)	SSC	Associated with a wide variety of arid, shrub- and herbaceous-dominated habitats, where there are sandy soils, rocky slopes, or coarse gravel. Found in burrows during daytime.	Yearlong – AGS, CRC, CSC, DSC, DSW, MCH, SGB	No records.

Table H-3. Special-Status Wildlife Species Occurring or Potentially Occurring in the Project Area (continued)

Common Name/ Scientific Name	Status	Habitat Association Summary	Temporal and Spatial Distribution[1]	Occurrence in Project Area[2]
White-eared pocket mouse (*Perognathus alticolus alticolus*)	SSC, FSS	Poorly known taxon restricted to a few sites in the Tehachapi and near Strawberry Peak in the San Bernardino Mountains, mostly from open, dry pine forests. The population in the San Bernardino Mountains may be extirpated.	Yearlong – MCH, SGB	Three records in CNDDB from the Project vicinity (HAM quad) dated 1920-1934. No records in Project area.
Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*)	SSC	Occurs in low elevation coastal grassland, alluvial sage scrub, and coastal sage scrub. In San Bernardino County, likely restricted to areas east of the base of the San Bernardino Mountains.	Yearlong – CCH, COW, CSC, DSC, DSW, MCH, MCP, SGB	No records.
Southern grasshopper mouse (*Onychomys torridus*)	SSC	Most common in arid desert habitats, including desert scrub and alkali desert scrub, but also occurring in coastal scrub, sagebrush, chaparral, and other habitats.	Yearlong – AGS, CSC, DSC, DSW, MCH, SGB, VRI	No records.
Monterey dusky-footed woodrat (*Neotoma macrotis luciana*)	SSC	The species is generally found in dense chaparral, coastal sage-scrub, pinyon-juniper, oak and riparian woodlands and mixed conifer forest habitats that have a well-developed understory.	Yearlong –	No records.
San Diego Desert Woodrat (*Neotoma lepida intermedia*)	SSC	The species occurs over a large part of the arid western United States and Mexico, whereas the sub-species is evidently limited to coastal areas from San Luis Obispo County south where populations have declined. The species is found in Joshua tree woodlands, pinyon-juniper woodlands, mixed chaparral, sagebrush, and desert habitats.	Yearlong – CRC, CSC, DSC, DSW, MCH, MCP, MHC, SGB	No records.
Ringtail (*Bassariscus astutus*)	FP	Associated with areas with a mixture of forest and shrub-dominated habitats, with rock recesses, hollows, and other sites suitable for nesting and cover and within 0.6 miles of water.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, MHC, PPN, SGB, SMC, VRI	No records in CNDDB. However, reported to occur in Silverwood Lake State Recreation Area by California Watchable Wildlife (2015).
American Badger (*Taxidea taxus*)	SSC	Occurs in open or brushy habitats, including early successional stages of forests, with dry, friable, often sandy, soils for burrowing.	Yearlong – AGS, BAR, CRC, COW, CSC, DSC, DSW, MCH, MCP, MHW, SGB, VRI	No records.
Total	54			

Sources: Bolster 1998, Zeiner et al. 1988-2013, Shuford and Gardali 2008, IUCN Red List of threatened Species 2015, California Herps 2015
Notes:
[1]Temporal and Spatial Distribution: based on WHR habitats that are mapped within proposed Project boundary and does not necessarily indicate known occurrence of the species.
[2]CNDDB = California Natural Diversity Database (Cal Fish and Wildlife 2015)
Key:
ADS = Alkali Desert Scrub
AGS = Annual Grassland
AVS = Apple Valley South
BAR = Barren
BCC = USFWS Birds of Conservation Concern
CAJ = Cajon
Cal FP = Fully Protected
CESA = California Endangered Species Act
CNDDB = California Natural Diversity Database
CRC = Chamise-redshank chaparral
COW = Coastal Oak Woodland
CSC = Coastal Scrub
DEV = Devore
DRI = Desert Riparian
DSC = Desert Scrub
DSW = Desert Wash
EUC = Eucalyptus
FSS = Forest Service Sensitive
HAM = Harrison Mountain
HES = Hesperia
JUN = Juniper
LAC = Lacustrine
LAR = Lake Arrowhead
MCH = Mixed Chaparral
MCP = Montane Chaparral
MHW = Montane Hardwood
MHC = Montane Hardwood-Conifer
MRI = Montane Riparian
PPN = Ponderosa Pine
Quad = United States Geological Survey topographic quadrangles
RIV = Riverine
SC = State Candidate
SE = State Endangered
SBN = San Bernardino North
SGB = Sagebrush
SMC = Sierran Mixed Conifer
SSC = State Species of Concern
ST = State Threatened
SWL = Silverwood Lake
URB = Urban
USFWS = U.S. Fish and Wildlife Service
VFR = Valley Foothill Riparian
WTM = Wet Meadow

Table H-4. Commercially Valuable Species Known or Potentially Occurring in Project Area

Common Name	Scientific Name	Habitat Associations
Snow goose	*Chen caerulescens*	Freshwater wetlands, wet prairies and extensive sandbars, foraging in pastures, cultivated lands and flooded fields.
Ross's goose	*Chen rossii*	Marshy lakes, wet prairies, foraging in grassy areas, pastures and cultivated fields.
Canada goose	*Branta canadensis*	Overhead while migrating, marshes with tall grass and sedges near water.
Wood duck	*Aix sponsa*	Inland waters near woodlands such as swamps and marshes.
Northern pintail	*Anas acuta*	Lakes, rivers, marshes and ponds in grasslands, barrens, dry tundra, open boreal forest, or cultivated fields. Most breeding associated with seasonal and semi-permanent wetlands.
American wigeon	*Anas americana*	Open water on lakes, ponds, reservoirs and backwaters.
Northern shoveler	*Anas clypeata*	Open water on lakes, ponds and reservoirs.
Green-winged teal	*Anas crecca*	Open water on lakes, ponds, reservoirs and in marshes.
Cinnamon teal	*Anas cyanoptera*	Shallow open water on lakes, ponds, reservoirs and in marshes.
Blue-winged teal	*Anas discors*	Open water on lakes, ponds, reservoirs and in marshes.
Eurasian wigeon	*Anas penelope*	Winters primarily in freshwater (marshes, lakes) and brackish situations in coastal areas, but migrates extensively through inland regions; occurs in shallow water and fields and meadows.
Mallard	*Anas platyrhynchos*	Primarily shallow waters such as ponds, lakes, marshes, and flooded fields.
Gadwall	*Anas strepera*	Open water on lakes, ponds, reservoirs and backwaters.
Lesser scaup	*Aythya affinis*	Open water on lakes, ponds and reservoirs.
Redhead	*Aythya americana*	Open water on lakes, ponds and reservoirs.
Ring-necked duck	*Aythya collaris*	Open water on lakes, ponds, and reservoirs.
Greater scaup	*Aythya marila*	Open water and on emergent wetlands. Breeds primarily in tundra and northern borders of the taiga.
Canvasback	*Aythya valisineria*	Open water on lakes, ponds, reservoirs, and marshes.
Bufflehead	*Bucephala albeola*	Lakes, ponds, rivers and seacoasts. Breeds in tree cavities in mixed coniferous-deciduous woodland near lakes and ponds.
Common goldeneye	*Bucephala clangula*	Open water on lakes, ponds and reservoirs.
Hooded merganser	*Mergus cucullatus*	Open water on lakes, ponds and reservoirs.
Common merganser	*Mergus merganser*	Open water on lakes, ponds and reservoirs.
Red-breasted merganser	*Mergus serrator*	Open water on lakes, ponds and reservoirs.
Ruddy duck	*Oxyura jamaicensis*	Open water on lakes, ponds, reservoirs and marshes.
American coot	*Fulica americana*	Open water areas, along lake shores and stream edges, and in marshes.
Common gallinule	*Gallinula galeata*	Freshwater marshes, canals, quiet rivers, lakes, ponds, primarily in areas of emergent vegetation and grassy borders. Nests usually among marsh plants over water, occasionally in shrub in or near water.
Chukar	*Alectoris chukar*	Rocky hillsides, mountain slopes with grassy vegetation, open and flat desert with sparse grasses, and barren plateaus. Non-native.
California quail	*Callipepla californica*	Lower elevations and transition zone of mixed conifer forest between 1,200 and 7,000 feet elevation.
Gambel's quail	*Callipepla gambellii*	Arid interior, but also introduced in areas of dense brushy cover.
Mountain quail	*Oreortyx pictus*	Montane chaparral.
Band-tailed pigeon	*Columba fasciata*	Lower elevations and transition zone of mixed conifer forest between 1,200 and 5,500 feet elevation.
Ring-necked pheasant	*Phasianus colchicus*	Open country (especially cultivated areas, scrubby wastes, open woodland and edges of woods), grassy steppe, riverside thickets, swamps and open mountain forest. Non-native.

Table H-4. Commercially Valuable Species Known or Potentially Occurring in Project Area (continued)

Common Name	Scientific Name	Habitat Associations
Mourning dove	*Zenaida macroura*	Lower elevations and transition zone of mixed conifer forest between 1,200 and 5,500 feet elevation.
American crow	*Corvus brachyrhynchos*	Open and partly open country: agricultural lands, suburban areas, orchards, and tidal flats.
Virginia opossum	*Didelphis virginiana*	Very adaptable; may be found in most habitats. Prefers wooded riparian habitats. Also in suburban areas. Abandoned burrows, buildings, hollow logs, and tree cavities are generally used for den sites.
American beaver	*Castor canadensis*	Readily occupy artificial ponds, reservoirs, and canals, if food is available.
Common muskrat	*Ondatra zibethicus*	Fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Rare or absent in artificial impoundments with fluctuating water levels.
Western gray squirrel	*Sciurus griseus*	Dependent upon mature stands of mixed conifer and oak habitats, closely associated with oaks.
Audubon's cottontail	*Sylvilagus audubonii*	Various habitats; dry uplands as well as low valleys and canyons. May inhabit open grasslands, brushlands, edges of foothill woodlands, willow thickets, sometimes in cultivated fields or under buildings.
Brush rabbit	*Sylvilagus bachmani*	Dense scrub and brushy edges of habitats, chaparral, and cactus. Also brushy areas on sand dunes and in bramble thickets. Usually near dense vegetative cover. Seldom uses burrows.
Black-tailed jackrabbit	*Lepus californicus*	Open plains, fields, and deserts; open country with scattered thickets or patches of shrubs.
Raccoon	*Procyon lotor*	Various habitats; usually in moist situations, often along streams and shorelines.
Striped skunk	*Mephitis mephitis*	Semi-open country with woodland and meadows interspersed, brushy areas, bottomland woods. Frequently found in suburban areas.
Western spotted skunk	*Spilogale gracilis*	Brushy canyons, rocky outcrops (rimrock) on hillsides and walls of canyons. When inactive or bearing young, occupies den in rocks, burrows, hollow logs, brush piles, or under buildings.
Long-tailed weasel	*Mustela frenata*	Wide variety of habitats, usually near water. Favored habitats include brushland and open woodlands, field edges, riparian grasslands, swamps, and marshes.
American badger	*Taxidea taxus*	Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.
Bobcat	*Felis rufus*	Various habitats including deciduous-coniferous woodlands and forest edge, hardwood forests, swamps, forested river bottomlands, brushlands, deserts, mountains, and other areas with thick undergrowth.
Coyote	*Canis latrans*	Wide range of habitats in its extensive range, from open prairies of the west to the heavily forested areas of the Northeast; sometimes found in cities.
Gray fox	*Urocyon cinereoargenteus*	Often found in woodland and shrubland in rough, broken country.
Black bear	*Ursus americanus*	Occurs in fairly dense, mature stands of many forest habitats mostly above 3,000 feet elevation, and feeds in a variety of habitats including brushy stands of forest, valley foothill riparian and wet meadows.
Wild pig	*Sus scrofa*	Densely forested mountainous terrain, brushlands, dry ridges, swamps; sometimes in fields, marshes. Often in mixed hardwood forest with permanent water source. Seasonal changes in habitat use are linked to food availability. Non-native
Mule deer	*Odocoileus hemionas*	Early to intermediate successional stages of most forest, woodland, and brush habitats interspersed with herbaceous openings, dense brush or tree thickets, riparian areas, and abundant edge.

Source: CDFW 2015

Table H-5. Summary of Information Regarding ESA-listed Species Assessed for Potential Occurrence within the Project Area

Common Name Scientific Name	Status	Habitat Associations	Known Occurrences in Project Vicinity Quadrangles	Occurrence in Project Area	USFWS 5-Year Reviews and Recovery Plans
Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*)	FE	Insect endemic to the Colton Dunes Ecosystem from Colton to Mira Loma in southwestern San Bernardino County and adjacent Riverside County. Associated with wild buckwheat (*Eriogonum fasciculatum*), croton (*Croton californicus*) and telegraph weed (*Heterotheca grandiflora*) (58 FR 49881).	None	No – Project is outside of known range	Recovery Plan (1997) 5-Year Review (2008)
Mohave Tui Chub (*Siphateles* [*Gila*] *bicolor mohavensis*)	FE, SE	Fish endemic to Mojave River and major tributaries in deep pools and slough-like habitat. Populations also introduced into ponds and spring-fed pools outside of the historical range. See Section 4.8.2.1 for additional information.	Silverwood Lake, Lake Arrowhead, Cajon, and Hesperia	Unlikely – occurred historically, but almost certainly extirpated	Recovery Plan (1984) 5-Year Review (2009)
Santa Ana Sucker (*Catostomus santaanae*)	FT, SSC	Fish endemic to the Los Angeles, San Gabriel, and Santa Ana river systems, and introduced into the Santa Clara River system, where it hybridizes with Owens sucker (*C. fumeiventris*). Found mostly in permanent streams less than 25 feet wide and with coarse substrates.	Harrison Mountain	No – Project is outside of species range, which does not include the Mojave River drainage	Recovery Plan (2014) 5-Year Review (2011)
Arroyo Toad (*Anaxyrus* [*Bufo*] *californicus*)	FE, SSC	Amphibian that breeds in low-gradient perennial and seasonal streams; forages and aestivates in associated riparian habitat; and may venture into adjacent uplands. Found from Monterey County, California, to Baja California, Mexico, in coastal streams and some inland draining streams. See Section 4.8.2.2 for additional information.	Silverwood Lake, Lake Arrowhead, and Cajon	Yes	Recovery Plan (1999) 5-Year Review (2009)
California Red-legged Frog (*Rana draytonii*)	FT, SSC	Amphibian that is largely aquatic except during dispersal, summer aestivation, and foraging in riparian areas. Breeds in still or slow-moving water with emergent and overhanging vegetation, including emergent wetlands, ponds, small lakes, and low-gradient stream reaches with permanent pools. See Section 4.8.2.3 for additional information.	Silverwood Lake, Lake Arrowhead, and Harrison Mountain	Unknown – occurred historically, but may be extirpated	Recovery Plan (2002) 5-Year Review (none)
Southern Mountain Yellow-legged Frog (*Rana muscosa*)	FE, SE	Amphibian that is highly aquatic and associated with moderate- to high-elevation mountain streams, permanent ponds, and lakes, particularly where fish have not been introduced. See Section 4.8.2.4 for additional information.	Silverwood Lake, Lake Arrowhead, San Bernardino North, Harrison Mountain, and Devore	Unlikely – occurred historically, but almost certainly extirpated	Recovery Plan (none) 5-Year Review (2012)
Mojave Desert Tortoise (*Gopherus agassizii*)	FT, ST	A large, terrestrial, burrowing turtle found in the Mojave and Sonoran Deserts north and west of the Colorado River. Habitats are primarily in creosote bush (*Larrea tridentata*) flats, less frequently on sloping ground in salt desert scrub and alluvial fans.	None	No – Project is outside of species range[1]	Recovery Plan (2011) 5-Year Review (2010)
California Condor (*Gymnogyps californianus*)	FE, SE	Very large, soaring bird that seeks carrion in open habitats and nests mostly in cavities on escarpments and in hollows of old growth conifers. See Section 4.8.2.5 for additional information.	None	Unknown – species is wide-ranging and could fly over	Recovery Plan (1996) 5-Year Review (2013)
Coastal California Gnatcatcher (*Polioptila californica californica*)	FT, SSC	Non-migratory songbird associated with coastal sage scrub and less often in chaparral in coastal California to Baja California, Mexico. See Section 4.8.2.6 for additional information.	San Bernardino North and Devore	Unknown – Silverwood Lake area is outside of species range	Recovery Plan (none) 5-Year Review (2010)
Least Bell's Vireo (*Vireo bellii pusillus*)	FE, SE	Migratory songbird found during the breeding season in dense, riparian habitat and adjacent chaparral in river valleys. Found historically from interior northern California to northwestern Baja California, Mexico. See Section 4.8.2.7 for additional information.	San Bernardino North, Harrison Mountain, Devore	Possible, although higher elevation than expected range	Recovery Plan (1998) 5-Year Review (2006)

[1] In addition to information in the Recovery Plan, the species range is based on information in Gernano et al. (1994) and Nussear et al. (2009)

Table H-5. Summary of Information Regarding ESA-listed Species Assessed for Potential Occurrence within the Project Area (continued)

Common Name Scientific Name	Status	Habitat Associations	Known Occurrences in Project Vicinity Quadrangles	Occurrence in Project Area	USFWS 5-Year Reviews and Recovery Plans
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	FE, SE	Migratory songbird found during the breeding season in dense, riparian thickets along streams and wetlands. Range includes southern California from Kern County south. See Section 4.8.2.8 for additional information.	Cajon and Harrison Mountain	Possible, although no records.	Recovery Plan (2002) 5-Year Review (2014)
San Bernardino Merriam's Kangaroo Rat (*Dipodomys merriami parvus*)	FE	Heteromyid (primarily seed-eating with fur-lined cheek pouches) rodent in Riversidean alluvial fan scrub vegetation associated with alluvial floodplains and adjacent uplands within San Bernardino, Menifee and San Jacinto valleys. Existing populations concentrated along upper Santa Ana River, Lytle Creek, Cajon Creek, Cable Creek, San Jacinto River, and Bautista Creek. See Section 4.8.2.9 for additional information.	Devore, San Bernardino North, and Harrison Mountain	Unlikely – most of the Project area is outside of species range. Critical Habitat has been designated near the Devil Canyon Powerplant.	Recovery Plan (none) 5-Year Review (2009)
Stephen's Kangaroo Rat (*Dipodomys stephensi*)	FE. ST	Heteromyid rodent found in sparsely vegetated grassland and coastal sage scrub, associated with gravelly soils and sparse shrub cover. Found within San Jacinto Valley and adjacent areas of Riverside and San Diego Counties, and formerly in southwestern San Bernardino County.	None	No – Project is outside of species range	Recovery Plan (1997) 5-Year Review (2011)
Slender-horned Spineflower (*Dodecahema leptoceras*)	FE, SE	Annual herb (Family Polygonaceae) found on floodplain terraces and sandy benches, areas that flood infrequently. Occurrences are associated with alluvial fan scrub (about 660 to 2,300 feet elevation). See Section 4.8.2.10 for additional information.	San Bernardino North and Devore	Unlikely – most of the Project area is outside of species range	Recovery Plan (none) 5-Year Review (2010)
Cashenbury Buckwheat (*Eriogonum ovalifolium* var. *vineum)*	FE	Perennial herb (Family Polygonaceae) endemic to carbonate substrates in the northern San Bernardino Mountains in Mojavean desert scrub and pinyon-juniper woodland (4,550-7,800 feet elevation).	None	No – Project is outside of species range	Recovery Plan (1997) 5-Year Review (2009)
Southern Mountain Buckwheat (*Eriogonum kennedyi* var. *austromontanus*)	FT	Perennial herb (Family Polygonaceae) endemic to pebble plain habitat and occasionally gravelly, lower montane coniferous forest in the northern San Bernardino Mountains, with all known occurrences within 10 miles of Big Bear Lake (5,750 to 9,400 feet elevation).	None	No – Project is outside of species range	Recovery Plan (none) 5-Year Review (2008)
Cushenbury Oxytheca (*Oxytheca* [*Acanthoscyphus*] *parishii* var. *goodmaniana*)	FE	Annual herb (Family Polygonaceae) endemic to carbonate rock substrates on dry slopes (usually in loose scree or talus) of the northern San Bernardino Mountains in pinyon-juniper woodlands (4,000 to 7,800 feet elevation).	None	No – Project is outside of species range	Recovery Plan (1997) 5-Year Review (2009)
Bear Valley Sandwort (*Eremogone* [*Arenaria*] *ursine*)	FT	Perennial herb (Family Caryophyllaceae) endemic to pebble plain habitat and occasionally dry slopes in pinyon-juniper woodland in the northern San Bernardino Mountains; known only from vicinity of Big Bear and Baldwin Lakes (5,850 to 6,500 feet elevation).	None	No – Project is outside of species range	Recovery Plan (none) 5-Year Review (2008)
Nevin's Barberry (*Berberis nevinii*)	FE, SE	Perennial (evergreen) shrub (Family Berberidaceae) native to chaparral and adapted to the natural fire regime for this habitat (also in washes). Endemic to southern California in scattered occurrences in Riverside, Los Angeles, and San Bernardino Counties (mostly 1,400 to 1,700 feet elevation, rarely to 2,000 feet).	Harrison Mountain (extirpated)	Unlikely – Project is likely outside of species range, where occurrences would be limited to transplants	Recovery Plan (none) 5-Year Review (2009)
Braunton's Milk-vetch (*Astragalus brauntonii*)	FE	Perennial herb (Family Fabaceae) associated with carbonate substrates (or downwash sites below carbonate substrates) in chaparral and coastal sage scrub where shrubs are sparse. Appears after fire or mechanical soil disturbance, but short-lived. Known only from small disjunct areas in Simi Hills, Santa Monica Mountains, and Santa Ana Mountains in Ventura, Los Angeles, and Orange Counties (800-2,100 feet elevation).	None	No – Project is outside of species range	Recovery Plan (1999) 5-Year Review (2009)
Santa Ana River Woolly-star (*Eriastrum densiflorum* ssp. *sanctorum*)	FE, SE	Perennial sub-shrub (Family Polemoniaceae) found on infrequently flooded, open, sandy, high-alluvial terraces. Endemic to the Santa Ana River drainage and a disjunct occurrence on Lytle Creek in San Bernardino County, California (500 to 2,000 feet elevation). See Section 4.8.2.11 for additional information.	Devore	Unlikely – most of the Project area is outside of species range	Recovery Plan (none) 5-Year Review (2010)

Table H-5. Summary of Information Regarding ESA-listed Species Assessed for Potential Occurrence within the Project Area (continued)

Common Name Scientific Name	Status	Habitat Associations	Known Occurrences in Project Vicinity Quadrangles	Occurrence in Project Area	USFWS 5-Year Reviews and Recovery Plans
Ash-gray Paintbrush (*Castilleja cinerea*)	FT	Perennial hemiparasitic herb (Family Orobanchaceae) endemic to pebble plain habitat and occasionally in forest meadows, mixed coniferous forest (in clay openings), and pinyon-juniper woodland in the northern San Bernardino Mountains; known only from the vicinity of Big Bear Lake in the San Bernardino Mountains (5,900 to 10,900 feet elevation).	None	No – Project is outside of species range	Recovery Plan (none) 5-Year Review (2013)
San Diego Ambrosia (*Ambrosia pumila*)	FE	Perennial herb (Family Asteraceae) found on sandy loam or clay soils, mostly on upper terraces of rivers. Often in disturbed areas, sometimes in alkaline conditions in chaparral, coastal scrub, valley and foothill grassland, and vernal pools in western Riverside County (including Santa Ana River watershed), western San Diego County, and northwest Baja California, Mexico (65 to 1,350 feet elevation).	None	No – Project is outside of species range	Recovery Plan (none) 5-Year Review (2010)
Parish's Daisy (*Erigeron parishii*)	FT	Perennial herb (Family Asteraceae) endemic to carbonate substrates (occasionally granitic substrates) in the San Bernardino Mountains in Mojavean desert scrubs and pinyon-juniper woodland (2,600 to 6,500 feet elevation).	None	No – Project is outside of species range	Recovery Plan (1997) 5-Year Review (2009)
Thread-leaved Brodiaea (*Brodiaea filifolia*)	FT, SE	Perennial herb (Family Themidaceae) associated with moderately wet to occasionally moist conditions in grassland, on floodplains, or associated with vernal pools (200 to 1,000 feet elevation). See Section 4.8.2.12 for additional information.	San Bernardino North	Unlikely – most of the Project area is outside of species range	Recovery Plan (none) 5-Year Review (2009)

Source:CDFW 2015
Note:
No federal candidates or proposed species were identified, and none of these species are listed by Forest Service as sensitive.
Key:
FE = federal endangered
FT = federal threatened
FSS = Forest Service sensitive
SE = California State endangered
ST = California State threatened
SFP = California State fully protected
SSC = California State species of special concern

Table H-6. Previous Cultural Resources Investigations

Author/Date	Report	South Central Coastal Information Center No.
Austerman, Virginia, 2006	*Cultural Resources Assessment: Tentative Tract 16794, City of San Bernardino, San Bernardino County, California*. Prepared by LSA Associates, Inc. Prepared for Gardner Construction.	1065545 SB-5545
Barber, Russell J., 1986	*Archaeological and Historical Site Survey of the Area of the Proposed Second Afterbay, Devil Canyon Powerplant, San Bernardino, California*. California State University, San Bernardino.	10601603
Barber, Russell J. 1990	*Report on the Examination of Certain Cultural Remains at the Devil Canyon Powerplant Site, Second Afterbay Site.*	N/A
Bauer, Don. R. 1972.	*A Milepost Accomplishment in Forest and Water Conservation; Address at the Silverwood Lake Dedication Program sponsored by the Mojave Water Agency at Cedar Springs Dam, San Bernardino National Forest.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Bauer, Don. 1972a.	*Memo re:FPC #2426, Silverwood Lake*. On file at San Bernardino Forest Service Supervisor's Office.	N/A
Bauer, Don. 1972b.	*Memo regarding FPC #2426,* Silverwood Lake. On file at San Bernardino Forest Service Supervisor's Office.	N/A
Brewster, Brad. 2012	Technical Memorandum: *Cedar Springs Dam Historic Resources Evaluation*. Prepared by ESA, San Francisco. Prepared for the California Department of Water Resources.	1067160 SB-7160
DPR, 1976	*California Inventory of Historic Resources*. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.	N/A
DPR, 1982	*California Historical Landmarks*. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.	N/A
DPR, 1992	*California Points of Historical Interest*. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.	N/A
DPR, 1985	*Index to Historic Resources Owned by California Department of Parks and Recreation*. Department of Parks and Recreation. Sacramento, California. On file at South Central Coastal Information Center.	N/A

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
DWR, 1997	*Request for Approval to Begin Extended Survey Work at Newly Discovered Archaeological Site: San Bernardino Tunnel Intake Reconstruction.* Department of Water Resources. Sacramento.	N/A
California OHP, 1996	*California Historical Landmarks*. Office of Historic Preservation. Sacramento, California. On file at South Central Coastal Information Center.	N/A
California OHP, 2012	*Archaeological Determinations of Eligibility San Bernardino County*. On file at South Central Coastal Information Center.	N/A
California OHP, 2013	*Directory of Properties in the Historic Property Data File for San Bernardino County*. On file at South Central Coastal Information Center.	N/A
Conejo Archaeological Consultants. n.d.	*Cedar Springs Dam Maintenance Station; Draft Phase I Archaeological Survey.* Prepared for the California Department of Water Resources.	N/A
Cooper, Dennis, 1981	*Archaeological Reconnaissance Report: Devore Key Fuels Management Area.* United States Forest Service.	1063633
Cooper, Jason B., 2003	*Archaeological Reconnaissance Report: Ronald Spears Apiary (Special Use Permit CAJ 761801)*. United States Forest Service.	1064718 SB-4718
DC. 1972.	*Current Facts of Importance Concerning Silverwood Lake and Memo re:Pearblossom Pumping Plant Dedication and First Water at Silverwood Lake.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
de Barros, Philip, 1990	*Cultural Resources Management Plan, Rancho Las Flores Project, Hesperia, San Bernardino County, California*. Prepared by Chambers Group, Inc. and The Trager Law Offices. Prepared for ARC Las Flores Limited Partnership.	1062564 SB-2564
de Munck, Victor C., 1989	*Environmental Impact Evaluation: A Cultural Resource Assessment of a 22.5 Acre Parcel of Land Designated as Tentative Tract No 14193 Located in the City of San Bernardino, San Bernardino County, California*. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.	1061883

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
de Munck, Victor C., 1989	*Environmental Impact Evaluation: A Cultural Resource Assessment of a 9.7 Acre Parcel of Land Designated as Tentative Tract No 14260 Located in the City of San Bernardino, San Bernardino County, California*. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.	1061884
de Munck, Victor C., 1989	*Environmental Impact Evaluation: A Cultural Resource Assessment of a 9.7 Acre Parcel of Land Designated as Tentative Tract No 14261 Located in the City of San Bernardino, San Bernardino County, California*. Prepared by Archaeological and Ethnographic Field Associates. Prepared for Monnig Development Inc.	1061885
DPR, 1973	Point of Historical Interest SBR-18H. On file at South Central Coastal Information Center.	N/A
DPR, 1973	Point of Historical Interest SBR-022 (P-36-009938H). On File at South Central Coastal Information Center.	N/A
DWR, 1997	Letter to FERC regarding discovery of previously unidentified archaeological site at Silverwood Lake.	N/A
DWR, 1997	Letter to FERC requesting approval to begin extended survey work at newly discovered archaeological site: San Bernardino Tunnel Intake Reconstruction.	N/A
DWR, 1997	Letter to FERC requesting an extension to submit final archaeological report.	N/A
DWR, 1997	Memo regarding completion of required archaeological fieldwork at Silverwood Lake.	N/A
DWR, 1997	Memo regarding discovery of new archaeological site in the Cleghorn Canyon Arm of Silverwood Lake.	N/A
Duro, Henry, 1997	Letter dated August 22, 1997 to Robert Orlins of Department of Water Resources from Henry Duro of San Manuel Band of Mission Indians regarding Silverwood Lake Final Archaeological Report.	N/A
ESA, 2009	*Administrative Draft EIR; DWR East Branch Enlargement Phase II.*	N/A
Feller, Peter L., 2009	*Confidential Archaeological Letter for the Esparza Forest Fire Prevention Exemption, San Bernardino County, California.* Prepared by Black Fox Timber Management Group, Inc.	1066682 SB-6682

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Formica, Tracy, 2007	Cultural Resources Monitoring of State Route 18 in the San Bernardino Mountains for the Natural Resources Conservation Service. Prepared by Applied Earthworks. Prepared for National Resources Conservation Service.	1065907 SB-5907
Foster, Daniel G., 1982	*An Archaeological Reconnaissance of the Pilot Rock Conservation Camp Waterline, San Bernardino County, California.* California Department of Forestry.	1061278
Gardner, Jill K., Audry Williams, and Hubert Switalski, N.d.	*A Heritage Resources Inventory for the Hazard Tree Removal Project in the Mountain Top and Front Country Districts of the San Bernardino National Forest, on Behalf of the Southern California Edison Company*. Prepared by Center for Archaeological Research and AMEC Earth and Environmental. Prepared for Southern California Edison.	1066761 SB-6761
Gilbert, Rebecca H., 2012	*Department of Water Resources Archaeological Survey Report and Historic Properties Evaluation Report: Cedar Springs Dam-Bench Repair Project, San Bernardino County, California*. DWR.	1067160 SB-7160
Gilbert, Rebecca H. and Brad Brewster, 2012	*Department of Water Resources Archaeological Survey Report and Historic Properties Evaluation Report: Cedar Springs Boat Dock Erosion Project, San Bernardino County, California. DWR.*	1067209 SB-7209
Goldberg, Susan, 2010	*Historic Property Survey Report: Horsethief Creek Bridge (#54-08916) Replacement Project on State Route 138, P.M. R24.1, San Bernardino County, California.* Prepared by Applied Earthworks. Prepared for CALTRANS.	1066838 SB-6838
Greenwood, Roberta S., John M. Foster, James J. Schmidt, Carmen A. Weber, and Gwendolyn R. Romani, 1991	*Cultural Resource Investigation: Inland Feeder Project, Metropolitan Water District of Southern California*. Prepared by Greenwood and Associates. Prepared for P&D Technologies.	1062853 SB-2853
Hatheway and Associates, 1995	*Results of a Cultural Resource Windshield Survey/Sensitivity Study and Spot Inspection for the Proposed Replacement of Substandard Water Pipelines, and Additional Storage, Supply and Pumping Facilities, Cedarpines Park, San Bernardino County, California*. Prepared for Cedarpines Park Mutual Water Company.	1063453

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Hines, Philip, with Glenn Farris, Robert Niblack, and Tamara Spear, 1997	*Final Report: FERC Project No2426-063, San Bernardino Tunnel Intake Reconstruction Project: The Evaluation of Newly Discovered Archaeological Site CA-SBR-8913 (SL-1), Silverwood Lake, San Bernardino County, California*. Prepared by State of California Department of Parks and Recreation. Prepared for DWR.	1063359
Hines, Philip, 1997	*Final Report; FERC Project No. 2426-063; San Bernardino Tunnel intake Reconstruction Project; The Evaluation of Newly Discovered Archeological Site CA-SBR-8913 (SL-1); Silverwood Lake, San Bernardino County, California*. Prepared for State of California Department of Water Resources, Division of Planning, Sacramento, California.	N/A
Horne, Stephen, 1976	*Preliminary Archaeological Reconnaissance Report, Silverwood-Heart Bar Land Exchange, Arrowhead District, San Bernardino National Forest.* United States Forest Service.	1063358
Horne, Stephen. 1976.	*Archaeological Reconnaissance Report Form for Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Horne, Stephen. 1976.	*Note to Harry Simpson regarding notes on Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Horne, Stephen. 1976.	*Field record for Archaeological Reconnaissance Record of Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Lerch, Michael K., 1989	*Cultural Resources Assessment of Five Public Works Infrastructure Improvements, Verdemont Area Assessment District #987, City of San Bernardino, California*. Prepared by Michael K. Lerch and Associates. Prepared for City of San Bernardino.	1061958
Lerch, Michael K., 1994	*Cultural Resources Assessment of Effluent Holding Ponds, Crestline Sanitation District, San Bernardino County, California*. Prepared by Tom Dodson & Associates. Prepared for San Bernardino County Office of Special Districts.	1062845
Lerch, Michael K. with William E. Hayden, Kurt R. Heidelberg, and Anne Q. Stoll, 2001	*A Class I Cultural Resources Assessment for the FEMA/City of San Bernardino Vegetation Management Project (HMGP #1005-20), San Bernardino County, California*. Prepared by Statistical Research, Inc. Prepared for URS Group, Inc.	1064722

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Losekoot, Frank, 2012	*A Confidential Archaeological Letter for the Mozumdar Emergency Notice for the County of San Bernardino, Hazardous Tree Removal Operations, San Bernardino County, California.*	1067207
Love, Bruce, 1996	*Archaeological Records Search Results: San Bernardino Vegetation Management Project, San Bernardino County, California*. Prepared by CRM TECH. Prepared for Dodson & Associates.	1063117
McDougall, Dennis, 2007	*Cultural Resources Survey of an Approximate 1.0 Acre Parcel Located on United States Forest Service Land Directly Adjacent to the Metropolitan Water District of Southern California's Inland Feeder Pipeline Devil Canyon Portal in San Bernardino County, California*. Prepared by Applied Earthworks. Prepared for PSOMAS.	1065898 SB-5898
Mirro, Michael, 2004	*Letter Report: Cultural Resources Survey of 40 Acres on Cedar Pines Park for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064322 SB-4322
Mirro, Michael, 2004	*Letter Report: Cultural Resources Survey of 67 Acres on the Hill Top Renewal Property for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064457 SB-4457
Mirro, Michael, 2004	*Letter Report: Cultural Resources Survey of Highway 138 between the State Route 18/138 Junction and Southeast Shore of Silverwood Lake near Burnt Mill Canyon, California (PM29.1/37.8; 8.7 miles).* Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064747 SB-4747
Mirro, Michael, 2005	*Letter Report: Cultural Resources Survey of Approximately 105 Acres on the Mozumdar Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064744 SB-4744
Mirro, Michael, 2005	*Letter Report: Cultural Resources Survey of Approximately 60 Acres on the Sawpit Canyon Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064745 SB-4745
Mirro, Michael, 2006	*Letter Report: Cultural Resources Survey of Approximately 68 Acres on the Mojave River Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1064739 SB-4739

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Mirro, Michael, 2006	*Letter Report: Cultural Resources Survey of Approximately 95.1 Acres within the Urban Large Parcel CPP 184 Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1065450 SB-5450
Mirro, Michael, 2008	*Letter Report: Cultural Resources Survey of 126.3 Acres on the Sawpit Canyon Fuel Modification Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1066050 SB-6050
Mirro, Michael, 2008	*Letter Report: Cultural Resources Survey of 20.3 Acres on the Jobs Peak Fuel Modification Project Area for the Natural Resources Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1066051 SB-6051
Mirro, Michael, 2008	*Letter Report: Cultural Resources Survey of 66.7 Acres on the Mojave River Fuel Modification Project Area for the Natural Resource Conservation Service*. Prepared by Applied Earthworks, Inc. Submitted to National Resources Conservation Service.	1066049 SB-6049
Mlazovsky, Marilyn, 1994	*Archaeological Reconnaissance Report: Cleghorn Ridge-Miller Canyon OHV Trail*. San Bernardino National Forest.	1063352
Napton, Kyle L. and E. A. Greathouse with Stephanie Velasquez and Linda Pollack, 2009	*A Cultural Resources Investigation of the Pilot Rock Conservation Camp FY-2008-09 Minor Capital Outlay Project, San Bernardino County, California*. Prepared by California State University, Stanislaus and California Department of Forestry and Fire Protection. Prepared for California Department of Forestry and Fire Protection.	1066269 SB-6269
Offermann, Janis, 2005	*Negative Archaeological Survey Report: Devil Canyon Creek Culvert Bridge Removal Project, San Bernardino County, California*. Department of Water Resources.	1064725 SB-4725
Offermann, Janis, 2005	*Negative Archaeological Survey Report: Upper Cleghorn Canyon Stream Gaging Station Restoration Project, San Bernardino County, California.* Department of Water Resources.	1064964 SB-4964
Offermann, Janis, 2007	Letter dated March 15, 2007 to the California State Historic Preservation Officer from the Department of Water Resources regarding the Cedar Springs Dam Maintenance Station, FERC Project #2426.	N/A
Pierce, Gene. 1972.	*Memo regarding Cedar Springs Reservoir.* On file at San Bernardino Forest Service Supervisor's Office.	N/A

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Rector, Carol with Pat Welch and Judyth E. Reed, 1984	*Cultural Resources Inventory for the 1984 and part of 1985 California Metropolitan Project Area Public Land Sales Program*. Bureau of Land Management.	1061445
Reynolds, Robert E., 1972	*Site Survey Form: Wild Horse Mesa 36.*	N/A
Reynolds, Robert E., 1972	*Site Survey Form: Wild Horse Mesa 37.*	N/A
Reynolds, Robert E., 1978	*Archaeological Reconnaissance Report: Pilot Rock Key Area Fuel Breaks.* United States Forest Service.	1063517
Reynolds, Robert E., 1985	*Archaeological Reconnaissance Report: Camp Seeley/ Pearson Drilling*. United States Forest Service.	1063356
Schmidt, James J., 2004	Letter to Adam Sriro, Southern California Edison Company: *Tetley 12 kV Distribution Line, Silverwood Lake State Recreation Area, San Bernardino County*. Compass Rose Archaeological, Inc.	1064243
Schulz, Peter D., 1977	*Review of Archeological Resource Identification and Impact Mitigation; California Aqueduct Project (West Branch, Mojave Division and Coastal Branch).* Prepared by DPR. Prepared for DWR.	N/A
Simpson, Harry L. 1976.	*Transmittal for Horne, Stephen. 1976. Archaeological Reconnaissance Report Form for Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	1063358
Smith, Gerald A. N.d.	*Archaeological Survey of the Mojave River and Adjacent Regions.*	1061915
Sutton, Mark Q. and Joan S. Schneider, 1989	*Archaeological Studies (Inventory, Testing, and Evaluation) of the Mojave Siphon Project, Summit Valley, San Bernardino County, California*. Prepared by California State University Bakersfield. Prepared for DWR.	1061925 SB-1925
Tang, Bai, Michael Hogan, Josh Smallwood, and Kelli Olgren-Leblond, 2006	*Historic Building Evaluation: 6611 Devil Canyon Road, City of San Bernardino, San Bernardino County, California*. Prepared by CRM TECH. Prepared for Municipal Water Department-Water Utility, City of San Bernardino.	1064724 SB-4724
Tang, Bai, Michael Hogan, Josh Smallwood, and Kelli Olgren-Leblond. 2006.	*Historic Building Evaluation: 6667 Devil Canyon Road, City of San Bernardino, San Bernardino County, California*. Prepared by CRM TECH. Prepared for Municipal Water Department-Water Utility, City of San Bernardino.	1065274 SB-5274
U.S. Department of the Interior, 1976	*National Register of Historic Places Vol. II*. On file at South Central Coastal Information Center.	N/A

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
U.S. Department of the Interior, 1976	*National Register of Historic Places*. On file at South Central Coastal Information Center.	N/A
URS Consultants, Inc., 1988	*Appendix F; Cultural Resource Inventory of the Proposed Rancho Las Flores Planned Unit Development; San Bernardino, California.* Prepared for County of San Bernardino, California.	N/A
URS Consultants, Inc., 1990	*Rancho Las Flores Environmental Impact Report; Volume I - Technical Report.* Prepared for the City of Hesperia, California.	N/A
Various • Mlazovsky, Marilyn. 1997. • Rhodes, Herbert. 1976a. • Rhodes, Herbert 1976b. .	• *Letter to Marc Stamer c/o Lake Silverwood State Recreation Area regarding Preliminary Archaeological Reconnaissance Report for the Silverwood-Heart Bar Land Exchange and a potential site.* On file at San Bernardino Forest Service Supervisor's Office. • *Letter to H.J. Williams, USFS, regarding submittal of the Preliminary Archaeological Reconnaissance Report for the Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office. • *Letter to H.J. Williams, USFS, regarding submittal of the Preliminary Archaeological Reconnaissance Report for the Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Various: • Orlins, Robert I. 1994. • Robinson, J. Mark. 1994. • Widell, Cherilyn. 1994. • Widell, Cherilyn. 1997.	• Letter to DWR from FERC regarding records search for San Bernardino Tunnel Intake Reconstruction Project. • Letter to SHPO from FERC regarding records search for San Bernardino Tunnel Intake Reconstruction Project. • Letter to FERC from SHPO providing concurrence on evaluation regarding records search for San Bernardino Tunnel Intake Reconstruction Project. • Letter regarding San Bernardino Tunnel Intake Construction Project, FERC 2426-063.	N/A

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Various: • Patel, Viju. 1990. • Long, Donald R. 1989. • Shumway, Dean L. 1989. • Sutton, Mark Q. 1989.	• Letter dated January 10, 1990 to Federal Energy Regulatory Commission regarding archaeological studies for Project No. 2426-028, California Mojave Siphon Powerplant Project. • Letter dated December 7, 1989 to the Advisory Council on Historic Preservation regarding action taken by Department of Water Resources for Section 106 regarding the Mojave Siphon Project. • Letter dated April 13, 1989 to Viju Patel, Department of Water Resources, regarding amendment of license application and failure of compliance. • *Proposal for Archaeological Studies (Phase I): Mojave Siphon Project, Summit Valley, San Bernardino County*. Prepared by Cultural Resource Facility, California State University, Bakersfield. Prepared for State of California, Department of Water Resources, Sacramento.	N/A
Wayland, Brian, 2004	*An Archaeological Survey Report for the Sawpit Emergency Fire Salvage Timber Operations Notice #2, Cedarpines Park, San Bernardino County, California*. Prepared by Wayland Resource Management, Inc.	1066681 SB-6681
Wayland, Brian, 2004	*An Archaeological Survey Report for the Sawpit Emergency Fire Salvage Timber Operations Notice #3, Cedarpines Park, San Bernardino County, California*. Prepared by Wayland Resource Management, Inc.	1066680 SB-6680
White, Laurie, 2000	Letter from Archaeological Associates to Environmental Science Associates: "Cultural Resource Assessment for AT&T Wireless Site #C592.2 (Jobs Peak), Valley of Enchantment, San Bernardino County, California".	1063866
White, Robert S. and Laura S. White, 2006	*A Cultural Resources Assessment of the Pine 2 Project, a 10.7 Acre Parcel Located Southeast of the Intersection of West Redwood Street and North Brenda Lane, City of San Bernardino, San Bernardino County*. Prepared by Archaeological Associates. Prepared for Lilburn Corporation.	1066056 SB-6056
Williams, H. J. 1976.	*Letter to the Director of the Department of Parks and Recreation regarding the proposed land exchange at Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A
Williams, H. J. 1976.	*Letter to the State Historic Preservation Officer regarding the proposed land exchange at Silverwood-Heart Bar Land Exchange.* On file at San Bernardino Forest Service Supervisor's Office.	N/A

Table H-6. Previous Cultural Resources Investigations (continued)

Author/Date	Report	South Central Coastal Information Center No.
Williams, Audry and Hubert Switalski, 2005	*Archaeological Monitoring for the Hazard Tree Removal Project in the Mountain Top and Front Country Districts of the San Bernardino National Forest, on Behalf of the Southern California Edison Company*. Prepared by Center for Archaeological Research and AMEC Earth and Environmental. Prepared for Southern California Edison.	1066762 SB-6762

Source: DWR, SCCIC
Key:
DPR = California Department of Parks and Recreation
DWR = California Department of Water Resources
ESA = Endangered Species Act
EIR = Environmental impact report
FEMA = Federal Emergency Management Agency
FERC = Federal Energy Regulatory Commission
kV = Kilovolt
OHP = Office of Preservation
OHV – Off-Highway Vehicle

Table H-7. Previously Recorded Historic Archaeological Sites

Primary No.	Trinomial	Other Designations	Description	NRHP and CRHR Eligibility
P-36-01626	CA-SBR-1626H	N/A	Historic ranch complex: standing structures, domestic debris, agricultural fields, burned debris, possible remains of older ranch buildings (Late 1800s to Early 1900s)	Unevaluated
P-36-09859	CA-SBR-9859H	N/A	Buried residential refuse dump: cans, bottles, ceramics, car parts, other residential debris, possible association of stone house. Maker's marks: 1940s-1950s.	Unevaluated
P-36-09860	CA-SBR-9860H	N/A	Buried linear well feature of redwood planks and beams. Possibly built the City of San Bernardino (1930s).	Unevaluated
P-36-12142	CA-SBR-2143H	N/A	Historic residential site with collapsed structure, cement well, dirt road, brick stairway, and associated structural debris, ca. 1940s.	Unevaluated
P-36-12143	CA-SBR-2144H	N/A	Historic residential site with rock and mortar foundation, heater or stove, and dirt road.	Unevaluated
P-36-12199	N/A	N/A	Partially buried water trough constructed of field stone and mortar lined with plaster. 1930s-1940s	CRHR Not Eligible
P-36-13421	N/A	N/A	Part of Devil Canyon Toll Road/Sawpit Creek Road, constructed c. 1879.	Unevaluated
P-36-13429	N/A	N/A	A historic residential site consisting of structure pads, a stone and concrete staircase, stone and concrete walkway sections, concrete foundation remnants, and assorted structural debris.	Unevaluated
P-36-13430	N/A	N/A	A stone and cement cistern and metal pipe, the remains of two walls (possibly to a reservoir), assorted wood and metal debris.	Unevaluated
P-36-13431	N/A	N/A	An earthen structural/pad foundation reinforced with unmortared cobbles and segment of steel pipe. Early – mid twentieth century.	Unevaluated

Table H-7. Previously Recorded Historic Archaeological Sites (continued)

Primary No.	Trinomial	Other Designations	Description	NRHP and CRHR Eligibility
P-36-13432	N/A	N/A	Stone and concrete foundation and lower walls of a residential structure constructed in 1928 and another small stone and concrete foundation for an incinerator.	Unevaluated
P-36-13885	CA-SBR-2710H	N/A	The partially collapsed remains of a rock-lined, beehive shaped limestone kiln.1860s-1880s	Unevaluated
P-36-24108	CA-SBR-5293H	N/A	A two-track dirt road with no associated artifacts 1950s	Unevaluated
P-36-24109	CA-SBR-5294H	N/A	A paved two-lane road that accesses the Mojave Siphon Powerplant, and a corrugated metal culvert.1950s	Unevaluated
P-36-24110	CA-SBR-5295H	N/A	A paved two-lane road that accesses the Cedar Springs Spillway maintenance facility, and a metal drainage culvert.1950s	Unevaluated
P-36-24111	CA-SBR-5296H	N/A	A paved two-lane road that accesses Las Flores Ranch.1880s-1950s	Unevaluated
P-36-24794	CA-SBR-5835H	N/A	Dart Canyon Road – an asphalt paved, two-lane road.1950s	Unevaluated
P-36-24795	CA-SBR-5836H	N/A	Burnt Mill Road – an unpaved two-track road 1950s	Unevaluated
P-36-24798	CA-SBR-5839H	N/A	Forest Service Road 2N47 – an asphalt paved, one-lane road1950s	Unevaluated
P-36-24799	CA-SBR-5840H	N/A	A segment of asphalt-paved, two-lane road that accesses Cottonwood Station from Highway 138.1950s	Unevaluated

Source: SCCIC
Key:
CRHR = California Register of Historical Places
No. = Number
NRHP = National Register of Historic Places
CPHI = California Point of Historical Interest
SCCIC = South Central Coastal Information Center

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Appendix I

Privileged Cultural Maps

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APPENDIX I

PRIVILEGED CULTURAL MAPS

Due to the sensitive nature of information regarding cultural resources, maps depicting the locations of cultural studies, cultural resources, and potential cultural resources, are considered to be “PRIVILEGED” and provided only to those on a need to know basis. Anyone who has not been provided with copies of PRIVILEGED maps, but who believe they should have a copy, may contact DWR for further assistance.

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Appendix J

Study Plan Outlines

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APPENDIX J

STUDY PLAN OUTLINES

- Aquatic Invasive Species Study
- Botanical Resources Study
- Non-Native Invasive Plants Study
- Special-Status Terrestrial Wildlife Species Study
- ESA-Listed Bird Species, Southwestern Willow Flycatcher and Least Bell's Vireo Riparian Habitat Evaluations Study
- ESA-Listed Plants Study
- Recreation Facilities Condition Assessment Study
- Cultural Resources Study
- Tribal Resources Study

STUDY PLAN OUTLINE 1. AQUATIC INVASIVE SPECIES

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding AIS in the proposed Project boundary is provided in Section 4.5.1.1. As a summary, DWR found two documented AIS observations (American bullfrog and Anabaena) in Silverwood Lake, and identified 13 additional AIS that have not been found in the proposed Project boundary, but have a potential to be introduced from recreationists using reservoirs where these species occur. Currently, DWR conducts early detection monitoring for both the veliger and adult stages of quagga mussel and zebra mussel. DWR has not found either of these species in Project reservoirs. Additional information, which would be provided by this study, would be the presence/absence of AIS in Project waters, and the relative distribution and abundance of the AIS, if they are present.

Study Area, Methods and Analysis

The study area would consist of Silverwood Lake. The study area does not include Devil Canyon Afterbay or the Devil Canyon Second Afterbay since the afterbays are closed to public recreation, which is the major vector that introduces AIS to reservoirs.

The study would consist of four steps: (1) gather any known data and prepare for fieldwork; (2) conduct surveys; (3) prepare data and perform quality assurance; and (4) prepare a study report. Surveys would be conducted in the study area for AIS plants by boat, following standard CDFW plant survey methodology, as modified for in-water surveys. Surveys would occur between May and September when AIS plants are most readily identifiable. Surveys would be conducted for AIS mollusks using standard methods in malacology, including dip netting, sieving, and visual surveying. These surveys would be performed during the same approximate time as the AIS plant surveys. DWR would continue conducting early detection monitoring for both the veliger and adult stages of quagga mussel and zebra mussel. One AIS crustacean (red swamp crayfish), and two AIS amphibians (American bullfrog and African clawed frog) have not been found in Silverwood Lake; however, those AIS species would be noted as incidental sightings if observed during the study or other DWR relicensing studies. Water quality would be reviewed where applicable and as relevant to the potential introduction or establishment of AIS in the study area. A study report summarizing methods and results would be prepared and included in DWR's DLA and FLA.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be consistent with methods used to perform AIS surveys, including 2014 surveys for Asian clams in New York and 2010 surveys for New Zealand mudsnails in Washington, as well as the CDFW's 2009 protocol for botanical surveys, which generally would follow the methods for surveying invasive aquatic plants.

STUDY PLAN OUTLINE 2. BOTANICAL RESOURCES

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding special-status plants within the proposed Project boundary is provided in Section 4.6 and Section 4.7. As a summary, DWR found that no recent comprehensive plant surveys or vegetation habitat mapping have been performed in the Project area. Existing mapping (NWI data and CalVeg data) is based on remote sensing, aerial photograph interpretation, or both, with little to no field verification. These limited data available from field surveys indicate that sensitive habitats, including wetlands, riparian areas, and littoral zones, exist in the proposed Project boundary, but the locations, extent, and conditions are not known. A number of special-status plants have the potential to occur in the Project area based on the proximity to other recorded occurrences and suitable elevation range and habitat requirements, but no special-status plant surveys have been conducted aside from surveys in isolated locations related to other projects. Additional information, which would be provided by this study, would include a determination of vegetation types, wetland and riparian conditions and special-status plants in the proposed Project boundary.

Study Area, Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would consist of four steps: (1) map vegetation types in the study area using aerial imagery and existing information (NWI, CALVEG, etc.); (2) conduct field surveys to verify vegetation mapping, collect data on wetland and riparian area quality, and identify the locations of special-status plant species, if present; (3) prepare data and perform quality assurance; and (4) prepare a study report. Representative vegetation types would be visited during field surveys to confirm boundaries and to collect vegetation data using the CNPS rapid assessment vegetation sampling technique. Under this method, vegetation data would be collected and habitats would be described using the Manual of California Vegetation field-assessed vegetation alliance name. Wetlands and riparian areas mapped during the desktop review would be visited during the field survey to assess the condition of the habitat using the Proper Functioning Condition qualitative method in Pritchard et al. All areas of potentially suitable habitat for special-status plant species would be surveyed. Special-status plant species surveys would be conducted following CDFW’s Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. After completion of vegetation type and special-status plant species mapping, DWR would identify any Project O&M and recreational activities that occur in the vicinity of the identified

sensitive communities or special-status plants. A study report summarizing methods and results would be prepared and included in DWR's DLA and FLA.

Consistency of Methodology with Generally Accepted Scientific Practices

The study method would be generally consistent with the methods used for recent FERC hydroelectric relicensing efforts in California, including the Don Pedro Project (FERC No. 2299), Yuba River Development Project (FERC No. 2246) and Merced River Hydroelectric Project (FERC No. 2174), and would use standard botanical survey methods as defined by CDFW.

STUDY PLAN OUTLINE 3. NON-NATIVE INVASIVE PLANTS

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding NNIP within the proposed Project boundary is provided in Section 4.6 and Section 4.7. As a summary, DWR found that no comprehensive NNIP surveys have been performed recently in the Project area. Several NNIP species have been reported in the Devil Canyon Powerplant area, but no information exists regarding the species occurrence in the vicinity of Silverwood Lake. Additional information, which would be provided by this study, would include a determination of presence and general quantity of NNIPs in the proposed Project boundary.

Study Area, Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would be performed in conjunction with DWR's relicensing Botanical Resources Study, and would consist of three steps: (1) conduct field surveys for NNIP; (2) prepare data and perform quality assurance; and (3) prepare a study report. All areas of potentially suitable habitat for NNIP would be surveyed. The locations of any NNIP encountered during surveys would be mapped, and the number of individual plants estimated. After completion of NNIP mapping, DWR would identify any Project O&M and recreational activities that occur in the vicinity of the NNIP. A study report summarizing methods and results would be prepared and included in DWR's DLA and FLA.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be generally consistent with the methods used for recent FERC hydroelectric relicensing efforts in California, including the Yuba River Development Project and Merced River Hydroelectric Project, and would use standard botanical survey methods as defined by CDFW.

STUDY PLAN OUTLINE 4. SPECIAL-STATUS TERRESTRIAL WILDLIFE SPECIES

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding special-status terrestrial wildlife species and their habitat within the proposed Project boundary is provided in Section 4.6. As a summary, DWR found no recent special-status wildlife species survey information. Based on available information, several special-status species are likely or known to inhabit the proposed Project boundary including but not limited to: coast horned lizard, San Bernardino ring-necked snake, California spotted owl, loggerhead shrike, loon, golden eagle, bald eagle, yellow warbler, San Bernardino northern flying squirrel, ringtail, Townsend's big-eared bat, and western mastiff bat. Additional information, which would be provided by this study, would include field-based habitat mapping to determine the presence/absence of special-status terrestrial wildlife species habitat within the proposed Project boundary.

Study Area, Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would consist of five steps: (1) conduct current CNDDB analysis; (2) prepare habitat association maps based on WHR system protocols; (3) conduct field visits to representative locations to confirm habitat types and quality, and determine presence/absence of habitat; (4) prepare data and perform quality assurance; and (5) prepare a study report. Field verification efforts would focus on habitat type, habitat continuity, surrounding land uses and the probability of the habitat supporting special-status wildlife species. Surveys would be conducted at a time of year that would yield the best opportunity to observe special-status wildlife species (i.e., nesting season, breeding season). Biologists would note Project O&M activities, including vegetation control and recreation use areas that overlap with the location of special-status wildlife habitat. A study report summarizing methods and results would be prepared and included in DWR's DLA and FLA.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be consistent with the methods used for many recent FERC hydroelectric relicensing efforts in California, including the Oroville Facilities relicensing (FERC No. 2100).

STUDY PLAN OUTLINE 5. ESA-LISTED BIRD SPECIES, SOUTHWESTERN WILLOW FLYCATCHER AND LEAST BELL'S VIREO RIPARIAN HABITAT EVALUATIONS

Summary of Existing Information, and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding southwestern willow flycatcher and least Bell's vireo within the proposed Project boundary is provided in Section 4.8. As a summary, DWR found no existing information regarding either species within the proposed Project boundary. However, habitat evaluations and surveys for these species in areas outside of the Project boundary north of Silverwood Lake reported suitable habitat for both species and detections of migrating willow flycatchers, but no breeding southwestern willow flycatchers. One singing least Bell's vireo on Horsethief Creek was detected in 2013. Additional information, which would be provided by this study, would include determining the occurrence and identification of breeding habitat of southwestern willow flycatcher or least Bell's vireo in the proposed Project boundary, if they occur.

Study Area, Methods and Analysis

Since southwestern willow flycatcher and least Bell's vireo utilize riparian habitat, the study area would consist of riparian habitat within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would be coordinated with DWR's relicensing Botanical Resources Study, which would identify, map, and describe vegetation areas, including riparian habitat, within the study area. The study would consist of four steps: (1) identify riparian habitat areas that may be affected by Project O&M and recreation; (2) conduct surveys in these areas; (3) prepare data and perform quality assurance; and (4) prepare a study report. Surveys would be performed in riparian areas in the study area potentially affected by Project O&M and recreation. All surveys would be performed following standard USFWS protocols for southwestern willow flycatcher and least Bell's vireo. Detection surveys conducted by trained personnel for southwestern willow flycatcher require at least five survey visits, distributed within the May through July period, whereas surveys for least Bell's vireo require at least eight survey visits between April 10 and July 31. Habitat evaluation and survey results would be assessed in relation to known site-specific Project O&M and Project recreation. A report summarizing study methods and results would be prepared and included in DWR's DLA and FLA. If any occurrences of willow flycatcher and least Bell's vireo are found, the report would be considered "Privileged," and would only be provided to FERC, USFWS, and CDFW, and to the USFS if any occurrences of willow flycatcher and least Bell's vireo are found on NFS lands.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would follow survey protocol methods that are recommended by USFWS. Therefore, the study would be consistent with standard methods accepted by the scientific community, USFWS and CDFW for assessing the presence of breeding southwestern willow flycatcher and least Bell's vireo.

STUDY PLAN OUTLINE 6. ESA-LISTED PLANTS

Summary of Existing Information, and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding ESA-listed plants within the proposed Project boundary is provided in Section 4.8. As a summary, DWR found no recent surveys for ESA-listed plants or documented occurrences of ESA-listed plants within the proposed Project boundary. Existing information suggests that three ESA-listed plants (i.e., slender-horned spineflower, Santa Ana River woolly-star, and thread-leaved brodiaea) could potentially occur in the proposed Project boundary if there are suitable habitats. Additional information, which would be provided by this study, is the presence/absence of these and other ESA-listed plants within the proposed Project boundary, and their relative abundance and location, if they occur.

Study Area, Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would be performed in conjunction with DWR's relicensing Botanical Resources Study, which consists of a comprehensive floristic survey within the study area. The study would consist of four steps: (1) identify potential habitat for ESA-listed plants; (2) conduct surveys; (3) prepare data and perform quality assurance; and (4) prepare a study report. Surveys would follow methodology described in the botanical survey section of CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Additional efforts would focus on habitats with a higher probability of supporting ESA-listed plants. Taxonomy and nomenclature would be based on The Jepson Manual. If an ESA-listed plant occurrence is identified, Project O&M and recreation activities that occur in the area would be noted. A report summarizing study methods and results would be prepared and included in DWR's DLA and FLA. If any ESA-listed plants are found, the report would be considered "Privileged," and would only be provided to FERC, USFWS, and CDFW, and to the USFS if any ESA-listed plants are found on NFS lands.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be consistent with the methods used for recent FERC hydroelectric relicensing efforts in California, including the Don Pedro Project, Yuba River Development Project and Merced River Hydroelectric Project, and would use standard botanical survey methods as defined by CDFW.

STUDY PLAN OUTLINE 7. RECREATION FACILITIES CONDITION ASSESSMENT

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding recreational resources within the proposed Project boundary is provided in Section 4.9. As a summary, existing data includes a basic inventory of Project recreation facilities, maps showing locations of existing recreational trails, statistics on visitor use, and management guidelines and regional needs assessments from relevant regional resource management plans, including the SCORP and SBNF's LRMP. DWR also has 2015 and historical attendance (i.e., recreation day) information for Silverwood Lake SRA's recreation facilities. Recreation use information for Project day use areas and dispersed use areas is collected every six years for FERC Form 80 reporting; the most recent collection year was 2014. DWR also filed an updated recreation plan in May of 2016. In addition, DWR has been continuously working with DPR to rehabilitate and improve existing Project recreation facilities and has information on several projects, but not a comprehensive analysis of how the improvements and facilities rate with regard to condition, serviceability, and adequacy in terms of current guidelines and policies. While many facilities have been upgraded, other existing Project recreational facilities may need upgrading to meet current applicable accessibility guidelines. Information, which would be provided by this study, would include a detailed condition assessment and inventory of Project recreation facilities.

Study Area, Methods and Analysis

The study area would consist of Project recreation facilities at Silverwood Lake. The study area would not include Devil Canyon Afterbay and Second Devil Canyon Afterbay because these areas are closed to the public and no recreational use occurs there. The study area would not include lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would consist of five steps: (1) create forms and templates for assessment; (2) conduct site condition assessments completing detailed inventory conditions forms; (3) assemble results and create maps; (4) prepare data and perform quality assurance; and (5) prepare a study report. The inventory would include assessments of parking areas, and the location and number of parking spaces, picnic and camping units, boat and trailer parking spaces, accessible parking spaces, and facility components. Trailheads and trails would be inventoried for signage, types of improvements, general widths, and general trail conditions. The field reconnaissance would include a physical inspection of existing Project recreation facilities and user-defined and designated Project trails and general trail conditions. The reconnaissance would be used to identify use patterns and help determine and verify recreation amenities as related to likely user experiences and common access points and travel routes. Observable resource impacts at developed and dispersed Project recreational sites would be noted. A report summarizing study methods and results would be prepared and included in DWR's DLA and FLA.

Consistency of Methodology with Generally Accepted Scientific Practices

An inventory of recreation opportunities/facilities using existing information and information collected during a site visit would be consistent with generally accepted practices employed during hydroelectric relicensings in California, including Bucks Creek (FERC No. 619) and Big Creek Hydroelectric Project (FERC No. 2175). Evaluating outdoor recreation facilities per the Architectural Barriers Act Accessibility Guidelines would be a common technique to establish the level of accessibility at outdoor recreation areas, parks, and recreation facilities.

STUDY PLAN OUTLINE 8. CULTURAL RESOURCES

Summary of Existing Information and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding cultural resources within the proposed Project boundary is provided in Section 4.11. As a summary, DWR reviewed 78 previous cultural resources investigations that identified 44 archaeological sites and seven historic built environment resources within the existing FERC boundary. Only one archaeological site has been previously evaluated and was found not to be eligible for the NRHP. Four of the historic built environment resources have been evaluated as eligible for listing on the NRHP. DWR's review of historical maps indicates that approximately 25 potential historic-era sites or features may be located in the Project area. Additional information, which would be provided by this study, would include the location of historic properties inside the proposed Project boundary.

Study Area Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study methods would consist of five steps: (1) conduct archival research; (2) complete field surveys; (3) conduct NRHP evaluations of resources that can be evaluated at the survey level without additional investigation; (4) prepare data and perform quality assurance; and (5) prepare a study report. Under step 1, additional archival research would be used to augment the data collected for the PAD to provide the prehistory and history specific to the study area. The research would be used to prepare the historic contexts against which identified resources may be understood, and if possible at the survey level, evaluated for the NRHP. The field surveys conducted under step 2 would be supervised by qualified, professional archaeologists and others who meet the Secretary of the Interior's Standards for professional archaeologists, historians, and/or architectural historians. Fieldwork would follow the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and the California Office of Historic Preservation's Instructions for Recording Historical Resources. In step 3, NRHP evaluations would be completed for archaeological sites and historic built environment resources for which the data gathered during steps 1 and 2 are sufficient to assess significance against the NRHP criteria found at 36 CFR § 60.4. A report, conforming to the guidelines of the Archaeological Resources Management Reports, would be prepared and included in DWR's DLA and FLA as "Privileged" information, and would only be provided to FERC, SHPO, and interested Native American tribal chairs or their designated tribal representatives, and to the USFS if any cultural resources are found on NFS lands.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be consistent with the methods used for recent FERC hydroelectric relicensing efforts in California, including for the Don Pedro Project, Yuba River Development Project and Merced River Hydroelectric Project. The methods would be consistent with the ACHP's guidelines.

STUDY PLAN OUTLINE 9. TRIBAL RESOURCES

Summary of Existing Information, and Additional Information to be Developed by the Study

Existing, relevant, and reasonably available information regarding tribal resources within the proposed Project boundary is provided in Section 4.13. As a summary, in the Project area DWR identified 78 previous cultural resources investigations, none of which identified any TCPs, ITAs or other cultural resources of tribal significance. DWR found the area within the proposed Project boundary has not recently been surveyed, and interested tribes have not been consulted regarding their interests. Additional information, which would be provided by this study, would include tribal interests in proposed Project boundary.

Study Area, Methods and Analysis

The study area would consist of the area within the proposed Project boundary, excluding lands overlying the San Bernardino Tunnel on which DWR does not perform any Project activities.

The study would consist of six steps: (1) conduct archival research; (2) conduct tribal consultation; (3) implement site visits with tribal representatives; (4) complete NRHP evaluations of resources that can be evaluated at the study level; (5) prepare data and perform quality assurance; and (6) prepare study report. Under step 1, additional archival research would be used to augment the data collected for the PAD to provide the prehistory and ethnography specific to the Project area, and that research would be used to prepare the historic context against which identified tribal resources may be understood and evaluated for the NRHP. In step 2, a professional ethnographer/oral historian would meet and consult with interested tribal members to conduct interviews regarding past and traditional tribal use and activities in the study area, and may visit archaeological sites or other locations within the study area with the tribes under step 3 to further gain knowledge relevant to tribal interests and resources. Identified tribal resources would be documented during step 3 and evaluated for the NRHP under step 4, unless additional investigation is required to conduct the NRHP evaluation. The documentation and NRHP evaluation of tribal interests would be consistent with National Register Bulletin No. 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties. A report, conforming to National Register Bulletin No. 38, would be prepared and included in DWR's DLA and FLA as "Privileged" information, and would only be provided to FERC, SHPO, and interested Native American tribal chairs or their designated tribal representatives, and to the USFS if any tribal resources are found on NFS lands.

Consistency of Methodology with Generally Accepted Scientific Practices

The study methods would be consistent with the methods used for recent FERC hydroelectric relicensing efforts in California, including for the Don Pedro Project, Yuba

River Development Project and Merced River Hydroelectric Project. The methods would be consistent with the ACHP's guidelines.

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Appendix K

Project Maps

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05 W

05 W

02 N

03 N

Cajon

Silverwood Lake

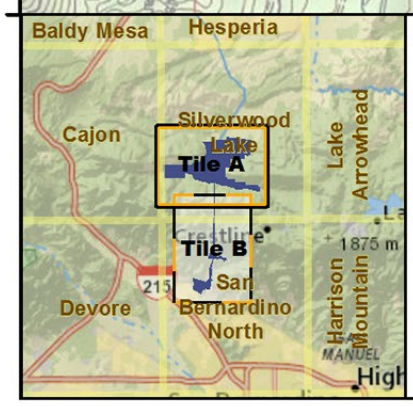
02N05WS

03N05WS

02N04WS

03N04WS

Map Tile: B



Legend

- FERC P-2426 Devil Canyon Project Boundary *(v.20150114)*
- FERC P-2426 Proposed Boundary *(v.20151214)*
- Name — USGS 7.5' Quad Boundary

0 1,000 2,000 4,000 Feet

N

Prepared: December, 2015
Projection: NAD 1983 StatePlane California V FIPS 0405 Feet
Background: USGS 7.5' TopoQuad

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DEVIL CANYON PROJECT RELICENSING

DEPARTMENT OF WATER RESOURCES · STATE OF CALIFORNIA

Project Boundary Comparison Map Tile: A

05 W

04 W

Map Tile: A

02 N

02 N

Silverwood Lake

San Bernardino North

02N05WS

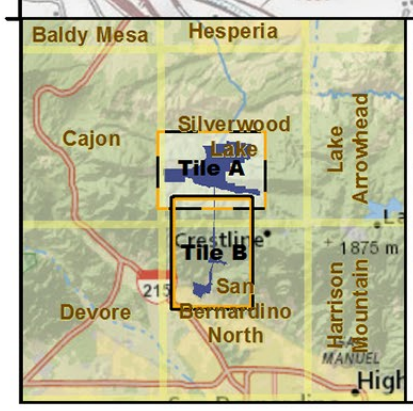
02N04WS

01N05WS

01N04WS

01 N

01 N



Legend

FERC P-2426 Devil Canyon Project Boundary *(v.20150114)*

FERC P-2426 Proposed Boundary *(v.20151214)*

Name — USGS 7.5' Quad Boundary

N

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Project Boundary Comparison Map Tile: B