California's Flood Future

Recommendations for Managing the State's Flood Risk

Attachment E: Existing Conditions of Flood Management in California (Information Gathering Findings)

Appendices A through H

FINAL November 2013

California's Flood Future is provided to help inform local, State, and Federal decisions about policies and financial investments to improve public safety, foster environmental stewardship, and support economic stability

FloodSAFE CALIFORNIA

PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

US Army Corps of Engineers ®

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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FINAL APPENDICES

Attachment E: Existing Conditions of Flood Management in CA (Information Gathering Findings)

November 2013

STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

UNITED STATES ARMY CORPS OF ENGINEERS
FLOOD PLAIN MANAGEMENT SERVICES PROGRAM

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Appendix A: Flood Future Report Components

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Appendix A: Flood Future Report Components

California's Flood Future Report is composed of three layers of documents, which were developed with different audiences and purposes, as shown in Figure E-A-1. The three main layers are the Policy Brief, Highlights, and main report including the technical attachments (or technical memoranda).

The Policy Brief document provides a high-level summary of the key information contained in the Flood Future Report and its technical attachments. This document is meant to inform legislators, legislative staff, and agency executives about the report.

The Highlights document, which is an Executive Summary of the Flood Future Report, is more detailed than the Policy Brief slightly expanding the level of detail of the information provided in the Policy Brief. The Highlights document is intended for use by legislators, legislative staff, agency executives, and the public.

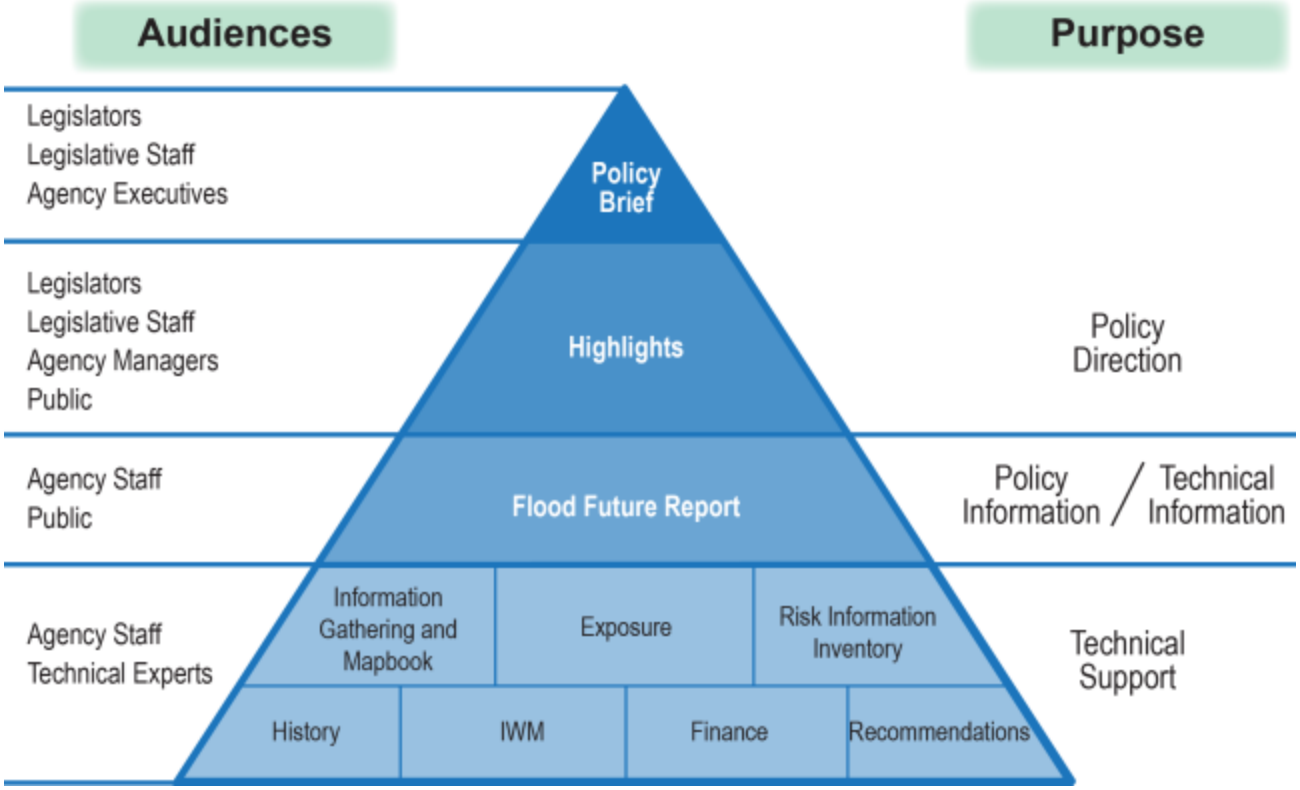

Figure E-A-1. Flood Future Report Components Diagram

The Flood Future Report provides a compilation of the information developed in the technical attachments. This document contains a comprehensive look at flooding throughout the state, and it describes the challenges and opportunities facing flood management. The Flood Future Report also provides information to make decisions about policies and financial investments to improve public safety, environmental stewardship, and economic stability.

This report is supported by eight technical attachments:

- ***Attachment A: References***
- ***Attachment B: Glossary***
- ***Attachment C: History of Flood Management in California.*** This attachment provides a detailed history of flooding in the 10 major California Water Plan hydrologic regions.
- ***Attachment D: Summary of Exposure and Infrastructure Inventory by County (Mapbook).*** This attachment is a mapbook organized by county providing information on exposure to flooding, flood infrastructure, flood types present, list of major floods, and information on the planned/proposed projects.
- ***Attachment E: Existing Conditions of Flood Management in California (Information Gathering Findings).*** This attachment provides an overview of the information gathering effort to collect flood management information from local, State, Tribal, and Federal agencies, as well as a detailed summary of the results of the information gathering effort. The purpose of this effort was to develop a better understanding of flood risk management in the State of California.
- ***Attachment F: Flood Hazard Exposure Analysis.*** This attachment describes the methodology used to identify flood hazard exposure statewide as well as the results of the flood hazard exposure analysis. This analysis was performed to provide insight into potential flood risks throughout the state.
- ***Attachment G: Risk Information Inventory.*** This attachment provides a better understanding of flood risk statewide, based on the best available information. To characterize flood risk in the California, the SFMP developed a risk exposure analysis used in conjunction with an inventory of risk-relevant information gathered from agency meetings.
- ***Attachment H: Practicing Flood Management Using an Integrated Water Management Approach***. This attachment provides a description of the evolution of flood management practices toward and using an IWM approach, an overview of IWM, the benefits of using an IWM approach, and sample case studies of projects that have used an IWM approach.
- ***Attachment I: Finance Strategies.*** This attachment provides an understanding of the current status of flood management financing and the challenges that lie ahead as California develops recommendations to address flood management issues.
- ***Attachment J: Recommendations to Improve Flood Management in California.*** This attachment provides a detailed description of how the Flood Future Report recommendations were developed and outlines the recommendations along with other high-level challenges.

Each of the documents follows a color scheme that was developed for the Highlights document. The documents are formatted using different-colored headers to indicate the purpose of a given section. The color scheme follows the following coding format:

- Introduction (light blue)
- Understanding the Situation (brown)
- The Problem (goldenrod)
- The Solution (royal blue)
- Recommendations (green)
- The Path Forward (yellow)

Any and all appendices to an attachment were coded using a light blue to represent that this is background or supporting information.

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Appendix B: Agency Types and Contacts

This appendix contains a description of primary types of agencies identified in the information gathering process as having flood management responsibilities. This appendix also contains the complete list of agency contacts that participated in the information gathering in-person meetings.

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B.1 Agency Type Definitions

Table E-B-1. Types of Agencies Interviewed in the Information Gathering Process

Agency Type	Description
Cities	Cities have the ability to incur indebtedness "for any or all, or any part of, the following purposes: (a) To protect the city from overflow by water. (b) To drain the city. (c) To secure an outlet for overflow water and drainage" (California Water Code § 8100).
Counties	Under the California Government Code, counties have general authority to engage in flood control activities. In addition, section 8100 of the California Water Code states: Under such limitations and restrictions as are prescribed by law, and in addition to jurisdiction and powers otherwise conferred, the boards of supervisors, in their respective counties, may appropriate and expend money from the general fund of the county for any of the following purposes in connection with streams or rivers in the county: (a) The construction of works, improvements, levees or check dams to prevent overflow and flooding. (b) The protection and reforestation of watersheds. (c) The conservation of the flood waters. (d) The making of all surveys, maps and plats necessary to carry out any work, construction or improvement authorized by this article. (e) The carrying out of any work, construction or improvement authorized by this article outside the county if the rivers or streams affected flow in or through more than one county. (California Water Code § 8100)
Flood Control Districts	Counties can establish flood control districts to: (a) To protect and preserve the banks of rivers and streams and lands lying contiguous thereto from injury by overflow or washing. (b) To provide for the improvement of rivers and streams. (c) To prevent the obstruction of rivers and streams. (d) To assess, levy and collect within each district a tax for the district (California Water Code § 8110). In addition to flood control districts, a number of districts have dual responsibility. For example, Flood Control and Resource Management districts are responsible for managing water and other natural resources within the county.
Levee Districts	A levee district is a type of special district formed for the protection of the lands of the district from overflow and for the purpose of conserving or adding water to the sloughs and drains in the district (California Water Code § 70030). Levee districts are primarily responsible for construction and maintenance of drains, canals, levees, and other structural devices.
Reclamation Districts	Reclamation districts are another type of special district that commonly has flood management responsibilities. Reclamation districts were formed "for the reclamation of any land within any city, which land is subject in any manner, to overflow or incursions from the tide or inland waters of the State" (California Water Code § 50110). Reclamation districts are commonly associated with local agency flood protection efforts, especially in the Sacramento Valley and San Joaquin Valley. In California's Central Valley, reclamation districts were formed as early as 1868 to reclaim land inundated with water and to use the land for agricultural purposes.
Special Districts	Special districts are government agencies set up by local residents of an area to provide a specific service. Some of these districts, such as flood control districts, are formed for the sole purpose of controlling flood and stormwater to protect life and property. Other districts, such as flood control and water conservation districts, not only manage flood and stormwater to protect life and property but also are responsible for the beneficial use of the water, including replenishing the groundwater. Also, special districts may be water agencies that are responsible for managing and conserving water for domestic, industrial, agricultural, or hydroelectric energy.

Table E-B-1. Types of Agencies Interviewed in the Information Gathering Process

Agency Type	Description
Tribal Entities	Tribal entities are defined as Federally recognized tribes and tribal communities. The difference between Federally recognized tribes and other tribal communities is that the Federally recognized tribal entities are eligible for funding and services from the Bureau of Indian Affairs.

B.2 Agency Contacts by County

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Alameda	Alameda County Zone 7	Carol Mahoney	Flood Control
Alameda	Alameda County Flood Control and Water Conservation District	Hank Akerman	Flood Control
Alameda	Alameda County Zone 7	Jill Duerig	General Manager
Alameda	Alameda County Zone 7	Joe Seto	
Alameda	Alameda County Flood Control and Water Conservation District	Ralph Johnson	Contractor
Alameda	Alameda County Flood Control and Water Conservation District	Rohin Saleh	Flood Control
Alpine	Alpine County Public Works	Brian Peters	Planning and Community Devl Director
Alpine	Alpine County Public Works	Zach Woods	Planner
Amador	Amador County Public Works	Cara Agustin	Planner
Amador	Amador City Public Works	Gene Manacebo	GM
Butte	City of Chico	Matt Thompson	
Butte	Butte County Public Works	Shawn O'Brien	Assistant Director, Public Works
Calaveras	Calaveras County Public Works	Clay Hawkins	Asst. CAO
Calaveras	Calaveras County Public Works	Ed Pattison	Planner
Calaveras	Calaveras County BD	Jeff White	
Calaveras	Calaveras County	Rebecca Willis	Planning Director
Calaveras	Calaveras County Public Works	Robert Pachinger	
Calaveras	Calaveras County Public Works	Tom Garcia	
Colusa	Colusa Basin Drainage District	Eugene Massa	
Colusa	Colusa County Public Works	James Bell	Assistant Director
Colusa	Reclamation District 108	Lewis Bair	
Contra Costa	Gutierrez Consultants	Lidia Gutierrez	Principle
Contra Costa	Contra Costa County Flood Control and Water Conservation District	Mike Carlson	Supervising Civil Engineer, Flood
Contra Costa	Contra Costa County Flood Control and Water Conservation District	Mitch Avalon	Deputy Director of Flood Control
Contra Costa	Contra Costa County Flood Control and Water Conservation District	Paul R. Detjens	Senior Engineer
Del Norte	California USDA Government, NRCS	Andrea Souther	District Conservationist
Del Norte	Smith River Rancheria	Brad Cass	
Del Norte	Del Norte County OES	Cindy Henderson	Emergency Services Manager
Del Norte	Smith River Fire, Smith River Rancheria	Darrel Moorehead	Assistant Fire Chief, Crescent City
Del Norte	City of Crescent City	Eric Taylor	Associate Planner

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Del Norte	City of Crescent City Police Department	Garret Scott	Police Lieutenant
Del Norte	Del Norte, Community Development	Heidi Kunstal	County Engineer
Del Norte	Del Norte County	Jay Sarina	County Administrative Officer
Del Norte	Yurok Indian Tribe	Ken Fetcho	
Del Norte	Del Norte County Community Development Dept.	Kevin Hamblin	Director of Community Development of Del Norte County
Del Norte	Del Norte County	Neal Lopez	Assistant County Administrator Officer
Del Norte	Del Norte County, Community Development	Randy Hooper	Director
Del Norte	National Weather Service	Reginald Kennedy	Hydrologist
Del Norte	Crescent City Harbor	Richard Young	Harbor Master
Del Norte	Del Norte Ambulance	Ron Sandler	CEO/Paramedic
Del Norte	Del Norte County Engineering	Rosanna Bower	Assistant Engineer
Del Norte	Caltrans Region 1	Royal McCarthy	District Maintenance Engineer
Del Norte	City of Crescent City	Stephen Wakefield	Fire Chief, Crescent City Volunteer Fire Department
Del Norte	Del Norte County Sheriff's Office	Tim Athey	Operations Commander
Del Norte	Yurok Indian Tribe OES	Tim Sanderson	Emergency Services Specialist
Del Norte	Del Norte County, Engineering and Roads	Tina McCledon	Deputy Director
El Dorado	El Dorado County	Roger Trout	Director
Fresno	Fresno County Public Works	Alan Weaver	Public Works Director
Fresno	Fresno Irrigation District	Gary Serrato	General Manager
Fresno	Fresno Metropolitan Flood Control District	Jerry Lakeman	General Manager
Fresno	Fresno Irrigation District	Laurence Kimura	Assistant GM
Fresno	Fresno County Public Works	Lina Brosi	Public Works Director (assistant)
Fresno	Fresno Metropolitan Flood Control District	Susan Yang	
Fresno, Kings, Tulare	Kings River Conservation District	Steve Stadler	Deputy GM of Flood and Environmental Operations/Chief Engineer
Glenn	Glenn County Planning & Public Works	Annette Chavez	Deputy Director
Glenn	Glenn Colusa Irrigation District	Ben Pennock	
Glenn	City of Willows	Clay Dawley	
Glenn	City of Orland	Nancy Sailsbery	
Humboldt	Humboldt Bay Municipal Water District	Barry VanSickle	Superintendent
Humboldt	Humboldt Bay Municipal Water District	Carol Rische	General Manager

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Humboldt	Humboldt County, Office of Emergency Services	Dan Larkin	Emergency Services Coordinator
Humboldt	City of Arcata, Public Works	Doby Class	Director of Public Works
Humboldt	Humboldt County, Public Works	Hank Seemann	Environmental Services Manager
Humboldt	City of Blue Lake	John Berchtold	Director
Humboldt	City of Eureka	Kurt Gierlich	City Engineer
Humboldt	City of Arcata, Public Works	Morgan Kessler	Deputy Director
Humboldt	City of Eureka	Robert Wall	Planning Director
Humboldt	Hoopa Valley Tribe	Rod Mendez	Director, OES
Humboldt	Caltrans Region 1	Royal McCarthy	Caltrans District Maintenance Engineer
Humboldt	Caltrans Region 1	Sebastina Cohen	Caltrans Hydraulics Engineer
Humboldt	Humboldt County, Office of Emergency Services	Tom Mattson	Director, OES Humboldt County
Humboldt	Blue Lake Rancheria		
Humboldt	Humboldt County Flood Control District		
Humboldt	Reclamation District 768		
Imperial	Imperial County	Armando Villa	Director of Planning & Development Services
Imperial	Imperial Irrigation District	Frank Fiorenza	Principle Engineer
Imperial	Imperial Irrigation District	Ismael Gomez	Chief Engineer
Inyo	Inyo County Sheriff	Bill Lutze	Sheriff
Inyo	Los Angeles City Department of Water and Power	Charlotte L. Rodrigues	Engineering/Aqueduct Operations Manager
Inyo	Los Angeles City Department of Water and Power	David Martin	Watershed Manager
Inyo	Inyo County Public Works	Doug Wilson	Interim Public Works Director
Inyo	Inyo County Public Works	Jeff Ahlstrom	Interim Deputy Director of Public Works
Inyo	Inyo County Sheriff	Jeff Hollowell	Deputy Sheriff
Inyo	Inyo County Sheriff	Keith Hardcastle	Undersheriff
Inyo	Los Angeles City Department of Water and Power	Steve Butler	
Kern	Kern County	Aaron Leicht	Flood Manager
Kern	Semitropic Water Storage District	Craig Wallace	Staff Engineer
Kern	North Kern Water Storage District	Dana Munn	
Kern	City of Bakersfield	Don Richardson	Superintendent
Kern	Kern County Water Agency	Holly Melton	Water Resources Manager
Kern	Kern County Water Agency	Lauren Bauer	Water resources planner
Kern	Kern Delta Water District	Mark Mulkay	General Manager

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Kings	Kings County	Darren Verdegaal	Public Works Engineer
Kings	Kings County/Lemoore	Holly Smyth	City Engineer
Kings	Kings County	Joe Neves	County Supervisor
Kings	Kings County	Kevin McAllister	Public Works Director
Kings	Kings River Conservation District	Steve Stadler	Deputy General Manager of Flood & Environmental Operations/Chief Engineer
Kings	City of Avenal	Steven Sopp	
Kings	Tulare Lake Basin Water Storage District	Walter Bricker	Board Member
Lake	Lake County Water Resources	Gary Hansen	Water Resources Prog. Coordinator
Lake	Lake County Water Resources	Tom Smythe	Water Resources Engineer
Lassen	Lassen County Road Department	Bob McGarva	Road Field Supervisor
Lassen	City of Susanville	Craig C. Platt	Director of Public Works
Lassen	City of Susanville	Dan Newton	City Engineer
Lassen	Lassen County OES	Dave Junette	OES Manager
Lassen	Lassen County Planning and Building Services Department	Gaylon Norwood	
Lassen	City of Susanville Fire Dept.	James Moore	Battalion Chief Fire Marshall
Lassen	City of Susanville	Jared Hancock	City Planner
Lassen	Lassen County Public Works Department	Larry Millar	Public Works Director
Lassen	Susanville Indian Rancheria	Laura Medvin	Rancheria Representative - Environmental Technician
Lassen	Lassen County Building Services Department	Steve Fuller	
Lassen	City of Susanville Fire Department	Ted Friedline	Fire Chief
Lassen	Susanville Indian Rancheria	Tim Keesey	Rancheria Representative
Lassen	City of Susanville Police Department	Tom Downing	Police Captain
Los Angeles	Los Angeles County Department of Public Works	Christopher Stone	Assistant Deputy Director, Water Resources Division
Los Angeles	Los Angeles County Department of Public Works	Gary Hildebrand	Assistant Deputy Director, Watershed Management Division
Madera	Madera County	Kheng Vang	County Engineer
Madera	Madera County	Reggie Hill	Director
Marin	Marin County Flood Control and Water Conservation District	Hugh Davis	Senior Engineer
Marin	Marin County Flood Control and Water Conservation District	Tracy Clay	Principal Civil Engineer

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Mariposa	Mariposa Office of Emergency Services	Jim Middleton	Deputy Fire Chief
Mariposa	Mariposa County Public Works	Ken Schenk	Planning Director
Mariposa	Mariposa County Public Works	Peter Rei	Public Works Director
Mendocino	Mendocino County Water Agency	Dennis Slota	
Merced	Merced Irrigation District	Brian Kelly	Directory of Regulatory Compliance and Government Affairs, Water
Merced	Merced Irrigation District	Hicham Eltal	Deputy General Manager
Merced	Merced County Public Works	Kellie Jacobs	Floodplain Administrator
Merced	Merced County Public Works	Paul Fillebrown	Public Works and Planning Director
Merced	Merced County Public Works	Richard Schwarz	Public Works Assistant Director
Modoc	City of Alturas CEO - Planning Director	Chester Robertson	City CEO and Planning Director
Modoc	City of Alturas	Joe Picotte	Assistant Public Works Director
Modoc	Central Modoc Resource Conservation District	Kate Hall	Watershed Coordinator
Modoc	City of Alturas	Kim Hunter	Planning Director
Modoc	Modoc County, Transportation, Roads, Engineering	Mitch Crosby, PE	Deputy Director
Modoc	Modoc County Public Works	Rick Hironymous	Director
Mono	Mono County	Garrett Higred	Engineer
Mono	Mono County	Jeff Walters	Interim Public Works Director
Mono	Mono County	Kelly Garcia	Assistant Director, Public Works
Mono	Mono County Public Works	Tony Dublino	Community Development Department planner (Mono County Representative to IRWM Plan)
Monterey	Monterey County Water Resources Agency	Bill Phillips	Asst. GE
Monterey	Monterey County Water Resources Agency	Brent Buche	Manager of M&O
Monterey	Monterey County Water Resources Agency	Curtis Weeks	General Manager
Monterey	Monterey County Water Resources Agency	Rob Johnson	Manager, Water Management Division
Monterey	Monterey County Water Resources Agency	Tom Moss	Senior Engineer
Napa	Napa County Public Works	Julie Lucido	Project Manager
Napa	Napa County Public Works	Richard Thomasser	Supervisor

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Nevada	Nevada County	Tyler Barrington	Senior Planner
Orange	Orange County Public Works	Kevin Onuma	Manager, Orange County PW, Flood Division
Orange	Orange County Public Works	Medhi Sohbani	Manager, Orange County PW, Flood Programs
Orange	Orange County Public Works	Penny Lew	Chief, Programming, Orange County PW, Flood Control Section
Placer	Placer County Flood Control and Water Conservation District	Brian Keating	District Manager
Plumas	Plumas County	Bob Perrault	Director of Public Works
Plumas	Plumas County Flood Control and Water Conservation District (FCWCD)	Randy Wilson	Plumas Co. FCWCD
Plumas	Feather River Coordinated Resource Management (CRM)	Gia Martynn	Watershed Coordinator
Riverside	Riverside County Flood Control and Water Conservation District	Diana Lebrun	Senior Engineer
Riverside	Coachella Valley Water District	Georgia Celehar-Bauer	Principle Stormwater Engineer
Riverside	Coachella Valley Water District	Tesfaye Demissie	Stormwater Engineer
Riverside	Riverside County Flood Control and Water Conservation District	Stuart McKibbin	Regulatory Division Manager
Sacramento	City of Sacramento	Bill Busath	Division Manager
Sacramento	City of Sacramento	Connie Perkins	Senior Engineer
Sacramento	Sacramento County Department of Water Resources	George Booth	Senior Engineer
Sacramento	Sacramento County Department of Water Resources	Don Thomas	Principal Engineer
Sacramento	Sacramento County Department of Water Resources	Michael Peterson	Director
Sacramento	Sacramento Area Flood Control Agency	Pete Ghelfi	Director of Engineering
Sacramento	Sacramento Area Flood Control Agency	Rick Johnson	Executive Director
Sacramento	American River Flood Control District	Tim Kerr	General Manager
Sacramento	Sacramento Area Flood Control Agency	Tim Washburn	Director of Planning
San Benito	San Benito Water District	Jeff Cattaneo	District Manager
San Benito	San Benito Water District	Jeff Cattaneo	District Manager
San Diego	San Diego County Flood Control District	Cid Tesoro	Flood Control District Manager
San Diego	San Diego City	Kris McFadden	Storm Water Division Director
San Diego	San Diego County Flood Control District	Sara Agahi	Staff Engineer
San Francisco	San Francisco Department of Public Works	Greg Braswell	
San Francisco	San Francisco Public Utilities Commission	Marla Jurosek	Planning and Regulatory Compliance Division Manager

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
San Francisco	San Francisco City/County	Michael Carlin	Assistant General Manager
San Francisco	San Francisco Public Utilities Commission	Molly Petrick	
San Joaquin	San Joaquin County Department of Public Works	Butch Waddle	Channel Maintenance Superintendent
San Joaquin	Stockton East Water District	Jeanette Thomas	Assistant General Manager
San Joaquin	San Joaquin Area Flood Control Agency	Jim Giottonini	Executive Director
San Joaquin	Stockton East Water District	John Green	Assistant General Manager
San Joaquin	San Joaquin County Department of Public Works	John Maguire	Flood Management Division Manager
San Joaquin	Stockton East Water District	Kevin Kauffman	General Manager
San Joaquin	San Joaquin Area Flood Control Agency	Roger Churchwell	Deputy Executive Director
San Joaquin	San Joaquin County Department of Public Works	Sameer Sharideh	Engineer III
San Joaquin	San Joaquin County Department of Public Works	Thomas Gau	Public Works Director
San Luis Obispo	San Luis Obispo County	Dave Flynn	Deputy Director
San Luis Obispo	San Luis Obispo County	Tim Tomlinson	Floodplain Manager
San Mateo	San Mateo County Public Works	Anne Stillman	Principal Engineer, Director for Flood Management
San Mateo	San Mateo County Public Works	James C. Porter,	Director, Public Works Department
San Mateo	San Francisquito Creek Joint Powers Authority	Kevin Murray	Director, San Francisquito Creek FPA
San Mateo	San Francisquito Creek Joint Powers Authority	Len Matterman	Director, San Francisquito Creek FPA
San Mateo	San Mateo City/County Association of Governments	Rich Napier	
Santa Barbara	County of Santa Barbara Public Works	Jon Frye	Engineering Manager
Santa Barbara	County of Santa Barbara Public Works	Maureen Spencer	Environmental Services Manager
Santa Barbara	County of Santa Barbara Public Works	Michael Parker	Floodplain Manager
Santa Barbara	County of Santa Barbara Public Works	Tom Fayram	Water Resources Deputy Director
Santa Cruz	County of Santa Cruz	Bill Phillips	
Santa Cruz	County of Santa Cruz	Bruce Laclergue	Flood Control Program Manager
Santa Cruz	County of Santa Cruz	John Presleigh	Director of Public Works
Santa Cruz	County of Santa Cruz	John Ricker	Health Services Agency
Santa Cruz	County of Santa Cruz	Lidia Gutierrez	
Santa Cruz	County of Santa Cruz	Mike Sapunor	

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Santa Cruz	City of Watsonville Department of Public Works	Steve Palmisano	
Shasta	Shasta County Water Agency	Al Cathey	
Sierra	Sierra County	Brandon Pangman	Senior Planner
Sierra	Sierra County	Tim Beal	Director of Public Works
Siskiyou	County of Siskiyou Planning Department	Greg Plucker	Deputy Director of Planning
Siskiyou	County of Siskiyou Building Department	Mike Crawford	Deputy Director of Building Dept., Floodplain Administrator
Siskiyou	County of Siskiyou General Services	Randy Akana	Director of General Services
Siskiyou	City of McCloud - Community Services District	Richard Dinges	McCloud Community Services District
Siskiyou	County of Siskiyou OES	Robert L. Rowley	OES Deputy Director
Siskiyou	County of Siskiyou Public Works Department	Scott Sumner	Director of Public Works
Siskiyou	City of Yreka		
Solano	Solano County Water Agency	David Okita	General Manager
Solano	Reclamation District 2068	Mike Hardesty	
Stanislaus	Turlock Irrigation District	Bob Nees	Director of Water Resources and Regulatory
Stanislaus	Turlock Irrigation District	Debra Liebersbach	Water Planning Manager
Stanislaus	Turlock Irrigation District	Jason Carkeet	Strategic Issues and Planning Utility Analyst
Stanislaus	Stanislaus County Department of Public Works	Rick Rodrigues	Building Inspector III and Assistant Floodplain Administrator
Stanislaus	Stanislaus County Department of Public Works	Steve Treat	Chief Building Official
Stanislaus	Turlock Irrigation District	Wes Monier	Strategic Issues and Planning Manager
Sutter	Sutter County Public Works Water Resources Division	Daniel W. Peterson	Chief, Water Resources Division
Sutter	Sutter Butte Flood Control Agency	Dave Peterson	Acting Agency Engineer
Sutter	Sutter County Public Works Water Resources Division	Stan Cleveland	County Supervisor
Tehama	Tehama County Flood Control and Water Conservation District	Gary Antone	Director of Public Works
Trinity	Trinity River Restoration Program	Diana Clifton	Sr. Realty Spec.
Trinity	Trinity County Planning	Frank Lynch	Senior Planner
Trinity	Trinity County DOT	Jan Smith	Sr. Env. Comp Spec.
Trinity	Trinity Planning Department	Rick Tippett	Director
Trinity	5C Program	Sandra Perez	5C Program Manager

Table E-B-2. Agency Contacts by the County of Meeting Attendance, Fall 2011

County	Agency Name	Name	Title/Role
Trinity	Trinity Planning Department	Wes Scribner	Assistant Engineer
Tulare	Lower Tule River Irrigation District	Dan Vink	General Manager
Tulare	Tulare County Flood Control District	Denise Akins	County Administrators Office, Administrative Analyst - Water Resources
Tulare	Tulare County Flood Control District	James May	Flood Control District, Manager of Flood Control, Subdivisions and Encroachment Permits
Tulare	Kaweah Delta Water Conservation District	Mark Larsen	General Manager
Tulare	Kaweah Delta Water Conservation District	Shane Smith	Project/Administrative Coordinator
Tuolumne	Tuolumne County Public Works	Bev Shane	Director Community Resources Agency
Tuolumne	Tuolumne County Public Works	Duke York	Public Works Engineer
Tuolumne	Tuolumne County Public Works	Pete Kampa	General Manager
Tuolumne	City of Sonora Community Development	Rachelle Kellogg	City of Senora Community Development Director
Ventura	Ventura County Watershed Protection District	Sergio Vargas	Deputy Director, Planning and Regulatory Division
Ventura	Ventura County Watershed Protection District	Zia Hosseinipour	Manager, Advanced Planning Section
Yolo	Yolo County Flood Control and Water Conservation District	Chris Barton	Asst. General Manager
Yolo	Yolo County	John Bencomo	Director of Planning and Public Works
Yolo	City of Woodland	Mark Cocke	Senior Engineer Public Works Dept.
Yolo	Yolo County Flood Control and Water Conservation District	Tim O'Halloran	General Manager
Yuba	Yuba County Water Agency	Curt Aikens	General Manager
Yuba	Yuba County	Mike Lee	Public Works Director
Yuba	Three Rivers Levee Improvement Authority	Paul Brunner	Executive Director
Yuba	MBK Engineers	Ric Reinhardt	Local Flood Consultant
Yuba	Yuba County Water Agency	Scott Matyac	Water Resources Manager

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Appendix C: SFMP Metadata Template*

This appendix contains a sample of the metadata table used to categorize and process SFMP-relevant documents that were collected. These metadata, along with the documents, were then uploaded to a searchable database tool enabling the documents to be stored and displayed geographically on DWR's Flood Risk Document System website.

**This table is intended to serve as only an example of information collected. The information shown is not actual, final, or complete agency information.*

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C.1 Instructions for Metadata Tool

Instructions for SFMP Metadata Tool

Purpose of the Metadata File

This template will capture information gathered during the Stage 3 information gathering process for the Statewide Flood Management Planning (SFMP) Program. The template will store specific information for a single agency including:

(1) ***Existing Documents Table (Metadata Table)*** - Filtered list of Existing Documents that will be used in either the risk, IFM, Infrastructure, or finance portion of the SFMP Project. This table presents the documents that are prepared for the SFMP Program. These documents may contain feasibility studies and studies performed by other agencies, reconnaissance information, information about the features that are currently being designed, information about features that are currently under construction, and information about features that were constructed.

(2) ***IFM Table*** - List of flood managment and IFM projects proposed by agencies. This table presents the Integrated Flood Management (IFM) information. IFM is an approach dealing with flood risk that recognizes the connection of flood management actions to water resources management, land use planning, environmental stewardship and sustainability. IFM also recognizes the importance of evaluating opportunies and potential impacts from a system perspective, and the importance of coordinating across geographic and agency boundaries.

How to Use this Template

Step 1: Read the Instructions

Step 2: Rename file using "*Metadata*", Agency Abbreviation, and date (e.g., Metadata_SCV_WD_08-01-11.xls)

Step 3: Insert Filtered Documents into "Existing Document Table".

Step 4: Fill in Infrastructure and Risk into table, as applicable.

Step 5: Fill in flood management and IFM projects from documents into IFM table and link IFM number to correct document in Metadata Table by entering relevant numbers in "IFM No." column.

Step 6: Spell check spreadsheet

Step 7: Submit to Agency Lead for review.

Step 8: Submit to Regional Coordinator for review by regional team area specific specialists (finance, information gathering, recommendations)

Definition of Terms Used in SFMP Metadata Tool Worksheets

General Rules for Using Template:
(1) All dates provided should be in mm/dd/yyyy format.
(2) All notes should be in sentence case (*Sentence case means* provide responses in complete sentence format with no abbreviations.
(3) Do not add/delete columns.
(4) Do not change formatting of cells as tables will be compiled for use in SFMP Flood Future Report Appendices.

The following are definition of terms used in this template:

Existing Documents Table (Metadata Table)
Document Number - Document Number is Agency Abbreviation (from Agency Abbreviation List) followed by sequential numbering (e.g., SCV_WD_1)
Document Title - Document title as listed on document cover page.
Document Description - A one sentence description on what the document contains.
Lead Agency - Insert lead agency name
Date Document Published - Date document published in mm/dd/yyyy format. If report provides only month and year published date then use mm/01/yyyy format, if title provides only year use 01/01/yyyy format.
Information Data Format - Select "10" to identify category is in correct format. If "other" is the format, please insert description of format.
Category of Information in Document - Select "10" to identify category of information contained within document. Multiple categories may be selected.
Filename - Use original agency filename if it describes document otherwise rename with agency abbreviation followed by year published and document description (e.g., SCV_WD_ 1995_flood_RPT.pdf). Make sure to use no special characters except underscores ("_") as the files will not upload to LifeRay site.
Agency Name - Select agency name from pull-down list.
County - Select County name from pull-down list.
Stream Name - Insert stream name, where available.
Watershed - Insert watershed name, where available.
Hydrologic Region - Select Region from pull-down list.
Information Source - Insert source of information (i.e., agency website, in-person meeting, follow-up contact with agency, or describe other)
Date Collected - Insert date report/study/information was collected from the agency in mm/dd/yyyy format.
Latitude - Use database mapping tool to identify Latitude or use information provided for agency headquaters
Longitude - Use database mapping tool to identify Latitude or use information provided for agency headquaters
Location Description - Insert description of study/report location, if available.
Comments - Provide any notes/comments in sentence case.
Infrastructure Type - Select type of infrastructure information provided in file, if applicable.
Notes - Provide any notes/comments in sentence case related to the infrastructure file.
IFM No - List all IFM numbers provided for project on IFM table (e.g., 1, 2, 3,....)

For "Is the Following Available" and "Table 1 Evaluation" sections of Table, Select Yes/No for categories that apply in report/study/document.
Is the Following Available,
Completed Risk Analysis - Select Yes (i.e., 10) if document has information for "Lives at Risk" and/or "Expected Annual Damage" for "Current" and "Future" timeframe (Select all that apply).
Loading - Select Yes (i.e., 10) if document has "Stage Frequency Curves" and/or "Flow Frequency Curves" for "Current" and "Future" timeframe (Select all that apply).
Exposure - Select Yes (i.e., 10) if document has "Levee Fragility Curves (Probability for failure for Stage = interior toe, top of Levee, points in between) for "Current" and "Future" timeframe (Select all that apply).
Consequence - Select Yes (i.e., 10) if document has "Relationship of Depth in Impact Area to Depth of Flooding" and/or "Relationship of Depth in Impact Area to Potential Lives Lost" for "Current" and "Future" timeframe (Select all that apply).
Table 1 Evaluation-
Has Adequate - Select Yes (i.e., 10) for all that apply in document: "Recent Information" or "Dated Consequence Information".
Has Components for Risk Assessment - Select Yes (i.e., 10) if document hasSelect Yes (i.e., 10) for all that apply in document: "Missing Inadequate Consequence Information", "Missing or Inadequate Hazard Information", and/or "Missing or Inadequate Exposure Information".
Incomplete Risk Assessment Components - Select Yes (i.e., 10) for all that apply in document: "Incomplete Hazard Information", "Incomplete Exposure Information", and/or "Incomplete Consequence Information".

Definition of Terms Used in SFMP Metadata Tool Worksheets (Continued)

General Rules for Using Template:

(1) All dates provided should be in mm/dd/yyyy format.
(2) All notes should be in sentence case (*Sentence case means* provide responses in complete sentence format with no abbreviations.
(3) Do not add/delete columns.
(4) Do not change formatting of cells as tables will be compiled for use in SFMP Flood Future Report Appendices.

The following are definition of terms used in this template:

IFM Table

IFM No - Input the IFM No that is unique for each document (number sequencially starting with 1). This number will be unique to each project and will used to link project to each document that describes project in Metadata Table. This number is unique to each Metadata Tool uploaded to Database.

Partnering Agencies No - Input the unique Agency/ Agencies Names

Project Name - Input the name of the project.

Project Type - Select each type of project that applies (i.e., FM, IFM, Conjunctive Use, Ecosystem Restoration, Other). If "Other" is selected, please describe in "Description of Other" column.

Project in - Select each status that applies to project (i.e., Current IRWM, Ongoing IRWM Update, Other). If "Other "is selected, please describe in "Description of Other" column.

Project Purpose - Describe briefly the purpose of the projectin sentence case. For Example, explain the goal of this project.

Description of Project - Description of the project in sentence case.

Project Status - Input project status (Reconnaissance, Complete/constructed, Design Phase, Feasibility Phase, Construction/Ongoing, Other) from pull-down menu.

Funding Source - Input all funding sources for the project, if available.

Project Costs - Input total costs of the project in dollars ($). If the project is in progress or on hold, include the projected costs. If the costs are "projected costs", please mention it in the "IFM Notes".

IFM Notes - Provide any notes/comments in sentence case related to FM or IFM projects. Include any additional notes that will be useful for the information users. Also, include the whether the costs are actual costs or projected costs.

NOTE: Be Sure to link IFM No in Column A to correct document in Metadata Table using "IFM No." in column AK.

C.2 Example Metadata Table

List of Documents/Information (Metadata Table)

tadata Ta

Document No	Title	Document Description	Lead Agency Name	Date Document Published	Information/Data Format								Category				Filename	Agency Name	County	Stream Name	Watershed	Hydrologic Region	Information Source	Date Collected	Latitude	Longitude	Location Description	Comments	Infrastructure information				
					Electronic																												
					GIS	Word	Excel	PDF	CADD	Hard Copy	Other	Other (Describe)	Infrastructure	IRM/IM Projects	Financial	Risk													Levees	Channels	Dams	Debris Basins	Pump Stations
1	Sweeney Creek Flood Reduction Study - Additional Alternative Evaluation	Analyzes the benefit cost ratio of raising the finish floor elevation of house in the Sweeney Creek area and compares it to the recommended project and alternative projects as described in the Sweeney Creek Flood Reduction study.	Solano County Water Agency	1/11/2007				✓							✓	✓	MemoSweeneyCreekFlood20070131WetYost	Solano County WA	Solano	Sweeney Creek	Elmira	Sacramento River	Solano County Water Agency	10/5/2011	38.38553	-121.86155	Sweeney Creek is located northeast of Vacaville and southwest of Dixon in Solano County, California. Document looks at the area around the following streets Hartley Road, Cole Road, Udell Drive, Locke Road, Store Road, Esquivel Road and Heather Road.	Includes a benefit cost analysis of raising a house to help prevent flooding. The house raising project has the highest benefit-cost ratio and the house raising project will protect the most number of homes from flooding.					
2	Integrated Regional Water Management Plan and Strategic Plan	Identifies the major sources of water supply, existing demands and water resources-related issues.	Solano County Water Agency	2/1/2005				✓						✓			IntergratedManagementPlan20050201	Solano County WA	Solano			San Francisco Bay	Solano County Water Agency	10/5/2011	38.39634	-121.95993	The plan area is for Solano County, California. Solano County includes the cities of Benicia, Fairfield, Vacaville and Dixon.	Sections include a supply and demand, explain sources of water and where the water is going. Includes strategic plan and how the Agency will allocate resources. The Agency plans to commit resources to flood control projects.					
3	Solano County 5 Year Capital Facilities Improvement Plan	Solano County 5 year capital facilities improvement plan for fiscal year 2010/2011 - 2014/2015.	Solano County Department of General Services	12/14/2010							✓	.ppt					PresentationCapitalImprovements20101214Solano	Solano County WA	Solano			San Francisco Bay	Solano County Water Agency	10/6/2011	38.39634	-121.95993	The presentation area is for Solano County, California. Pump locations in in Winters, California.	Provides 5-year funding requirements for departments and all projects. Tables for funding trends are included. The presentation mentions Lake Solano Sewage Pump replacement project as complete or nearing completion.					
4	Ready for the Flood	Facts regarding Flooding in Solano County, California.	Solano County Water Agency	11/1/2009				✓					✓				FactSheet20091101SCWA	Solano County WA	Solano	Tributaries	Sacramento River	Sacramento River	Solano County Water Agency	10/6/2011	38.39634	-121.95993	Solano County, California	Document provides background information, facts about flooding in Solano County and information about the Solano County Water Agency. List responsible agencies. Solano County maintains the Ulatis Flood Control project and Green Valley Flood Control project, providing flood protection for the area.					
5	Use Attainability Analysis for New Alamo Creek and Ulatis Creek, Technical Memorandum No. 1, Hydrologic and Physical Characteristics of Alamo Creek, Ulatis Creek and Cache Slough	A technical memorandum prepared in support of Use Attainability Analysis.	City of Vacaville	8/1/2007				✓								✓	MemoAttainabilityAnalysis20070801Vacaville	Solano County WA	Solano	Alamo Creek, Ulatis Creek and Cache Slough	Sacramento River	Sacramento River	Solano County Water Agency	10/6/2011	38.34744	-121.90502	Solano County, California	Provides a watershed description, physical characteristics of channels, hydrologic characteristics, and stream flow patterns. Field measurements and observations were made to determine patterns in flow during the irrigation season.					

re Type		IFM	Risk Information																												
			Is the following available															Table 1 Evaluation													
			Completed Risk Analysis				Loading				Exposure			Consequence				Has Adequate		Has Components fo			Incomplete Risk			No Assessment Availa				
Other	Notes	IFM_NO	Lives at risk	Expected Annual Damage In	Current	Future	Stage Frequency Curves	Flow Frequency Curves	Current	Future	Levee Fragility Curves (Probability for failure for Stage = interior toe, top of Levee, points in between)	Current	Future	Relationship of Depth in Impact Area to Depth of Flooding	Relationship of Depth in Impact Area to Potential Lives Lost	Current	Future	Recent Information	Dated Consequence Information	Missing Inadequate Consequence Information	Missing or Inadequate Hazard Information	Missing or Inadequate Exposure Information	Incomplete Hazard Information	Incomplete Exposure Information	Incomplete Consequence Information	No Assessment Available	Assessment Out-of-date	Assessment Does not Apply Minimum Standards	Risk Notes
				✓	✓	✓																									Preventing homes from flooding is the focus of the benefit cost project. Tables compare the surveyed houses finish floor elevation with the modeled existing conditions for flooding. 25-year, 50-year, and 100-year storm flood elevation were looked at. The cost to raise a 1,500-2400 sqft house with a slab on grade fountain is approximately $75,000.
✓	Dry detention basins, pervious surfaces																														
								✓	✓																						Provides data on how many times per year a particular stream exceeds a certain cfs. Example streams flows in excess of 100 cfs were exceeded about 12% of the time, with the exception of February, which excesses 100 cfs about 20% of the time during water years 1998-2006.

C.3 IFM Projects Metadata Template

IFM No	Partnering Agencies Name	Project Name	Project Type						Project in				Project Purpose	Description of Project	Project Status	Funding Source	Project Costs	IFM Notes
			FM	IFM	Conjunctive Use	Ecosystem	Other	Description of Other	Current IRWM	Ongoing IRWM Update	Other	Description of Other						
			Yes/No						Yes/No						Pull Down			

C.4 DWR Website Screenshot

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Appendix D: Infrastructure Inventory Supplemental Information

This appendix contains supplemental information on how the statewide infrastructure inventory was derived and on the resulting numbers. Graphic displays of GIS-mapped infrastructure are included for each hydrologic region, as well as a tabulated count of infrastructure information collected for each county.

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D.1 Infrastructure Inventory Information Sources

The inventory of infrastructure comes from a variety of sources. Ideally, each county agency would have a thorough understanding of the flood management infrastructure existing within its boundaries. However, during the information gathering meetings with the agencies, it became clear that this was not the case. Due to the fragmented ownership of existing infrastructure among many different agencies within each county, none of the agencies were familiar with all existing infrastructure countywide.

Although agencies in 15 counties provided GIS-based infrastructure mapping, none of these was a comprehensive inventory for the entire county. Information submitted to the SFMP team is shown in the county infrastructure maps in *Attachment D: Summary of Exposure and Infrastructure Inventory by County.*

In addition to the information provided by local agencies, three statewide infrastructure databases were used to develop the infrastructure inventory—the California Levee Database (CLD), the National Flood Hazard Layer (NFHL), and DWR Bulletin 17-00,2000. The CLD was created by DWR and contains data about the centerline of an embankment for controlling rivers, coastal areas, or other bodies of water. In creating the CLD, all structures that could hold back water were digitized for flood-planning purposes. The NFHL is a computer database that contains the flood hazard map information from FEMA's Flood Map Modernization program. These map data are from Digital Flood Insurance Rate Map databases and Letters of Map Revision. DWR Bulletin 17-00, 2000 is a database of existing dams across the state. Information from all the statewide databases and the local agencies was plotted on the county maps in Attachment D. Duplicate information between the sources was removed to avoid counting the same flood control structure multiple times. This compilation of GIS data is shown in the regional maps in this appendix and in the county maps in Attachment D. The regional maps in this appendix also show the number of each type of infrastructure, based on the GIS sources.

In some cases, local agencies submitted pdf maps of existing infrastructure during the information gathering meetings. In many more cases, agencies submitted reports with embedded figures showing some existing infrastructure within the county. To incorporate these sources of information, the maps were compared to the GIS information plotted on the county maps. Tables E-D-3 and E-D-4 present infrastructure information for each county and statewide, respectively.

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D.2 Infrastructure Maps by Hydrologic Region

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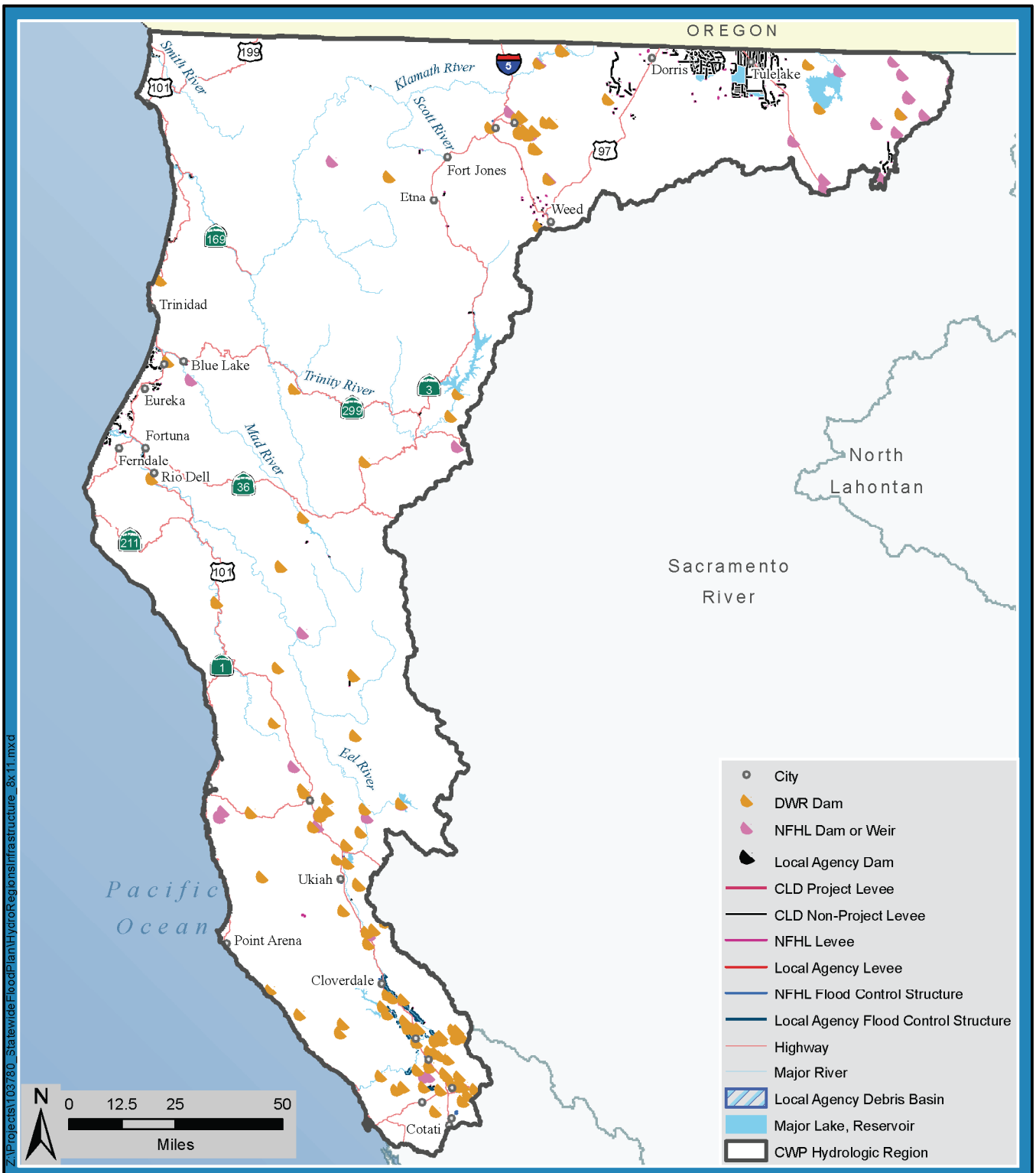


North Coast Infrastructure

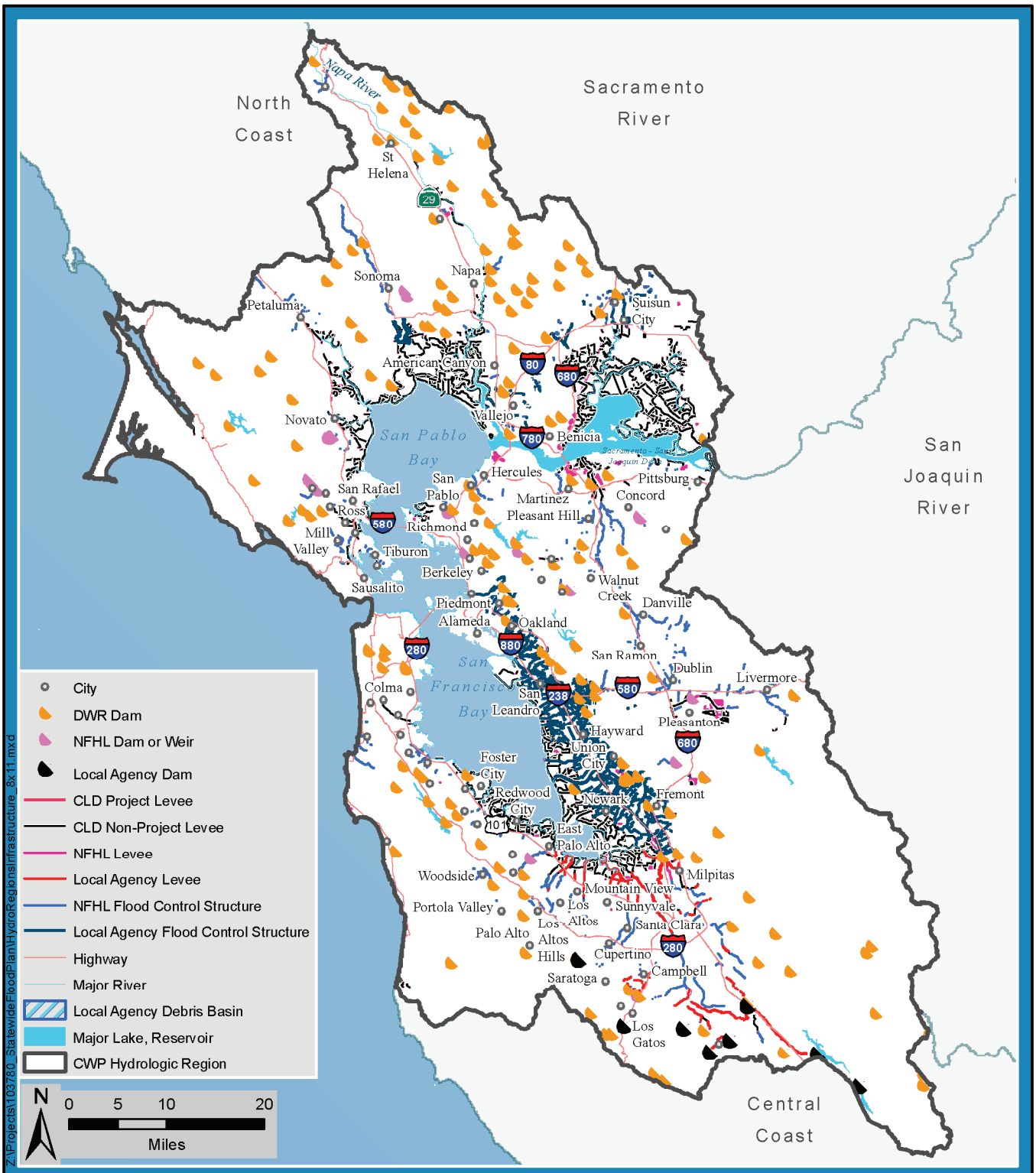
Total Miles of Levee:	**683**	**Total Miles Flood Control Structures:**	**15**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	6
CLD Non-Project Levee (miles):	653	Local Agency Flood Control Structures (miles):	9
NFHL Levee (miles):	559		
Local Agency Levee (miles):	30		
Total Number of Dams:	**110**		
DWR Dams:	110		
NFHL Dams and Weirs:	66	DWR/USGS Reservoirs:	29
Local Agency Dams:	0	Local Agency Debris Basins:	0

Figure E-D.2-1
Summary of Available Flood Infrastructure Information, North Coast Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



San Francisco Bay Infrastructure

Total Miles of Levee:	**1,449**	**Total Miles Flood Control Structures:**	**594**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	280
CLD Non-Project Levee (miles):	1,327	Local Agency Flood Control Structures (miles):	314
NFHL Levee (miles):	1,261		
Local Agency Levee (miles):	122		
Total Number of Dams:	**186**		
DWR Dams:	178		
NFHL Dams and Weirs:	44	DWR/USGS Reservoirs:	42
Local Agency Dams:	8	Local Agency Debris Basins:	43

Figure E-D.2-2
Summary of Available Flood Infrastructure Information, San Francisco Bay Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012

Central Coast Infrastructure

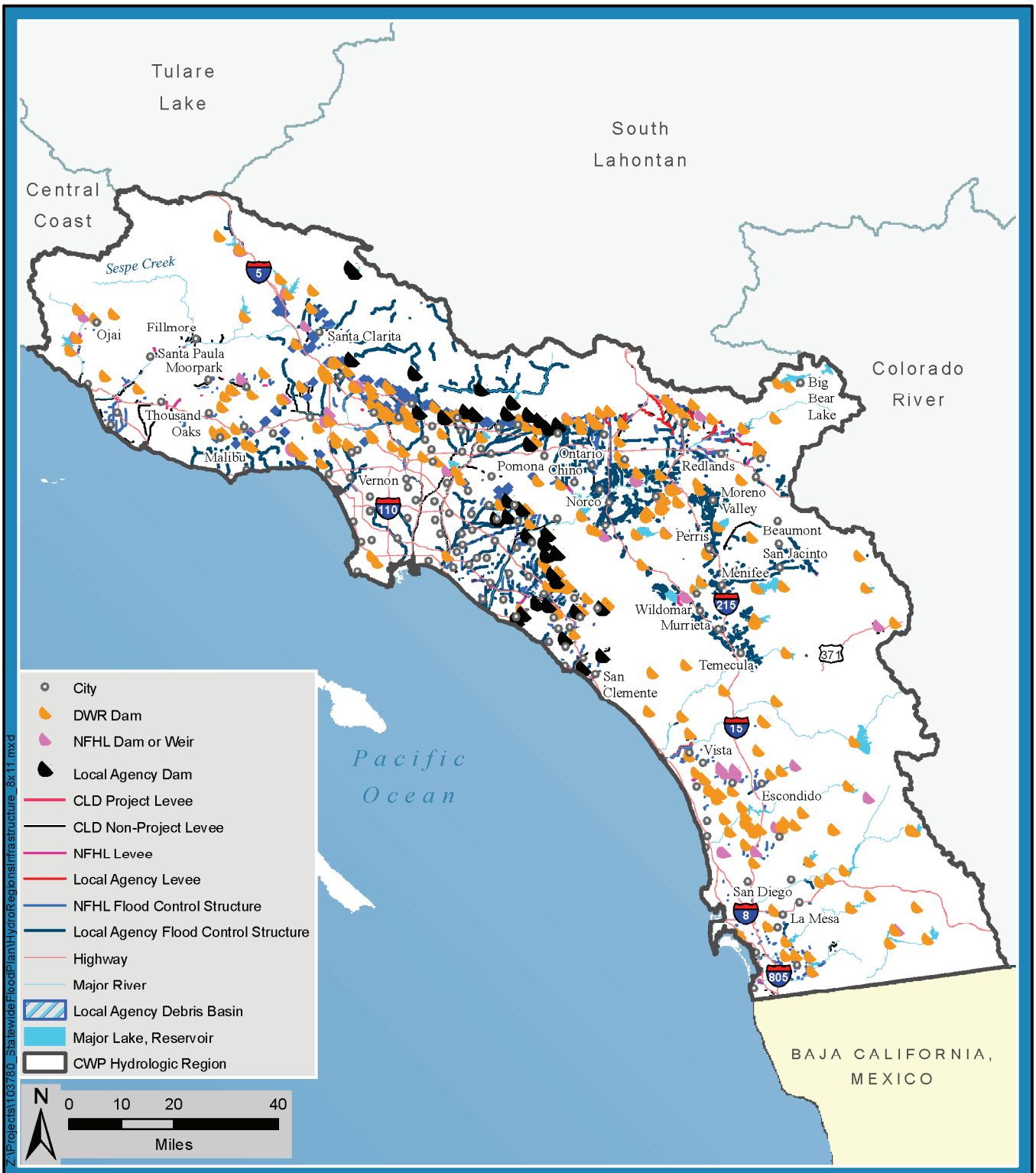
Total Miles of Levee:	**189**	**Total Miles Flood Control Structures:**	**34**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	34
CLD Non-Project Levee (miles):	157	Local Agency Flood Control Structures (miles):	0
NFHL Levee (miles):	71		
Local Agency Levee (miles):	32		
Total Number of Dams:	**73**		
DWR Dams:	71		
NFHL Dams and Weirs:	52	DWR/USGS Reservoirs:	21
Local Agency Dams:	2	Local Agency Debris Basins:	211

Figure E-D.2-3
Summary of Available Flood Infrastructure Information, Central Coast Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



South Coast Infrastructure

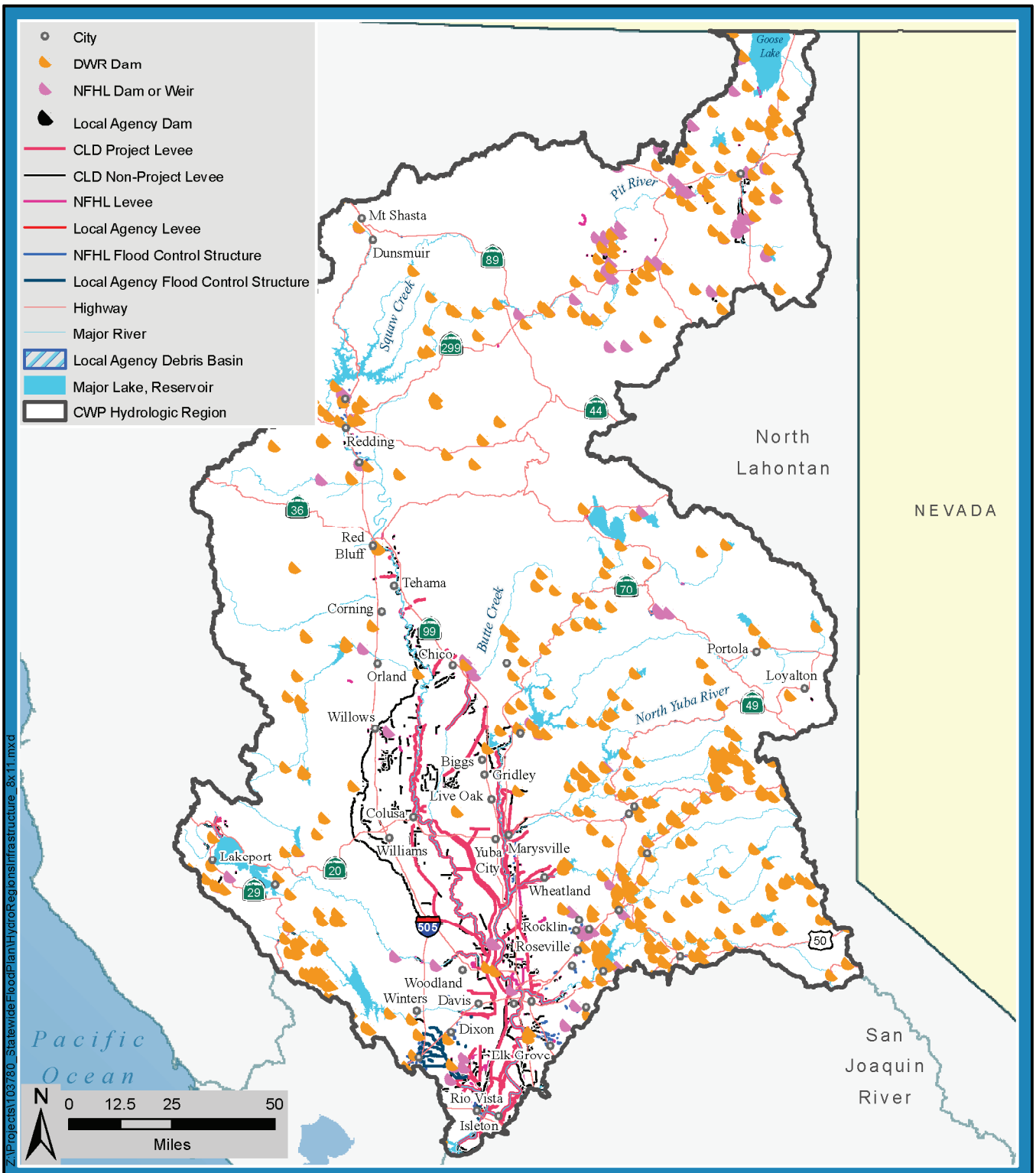
Total Miles of Levee:	**731**	**Total Miles Flood Control Structures:**	**1,912**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	458
CLD Non-Project Levee (miles):	689	Local Agency Flood Control Structures (miles):	1,454
NFHL Levee (miles):	418		
Local Agency Levee (miles):	42		
Total Number of Dams:	**323**		
DWR Dams:	281		
NFHL Dams and Weirs:	91	DWR/USGS Reservoirs:	64
Local Agency Dams:	42	Local Agency Debris Basins:	557

Figure E-D.2-4
Summary of Available Flood Infrastructure Information, South Coast Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



Sacramento River Infrastructure

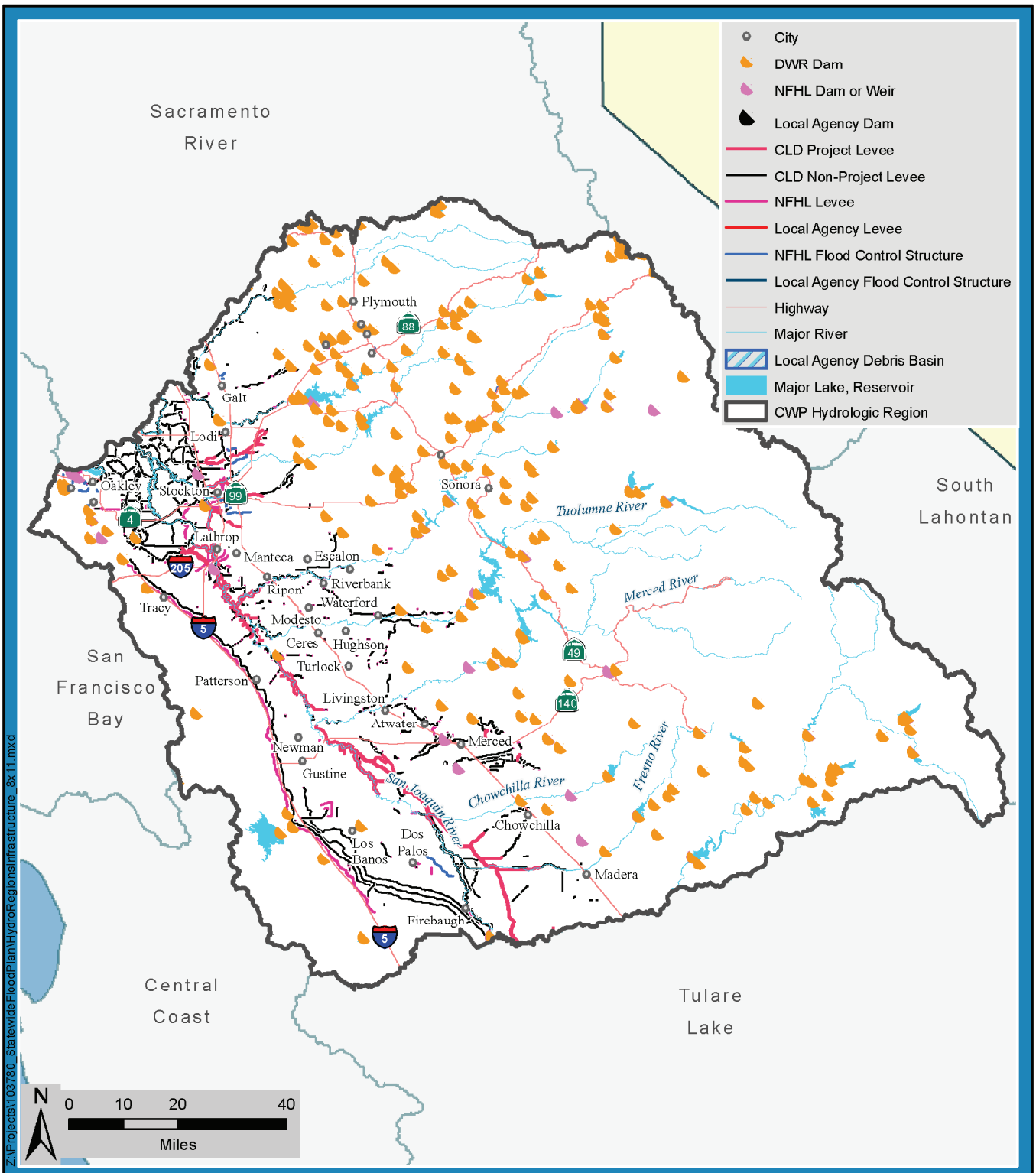
Total Miles of Levee:	**2,288**	**Total Miles Flood Control Structures:**	**206**
CLD Project Levee (miles):	1,081	NFHL Flood Control Structures (miles):	18
CLD Non-Project Levee (miles):	1,207	Local Agency Flood Control Structures (miles):	188
NFHL Levee (miles):	1,389		
Local Agency Levee (miles):	1		
Total Number of Dams:	**422**		
DWR Dams:	422		
NFHL Dams and Weirs:	163	DWR/USGS Reservoirs:	79
Local Agency Dams:	0	Local Agency Debris Basins:	28

Figure E-D.2-5
Summary of Available Flood Infrastructure Information, Sacramento River Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



Z:\Projects\103780_StatewideFloodPlan\HydroRegions\Infrastructure_8x11.mxd

San Joaquin River Infrastructure

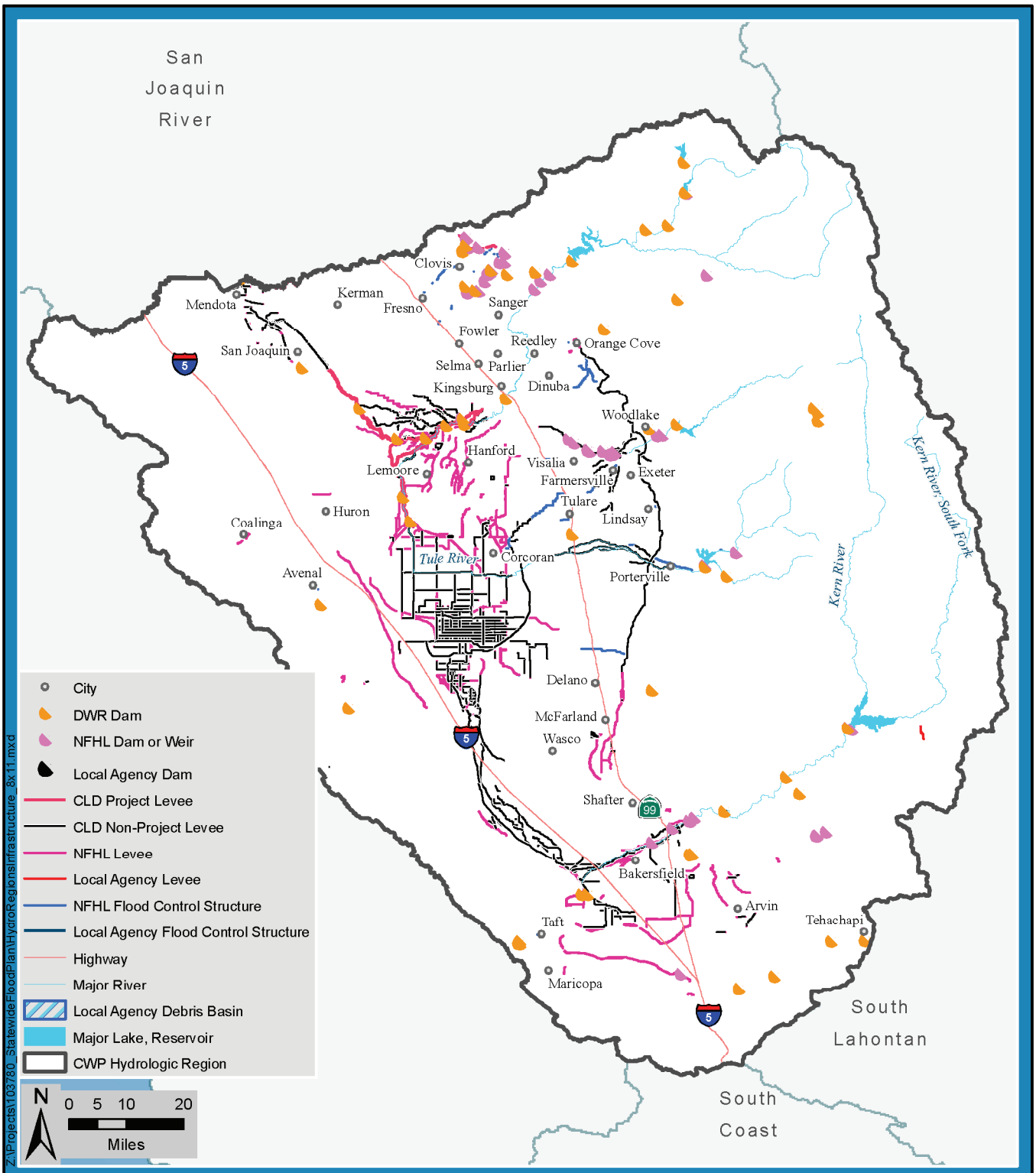
Total Miles of Levee:	**2,436**	**Total Miles Flood Control Structures:**	**30**
CLD Project Levee (miles):	442	NFHL Flood Control Structures (miles):	30
CLD Non-Project Levee (miles):	1,994	Local Agency Flood Control Structures (miles):	0
NFHL Levee (miles):	2,322		
Local Agency Levee (miles):	0		
Total Number of Dams:	**261**		
DWR Dams:	261		
NFHL Dams and Weirs:	65	DWR/USGS Reservoirs:	68
Local Agency Dams:	0	Local Agency Debris Basins:	0

Figure E-D.2-6
Summary of Available Flood Infrastructure Information, San Joaquin River Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



Tulare Lake Infrastructure

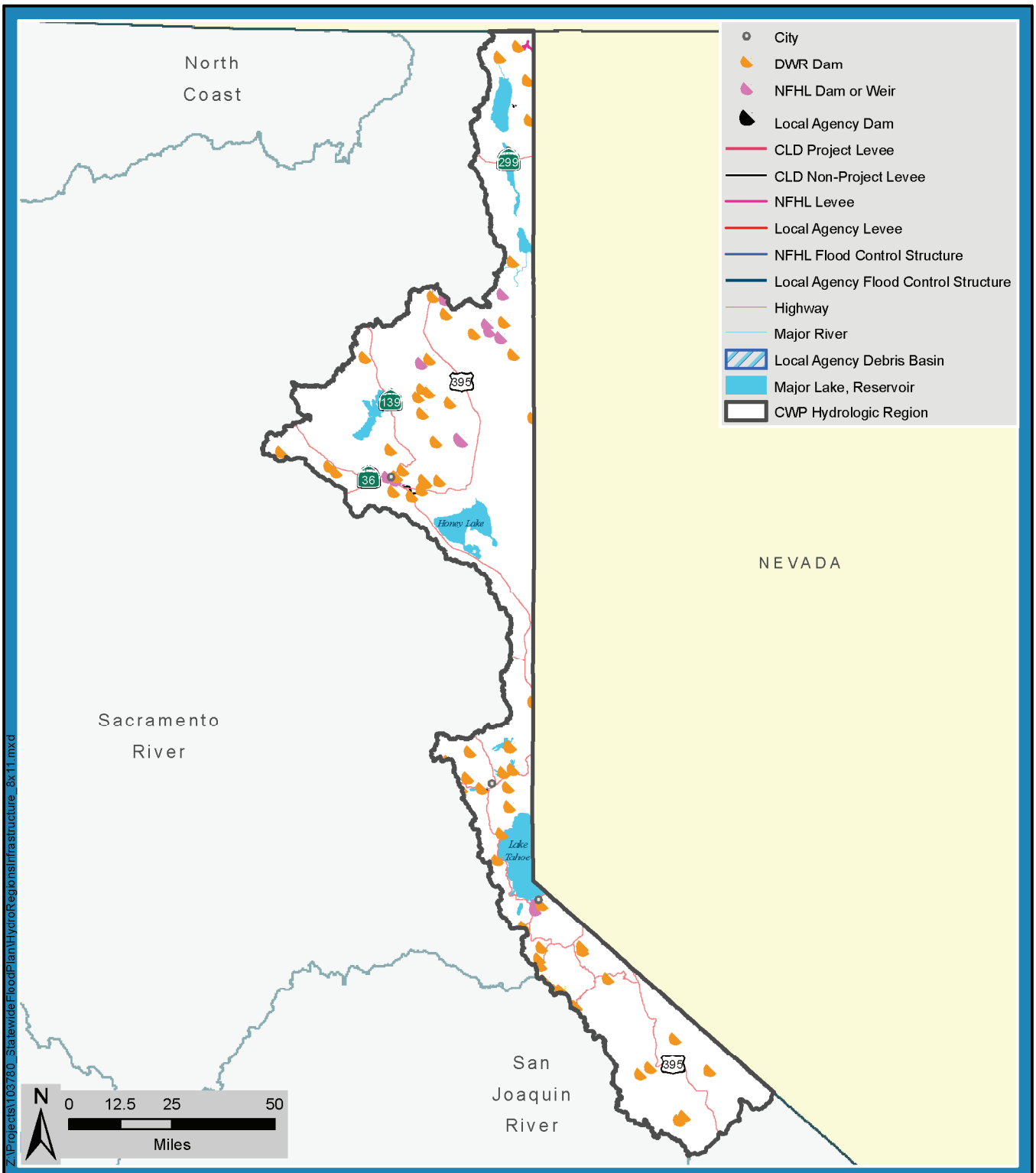
Total Miles of Levee:	**1,909**	**Total Miles Flood Control Structures:**	**98**
CLD Project Levee (miles):	152	NFHL Flood Control Structures (miles):	98
CLD Non-Project Levee (miles):	1,755	Local Agency Flood Control Structures (miles):	0
NFHL Levee (miles):	2,186		
Local Agency Levee (miles):	2		
Total Number of Dams:	**51**		
DWR Dams:	51		
NFHL Dams and Weirs:	53	DWR/USGS Reservoirs:	7
Local Agency Dams:	0	Local Agency Debris Basins:	0

Figure E-D.2-7
Summary of Available Flood Infrastructure Information, Tulare Lake Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



North Lahontan Infrastructure

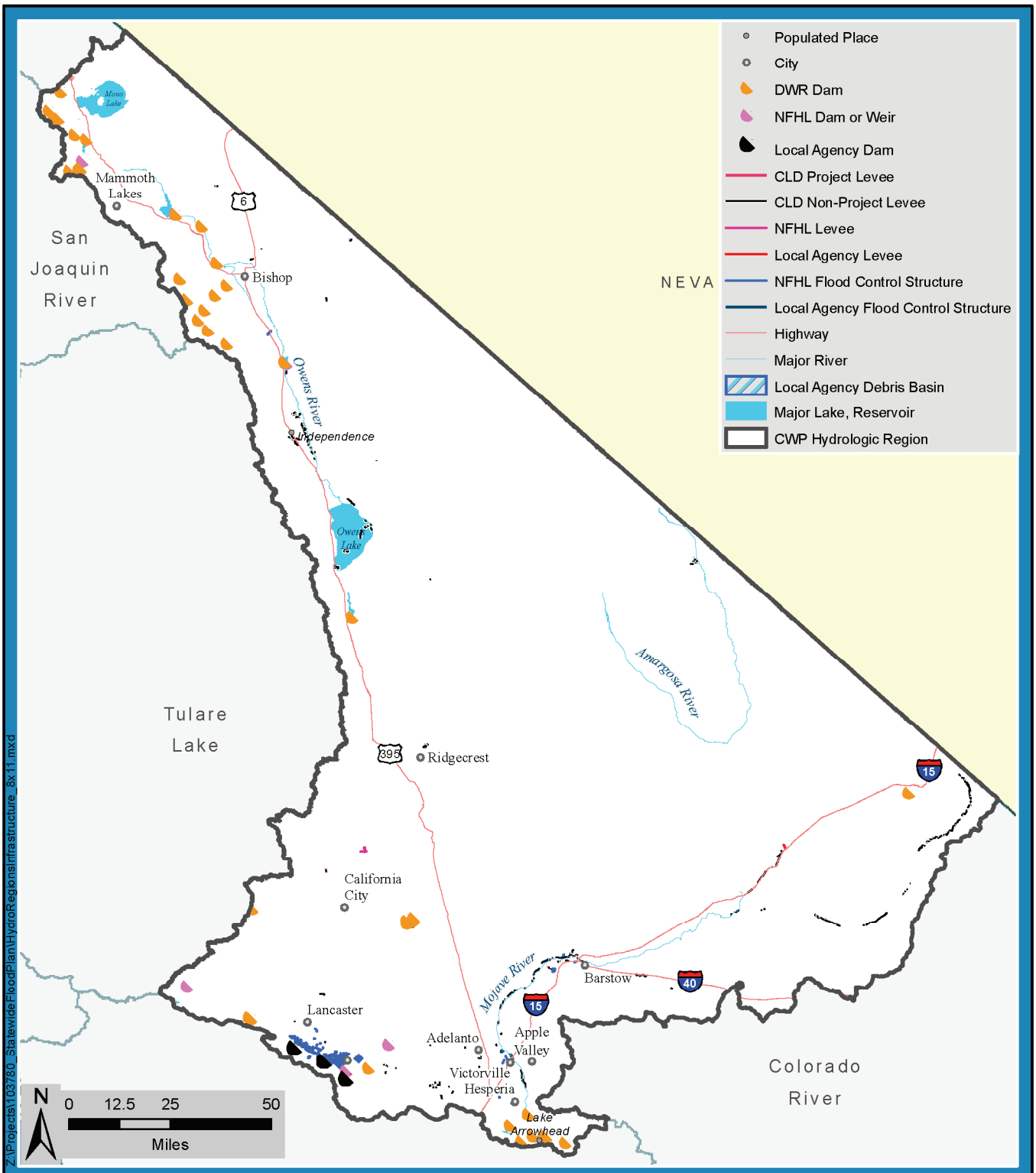
Total Miles of Levee:	**9**	**Total Miles Flood Control Structures:**	**0**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	0
CLD Non-Project Levee (miles):	9	Local Agency Flood Control Structures (miles):	0
NFHL Levee (miles):	16		
Local Agency Levee (miles):	0		
Total Number of Dams:	**65**		
DWR Dams:	65		
NFHL Dams and Weirs:	23	DWR/USGS Reservoirs:	39
Local Agency Dams:	0	Local Agency Debris Basins:	0

Figure E-D.2-8
Summary of Available Flood Infrastructure Information, North Lahontan Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



South Lahontan Infrastructure

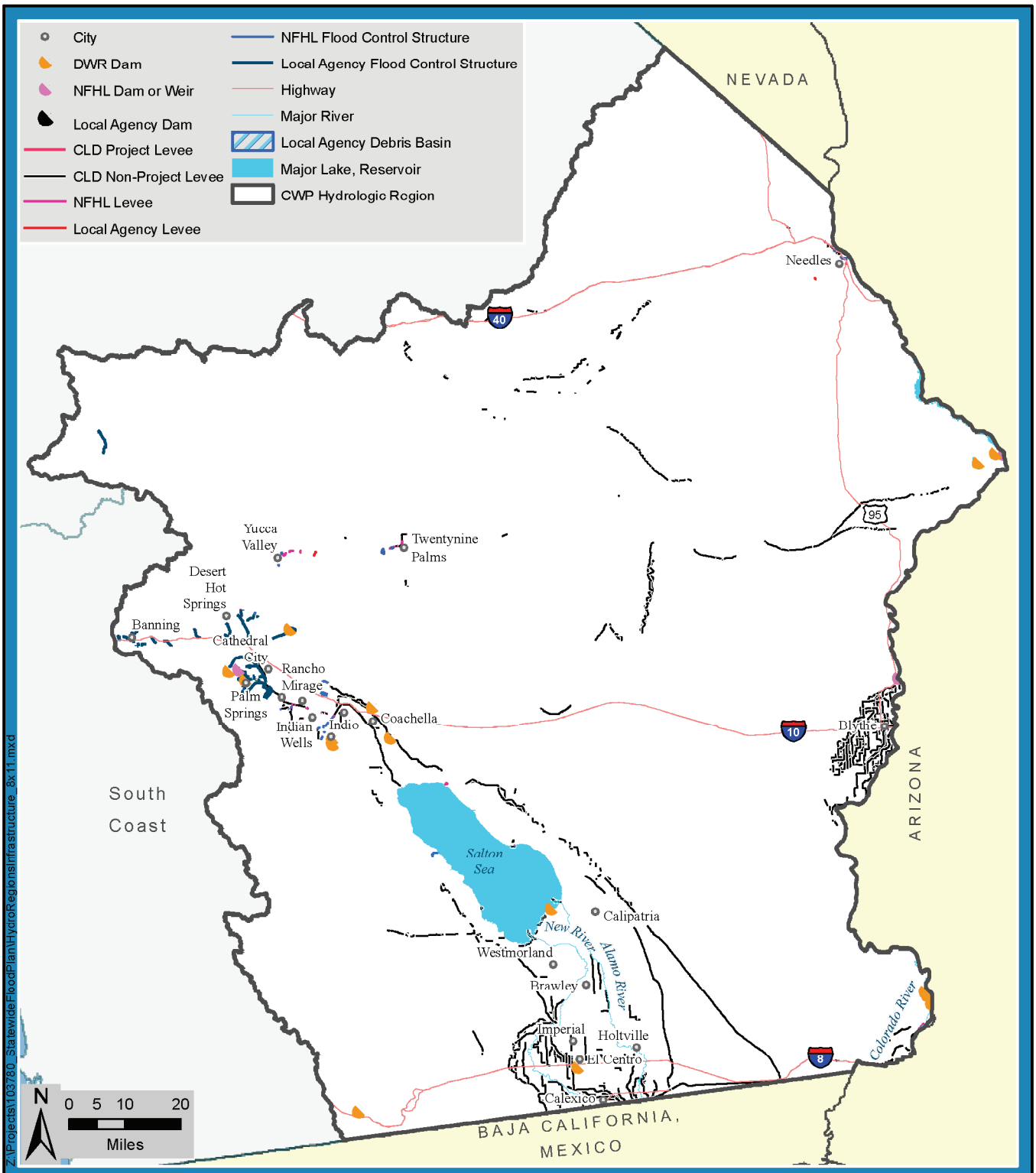
Total Miles of Levee:	**203**	**Total Miles Flood Control Structures:**	**4**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	3
CLD Non-Project Levee (miles):	202	Local Agency Flood Control Structures (miles):	1
NFHL Levee (miles):	41		
Local Agency Levee (miles):	1		
Total Number of Dams:	**49**		
DWR Dams:	46		
NFHL Dams and Weirs:	11	DWR/USGS Reservoirs:	5
Local Agency Dams:	3	Local Agency Debris Basins:	270

Figure E-D.2-9
Summary of Available Flood Infrastructure Information, South Lahontan Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012



Colorado River Infrastructure

Total Miles of Levee:	**1,715**	**Total Miles Flood Control Structures:**	**116**
CLD Project Levee (miles):	0	NFHL Flood Control Structures (miles):	21
CLD Non-Project Levee (miles):	1,714	Local Agency Flood Control Structures (miles):	95
NFHL Levee (miles):	116		
Local Agency Levee (miles):	1		
Total Number of Dams:	**17**		
DWR Dams:	17		
NFHL Dams and Weirs:	3	DWR/USGS Reservoirs:	1
Local Agency Dams:	0	Local Agency Debris Basins:	10

Figure E-D.2-10
Summary of Available Flood Infrastructure Information, Colorado River Hydrologic Region

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

December 21, 2012

D.3 Infrastructure Inventory by County

Table E-D-3 presents tabulated results for each county of the process described in Appendix D.1. The numbers are not representative of all existing flood control infrastructure; rather, this is a tabulation of information gathered from the participating local agencies and the existing statewide databases, as described. Types of infrastructure counted in the table include:

- Levees –Embankments for controlling rivers, coastal areas, or other bodies of water. Any structures that could hold back water were considered, although some of these structures are not technically levees (such as railroad grades, irrigation canals).
- Flood Control Structures – Any channels, natural or built, that have been modified for flood control purposes.
- Dams – All types of existing dams used for any purpose.
- Debris Basins – Basin that are used to capture and detain debris carried by floodwaters. Debris basins are typically located at the mouth of a canyon.
- Pump Stations – Stormwater pump stations used for flood control purposes.
- Other – Any other flood control infrastructure not listed. Other types of infrastructure are defined in the table, where applicable.

Table E-D-3 Infrastructure Inventory by County*

County	Miles of Levee	Miles of Flood Control Structure	Number of Dams	Number of Debris Basins	Number of Pump Stations	Other (Quantity)	Other (Infrastructure Type)
Alameda	536	467	35	-	1	2	Detention Basin
Alpine	-	-	40	-	-	-	
Amador	-	-	33	-	-	-	
Butte	553	-	36	-	-	-	
Calaveras	-	-	54	-	3	-	
Colusa	334	-	10	-	-	3	
Contra Costa	515	86	46	-	-	-	
Del Norte	9	-	-	-	-	-	
El Dorado	-	-	68	-	-	-	
Fresno	829	13	80	-	-	-	
Glenn	275	2	9	-	2	1	Groundwater Recharge Basin
Humboldt	90	-	6	-	-	-	

*The tabulated results contained in this table are the results of the process described in Appendix D.1. The numbers are not representative of all existing flood control infrastructure.

Table E-D-3 Infrastructure Inventory by County*

County	Miles of Levee	Miles of Flood Control Structure	Number of Dams	Number of Debris Basins	Number of Pump Stations	Other (Quantity)	Other (Infrastructure Type)
Imperial	825	2	6	-	-	-	
Inyo	60	-	18	-	-	-	
Kern	1,107	-	35	-	-	-	
Kings	1,771	-	8	-	-	-	
Lake	59	-	33	-	1	-	
Lassen	19	-	92	-	-	-	
Los Angeles	429	602	150	347	95	-	
Madera	350	-	32	-	13	2	Weir
Marin	177	11	26	-	20	-	
Mariposa	-	-	21	-	-	-	
Mendocino	4	-	42	-	-	-	
Merced	1,223	-	23	-	3	4	Detention Basin
Modoc	416	-	129	-	-	-	
Mono	3	-	25	-	-	-	
Monterey	83	6	21	-	-	-	
Napa	217	10	67	-	-	10	Floodwall
Nevada	-	-	69	-	-	-	
Orange	141	205	74	39	42	-	
Placer	5	-	78	-	-	-	
Plumas	5	-	29	-	-	-	
Riverside	1,051	1,403	79	111	16	-	
Sacramento	576	3	28	-	152	-	
San Benito	15	-	10	-	-	-	
San Bernardino	547	266	41	219	11	16	Spreading Grounds
San Diego	73	35	92	64	7	-	
San Francisco	-	-	7	-	-	-	
San Joaquin	1,817	100	21	-	4	1	
San Luis Obispo	26	3	29	-	-	-	
San Mateo	118	2	20	-	1	3	Floodwall
Santa Barbara	65	10	31	206	2	2	Floodwall
Santa Clara	487	114	64	-	-	-	
Santa Cruz	37	2	15	-	-	-	
Shasta	5	2	65	-	-	-	

*The tabulated results contained in this table are the results of the process described in Appendix D.1. The numbers are not representative of all existing flood control infrastructure.

Table E-D-3 Infrastructure Inventory by County*

County	Miles of Levee	Miles of Flood Control Structure	Number of Dams	Number of Debris Basins	Number of Pump Stations	Other (Quantity)	Other (Infrastructure Type)
Sierra	-	-	11	-	-	-	
Siskiyou	768	-	46	-	-	-	
Solano	1,272	192	27	71	1	-	
Sonoma	309	23	66	2	-	-	
Stanislaus	622	-	9	-	2	-	
Sutter	456	-	1	-	3	2	Weir
Tehama	36	-	13	-	-	2	Diversion Structure
Trinity	7	-	10	-	-	-	
Tulare	712	94	23	-	-	-	
Tuolumne	-	-	65	-	-	-	
Ventura	131	36	24	19	2	-	
Yolo	676	-	9	-	-	1	Settling Basin
Yuba	213	1	13	-	-	-	

*The tabulated results contained in this table are the results of the process described in Appendix D.1. The numbers are not representative of all existing flood control infrastructure.

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D.4 Detailed Infrastructure Inventory by Hydrologic Region and County

Table E-D-4 presents a list of the dams and reservoirs, including the Division of Safety of Dams (DSOD) dams, NFHL dams, and local agency dams, for each of the hydrologic regions and counties. The table is a first attempt to gather together information in an easy-glance format, but it does not yet comprehensively capture all dams and reservoirs. Rather, this is a tabulation of information gathered from a review of the existing statewide databases, as described in Appendix D.1. Types of infrastructure counted in the table include:

- Dams – All types of existing dams used for any purpose.
- Reservoirs – Constructed impoundments of water creating an artificial lake for water storage purposes.
- Weirs – Barriers constructed across a body of water to control the timing and amount of flow allowed to pass into a given area.
- Dikes –Embankments used to protect land from overflow or to regulate flow.
- Debris Basins – Basins used to capture and detain debris carried by floodwaters. Debris basins are typically located at the mouth of a canyon.
- Detention Basins – Stormwater pump stations used for flood control purposes.
- Auxiliary – Secondary infrastructure to support main function, examples would be auxiliary spillways and dams.
- Retention Basins – Basins used to capture flows, including a permanent impoundment. Retention basins are normally wet, even during times of no precipitation or flows.
- Retarding Basins – Basins used to capture flows and temporarily store them to reduce downstream flows.

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Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Black Rock Creek Dam	Dam	White Rock Lake	White Rock Club, Inc.	Monterey	North Fork Black Rock Creek	1925	30	Central Coast
Dam No. 1	Dam		Raisch Products	Monterey	Unknown	Unknown	100	Central Coast
Dam A	Dam		National Refractories and Minerals Corp.	Monterey	Unknown	Unknown	105	Central Coast
El Piojo Dam	Dam	El Piojo Reservoir	Fort Hunter Liggett	Monterey	Unknown	1961	50	Central Coast
Engineer Dam	Dam		Fort Hunter Liggett	Monterey	Unknown	1964	50	Central Coast
Forest Lake Dam	Dam	Forest Lake	California American Water Co.	Monterey	Offstream	1892	428	Central Coast
Gonzales Slough	Weir		Unknown	Monterey	Unknown	Unknown	Unknown	Central Coast
Hughes Reservoir Dam	Dam	Hughes Reservoir	Fort Hunter Liggett	Monterey	Unknown	1966	300	Central Coast
Los Padres Dam	Dam		California American Water Co.	Monterey	Carmel River	1949	3,100	Central Coast
Lower Stoney Reservoir Dam	Dam	Lower Stoney Creek Reservoir	Fort Hunter Liggett	Monterey	Unknown	1973	150	Central Coast
Milpitas Reservoir Dam	Dam	Milpitas Reservoir	Fort Hunter Liggett	Monterey	Unknown	1960	50	Central Coast
Oat Hill Reservoir	Reservoir		Fort Hunter Liggett	Monterey	Unknown	1962	50	Central Coast
Pacific Grove Dam	Dam		California American Water Co.	Monterey	Tributary Pacific Ocean	1882	76	Central Coast
San Antonio Reservoir	Reservoir		Monterey County Water Resources Agency	Monterey	San Antonio River	1965	350,000	Central Coast
San Clemente Dam	Dam	San Clemente Reservoir	California American Water Co.	Monterey	Carmel River	1921	1,425	Central Coast
San Miguel Canyon Creek	Reservoir		Unknown	Monterey	Unknown	Unknown	Unknown	Central Coast
Sycamore Reservoir Dam	Dam	Sycamore Reservoir	Fort Hunter Liggett	Monterey	Unknown	1961	50	Central Coast
Hawkins Dam	Dam	Hawkins Lake	Ausaymas Cattle Co.	San Benito	Tributary Arroyo De Las Viboras	1928	575	Central Coast
Hernandez Dam	Dam	Hernandez Reservoir	San Benito County Water District	San Benito	San Benito River	1962	18,000	Central Coast
JV De Laveaga Dam	Dam		Las Auilas Corporation	San Benito	Tributary Quien Sabe Creek	1940	514	Central Coast
Paicines Dam	Dam	Paicines Reservoir	San Benito County Water District	San Benito	Tributary Tres Pinos Creek	1912	4,500	Central Coast
Percolation Area Dam	Dam		Las Auilas Corporation	San Benito	Tributary Los Muertos Creek	1951	430	Central Coast
San Justo Dike	Dike	San Justo Reservoir	Department of Interior, Bureau of Reclamation	San Benito	San Benito River Offstream	1987	11,693	Central Coast
San Justo Reservoir	Reservoir		Department of Interior, Bureau of Reclamation	San Benito	San Benito River Offstream	1987	11,693	Central Coast
Santa Ana Creek Tributary Retention Dam	Dam	Santa Ana Creek	Unknown	San Benito	Unknown	Unknown	Unknown	Central Coast
Vessey Dam	Dam		C Schroder	San Benito	Tributary Tequisquita Slough	1945	258	Central Coast
Arroyo Grande Creek Dam	Dam		Unknown	San Luis Obispo	Unknown	Unknown	Unknown	Central Coast
Atascadero Park Dam	Dam	Atascadero Lake	City of Atascadero	San Luis Obispo	Tributary Atascadero Creek	1918	250	Central Coast
Chorro Creek Dam	Dam	Chorro Reservoir	California Department of Corrections	San Luis Obispo	Chorro Creek	1941	90	Central Coast
Eagle Ranch Dam	Dam	Eagle Ranch	Eagle Ranch, LLC	San Luis Obispo	Hale Creek	1974	300	Central Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Hartzell Dam	Dam		W. W. Hartzell Jr.	San Luis Obispo	Santa Rita Creek	1965	300	Central Coast
Lopez Reservoir	Reservoir		San Luis Obispo County Flood Control and Water Conservation District	San Luis Obispo	Arroyo Grande Creek	1969	52,500	Central Coast
Los Tablas Creek Dam	Dam		Mid-State Bank & Trust	San Luis Obispo	Las Tablas Creek	1961	180	Central Coast
Meadow Creek	Reservoir		Unknown	San Luis Obispo	Unknown	Unknown	Unknown	Central Coast
Nacimiento Reservoir	Reservoir		Monterey County Water Resources Agency	San Luis Obispo	Nacimiento River	1957	350,000	Central Coast
Righetti Dam	Dam	Righetti Reservoir	Ernest R. Righetti	San Luis Obispo	West Corral De Piedra	1966	680	Central Coast
Salinas Dam	Dam	Santa Margarita Lake	USACE Los Angeles District	San Luis Obispo	Salinas River	1941	43,200	Central Coast
Salsipuedes Creek	Reservoir		Unknown	San Luis Obispo	Unknown	Unknown	Unknown	Central Coast
San Marcos Dam	Dam		Harry E. Blythe, Jr.	San Luis Obispo	San Marcos Creek	1964	325	Central Coast
Terminal Dam	Dam	Lopez Reservoir	San Luis Obispo County Flood Control and Water Conservation District	San Luis Obispo	Tributary Arroyo Grande	1969	844	Central Coast
Whale Rock Reservoir	Reservoir		Whale Rock Commission	San Luis Obispo	Old Creek	1960	40,662	Central Coast
Bean Hollow No. 2 Dam	Dam	De Los Frijoles	Lake Lucerne Mutual Water Co.	San Mateo	Arroyo de Los Frijoles	1938	900	Central Coast
Bean Hollow No. 3 Dam	Dam	De Los Frijoles	Lake Lucerne Mutual Water Co.	San Mateo	Arroyo de Los Frijoles	1939	461	Central Coast
Coastways Dam	Dam	Coastways Reservoir	Coastways Ranch	San Mateo	Tributary Ano Nuevo Creek	1951	100	Central Coast
Green Oaks No. 1 Dam	Dam		Ana Nuevo Ranch	San Mateo	Green Oaks Creek	1936	322	Central Coast
Lake Lucerne Dam	Dam	Lake Lucerne	Lake Lucerne Mutual Water Co.	San Mateo	Arroyo De Los Frijoles	1923	455	Central Coast
Alamo Pintado Creek	Reservoir		Unknown	Santa Barbara	Unknown	Unknown	Unknown	Central Coast
Alisal Creek Dam	Dam	Alisal Creek	The Alisal Ranch	Santa Barbara	Alisal Creek	1971	2,342	Central Coast
Bradbury Dam	Dam	Cachuma Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	Santa Ynez River	1953	239,200	Central Coast
Carpinteria Dam	Dam	Carpinteria Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	Carpinteria Creek Offstream	1954	40	Central Coast
Dos Pueblos Dam	Dam		Rudolf R. Schulte	Santa Barbara	Tributary Dos Pueblos	1946	300	Central Coast
Edwards Dam	Dam	Edwards Reservoir	Edwards Ranch, LLC	Santa Barbara	Tributary Gato Creek	1985	596	Central Coast
Gibraltar Dam	Dam	Gibraltar Reservoir	City of Santa Barbara	Santa Barbara	Santa Ynez River	1920	9,998	Central Coast
Glen Anne Dam	Dam	Glen Anne Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	West Fork Glen Anne Canyon Creek	1953	660	Central Coast
Juncal Dam	Dam	Jameson Lake	Montecito Water District	Santa Barbara	Santa Ynez River	1930	6,140	Central Coast
Lake Los Carneros Reservoir	Reservoir		City of Goleta	Santa Barbara	La Patera Depress	1932	168	Central Coast
Lauro Dam	Dam	Lauro Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	Diablo Creek	1952	870	Central Coast
Orcutt Creek	Reservoir		Unknown	Santa Barbara	Orcutt Creek	Unknown	Unknown	Central Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Ortega Dam	Dam	Ortega Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	Santa Ynez River Offstream	1958	72	Central Coast
Rancho Del Ciervo Dam	Dam	Dennis Reservoir	Meyerstein Trust	Santa Barbara	Tributary San Jose Creek	1938	165	Central Coast
Runoff Control Facility Reservoir	Reservoir		Casmalia Resources	Santa Barbara	Tributary Casmalia Creek	1899	137	Central Coast
Santa Monica Debris Basin	Debris Basin		Santa Barbara County Flood Control and Water Conservation District	Santa Barbara	Santa Monica Creek	1978	79	Central Coast
Sheffield Dam	Dam	Sheffield Reservoir	City of Santa Barbara	Santa Barbara	Sycamore Creek	1925	138	Central Coast
Twitchell Dam	Dam	Twitchell Reservoir	Department of Interior, Bureau of Reclamation	Santa Barbara	Cuyama River	1958	398,120	Central Coast
Coit Dam	Dam		State Department of Parks and Recreation	Santa Clara	Tributary North Fork Pacheco Creek	1956	275	Central Coast
DeBell Dam	Dam	Sprig Lake	Michael Bonfante	Santa Clara	Tributary Bodfish Creek	1952	120	Central Coast
Murry Dam	Dam		State Department of Parks and Recreation	Santa Clara	Mississippi Creek	1957	715	Central Coast
Nacimiento Reservoir	Reservoir		Monterey County Water Resources Agency	Santa Clara	Nacimiento River	1961	110	Central Coast
North Fork Dam	Dam	Lake Clementine	Pacheco Pass Water District	Santa Clara	Pacheco Creek	1939	6,150	Central Coast
Peabody Dam	Dam		Lois Long	Santa Clara	Tributary Llagas Creek	1950	68	Central Coast
R. Simoni Irrigation Dam	Dam	Uvas Reservoir	Della Erta Simoni	Santa Clara	Hay Canyon	1961	152	Central Coast
Rock Dam	Dam	Miller Slough	Unknown	Santa Clara	Unknown	Unknown	Unknown	Central Coast
Selvage No. 2 Dam	Dam		Lucky Hereford Ranch	Santa Clara	Tributary Llagas Creek	1948	24	Central Coast
Uvas Reservoir	Reservoir		Santa Clara Valley Water District	Santa Clara	Uvas Creek	1957	10,000	Central Coast
Bay Street Reservoir Dam	Dam	Bay Street Reservoir	City of Santa Cruz	Santa Cruz	Offstream	1924	112	Central Coast
Cowell Reservoir Dam	Dam	Cowell Reservoir	Regents of the University of California	Santa Cruz	Tributary Pacific Ocean	1890	175	Central Coast
Lampico Reservoir	Reservoir		Unknown	Santa Cruz	Unknown	Unknown	Unknown	Central Coast
Mill Creek Dam	Dam	Mill Creek	Lockheed Missiles and Space Co., Inc.	Santa Cruz	Mill Creek	1889	223	Central Coast
Newell Dam	Dam	Loch Lomond	City of Santa Cruz	Santa Cruz	Newell Creek	1960	8,991	Central Coast
Oak Site Dam	Dam		State Department of Forestry	Santa Cruz	Tributary Big Creek	1969	20	Central Coast
San Lorenzo River	Weir		Unknown	Santa Cruz	Unknown	Unknown	Unknown	Central Coast
San Lorenzo River Reservoir	Reservoir		Unknown	Santa Cruz	Unknown	Unknown	Unknown	Central Coast
Sempervirens Dam	Dam	Sempervirens Reservoir	California Department of Parks and Recreation	Santa Cruz	Sempervirens Creek	1951	78	Central Coast
Soda Lake Dam	Dam	Soda Lake	Granite Rock Co.	Santa Cruz	Tributary Pajaro River	1978	1,983	Central Coast
Bernard Galleano Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (canal)	1988	425	Colorado River
Carl C. Bevins Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (East Highline Canal)	1991	253	Colorado River
El Centro Water Purification Plant Reservoir	Reservoir		City of El Centro	Imperial	Offstream	1956	185	Colorado River
H. "Red" Sperber Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (Central Main Canal)	1982	Unknown	Colorado River
Imperial Diversion Dam	Dam	Imperial Reservoir	Department of Interior, Bureau of Reclamation	Imperial	Colorado River	1938	160,000	Colorado River
J.M. Sheldon Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (East Highline and Vail Canals)	1976	Unknown	Colorado River
Louise K. Willey Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (canal)	1996	Unknown	Colorado River
Milas Russell, Sr. Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (canal)	1996	200	Colorado River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
North Dike	Dike	Senator Wash Reservoir	Department of Interior, Bureau of Reclamation	Imperial	Senator Wash Offstream	1966	17,766	Colorado River
Oscar Fudge Reservoir	Reservoir	Fudge Reservoir	Imperial Irrigation District	Imperial	Offstream (Westside Main Canal)	1977	Unknown	Colorado River
Robert F. Carter Reservoir	Reservoir		Imperial Irrigation District	Imperial	Offstream (Rositas Canal)	1983	Unknown	Colorado River
Salton Sea Dike	Dike		Department of Interior, Bureau of Reclamation	Imperial	Unknown	Unknown	233,000	Colorado River
Senator Wash Dam	Dam	Senator Wash Reservoir	Department of Interior, Bureau of Reclamation	Imperial	Senator Wash	1966	17,766	Colorado River
Squaw Lake Dike	Dike	Senator Wash Reservoir	Department of Interior, Bureau of Reclamation	Imperial	Senator Wash Offstream	1966	17,766	Colorado River
Young Reservoir	Reservoir		Imperial Irrigation District	Imperial	Interceptor canal	1996	275	Colorado River
East Side Detention Dike No. 1	Dike		Department of Interior, Bureau of Reclamation	Riverside	Whitewater River Offstream	1949	21,000	Colorado River
East Side Detention Dike No. 2	Dike		Department of Interior, Bureau of Reclamation	Riverside	Whitewater River Offstream	1949	18,000	Colorado River
Palo Verde Diversion Dam	Dam	Palo Verde	Unknown	Riverside	Colorado River	Unknown	Unknown	Colorado River
Tachevah Creek Detention Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Tachevah Creek	1964	650	Colorado River
Tahquitz Creek Debris	Debris Basin		Riverside County Flood Control and Water Conservation District	Riverside	Tahquitz Creek	1991	75	Colorado River
West Side Detention Dike No. 2	Dike		Department of Interior, Bureau of Reclamation	Riverside	Whitewater River Offstream	1968	630	Colorado River
West Side Detention Dike No. 3	Dike		Department of Interior, Bureau of Reclamation	Riverside	Whitewater River Offstream	1970	1,300	Colorado River
West Side Detention Dike No. 4	Dike		Department of Interior, Bureau of Reclamation	Riverside	Whitewater River Offstream	1968	4,900	Colorado River
Wide Canyon Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	West Wide Canyon	1968	1,490	Colorado River
Copper Basin Dam	Dam	Copper Basin Reservoir	Metropolitan Water District	San Bernardino	Copper Basin	1938	22,000	Colorado River
Gene Wash Dam	Dam	Gene Wash Reservoir	Metropolitan Water District	San Bernardino	Gene Wash	1937	6,300	Colorado River
Lake Mead/Powell Reservoir	Reservoir		Bureau of Reclamation	San Bernardino	Colorado River	1936	1,500	Colorado River
Parker Dam	Dam	Lake Havasu	Bureau of Reclamation	San Bernardino	Colorado River	1938	Unknown	Colorado River
Wuest Dam	Dam		Wuest Estate Company	San Diego	Mc Cain Creek	1928	280	Colorado River
Arcata Dam	Dam	Jolly Grant Creek	City of Arcata	Humboldt	Jolly Giant Creek	1937	46	North Coast
Benbow Dam	Dam	Benbow Lake	California Department of Parks and Recreation	Humboldt	South Fork Eel River	1932	1,060	North Coast
Big Lagoon Dam	Dam	Big lagoon	California Redwood Acquisition Company	Humboldt	Big Lagoon	1947	780	North Coast
Scotia Log Pond	Reservoir		The Pacific Lumber Co	Humboldt	Tributary Eel River	1910	210	North Coast
Sweasey Dam	Dam	Mad River at Blue Lake	Unknown	Humboldt	Unknown	Unknown	Unknown	North Coast
Scott Dam	Dam	Lake Pillsbury	Pacific Gas and Electric Company	Lake	Eel River	1921	73,000	North Coast
Ada Rose Lake Dam	Dam	Lake Ada Rose Reservoir	Brooktrails Community Services District	Mendocino	Tributary Willets Creek	1964	138	North Coast
Bevans Creek Dam	Dam		Mr. Jon Babcock	Mendocino	Bevans Creek	1955	215	North Coast
Bradford Reservoir	Reservoir		Robert L. Bradford	Mendocino	Tributary Russian River	1985	440	North Coast
Brooktrails No. 3 North Dam	Dam	Lake Emily	Brooktrails Community Services District	Mendocino	Willits Creek	1970	275	North Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Casper Creek	Weir		Unknown	Mendocino	Unknown	Unknown	Unknown	North Coast
Centennial Dam	Dam		City of Willits	Mendocino	Davis Creek	1990	635	North Coast
Chinquapin Dam	Dam		Mendocino County	Mendocino	Moore Creek	1971	45	North Coast
Cornett Dam	Dam		Mrs. Mildred Cornett	Mendocino	Tributary Russian River	1974	65	North Coast
Coyote Valley Dam	Dam	Lake Mendocino	USACE San Francisco District	Mendocino	East Fork Russian River	1959	155,500	North Coast
Crawford Ranch Dam	Dam		McDowell Valley Vineyards	Mendocino	Tributary McDowell Creek	1972	340	North Coast
Jayne's Lake Dam	Dam		Eden Valley Ranch LLC	Mendocino	Stoney Creek	1985	1,225	North Coast
Lolonis Vineyards Reservoir	Reservoir		Lolonis Vineyards, Inc.	Mendocino	Tributary West Fork Russian River	1999	209	North Coast
Mast Dam	Dam		Stacy Holland	Mendocino	Tributary Cahto Creek	1963	380	North Coast
McGuire Dam	Dam		Soper Wheeler Co.	Mendocino	South Fork Noyo River	1967	190	North Coast
McNab Dam	Dam		Fetzer Vineyards	Mendocino	Mc Nab Creek	1947	96	North Coast
Mendocino 3 Upper Dam	Dam		Mendocino County	Mendocino	Middle Creek	1915	85	North Coast
Mendocino Middle Dam	Dam		Mendocino County	Mendocino	Middle Creek	1908	27	North Coast
Mill Pond Dam	Dam	Mill Pond	Georgia-Pacific Corporation	Mendocino	Tributary Pacific Ocean	1885	72	North Coast
Morris Dam	Dam		City of Willits	Mendocino	James Creek	1927	845	North Coast
Perry Gulch Dam	Dam		Perry Gulch Ranch	Mendocino	Tributary Perry Gulch	1980	33	North Coast
Ridgewood Dam	Dam	Walker Lake	The Walker Lake Association	Mendocino	Forsythe Creek	1929	185	North Coast
Round Mountain Dam	Dam		Round Mountain Cooperative Community, Inc.	Mendocino	Tributary York Creek	1964	282	North Coast
Schwindt Dam	Dam		David Schwindt and Riendo Arroyo	Mendocino	Tributary Burns Creek	Unknown	23	North Coast
Scout Lake Dam	Dam	Scout Lake	Boy Scouts of America, San Francisco Bay Area Council	Mendocino	Tributary Berry Creek	1964	1,140	North Coast
South Fork Caspar Creek	Weir		Unknown	Mendocino	Unknown	Unknown	Unknown	North Coast
Van Arsdale Dam	Dam	Van Arsdale Reservoir	Pacific Gas and Electric Company	Mendocino	South Eel River	1907	700	North Coast
Williams Valley Reservoir	Reservoir		Roger A. and Michelle M. Burch	Mendocino	Tributary Short Creek	1965	200	North Coast
A and C Reservoirs	Reservoir	Avanzino	Carey Ranches	Modoc	South Fork Willow Creek	1923	800	North Coast
Big Johnson Dam	Dam		Stanley Johnson	Modoc	Tributary Lost River	1959	410	North Coast
Boles Meadow Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Clear Lake Dike	Dike	Clear Lake Reservoir	Department of Interior, Bureau of Reclamation	Modoc	Lost River	1910	597,500	North Coast
Diamond Reservoir Dam	Dam	Diamond Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Dry Lake Dam	Dam		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Dry Valley Reservoir Dam	Dam	Dry Valley Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Hackamore Reservoir Dam	Dam	Hackamore Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Henski Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Henski Reservoir Dam	Dam	Henski Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
North Fork Willow Creek Dam	Dam		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Pease Flat	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Reservoir F	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Reservoir G	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Spaulding Reservoir Dam	Dam	Spaulding Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Surveyors Valley Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Telephone Flat Reservoir Dam	Dam	Telephone Flat Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Timbered Ridge Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	North Coast
Whitney Reservoir	Reservoir		Unknown	Modoc	none	Unknown	Unknown	North Coast
Barton Dam	Dam	Barton Lake	Madison Valley Investment Partners	Siskiyou	White Slough	1964	160	North Coast
Bass Lake Dam	Dam	Bass Lake	California Department of Fish and Wildlife	Siskiyou	Tributary Little Shasta River	1949	223	North Coast
Campbell Lake Dam	Dam		Jennifer S. and John W. Menke	Siskiyou	Shackleford Creek	1929	350	North Coast
Cloak Lake Dam	Dam	Cloak Lake	Madison Valley Investment Partners	Siskiyou	Tributary Shasta River	1955	123	North Coast
Copco No. 1 Dam	Dam		Pacific Power and Light Company	Siskiyou	Klamath River	1922	77,000	North Coast
Copco No. 2 Dam	Dam		Pacificorp	Siskiyou	Klamath River	1925	55	North Coast
Dwight Hammond Dam	Dam		Hammond Lake Irrigation Association	Siskiyou	Tributary Shasta River	1959	348	North Coast
Fiock No. 2 Dam	Dam		Robert J. Cena	Siskiyou	Tributary Shasta River	1946	318	North Coast
George Fiock No. 1 Dam	Dam		The Kuck Brothers	Siskiyou	Tributary Shasta River	1954	223	North Coast
Greenhorn Dam	Dam	Greenhorn Reservoir	City of Yreka	Siskiyou	Greenhorn Creek	1960	251	North Coast
Iron Gate Dam	Dam	Iron Gate Reservoir	Pacificorp	Siskiyou	Klamath River	1962	58,000	North Coast
Juanita, Lake Dam	Dam		California Department of Fish and Wildlife	Siskiyou	Tributary Musgrave Creek	1964	348	North Coast
Lake Shastina	Reservoir		Montague Water Conservation District	Siskiyou	Shasta River	1928	50,000	North Coast
Lake Suzanne Dam	Dam		Mark and Melody Mariani	Siskiyou	Tributary Shasta River	1962	89	North Coast
Montague No. 2 Dam	Dam	Montague Reservoir	City of Montague	Siskiyou	Tributary Oregon Slough	1978	160	North Coast
Ray Soule Reservoir Dam	Dam	Ray Soule Reservoir	Skip Soule	Siskiyou	Tributary Lower Shasta River	1953	132	North Coast
Shelley Dam	Dam		Dr. I. Jack Cowley	Siskiyou	Webb Gulch	1952	364	North Coast
Steamboat Lake Dam	Dam	Lake Steamboat	California Department of Fish and Wildlife	Siskiyou	Tributary Little Shasta River	1968	2,700	North Coast
Trout Lake Dam	Dam	Trout Lake	California Department of Fish and Wildlife	Siskiyou	Tributary Little Shasta River	1960	2,108	North Coast
Airport Reservoir Dam	Dam		Sonoma County Water Agency	Sonoma	Offstream	2002	315	North Coast
Airport Storage Pond	Reservoir		Sonoma County Water Agency	Sonoma	Tributary Windsor Creek	1985	290	North Coast
Airport Storage Pond 2	Reservoir		Sonoma County Water Agency	Sonoma	Tributary Windsor Creek	1989	310	North Coast
Annadel No. 1 Dam	Dam	Lake Ilsanjo	State Department of Parks and Recreation	Sonoma	Spring Creek	1956	395	North Coast
Asti Dam	Dam		E & J Gallo Winery	Sonoma	Tributary Russian River	1955	325	North Coast
Axell Dam	Dam		Kendall Jackson Wine Estates, Ltd.	Sonoma	Tributary Franz Creek	1952	155	North Coast
Azalea Dam	Dam		Kennith D. and Barbara J. Dyche	Sonoma	North Fork Lancel Creek	1955	85	North Coast
Bosch No. 2 Dam	Dam		Richard S. Toyfoya	Sonoma	Tributary Windsor Creek	1962	37	North Coast
Budge Dam	Dam		Jordan Vineyard and Winery	Sonoma	Tributary Russian River	1964	110	North Coast
Coen C-3 Dam	Dam		Frei Bros/Gallo Glass Company	Sonoma	Tributary Dry Creek	1982	480	North Coast
Cook No. 2 Dam	Dam		E & J Gallo Winery	Sonoma	Tributary Dry Creek	1961	82	North Coast
Delta Pond Dam	Dam		City of Santa Rosa	Sonoma	Tributary Russian River	1984	1,950	North Coast
Dennis No. 2 Reservoir	Reservoir		E & J Gallo Winery	Sonoma	Tributary Dry Creek	1997	148	North Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Dina Bob Lake Dam	Dam		Mrs. Robert D. Ogg	Sonoma	Tributary Franz Creek	1955	139	North Coast
Donovan Dam	Dam		Frederick and Donna Furth	Sonoma	Tributary Windsor Creek	1953	70	North Coast
Dutcher Creek Dam	Dam		E & J Gallo Winery	Sonoma	Tributary Borrelli Creek	1992	186	North Coast
Foote No. 3 Dam	Dam		Nancy F. Ogg, et al.	Sonoma	Tributary Redwood Creek	1970	77	North Coast
Foote No. 4 Dam	Dam		Nancy F. Ogg, et al.	Sonoma	Tributary Kellogg Creek	1976	117	North Coast
Foothill Regulating Park Reservoir	Reservoir		County of Sonoma, Regional Parks Department	Sonoma	Tributary Windsor Creek	1963	109	North Coast
Foss Creek North Area Dam	Dam		City of Healdsburg	Sonoma	Foss Creek	1998	85	North Coast
Fountaingrove Dam	Dam		City of Santa Rosa	Sonoma	Tributary Mark West Creek	1953	427	North Coast
Greeott Dam	Dam		Frederick and Donna Furth	Sonoma	Tributary Windsor Creek	1951	100	North Coast
Healdsburg Rec Dam	Dam		County of Sonoma, Regional Parks Department	Sonoma	Russian River	1953	125	North Coast
Helen, Lake Dam	Dam		Robert Mattocks	Sonoma	Tributary Russian River	1966	192	North Coast
Hillside Ranch Dam	Dam		Rafanelli and Nahas Real Estate Development	Sonoma	Tributary House Creek	1967	210	North Coast
John C. Warnecke Dam	Dam		John Carl Warnecke	Sonoma	Tributary Russian River	1974	30	North Coast
Lafranchi Creek	Reservoir		Wine World, Inc.	Sonoma	Lafranchi Creek	1982	100	North Coast
Lagunita Dam	Dam		Brookfield Investors LLC	Sonoma	Tributary Windsor Creek	1954	133	North Coast
Lake Ralphine Dam	Dam	Lake Ralphine	City of Santa Rosa	Sonoma	Tributary Santa Rosa Creek	1882	387	North Coast
Lowe Dam	Dam		Mrs. Paul Foster	Sonoma	Tributary Franz Creek	1959	95	North Coast
Lytton Dam	Dam		The Salvation Army	Sonoma	Tributary Russian River	1956	410	North Coast
Mallacomes Dam	Dam		Nancy F. Ogg, Et Al	Sonoma	Foote Creek	1951	200	North Coast
Matanzas Creek Dam	Dam	Matanzas Creek Reservoir	Sonoma County Water Agency	Sonoma	Matanzas Creek	1963	1,500	North Coast
Meadow Lane Dam	Dam		City of Santa Rosa	Sonoma	Offstream	1979	2,100	North Coast
Merlo Reservoir	Reservoir		Harry A Merlo	Sonoma	Fall Creek	1982	930	North Coast
Middle Fork Brush Creek	Reservoir		Sonoma County Water Agency	Sonoma	Middle Fork Brush Creek	1961	138	North Coast
Murray Dam	Dam		Coyote Hills Partnership	Sonoma	Tributary Franz Creek	1970	117	North Coast
Norton No. 2 Dam	Dam		Ridge Vineyards	Sonoma	Tributary Dry Creek	1956	102	North Coast
Piner Creek Dam	Dam		Sonoma County Water Agency	Sonoma	Paulin Creek	1962	172	North Coast
Pond No. 2	Reservoir		City of Santa Rosa	Sonoma	Offstream	1952	290	North Coast
Richardson Dam	Dam	Hedgpeth Lake	Soper Wheeler Company	Sonoma	Tributary Pepperwood Creek	1954	520	North Coast
Richardson Dam	Dam		C. D. Richardson et al	Sonoma	Tributary Gualala River	1974	96	North Coast
Russian River No. 1 Dam	Dam		Russian RV Park and Recreation District	Sonoma	Russian River	1963	315	North Coast
Salinger Dam	Dam		Dr. Walter Byck	Sonoma	Tributary Mark West Creek	1952	58	North Coast
Santa Rosa Creek Reservoir Dam	Dam	Santa Rosa Creek Reservoir	Sonoma County Water Agency	Sonoma	Tributary Santa Rosa Creek	1963	3,550	North Coast
Sea Ranch	Reservoir		The Sea Ranch Water Company	Sonoma	Offstream	1996	300	North Coast
Shiloh Ranch	Reservoir		Shiloh Homeowners' Association	Sonoma	Tributary Russian River	1991	300	North Coast
Silver Shoon Ranch Dam	Dam		W. Berry Hill, et al.	Sonoma	Santa Rosa Creek	1955	160	North Coast
Spring Lake (Santa Rosa Creek Reservoir)	Reservoir		Natural Resources Conservation Service, Sonoma County Water Agency	Sonoma	Santa Rosa Creek Offstream	1964	3,415	North Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
The Hill Ranch	Reservoir		Thia Kellner-Hill	Sonoma	Santa Rosa Creek	1955	160	North Coast
Towibalyla Dam	Dam		Kendall Jackson Wine Estates, Ltd.	Sonoma	Tributary Franz Creek	1962	376	North Coast
Vineyard Subdivision Dam	Dam	Vineyard Lake	The Vineyards Club, Inc.	Sonoma	Tributary Gill Creek	1962	245	North Coast
Warm Springs Dam	Dam	Lake Sonoma	USACE San Francisco District	Sonoma	Dry Creek	1982	449,000	North Coast
Clair Engle Lake	Reservoir		Bureau of Reclamation	Trinity	Trinity River	1961	Unknown	North Coast
Ewing Dam	Dam		Trinity County Waterworks District 1	Trinity	Ewing Gulch	1972	887	North Coast
Grass Valley Creek Dam	Dam		Unknown	Trinity	Unknown	Unknown	Unknown	North Coast
Jones Ranch	Reservoir		Eleanor Jones	Trinity	Tributary Trinity River	1980	58	North Coast
Lewiston Dam	Dam	Lewiston Lake	Department of Interior, Bureau of Reclamation	Trinity	Trinity River	1963	14,660	North Coast
Robert W Matthews Dam	Dam	Ruth Lake Reservoir	Humboldt Bay Municipal Water District	Trinity	Mad River	1962	51,800	North Coast
Three Forks Sediment Pond	Reservoir		Burgess, Norman R.	Trinity	Rock Creek	1994	15	North Coast
Trinity Dam	Dam	Trinity Reservoir	Department of Interior, Bureau of Reclamation	Trinity	Trinity River	1962	2,760,870	North Coast
Crater Lake Dam	Dam	Crater Lake	F. Dressler Co. and K. Neddenriep	Alpine	Crater Lake Creek	1937	320	North Lahontan
Harvey Place Dam	Dam	Harvey Place Reservoir	South Tahoe Public Utility District	Alpine	Indian Creek	1989	3,700	North Lahontan
Heenan Lake Dam	Dam	Heenan Lake Reservoir	California Department of Fish and Wildlife	Alpine	Tributary East Fork Carson River	1929	3,100	North Lahontan
Indian Creek Dam	Dam	Indian Creek Reservoir	South Tahoe Public Utility District	Alpine	Indian Creek	1967	3,160	North Lahontan
Kinney Meadows Dam	Dam	Kinney Reservoir	Alpine Land and Reservoir Co.	Alpine	Tributary Silver Creek	1929	900	North Lahontan
Lost Lake East Dam	Dam	Lost Lakes	Carson Water Subconservancy District	Alpine	Lost Creek	1925	230	North Lahontan
Lost Lake West Dam	Dam	Lost Lakes	Carson Water Subconservancy District	Alpine	Lost Creek	1925	140	North Lahontan
Lower Kinney Lake Dam	Dam		Alpine Land and Res Company	Alpine	Tributary Silver Creek	1926	920	North Lahontan
Lower Sunset Dam	Dam		Alpine Land and Res Company	Alpine	Pleasant Val Creek	Unknown	860	North Lahontan
Red Lake Dam	Dam	Red Lake	California Department of Fish and Wildlife	Alpine	Red Lake Creek	1924	1,410	North Lahontan
Scott Lake Dam	Dam	Scott Lake	F. Dressler Co. and K. Neddenriep	Alpine	Tributary West Fork Carson River	1926	600	North Lahontan
Tamarac Lake Dam	Dam	Tamarac Lake	Alpine Land and Res Company	Alpine	Tributary Pleasant Valley Creek	1905	400	North Lahontan
Upper Kenny Lake	Reservoir		Alpine Land and Res Company	Alpine	Tributary Silver Creek	Unknown	328	North Lahontan
Upper Sunset Lake	Reservoir		Alpine Land and Res Company	Alpine	Upper Pleasant Valley Creek	1904	200	North Lahontan
Wet Meadows Dam	Dam	Wet Meadows Reservoir	Alpine Land and Res Company	Alpine	Tributary Pleasant Valley Creek	Unknown	450	North Lahontan
Echo Lake Dam	Dam		El Dorado Irrigation District	El Dorado	Tributary Upper Truckee River	1876	1,900	North Lahontan
Emerg Effluent Holding Dam	Dam		South Tahoe Public Utility District	El Dorado	Tributary Heavenly Valley Creek	1961	184	North Lahontan
Antelope Dam	Dam	Bald Mountain Reservoir	R. C. Roberts Ranches, LLC	Lassen	Madeline Plains	1918	1,500	North Lahontan
Boot Creek Dam	Dam		Unknown	Lassen	Unknown	Unknown	Unknown	North Lahontan
Branham Flat Dam	Dam		Mapes Ranch, Inc.	Lassen	Branham Creek	1880	1,200	North Lahontan
Buckhorn Dam	Dam	Buckhorn Reservoir	Edgar S. Roberts	Lassen	Buckhorn Creek	1904	2,000	North Lahontan
California Corrections Center II	Reservoir		California Department of Corrections	Lassen	Offstream	1995	368	North Lahontan

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Reservoir								
California Corrections Center Reservoir	Reservoir		California Department of Corrections	Lassen	Offstream	1980	280	North Lahontan
Caribou Lake Dam	Dam		Roney Land and Cattle Co., Inc.	Lassen	Susan River	1928	460	North Lahontan
Coon Camp Dam	Dam		Mapes Ranch, Inc.	Lassen	Tributary Horse Lake	1900	548	North Lahontan
Cramer Dam	Dam		Wood Ranch, Leland Wood Jr.	Lassen	Tributary Horse Lake	1910	3,000	North Lahontan
Elmers Reservoir Dam	Dam	Elmers Reservoir	Unknown	Lassen	Unknown	Unknown	Unknown	North Lahontan
Emerson Dam	Dam		M. Mallery and W. Mallery	Lassen	Tributary Gold Run Creek	Unknown	418	North Lahontan
Fredonia Dam	Dam		Mapes Ranch, Inc.	Lassen	Tributary Pine Creek	1914	300	North Lahontan
Heath Reservoir Dam	Dam	Heath Reservoir	Frank E. and George R. Heath, Jr.	Lassen	Slate Creek	1965	8,650	North Lahontan
Hog Flat Dam	Dam	Hog Flat Reservoir	Lassen Irrigation Company	Lassen	Tributary Susan River	1891	8,000	North Lahontan
Horse Lake Dam	Dam		Snow Storm Ranch	Lassen	Snowstorm Creek	1912	75	North Lahontan
Lake Leavitt Dam	Dam	Lake Leavitt	Lassen Irrigation Company	Lassen	Tributary Susan River	1891	7,482	North Lahontan
Madeline Dam	Dam		Dennis A. and Rene Daugherty	Lassen	Tributary Madeline Plains	1900	400	North Lahontan
Mardis Barry Dam	Dam		John Fitzgerald	Lassen	Tributary Susan River	1941	113	North Lahontan
McCoy Flat Dam	Dam	McCoy Flat Reservoir	Lassen Irrigation Company	Lassen	Susan River	1891	17,290	North Lahontan
Mendiboure Dam	Dam	Mendiboure Reservoir	Pierre Mendiboure	Lassen	Tributary Van Loan Creek	1949	1,130	North Lahontan
Peconom Dam	Dam		John Fitzgerald	Lassen	Antelope Valley	1920	173	North Lahontan
Petes Valley Dam	Dam		Pete's Valley Partners	Lassen	Peters Creek	1954	240	North Lahontan
Red Rock No. 1 Dam	Dam	Dodge Reservoir	Edgar S. Roberts	Lassen	Red Rock Creek	1893	10,000	North Lahontan
Round Valley Dam	Dam	Round Valley Reservoir	Jack and Thomas Swickard	Lassen	Round Valley Creek	1892	5,500	North Lahontan
Shugru Dam	Dam	Shugru Reservoir	Audrey Egan	Lassen	Tributary Susan River	Unknown	195	North Lahontan
Smoke Creek Dam	Dam	Smoke Creek Reservoir	Jackrabbit Properties, LLC	Lassen	Smoke Creek	1949	960	North Lahontan
Spaulding Dam	Dam	Spaulding Reservoir	R. C. Roberts Ranches, LLC	Lassen	Tributary Madelin Plains	1954	147	North Lahontan
Sworinger Dam	Dam	Sworinger Reservoir	John Estill and Lani Estill	Lassen	Tributary Silver Creek	1961	4,050	North Lahontan
Union Reservoir	Reservoir		Unknown	Lassen	Unknown	Unknown	Unknown	North Lahontan
Ward Lake Dam	Dam	Wards Lake	R & H Leasing	Lassen	Tributary Susan River	1889	350	North Lahontan
Boggs and Warren Dam	Dam		James and Lynette Harris	Modoc	East Sand Creek	1922	1,058	North Lahontan
Burger Dam	Dam		Cason L. Baugh	Modoc	Tributary Upper Lake	1968	161	North Lahontan
Poison Springs Dam	Dam	Fee Reservoir	Fee Ranch, Inc. and P. H. Peterson	Modoc	Rock Creek	1957	7,120	North Lahontan
Schadler Dam	Dam	Schadler Reservoir	Schadler Ranch, Inc.	Modoc	Eight Mile Creek	1967	205	North Lahontan
Sworinger Dam	Dam	Sworinger Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	North Lahontan
Black Reservoir Dam	Dam	Junction Reservoir	Bently Family Limited Partnership	Mono	Black Creek	1905	185	North Lahontan
Bridgeport Dam	Dam	Bridgeport Reservoir	Walker River Irrigation District	Mono	East Walker River	1924	44,100	North Lahontan
Lobdell Lake Dam	Dam	Lobdell Lake	William M. Weaver, Jr., and David Park	Mono	Desert Creek	1948	640	North Lahontan
Lower Twin Lake Dam	Dam	Twin Lakes	Centennial Livestock	Mono	Robinson Creek	1888	4,011	North Lahontan
Poore Lake Reservoir Dam	Dam	Poore Lake	Park Livestock Co.	Mono	Poore Creek	1900	1,200	North Lahontan
Upper Twin Lake Dam	Dam	Twin Lake Reservoir	Centennial Livestock, Attn: Dave Woods	Mono	Robinson Creek	1905	2,070	North Lahontan
Boca Dam	Dam	Boca Reservoir	Department of Interior, Bureau of Reclamation	Nevada	Little Truckee River	1939	41,110	North Lahontan

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Donner Euer Valley Dam	Dam		Donner Euer Valley Corp.	Nevada	Tributary South Fork Prosser Creek	1966	80	North Lahontan
Donner Lake Dam	Dam		Truckee Meadows Water Authority	Nevada	Donner Creek	1927	10,300	North Lahontan
Martis Creek Dam	Dam	Martis Creek Lake	USACE	Nevada	Martis Creek	1972	20,400	North Lahontan
Prosser Creek Reservoir	Reservoir		Department of Interior, Bureau of Reclamation	Nevada	Prosser Creek	1962	41,200	North Lahontan
Lake Tahoe Dam	Dam	Lake Tahoe	Department of Interior, Bureau of Reclamation	Placer	Truckee River	1913	840,000	North Lahontan
Prosser Creek Dam	Dam	Prosser Creek	Bureau of Reclamation	Placer	Prosser Creek	1959-1962	Unknown	North Lahontan
Quail Lake Dam	Dam	Quail Lake	Tahoe City Public Utility District	Placer	Tributary Lake Tahoe	1926	70	North Lahontan
Reservoir A	Reservoir		North Star Community Services District	Placer	West Martis Creek	1973	180	North Lahontan
Independence Dam	Dam	Elery Lake Dam	Truckee Meadows Water Authority	Sierra	Independence Creek	1939	18,500	North Lahontan
Stampede Dam	Dam	Stampede Reservoir	Department of Interior, Bureau of Reclamation	Sierra	Little Truckee River	1970	280,250	North Lahontan
Stampede Dike	Dike	Stampede Reservoir	Department of Interior, Bureau of Reclamation	Sierra	Tributary Little Truckee River	1970	280,250	North Lahontan
Buckhorn Dam	Dam	Buckhorn Reservoir	Northern California Area Office	Trinity	Grass Valley Creek	1988-1991	Unknown	North Lahontan
Caples Lake Auxiliary	Auxiliary		El Dorado Irrigation District	Alpine	Caples Creek	Unknown	12,600	Sacramento River
Caples Lake Dam	Dam	Twin Lake	Pacific Gas and Electric Company	Alpine	Tributary Silver Fork	1922	21,580	Sacramento River
Silver Lake Dam	Dam	Silver Lake	El Dorado Irrigation District	Amador	Silver Fork	1876	3,840	Sacramento River
A. L. Chaffin Dam	Dam	None	Estate of George R. Chaffin	Butte	Tributary Cottonwood Creek	1957	450	Sacramento River
Big Chico Creek Diversion Channel	Weir		Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
California Park Reservoir	Reservoir		California Park Association	Butte	Dead Horse Slough	1986	335	Sacramento River
Cannon Ranch Dam	Dam	Cannon Reservoir	Ronald J. and Lucy R. Boeger	Butte	Tributary Oregon Gulch	1870	176	Sacramento River
Concow Dam	Dam	Concow Reservoir	Thermalito Table Mountain Irrigation District	Butte	Concow Creek	1925	6,370	Sacramento River
Desalba Forebay Dam	Dam		Pacific Gas and Electric Company	Butte	Middle Butte Creek	1903	280	Sacramento River
Feather River Hatchery Dam	Dam	Fish Barrier Dam	California Department of Water Resources	Butte	Feather River	1964	580	Sacramento River
Forbestown Diversion Dam	Dam		South Feather Water and Power Agency	Butte	South Fork Feather River	1962	358	Sacramento River
Grizzly Creek Dam	Dam		Mr. and Mrs. Ronald T. Dreisbach	Butte	Grizzly Creek	1964	76	Sacramento River
Kunkle Dam	Dam	Kunkle Reservoir	Pacific Gas and Electric Company	Butte	Tributary West Branch Feather River	1907	253	Sacramento River
Lake Madrone Dam	Dam	Madrone Lake	Lake Madrone Water District	Butte	Berry Creek	1931	200	Sacramento River

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Lake Wyandotte Dam	Dam	Lake Wyandotte	South Feather Water and Power Agency	Butte	North Honcut Creek	1924	313	Sacramento River
Lindo Channel Diversion Weir	Weir		Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
Little Chico - Butte Creek Diversion Structure Dam	Dam		Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
Little Chico Creek Diversion Structure Dam	Dam		Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
Littlefield Dam	Dam	Littlefield Reservoir	Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
Lost Creek	Reservoir		South Feather Water and Power Agency	Butte	Lost Creek	1924	5,680	Sacramento River
Magalia Dam	Dam		Paradise Irrigation District	Butte	Little Butte Creek	1918	2,900	Sacramento River
Miners Ranch Dam	Dam	Miners Ranch Reservoir	South Feather Water and Power Agency	Butte	Tributary North Honcut Creek	1962	895	Sacramento River
Morgan Reservoir Dam	Reservoir	Morgan Reservoir	Unknown	Butte	Unknown	Unknown	Unknown	Sacramento River
Oroville Dam	Dam	Lake Oroville	California Department of Water Resources	Butte	Feather River	1968	3,537,577	Sacramento River
Paradise Dam	Dam	Paradise Lake	Paradise Irrigation District	Butte	Little Butte Creek	1957	11,500	Sacramento River
Philbrook Dam	Dam	Philbrook No. 1	Pacific Gas and Electric Company	Butte	Philbrook Creek	1926	5,180	Sacramento River
Philbrook Saddle Dam	Dam	Philbrook No. 2	Pacific Gas and Electric Company	Butte	Philbrook Creek	1926	5,000	Sacramento River
Poe Dam	Dam		Pacific Gas and Electric Company	Butte	North Fork Feather River	1959	1,150	Sacramento River
Ponderosa Diversion Dam	Dam	Ponderosa Reservoir	South Feather Water and Power Agency	Butte	South Fork Feather River	1962	4,750	Sacramento River
Round Valley Dam	Dam	Round Valley Reservoir	Pacific Gas and Electric Company	Butte	West Branch Feather River	1877	1,147	Sacramento River
Sly Creek Dam	Dam	Sly Creek Reservoir	South Feather Water and Power Agency	Butte	Lost Creek	1961	65,050	Sacramento River
Thermalito Afterbay	Reservoir		California Department of Water Resources	Butte	Tributary Feather River	1967	57,041	Sacramento River
Thermalito Diversion Dam	Dam		California Department of Water Resources	Butte	Feather River	1967	13,328	Sacramento River
Thermalito Forebay	Reservoir		California Department of Water Resources	Butte	Tributary Cottonwood Creek	1967	11,768	Sacramento River
Wilson Reservoir	Reservoir		Unknown	Butte	Stream from Lake Oroville	Unknown	Unknown	Sacramento River
Coleman Dike	Dike	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek Offstream	1910	54,438	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
East Park Dam	Dam	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek	1910	54,438	Sacramento River
East Park Dike 1	Dike	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek	1910	54,438	Sacramento River
East Park Dike 2	Dike	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek	1910	54,438	Sacramento River
East Park Dike 3	Dike	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek	1910	54,438	Sacramento River
Funks Dam	Dam	Funks Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Funks Creek	1976	2,312	Sacramento River
Gordon Dike	Dike	East Park Reservoir	Department of Interior, Bureau of Reclamation	Colusa	Little Stony Creek Offstream	1910	54,438	Sacramento River
Rainbow Diversion Dam	Dam		Department of Interior, Bureau of Reclamation	Colusa	Stoney Creek	1914	100	Sacramento River
Rancho Rubini Dam	Dam		Hector and Nancy Rubini	Colusa	Tributary Bear Creek	1955	106	Sacramento River
York Hill 360 Dam	Dam		Catherine Townzen and Lucille Penning	Colusa	Tributary Bear Creek	1952	245	Sacramento River
Abrams Dam	Dam	Black Rock Reservoir	Black Rock Ranch, LLC	El Dorado	Hastings Creek	1950	110	Sacramento River
Aeree Dam	Dam	None	Pilot Hill Estates Homeowner Association	El Dorado	Tributary Pilot Creek	1951	90	Sacramento River
Auburn Lake Trails Dam	Dam		Auburn Lake Trails Property Owners	El Dorado	Maine Bar Canyon	1978	68	Sacramento River
Blakely Dam	Dam		El Dorado Irrigation District	El Dorado	Tributary South Fork American River	1875	152	Sacramento River
Brush Creek Dam	Dam		Sacramento Municipal Utility District	El Dorado	Brush Creek	1970	1,530	Sacramento River
Buck Island Auxiliary	Auxiliary		Sacramento Municipal Utility District	El Dorado	Rockbound Creek	1963	1,070	Sacramento River
Buck Island Dam	Dam		Sacramento Municipal Utility District	El Dorado	Little Rubicon	1963	1,070	Sacramento River
Camino Dam	Dam	Camino Reservoir	Sacramento Municipal Utility District	El Dorado	Silver Creek	1961	275	Sacramento River
Camp Creek Diversion Dam	Dam	Camp Creek	Bureau of Reclamation	El Dorado	Camp Creek	1953	Unknown	Sacramento River
Chili Bar Reservoir	Reservoir		Pacific Gas and Electric Company	El Dorado	South Fork American River	1964	3,700	Sacramento River
Cross Creek Ranch Dam	Dam		Ken Hill	El Dorado	Tributary Webber Creek	1949	55	Sacramento River
El Dorado Forebay Dam	Dam		El Dorado Irrigation District	El Dorado	Long Canyon	1923	472	Sacramento River
Fay Gunby Dam	Dam		El Dorado Bonsai, Inc	El Dorado	Tributary Weber Creek	1961	117	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Finnon Lake Dam	Dam		Mosquito Volunteer Fire Department	El Dorado	Jay Bird Creek	1905	400	Sacramento River
Gastaldi Dam	Dam		Polly Gastaldi	El Dorado	Tributary Weber Creek	1951	83	Sacramento River
Georgetown Control Dam	Dam		Georgetown Divide Public Utility District	El Dorado	Canyon Creek	1956	50	Sacramento River
Gerle Dam	Dam		Sacramento Municipal Utility District	El Dorado	Gerle Creek	1962	1,200	Sacramento River
Ice House Dam	Dam	Ice House Reservoir	Sacramento Municipal Utility District	El Dorado	South Fork Silver Creek	1959	37,120	Sacramento River
Ice House Dike No. 1	Dike		Sacramento Municipal Utility District	El Dorado	South Fork Silver Creek	Unknown	46,000	Sacramento River
Indian Creek Dam	Dam	Indian Creek Reservoir	Greenstone Country Owners Association	El Dorado	Indian Creek	1946	457	Sacramento River
Jacobs Creek Dam	Dam		Four Corners Landowners Association	El Dorado	Jacobs Creek	1948	587	Sacramento River
Junction Dam	Dam		Sacramento Municipal Utility District	El Dorado	Silver Creek	1962	3,250	Sacramento River
Loon Lake Auxiliary	Auxiliary		Sacramento Municipal Utility District	El Dorado	Gerle Creek	1963	76,500	Sacramento River
Loon Lake Dam	Dam		Sacramento Municipal Utility District	El Dorado	Gerle Creek	1963	76,500	Sacramento River
Loon Lake Dike	Dike		Sacramento Municipal Utility District	El Dorado	Gerle Creek	1963	76,500	Sacramento River
Manhattan Creek Dam	Dam		Virginia Johnson	El Dorado	Manhattan Creek	1952	110	Sacramento River
Mark Edson Dam	Dam	Stumpy Meadows Reservoir	Georgetown Divide Public Utility District	El Dorado	Pilot Creek	1962	20,000	Sacramento River
Medley Lakes Auxiliary No. 4	Auxiliary		El Dorado Irrigation District	El Dorado	South Fork American River	Unknown	5,280	Sacramento River
Medley Lakes Dam	Dam	Lake Aloha	Pacific Gas and Electric Company	El Dorado	Tributary South Fork American River	1923	5,350	Sacramento River
New York Creek	Weir		Unknown	El Dorado	Unknown	Unknown	Unknown	Sacramento River
Niegel Dam	Dam		Rod Hinkle, et al.	El Dorado	Hastings Creek	1951	145	Sacramento River
North Fork American River Diversion Dam	Dam		Unknown	El Dorado	Unknown	Unknown	Unknown	Sacramento River
Robbs Peak Dam	Dam		Sacramento Municipal Utility District	El Dorado	South Fork Rubicon River	1963	30	Sacramento River
Rock Creek Dam	Dam	Chiquita Lake	Larry B. Ford	El Dorado	Rock Creek	1932	34	Sacramento River
Rubicon Auxiliary	Auxiliary		Sacramento Municipal Utility District	El Dorado	Feather River	1963	1,450	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Rubicon Reservoir Dam	Dam	Rubicon Reservoir	Sacramento Municipal Utility District	El Dorado	Rubicon River	1963	1,450	Sacramento River
Schmidell Lake Dam	Dam	Lake Schmidell	U. S. Fish and Wildlife Service	El Dorado	Tributary Rubicon River	1955	184	Sacramento River
Schubin Dam	Dam		Nick J. Schubin	El Dorado	Tributary Weber Creek	1952	225	Sacramento River
Shaffer Reservoir	Reservoir		Echo Lane Investors, LLC	El Dorado	Indian Creek	1968	111	Sacramento River
Slab Creek Dam	Dam	Slab Creek Reservoir	Sacramento Municipal Utility District	El Dorado	South Fork American River	1967	16,600	Sacramento River
Straza Dam	Dam		Black Rock Ranch, LLC	El Dorado	Black Rock Creek	1971	185	Sacramento River
Union Valley Reservoir Dam	Dam	Union Valley Reservoir	Sacramento Municipal Utility District	El Dorado	Silver Creek	1963	230,000	Sacramento River
Volo Mining Company Dam	Dam		Robert Purser	El Dorado	Indian Creek	1958	148	Sacramento River
Weber Reservoir	Reservoir		El Dorado Irrigation District	El Dorado	North Fork Weber Creek	1924	1,100	Sacramento River
Williamson No. 1 Reservoir	Reservoir		M. Mak, M. Chan and M. Lau	El Dorado	Tributary Weber Creek	1926	150	Sacramento River
E A Wright Dam	Dam		Mr. Fritz Mast	Glenn	Small Creek	1950	400	Sacramento River
Hamilton Dam	Dam		Leon Whitney	Glenn	Tributary Watson Creek	1967	111	Sacramento River
Sanhedrin Ranch	Reservoir		George Kokkinakis	Glenn	Stony Creek	1967	120	Sacramento River
Stony Creek Gravel Dam	Dam		Glenn-Colusa Irrigation District	Glenn	Stony Creek	1906	100	Sacramento River
Stony Gorge Dam	Dam	Stony Gorge Reservoir	Department of Interior, Bureau of Reclamation	Glenn	Stony Creek	1928	58,500	Sacramento River
Willow Creek	Reservoir		Unknown	Glenn	None	Unknown	Unknown	Sacramento River
Adobe Creek	Reservoir		Lake County Watershed Protection District	Lake	Adobe Creek	1962	695	Sacramento River
Allen Dam	Dam		Evelyn Allen	Lake	Tributary Kelsey Creek	1955	85	Sacramento River
Bar X Ranch Reservoir No. 2	Reservoir		Heart Consciousness Church	Lake	Crazy Creek	2003	147	Sacramento River
Bottoms Reservoir	Reservoir		William and Mary Bottoms	Lake	Tributary Helena Creek	1990	315	Sacramento River
Cache Creek Dam	Dam	Clear Lake	Yolo County Flood Control and Water Conservation District	Lake	Cache Creek	1914	313,000	Sacramento River
Clear Lake	Lake		State of California	Lake	Cache Creek	Unknown	1,155,000	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Coyote Creek Dam	Dam	Hidden Valley Lake	Hidden Valley Lake Association	Lake	Coyote Creek	1968	3,375	Sacramento River
Coyote Creek Weir	Weir		Hidden Valley Lake Association	Lake	Unknown	Unknown	Unknown	Sacramento River
Detert Lake Dam	Dam	Detert Reservoir	Lilys Reach LLC	Lake	Unknown	Unknown	Unknown	Sacramento River
Geunoc Lake	Reservoir		Lilys Reach LLC	Lake	Bucksnort Creek	1928	3,237	Sacramento River
Graham Dam	Dam		Susan Amberson	Lake	Tributary Highland Creek	1959	62	Sacramento River
Highland Creek Dam	Dam	Highland Springs Reservoir	Lake County Watershed Protection District	Lake	Highland Creek	1962	3,500	Sacramento River
Homestake Tailings Dam	Dam		Barrick Gold Corporation	Lake	Tributary Hunting Creek	1990	Unknown	Sacramento River
Indian Valley Dam	Dam	Indian Valley Reservoir	Yolo County Flood Control and Water Conservation District	Lake	North Fork Cache Creek	1976	300,000	Sacramento River
Lake Bordeaux	Reservoir		Lilys Reach LLC	Lake	Tributary Bucksnort Creek	1962	538	Sacramento River
Lake Burgundy Dam	Dam		Lilys Reach LLC	Lake	Tributary Bucksnort Creek	1962	200	Sacramento River
Lake County Sanitation District 2 Dam	Dam		Lake County Sanitation District	Lake	Tributary Lyons Creek	1976	870	Sacramento River
Lake County Sanitation District Dam	Dam		Lake County Sanitation District	Lake	Tributary Burns Val Creek	1972	530	Sacramento River
Lakeport Dam	Dam		City of Lakeport Sewer District 1	Lake	Tributary Manning Creek	1980	650	Sacramento River
Langtry Dam	Dam		Lilys Reach LLC	Lake	Tributary Cassidy Creek	1992	525	Sacramento River
McCreary Dam	Dam	McCreary Lake	Lilys Reach LLC	Lake	Bucksnort Creek	1961	2,098	Sacramento River
Peters Dam	Dam		Benmore Valley Ranch	Lake	Benmore Creek	1940	112	Sacramento River
Spring Valley Dam	Dam	Spring Valley Reservoir	County of Lake	Lake	Wolf Creek	1968	325	Sacramento River
Tailings Impoundment Reservoir	Reservoir		Barrick Gold Corporation	Lake	Unknown	Unknown	60,350	Sacramento River
Albaugh No. 1 Dam	Dam		J. E. Albaugh	Lassen	Tributary Pit River	1953	335	Sacramento River
Albaugh No. 2 Dam	Dam		J. E. Albaugh	Lassen	Tributary Willow Creek	1966	270	Sacramento River
Beaver Creek Reservoir	Reservoir		Beaver Creek Ranch	Lassen	Tributary Beaver Creek	1978	214	Sacramento River
Bull Run Slough Dam	Dam		Unknown	Lassen	Unknown	Unknown	Unknown	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Chace Valley Dam	Dam		Melvin D Myers	Lassen	Tributary Butte Creek	1955	92	Sacramento River
Collett Addition Dam	Dam		Malacha Hydro Limited Partnership	Lassen	Tributary Pit River	1991	7,800	Sacramento River
Collett Afterbay Dam	Dam		Malacha Hydro Limited Partnership	Lassen	Tributary Sacramento River	1991	300	Sacramento River
Coyote Flat Dam	Dam		John B. Crook	Lassen	Coyote Creek	1928	5,250	Sacramento River
Elkins and Lane Dam	Dam	Lane Reservoir	William T. and Kathleen Deforest	Lassen	Tributary Ash Creek	1953	412	Sacramento River
Gerig Dam	Dam		Gerig Dam Association	Lassen	Pit River	1939	110	Sacramento River
Holbrook Reservoir	Reservoir		Betty Carrol and Craig Rulison	Lassen	Ash Creek	1952	719	Sacramento River
Indian Creek Dam	Dam		Unknown	Lassen	Unknown	Unknown	Unknown	Sacramento River
Indian Ole Dam	Dam	Mountain Meadows Reservoir	Pacific Gas and Electric Company	Lassen	Hamilton Creek	1924	24,800	Sacramento River
Iverson Dam	Dam		McArthur 1989 Trust	Lassen	Tributary Juniper Creek	1968	1,800	Sacramento River
Leonard No. 2 Dam	Dam		Drs. Eugene and Ann Breznock	Lassen	Tributary Ash Creek	1968	187	Sacramento River
Mill Pond Dam	Dam	Mill Pond Embankment	Unknown	Lassen	Unknown	Unknown	Unknown	Sacramento River
Muck Valley Afterbay	Reservoir		Malacha Hydro Limited Partnership	Lassen	Pit River Offstream	1990	420	Sacramento River
Muck Valley Diversion Reservoir	Reservoir		Malacha Hydro Limited Partnership	Lassen	Pit River	1988	24	Sacramento River
Myers Dam	Dam	Myers Reservoir	Daran V. Myers	Lassen	Tributary Ash Creek	1957	279	Sacramento River
Nine Springs Dam	Dam	Nine Springs Reservoir	Dan Tankersley	Lassen	Tributary Bull Run Slough	1954	125	Sacramento River
Rains Creek	Reservoir		Richard W. Callison	Lassen	Fraser Creek	1960	126	Sacramento River
Silva Flat Dam	Dam	Silva Flat Reservoir	Rick and Tracy Boggs	Lassen	Juniper Creek	1926	3,900	Sacramento River
Spooner Dam	Dam	Spooner Reservoir	Gary Johns	Lassen	Tributary Ash Creek	1906	3,123	Sacramento River
Tule Lake	Reservoir		John Hancock Mutual Ins Co	Lassen	Cedar Creek	1904	39,500	Sacramento River
Bayley Reservoir Dam	Dam	Bayley Reservoir	Alturas Ranches, LLC	Modoc	Crooks Canyon	1954	2,390	Sacramento River
Big Dobe North Dam	Dam		Ronald Schluter	Modoc	Tributary Rattlesnake Creek	1912	6,530	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Big Dobe South Dam	Dam		Ronald Schluter	Modoc	Tributary Rattlesnake Creek	1912	3,860	Sacramento River
Big Juniper Creek Dam	Dam		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Big Sage Dam	Dam	Big Sage Reservoir	Hot Springs Valley Irrigation District	Modoc	Rattlesnake Creek	1921	77,000	Sacramento River
Bucher Swamp Dam	Dam		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
C Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Carpenter Wilson Dam	Dam	Wilson Reservoir	Leon and Grace Urrutia	Modoc	Cooley Gulch	1948	93	Sacramento River
Clarke Dam	Dam		Juanita C Gardner	Modoc	Tributary North Fork Pit River	1939	70	Sacramento River
Cloverswale Dam	Dam		S-X Ranch, Incorporated	Modoc	Tributary Witcher Creek	1973	4,620	Sacramento River
Cummings Reservoir No. 1 Dam	Dam	Lower Cummings Reservoir	Milano Land and Cattle Company, LLC	Modoc	West Fork Rock Creek	1912	400	Sacramento River
Curtis-Capik Dam	Dam		Loren Crabtree	Modoc	Tributary North Fork Pit River	1965	1,367	Sacramento River
Danhauser Dam	Dam		John W. Capik	Modoc	Tributary South Fork Pit River	1890	1,258	Sacramento River
Davis Creek Orchard Dam	Dam		Wilson Ranches	Modoc	Roberts Creek	1975	1,841	Sacramento River
Davis Creek Orchard Dam	Dam	Davis Creek Orchard Reservoir	Warren Hopkins	Modoc	Unknown	Unknown	Unknown	Sacramento River
Dobe Swale Reservoir Dam	Dam	Dobe Swale Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Donovan Dam	Dam		Unknown	Modoc	Rye Grass Swale	1953	1,234	Sacramento River
Dorris Day Reservoir	Reservoir	Dorris Reservoir	California Pines Property Owners Association	Modoc	Stockdill Slough	Unknown	20,690	Sacramento River
Duncan Dam	Dam	Duncan Reservoir	Department of Interior, Fish and Wildlife Service	Modoc	Tributary Pit River	1919	2575	Sacramento River
Emigrant Spring Reservoir	Reservoir		Peggy S Brown	Modoc	Emigrant Creek	1924	Unknown	Sacramento River
Enquist Dam	Dam		Spencer Murfey	Modoc	Tributary Olivers Canyon	1919	185	Sacramento River
Graven Dam	Dam		Frederick R. and Mildred Anklin	Modoc	Tributary Canyon Creek	1917	1,100	Sacramento River
Halls Meadows Reservoir	Reservoir		Joe and Karen Russ	Modoc	Couch Creek	1941	581	Sacramento River
Hines Brothers Dam	Dam	Hines Reservoir	Craig Knight	Modoc	Tributary Pit River	1955	200	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Householder Dam	Dam	Householder Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Householder Reservoir Dam	Dam	Householder Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Huffman Antelope Dam	Dam		S-X Ranch, Incorporated	Modoc	Clover Swale	1922	1550	Sacramento River
Indian Spring Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Ingals Swamp Dam	Dam	Dossir Brothers Reservoir	S-X Ranch, Incorporated	Modoc	Ingals Swamp	1918	2,850	Sacramento River
Jack's Swamp Dam No. 2	Dam		Glen Nader	Modoc	Tributary Pit River	1926	1,013	Sacramento River
James Porter Dam	Dam	Porter Reservoir	Terry and Carole York	Modoc	Tributary Parker Creek	1928	106	Sacramento River
Jim Creek Dam	Dam		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Junkers Reservoir	Reservoir		Geraldine (Pokey) Silva	Modoc	Tributary Pit River	1923	71	Sacramento River
Kelley and Griener Dam	Dam	Kelley Reservoir	Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Kramer Dam	Dam	Kramer Reservoir	Kramer Ranch, LLC	Modoc	Widow Valley Creek	1937	118	Sacramento River
Lauer Dam	Dam	Lauer Reservoir	Department of Interior, Bureau of Indian Affairs	Modoc	Tributary North Fork Pit River	1900	600	Sacramento River
Leonard Johnson Dam	Dam		C William Johnson	Modoc	Dry Creek	1948	120	Sacramento River
Lindauer concrete Dam	Dam		Carey Ranches	Modoc	Pit River	1920	101	Sacramento River
Little Juniper Dam	Dam	Little Juniper Reservoir	Alturas Ranches, LLC	Modoc	Lower Juniper Creek	1926	1,370	Sacramento River
Lookout Dam	Dam		Lookout Dam Company	Modoc	Pit River	1930	430	Sacramento River
Lost Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Lower Roberts Reservoir	Reservoir		Big Valley Mutual Water Company	Modoc	Tributary Pit River	1905	5,500	Sacramento River
McBrien Dam	Dam	McBrien Reservoir	Hagge Ranch, Inc.	Modoc	Pit River	1880	1,000	Sacramento River
McGinty Dam	Dam	McGinty Reservoir	Department of Interior, Bureau of Indian Affairs	Modoc	Mud Creek	1970	1,090	Sacramento River
McGinty Saddle Dike	Dike	McGinty Reservoir	Department of Interior, Bureau of Indian Affairs	Modoc	Mud Creek	1970	1,090	Sacramento River
Mud Lake	Reservoir		Ronald Schluter	Modoc	Tributary North Fork Pit River	1926	300	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
North Fork Pit River	Weir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Payne Dam	Dam	Payne Reservoir	Ray Or Judy Breiner	Modoc	Tributary South Fork Pit River	1928	2,850	Sacramento River
Pickering Lumber Dam	Dam		Ronald H. Westfall and John P. Ochipinti	Modoc	Tributary Pit River	1932	500	Sacramento River
Pine Creek Reservoir	Reservoir		U. S. Fish and Wildlife Service	Modoc	Tributary to Pit River	Unknown	Unknown	Sacramento River
Plum Canyon Dam	Dam	Porter Reservoir	Warren Weber, et al.	Modoc	Plum Creek	1913	184	Sacramento River
Poindexter Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Pretty Tree Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Renner Sibley Creek Dam	Dam		USA Investments Associates	Modoc	Sibley Creek	1959	765	Sacramento River
Rimrock Valley Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Rock Creek Reservoir	Reservoir		Pacific Gas and Electric Company	Modoc	Unknown	Unknown	Unknown	Sacramento River
Rye Grass Swale Dam	Dam	Graves Reservoir	Rollie L. Gilliam	Modoc	Tributary Canyon Creek	1923	530	Sacramento River
S X 112 Dam	Dam	Essex Reservoir	S-X Ranch, Incorporated	Modoc	Tributary Pit River	1917	4,225	Sacramento River
Shedd Dam	Dam		Joe and Karen Russ	Modoc	Tributary North Fork Pit River	1962	100	Sacramento River
Taylor Creek No. 1 Dam	Dam	Taylor Reservoir	Greg Fowler	Modoc	Taylor Creek	1952	1,500	Sacramento River
Thomas Briles Dam	Dam	Briles Reservoir	Warren Hopkins	Modoc	Tributary Goose Lake	1910	209	Sacramento River
Toreson Dam	Dam	Ballard Reservoir	Mr. and Mrs. Robert G Baird	Modoc	Toms Creek	1898	1,140	Sacramento River
Upper Cummings Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
Upper Pasture Dam	Dam	Upper Pasture	Wilson Ranches	Modoc	Yankee Jim Slough	Unknown	250	Sacramento River
West Valley Reservoir	Reservoir		South Fork Irrigation District	Modoc	West Valley Creek	1936	23,000	Sacramento River
Westside Canal	Weir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River
White Reservoir	Reservoir		Richard Jennings	Modoc	Tributary Pit River	1918	290	Sacramento River
Wood Flat Reservoir	Reservoir		Unknown	Modoc	Unknown	Unknown	Unknown	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Blanchard-Offner Dam	Dam	Lake Rodney	Jerome W. Komes and L. Martini	Napa	Tributary Pope Creek	1963	274	Sacramento River
Burns Dam	Dam		MVP Vineyards, LLC	Napa	Tributary Swartz Creek	1956	62	Sacramento River
Catacoula Dam	Dam		Vintage Ranch Properties Inc	Napa	Maxwell Creek	1953	183	Sacramento River
Davis Creek	Reservoir		Unknown	Napa	Unknown	Unknown	23,000	Sacramento River
Davis Dam	Dam		Riverside County Flood Control and Water Conservation District	Napa	Tributary Pope Creek	1955	140	Sacramento River
Deer Creek Dam	Dam		Homestake Mining Company	Napa	Tributary Pope Creek	1980	103	Sacramento River
Dick Week Dam	Dam		Juliana Mutual Water Company	Napa	Tributary Pope Creek	1955	3,140	Sacramento River
Duvall Dam	Dam		Juliana Mutual Water Company	Napa	Tributary Pope Creek	1940	242	Sacramento River
Eaton H. Magoon Lake Dam	Dam		Jerome W Komes	Napa	Routan Creek	1965	2,762	Sacramento River
Hardester North Dam	Dam		Magoon Estate Limited	Napa	Tributary Burton Creek	Under Constructi on	155	Sacramento River
Homestake Sed M-1 Dam	Dam		Juliana Mutual Water Company	Napa	Tributary Knoxville Creek	1984	39,259	Sacramento River
Lake La Verne Dam	Dam		Homestake Mining Company	Napa	Tributary Capell Creek	1956	54	Sacramento River
Long Valley West No. 2 Reservoir	Reservoir		Clinton and Nancy Pridmore	Napa	Tributary Pope Creek	1982	177	Sacramento River
Lower Twin Lake Dam	Dam	Twin Lakes	Juliana Mutual Water Company	Napa	Tributary Pope Creek	1985	127	Sacramento River
Metcalf Dam	Dam		Juliana Mutual Water Company	Napa	Tributary Maxwell Creek	1974	1,045	Sacramento River
Monticello Reservoir	Reservoir	Lake Berryessa	Skalli Corporation	Napa	Putah Creek	1957	1,902,086	Sacramento River
Moskowite Reservoir Dam	Reservoir	Moskowite Reservoir	Department of Interior, Bureau of Reclamation	Napa	Tributary Capell Creek	1955	472	Sacramento River
Napa Valley Lake	Reservoir		Harold Moskowite	Napa	Tributary Putah Creek	1990	200	Sacramento River
Turkey Ranch	Reservoir		Magoon Estate Ltd	Napa	Tributary Pope Creek	1999	240	Sacramento River
Upper Twin Lake Dam	Dam	Twin Lakes	The Hess Collection Winery	Napa	Tributary Pope Creek	1987	63	Sacramento River
Usibelli No. 2 Dam	Dam		Juliana Mutual Water Company	Napa	Tributary Maxwell Creek	1973	900	Sacramento River
Anderson Ranch Dam	Dam		Usibelli Coal Mine Inc	Nevada	Tributary South Yuba River	1989	30	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Anthony House Dam	Dam	Lake Wildwood	Anderson and Anderson, Inc.	Nevada	Deer Creek	1970	3,840	Sacramento River
Bellett Dam	Dam		Lake Wildwood Association	Nevada	Tributary Shady Creek	1950	90	Sacramento River
Big Downey Lake Dam	Dam	Downey Lake	Erma Bellett	Nevada	Granite Creek	1954	162	Sacramento River
Blue Lake Dam	Dam		California Department of Fish and Wildlife	Nevada	Tributary Rucker Creek	1870	1,123	Sacramento River
Bowman Arch Dam	Dam		Pacific Gas and Electric Company	Nevada	Canyon Creek	1927	68,500	Sacramento River
Bowman Lake	Reservoir		Nevada Irrigation District	Nevada	Canyon Creek	1927	64,000	Sacramento River
Chicago Park Forebay Dam	Dam		Nevada Irrigation District	Nevada	Bear River	1966	103	Sacramento River
Culbertson Dam	Dam		Pacific Gas and Electric Company	Nevada	Tributary Texas Creek	1872	850	Sacramento River
Dam of Middle Lindsey	Dam	Lindsey Lakes	Pacific Gas and Electric Company	Nevada	Lindsey Creek	1870	1,100	Sacramento River
Deer Creek Diversion Dam	Dam	Lower Scotts Flat	Nevada Irrigation District	Nevada	Deer Creek	1928	1,400	Sacramento River
Dutch Flat 2 Forebay Dam	Dam	Dutch Flat No. 2 Forebay	Nevada Irrigation District	Nevada	Tributary Bear River	1965	185	Sacramento River
Dutch Flat Afterbay Dam	Dam		Nevada Irrigation District	Nevada	Bear River	1965	1,300	Sacramento River
Faucherie Dam	Dam		Nevada Irrigation District	Nevada	Canyon Creek	1964	5,500	Sacramento River
Faucherie Spillway Auxiliary	Auxiliary		Nevada Irrigation District	Nevada	Canyon Creek	1966	4,020	Sacramento River
French Lake Dam	Dam		Nevada Irrigation District	Nevada	Canyon Creek	1859	12,500	Sacramento River
Fuller Lake Dam	Dam		Pacific Gas and Electric Company	Nevada	Jordan Creek	1870	1,060	Sacramento River
Hour House Dam	Dam		Unknown	Nevada	Middle Fork Yuba River	1968	285	Sacramento River
Jackson Lake Dam	Dam	Jackson Lake	Nevada Irrigation District	Nevada	Jackson Creek	1942	1,000	Sacramento River
Lake Angela Dam	Dam	Lake Angela Reservoir	Donner Summit Public Utility District	Nevada	Tributary South Fork Yuba River	1924	310	Sacramento River
Lake Fordyce Dam	Dam		Pacific Gas and Electric Company	Nevada	Fordyce Creek	1873	48,900	Sacramento River
Lake Spaulding Dam	Dam	Lake Spaulding	Pacific Gas and Electric Company	Nevada	South Fork Yuba River	1913	74,773	Sacramento River
Lake Spaulding No. 2 Dam	Dam	Spaulding Spillway	Pacific Gas and Electric Company	Nevada	South Yuba River	1916	74,800	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Lake Spaulding No. 3 Auxiliary	Auxiliary	Spaulding Emergency Spillway	Pacific Gas and Electric Company	Nevada	South Yuba River	1919	74,800	Sacramento River
Lake Sterling Dam	Dam	Lake Sterling	Pacific Gas and Electric Company	Nevada	Tributary Fordyce Creek	1877	1,648	Sacramento River
Lake Vera Dam	Dam	Lake Vera	Lake Vera Mutual Water Company	Nevada	Rock Creek	1926	136	Sacramento River
Loma Rica Airport Dam	Dam	Yuba Reservoir	Nevada Irrigation District	Nevada	Tributary Lower Green Horn Creek	1965	94	Sacramento River
Lower Feeley Lake Dam	Dam	Carr Lake	Pacific Gas and Electric Company	Nevada	Tributary Fall Creek	1870	184	Sacramento River
Lower Lindsey Dam	Dam	Lindsey Lakes	Pacific Gas and Electric Company	Nevada	Tributary Texas Creek	1870	320	Sacramento River
Lower Rock Lake	Reservoir		Pacific Gas and Electric Company	Nevada	Texas Creek	1855	50	Sacramento River
Magnolia Dam	Dam		Lake of The Pines Association	Nevada	Magnolia Creek	1967	4,150	Sacramento River
Meadow Lake Dam	Dam	Meadow Lake	Pacific Gas and Electric Company	Nevada	Tributary Fordyce Creek	1864	4,930	Sacramento River
Middle Lindsey Lake	Reservoir	Lindsey Lakes	Pacific Gas and Electric Company	Nevada	Tributary Texas Creek	1870	103	Sacramento River
Milton Diversion Dam	Dam	Milton Reservoir	Unknown	Nevada	Middle Fork Yuba River	1928	270	Sacramento River
Morris Reservoir	Reservoir		Unknown	Nevada	Unknown	1934	Unknown	Sacramento River
Nevada City Raw Water Reservoir	Reservoir		City of Nevada City	Nevada	Tributary Little Deer Creek	1980	53	Sacramento River
Our House	Reservoir		Yuba County Water Agency	Nevada	Middle Yuba River	1969	290	Sacramento River
Penn Valley Wastewater Facility Reservoir	Reservoir		Nevada County Department of Sanitation	Nevada	Tributary Indian Spring Creek	1990	52	Sacramento River
Pine Grove Dam	Dam	Pine Grove Reservoir	San Juan Ridge County Water District	Nevada	Lower Shady Creek	1911	155	Sacramento River
Rex Reservoir	Reservoir		Unknown	Nevada	Unknown	Unknown	Unknown	Sacramento River
Rucker Lake Dam	Dam	Rucker Lake Reservoir	Pacific Gas and Electric Company	Nevada	Rucker Creek	1871	620	Sacramento River
Sawmill Lake Dam	Dam	Sawmill Lake	Nevada Irrigation District	Nevada	Canyon Creek	1910	3,040	Sacramento River
Sawmill Spillway Dam	Dam		Nevada Irrigation District	Nevada	Canyon Creek	1910	3,030	Sacramento River
Scotts Flat Dam	Dam	Scotts Flat Reservoir	Nevada Irrigation District	Nevada	Deer Creek	1948	49,000	Sacramento River
Swan Dam	Dam		Lakewood Association	Nevada	Dry Creek	1967	550	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Upper Feeley Lake Dam	Dam	Feeley Lake	Pacific Gas and Electric Company	Nevada	Tributary Fall Creek	1870	739	Sacramento River
Upper Lindsey Reservoir	Reservoir	Lindsey Lakes	Pacific Gas and Electric Company	Nevada	Lindsey Creek	1870	180	Sacramento River
Upper Rock Lake Auxiliary	Auxiliary		Pacific Gas and Electric Company	Nevada	Texas Creek	1855	207	Sacramento River
Upper Rock Lake Dam	Dam	Rock Lake	Pacific Gas and Electric Company	Nevada	Tributary South Fork Yuba River	1855	207	Sacramento River
Van Giesan Dam	Dam	Lake Combie	Nevada Irrigation District	Nevada	Bear River	1928	5,500	Sacramento River
White Rock Lake	Reservoir		Pacific Gas and Electric Company	Nevada	Tributary North Creek	1850	578	Sacramento River
Yuba Reservoir	Reservoir		Unknown	Nevada	Unknown	Unknown	Unknown	Sacramento River
Alta Dam, Lake	Dam		Placer County Water Agency	Placer	Tributary North Fork American River	1862	270	Sacramento River
Antelope Creek	Weir	Del Mar Weir	Unknown	Placer	Unknown	Unknown	Unknown	Sacramento River
Auburn Valley Country Club No. 3 Dam	Dam		Golf Resources of Auburn Valley, Inc.	Placer	Tributary Bear River	1959	200	Sacramento River
Boole Dam	Dam		California Province of Society of Jesus	Placer	Tributary American River	1951	65	Sacramento River
Christian Valley Dam	Dam		Pacific Gas and Electric Company	Placer	South Fork Dry Creek	1916	110	Sacramento River
City of Lincoln No. 2 Dam	Dam		City of Lincoln	Placer	Offstream	1983	250	Sacramento River
City of Lincoln No. 4 Dam	Dam		City of Lincoln	Placer	Offstream	1997	301	Sacramento River
City of Lincoln Wastewater Treatment Plant Reservoir	Reservoir		City of Lincoln	Placer	Offstream	1977	365	Sacramento River
Clover Valley Creek	Weir	Pond Weir	Placer County Water Agency	Placer	Unknown	Unknown	Unknown	Sacramento River
Clover Valley Dam	Dam		Unknown	Placer	Tributary Antelope Creek	1909	29	Sacramento River
Columbian Dam	Dam		Ethel Mulligan	Placer	Tributary Auburn Ravine	Unknown	132	Sacramento River
Combie Dam	Dam	Lake Combie	Nevada Irrigation District	Placer	Bear River	1928	5,555	Sacramento River
Dairy Weir	Weir	Antelope Creek	Unknown	Placer	Unknown	Unknown	Unknown	Sacramento River
Drum Afterbay Dam	Dam		Pacific Gas and Electric Company	Placer	Bear River	1968	341	Sacramento River
Drum Forebay Dam	Dam		Pacific Gas and Electric Company	Placer	Drum Canyon	1913	564	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Folsom Dike 1	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Dike 2	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Dike 3	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Dike 4	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Dike 5	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Dike 6	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Placer	North Fork American River Offstream	1956	1,120,000	Sacramento River
French Meadows Reservoir	Reservoir		Placer County Water Agency	Placer	Middle Fork American River	Unknown	Unknown	Sacramento River
Halsey Afterbay	Reservoir		Pacific Gas and Electric Company	Placer	Dry Creek	1913	106	Sacramento River
Halsey Forebay	Reservoir		Pacific Gas and Electric Company	Placer	Tributary Dry Creek	1916	235	Sacramento River
Halsey Forebay No. 2	Reservoir		Pacific Gas and Electric Company	Placer	Dry Creek	1913	250	Sacramento River
Hinkle Dam	Dam		San Juan Suburban Water District	Placer	Tributary American River	1980	200	Sacramento River
Ice Lakes Dam	Dam	Serene Lakes	Sierra Lakes Co Water District	Placer	Serena Creek	1942	220	Sacramento River
Interbay Dam	Dam		Placer County Water Agency	Placer	Middle Fork American River	1966	178	Sacramento River
Kelly Lake Dam	Dam		Pacific Gas and Electric Company	Placer	Tributary North Fork American River	1928	290	Sacramento River
Kidd Lake Auxiliary	Auxiliary		Pacific Gas and Electric Company	Placer	Tributary South Yuba River	1850	1,520	Sacramento River
Kidd Lake Dam	Dam	Kidd Lake	Pacific Gas and Electric Company	Placer	Tributary South Fork Yuba River	1855	1,930	Sacramento River
Kokila Dam	Dam		George and Donna Wieg, et al.	Placer	Tributary Miners Ravine	1951	54	Sacramento River
L. L. Anderson Dam	Dam		Placer County Water Agency	Placer	Middle Fork American River	1965	111,333	Sacramento River
Lake Arthur Dam	Dam		Placer County Water Agency	Placer	South Fork Dry Creek	1909	87	Sacramento River
Lake Mary Dam	Dam		Unknown	Placer	Tributary South Fork Yuba River	1926	172	Sacramento River
Lake Theodore Dam	Dam	Lake Theodore	Placer County Water Agency	Placer	South Fork Dry Creek	1896	207	Sacramento River
Lake Valley Auxiliary	Auxiliary		Pacific Gas and Electric Company	Placer	North Fork American River	1889	7,960	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Lake Valley Dam	Dam	Lake Valley Reservoir	Pacific Gas and Electric Company	Placer	Tributary North Fork American River	1911	8,127	Sacramento River
Lakewood Dam	Dam		Stoneworth, Inc.	Placer	Dry Creek	1959	165	Sacramento River
Lower Hell Hole Dam	Dam		Placer County Water Agency	Placer	Rubicon River	1966	208,400	Sacramento River
Lower Peak Lake Auxiliary	Auxiliary		Pacific Gas and Electric Company	Placer	Tributary South Yuba River	1860	484	Sacramento River
Lower Peak Lake Dam	Dam	Cascade Lakes	Pacific Gas and Electric Company	Placer	Tributary South Fork Yuba River	1860	494	Sacramento River
Mammoth Reservoir Dam	Dam	Mammoth Reservoir	Placer County Water Agency	Placer	Offstream	1851	103	Sacramento River
Miners Ravine Detention	Detention Basin		Sugar Bowl Corporation	Placer	Dry Creek	2007	120	Sacramento River
Morning Star Reservoir	Reservoir	Big Reservoir	Placer County Flood and Water Conservation District	Placer	North Forbes Creek	1870	1,190	Sacramento River
New Drum Afterbay Dam	Dam		De Anza Placer Gold Mining Company	Placer	Bear River	1968	341	Sacramento River
North Fork Dam	Dam	Lake Clementine	USACE	Placer	North Fork American River	1939	14,700	Sacramento River
Patterson Reservoir	Reservoir		Roger C Patterson	Placer	Tributary Bear River	1962	92	Sacramento River
Putts Lake Dam	Dam	Putts Lake	Walter M Saunders Trust	Placer	Blue Canyon Creek	1916	249	Sacramento River
Ralston Afterbay	Reservoir		Unknown	Placer	Middle Fork American River	1966	2,800	Sacramento River
Red Hawk Ranch Dam	Dam		Unknown	Placer	Dry Creek	Unknown	Unknown	Sacramento River
Rock Creek Dam	Dam	Rock Creek Reservoir	Pacific Gas and Electric Company	Placer	Rock Creek	1916	410	Sacramento River
Rock Creek North Wing Auxiliary	Auxiliary		Pacific Gas and Electric Company	Placer	Rock Creek	1913	550	Sacramento River
Rock Creek South Wing Auxiliary	Auxiliary		Pacific Gas and Electric Company	Placer	Rock Creek	1913	550	Sacramento River
Rollins Dam	Dam	Rollins Reservoir	Thousand Trails Naco TM	Placer	Bear River	1965	66,000	Sacramento River
Snowflower Dam	Dam		Spring Valley Dam Homeowners Association	Placer	Kelly Creek	1964	165	Sacramento River
Spring Valley Ranch Dam	Dam		Unknown	Placer	Tributary Campbell Creek	1958	60	Sacramento River
Sucker Ravine Loomis Tributary	Weir	Inline Weir	Department of Interior, Bureau of Reclamation	Placer	Unknown	Unknown	Unknown	Sacramento River
Sugar Pine Reservoir	Reservoir		Pacific Gas and Electric Company	Placer	North Shirttail Creek	1981	10,964	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Upper Peak Dam	Dam	Cascade Lakes	City of Colfax	Placer	Tributary South Fork Yuba River	1850	2,112	Sacramento River
Wastewater Storage Reservoir	Reservoir		MJ Properties	Placer	Tributary Smuthers Ravine	1978	212	Sacramento River
Winchester Reservoir	Reservoir		Pacific Gas and Electric Company	Placer	Tributary Orr Creek	1999	58	Sacramento River
Wise Forebay	Reservoir		South Sutter Water District	Placer	Auburn Ravine	1913	32	Sacramento River
Antelope Reservoir	Reservoir		California Department of Water Resources	Plumas	Indian Creek	1964	22,566	Sacramento River
Bidwell Lake Dam	Dam	Round Valley Reservoir	Indian Valley Community Service District	Plumas	North Canyon Creek	1865	5,200	Sacramento River
Bucks Diversion Dam	Dam	Lower Bucks Lake	Pacific Gas and Electric Company	Plumas	Bucks Creek	1928	5,843	Sacramento River
Bucks Storage Dam	Dam	Bucks Lake	Pacific Gas and Electric Company	Plumas	Bucks Creek	1928	103,000	Sacramento River
Butt Valley Dam	Dam	Butt Valley Reservoir	Pacific Gas and Electric Company	Plumas	Butt Creek	1924	49,800	Sacramento River
Caribou Afterbay Dam	Dam	Caribou Afterbay	Pacific Gas and Electric Company	Plumas	North Fork Feather River	1959	2,400	Sacramento River
Chester Diversion Dam	Dam		Recl Board Sac-San Joaquin	Plumas	North Fork Feather River	1975	75	Sacramento River
Cresta Dam	Dam		Pacific Gas and Electric Company	Plumas	North Fork Feather River	1949	4,400	Sacramento River
Doyle Reservoir	Reservoir		Plumas National Forest	Plumas	Unknown	Unknown	Unknown	Sacramento River
Eureka Dam	Dam		State Department of Parks and Recreation	Plumas	Eureka Creek	1866	220	Sacramento River
Frenchman Dam	Dam		California Department of Water Resources	Plumas	Little Last Chance Creek	1961	55,477	Sacramento River
Greenhorn Creek Dam	Dam		Unknown	Plumas	Unknown	Unknown	Unknown	Sacramento River
Grizzly Creek Dam	Dam	Grizzly Ice Pond	Jared Stein	Plumas	Big Grizzly Creek	1915	140	Sacramento River
Grizzly Forebay Dam	Dam		Pacific Gas and Electric Company	Plumas	Grizzly Creek	1928	1,112	Sacramento River
Grizzly Valley Dam	Dam	Lake Davis	California Department of Water Resources	Plumas	Big Grizzly Creek	1966	83,000	Sacramento River
Lake Almanor Dam	Dam	Lake Almanor	Pacific Gas and Electric Company	Plumas	North Fork Feather River	1927	1,308,000	Sacramento River
Little Grass Valley Dam	Dam	Little Grass Valley Reservoir	South Feather Water and Power Agency	Plumas	South Fork Feather River	1961	93,010	Sacramento River
Long Lake Dam	Dam	Long Lake	Graeagle Water Company	Plumas	Gray Eagle Creek	1938	1,478	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Lower Three Lakes Dam	Dam	Three Lakes	Pacific Gas and Electric Company	Plumas	Milk Ranch Creek	1928	606	Sacramento River
Mill Creek Dam	Dam		Unknown	Plumas	Unknown	Unknown	Unknown	Sacramento River
Mill Creek Diversion Dam No. 1	Dam		Unknown	Plumas	Unknown	Unknown	Unknown	Sacramento River
Mill Creek Diversion Dam No. 2	Dam		Unknown	Plumas	Unknown	Unknown	Unknown	Sacramento River
Onion Valley Reservoir	Reservoir		Unknown	Plumas	Unknown	Unknown	Unknown	Sacramento River
Rock Creek Dam	Dam	Rock Creek Reservoir	Pacific Gas and Electric Company	Plumas	North Fork Feather River	1950	4,660	Sacramento River
Silver Lake Dam	Dam	Silver Lake	Soper-Wheeler Company	Plumas	Silver Creek	1906	650	Sacramento River
Slate Creek Diversion Dam	Dam		South Feather Water and Power Agency	Plumas	Slate Creek	1961	643	Sacramento River
South Fork Diversion Dam	Dam		South Feather Water and Power Agency	Plumas	South Fork Feather River	1961	88	Sacramento River
Spring Valley Lake Dam	Dam	Spring Valley Lake Reservoir	California Department of Fish and Wildlife	Plumas	Rock Creek	1979	125	Sacramento River
Taylor Lake	Reservoir		The Nature Conservancy	Plumas	Tributary Indian Creek	1929	380	Sacramento River
Battery II Dam	Dam		Sacramento Region County Sanitation District	Sacramento	Unknown	1980	707	Sacramento River
Battery III Dam	Dam		Sacramento Region County Sanitation District	Sacramento	Offstream	1983	240	Sacramento River
Blodgett Dam	Dam	Blodgett Reservoir	Waegell Brothers, et al.	Sacramento	Laguna Creek	1939	374	Sacramento River
Emergency Storage Basin Dam	Dam		Sacramento Region County Sanitation District	Sacramento	Offstream	1977	835	Sacramento River
Folsom Dam	Dam	Folsom Lake	Department of Interior, Bureau of Reclamation	Sacramento	American River	1956	1,120,000	Sacramento River
Folsom Dike 7	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Sacramento	Green Valley	1956	1,120,000	Sacramento River
Folsom Dike 8	Dike	Folsom Lake	Department of Interior, Bureau of Reclamation	Sacramento	South Fork American River Offstream	1956	1,120,000	Sacramento River
Folsom Left Wing Dam	Dam	Folsom Lake	Department of Interior, Bureau of Reclamation	Sacramento	American River	1956	1,120,000	Sacramento River
Folsom Right Wing Dam	Dam	Folsom Lake	Department of Interior, Bureau of Reclamation	Sacramento	American River	1956	1,120,000	Sacramento River
Gerber Creek	Weir	Inline Weir	Unknown	Sacramento	Unknown	Unknown	Unknown	Sacramento River
Mormon Island Auxiliary Dam	Dam	Folsom Lake, Mormon Auxiliary, Folsom Saddle	Department of Interior, Bureau of Reclamation	Sacramento	Blue Ravine	1956	1,120,000	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Morrison Creek	Reservoir		Unknown	Sacramento	Unknown	Unknown	Unknown	Sacramento River
Mount Stoneman Dam	Dam		California Department of Corrections	Sacramento	Tributary American River	1937	33	Sacramento River
Nimbus Dam	Dam	Lake Natoma	Department of Interior, Bureau of Reclamation	Sacramento	American River	1955	8,800	Sacramento River
Willow Hill Reservoir	Reservoir		City of Folsom	Sacramento	Tributary American River	Unknown	Unknown	Sacramento River
Lake Camanche	Reservoir		East Bay Municipal District	San Joaquin	Mokelumne River	1963	Unknown	Sacramento River
Anderson Cottonwood Dam	Dam	Lake Redding	Anderson Cottonwood Irrigation District	Shasta	Sacramento River	1917	1,240	Sacramento River
Anderson Creek	Weir		Unknown	Shasta	Unknown	Unknown	Unknown	Sacramento River
Boyd No. 1 Dam	Dam		Boyd Trucking Company	Shasta	Tributary Cottonwood Creek	1971	218	Sacramento River
Boyd No. 2 Dam	Dam		Boyd Trucking Company	Shasta	Tributary Cottonwood Creek	1973	670	Sacramento River
Brick Flat Pit Containment Dam	Dam		Iron Mountain Mine Reclamation Trust I	Shasta	Slickrock Creek	1994	220	Sacramento River
Charles Smith Irrigation Dam	Dam		United Financial Operations	Shasta	Chicken Spring Gulch	1958	150	Sacramento River
Coleman Forebay Dam	Dam		Pacific Gas and Electric Company	Shasta	South Fork Battle Creek Offstream	1911	76	Sacramento River
George Reese Reservoir Dam	Dam	George Reese Reservoir	Arnold W. Sargent	Shasta	Tributary Tadpole Creek	1876	195	Sacramento River
Hat Creek No. 2 Diversion Dam	Dam		Pacific Gas and Electric Company	Shasta	Hat Creek	1942	620	Sacramento River
Haynes Reservoir Dam	Dam	Lake Margaret	Denny Land & Cattle Co., LLC	Shasta	Goose Creek	1965	5,870	Sacramento River
Iron Canyon Dam	Dam		Pacific Gas and Electric Company	Shasta	Iron Canyon Creek	1965	24,300	Sacramento River
James Montgomery Dam	Dam		George Domb, M.D.	Shasta	Flat Creek	1869	65	Sacramento River
Junge No. 2 Dam	Dam		Francis Carrington	Shasta	Tributary Clover Creek	1965	42	Sacramento River
Junge No. 3 Dam	Dam		Francis Carrington	Shasta	Tributary Clover Creek	1966	180	Sacramento River
Keswick Dam	Dam	Keswick Reservoir	Department of Interior, Bureau of Reclamation	Shasta	Sacramento River	1950	24,132	Sacramento River
Lema Dam	Dam		The McConnell Foundation	Shasta	Tributary Churn Creek	1957	108	Sacramento River
McCloud Dam	Dam	Lake McCloud	Pacific Gas and Electric Company	Shasta	McCloud River	1965	35,300	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
McCumber Dam	Dam	McCumber Reservoir	Pacific Gas and Electric Company	Shasta	North Battle Creek	1907	425	Sacramento River
Misselbeck Dam	Dam	Rainbow Lake	Igo-Ono Community Services District	Shasta	North Fork Cottonwood Creek	1920	3,600	Sacramento River
Nash Dam	Dam		Welton L. and Judith Carrel	Shasta	Tributary Stillwater Creek	1960	428	Sacramento River
North Battle Creek Reservoir Dam	Reservoir	North Battle Creek Reservoir	Pacific Gas and Electric Company	Shasta	North Battle Creek	1909	1,090	Sacramento River
Null Dam	Dam		The Hatch 1987 Revocable Trust	Shasta	Rock Creek	1954	188	Sacramento River
Pit No. 7 Afterbay	Reservoir		Pacific Gas and Electric Company	Shasta	Pit River	1965	800	Sacramento River
Pit No. 7 Dam	Dam	Pit No. 7 Reservoir	Pacific Gas and Electric Company	Shasta	Pit River	1965	34,000	Sacramento River
Pit No. 1 Diversion	Reservoir		Pacific Gas and Electric Company	Shasta	Fall River	1922	50	Sacramento River
Pit No. 1 Forebay	Reservoir		Pacific Gas and Electric Company	Shasta	Fall River	1947	2,800	Sacramento River
Pit No. 3 Dam	Dam	Lake Britton	Pacific Gas and Electric Company	Shasta	Pit River	1925	34,600	Sacramento River
Pit No. 4 Dam	Dam	Pit No. 4 Reservoir	Pacific Gas and Electric Company	Shasta	Pit River	1927	2,000	Sacramento River
Pit No. 5 Conduit Embankment	Reservoir		Pacific Gas and Electric Company	Shasta	Sugar Pine Creek	1943	1,147	Sacramento River
Pit No. 5 Diversion	Reservoir		Pacific Gas and Electric Company	Shasta	Pit River	1943	390	Sacramento River
Pit No. 6 Dam	Dam	Pit No. 6 Reservoir	Pacific Gas and Electric Company	Shasta	Pit River	1965	15,700	Sacramento River
Pit River Weir	Weir		Pacific Gas and Electric Company	Shasta	Pit River	1921	2,800	Sacramento River
Porcupine Reservoir	Reservoir		Lassen National Forest	Shasta	Unknown	Unknown	Unknown	Sacramento River
Reclaimed Water Reservoir	Reservoir		City of Shasta Lake	Shasta	Tributary Churn Creek	1995	370	Sacramento River
Ross No. 1 Dam	Dam		Kaloko Land Corporation	Shasta	Tributary Stillwater Creek	1957	709	Sacramento River
Ross No. 2 Dam	Dam		Kaloko Land Corporation	Shasta	Tributary Stillwater Creek	1957	243	Sacramento River
Shasta Dam	Dam	Shasta Lake	Department of Interior, Bureau of Reclamation	Shasta	Sacramento River	1945	4,661,860	Sacramento River
Slickrock Creek Dam	Dam		Iron Mountain Mine Remediation Trust I	Shasta	Slickrock Creek	2004	231	Sacramento River
Spring Creek Debris Basin	Debris Basin	Spring Creek Reservoir	Department of Interior, Bureau of Reclamation	Shasta	Spring Creek	1964	7,286	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Salt Creek North Branch Dam	Dam		Unknown	Shasta	Unknown	Unknown	Unknown	Sacramento River
Thurmond Dam	Dam		Alan and Sherry Shufelberger	Shasta	Slaughter Pole Creek	1966	140	Sacramento River
Treatment Ponds	Reservoir		Cortez Fisheries, Inc.	Shasta	Tributary Anderson Creek	1975	450	Sacramento River
Truett Dam	Dam	Woodridge Lake	Woodridge Mutual Water and Owners Corporation	Shasta	Ash Creek	1958	219	Sacramento River
Tunnel Reservoir	Reservoir		Unknown	Shasta	Unknown	Unknown	Unknown	Sacramento River
Whiskeytown Dike 1	Dike	Clair A. Hill Whiskeytown Lake	Department of Interior, Bureau of Reclamation	Shasta	Clear Creek Offstream	1963	276,117	Sacramento River
Whiskeytown Dike 2	Dike	Clair A. Hill Whiskeytown Lake	Department of Interior, Bureau of Reclamation	Shasta	Clear Creek Offstream	1963	276,117	Sacramento River
Whiskeytown Reservoir	Reservoir	Clair A. Hill Whiskeytown Lake	Department of Interior, Bureau of Reclamation	Shasta	Clear Creek	1963	276,117	Sacramento River
Jackson Meadows Dam	Dam	Jackson Meadows Reservoir	Unknown	Sierra	Middle Fork Yuba River	1965	52,500	Sacramento River
Lower Sardine Lake Dam	Dam	Lower Sardine Lake	California Department of Fish and Wildlife	Sierra	Sardine Creek	1965	280	Sacramento River
Palen Dam	Dam	Palen Reservoir	Mr. Frederick E.	Sierra	Antelope Creek	1951	146	Sacramento River
Box Canyon Dam	Dam		Siskiyou County Flood Control and Water Conservation District	Siskiyou	Sacramento River	1969	26,000	Sacramento River
Lake Siskiyou Dam	Dam		Unknown	Siskiyou	Unknown	Unknown	Unknown	Sacramento River
Barker Slough Dam	Dam		Unknown	Solano	Unknown	Unknown	Unknown	Sacramento River
Bascherini Dam	Dam		Solano Irrigation District	Solano	Tributary Ulatis Creek	1962	19	Sacramento River
Detention Pond A	Reservoir		City of Dixon	Solano	Offstream	1989	737	Sacramento River
Giles Dam	Dam		Robert and Jean Brown	Solano	Tributary Sweeney Creek	1965	119	Sacramento River
Hass Slough Dam	Dam		Unknown	Solano	Unknown	Unknown	Unknown	Sacramento River
Lagoon Valley County Park Reservoir	Reservoir		City of Vacaville	Solano	Tributary Laguna Creek	1981	780	Sacramento River
Maine Prairie 3 Dam	Dam		Maine Prairie Water District	Solano	Ulatis Creek	1965	96	Sacramento River
Putah Diversion Dam	Dam	Lake Solano	Department of Interior, Bureau of Reclamation	Solano	Putah Creek	1959	720	Sacramento River
Steidlmayer No. 3 Dam	Dam		Roblee, Inc.	Sutter	Unknown	1961	82	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Black Butte Dam	Dam		USACE	Tehama	Stoney Creek	1963	143,700	Sacramento River
Black Butte Regulating Dam	Dam		City of Santa Clara	Tehama	Stony Creek	1989	52	Sacramento River
Corral Dam	Dam		T M Cattle Company	Tehama	Kendrick Creek	1959	51	Sacramento River
Deer Creek Reservoir	Reservoir		Unknown	Tehama	Deer Creek	Unknown	Unknown	Sacramento River
Red Bluff Diversion Dam	Dam	Red Bluff Reservoir	Department of Interior, Bureau of Reclamation	Tehama	Sacramento River	1963	4,170	Sacramento River
Red Bluff Diversion Dike 1	Dike	Red Bluff Reservoir	Department of Interior, Bureau of Reclamation	Tehama	Sacramento River	1963	4,170	Sacramento River
Red Bluff Diversion Dike 2	Dike	Red Bluff Reservoir	Department of Interior, Bureau of Reclamation	Tehama	Sacramento River	1963	4,170	Sacramento River
Rye Dam	Dam		T M Cattle Company	Tehama	Kendrick Creek	1959	83	Sacramento River
South Log Pond	Reservoir		Meyers Motels, Ltd.	Tehama	Tributary Sacramento River	1957	146	Sacramento River
Sunflower Dam	Dam		Newell T. and Anne W. Partch	Tehama	Sunflower Gulch	1976	420	Sacramento River
Top Cat Dam	Dam		Paskenta Band of Nomlaki Indians of California	Tehama	Tributary Brannin Creek	1976	516	Sacramento River
Cache Creek Settling Basin	Reservoir		State Reclamation Board	Yolo	Cache Creek	1993	3,800	Sacramento River
Capay Dam	Dam	Cache Creek	Unknown	Yolo	Unknown	Unknown	Unknown	Sacramento River
Davis Creek	Reservoir		Homestake Mining Company	Yolo	Davis Creek	1985	6,079	Sacramento River
De Boca Reservoir	Reservoir		John Hancock Life Insurance	Yolo	Tributary Deer Creek	1952	225	Sacramento River
Sacramento Bypass	Weir		Unknown	Yolo	Unknown	Unknown	Unknown	Sacramento River
Yolo Bypass	Weir	Freemont Weir	USACE	Yolo	Sacramento River	Unknown	Unknown	Sacramento River
Camp Far West Dam	Dam	Camp Far West Reservoir	South Sutter Water District	Yuba	Bear River	1963	104,500	Sacramento River
Camp Far West Diversion Dam	Dam		South Sutter Water District	Yuba	Bear River	1977	425	Sacramento River
Elizabeth Waters Reservoir	Reservoir		Fellowship of Friends	Yuba	Woods Creek	1981	42	Sacramento River
Francis, Lake Dam	Dam		Yuba County Water Agency	Yuba	Dobbins Creek	2000	1,905	Sacramento River
Harry L. Englebright Dam	Dam	Harry L. Englebright Lake	Unknown	Yuba	Yuba River	1941	70,000	Sacramento River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Honcut Creek Ranch No. 1 Dam	Dam		Honcut Cr Ranch, A Partnership	Yuba	Tributary South Honcut	1964	95	Sacramento River
Lake Nancy	Reservoir		Fellowship of Friends	Yuba	Woods Creek	1981	61	Sacramento River
Log Cabin Dam	Dam		Yuba County Water Agency	Yuba	Oregon Creek	1968	89	Sacramento River
Los Verjeles Dam	Dam	Mildred Lake	Thousand Trails, Inc	Yuba	Dry Creek	1915	1,530	Sacramento River
Lu Pan Reservoir	Reservoir		Fellowship of Friends	Yuba	Tributary Branch Creek	1981	37	Sacramento River
New Bullards Bar Reservoir	Reservoir		Yuba County Water Agency	Yuba	North Yuba River	1970	969,600	Sacramento River
Swan Lake	Reservoir		Fellowship of Friends	Yuba	Tributary Dry Creek	1981	24	Sacramento River
Virginia Ranch	Reservoir		Browns Valley Irrigation District	Yuba	Dry Creek	1963	57,000	Sacramento River
Almond Dam	Dam	Almond Reservoir	East Bay Municipal District	Alameda	Offstream	1954	20	San Francisco Bay
Arroyo Mocho Gaging Weir	Weir		Unknown	Alameda	Unknown	Unknown	Unknown	San Francisco Bay
Berryman Reservoir Dam	Dam	Berryman Reservoir	East Bay Municipal District	Alameda	Offstream	1905	45	San Francisco Bay
Calaveras Dam	Dam	Calaveras Reservoir	City and County of San Francisco	Alameda	Calaveras Creek	1925	100,000	San Francisco Bay
Central Dam	Dam		East Bay Municipal District	Alameda	Offstream	1910	485	San Francisco Bay
Cerrito Creek Dam	Dam	Cerrito Creek Dam	Unknown	Alameda	Unknown	Unknown	Unknown	San Francisco Bay
Chabot Dam	Dam		East Bay Municipal District	Alameda	San Leandro Creek	1892	10,281	San Francisco Bay
Cull Creek Dam	Dam		Alameda Company Public Works Agriculture	Alameda	Cull Creek	1963	310	San Francisco Bay
Decoto Reservoir Dam	Dam	Decoto Reservoir	Alameda County Water District	Alameda	Offstream	1966	46	San Francisco Bay
Del Valle Dam	Dam	Lake Del Valle	California Department of Water Resources	Alameda	Arroyo Valle	1968	77,100	San Francisco Bay
Dunsmuir Reservoir Dam	Dam	Dunsmuir Reservoir	East Bay Municipal District	Alameda	Offstream	1968	197	San Francisco Bay
Estates Dam	Dam	Reservoir Number One	East Bay Municipal District	Alameda	Tributary San Francisco Bay	1903	56	San Francisco Bay
James H Turner Dam	Dam	San Antonio Reservoir	City and County of San Francisco	Alameda	San Antonio Creek	1964	50,500	San Francisco Bay
Lake Temescal Dam	Dam	Lake Temescal	East Bay Regional Park District	Alameda	Temescal Creek	1869	200	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Mayhew Reservoir Dam	Dam	Mayhew Reservoir	Alameda County Water District	Alameda	Offstream	1962	18	San Francisco Bay
Middlefield Reservoir Dam	Dam	Middlefield Reservoir	Alameda County Water District	Alameda	Offstream	1958	22	San Francisco Bay
New Upper San Leandro Dam	Dam	Upper San Leandro Reservoir	East Bay Municipal District	Alameda	San Leandro Creek	1977	42,000	San Francisco Bay
Patterson Dam	Dam		California Department of Water Resources	Alameda	Offstream	1962	98	San Francisco Bay
Patterson Dam	Dam		Alameda County Water District	Alameda	Offstream	1962	46	San Francisco Bay
Piedmont Dam	Dam	Reservoir Number Two	East Bay Municipal District	Alameda	Offstream	1905	60	San Francisco Bay
Quarry Pits	Reservoir		Alameda County Water District	Alameda	Old Alameda Creek	1997	3,360	San Francisco Bay
Rubber Dam 1	Dam		Alameda County Water District	Alameda	Alameda Creek	1965	416	San Francisco Bay
Rubber Dam 3	Dam		Alameda County Water District	Alameda	Alameda Creek	1990	154	San Francisco Bay
San Lorenzo Creek Dam	Dam	Don Castro Reservoir	Alameda Company Public Works Agriculture	Alameda	San Lorenzo Creek	1964	380	San Francisco Bay
Seneca Dam	Dam	Seneca Reservoir	East Bay Municipal District	Alameda	Offstream	1950	92	San Francisco Bay
Shinn Reservoir	Reservoir		Alameda County Water District	Alameda	Tributary Alameda Creek	1987	390	San Francisco Bay
South Reservoir	Reservoir		East Bay Municipal District	Alameda	Offstream	1956	156	San Francisco Bay
Three J Ranch	Reservoir		Laborers Pen TR FND NCAL	Alameda	Ranch Gulley	1955	Unknown	San Francisco Bay
Ward Creek Dam	Dam		Alameda Company Public Works Agriculture	Alameda	Ward Creek	1963	130	San Francisco Bay
Argyle No. 2 Dam	Dam		East Bay Municipal District	Contra Costa	Offstream	1970	22	San Francisco Bay
Briones Dam	Dam	Briones Reservoir	East Bay Municipal District	Contra Costa	Bear Creek	1964	67,520	San Francisco Bay
C L Tilden Park Dam	Dam	Lake Anza	East Bay Municipal District	Contra Costa	Wildcat Creek	1938	268	San Francisco Bay
Clearwell Phase 2 Dam	Dam		East Bay Regional Park District	Contra Costa	Grayson Creek	1977	100	San Francisco Bay
Danville Dam	Dam		Contra Costa Sanitation District	Contra Costa	Offstream	1961	45	San Francisco Bay
Deer Creek Dam	Dam		East Bay Municipal District	Contra Costa	Deer Creek	1963	233	San Francisco Bay
East Bay Municipal Urban Development Erosion Dam	Dam	San Pablo Creek	Contra Costa County Flood Control and Water Conservation District	Contra Costa	Unknown	Unknown	Unknown	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Galindo Creek Dam No. 1	Dam		Unknown	Contra Costa	Unknown	Unknown	Unknown	San Francisco Bay
Galindo Creek Dam No. 2	Dam		Unknown	Contra Costa	Unknown	Unknown	Unknown	San Francisco Bay
Lafayette Dam	Dam	Lafayette Reservoir	Unknown	Contra Costa	Lafayette Creek	1929	4250	San Francisco Bay
Lake La Salle Dam	Dam	Las Trampas Creek	East Bay Municipal District	Contra Costa	Unknown	Unknown	Unknown	San Francisco Bay
Lake Orinda Dam	Dam	Cascade Lake	Unknown	Contra Costa	Cascade Creek	1935	200	San Francisco Bay
Leland Dam	Dam		Orinda Country Club	Contra Costa	Offstream	1955	60	San Francisco Bay
Mallard Dam	Dam	Mallard Reservoir	East Bay Municipal District	Contra Costa	Offstream	1930	3,113	San Francisco Bay
Maloney Dam	Dam	Maloney Reservoir	Contra Costa Water District	Contra Costa	Offstream	1960	68	San Francisco Bay
Martinez Dam	Dam	Martinez Reservoir	East Bay Municipal District	Contra Costa	Pacheco Creek Offstream	1947	296	San Francisco Bay
Moraga Dam	Dam	Moraga Reservoir	Department of Interior, Bureau of Reclamation	Contra Costa	Offstream	1965	36	San Francisco Bay
North Reservoir	Reservoir		East Bay Municipal District	Contra Costa	Offstream	1961	244	San Francisco Bay
Pine Creek Dam	Dam		East Bay Municipal District	Contra Costa	Pine Creek	1956	225	San Francisco Bay
Pine Creek Detention Basin Dam	Dam		Contra Costa County Flood Control and Water Conservation District	Contra Costa	Pine Creek	1981	320	San Francisco Bay
Rheem Creek	Reservoir		Contra Costa County Flood Control and Water Conservation District	Contra Costa	Rheem Creek	1960	Unknown	San Francisco Bay
San Pablo Clearwell Dam	Dam		USACE, Contra Costa County Flood Control and Water Conservation District	Contra Costa	Offstream	1922	17	San Francisco Bay
San Pablo Reservoir	Reservoir		East Bay Municipal District	Contra Costa	San Pablo Creek	1920	43,193	San Francisco Bay
Sobrante Clearwell Dam	Dam		East Bay Municipal District	Contra Costa	Offstream	1964	25	San Francisco Bay
Summit Dam	Dam	Summit Reservoir	East Bay Municipal District	Contra Costa	Tributary Wildcat Creek	1891	117	San Francisco Bay
Walnut Creek Clearwell Dam	Dam		East Bay Municipal District	Contra Costa	Offstream	1967	25	San Francisco Bay
Alpine Dam	Dam		Marin Municipal Water District	Marin	Lagunitas Creek	1917	8,892	San Francisco Bay
Arroyo San Jose	Weir		Unknown	Marin	Unknown	Unknown	Unknown	San Francisco Bay
Big Rock Ranch	Reservoir		Lucas Film, Ltd.	Marin	Nicasio Creek Tributary To Lagunitas Creek	2002	91	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Bon Tempe Dam	Dam	Bon Tempe Lake	Marin Municipal Water District	Marin	Lagunitas Creek	1949	4,300	San Francisco Bay
Dolcini Dam	Dam		Ms Elizabeth W Dolcini	Marin	Salmon Creek	1949	70	San Francisco Bay
Fairfax Creek Dam	Dam		Unknown	Marin	Unknown	Unknown	Unknown	San Francisco Bay
Lagunitas Dam	Dam	Lake Lagunitas	Marin Municipal Water District	Marin	Lagunitas Creek	1872	341	San Francisco Bay
Nicasio Dam	Dam	Nicasio Reservoir	Marin Municipal Water District	Marin	Nicasio Creek	1961	Unknown	San Francisco Bay
Novato Creek Dam	Dam	Stafford Lake	North Marin County Water District	Marin	Novato Creek	1951	4,430	San Francisco Bay
Peters Dam	Dam	Kent Lake	Marin Municipal Water District	Marin	Lagunitas Creek	1954	32,900	San Francisco Bay
Phoenix Lake Dam	Dam	Phoenix Lake Reservoir	Marin Municipal Water District	Marin	Ross Creek	1907	612	San Francisco Bay
San Anselmo Creek Dam	Dam		Unknown	Marin	Unknown	Unknown	Unknown	San Francisco Bay
Seeger Reservoir	Reservoir		Marin Municipal Water District	Marin	Nicasio Creek	1961	22,400	San Francisco Bay
Soulajule Dam	Dam	Soulajule Reservoir	Marin Municipal Water District	Marin	Arroyo Sausal	1979	10,700	San Francisco Bay
Vonsen Dam	Dam		Mrs. Mary Volpi	Marin	Tributary San Antonio Creek	1951	70	San Francisco Bay
Walker Creek	Reservoir		Marin County Office of Education	Marin	Tributary Walker Creek	1976	66	San Francisco Bay
Angwin Dam	Dam		Pacific Union College	Napa	Moore Creek	1967	156	San Francisco Bay
B J Robinson Dam	Dam		Massimo De Simoni	Napa	Tulocay Creek	1957	49	San Francisco Bay
Bassett Brown Dam	Dam		Dr. Bassett Brown	Napa	Tributary Sage Creek	1990	36	San Francisco Bay
Bell Canyon Dam	Dam	Bell Canyon Reservoir	City of St. Helena	Napa	Bell Creek	1959	2,530	San Francisco Bay
Buena Vista Winery Dam	Dam		Buena Vista Winery, Inc	Napa	Tributary Hudeman Slough	1971	120	San Francisco Bay
Camille, Lake Dam	Dam		Napa State Hospital	Napa	Tributary Tulucay Creek	1880	47	San Francisco Bay
Circle S Dam	Dam		Circle S Ranch, LLC Chris Millich	Napa	Tributary Milliken Creek	1979	131	San Francisco Bay
Conn Dam	Dam	Lake Hennessey	City of Napa	Napa	Conn Creek	1946	31,000	San Francisco Bay
Crystal Dam	Dam		Bob Dickson	Napa	Tributary Crystal Creek	1952	105	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Deer Lake Dam	Dam		Anthony J. and Ione A. Cataldo	Napa	Tributary Angwin Creek	1958	260	San Francisco Bay
East Napa Reservoir	Reservoir		Howell Mountain Mutual Water Company	Napa	Unknown	Unknown	Unknown	San Francisco Bay
Eastside Reservoir Dam	Dam	East Napa Reservoir	City of Napa	Napa	Offstream	1948	92	San Francisco Bay
Foss Valley Dam	Dam		Atlas Peak Vineyards	Napa	Tributary Milliken Creek	1988	800	San Francisco Bay
Green Valley Lake Dam	Dam		Heitz Wine Cellars	Napa	Dug Road Gulch	1956	150	San Francisco Bay
Heitz Dam	Dam		Howell Mountain Mutual Water Company	Napa	Tributary Pope Creek	1991	272	San Francisco Bay
Henne Dam	Dam		Hudson Vineyards	Napa	Angwin Stream	1959	109	San Francisco Bay
Hudson Vineyards Dam	Dam		Raymond Vineyard and Cellar, Inc.	Napa	Tributary Huichica Creek	1983	105	San Francisco Bay
Jamieson Vineyards Dam	Dam		City of Calistoga	Napa	Tributary Fagan Creek	Unknown	75	San Francisco Bay
Kimball Canyon Dam	Dam	Kimball Reservoir	Ellen MacVeagh	Napa	Kimball Creek	1939	344	San Francisco Bay
La Herradura Dam	Dam		City of Vallejo	Napa	Tributary Conn Creek	1948	110	San Francisco Bay
Lake Curry Dam	Dam	Lake Curry	Huneeus-Chantre Properties	Napa	Gordon Valley Creek	1926	10,700	San Francisco Bay
Lake Cynthia Dam	Dam		William E Jarvis	Napa	Tributary Soda Creek	1955	92	San Francisco Bay
Lake Leticia	Reservoir		William E Jarvis	Napa	Tributary Milliken Creek	1960	115	San Francisco Bay
Lake Marie Dam	Dam		Elizabeth C Williamson	Napa	Tributary Tulucay Creek	1908	170	San Francisco Bay
Lake Naz Dam	Dam	Lake Naz	Napa State Hospital	Napa	Tributary Napa River	1955	150	San Francisco Bay
Lake William	Reservoir		City of Napa	Napa	Tributary Milliken Creek	1960	340	San Francisco Bay
Linda Vista Dam	Dam		William and Barbara Morgan	Napa	Tributary Chiles Creek	1959	52	San Francisco Bay
Milliken Reservoir	Reservoir		Leroy A Young	Napa	Milliken Creek	1924	1,980	San Francisco Bay
Morgan Reservoir	Reservoir		Robert Egan	Napa	Tributary Gordon Valley Creek	1983	108	San Francisco Bay
Old Waterworks Dam	Dam		Howell Mountain Mutual Water Company	Napa	Tributary Napa River	1883	28	San Francisco Bay
Olson Dam	Dam		Michael J. Maloney	Napa	Ledgewood Creek	1955	200	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Orville Dam	Dam	Lake Orville	State Department of Vet Affairs	Napa	Angwin Creek	1959	89	San Francisco Bay
Rancho La Jota Dam	Dam		Sage Canyon LLC, Allan Chapman	Napa	Tributary Conn Creek	1959	170	San Francisco Bay
Rector Creek Dam	Dam	Rector Reservoir	City of St. Helena	Napa	Rector Creek	1946	4,587	San Francisco Bay
Robert L. Matheson Dam	Dam		Vivette & Company, DBA Saintsbury	Napa	Elder Creek	1954	90	San Francisco Bay
Saint Helena Lower Dam	Dam		Howard E. Thompson	Napa	Tributary Napa River	1878	210	San Francisco Bay
Scotts Canyon Dam	Dam		State Department of Veterans Affairs	Napa	Tributary Carneros Creek	1948	58	San Francisco Bay
Thompson Dam	Dam		C. Mondavi & Sons	Napa	Suisun Creek	1958	23	San Francisco Bay
Veterans Home Dam	Dam	Lake Hinman	Mr. Rene Di Rosa	Napa	Tributary Napa River	1908	39	San Francisco Bay
Willow Lake No. 1	Reservoir		Unknown	Napa	Tributary Napa River	Proposed	89	San Francisco Bay
Wine Lake	Reservoir		John Newmeyer, Green Valley Ranch	Napa	Tributary Carneros Creek	1953	320	San Francisco Bay
Balboa Reservoir	Reservoir		City and County of San Francisco	San Francisco	Offstream	1957	437	San Francisco Bay
Stanford Heights Dam	Dam	Twin Peaks Reservoir	City and County of San Francisco	San Francisco	Offstream	1928	37	San Francisco Bay
Sunset North Basin Dam	Dam	Sunset Reservoir	City and County of San Francisco	San Francisco	Offstream	1938	275	San Francisco Bay
Sunset South Basin Dam	Dam		City and County of San Francisco	San Francisco	Offstream	1960	268	San Francisco Bay
Sutro Reservoir Dam	Dam	Sutro Reservoir	City and County of San Francisco	San Francisco	Offstream	1952	96	San Francisco Bay
University Mound North Basin Dam	Dam		City and County of San Francisco	San Francisco	Offstream	1885	182	San Francisco Bay
University Mound South Basin Dam	Dam		City and County of San Francisco	San Francisco	Offstream	1937	250	San Francisco Bay
Bear Gulch Dam	Dam	Bear Gulch Reservoir	California Water Service Company	San Mateo	Tributary San Fran Bay	1896	672	San Francisco Bay
Canada Road Dam	Dam		State Department of Transportation	San Mateo	Tributary San Mateo Creek	1971	74	San Francisco Bay
Crocker Dam	Dam		Town of Hillsborough	San Mateo	Sanchez Creek	1890	22	San Francisco Bay
Emerald Lake 1 Lower Dam	Dam	Lower Emerald Lake	Emerald Lake Country Club	San Mateo	Tributary San Fran Bay	1885	45	San Francisco Bay
Johnston Dam	Dam		Peninsula Open Space Trust	San Mateo	Arroyo Leon	1919	30	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Laurel Creek Dam	Dam		City of San Mateo	San Mateo	Laurel Creek	1969	55	San Francisco Bay
Lower Crystal Springs Reservoir	Reservoir	Crystal Springs Reservoir	City and County of San Francisco	San Mateo	San Mateo Creek	1888	57,910	San Francisco Bay
Marina Lagoon Dam	Dam		City of San Mateo	San Mateo	Seal Slough	1997	1,600	San Francisco Bay
Notre Dame	Dam		Belmont City Department of Public Works	San Mateo	Belmont Creek	Unknown	120	San Francisco Bay
Pilarcitos Dam	Dam	Pilarcitos Lake	City and County of San Francisco	San Mateo	Pilarcitos Creek	1866	3,100	San Francisco Bay
Pomponio Ranch Dam	Dam		Ann Bowers	San Mateo	Pomponio Creek	1952	256	San Francisco Bay
Rickey Dam	Dam		Mid-Peninsula Open Space District	San Mateo	Peters Creek	1951	47	San Francisco Bay
San Andreas Dam	Dam	San Andreas Lake	City and County of San Francisco	San Mateo	Tributary San Mateo Creek	1870	19,027	San Francisco Bay
Searsville Dam	Dam	Searsville Lake	Stanford University Trustee Board	San Mateo	Corte Madera Creek	1890	952	San Francisco Bay
Spenser Lake	Reservoir		Town of Hillsborough	San Mateo	Tributary San Francisco Bay	1876	73	San Francisco Bay
Upper Crystal Springs Reservoir	Reservoir		Spring Valley Water Company	San Mateo	Laguna Creek	1888	Unknown	San Francisco Bay
Almaden Reservoir	Reservoir		Santa Clara Valley Water District	Santa Clara	Alamitos Creek	1936	2,000	San Francisco Bay
Almaden Valley Dam	Dam	Almaden Reservoir	San Jose Water Agency	Santa Clara	Tributary Alamitos Creek	1965	27	San Francisco Bay
Austrian Dam	Dam	Lake Elsman	San Jose Water Agency	Santa Clara	Los Gatos Creek	1950	6,200	San Francisco Bay
Calero Dam	Dam	Calero Reservoir	Santa Clara Valley Water District	Santa Clara	Calero Creek	1935	9,850	San Francisco Bay
Cherry Flat Dam	Dam	Cherry Flat Reservoir	City of San Jose	Santa Clara	Penitencia Creek	1936	500	San Francisco Bay
Columbine Dam	Dam		San Jose Water Agency	Santa Clara	Offstream	1963	60	San Francisco Bay
Coyote Dam	Dam	Coyote Lake	Santa Clara Valley Water District	Santa Clara	Coyote Creek	1936	23,666	San Francisco Bay
Coyote Percolation Dam	Dam		Santa Clara Valley Water District	Santa Clara	Coyote Creek	1934	72	San Francisco Bay
Ed R Levin Dam	Dam		County of Santa Clara	Santa Clara	Tributary Arroyo de los Coches	1968	150	San Francisco Bay
Elmer J. Chesbro Dam	Dam	Chesbro Reservoir	Santa Clara Valley Water District	Santa Clara	Llagas Creek	1955	8,086	San Francisco Bay
Felt Lake Dam	Dam		Stanford University Trustee Board	Santa Clara	Tributary Los Trancos Creek	1930	900	San Francisco Bay

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Foothill Park Dam	Dam	Boronda Lake	City of Palo Alto	Santa Clara	Tributary Los Trancos Creek	1988	67	San Francisco Bay
Grant Company 2 Dam	Dam	Halls Valley Lake	County of Santa Clara	Santa Clara	Arroyo Aguague	1927	400	San Francisco Bay
Guadalupe Dam	Dam	Guadalupe Reservoir	Santa Clara Valley Water District	Santa Clara	Guadalupe Creek	1935	3,460	San Francisco Bay
Higuera Dam	Dam		Wells Fargo Bank	Santa Clara	South Calera Creek	1953	65	San Francisco Bay
Isabel Lake No. 1	Reservoir		O'Neal, Swenson, McDonald and Hait	Santa Clara	Tributary Isabel Creek	1948	717	San Francisco Bay
Isabel Lake No. 2	Reservoir		O'Neal, Swenson, McDonald and Hait	Santa Clara	Tributary Isabel Creek	Unknown	95	San Francisco Bay
James J. Lenihan Dam	Dam	Lexington Reservoir	Santa Clara Valley Water District	Santa Clara	Los Gatos Creek	1953	21,430	San Francisco Bay
Kelly Cabin Can Dam	Dam		State Department of Parks and Recreation	Santa Clara	Kelly Cabin Canyon Creek	1955	70	San Francisco Bay
Kuhn Dam	Dam		Peggy Kuhn Thompson	Santa Clara	Tributary Dry Creek	1947	85	San Francisco Bay
Lagunita Dam	Dam	Lagunita Reservoir	Stanford University Board of Trustees	Santa Clara	Tributary San Francisco Bay	1900	280	San Francisco Bay
Lake Chesbro	Reservoir		Santa Clara Valley Water District	Santa Clara	Llagas Creek	1955	3	San Francisco Bay
Lake Ranch Dam	Dam	Lake Ranch Reservoir	San Jose Water Agency	Santa Clara	Beardsley Creek	1877	222	San Francisco Bay
Laurel Springs Club Dam	Dam		Laurel Spring Club	Santa Clara	Middle Fork Coyote Creek	1968	250	San Francisco Bay
Leroy Anderson Dam	Dam	Anderson Lake	Santa Clara Valley Water District	Santa Clara	Coyote River	1950	91,280	San Francisco Bay
Lower Howell Dam	Dam		San Jose Water Agency	Santa Clara	Rundell Creek	1877	153	San Francisco Bay
Rinconada Reservoir Dam	Dam	Rinconada Reservoir	Santa Clara Valley Water District	Santa Clara	Offstream	1969	46	San Francisco Bay
San Felipe Ranch Dam	Dam		William R Hewlett et al	Santa Clara	Tributary San Felipe Creek	1959	64	San Francisco Bay
San Francisquito Creek Dam	Dam		Unknown	Santa Clara	Unknown	Unknown	Unknown	San Francisco Bay
Standish Reservoir	Reservoir		Santa Clara Valley Water District	Santa Clara	Coyote Creek	1994	95	San Francisco Bay
Stevens Creek Dam	Dam	Stevens Creek Reservoir	Santa Clara Valley Water District	Santa Clara	Stevens Creek	1935	3,800	San Francisco Bay
Upper Howell Dam	Dam	Howell Reservoir	San Jose Water Agency	Santa Clara	Rundell Creek	1878	243	San Francisco Bay
Vasona Percolation Reservoir	Reservoir		Santa Clara Valley Water District	Santa Clara	Los Gatos Creek	1935	410	San Francisco Bay

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Williams Reservoir	Reservoir		San Jose Water Agency	Santa Clara	Los Gatos Creek	1895	160	San Francisco Bay
Dickson Hill Dam	Dam		City of Vallejo	Solano	Offstream	1960	27	San Francisco Bay
Fleming Hill No. 2 Dam	Dam		City of Fairfield	Solano	Tributary Napa River	1912	33	San Francisco Bay
Lake Chabot Dam	Dam		City of Vallejo	Solano	Blue Rock Springs Creek	1870	504	San Francisco Bay
Lake Frey	Reservoir		City of Vallejo	Solano	Wild Horse Creek	1894	1,075	San Francisco Bay
Lake Herman Dam	Dam	Lake Herman	City of Benicia	Solano	Sulphur Springs Creek	1905	2,210	San Francisco Bay
Lake Madigan Dam	Dam	Lake Madigan	City of Vallejo	Solano	Wild Horse Creek	1908	1,175	San Francisco Bay
Montezuma Dam	Dam		Montezuma Wetlands LLC	Solano	Unknown	2003	225	San Francisco Bay
Municipal Dam	Dam	Suisun Reservoir	City of Suisun	Solano	Tributary Suisun Creek	1939	169	San Francisco Bay
Pennsylvania Creek Dam	Dam		City of Fairfield	Solano	Pennsylvania Creek	1958	148	San Francisco Bay
Pond 2B	Reservoir		International Technology Corporation	Solano	Tributary Suisun Bay	1975	89	San Francisco Bay
Summit Reservoir Dam	Dam	Summit Reservoir	City of Vallejo	Solano	Offstream	1968	220	San Francisco Bay
Swanzy Lake Dam	Dam	Swanzy Reservoir	City of Vallejo	Solano	Tributary Carquinez Stream	1931	107	San Francisco Bay
Terminal Dam	Dam	Terminal Reservoir	Department of Interior, Bureau of Reclamation	Solano	Green Valley Offstream	1959	119	San Francisco Bay
Terminal South Dike	Dike	Terminal Reservoir, South	Department of Interior, Bureau of Reclamation	Solano	Green Valley Offstream	1959	119	San Francisco Bay
Fern Lake Dam	Dam		Sonoma Developmental Center	Sonoma	Tributary Mill Creek	1921	241	San Francisco Bay
Lawler Dam	Dam	Petaluma Reservoir	City of Petaluma	Sonoma	North Creek	1910	190	San Francisco Bay
Lowrey No. 1 Dam	Dam		Roy H. Elliott Jr.	Sonoma	Tributary Carriger Creek	1954	82	San Francisco Bay
Paradise Vineyards	Reservoir		Paradise Vineyards, LLC	Sonoma	Tributary Tolay Creek	2003	100	San Francisco Bay
Pinheiro Dam	Dam		Frank Teixeria	Sonoma	Tributary Petaluma River	1967	83	San Francisco Bay
Sleepy Hollow 2 Dam	Dam		Sleepy Hollow Properties	Sonoma	Tributary Petaluma Creek	1949	104	San Francisco Bay
Sonoma Hills Reservoir	Reservoir		Fred Cline	Sonoma	Tributary Tolay Creek	1991	240	San Francisco Bay

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Suttenfield Dam	Dam	Suttonfield Lake	Sonoma Developmental Center	Sonoma	Sonoma Creek	1938	600	San Francisco Bay
Sonoma Valley County Sanitation District Reclamation Pond 1	Reservoir		Sonoma County Water Agency	Sonoma	Offstream	1990	166	San Francisco Bay
Sonoma Valley County Sanitation District Reclamation Pond 2	Reservoir		Sonoma County Water Agency	Sonoma	Offstream	1990	187	San Francisco Bay
Bethany Forebay Dam	Dam		California Department of Water Resources	Alameda	Tributary Italian Slough	1961	5,250	San Joaquin River
Alpine Auxiliary No. 2	Auxiliary		Northern California Power Agency	Alpine	Silver Creek	Unknown	4,300	San Joaquin River
Alpine Auxiliary No. 3	Auxiliary		Northern California Power Agency	Alpine	Silver Creek	Unknown	4,300	San Joaquin River
Alpine Auxiliary No. 4	Auxiliary		Northern California Power Agency	Alpine	Silver Creek	Unknown	4,300	San Joaquin River
Alpine Dam	Dam	Lake Alpine	Northern California Power Agency	Alpine	Silver Creek	1906	4,600	San Joaquin River
Lower Blue Lake	Reservoir		Pacific Gas and Electric Company	Alpine	Blue Creek	1903	4,300	San Joaquin River
Meadow Lake	Reservoir		Pacific Gas and Electric Company	Alpine	Tributary North Fork Mokelumne	1903	5,160	San Joaquin River
North Fork Diversion Dam	Dam	North Fork Diversion Reservoir	Calaveras County Water District	Alpine	North Fork Stanislaus River	1988	120	San Joaquin River
Reba Dam	Dam	Bear Lake	Lake Alpine Water Company	Alpine	Tributary Bloods Creek	1965	361	San Joaquin River
Twin Lakes	Reservoir		Pacific Gas and Electric Company	Alpine	Tributary North Fork Mokelumne	1901	1,300	San Joaquin River
Union Auxiliary No. 2	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	3,200	San Joaquin River
Union Auxiliary No. 3	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	3,200	San Joaquin River
Union Auxiliary No. 4	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	3,200	San Joaquin River
Union Auxiliary No. 7	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	3,200	San Joaquin River
Union Dam	Dam	Union Reservoir	Northern California Power Agency	Alpine	North Fork Stanislaus River	1902	2,000	San Joaquin River
Upper Blue Creek Dam	Dam	Upper Blue Lake	Pacific Gas and Electric Company	Alpine	Blue Creek	1901	7,500	San Joaquin River
Utica Auxiliary No. 2	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	2,500	San Joaquin River
Utica Auxiliary No. 3	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	2,500	San Joaquin River
Utica Auxiliary No. 4	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	2,500	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Utica Auxiliary No. 5	Auxiliary		Northern California Power Agency	Alpine	Tributary North Fork Stanislaus River	Unknown	2,500	San Joaquin River
Utica No. 1 Dam	Dam	Utica Reservoir	Northern California Power Agency	Alpine	North Fork Stanislaus River	1908	2,400	San Joaquin River
Arroyo Seco Dam	Dam	Loch Lake	C Howard East-Howard Prop.	Amador	Tributary Dry Creek	1957	2,433	San Joaquin River
Bear River Dam	Dam	Bear River Reservoir	Pacific Gas and Electric Company	Amador	Bear River	1900	6,818	San Joaquin River
Bear Valley SH Dam	Dam		Bear Valley Water District	Amador	Tributary Bloods Creek	1975	346	San Joaquin River
CSP Mule Creek Dam	Dam		State Department of Corrections	Amador	Offstream	1988	535	San Joaquin River
Electra Diversion Dam	Dam		Unknown	Amador	North Fork Mokelumne River	1947	65	San Joaquin River
Goffinet Dam	Dam		Dave Maiyero	Amador	Jackass Creek	1954	197	San Joaquin River
Henderson Dam	Dam	Henderson Reservoir	Amador Regional Sanitation Authority	Amador	Jackass Creek	1923	500	San Joaquin River
Ione Canal	Reservoir		Amador Water Agency	Amador	Ione Canyon	1962	24	San Joaquin River
Jackson Creek Dam	Dam	Lake Amador	Jackson Valley Irrigation District	Amador	Jackson Creek	1965	22,000	San Joaquin River
Jackson Creek Spillway Dam	Dam		East Bay Municipal District	Amador	Mokelumne River	Unknown	198,000	San Joaquin River
Jameson Dam	Dam		Robert Jameson	Amador	Cosumnes River	1951	102	San Joaquin River
John Orr Dam	Dam		Chris H. and Fay E. Gansberg	Amador	Tributary Jackson Cr	1959	152	San Joaquin River
Lake Tabeaud Dam	Dam	Lake Tabeaud	Pacific Gas and Electric Company	Amador	South Fork Jackson Creek	1901	1,170	San Joaquin River
Lower Bear River Reservoir	Reservoir		Pacific Gas and Electric Company	Amador	Bear River	1952	48,750	San Joaquin River
Pardee Dam	Dam	Pardee Reservoir	East Bay Municipal District	Amador	Mokelumne River	1929	197,950	San Joaquin River
Plymouth Effluent Reservoir	Reservoir		City of Plymouth	Amador	Tributary L Indian Creek	1989	187	San Joaquin River
Pond K	Reservoir		Unimin Corporation	Amador	Unknown	2006	1,056	San Joaquin River
Preston Dam	Dam	Preston Reservoir	Amador Regional Sanitation Authority	Amador	Tributary Mule Creek	1949	268	San Joaquin River
Preston Forebay	Reservoir		Amador Regional Sanitation Authority	Amador	Offstream	1892	30	San Joaquin River
Rancheria Creek	Reservoir		Unknown	Amador	Unknown	Unknown	Unknown	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
SGV Waste Pond No. 2	Reservoir		Sutter Gold Venture	Amador	Tributary Amador Creek	Unknown	419	San Joaquin River
SGV Waste Pond No. 3	Reservoir		Sutter Gold Venture	Amador	Tributary Amador Creek	Unknown	60	San Joaquin River
Shenandoah Lake Dam	Dam	Steiner Pond	HFH, Ltd.	Amador	Pigeon Creek	1962	168	San Joaquin River
Tiger Creek Forebay	Reservoir		Pacific Gas and Electric Company	Amador	Tributary Tiger Creek	1931	36	San Joaquin River
Tiger Creek Regulator Dam	Dam		Pacific Gas and Electric Company	Amador	Tiger Creek	1931	523	San Joaquin River
Upper Bear River Dam	Dam	Bear River Dam	Pacific Gas and Electric Company	Amador	Bear River	1900	7,400	San Joaquin River
Vicini Dam	Dam		Gordon J. Vicini	Amador	Tributary Willow Creek	1980	150	San Joaquin River
West Point Regulating Dam	Dam		Calaveras County Water District	Amador	Ruse Creek	1965	60	San Joaquin River
Andrew Cademartori Dam	Dam		Union Public Utility District	Calaveras	Seasonal Stream	1983	142	San Joaquin River
Bevanda Dam	Dam		Ryan Voorhees	Calaveras	Tributary Calaveras River	1925	90	San Joaquin River
Cherokee Dam	Dam		W. A. Spence, et ux.	Calaveras	Cherokee Creek	1959	630	San Joaquin River
Christensen No. 1 Dam	Dam		Sainte Limited	Calaveras	Steele Creek	1951	69	San Joaquin River
Copper Cove Dam	Dam		Calaveras County Water District	Calaveras	Tributary Littlejohns Creek	1993	205	San Joaquin River
Copperopolis Dam	Dam	Copperopolis Reservoir	Jon and Angelita Janofsky	Calaveras	Penney Creek	1905	225	San Joaquin River
Calaveras Public Utility District Middle Fork Dam	Dam	Schaad's Reservoir	Calaveras Public Utility District	Calaveras	Middle Fork Mokelumne River	1939	2,000	San Joaquin River
Emery Dam	Dam		M-24 Ranch Association	Calaveras	McKinneys Creek	1850	630	San Joaquin River
Ferrario Dam	Dam		Robert and Lynn Wilson	Calaveras	Tributary Bear Creek	1955	250	San Joaquin River
Flotation Tails	Reservoir		Meridian Gold Company	Calaveras	Tributary Little Johns Creek	1989	3,680	San Joaquin River
Flowers Dam	Dam		Oak Canyon Ranch, LLC	Calaveras	Little Johns Creek	1957	724	San Joaquin River
Fly-In-Acres Dam	Dam		Blue Lakes Springs Homeowners	Calaveras	Moran Creek	1953	58	San Joaquin River
Forest Meadows Dam	Dam		Forest Meadows Development Co.	Calaveras	Angels Creek	1975	117	San Joaquin River
Goodwin Dam	Dam		Riverside County Flood Control and Water Conservation District	Calaveras	Stanislaus River	1912	500	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Hein Dam	Dam		Naki Corporation	Calaveras	Tributary Bear Creek	1962	145	San Joaquin River
Holman Dam	Dam		City of Angels	Calaveras	Tributary Angels Creek	1976	250	San Joaquin River
Hunters Dam	Dam		Utica Power Authority	Calaveras	Mill Creek	1928	253	San Joaquin River
Jeff Davis Dam	Dam		Calaveras Public Utility District	Calaveras	Tributary Wet Gulch Creek	1973	1,800	San Joaquin River
La Contenta Reservoir	Reservoir		Calaveras County Water District	Calaveras	Tributary Cosgrove Spring	2002	172	San Joaquin River
LCRMF Dam	Dam		Meridian Gold Company	Calaveras	Tributary Clover Creek	1989	480	San Joaquin River
LCRMF-PWRP Dam	Dam		Meridian Gold Company	Calaveras	Offstream	1989	82	San Joaquin River
McCarty Dam	Dam		Patricia McCarty	Calaveras	Tributary Johnny Creek	1938	93	San Joaquin River
Middle Fork Dam	Dam	Schaads Reservoir	Calaveras Public District	Calaveras	Middle Fork Mokelumne River	1939	1,700	San Joaquin River
Mokelumne Hill Dam	Dam		Mokelumne Hill Sanitary District	Calaveras	Tributary Mokelumne River	1973	52	San Joaquin River
Murphys Afterbay Dam	Dam		Utica Power Authority	Calaveras	Tributary Angels Creek	1953	40	San Joaquin River
Murphys Forebay Dam	Dam		Utica Power Authority	Calaveras	Tributary Angels Creek	1953	54	San Joaquin River
Murphys Wastewater Dam	Dam		Murphys Sanitary District	Calaveras	Offstream	1980	140	San Joaquin River
New Hogan Dam	Dam	New Hogan Lake	USACE	Calaveras	Calaveras River	1963	317,100	San Joaquin River
New Melones Dam	Dam	Melones Lake	Unknown	Calaveras	Stanislaus River	1979	2,870,000	San Joaquin River
Old McCormick Reservoir	Reservoir		Unknown	Calaveras	Unknown	Unknown	Unknown	San Joaquin River
Pine Peak No. 4 Dam	Dam		The Mariner Group	Calaveras	Tributary North Fork Calaveras River	1955	73	San Joaquin River
Redhawk Lake	Reservoir		Calaveras Public District	Calaveras	North Fork Calaveras River	1882	2,760	San Joaquin River
Reid Dam	Dam		Raymond J. Vernazza	Calaveras	Esperanza Creek	1969	70	San Joaquin River
Ross Dam	Dam	Ross Reservoir	Utica Power Authority	Calaveras	French Gulch Creek	1895	85	San Joaquin River
Salt Springs Dam	Dam	Salt Springs Reservoir	Rock Creek Water District	Calaveras	North Fork Mokelumne River	1931	141,900	San Joaquin River
Salt Springs Valley Dam	Dam	Salt Springs Valley Reservoir	Rock Creek Water District	Calaveras	Rock Creek	1882	10,900	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Skyrocket Mine Dam	Dam	Skyrocket Mine	Meridian Gold Company	Calaveras	Littlejohn Creek	1999	1,715	San Joaquin River
Stanislaus Afterbay	Reservoir		Pacific Gas and Electric Company	Calaveras	Middle Fork Stanislaus River	1963	35	San Joaquin River
Stanislaus Forebay East	Reservoir		Pacific Gas and Electric Company	Calaveras	North Fork Stanislaus River Offstream	1908	340	San Joaquin River
Stevenot Reservoir	Reservoir		Sutton Enterprises	Calaveras	Tributary Carson Creek	1987	150	San Joaquin River
Tanner Dam	Dam		Lake Mont Pines Homeowners	Calaveras	Cowell Creek	1959	124	San Joaquin River
Tiger Creek Afterbay	Reservoir		Pacific Gas and Electric Company	Calaveras	North Fork Mokelumne River	1931	3,960	San Joaquin River
Tiger Creek Forebay	Reservoir		Pacific Gas and Electric Company	Calaveras	Tiger Creek	Unknown	42	San Joaquin River
Wallace Reservoir	Reservoir		Wallace Community Services District	Calaveras	Tributary Bear Creek	Unknown	410	San Joaquin River
White Pines Reservoir	Reservoir		Calaveras County Water District	Calaveras	San Antonio Creek	1970	262	San Joaquin River
Alhambra Lake	Weir		Unknown	Contra Costa	Unknown	Unknown	Unknown	San Joaquin River
Antioch Reservoir	Reservoir	Antioch Municipal	City of Antioch	Contra Costa	Tributary San Joaquin River	1935	722	San Joaquin River
Clifton Court Forebay	Reservoir		California Department of Water Resources	Contra Costa	Tributary Old River	1970	29,000	San Joaquin River
Contra Loma Dam	Dam	Contra Loma Reservoir	Department of Interior, Bureau of Reclamation	Contra Costa	San Joaquin River Offstream	1967	2,630	San Joaquin River
Contra Loma Dike No. 2	Dike	Contra Loma Reservoir	Department of Interior, Bureau of Reclamation	Contra Costa	San Joaquin River Offstream	1967	2,630	San Joaquin River
Contra Loma Dike No. 3	Dike	Contra Loma Reservoir	Department of Interior, Bureau of Reclamation	Contra Costa	San Joaquin River Offstream	1967	2,630	San Joaquin River
Dry Creek Dam	Dam		Contra Costa County Flood Control and Water Conservation District	Contra Costa	Dry Creek	1963	330	San Joaquin River
East Antioch Creek	Weir		Unknown	Contra Costa	Unknown	Unknown	Unknown	San Joaquin River
Los Vaqueros Dam	Dam	Los Vaqueros Reservoir	Contra Costa Water Dist	Contra Costa	Kellogg Creek	1997	100,000	San Joaquin River
Marsh Creek Dam	Dam	Marsh Creek Reservoir	Contra Costa County Flood Control and Water Conservation District	Contra Costa	Marsh Creek	1963	4,425	San Joaquin River
Santos Reservoir	Reservoir		Unimin Corporation	Contra Costa	Unknown	1987	880	San Joaquin River
Aukum View Dam	Dam		Showcase Ranches Community Services District	El Dorado	Tributary Flat Creek	1962	136	San Joaquin River
Barnett Dam	Dam		Douglas Milton	El Dorado	Barnett Creek	1948	115	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Big Canyon Creek Dam	Dam		N. Bruce and Barbara E. Ashwill	El Dorado	Big Canyon Creek	1935	395	San Joaquin River
Cameron Park Lake	Reservoir		Cameron Park Community Services District	El Dorado	Deer Creek	1951	480	San Joaquin River
Crystal Lake Dam	Dam		Bridlewood Canyon Owners Association	El Dorado	Tributary Deer Creek	1952	225	San Joaquin River
D'Agostini Dam	Dam		Stanley and Victoria Ri	El Dorado	Spanish Creek	1950	355	San Joaquin River
El Dorado Hills Dam	Dam		El Dorado Irrigation District	El Dorado	Offstream	1980	200	San Joaquin River
Geotherm WW EVAP3 Dam	Dam		Mr. R. S. Livermore	El Dorado	Offstream	Unknown	50	San Joaquin River
Holiday Lake Dam	Dam	Holiday Lake	Holiday Lake Community Services District	El Dorado	Sawmill Creek	1951	150	San Joaquin River
New Bass Lake Dam	Dam	Bass Lake	El Dorado Irrigation District	El Dorado	Carson Creek	1978	745	San Joaquin River
Patterson Dam	Dam		Lake Oaks Community	El Dorado	Deadman Creek	1960	350	San Joaquin River
Sly Park Dam	Dam		El Dorado Irrigation District	El Dorado	Sly Park Creek	1955	44,300	San Joaquin River
Sly Park Saddle Dike	Dike	Jenkinson Lake	Department of Interior, Bureau of Reclamation	El Dorado	Sly Park Creek Offstream	1955	44,390	San Joaquin River
Sun Ridge Meadow Dam	Dam		Sun Ridge Meadow Owners Association	El Dorado	Tributary Latrobe Creek	1990	83	San Joaquin River
Balsam Meadow Dam	Dam		Southern California Edison Co.	Fresno	West Fork Balsam Creek	1986	2,040	San Joaquin River
Bear Creek Diversion Dam	Dam	Bear Diversion	Southern California Edison Co.	Fresno	Bear Creek	1927	103	San Joaquin River
Big Creek Dam No. 2	Dam		Southern California Edison Co.	Fresno	Big Creek	1913	89,800	San Joaquin River
Big Creek Dam No. 3	Dam		Southern California Edison Co.	Fresno	Big Creek	1913	89,800	San Joaquin River
Big Creek Dam No. 3A	Dam		Southern California Edison Co.	Fresno	Big Creek	1917	89,800	San Joaquin River
Big Creek No. 4 Dam	Dam		Southern California Edison Co.	Fresno	Big Creek	1913	100	San Joaquin River
Big Creek No. 5 Dam	Dam		Southern California Edison Co.	Fresno	Big Creek	1921	42	San Joaquin River
Big Creek No. 7 Dam	Dam	Redinger Lake	Southern California Edison Co.	Fresno	San Joaquin River	1951	35,000	San Joaquin River
Florence Lake Dam	Dam	Florence	Southern California Edison Co.	Fresno	South Fork San Joaquin River	1926	64,406	San Joaquin River
Friant Dike 1	Dike	Millerton Lake	Department of Interior, Bureau of Reclamation	Fresno	San Joaquin River Offstream	1942	555,500	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Friant Dike 2	Dike	Millerton Lake	Department of Interior, Bureau of Reclamation	Fresno	San Joaquin River Offstream	1942	555,500	San Joaquin River
Friant Dike 3	Dike	Millerton Lake , Millerton Highway Embankment	Department of Interior, Bureau of Reclamation	Fresno	San Joaquin River Offstream	1942	555,500	San Joaquin River
Friant Millerton Road Embankment A Dam	Dam	Millerton Lake	Department of Interior, Bureau of Reclamation	Fresno	San Joaquin River Offstream	1942	555,500	San Joaquin River
Huntington Lake 1 Dam	Dam	Huntington Lake	Southern California Edison Co.	Fresno	Big Creek	1917	88,834	San Joaquin River
Kerckhoff Diversion Dam	Dam		Unknown	Fresno	San Joaquin River	1920	4,200	San Joaquin River
Little Panoche Detention Basin Dam	Dam	Little Panoche Reservoir	Department of Interior, Bureau of Reclamation	Fresno	Little Panoche Creek	1966	13,270	San Joaquin River
Mendota Diversion Dam	Dam	Mendota Pool	Unknown	Fresno	San Joaquin River	1917	3,000	San Joaquin River
Mono Creek Diversion Dam	Dam	Mono Creek	Southern California Edison Co.	Fresno	Mono Creek	1927	45	San Joaquin River
Portal Forebay Dike	Dike		Southern California Edison Co.	Fresno	Camp 61 Creek	1956	395	San Joaquin River
Portal Powerhouse Forebay	Reservoir	Lake Edison Dam; Lake Thomas A. Edison Dam	Southern California Edison Co.	Fresno	Tributary South Fork San Joaquin River	1955	325	San Joaquin River
San Joaquin River Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	San Joaquin River
Shaver Lake Dam	Dam	Shaver Lake	Southern California Edison Co.	Fresno	Stevenson Creek	1927	135,283	San Joaquin River
Vermilion Valley Dam	Dam	Lake Thomas A Edison	Southern California Edison Co.	Fresno	Mono Creek	1954	125,000	San Joaquin River
No. 1 Forebay	Reservoir	Corrine Lake	Pacific Gas and Electric Company	Madera	Tributary North Fork San Joaquin River	1896	69	San Joaquin River
No. 2 Reservoir	Reservoir	Manzanita Lake	Pacific Gas and Electric Company	Madera	North Fork Willow Creek	1912	168	San Joaquin River
No. 3 Forebay	Reservoir		Pacific Gas and Electric Company	Madera	Tributary North Fork Willow Creek	1906	20	San Joaquin River
Berenda Slough Dam	Dam		Chowchilla Water District	Madera	Berenda Slough	1962	960	San Joaquin River
Big Creek No. 6 Dam	Dam		Southern California Edison Co.	Madera	San Joaquin River	1923	993	San Joaquin River
Black Hawk Dam	Dam		Breck and Lynn Nott	Madera	Coarse Gold Creek	1971	740	San Joaquin River
Buchanan Dam	Dam	H.V. Eastman Lake	USACE	Madera	Chowchilla River	1975	150,000	San Joaquin River
Chilkoot Dam	Dam		Pacific Gas and Electric Company	Madera	Chilkoot Creek	1890	308	San Joaquin River
Crane Valley Storage Dam	Dam	Bass Lake	Pacific Gas and Electric Company	Madera	North Fork Willow Creek	1910	45,410	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Dry Creek Diversion Dam	Dam		Unknown	Madera	Unknown	Unknown	Unknown	San Joaquin River
Friant Dam	Dam	Millerton Lake	Department of Interior, Bureau of Reclamation	Madera	San Joaquin River	1942	555,500	San Joaquin River
Hidden Dam	Dam	Hensley Lake	USACE	Madera	Fresno River	1975	90,000	San Joaquin River
Lake Jane Dam	Dam		SWD Investments - Fulton Ranch, Inc.	Madera	Tributary Hildreth Creek	1961	182	San Joaquin River
Madera Lake Dam	Dam	Madera Equalization Reservoir	Madera Irrigation District	Madera	Fresno River	1958	2,300	San Joaquin River
Mammoth Pool Dam	Dam	Mammoth Pool Reservoir	Southern California Edison Co.	Madera	San Joaquin River	1960	123,000	San Joaquin River
Manzanita Diversion Dam	Dam	Manzanita Lake	Pacific Gas and Electric Company	Madera	North Fork Willow Creek	1917	168	San Joaquin River
Middle Lake Dam	Dam	Middle Lake	L R Martin Inc	Madera	Tributary Buzzard Canyon	1953	74	San Joaquin River
Oakhurst Wastewater Treatment Facility Reservoir	Reservoir		Madera County Maintenance District 22A	Madera	Tributary Fresno River	2005	110	San Joaquin River
San Joaquin No. 3 Forebay	Reservoir		Pacific Gas and Electric Company	Madera	North Fork Willow Creek	1906	19	San Joaquin River
Sierra Vista Dam	Dam		OK Property Co., Inc.	Madera	Chowchilla River	1872	90	San Joaquin River
Spring Dam	Dam	Yosemite Lakes	Yosemite Lakes Owners Association	Madera	Longhollow Creek	1971	152	San Joaquin River
Upper Wilcox Reservoir	Reservoir		C B S Development Corporation	Madera	Tributary Picayunne Creek	1930	200	San Joaquin River
Wishon Forebay	Reservoir	Corrine Lake	Pacific Gas and Electric Company	Madera	North Fork Willow Creek	1896	69	San Joaquin River
Bear Dam	Dam		USACE	Mariposa	Bear Creek	1954	7,700	San Joaquin River
Exchequer Dike	Dike		Merced Irrigation District	Mariposa	Merced River	Unknown	1,200,000	San Joaquin River
Green Valley Dam	Dam		Traian and Alina Micu	Mariposa	Smith Creek	1957	240	San Joaquin River
Hendricks Dam	Dam		Joe Surprenant	Mariposa	Tributary Horse Creek	1958	130	San Joaquin River
Mariposa Creek Weirs	Weir		Unknown	Mariposa	Unknown	Unknown	Unknown	San Joaquin River
Mariposa Dam	Dam	Mariposa Reservoir	USACE	Mariposa	Mariposa Creek	1948	15,000	San Joaquin River
McMahon Dam	Dam		Russell S Rolfe, et ux.	Mariposa	Maxwell Creek	1957	520	San Joaquin River
McSwain Dam	Dam		Merced Irrigation District	Mariposa	Merced River	1966	9,730	San Joaquin River

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Metzger Dam	Dam		Dennis Seastrom	Mariposa	Dutch Creek	1956	75	San Joaquin River
New Exchequer Dam	Dam	Lake McClure	Merced Irrigation District	Mariposa	Merced River	1967	1,032,000	San Joaquin River
Owens Dam	Dam		USACE	Mariposa	Owens Creek	1949	3,600	San Joaquin River
Stockton Creek Dam	Dam		Mariposa Public Utility District	Mariposa	Stockton Creek	1950	368	San Joaquin River
Whispering Oaks Dam	Dam	Bear Creek Lake	Whispering Oaks West Homeowners Association	Mariposa	Bear Creek	1968	69	San Joaquin River
Burns Creek Dam	Dam		USACE	Merced	Burns Creek	1950	6,800	San Joaquin River
Castle Dam	Dam		County of Merced	Merced	Canyon Creek	1991	7,510	San Joaquin River
Castle Dam	Dam	Canal Creek Flood Detention Reservoir (SJRFP System)	USACE, CVFPB, Merced irrigation District	Merced	Canal Creek	1993	6	San Joaquin River
Crocker Diversion Dam	Dam		Merced Irrigation District	Merced	Merced River	1910	300	San Joaquin River
Kelsey Dam	Dam	Kelsey Reservoir	H. G. Kelsey, Jr.	Merced	South Fork Dry Creek	1929	1,000	San Joaquin River
Lake Yosemite Dam	Dam		Merced Irrigation District	Merced	Merced River	1888	8,101	San Joaquin River
Los Banos Creek Detention Dike	Dike	Los Banos Reservoir	Department of Water Resources	Merced	Los Banos Creek	1966	52,920	San Joaquin River
Los Banos Sewage Reservoir	Reservoir		City of Los Banos	Merced	Tributary Mud Slough	1963	1,200	San Joaquin River
Merced Falls Reservoir	Reservoir		Pacific Gas and Electric Company	Merced	Merced River	1901	620	San Joaquin River
Merced River Sneling Diversion Dam	Dam		Unknown	Merced	Unknown	Unknown	Unknown	San Joaquin River
Mustang Creek Dam	Dam		County of Merced	Merced	Mustang Creek	1975	700	San Joaquin River
O'Neill Forebay	Reservoir	O'Neill Forebay Reservoir, San Luis Forebay Reservoir	Department of Interior, Bureau of Reclamation	Merced	San Luis Creek	1967	64,800	San Joaquin River
O'Neill Forebay Dike	Dike	O'Neill Forebay Reservoir, San Luis Forebay Reservoir	Department of Interior, Bureau of Reclamation	Merced	San Luis Creek Offstream	1967	64,800	San Joaquin River
Owens Creek	Reservoir		USACE	Merced	Owens Creek	1957	8	San Joaquin River
San Luis Dam	Dam	Sisk Dam	Department of Interior, Bureau of Reclamation	Merced	San Luis Creek	1967	2,063,510	San Joaquin River
San Luis Dike	Dike		Department of Interior, Bureau of Reclamation	Merced	San Luis Creek Offstream	1967	2,063,510	San Joaquin River
Smith's Reservoir	Reservoir		Lloyds Bank, CA	Merced	Burns Creek	1941	218	San Joaquin River

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Calero Dam	Dam		Rancho Murieta Community Services District	Sacramento	Crevis Creek	1982	2,832	San Joaquin River
Chesbro Dam	Dam		Rancho Murieta Community Services District	Sacramento	Tributary Cosumnes River	1972	1,250	San Joaquin River
Clementia Dam	Dam		Rancho Murieta Community Services District	Sacramento	Tributary Cosumnes River	1976	850	San Joaquin River
Galt Reservoir	Reservoir		City of Galt	Sacramento	Tributary Laguna Creek	1983	90	San Joaquin River
Granlees Dam	Dam		Rancho Murieta Community Services District	Sacramento	Cosumnes River	1921	75	San Joaquin River
Hamel Dam	Dam		Vincent Dedomenico	Sacramento	Tributary Dry Creek	1957	350	San Joaquin River
Michigan Bar No. 1 Dam	Dam		Rancho Murieta Community Services District	Sacramento	Tributary Cosumnes River	1989	814	San Joaquin River
Michigan Bar No. 2 Dam	Dam		Rancho Murieta Community Services District	Sacramento	Tributary Cosumnes River	1983	32	San Joaquin River
Mills Dam	Dam		Paul D. Frank	Sacramento	Tributary Cosumnes River	1952	195	San Joaquin River
Rancho Seco Dam	Dam		Sacramento Municipal Utility District	Sacramento	Tributary Hadselville Creek	1972	2,950	San Joaquin River
Schneider Dam	Dam		Leland Schneider	Sacramento	Tributary Arkansas Creek	1941	126	San Joaquin River
Van Vleck Dam	Dam		Van Vleck Ranch	Sacramento	Tributary Arkansas Creek	1950	2,000	San Joaquin River
Beggs Dam	Dam		Robert Sprowls	San Joaquin	Tributary Mokelumne River	1971	81	San Joaquin River
Camanche Dam	Dam	Camanche Reservoir	East Bay Municipal District	San Joaquin	Mokelumne River	1963	417,120	San Joaquin River
Camanche Dike No. 1	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Camanche Dike No. 2	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Camanche Dike No. 3	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Camanche Dike No. 4	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Camanche Dike No. 5	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Camanche Dike No. 6	Dike		East Bay Municipal District	San Joaquin	Mokelumne River	Unknown	431,000	San Joaquin River
Davis No. 2 Dam	Dam		Fred Podesta, Jr.	San Joaquin	Tributary Calaveras River	1955	1,400	San Joaquin River
Farmington Dam	Dam	Farmington Flood Control Basin	USACE	San Joaquin	Rock and Little John Creeks	1951	52,000	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Fivemile Slough	Weir		Unknown	San Joaquin	Unknown	Unknown	Unknown	San Joaquin River
Foothill Ranch Dam	Dam		Lundblad Bros.	San Joaquin	Tributary Calaveras River	1952	100	San Joaquin River
Gilmore Dam	Dam		Ann Grupe, Susan Depolo and Luanne Malkmus	San Joaquin	Tributary Mormon Slough	1918	550	San Joaquin River
Lower San Joaquin Levee Project (SJRFP system)	Reservoir		CVFPB, Lower San Joaquin Levee District	San Joaquin	San Joaquin and Fresno Rivers, Bear Creek 1, Berenda and Ash Sloughs, Chowchilla Canal, Eastside, and Mariposa Bypasses	1966	Unknown	San Joaquin River
Lower San Joaquin River and Tributaries Project (SJRFP system)	Reservoir		USACE, CVFPB, many Reclamation Districts	San Joaquin	San Joaquin, Stanislaus, Tuolumne, Middle and Old Rivers, Littlejohns Creek, Paradise Cut	1972	Unknown	San Joaquin River
Maria Reservoir	Reservoir		Studley Company	San Joaquin	Unknown	2003	277	San Joaquin River
Mine Run Dam	Dam		East Bay Municipal District	San Joaquin	Mine Run Creek	1978	3	San Joaquin River
Mosher Creek Diversion Dam	Dam		Natural Resources Conservation Service, San Joaquin Co Flood Control and Water Conservation District, Bear Creek Soil Conservation District	San Joaquin	Mosher Creek	1967	Unknown	San Joaquin River
Paradise Cut Dam	Dam	Paradise Dam	Unknown	San Joaquin	Unknown	Unknown	Unknown	San Joaquin River
Reg WW Cnt Oxid Dam	Dam		City of Stockton	San Joaquin	Tributary San Joaquin River	1960	2,872	San Joaquin River
Stockton Diverting Canal Dam	Dam	Stockton Diverting Canal		San Joaquin	Mormon Slough, Calaveras River	1910	Unknown	San Joaquin River
Woodbridge Diversion Dam	Dam	Lodi Lake	Woodbridge Irrigation District	San Joaquin	Mokelumne River	1910	2,464	San Joaquin River
Woodbridge Diversion Dam	Dam	Lodi Lake	Woodbridge Irrigation District	San Joaquin	Mokelumne River	2006	2462	San Joaquin River
Hartzell Dam	Dam		Unknown	San Luis Obispo	Unknown	Unknown	Unknown	San Joaquin River
Las Tablas Dam	Dam		Unknown	San Luis Obispo	Unknown	Unknown	Unknown	San Joaquin River
Dawson Lake Dam	Dam		Turlock Irrigation District	Stanislaus	Tributary Tuolumne River	1896	960	San Joaquin River
Haystack Dam	Dam	Haystack Reservoir	USACE	Stanislaus	Black Rascal Creek	Unknown	8,800	San Joaquin River
La Grange Dam	Dam	La Grange Reservoir	Turlock Irrigation District	Stanislaus	Tuolumne River	1894	500	San Joaquin River
Modesto Effluent Storage Reservoir	Reservoir		City of Modesto	Stanislaus	Offstream	1987	7,830	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Modesto Reservoir	Reservoir	Dallas Warner Reservoir	Modesto Irrigation District	Stanislaus	Tributary Tuolumne River	1911	29,000	San Joaquin River
Orvis Dam	Dam		C Bruce Orvis	Stanislaus	Buckham Gulch	1959	500	San Joaquin River
Rodden Lake Dam	Dam	Rodden Lake	Oakdale Irrigation District	Stanislaus	Lesnini Creek	1916	380	San Joaquin River
Turlock Lake Dam	Dam	Turlock Lake	Turlock Irrigation District	Stanislaus	Tributary Tuolumne River	1915	45,600	San Joaquin River
Woodward Reservoir	Reservoir		South San Joaquin Irrigation District	Stanislaus	Simmons Creek	1918	35,000	San Joaquin River
Beardsley Afterbay	Reservoir		Tri-Dam Project	Tuolumne	Middle Fork Stanislaus River	1958	320	San Joaquin River
Beardsley Dam	Dam		Tri-Dam Project	Tuolumne	Middle Fork Stanislaus River	1957	77,600	San Joaquin River
Beaver Creek Diversion Dam	Dam		Calaveras County Water District	Tuolumne	Beaver Creek	1990	20	San Joaquin River
Big Creek Dam	Dam	Pine Mountain Lake	Pine Mountain Lake Association	Tuolumne	Big Creek	1969	7,650	San Joaquin River
Brentwood Park Dam	Dam		Brentwood Lake Club Inc	Tuolumne	Tributary Sullivan Creek	1964	80	San Joaquin River
Cherry Valley Dam	Dam		San Francisco Public Utilities Commission	Tuolumne	Cherry Creek	1956	273,500	San Joaquin River
Don Pedro Dam	Dam	Don Pedro Reservoir	Turlock Irrigation District	Tuolumne	Tuolumne River	1971	2,030,000	San Joaquin River
Don Pedro Dike A	Dike		Turlock and Modesto Irrigation Districts	Tuolumne	Tuolumne River	1971	2,300,000	San Joaquin River
Don Pedro Dike B	Dike		Turlock and Modesto Irrigation Districts	Tuolumne	Tuolumne River	1971	2,300,000	San Joaquin River
Don Pedro Dike C	Dike		Turlock and Modesto Irrigation Districts	Tuolumne	Tuolumne River	1971	2,300,000	San Joaquin River
Donnells Dam	Dam		Tri-Dam Project	Tuolumne	Middle Fork Stanislaus River	1958	56,893	San Joaquin River
Early Intake Dam	Dam		San Francisco Public Utilities Commission	Tuolumne	Tuolumne River	1925	115	San Joaquin River
Grinding Rock Dam	Dam		Tuolumne City Sanitary District	Tuolumne	Tributary Turnback Creek	1979	330	San Joaquin River
Groveland Wastewater Reclamation No. 2 Dam	Dam		Groveland Community Services District	Tuolumne	Tributary Big Creek	1981	172	San Joaquin River
Hetch Hetchy Reservoir	Reservoir		City and County of San Francisco	Tuolumne	Tuolumne River	1923	Unknown	San Joaquin River
Jamestown Mine Tailings Dam	Dam		County of Tuolumne	Tuolumne	Tributary Woods Creek	1994	12,100	San Joaquin River
Kilmer Dam	Dam		Jack Gardella	Tuolumne	Tributary Dry Creek	1953	99	San Joaquin River

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Kincaid Dam	Dam		Tuolumne Utilities District	Tuolumne	Tributary Curtis Creek	1860	50	San Joaquin River
Lake Eleanor Dam	Dam	Lake Eleanor	San Francisco Public Utilities Commission	Tuolumne	Eleanor Creek	1918	28,600	San Joaquin River
Leland Meadows Dam	Dam		Leland Meadow Water District	Tuolumne	Leland Creek	1978	79	San Joaquin River
Lyons Dam	Dam	Lyons Reservoir	Pacific Gas and Electric Company	Tuolumne	South Fork Stanislaus River	1930	6,228	San Joaquin River
Main Strawberry Dam	Dam	Pinecrest Lake	Pacific Gas and Electric Company	Tuolumne	South Fork Stanislaus River	1916	18,312	San Joaquin River
McKays Point Diversion Dam	Dam		Unknown	Tuolumne	North Fork Stanislaus River	1989	2,100	San Joaquin River
Meadow Dam	Dam	Lily Creek	Unknown	Tuolumne	Unknown	Unknown	Unknown	San Joaquin River
Mid Cooperstown Reservoir	Reservoir		Jack Gardella	Tuolumne	Tributary Dry Creek	1947	90	San Joaquin River
Moccasin Lower Reservoir	Reservoir		San Francisco Public Utilities Commission	Tuolumne	Moccasin Creek	1930	554	San Joaquin River
New Spicer Meadow Dam	Dam	New Spicer Meadow	Calaveras County Water District	Tuolumne	Highland Creek	1989	189,000	San Joaquin River
O' Shaughnessy Dam	Dam	Hetch Hetchy Reservoir	San Francisco Public Utilities Commission	Tuolumne	Tuolumne River	1923	360,000	San Joaquin River
Phoenix Dam	Dam	Phoenix Reservoir	Tuolumne Utilities District	Tuolumne	Sullivan Creek	1880	455	San Joaquin River
Pinecrest Lake Dam	Dam	Pinecrest Lake	Unknown	Tuolumne	Unknown	Unknown	Unknown	San Joaquin River
Priest Dam	Dam	Priest Reservoir	San Francisco Public Utilities Commission	Tuolumne	Rattlesnake Creek	1923	2,350	San Joaquin River
Quartz Dam	Dam		Tuolumne Utilities District	Tuolumne	Tributary Woods Creek	1978	1,500	San Joaquin River
Relief Dam	Dam	Relief Reservoir	Pacific Gas and Electric Company	Tuolumne	Summit Creek	1910	15,122	San Joaquin River
San Diego Reservoir Dam	Dam	San Diego Reservoir	Yosemite Junior College District	Tuolumne	Tributary Mormon Creek	1860	40	San Joaquin River
Sand Bar Flat Dam	Dam	Middle Fork Stanislaus River	Unknown	Tuolumne	Bearssley Lake Offstream	Unknown	Unknown	San Joaquin River
Stanislaus Forebay	Reservoir		Pacific Gas and Electric Company	Tuolumne	Tributary Stanislaus River	1908	320	San Joaquin River
Tulloch Dam	Dam	Tulloch Reservoir	Tri-Dam Project	Tuolumne	Stanislaus River	1958	68,400	San Joaquin River
Tuolumne Log Pond	Reservoir		Tuolumne Bond Me Wuk Indians	Tuolumne	Turn Back Creek	1912	120	San Joaquin River
Twain Harte Lake Dam	Dam	Twain Harte Lake	Twain Harte Lake Association Inc	Tuolumne	Tributary Sullivan Creek	1928	143	San Joaquin River
10 MG Walteria Dam	Dam	None	City of Torrance	Los Angeles	Offstream	1953	31	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
10th and Western Dam	Dam	None	City of Glendale	Los Angeles	Offstream	1924	46	South Coast
18 Mg Walteria Dam	Dam	None	City of Torrance	Los Angeles	Offstream	1987	58	South Coast
Acton Canyon Dam	Dam	None	Unknown	Los Angeles	Unknown	Unknown	Unknown	South Coast
Bailey Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Bailey Canyon Wash	1954	49	South Coast
Big Dalton Dam	Dam	Big Dalton Reservoir	Los Angeles County Department of Public Works	Los Angeles	Big Dalton Wash	1929	1,290	South Coast
Big Dalton Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Big Dalton Wash	1960	193	South Coast
Big Santa Anita Dam	Dam	Big Santa Ana Reservoir	Los Angeles County Department of Public Works	Los Angeles	Tributary Rio Hondo	1927	858	South Coast
Big Tujunga No. 1 Dam	Dam		Los Angeles County Department of Public Works	Los Angeles	Big Tujunga Creek	1931	5,750	South Coast
Blanchard Debris Bas	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Blanchard Canyon	1966	26	South Coast
Bouquet Canyon Dam	Dam	Bouquet Reservoir	City of Los Angeles	Los Angeles	Bouquet Creek	1934	36,505	South Coast
Brand Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Brand Debris Basins	1965	42	South Coast
Brand Park Dam	Dam		City of Glendale	Los Angeles	Offstream	1930	32	South Coast
Castaic Lake Dam	Dam	Castaic Lake	California Department of Water Resources	Los Angeles	Castaic Creek	1973	323,700	South Coast
Century Dam	Dam		California Department of Parks and Recreation	Los Angeles	Malibu Creek	1913	70	South Coast
Channel Diversion Dike	Dike		City of Los Angeles	Los Angeles	Storm Drain Channel	1940	437	South Coast
Chatsworth Dam	Dam	Chatsworth Reservoir	City of Los Angeles	Los Angeles	Tributary Los Angeles River	1918	9,886	South Coast
Chevy Chase 1290 Dam	Dam		City of Glendale	Los Angeles	Tributary Sycamore Can	1940	17	South Coast
Chevy Chase Dam	Dam		City of Glendale	Los Angeles	Sycamore Creek	1927	46	South Coast
Cogswell Dam	Dam	Cogswell Reservoir	Los Angeles County Department of Public Works	Los Angeles	West Fork San Gabriel River	1935	8,969	South Coast
Devils Gate Dam	Dam	Devils Gate Reservoir	Los Angeles County Department of Public Works	Los Angeles	Arroyo Seco	1920	2,600	South Coast
Diederich Reservoir Dam	Dam	Diederich Reservoir	City of Glendale	Los Angeles	Offstream	1950	174	South Coast
Drinkwater Dam	Dam	Drinkwater Reservoir	City of Los Angeles	Los Angeles	Offstream	1923	92	South Coast
Dry Canyon Dam	Dam	Dry Canyon Reservoir	City of Los Angeles	Los Angeles	Dry Canyon Creek	1912	1,140	South Coast
Eagle Rock Dam	Dam	Eagle Rock Reservoir	City of Los Angeles	Los Angeles	Offstream	1953	254	South Coast
East Glorietta Dam	Dam		City of Glendale	Los Angeles	Tributary Verdugo Canyon	1932	71	South Coast
Eaton Wash Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Eaton Wash	1936	721	South Coast
Elderberry Forebay Dam	Dam		City of Los Angeles	Los Angeles	Castaic Creek	1974	28,400	South Coast
Elysian Dam	Dam	Elysian Reservoir	City of Los Angeles	Los Angeles	Tributary Los Angeles River	1943	167	South Coast
Encino Dam	Dam	Encino Reservoir	City of Los Angeles	Los Angeles	Encino Creek	1924	9,789	South Coast
Garvey Dam	Dam	Garvey Reservoir	Metropolitan Water District	Los Angeles	Tributary Rio Hondo	1954	1,610	South Coast
Glenoaks 968 Reservoir Dam	Dam	Glenoaks 968 Reservoir	City of Glendale	Los Angeles	Offstream	1949	28	South Coast
Green Verdugo Dam	Dam		City of Los Angeles	Los Angeles	Tributary Tujunga Wash	1953	99	South Coast
Greystone Reservoir Dam	Dam	Greystone Reservoir	City of Beverly Hills	Los Angeles	Offstream	1970	60	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Haines Canyon Debris Dam	Debris Basin	Haines Canyon Reservoir	USACE Los Angeles District	Los Angeles	Haines Creek	1938	15	South Coast
Hansen Dam	Dam	Hansen Reservoir	USACE Los Angeles District	Los Angeles	Tujunga Wash	1940	44,990	South Coast
Hansen Recreational Lake Dam	Dam		City of Los Angeles	Los Angeles	Offstream	1999	85	South Coast
J. W. Wisda Dam	Dam		California Department of Parks and Recreation	Los Angeles	Tributary Topanga Canyon	1958	45	South Coast
La Tuna Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	La Tuna Canyon	1960	207	South Coast
Laguna Regulating Basin	Reservoir		Los Angeles County Department of Public Works	Los Angeles	Laguna Wash	1970	310	South Coast
Lindero Dam	Dam	Lake Lindero	Lake Lindero Homeowners Association	Los Angeles	Lindero Creek	1966	90	South Coast
Little Dalton Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Little Dalton Canyon	1960	234	South Coast
Live Oak Canyon Dam	Dam	Live Oak Reservoir	Los Angeles County Department of Public Works	Los Angeles	Tributary Marshall Creek	1975	2,500	South Coast
Live Oak Dam	Dam		Metropolitan Water District	Los Angeles	Live Oak Creek	1922	239	South Coast
Lopez Dam	Dam	Lopez Reservoir	USACE Los Angeles District	Los Angeles	Pacoima Wash	1954	209	South Coast
Los Angeles Reservoir Dam	Dam	Los Angeles Reservoir	City of Los Angeles	Los Angeles	San Fernando Creek	1977	10,000	South Coast
Lower Franklin No. 2 Dam	Dam		City of Los Angeles	Los Angeles	Franklin Canyon	1982	206	South Coast
Lower Franklin Dam	Dam	Franklin Canyon Reservoir	City of Los Angeles	Los Angeles	Franklin Canyon	1922	920	South Coast
Lower San Fernando Dam	Dam	Lower Van Norman Lake	City of Los Angeles	Los Angeles	San Fernando Creek	1918	10,000	South Coast
Lower Sunset Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Sunset Canyon	1963	37	South Coast
Lower Van Norman Bypass Dam	Dam		City of Los Angeles	Los Angeles	Offstream	1970	240	South Coast
Malibu Lake Club Dam	Dam		Malibu Lake Mtn Club Inc	Los Angeles	Malibu Creek	1923	500	South Coast
Morgan Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Morgan Canyon Creek	1962	21	South Coast
Morris Reservoir Dam	Reservoir	Morris Reservoir	Los Angeles County Department of Public Works	Los Angeles	San Gabriel River	1935	27,500	South Coast
Morris S Jones Dam	Dam		Pasadena City Department of Water and Power	Los Angeles	Tributary Pit River	1952	154	South Coast
Mulholland Reservoir	Reservoir	Hollywood Reservoir	City of Los Angeles	Los Angeles	Weir Canyon	1924	4,036	South Coast
Pacoima Reservoir	Reservoir		Los Angeles County Department of Public Works	Los Angeles	Pacoima Creek	1929	3,777	South Coast
Palos Verdes Dam	Dam	Palos Verdes Reservoir	Metropolitan Water District	Los Angeles	Tributary La Harbor	1939	1,100	South Coast
Porter Estate Dam	Dam		Porter Ranch Development Co	Los Angeles	Tributary Los Angeles River	1888	135	South Coast
Potrero Dam	Dam	Westlake Lake	Westlake Lake Management Association	Los Angeles	Triunfo Canyon Creek	1967	791	South Coast
Puddingstone Dam	Dam	Puddingstone Reservoir	Los Angeles County Department of Public Works	Los Angeles	Walnut Creek	1928	16,342	South Coast
Puddingstone Diversion Dam	Dam		Los Angeles County Department of Public Works	Los Angeles	San Dimas Wash	1928	150	South Coast
Pyramid Dam	Dam	Pyramid Lake	California Department of Water Resources	Los Angeles	Piru Creek	1973	180,000	South Coast
Reservoir No. 1	Reservoir		City of Burbank	Los Angeles	Tributary Los Angeles River	1928	21	South Coast
Reservoir No. 4	Reservoir		City of Burbank	Los Angeles	Offstream	1955	34	South Coast
Reservoir No. 5	Reservoir		City of Burbank	Los Angeles	Offstream	1949	77	South Coast
Riviera Reservoir Dam	Dam	Riviera Reservoir	City of Santa Monica Department of Public Works	Los Angeles	Offstream	1962	76	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Rubio Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Rubio Creek	1944	44	South Coast
San Dimas Dam	Dam	San Dimas Reservoir	Los Angeles County Department of Public Works	Los Angeles	San Dimas Creek	1922	1,534	South Coast
San Gabriel No. 1 Reservoir	Reservoir		Los Angeles County Department of Public Works	Los Angeles	San Gabriel River	1938	44,183	South Coast
Santa Anita Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Santa Anita Wash	1960	116	South Coast
Santa Fe Dam	Dam	Santa Fe Reservoir	USACE Los Angeles District	Los Angeles	San Gabriel River	1949	45,409	South Coast
Santa Ynez Canyon Dam	Dam		City of Los Angeles	Los Angeles	Tributary Santa Ynez Canyon	1968	356	South Coast
Sawpit Dam	Dam		Los Angeles County Department of Public Works	Los Angeles	Sawpit Creek	1927	406	South Coast
Sawpit Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Sawpit Wash	1955	152	South Coast
Schoolhouse Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Mansfield Channel	1962	19	South Coast
Sepulveda Dam	Dam	Sepulveda Reservoir	USACE Los Angeles District	Los Angeles	Los Angeles River	1941	27,563	South Coast
Sierra Madre Dam	Dam		Los Angeles County Department of Public Works	Los Angeles	Lower Santa Anita Creek	1928	51	South Coast
Sierra Madre Villa Debris Dam	Dam		Los Angeles County Department of Public Works	Los Angeles	Sierra Madre Canyon	1958	109	South Coast
Silver Lake Dam	Dam	Silver Lake Reservoir	City of Los Angeles	Los Angeles	Tributary Ballona Creek	1976	2,020	South Coast
Stevenson Ranch	Reservoir		Los Angeles County Department of Public Works	Los Angeles	Pico Canyon Creek	2004	105	South Coast
Stone Canyon Dam	Dam	Stone Canyon Reservoir	City of Los Angeles	Los Angeles	Stone Canyon Creek	1924	10,372	South Coast
Stough Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Stough Canyon	1961	67	South Coast
Thompson Dam	Dam	McGee Lake	Los Angeles County Department of Public Works	Los Angeles	Thompson Creek	1928	543	South Coast
Upper Franklin Canyon Reservoir Dam	Dam	Upper Franklin Canyon Reservoir	Los Angeles County Department of Public Works	Los Angeles	Unknown	1914	Unknown	South Coast
Upper Hollywood Dam	Dam	Hollywood Reservoir	City of Los Angeles	Los Angeles	Weir Canyon	1933	196	South Coast
Upper San Fernando Dam	Dam		City of Los Angeles	Los Angeles	San Fernando Creek	1921	1,848	South Coast
Upper Stone Canyon Reservoir	Reservoir		City of Los Angeles	Los Angeles	Stone Canyon Creek	1954	425	South Coast
Van Nuys Dam	Dam		San Gabriel County Water District	Los Angeles	Offstream	Unknown	19	South Coast
Westlake Lake Dam	Dam	Westlake Lake	Las Virgenes Municipal Water District	Los Angeles	Tree Springs Creek	1972	9,200	South Coast
Weymouth Memorial Reservoir	Reservoir		Metropolitan Water District	Los Angeles	Offstream	1966	151	South Coast
Whittier Narrows Dam	Dam	Whittier Narrows Reservoir	USACE Los Angeles District	Los Angeles	San Gabriel River	1957	66,702	South Coast
Whittier Reservoir No. 4	Reservoir		City of Whittier Water District	Los Angeles	Tributary San Gabriel River	1931	32	South Coast
Wilson Debris Basin	Debris Basin		Los Angeles County Department of Public Works	Los Angeles	Wilson Canyon	1961	84	South Coast
Yarnell Debris Basin	Debris Basin		City of Los Angeles	Los Angeles	Tributary Bull Canyon	1963	105	South Coast
30 MG Central Reservoir	Reservoir		City of Brea	Orange	Offstream	1924	92	South Coast
Agua Chinon Dam	Dam		County of Orange	Orange	Agua Chinon Wash	1998	256	South Coast
Bee Canyon Retention Basin	Retention Basin		County of Orange	Orange	Bee Canyon Wash	1994	243	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Big Canyon Dam	Dam		City of Newport Beach	Orange	Tributary Big Canyon Creek	1959	600	South Coast
Bonita Canyon Dam	Dam		The Irvine Company	Orange	Bonita Creek	1938	323	South Coast
Brea Dam	Dam	Brea Reservoir	USACE Los Angeles District	Orange	Brea Creek	1942	7,420	South Coast
Carbon Canyon Dam	Dam	Carbon Canyon Reservoir	USACE Los Angeles District	Orange	Carbon Canyon Creek	1961	12,063	South Coast
Diemer No. 8 Dam	Dam		Metropolitan Water District of Southern California	Orange	Offstream	1968	18	South Coast
Diemer Reservoir	Reservoir		Metropolitan Water District	Orange	Offstream	1963	80	South Coast
Dove Canyon Dam	Dam		Dove Canyon Master Association	Orange	Dove Creek	1989	415	South Coast
East Hicks Canyon Retarding Basin	Retarding Basin		County of Orange	Orange	Hicks Canyon Wash	1997	75	South Coast
Eastfoot Retarding Basin	Retarding Basin		Irvine Community Development Company	Orange	Peters Canyon Wash	2007	213	South Coast
El Toro Reservoir Dam	Dam	El Toro Reservoir	El Toro Water District	Orange	Tributary Oso Creek	1967	877	South Coast
Fullerton Dam	Dam	Fullerton Reservoir	USACE Los Angeles District	Orange	East Fullerton Creek	1941	1,342	South Coast
Galivan Retarding Basin	Retarding Basin		County of Orange	Orange	Oso Creek	2000	169	South Coast
Harbor View Dam	Dam		County of Orange	Orange	Jasmine Gulch	1964	28	South Coast
Hicks Canyon Retention Basin	Retention Basin		County of Orange	Orange	Hicks Canyon Wash	1997	110	South Coast
Laguna Dam	Dam	Laguna Reservoir	The Irvine Company	Orange	Tributary San Diego Creek	1938	300	South Coast
Lake Mission Viejo Dam	Dam	Lake Mission Viejo	Lake Mission Viejo Association Inc	Orange	Oso Creek	1976	4,300	South Coast
Lambert Dam	Dam	Lambert Reservoir	The Irvine Company	Orange	Tributary Newport Bay	1929	174	South Coast
Lower Peters Canyon Retarding Basin	Retarding Basin		County of Orange	Orange	Peters Canyon Wash	1990	206	South Coast
Marshburn Retarding Basin	Retarding Basin		County of Orange	Orange	Tributary Marshburn Chan	1998	282	South Coast
Olive Hills Reservoir	Reservoir		City of Anaheim	Orange	Offstream	1962	220	South Coast
Orange County Reservoir	Reservoir		Metropolitan Water District	Orange	Tributary Fullerton Creek	1941	217	South Coast
Orchard Estates Retarding Basin	Retarding Basin		County of Orange	Orange	Tributary Rattlesnake Canyon	1999	138	South Coast
Pacific Ocean Dam	Dam		Unknown	Orange	Unknown	Unknown	Unknown	South Coast
Palisades Reservoir Dam	Dam	Palisades Reservoir	South Coast Water District	Orange	Tributary Prima Deshecha	1963	147	South Coast
Peters Canyon Dam	Dam	Peters Canyon Reservoir	County of Orange	Orange	Peters Canyon	1932	1,090	South Coast
Portola Dam	Dam		Santa Margarita Water District	Orange	Canada Gobernadora	1980	586	South Coast
Rattlesnake Canyon Dam	Dam	Rattlesnake Reservoir	Irvine Ranch Water District	Orange	Rattlesnake Creek	1959	1,480	South Coast
Robinson Ranch	Reservoir		William Lyon Community Inc.	Orange	Dove Creek	Unknown	43	South Coast
Rossmoor No. 1 Dam	Dam		El Toro Water District	Orange	Tributary San Diego Creek	1964	43	South Coast
Rossmoor Retarding Basin	Retarding Basin		El Toro Water District	Orange	Los Alamitos Channel	2002	175	South Coast
Round Canyon Retarding Basin	Retarding Basin		County of Orange	Orange	Round Canyon Wash	1994	286	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
San Joaquin Reservoir	Reservoir		Irvine Ranch Water District	Orange	Tributary Bonita Creek	1966	3,036	South Coast
Sand Canyon Dam	Dam	Sand Canyon Reservoir	Irvine Ranch Water District	Orange	Sand Canyon	1912	960	South Coast
Santiago Creek Dam	Dam	Lake Irvine	Serrano Water District and Irvine Ranch Water District	Orange	Santiago Creek	1933	25,000	South Coast
Sulphur Creek Dam	Dam	Sulphur Creek Reservoir	County of Orange	Orange	Sulphur Creek	1966	520	South Coast
Syphon Canyon Dam	Dam	Syphon Canyon Reservoir	The Irvine Company	Orange	Tributary Newport Bay	1949	500	South Coast
Trabuco Creek	Reservoir		Trabuco Canyon Water District	Orange	Tributary Dove Creek	1984	138	South Coast
Trabuco Retarding Basin	Retarding Basin		County of Orange	Orange	San Diego Creek	1996	390	South Coast
Trampas Canyon Dam	Dam		Oglebay Norton Ind. Sands	Orange	Trampas Canyon	1975	5,700	South Coast
Upper Oso Dam	Dam	Upper Oso Reservoir	Santa Margarita Water District	Orange	Oso Creek	1979	3,700	South Coast
Veeh Dam	Dam	Veeh Reservoir	Lake Hills Community Church	Orange	Tributary San Diego Creek	1936	185	South Coast
Villa Park Dam	Dam		County of Orange	Orange	Santiago Creek	1963	15,600	South Coast
Walnut Canyon Reservoir	Reservoir		City of Anaheim	Orange	Walnut Canyon	1968	2,570	South Coast
Yorba Reservoir	Reservoir	Yorba Linda	County of Orange	Orange	Tributary Santa Ana River	1907	1200	South Coast
1001 Ranch Drain Weir	Weir	1001 Ranch Drain	Unknown	Riverside	Unknown	Unknown	Unknown	South Coast
1001 Ranch Drain West Tributary Weir	Weir	1001 Ranch Drain West Tributary	Unknown	Riverside	Unknown	Unknown	Unknown	South Coast
Alessandro Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Alessandro Creek	1956	370	South Coast
Box Springs Dam	Dam	Box Springs Reservoir	Riverside County Flood Control and Water Conservation District	Riverside	Box Springs River	1960	400	South Coast
Box Springs Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Box Springs Creek	1960	405	South Coast
Cajalco Creek Dam	Dam		Metropolitan Water District	Riverside	Cajalco Creek	2001	889	South Coast
Declez Retention	Retention Basin		San Bernardino County Flood Control District	Riverside	Tributary San Sevaine Creek	1984	331	South Coast
Diamond Valley Lake	Reservoir		Metropolitan Water District	Riverside	Domenigoni Valley Creek	2000	800,000	South Coast
Diamond Valley Lake Forebay	Reservoir		Metropolitan Water District	Riverside	Domenigoni Valley Canyon	1999	500	South Coast
Dunn Ranch Dam	Dam		Agri-Empire, A California Corporation	Riverside	Tributary Hamilton Creek	1987	90	South Coast
El Casco Dam	Dam		Riverside Land Conservancy	Riverside	San Timoteo Creek	1879	143	South Coast
Fairmount Park Dam	Dam	Evans Lake	City of Riverside	Riverside	Tributary Santa Ana River	1923	200	South Coast
Foster Dam	Dam		Idyllwild Water District	Riverside	Lily Creek	1945	56	South Coast
Goodhart Canyon Detention Basin	Detention Basin		Metropolitan Water District	Riverside	Goodhart Canyon	1999	1,026	South Coast
Harrison Street Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Harrison Creek	1954	208	South Coast
Henry J Mills Dam	Dam		Metropolitan Water District	Riverside	Offstream	1979	83	South Coast
Henry J Mills No. 2 Dam	Dam		Metropolitan Water District	Riverside	Offstream	1996	92	South Coast
HJ Mills Reclamation Dam	Dam		Metropolitan Water District	Riverside	Offstream	1996	98	South Coast
Jurupa Basin	Reservoir		Riverside County Flood Control and Water Conservation District	Riverside	Jurupa Wash	1983	167	South Coast
Lake Elsinore Weir	Weir		Unknown	Riverside	Unknown	Unknown	Unknown	South Coast
Lake Hemet Dam	Dam	Lake Hemet	Lake Hemet Municipal Water District	Riverside	Tributary San Jacinto River	1895	14,000	South Coast
Lakeview Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Tributary San Jacinto River	1994	530	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Lee Lake Dam	Dam		Elsinore Valley Municipal Water District	Riverside	Temescal Creek	1919	1,100	South Coast
Mabey Canyon Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Mabey Creek	1974	68	South Coast
Main Street Channel Debris Dam Crest	Dam		Unknown	Riverside	Unknown	Unknown	Unknown	South Coast
Mary Street	Detention Basin		Riverside County Flood Control and Water Conservation District	Riverside	Alessandro Wash	1981	320	South Coast
Mathews Dam	Dam	Lake Mathews	Metropolitan Water District of Southern California	Riverside	Tributary Cajalco Creek	1938	182,000	South Coast
Metz Road Debris Basin	Debris Basin		Riverside County Flood Control and Water Conservation District	Riverside	Tributary San Jacinto River	1981	88	South Coast
Mockingbird Canyon Reservoir	Reservoir		City of Riverside	Riverside	Mockingbird Canyon	1914	1,250	South Coast
Oak Street Dam	Dam	Oak Street Creek Reservoir	Riverside County Flood Control and Water Conservation District	Riverside	Oak Street Creek	1979	138	South Coast
Perris Dam	Dam	Perris Reservoir	California Department of Water Resources	Riverside	Bernasconi Pass	1973	131,452	South Coast
Pigeon Pass Reservoir	Reservoir	Lake Poorman	Riverside County Flood Control and Water Conservation District	Riverside	Pigeon Pass	1958	900	South Coast
Prado Dam	Dam	Prado Reservoir	USACE Los Angeles District	Riverside	Santa Ana River	1941	295,581	South Coast
Prenda Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Prenda Creek	1954	192	South Coast
Quail Valley Dam	Dam		Forecast Homes	Riverside	Tributary San Jacinto River	1959	103	South Coast
Railroad Canyon Dam	Dam	Canyon Lake	Elsinore Valley Municipal Water District	Riverside	San Jacinto River	1928	11586	South Coast
San Jacinto Dam	Dam	San Jacinto Reservoir	Unknown	Riverside	Offstream storage for San Diego Aqueduct	Unknown	Unknown	South Coast
San Jacinto River	Weir		Unknown	Riverside	Unknown	Unknown	Unknown	South Coast
Skinner Clearwell Dam	Dam	Robert A Skinner Reservoir	Metropolitan Water District	Riverside	Tucalota Creek	1973	43,800	South Coast
Sunnymead Ranch	Reservoir		Sunnymead Ranch Community Association	Riverside	Reche Canyon	1985	400	South Coast
Sycamore Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Sycamore Canyon	1956	860	South Coast
Vail Dam	Dam	Vail Lake	Rancho California Water District	Riverside	Temecula Creek	1949	51,000	South Coast
Woodcrest Dam	Dam		Riverside County Flood Control and Water Conservation District	Riverside	Woodcrest Creek	1954	420	South Coast
Alta Loma Basin No. 1	Reservoir		Unknown	San Bernardino	Alta Loma Channel	1964	70	South Coast
Alta Loma Basin No. 2	Reservoir		San Bernardino County Department of Transportation and Flood	San Bernardino	Alta Loma Channel	1971	85	South Coast
Arnold Reservoir	Reservoir		San Bernardino County Department of Transportation and Flood	San Bernardino	Unknown	Unknown	Unknown	South Coast
Bear Valley Dam	Dam	Big bear Lake	Unknown	San Bernardino	Bear Creek	1911	74,000	South Coast
Cedar Lake Dam	Dam		Big Bear Municipal Water District	San Bernardino	Talmadge Creek	1928	30	South Coast
Chino Ranch No. 1 Dam	Dam		First Congregational Church of Los Angeles	San Bernardino	Tonner Canyon Creek	1918	137	South Coast
Crafton Reservoir	Reservoir		City of Industry Urban Development Agency	San Bernardino	Tributary Yucaipa Creek	2001	130	South Coast
Cucamonga Creek Debris Basin	Debris Basin		California Department of Water Resources	San Bernardino	Cucamonga Creek	1980	355	South Coast
Day Creek Debris Basin	Debris Basin		San Bernardino County Department of Transportation and Flood	San Bernardino	Day Creek	1988	140	South Coast

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Deer Canyon Debris Basin	Debris Basin		San Bernardino County Department of Transportation and Flood	San Bernardino	Deer Creek	1980	24	South Coast
Demens Creek Debris Basin	Debris Basin		San Bernardino County Department of Transportation and Flood	San Bernardino	Demens Creek	1980	35	South Coast
Desilting Basin 6 Dam	Dam		San Bernardino County Department of Transportation and Flood	San Bernardino	Cucamonga Creek	1937	250	South Coast
Devil Canyon Dam	Dam		San Bernardino County Flood Control District	San Bernardino	Offstream	1995	980	South Coast
Devils Canyon Dike No. 1	Dike		California Department of Water Resources	San Bernardino	Devils Canyon Dike 1	1934	79	South Coast
Glen Martin Dam	Dam	Shadow Lake	San Bernardino County Flood Control District	San Bernardino	Mountain Home Creek	1950	33	South Coast
Hickory Basin	Reservoir		The Robinson Living Trust	San Bernardino	W Fontana Channel	2001	220	South Coast
Jurupa Basin	Reservoir		San Bernardino County Department of Transportation and Flood	San Bernardino	San Sevaine Creek	2001	1,680	South Coast
Little Mountain Dam	Dam		San Bernardino County Department of Transportation and Flood	San Bernardino	Devil Can Creek	1958	150	South Coast
Little Sand Canyon Dam	Dam	Little Sand Creek	San Bernardino County Department of Transportation and Flood	San Bernardino	Unknown	Unknown	Unknown	South Coast
Mineral Hot Springs Lake Dam	Dam		Unknown	San Bernardino	Tributary East Twin Creek	1967	37	South Coast
Perris Hill Reservoir Dam	Dam	Perris Hill Reservoir	Campus Crusade For Christ International	San Bernardino	Offstream	1962	31	South Coast
Rancho Cielito Dam	Dam	Lake Los Serranos	City of San Bernardino	San Bernardino	Tributary Chino Creek	1912	110	South Coast
San Antonio Dam	Dam	San Antonio Reservoir	Rolling Ridge Ranch	San Bernardino	San Antonio Creek	1956	11,880	South Coast
San Sevaine Basin No. 5 Dam	Dam		San Bernardino County Department of Transportation and Flood	San Bernardino	San Sevaine Creek	2004	2,765	South Coast
Seven Oaks Dam	Dam		San Bernardino County Department of Transportation and Flood	San Bernardino	Santa Ana River	1999	145,600	South Coast
Small Canyon Dam	Dam		San Bernardino County Department of Transportation and Flood	San Bernardino	Tributary City Creek	1957	20	South Coast
Wiggins No. 2 Dam	Dam		San Bernardino County Flood Control District	San Bernardino	Devil Creek	1957	146	South Coast
Yucaipa No. 1 Dam	Dam		San Bernardino Valley Municipal Water District	San Bernardino	Tributary Yucaipa Creek	1978	92	South Coast
Yucaipa No. 2 Dam	Dam		San Bernardino Valley Municipal Water District	San Bernardino	Tributary Yucaipa Creek	1978	100	South Coast
Yucaipa No. 3 Dam	Dam		San Bernardino Valley Municipal Water District	San Bernardino	Tributary Yucaipa Creek	1978	32	South Coast
4S Ranch Dam	Dam	4S Ranch Reservoir	County of San Diego	San Diego	Tributary San Dieguito River	1990	173	South Coast
4-S Ranch Reclamation Reservoir	Reservoir		Thomas Ralphs	San Diego	Artesian Creek	2000	410	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Agua Tibia Dam	Dam		Agua Tibia Ranch	San Diego	Offstream	1947	62	South Coast
Barrett Dam	Dam	Barrett Lake	City of San Diego	San Diego	Cottonwood Creek	1922	44,755	South Coast
Bernardo Reservoir Dam	Dam	Bernardo Reservoir	City of San Diego	San Diego	Offstream	1964	30	South Coast
Black Mountain Water Tank	Reservoir		City of San Diego	San Diego	Offstream	2002	77	South Coast
Blossom Valley Reservoir Dam	Dam	Blossom Valley Reservoir	Padre Dam Municipal Water District	San Diego	Offstream	1962	22	South Coast
Bonita Long Canyon Dam	Dam		City of Chula Vista	San Diego	Tributary Sweetwater River	1986	49	South Coast
Bressi Dam	Dam		Lennar Homes	San Diego	Tributary San Marcos Creek	1942	63	South Coast
Buena Creek Private Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Calavera Dam	Dam		Carlsbad Municipal Water District	San Diego	Calavera Creek	1940	520	South Coast
Carmel Valley Creek Drop Structure Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Case Springs Dam	Dam	Case Springs Lake	Department of Defense, U.S. Marine Corps	San Diego	Tributary San Onofre Creek	1900	67	South Coast
Chambers Dam	Dam	Los Penasquitas Creek	Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Chet Harritt Dam	Dam	Lake Jennings	Helix Water District	San Diego	Quail Canyon Creek	1962	9,790	South Coast
Chollas Dam	Dam	Chollas Reservoir	City of San Diego	San Diego	Tributary Chollas Creek	1901	310	South Coast
Corte Madera Dam	Dam		Rancho Corte Madera Inc	San Diego	Tributary Pine Valley Creek	1919	325	South Coast
Cuyamaca Dam	Dam		Helix Water District	San Diego	Boulder Creek	1887	11,740	South Coast
Dixon Dam	Dam		City of Escondido	San Diego	Tributary Escondido Creek	1970	2,500	South Coast
Earl Thomas Reservoir Dam	Dam	Lake Murray	City of San Diego	San Diego	Offstream	1958	107	South Coast
Eastlake Reservoir	Reservoir		Eastlake I Association	San Diego	Proctor Valley Canyon	1986	77	South Coast
El Capitan Dam	Dam	El Capitan Lake	City of San Diego	San Diego	San Diego River	1934	112,800	South Coast
Fairbanks Dam	Dam		Fairbanks Ranch Association	San Diego	Tributary San Dieguito River	1927	100	South Coast
Henry Jr. Dam	Dam		Mrs. Charlotte Frye	San Diego	Skye Valley	1929	196	South Coast
Henshaw Dam	Dam	Lake Henshaw	Vista Irrigation District	San Diego	San Luis Rey River	1923	50,000	South Coast
Hodges Dam	Dam	Lake Hodges	City of San Diego	San Diego	San Dieguito River	1918	37,700	South Coast
Incline Dam	Dam		Calmat	San Diego	Unknown	Unknown	210	South Coast
Lake Cuyamaca Dam	Dam	Lake Cuyamaca	Lake Cuyamaca Recreation and Park District	San Diego	Boulder Creek	1968	1,000	South Coast
Lake Loveland Dam	Dam	Lake Loveland Reservoir	Sweetwater Authority	San Diego	Sweetwater River	1945	25,400	South Coast
Lake O'Neill Dam	Dam	Lake O'Neill	Department of Defense, U.S. Marine Corps	San Diego	Santa Margarita River Offstream	1883	1,320	South Coast
Lake Ramona	Reservoir		Ramona Municipal Water District	San Diego	Green Valley Road Creek	1988	12,200	South Coast
Lake Wohlford Dam	Dam	Lake Wohlford Reservoir	City of Escondido	San Diego	Escondido Creek	1924	6,950	South Coast
Lower Stehly Dam	Dam		Nicholas J.C. Stehly	San Diego	Tributary Keys Creek	Unknown	145	South Coast
Maerkle Reservoir	Reservoir		Carlsbad Municipal Water District	San Diego	Tributary Aqua Hedionda	1963	600	South Coast
Mary Jo Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Matthews Dam	Dam		Pete Prestininzi	San Diego	Tributary De Luz Creek	1967	52	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Melrose Avenue Dam	Dam		Rancho Carrillo Homeowners Association	San Diego	Tributary San Marcos Creek	1998	52	South Coast
Miramar Dam	Dam	Lake Miramar	City of San Diego	San Diego	Big Surr Creek	1960	7,250	South Coast
Morena Dam	Dam	Morena Reservoir	City of San Diego	San Diego	Cottonwood Creek	1912	50206	South Coast
Mount Helix Reservoir	Reservoir		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Mount Woodson Dam	Dam		Ramona Municipal Water District	San Diego	Offstream	1958	30	South Coast
Murray Reservoir	Reservoir		City of San Diego	San Diego	Chaparral	1918	4,818	South Coast
Olivenhain Dam	Dam	Olivenhain Reservoir	San Diego County Water Authority	San Diego	Tributary Escondido Creek	2003	24,900	South Coast
Palo Verde Dam	Dam	Palos Verde Reservoir	Palo Verde Ranch Homeowners	San Diego	Sweetwater River	1970	730	South Coast
Pilgrim Creek Dam	Dam	Pilgrim Creek Lake	Department of Defense, U.S. Marine Corps	San Diego	Pilgrim Creek	1973	50	South Coast
Poway Dam	Dam	Lake Poway	City of Poway	San Diego	Warren Canyon	1971	3,300	South Coast
Pulgas Lake Dam	Dam	Pulgas Lake	Department of Defense, U.S. Marine Corps	San Diego	Piedra Dr Lubre Creek	1953	125	South Coast
Red Mountain Reservoir Dam	Dam	Red Mountain Reservoir	Fallbrook Public Utility District	San Diego	Reche Creek	1985	1,350	South Coast
River Bottom Reservoir	Reservoir		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
San Dieguito Dam	Dam	San Dieguito Reservoir	Santa Fe Irrigation and San Dieguito Water District	San Diego	Tributary Escondido Creek	1918	883	South Coast
San Marcos Dam	Dam		Vallecitos Water District	San Diego	Tributary San Marcos Creek	1958	320	South Coast
San Marcos Dam	Dam	Lake San Marcos	Citizens Development Corporation	San Diego	San Marcos Creek	1946	480	South Coast
San Vicente Dam	Dam	San Vicente Reservoir	City of San Diego	San Diego	San Vicente Creek	1943	90,230	South Coast
San Vicente Storage Pond 1	Reservoir		Ramona Municipal Water District	San Diego	Offstream	1991	137	South Coast
San Vicente Storage Pond 3	Reservoir		Ramona Municipal Water District	San Diego	Offstream	2002	69	South Coast
Santa Fe Seasonal Storage Reservoir	Reservoir		Santa Fe Community Services District	San Diego	Tributary San Dieguito River	Proposed	132	South Coast
Santa Maria Creek	Reservoir		Ramona Municipal Water District	San Diego	Offstream	1995	217	South Coast
Savage Dam	Dam	Lower Otay Lake Reservoir	City of San Diego	San Diego	Otay River	1919	49,510	South Coast
Squires Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Stanley A. Mahr Reservoir	Reservoir		Vallecitos Water District	San Diego	Tributary Encinitas Creek	1981	166	South Coast
Sutherland Dam	Dam	Lake Sutherland	City of San Diego	San Diego	Santa Ysabel Creek	1954	29,000	South Coast
Sweetwater Main Dam	Dam	Sweetwater Reservoir	Sweetwater Authority	San Diego	Sweetwater River	1888	27,700	South Coast
Turner Dam	Dam	Turner Reservoir	Valley Center Municipal Water District	San Diego	Moosa Canyon	1971	2000	South Coast
Twin Oaks Valley Creek Drop Structure No. 1 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 3 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 4 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 5 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Twin Oaks Valley Creek Drop Structure No. 6 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 7 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 8 Dam	Dam		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Twin Oaks Valley Creek Drop Structure No. 9	Weir		Unknown	San Diego	Unknown	Unknown	Unknown	South Coast
Upper 4 S Dam	Dam	None	Thomas Ralphs	San Diego	Lusardi Creek	1927	63	South Coast
Upper Otay Reservoir	Reservoir		City of San Diego	San Diego	Proctor Valley Creek	1901	2,825	South Coast
Upper Stehly Dam	Dam		Nicholas J.C. Stehly	San Diego	Tributary Keys Creek	1999	229	South Coast
US Silica FW Ponds	Reservoir		City of Oceanside	San Diego	San Luis Rey River	1975	170	South Coast
Witch Creek Dam	Dam		Unknown	San Diego	Witch Creek Stream	Unknown	Unknown	South Coast
Arundell Barranca Dam	Dam		Ventura County Watershed Protection District	Ventura	Arundell Barranca	1996	155	South Coast
Casitas Dam	Dam	Lake Casitas	Department of Interior, Bureau of Reclamation	Ventura	Coyote Creek	1959	287,000	South Coast
Casitas Saddle Dike	Dike	Lake Casitas	Department of Interior, Bureau of Reclamation	Ventura	Coyote Creek Offstream	1959	287,000	South Coast
Ferro Debris Basin	Debris Basin		Ventura County Watershed Protection District	Ventura	Tributary Beardsley Wash	1986	24	South Coast
Lake Eleanor Dam	Dam	Lake Eleanor	Conejo Recreation and Park District	Ventura	Eleanor Creek	1881	104	South Coast
Lake Sherwood Dam	Dam	Lake Sherwood	Sherwood Development Co.	Ventura	Potrero Valley Creek	1904	2,600	South Coast
Lang Creek Detention Basin	Detention Basin		Ventura County Watershed Protection District	Ventura	Lang Creek	Proposed	263	South Coast
Las Llajas Dam	Dam		Ventura County Watershed Protection District	Ventura	Las Llajas Canyon	1981	1,250	South Coast
Los Robles Diversion Dam	Dam	Robles Diversion Dam	Bureau of Reclamation	Ventura	Ventura River	Unknown	Unknown	South Coast
Matilija Dam	Dam		Ventura County Watershed Protection District	Ventura	Matilija Creek	1949	1,800	South Coast
Quail Reservoir	Reservoir	Peace Valley Pipeline Intake	California Department of Water Resources	Ventura	West Branch CA Aqueduct	1981	7,770	South Coast
Runkle Dam	Dam	Runkle Reservoir	Ventura County Watershed Protection District	Ventura	Runkle Canyon	1949	100	South Coast
Santa Felicia Dam	Dam	Lake Piru	United Water Conservation District	Ventura	Piru Creek	1955	100,000	South Coast
Senior Canyon Dam	Dam	Senior Canyon Reservoir	Senior Canyon Mutual Water Co.	Ventura	San Antonio Creek	1964	73	South Coast
Sinaloa Lake Dam	Dam	Sinaloa Lake	Sinaloa Lake Owners Association Inc	Ventura	Tributary Arroyo Simi	1925	205	South Coast
Stewart Canyon Debris Basin	Debris Basin		Ventura County Watershed Protection District	Ventura	Tributary San Antonio Creek	1963	67	South Coast
Sycamore Canyon Dam	Dam		Ventura County Watershed Protection District	Ventura	Sycamore Canyon River	1981	890	South Coast
Wood Ranch Reservoir	Reservoir	Bard Lake	Calleguas Municipal Water District	Ventura	Tributary Arroyo Simi	1965	11,000	South Coast
Big Pine Creek No. 2 Dam	Dam	Second Lake	City of Los Angeles Department of Water and Power	Inyo	Big Pine Creek	Unknown	1,071	South Lahontan
Bishop Creek Intake No. 2 Dam	Dam		Southern California Edison Co.	Inyo	Middle Fork Bishop Creek	1908	78	South Lahontan
Bishop Creek Intake No. 4 Dam	Dam		Southern California Edison Co.	Inyo	Bishop Creek	1908	25	South Lahontan
Bishop Creek Intake No. 6 Dam	Dam		Southern California Edison Co.	Inyo	Bishop Creek	1908	15	South Lahontan
Haiwee Dam	Dam	Haiwee Reservoir	Southern California Edison Co.	Inyo	Rose Valley	1913	46,600	South Lahontan
Hillside Dam	Dam	South Lake	Southern California Edison Co.	Inyo	South Fork Bishop Creek	1910	12,883	South Lahontan
Longley Dam	Dam	Longley Lake	Southern California Edison Co.	Inyo	Mc Gee Creek	1910	178	South Lahontan

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Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Pleasant Valley Dam	Dam	Pleasant Valley Reservoir	Southern California Edison Co.	Inyo	Owens River	1957	3,825	South Lahontan
Sabrina Dam	Dam	Lake Sabrina	Southern California Edison Co.	Inyo	Middle Fork Bishop Creek	1908	8,376	South Lahontan
Tailings Pond No. 1	Reservoir		Southern California Edison Co.	Inyo	Unknown	Unknown	5,010	South Lahontan
Tailings Pond No. 2	Reservoir		Southern California Edison Co.	Inyo	Unknown	Unknown	1,720	South Lahontan
Tailings Pond No. 3	Reservoir		Southern California Edison Co.	Inyo	Unknown	Unknown	382	South Lahontan
Tailings Pond No. 4	Reservoir		Southern California Edison Co.	Inyo	Unknown	Unknown	995	South Lahontan
Tinemaha Dam	Dam	Tinemaha Reservoir	Southern California Edison Co.	Inyo	Owens River	1928	16,405	South Lahontan
BAP Ponds 1,2,3,4	Reservoir		Southern California Edison Co.	Kern	Offstream	2003	1,986	South Lahontan
Blackburn Dam	Dam		Southern California Edison Co.	Kern	Blackburn Creek	1991	625	South Lahontan
Borax Solar Evaporation Ponds	Reservoir		Southern California Edison Co.	Kern	Tributary Rogers Dry Lake	1984	242	South Lahontan
Boron Tails PD 5 Dam	Dam		Southern California Edison Co.	Kern	Tributary Rogers Dry Lake	1976	4,887	South Lahontan
Boron Tails Pond 6 Dam	Dam		Southern California Edison Co.	Kern	Tributary Rogers Dry Lake	1980	2,235	South Lahontan
Boron Tails Pond Dam	Dam		Southern California Edison Co.	Kern	Tributary Rogers Dry Lake	1975	1,480	South Lahontan
Amargosa Creek Dam	Dam		Southern California Edison Co.	Los Angeles	Amargosa Creek	1998	1,187	South Lahontan
Fairmont No. 2 Dam	Dam	Fairmont No. 2 Reservoir	Southern California Edison Co.	Los Angeles	Tributary Antelope Valley Creek	1982	493	South Lahontan
Fairmont Dam	Dam	Fairmont Reservoir	Southern California Edison Co.	Los Angeles	Antelope Valley	1912	7,507	South Lahontan
Harold Reservoir Dam	Dam	Harold Reservoir	Southern California Edison Co.	Los Angeles	Tributary Antelope Valley Creek	1891	3,870	South Lahontan
Littlerock Dam	Dam	Littlerock Reservoir	Southern California Edison Co.	Los Angeles	Littlerock Creek	1924	4,600	South Lahontan
Pearblossom Spilling Basin Dam	Dam		Southern California Edison Co.	Los Angeles	Offstream	1970	106	South Lahontan
Adobe Reservoir	Reservoir	Fairmont No. 2 Dam	Southern California Edison Co.	Mono	Antelope Valley	1912	Unknown	South Lahontan
Agnew Lake Dam	Dam	Agnew Lake Reservoir	Southern California Edison Co.	Mono	Rush Creek	1916	810	South Lahontan
Gem Lake Dam	Dam		Southern California Edison Co.	Mono	Rush Creek	1917	17,228	South Lahontan
Grant Lake Dam	Dam	Grant Lake	Southern California Edison Co.	Mono	Rush Creek	1940	47,525	South Lahontan
Long Valley Dam	Dam	Lake Crowley	Southern California Edison Co.	Mono	Owens River	1941	183,465	South Lahontan
Lundy Lake Dam	Dam	Lundy Lake	Southern California Edison Co.	Mono	Mill Creek	1911	4,113	South Lahontan
Rhinedollar Dam	Dam	Ellery Lake	Southern California Edison Co.	Mono	Leevining Creek	1927	490	South Lahontan
Rush Creek Meadows Dam	Dam	Waugh Lake	Southern California Edison Co.	Mono	Rush Creek	1925	5,277	South Lahontan
Saddlebag Dam	Dam	Saddlebag Lake	Southern California Edison Co.	Mono	Leevining Creek	1921	9,789	South Lahontan
Tioga Lake Auxiliary	Auxiliary		Southern California Edison Co.	Mono	Glacier Creek	1928	1,250	South Lahontan
Tioga Lake Dam	Dam	Tioga Lake	Southern California Edison Co.	Mono	Leevining Creek	1928	1,254	South Lahontan
Upper Gorge Dam	Dam		City of Los Angeles Department of Water and Power	Mono	Owens River	1953	26	South Lahontan
Walker Lake	Reservoir		City of Los Angeles	Mono	Walker Creek	1880	540	South Lahontan
Cedar Springs Dam	Dam		California Department of Water Resources	San Bernardino	West Fork Mojave River	1971	78,000	South Lahontan
Grass Valley Dam	Dam	Grass Valley Reservoir	Arrowhead Lake Association	San Bernardino	Grass Valley Creek	1964	243	South Lahontan
Green Valley Lake Dam	Dam		Green Valley Mutual Water Co.	San Bernardino	Green Valley Creek	1925	250	South Lahontan

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Gregory, Lake Dam	Dam		San Bernardino County Regional Park Division	San Bernardino	Houston Creek	1938	2,100	South Lahontan
Lake Arrowhead Dam	Dam	Lake Arrowhead Reservoir	Arrowhead Lake Association	San Bernardino	Little Bear Creek	1922	48,000	South Lahontan
Mojave Dam	Dam	Mojave Reservoir	USACE Los Angeles District	San Bernardino	West Fork Mojave River	1971	179,400	South Lahontan
Molycorp Tailings	Reservoir		Molycorp Incorporated	San Bernardino	Offstream	1967	1,140	South Lahontan
New Lake Arrowhead Dam	Dam	Papoose Lake	County of San Bernardino	San Bernardino	Little Bear Creek	1976	1,970	South Lahontan
Alluvial Drain Detention Basin	Detention Basin		Fresno Metropolitan Flood Control District	Fresno	Tributary Big Dry Creek	1994	833	Tulare Lake
Balch Afterbay Dam	Dam		Pacific Gas and Electric Company	Fresno	North Fork Kings River	1928	318	Tulare Lake
Balch Diversion Dam	Dam	Black Rock Reservoir	Pacific Gas and Electric Company	Fresno	North Fork Kings River	1927	1,295	Tulare Lake
Big Dry Creek Dam	Dam		Fresno Metropolitan Flood Control District	Fresno	Big Dry Creek and Dog Creek	1948	30,200	Tulare Lake
Cobbles Weir	Weir	Kings River	Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Cole Slough Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Consolidated and Fresno Canals Weirs	Weir	Kings River	Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Courtright Dam	Dam	Courtright Reservoir	Pacific Gas and Electric Company	Fresno	Helms Creek	1958	123,300	Tulare Lake
Dry Creek Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Fancher Creek Dam	Dam		Fresno Metropolitan Flood Control District	Fresno	Fancher Creek and Hog Creek	1991	9,600	Tulare Lake
Fancher Creek Detention	Detention Basin		Fresno Metropolitan Flood Control District	Fresno	Fancher Creek	2006	1,891	Tulare Lake
Giffen Reservoir Dam	Dam	Giffen Reservoir	Harris Farms Inc	Fresno	Tributary Holland Creek	1971	900	Tulare Lake
Gould Canal Weir	Weir		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Grant Canal Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Hume Lake Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Last Chance Weir	Weir		Last Chance Water Ditch Co.	Fresno	Kings River	1919	50	Tulare Lake
Mud Dam	Dam	Mud Reservoir	James Irrigation District	Fresno	Fresno Slough	1919	304	Tulare Lake
Murphy Slough Dam	Dam		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Pine Flat Dam	Dam	Pine Flat Lake	USACE	Fresno	Kings River	1954	1,000,000	Tulare Lake
Pup Creek Detention Basin	Detention Basin		USACE, Fresno Metropolitan Flood Control District	Fresno	Pup Creek	1993	785	Tulare Lake
Redbank Creek	Reservoir		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Redbank Creek Tributary 3	Reservoir		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Redbank Creek Tributary 4	Reservoir		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Redbank Creek Tributary 5	Reservoir		Unknown	Fresno	Unknown	Unknown	Unknown	Tulare Lake
Redbank Dam	Dam		Fresno Metropolitan Flood Control District	Fresno	Redbank Creek	1962	1100	Tulare Lake
Redbank Detention Basin	Detention Basin		Fresno Metropolitan Flood Control District	Fresno	Redbank Creek	1990	940	Tulare Lake

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Reynolds Weir	Weir		Laguna Irrigation District	Fresno	Tributary Kings River	1928	260	Tulare Lake
Sand Creek Dam	Dam	Sand Creek Reservoir	Tulare County Resources Management Agency	Fresno	Sand Creek	1980	1,050	Tulare Lake
Sequoia Lake Dam	Dam	Sequoia Lake	Y M C A Inc	Fresno	Mill Flat Creek	1888	1,370	Tulare Lake
Stinson Weir	Weir		Stinson Canal and Irrigation Co	Fresno	Tributary Kings River	1910	50	Tulare Lake
Wishon Auxiliary No. 1	Auxiliary		Pacific Gas and Electric Company	Fresno	North Fork Kings River	1958	129,000	Tulare Lake
Wishon Reservoir	Reservoir		Pacific Gas and Electric Company	Fresno	North Fork Kings River	1958	118,000	Tulare Lake
East Side Tailings Area Dam	Dam		Excell-Mineral Co.	Inyo	Unknown	Unknown	340	Tulare Lake
Aerated Lagoon Dam	Dam	None	City of Bakersfield	Kern	Offstream	1980	458	Tulare Lake
Antelope Dam	Dam		Tehachapi-Cummings Co Water District	Kern	Antelope Creek	1987	764	Tulare Lake
Arvin Edison Canal Diversion Structure	Weir		Unknown	Kern	Unknown	Unknown	Unknown	Tulare Lake
Beardsley Weir	Weir		Unknown	Kern	Unknown	Unknown	Unknown	Tulare Lake
Berrenda Mesa Dam	Dam		Berrenda Mesa Water District	Kern	Unknown	1967	180	Tulare Lake
Big Four Ranch Dam	Dam		Kern-Tulare Water District	Kern	Unknown	1970	312	Tulare Lake
Blackburn Stormwater Collection Facility Reservoir	Reservoir		Natural Resources Conservation Service, Tehachapi County Water District	Kern	Blackburn Creek	1990	710	Tulare Lake
Buena Vista Dam	Dam		J. G. Boswell & Co.	Kern	Offstream	1890	205,000	Tulare Lake
Buena Vista Dam	Dam		Kern County Department of Parks and Recreation	Kern	Kern River	1973	7,500	Tulare Lake
California Aqueduct Dam	Dam		Unknown	Kern	Unknown	Unknown	Unknown	Tulare Lake
Calloway Weir	Weir	Kern River	Unknown	Kern	Unknown	Unknown	Unknown	Tulare Lake
Diversion No. 1 Dam	Dam	Lake Isabella Tributary	Southern California Edison Co.	Kern	Kern River	1906	150	Tulare Lake
Irrigation Reservoir Dam	Dam	Irrigation Reservoir	City of Bakersfield	Kern	Offstream	1980	5,200	Tulare Lake
Isabella Dam	Dam	Isabella Lake	USACE	Kern	Kern River	1953	568,000	Tulare Lake
J C Jacobsen Dam	Dam		Tehachapi-Cummings Co Water District	Kern	Tributary Chanac Creek	1973	1,820	Tulare Lake
Kern Island Canal	Weir		Unknown	Kern	Unknown	Unknown	Unknown	Tulare Lake
Kern River County Park Dam	Dam	Ming, Lake	Kern County Department of Parks and Recreation	Kern	Tributary Kern River	1959	790	Tulare Lake
North East Tailings Area	Reservoir		Excell-Mineral Co.	Kern	Unknown	Unknown	75	Tulare Lake
Rio Bravo Diversion Dam	Dam		Olcese Water District	Kern	Kern River	1989	63	Tulare Lake
Tejon Storage 1	Reservoir		Tejon Ranch Co.	Kern	Tributary El Paso Creek	1946	700	Tulare Lake
Tejon Storage 2	Reservoir		Tejon Ranch Co.	Kern	Tributary Tejon Creek	1956	860	Tulare Lake
Walker Basin Creek Dam	Dam		Unknown	Kern	Walker Basin Creek	Unknown	Unknown	Tulare Lake
West East Tailings Area	Reservoir		Excell-Mineral Co.	Kern	Unknown	Unknown	710	Tulare Lake
Avenal EFFL STO Dam	Dam		State Department of Corrections	Kings	Offstream	1987	783	Tulare Lake
Crescent Weir	Weir		Crescent Canal Co.	Kings	Zalda Creek	1933	50	Tulare Lake
Empire Weir No. 1	Weir		Empire West Side Id	Kings	South Fork Kings River	1906	50	Tulare Lake
Empire Weir No. 2	Weir		Tulare Lake Basin Water Storage District	Kings	South Fork Kings River	1938	480	Tulare Lake
Island Weir	Weir		Laguna Irrigation District	Kings	North Fork Kings River	1926	230	Tulare Lake
Lemoore Div Weir	Weir		Lemoore Canal and Irrigation Co	Kings	Kings River	1924	50	Tulare Lake
Peoples Weir	Weir		Peoples Ditch Co.	Kings	Kings River	1936	120	Tulare Lake
Bravo Lake Reservoir Dam	Reservoir	Bravo Lake Reservoir	Wutchumna Water Co.	Tulare	Wutchumna Ditch	1980	3,427	Tulare Lake

Table E-D-4. List of Dams and Lakes/Reservoirs in California

Dam Name	Type of Structure	Reservoir Name	Owner	County	Stream	Year Built	Capacity (AF)	Hydrologic Region
Crystal Lake Dam	Dam		Southern California Edison Co.	Tulare	East Fork Kaweah River	1903	162	Tulare Lake
Elk Bayou Dam	Dam		Southern California Edison Co.	Tulare	Elk Bayou	1903	60	Tulare Lake
Graham Creek Dam	Dam		Southern California Edison Co.	Tulare	Unknown	Unknown	Unknown	Tulare Lake
Kaweah River	Weir		Southern California Edison Co.	Tulare	Unknown	Unknown	Unknown	Tulare Lake
Lady Franklin Lake Dam	Dam		Southern California Edison Co.	Tulare	East Fork Kaweah River	1905	467	Tulare Lake
Larson Dam	Dam		Southern California Edison Co.	Tulare	Tributary South Tule River	1963	325	Tulare Lake
Saint Johns River	Weir		Southern California Edison Co.	Tulare	Unknown	Unknown	Unknown	Tulare Lake
Saint Johns River	Weir		Southern California Edison Co.	Tulare	Unknown	Unknown	Unknown	Tulare Lake
Saint Johns River Dam	Dam		Southern California Edison Co.	Tulare	Unknown	Unknown	Unknown	Tulare Lake
Success Dam	Dam	Success Lake	Southern California Edison Co.	Tulare	Tule River	1961	82,300	Tulare Lake
Terminus Dam	Dam	Lake Kaweah	Southern California Edison Co.	Tulare	Kaweah River	1962	143,000	Tulare Lake
Upper Monarch Lake Dam	Dam	Monarch Lake	Southern California Edison Co.	Tulare	East Fork Kaweah River	1905	314	Tulare Lake

This list includes USACE, DSOD, Local agency dams and NFHL Dams.
This is not a complete list of infrastructure throughout California.

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D.5 Sample County Maps

The following figures are sample maps of Alameda County from *Attachment D: Summary of Exposure and Infrastructure Inventory by County*. For maps of all 58 counties, see Attachment D. Information from both *Attachment F: Flood Hazard Exposure Analysis* and the Information Gathering findings, as described in this technical memorandum, are displayed graphically for each county.

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100-year and 500-year Floodplains

N

0 2.25 4.5 9
Miles

- City
- Populated Place
- Highway
- Major River
- 100-yr Floodplain
- 500-yr Floodplain
- Major Water Body
- County

DISCLAIMER: The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy

History of Flooding by Event Year

1861-1862 Winter, The Great Flood
1950 December, Unincorporated Areas of Alameda County
1955-1956 December - January, 1955 Christmas Flood, Alameda Creek, Bay Area
1958 February - April, Bay Area
1962-1963 December - February
1968-1969 December - March, Winter '69 Storms, Bay Area
1973 January - February, April, Central Coast Ranges (including Bay Area) to Transverse and Peninsula Ranges
1982 January, Winter Storms, San Francisco Bay Area
1986 February, St. Valentine's Day Storm, San Francisco Bay Area
1995 January - February, Severe Winter Storms
1997 January
1998 Alameda County, including Zone 7 Service Area
2005-2006 December - January, New Year's Eve Flood of 2006
2006 March 29 - April 1, May 10, Spring Storms
2008 January 5 - January 14, Winter Storms

Types of Flooding

Common:
Riverine
Flash
Debris Flow
Coastal
Stormwater

Other Possible:
Tsunami
Engineered Structure Failure

Hydrologic Regions

Flood Hazard Exposure

County Statistics

Total Acreage:	525,337
Total Population:	1.4 million
Total Structures:	427,100
Total Value of Structures and Contents:	$140.0 billion
Total Agricultural Acreage:	10,613
Total Value of Agricultural Land:	$3.4 million

Summary of Exposure to Flood Hazard Reported by County

	100-yr Event	500-yr Event
Exposed Area (acres):	45,821	60,199
Percent of Area Exposed:	9	11
Population Exposed:	33,985	126,622
Percent of Population Exposed:	2	9
Exposed Structures:	10,132	36,503
Value of Exposed Structures and Contents:	$5.6 billion	$16.7 billion
Exposed Agricultural Land (acres):	1,037	1,394
Value of Exposed Agricultural Land:	$290,806	$447,000
Department of Defense Facilities:	3	3
Essential Facilities:	8	45
High Potential Loss Facilities:	6	42
Lifeline Utilities:	6	7
Transportation Facilities:	43	113
Transportation Segments (miles):	48	99
Native American Tribal Land (acres):	0	0
Total Sensitive Plant Species Exposed:	29	29
Total Sensitive Animal Species Exposed:	45	45

Alameda County

Figure D-1
Summary of Available Flood Types, Flood History, and Flood Hazard Exposure, Alameda County

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Jan 25, 2013

US Army Corps of Engineers.

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

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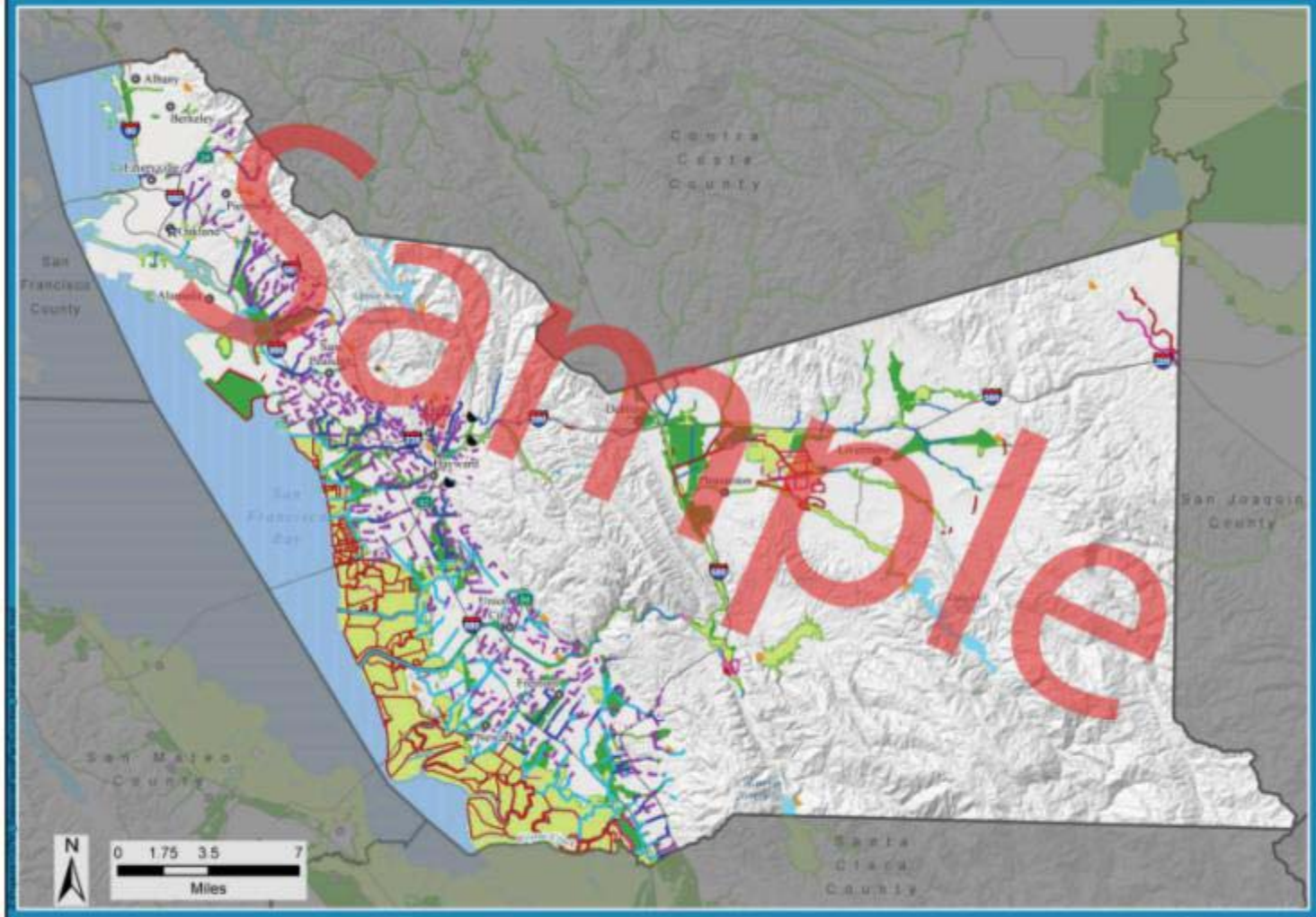
Summary of Available Flood Infrastructure Information



Statewide GIS Data:
- City
- Populated Place
- DWR Local Agency Dam
- DWR Other Dam
- NFHL Dam or Weir
- CLD Pump Station
- CLD Local Agency Levee
- CLD Other Levee
- NFHL Levee
- NFHL Flood Event Structure
- NFHL Channel
- NFHL Control Structure
- NFHL Dike
- NFHL Retaining Wall
- Highway
- Major River
- Major Water Body
- 100-yr Floodplain
- 500-yr Floodplain
- County

Alameda County

Flood Infrastructure GIS Data Received from Agencies Contacted:

Flood Control Facility
- Closed Conduit
- Concrete Channel
- Earth Channel
- Improved Creek
- Spillway

Non-GIS, PDF/Hard Copy Flood Infrastructure Data Received from Agencies Contacted (Not Shown On Map):

Levee
Channel
Pump Station
Detention Basin

Agencies Contacted as Part of SFMP:

Alameda County Flood Control and Water Conservation District
Alameda County – Zone 7

Planned Projects:

Number of Local Projects:	20
Estimated Cost of Local Projects:	$613.3 million
Number of USACE Projects:	3
Estimated Cost of USACE Projects:	$38.1 million

Statewide GIS Data Sources:

Cities derived from CAL FIRE incorporated city limit polygons, 2010. **Populated Places** from GNIS, 2011. **Counties** from CalAtlas, 2008. **Dams** modified from DWR, Bulletin 17-00, 2000. **CLD** layers are from California Levee Database, v2.2.r2, 2010. **NFHL** layers are from the National Flood Hazard Layer, FEMA, August 2011. **Highways** from TeleAtlas, 2004. **Rivers** and **Lakes** modified from DFG, N/A. **Floodplains** compiled for SFMP, 2011.
All other Flood Infrastructure GIS data, noted above, received from Agencies Contacted.

Alameda County

Figure D-2
Summary of Available Flood Infrastructure Information, Alameda County

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

DISCLAIMER: 1) Information displayed on the map does not represent all existing flood infrastructure in the county. Only infrastructure available as "Statewide GIS Data" or submitted in a GIS format by one of the interviewed agencies is shown. 2) The DWR did not develop all the displayed floodplain extents and cannot guarantee their accuracy.

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Appendix E: List of Potential Projects in California

This appendix contains the Local Planned Projects and USACE Planned and Ongoing Project lists. If available at time of print, project descriptions and costs are provided. Projects are also identified as IWM, if applicable. All projects were identified as of January 2012.

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Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Monterey	Big Sur Land Trust Carmel River Floodplain Restoration and Environmental Enhancement Project	$ —	The initial project action, commonly referred to as the Odello East Component in the Initial Study, consists of: • Grading the existing farmland and access road to create an elevated agricultural preserve on approximately 40 acres on the southern edge of the Odello East site outside of the 100-year floodplain elevation • Grading to restore the site's ecological function as a floodplain by creating the hydrological characteristics necessary to support floodplain restoration activities on approximately 55 acres of existing farmland. A portion of the agricultural preserve would be graded to accommodate future fill material as part of subsequent Project components/actions. The second project action, referred to as the Causeway Component, consists of replacing a portion of the State Route (SR) 1 roadway embankment with a 520-foot-long causeway section. The third project action, referred to as the Levee Component, consists of: • Removing approximately 2,400 linear feet of nonstructural earthen levees on the south side of the Carmel River channel • Grading at the eastern boundary of the project site on property owned by the Monterey Peninsula Regional Park District to encourage flood flows to enter into the south floodplain area at Odello East	Yes	Agriculture
Central Coast	Monterey	Coastal Wetland Erosion Control and Dune Restoration	$ 1,070,164	The proposed project will enhance and restore wetland and sand dune ecosystems in central Monterey Bay, and will control erosion in salt marshes directly behind the dunes around Moss Landing. These marshes are critical buffers to prevent salt water from entering surrounding farmlands, especially the Salinas Valley, yet the farmlands are eroding away at accelerating rates. Sand dunes help retain fresh water at the coast, recharge groundwater, retard saltwater intrusion, and minimize storm damage from the sea. Currently, much of the physical dune structure around Monterey Bay is fairly intact but is highly degraded with invasive non-native plants, which continue to spread. Monterey Bay is the largest indentation widely open to the sea on the Pacific coast of the U.S., with correspondingly large and ecologically important dune systems, and it is the core area of the Monterey Bay National Marine Sanctuary. The target area for this project, the central Monterey Bay, has the lowest and most degraded sand dunes in the region. These dunes will be the first to fail as sea level rises from storms, El Niño cycles, and climate change. Should they fail, salt water will overflow into the Salinas Valley, compromising one of the nation's most productive agricultural centers.	Yes	Ecosystem
Central Coast	Monterey	Continued Enhancement of Groundwater/ Surface Water Models	$ —		Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Monterey	Implementation of the Moro Cojo Slough Management and Enhancement Plan: Restoration of the Upper Slough	$ 1,450,636	This project will involve the restoration of 120 acres of the Moro Cojo Slough containing tidal and brackish water marsh (a State marine reserve) that receives fresh water input from agricultural lands above. The project also will restore the hydrologic connectivity of the upper, middle, and lower reaches of the Moro Cojo Slough by linking multiple marsh areas with new lands previously lost to agriculture. The project will reestablish an interconnected brackish water wetland ecosystem. The result of this project will be to reestablish hydrologic connectivity and ecosystem function, enhance wildlife habitat, reestablish wetland habitat that supports endangered species (brackish water snail and tidewater goby), and improve water quality flowing from the watershed into several State marine reserves and the Monterey Bay National Marine Sanctuary. This will be a 4-year project with four major outcomes: 1) Protection of wetland marsh and adjacent upland habitats through easement or acquisition 2) Filtration of agricultural runoff with sediment basins and treatment wetlands prior to water entering the main slough 3) Restoration of the main slough to increase open-water habitat and overall system complexity 4) Restoration of wetland habitat continuity between the three main sections of the Moro Cojo Slough	Yes	Ecosystem
Central Coast	Monterey	Lower Carmel River and Lagoon Floodplain Restoration and Enhancement Project	$ 18,310,032	This program consists of three projects—Carmel River Lagoon and Beach Studies, Lower Carmel River Floodplain Restoration and Enhancement, and Hacienda Carmel Flood Bypass. The Carmel River Floodplain Restoration and Environmental Enhancement Project proposes to restore and enhance the hydrologic function and connectivity of the Odello East property with the lower Carmel River region and southern floodplain. The Project goals include: 1) Restore approximately 90 acres of historical coastal wetlands, upland habitat, and/or riparian habitat on existing agricultural land to enhance the site's capacity to function as part of the historical Carmel River floodplain and to provide additional habitat to the lower Carmel River ecosystem 2) Create an approximately 40-acre agricultural preserve to achieve the goal of preserving the agricultural heritage of the project area in a manner that is compatible with adjacent habitat 3) Replace a segment of SR 1 with a 520-foot causeway to improve floodwater conveyance under the highway and reduce flood hazards to SR 1 4) Remove 2,400 feet of the south bank levee and "Blister" to allow the lateral dispersal of floodwater onto the south overbank area and project site	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast Wetlands Group	Monterey	Northern Gabilan Mountain Watershed Management Project	$ 1,450,636	The project consists of three phases to restore a sub-watershed within the upper Gabilan watershed, and it serves as a model for restoration of watersheds within the Central Coast. Phase I provides the foundational watershed characterization and process analysis necessary to develop meaningful and effective watershed management. It includes a review of previous relevant studies and preparation of original analysis along with a compilation of spatial data and key watershed processes. Analysis will be integrated with research and planning projects done by others. The synthesis of this information will be used to target the planning and restoration for one sub-watershed. This will be accomplished by addressing the changes in the watershed functions and processes (physical, chemical, and biological) that are caused by agriculture and urban activity and that affect watershed health. Additionally, a community-based engagement process will be conducted to review Phase I information and watershed management options. Phase I will result in a management methodology and a master restoration plan for one of three sub-watersheds. Phase II will develop site design for prioritized restoration locations within the chosen sub-watershed, and Phase III will implement those designs.	Yes	Ecosystem
Central Coast	Monterey	Pajaro River Flood Warning and Damage Reduction Project	$ —	This study will develop a locally acceptable plan for flood protection features along the Pajaro River, Corralitos Creek, and Salsipuedes Creek to increase the level of flood protection afforded by the project.		
Central Coast	Monterey	Pajaro River Parkway Plan	$ —	The Pajaro River Parkway Plan is a technical evaluation to identify public access and recreational opportunities that can be incorporated into the Levee Reconstruction Project. The plan will include an evaluation of expanding recreational opportunities within the Pajaro River Levee Reconstruction Project area, engaging with the public, outreach and negotiation with landowners, development of alternatives, cost estimates, benefit analysis, environmental constraints analysis, and implementation plan.	Yes	Recreation
Central Coast	Monterey	Salinas River Channel Maintenance Program (CMP)	$ 770,000	Under the new Regional General Permit for the 2009-2014 Salinas River CMP, participants would continue to perform channel maintenance activities on a voluntary basis to improve flood flow conveyance capacity and minimize bank erosion to help reduce the risk of flooding during and after major storm events. In general, channel maintenance activities are typically conducted above and below the ordinary high-water mark (OHWM) of the river channel.		
Central Coast	Monterey	Salinas River Flood Risk Reduction Project	$ —	The Lower Pajaro River Flood Risk Reduction Project (Pajaro Levee) being conducted by the U.S. Army Corps of Engineers (USACE) is proceeding toward completion of a publicly reviewable draft of the Environmental Impact Statement.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Monterey	Salinas Valley Water Project	$ 2,390,000	The Salinas Valley Water Project has three components: • Enlarging the spillway at Nacimiento Dam to handle a maximum probable flood • Prolonging releases of water to the Salinas River so that the basin's groundwater can be recharged • Installing a diversion structure on the Salinas River near Marina to temporarily store and divert water during dry periods That water, about 10,000 acre-feet per year, will be pumped to the Castroville Seawater Intrusion Project area, thus further reducing groundwater pumping and recharging of the area's aquifers to avoid seawater intrusion. During winter months, the diversion structure will be lowered so that water can flow to Monterey Bay, and endangered steelhead trout can migrate up river to spawn in Arroyo Seco River and other upstream waters. Flow rates will be maintained in the river, and fish screens will be installed to support steelhead migration.	Yes	Water Supply
Central Coast	Monterey	Water Quality Enhancement of Tembladero Slough Phase II	$ 609,525	This project is Phase II of Water Quality Enhancement of the Tembladero Slough and Coastal Access for the Community of Castroville, Phase I of which has been funded by the IRWM Plan Round 1. During Phase I, Central Coast Wetlands Group will work with County agencies, agricultural landowners, and the Community of Castroville for design and permitting of a select set of water quality/wetland management structures. These projects will utilize a variety of water quality management innovations, including the treatment train approach (i.e., detention/sedimentation features, pollutant filtration/biological degradation of pollutants and water polishing areas). During Phase II of this project, 20 acres in total (approximately six projects) will be constructed, based on the plans from Phase I that support and integrate the multiple objectives of the Greater Monterey County IRWM Plan, emphasizing urban and agricultural water quality enhancement, flood management, habitat restoration and support of various watershed planning and permit processes. Features are selected based on available space, hydrologic requirements, and adjacent landowner concerns, but preferentially support projects that enhance habitat and open space features, as well as improve water quality.	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Monterey	Watershed Approach to Water Quality Solutions	$ 475,562	This project will improve water quality within the Lower Salinas River Watershed in multiple impaired bodies of water that are listed on the 303d list for pollutants such as nutrients, pesticides, sediment, and bacteria. These bodies of water include the Salinas Reclamation Canal, Santa Rita Creek, and Tembladero Slough, all of which are considered the most polluted bodies of water on the Central Coast with 37 listings of total maximum daily loads (TMDLs). In agricultural areas, efforts will focus on outreach and referrals for existing programs that will leverage funding for implementation of irrigation and nutrient management practices. Efforts also will focus on the Livestock and Lands program, while implementing some much-needed management measures such as erosion control for strawberry crops. Restoration projects along Santa Rita Creek will be installed to promote environmental stewardship, reduce illegal dumping, expand the floodplain, stabilize banks, and increase biofiltration of pollutants through revegetation of native plants. Of utmost importance is the development of tracking tools for management measures and water quality monitoring to build a knowledge base. This project has been funded through Round 1 IRWM Implementation Grant funds.	Yes	Water Quality
Central Coast	San Luis Obispo	Flood Control Zone 1/1A Waterway Management Program	$ —	The program will increase the capacity of the leveed lower 3-miles of Arroyo Grande Creek and simultaneously enhance water quality and sensitive species habitat within the managed channel.	Yes	Water Quality
Central Coast	San Luis Obispo	Flood Control Zone 1/1A Waterway Management Program, Alternative 3a Project	$ 2,850,369	This project includes a comprehensive set of actions designed to restore the capacity of the lower 3 miles of the Arroyo Grande Creek flood channel, which has levees, to increase flood protection to homes, prime agricultural lands, and critical urban infrastructure in the lower Arroyo Grande Creek watershed. This project implements an integrated, watershed approach to flood management through a collaborative and community-supported process without unfairly burdening communities, neighborhoods, or individuals.		
Central Coast	San Luis Obispo	Flood Management Plan	$ 75,000	Create a Flood Management Plan that will identify several of the most significant constraints to implementing flood control projects and that will propose methods to address these challenges.		
Central Coast	San Luis Obispo	Morro Bay Harborwalk	$ —	The City of Morro Bay, in cooperation with the Morro Bay National Estuary Program and the County of San Luis Obispo, will be constructing multimodal transportation system improvements that include enhancement and rehabilitation of approximately 5 acres of coastal dune habitat. Within the coastal dune habitat, 1.75 acres will be treated with aggressive non-native species abatement followed by native revegetation using locally collected native seed, and the remaining 2.99 acres will receive non-native species abatement with native species recruitment for restoration. Stormwater filtration and management measures also will be included in the construction.	Yes	Ecosystem
Central Coast	San Luis Obispo	San Luis Obispo Waterway Management Plan	$ 36,620,000	This program will provide flood protection and simultaneously will enhance water quality and sensitive species habitat in the San Luis Creek watershed from the City of San Luis Obispo to Avila Beach.	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Santa Barbara	Las Vegas/San Pedro Creek	$ —	The Santa Barbara County Flood Control District (CFCD), in partnership with the California Department of Transportation (Caltrans), is proposing hydraulic capacity improvements along Las Vegas Creek and San Pedro Creek under Calle Real, Route 101, and the Union Pacific Railroad (UPRR). The proposed project would increase the hydraulic capacity of the two creeks from a 10-year to a 25-year storm event.	Yes	Transportation
Central Coast	Santa Barbara	Lower Arroyo Burro Restoration Program	$ —	Design and implementation of creek bank stabilization and riparian habitat restoration projects on a reach-by-reach basis within the lower Arroyo Burro watershed. A collaborative project of the City, County, and private landowners, restoration projects would include large-scale modifications to the creek channel (such as widening, creation of floodplains, natural grade control structures), removal of key invasive plant species, installation of native plant species, and improvements to public access. The restoration efforts would be designed and implemented to reduce erosion, reduce flood risks, improve water quality, improve wildlife habitat and diversity, and improve educational and recreational opportunities.	Yes	Ecosystem
Central Coast	Santa Barbara	Upper Mission Creek Flood Management and Habitat Improvement Project	$ —	Removal of half of the concrete bottom slab for the entire mile of the channel, excavation of several feet into the underlying materials and construction of a natural-bottom creek channel with areas of lowered-concrete-embedded roughness. Results will include restoration of more than 1 mile of creek channel and the creation of more than 1 acre of wetland habitat, including removal of three fish passage barriers, removal of non-native plants, and replacement with native plants.	Yes	Ecosystem
Central Coast	San Benito	San Juan Basin Surface Drainage	$ —	San Benito County Water District has proposed alternatives in the San Juan Basin area for surface water detention and drainage that can be integrated with an existing Caltrans reconstruction plan for Highway 156 between San Juan Bautista and Hollister. This plan will provide surface water detention and water quality benefits to a tributary of the Pajaro River, thereby assisting with stormwater runoff quality concerns and reducing peak flows from the San Juan Basin into the Pajaro River.	Yes	Water Quality
Central Coast	Santa Clara	Lower Llagas Creek Flood Protection Project and Creek Capacity Restoration Project	$ 8,300,000	Restoration project to address reduced channel capacity in system with levees. May remove existing levees to widen floodplain. Project goals include: 1) Evaluate the current flood risk in the area surrounding the project versus the design-level flood risk 2) Develop options to provide flood protection for Lower Llagas Creek Reach 2 beyond the Soap Lake Floodplain in accordance with Federal Emergency Management Agency (FEMA) criteria 3) Identify opportunities for environmental restoration and corridor preservation The project will restore flood capacity in Lower Llagas Creek, coordinate with South County Wastewater Authority as a principal stakeholder and water resource co-planner, and integrate flood protection with habitat protection to satisfy Endangered Species Act regulations (California Fish and Game Code § 2050 *et seq.*).	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Santa Clara	Soap Lake Floodplain Preservation Project (High-Priority Project)	$ 18,405,050	The Soap Lake Project, Phase 1 provides nonstructural flood protection through preservation of approximately 9,000 acres of agricultural lands. It is the first phase of the long-term recommended nonstructural, 100-year flood protection project developed by the Pajaro River Watershed Flood Prevention Authority (FPA). The project provides flood protection in the lower Pajaro River watershed by preserving the Soap Lake floodplain. The floodplain provides natural flood storage and attenuation characteristics for the Pajaro River watershed and reduces the flow that needs to be conveyed through the downstream channel.	Yes	Ecosystem
Central Coast	Santa Clara	Upper Llagas Creek project	$ —			
Central Coast	Santa Clara	Restoration of the Upper Pajaro River Floodplain	$ —	Develop a plan for restoration of a wildlife corridor that will also preserve undeveloped land that is valuable for flood attenuation.	Yes	Ecosystem
Central Coast	Santa Cruz	38th Avenue Detention Basin Retrofit	$ 500,000	The proposed project is a retrofit of a County-maintained detention basin to accommodate low flows. The detention basin is at the intersection of 38th Avenue and Brommer Street. It is an open-bottom basin and was designed to provide flood storage during large storms that exceed the flow capacity of the downstream system. The basin is offline, and water enters the basin only during high-flow events. All low flows currently bypass the basin through a pipe system. This project concept includes reconfiguring the inlet and outlet so that low flows can enter the basin and have the opportunity to be filtered through a vegetated path and infiltrated into the open channel. This project should help reduce the volume and increase the quality of the urban runoff discharging to the channel downstream of the project site.	Yes	Water Quality
Central Coast	Santa Cruz	Aptos Watershed Drainage Plan	$ —	This project will develop a Drainage Master Plan for the Aptos watershed to better manage flood flows, reduce channel erosion, promote groundwater recharge, and improve stormwater quality to reduce surface water pollutants entering Monterey Bay. Work will include evaluations of the drainage systems and analyses of the watershed and the proposed improvements.		
Central Coast	Santa Cruz	Coward Creek Bank Stabilization	$ —	This is another streambank stabilization demonstration project proposed by the Santa Cruz County Resource Conservation District (RCD). The project will be implemented along Coward Creek in an area where the stream is being severely undercut and is causing erosion-related loss of land to adjacent properties.		
Central Coast	Santa Cruz	Green Valley Watershed Stream Bank Stabilization	$ —	The Santa Cruz County RCD has proposed the Green Valley Watershed Streambank Stabilization project as a demonstration project for stabilization techniques. The project will improve a section of stream along Casserly Creek that has a deeply incised channel, excessive bank erosion, and little riparian vegetation.		
Central Coast	Santa Cruz	Gully G Drainage Improvement	$ 1,771,000	This project includes structural best management practices (BMPs) to reduce flow rate, promote infiltration, and decrease sediment loads in the Gully G drainage.	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Santa Cruz	Levee Reconstruction Project	$ —	This project is a joint effort among Santa Cruz County, Monterey County, the USACE, and Action Pajaro Valley. The project is intended to increase levee flow capacity from 22,000 cubic feet per second (cfs) to 44,000 cfs, which will provide conveyance of the 100-year flood event, protecting local communities in the lower Pajaro River Watershed from flood damage. The project is an integration of several efforts. The first phase includes excavation of benches within the river channel and a stakeholder process to ensure that local funding will be available for the actual reconstruction of the levees. Construction of the levees is the second phase of the project.		
Central Coast	Santa Cruz	Low-Impact Development (LID) Demonstration Projects	$ 750,000	The proposed project is the implementation of LID measures that can be retrofitted into the existing County government facilities at 701 Ocean Street in Santa Cruz, California. Measures that will be considered for this project include: • Porous pavement • Biofilters (e.g., swales, bioretention, buffer strips, landscape planter box) • Rainwater reuse • Soil amendments • Disconnected downspouts • Drought-tolerant planting in place of turf • Green roofs and tree planting • Solar panel installation, and more These facilities should serve to benefit stormwater quantity and quality leaving the site and entering the San Lorenzo River. This project will provide highly visible demonstrations of how LID components can be incorporated into existing site design.	Yes	Water Quality
Central Coast	Santa Cruz	Lower Pajaro River Levee Reconstruction Project Phase 1	$ 157,500,000	Phase 1 of the project includes: • Task A is a Stakeholder Process that includes: 1) community consensus process; 2) a public outreach and survey program leading to a successful benefit assessment vote for the project; 3) development of a local governance structure • Task B includes: 1) Agreement on and Ratification of an Adaptive Management Maintenance Manual for ongoing maintenance of the existing and new levee systems; 2) Bench Excavation, Phase 1		
Central Coast	Santa Cruz	Lower Pajaro Valley and Watsonville Sloughs Conservation Planning and Funding Incentives Program	$ 60,000	The purpose of this program is to identify and prioritize strategic land conservation opportunities in the lower Pajaro Valley and Watsonville Sloughs to achieve multiple resource benefits; develop specific funding and implementation strategies; and engage key landowners to help them understand the financial benefits associated with easements and other conservation funding. The goal is to catalyze a pilot conservation project that adds to the network of protected lands and demonstrates how easement funding can offset or incentivize land fallowing or other water conservation actions.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Santa Cruz	Pajaro River Bench Excavation Project	$ 8,794,900	The project proposes to excavate excess sediment from select locations along the upper terrace benches inside the Pajaro River levees to improve the flood-carrying capacity of the levee system. The proposed project would create a 2-year floodplain to reestablish flow levels at bank-full capacity. The proposed bench excavation project is also specifically designed to relieve the magnitude and severity of potential flooding caused by failure of the Pajaro River levees.		
Central Coast	Santa Cruz	Pajaro River Watershed Study	$ 1,000,000	The purpose of the Pajaro River Watershed Study would be to complement the ongoing development of the Pajaro River Flood Control Project by investigating management measures that are important to improving the overall public acceptability of the flood damage-reduction project, but are outside the scope of project authorization. The Pajaro River Flood Control Project was authorized in 1966 as a single-purpose flood damage reduction project. As a single-purpose project, only flood damage reduction benefits can be used to justify Federal investment in the project; however, stakeholders have identified other outputs, such as geomorphic stability and steelhead habitat improvements, that are important for overall public acceptability of the project. The watershed study provides a means to investigate these other outputs. The watershed study would also provide information that will complement the ongoing Soap Lake Preservation Project and other proposed water resources projects in the Pajaro River Watershed.	Yes	Ecosystem
Central Coast	Santa Cruz	Repair Erosion and Increase Infiltration at Faculty Housing Outfall above High Street	$ 322,210	Project includes diverting stormwater flows from an existing storm drain outfall into two new bioswales to increase infiltration. Project will repair erosion in existing channel. Overflow from stormwater not diverted to bioswales will continue down armored swale into two new bioretention areas.		
Central Coast	Santa Cruz	Soquel Creek Linear Park, Parking Improvements, Habitat Restoration, Flood Mitigation and Urban Greening Project	$ 1,500,000	The Linear Park project is located in Santa Cruz County, California, in Soquel Village. The parcels (030-153-10 and 24, plus others) represent more than 2 acres in Soquel Village along Soquel Creek. The project will implement the Soquel Village Plan. The proposed Soquel Creek Linear Park design will involve neighboring parcels and will provide: • Economic vitality • Vehicular and pedestrian improved circulation • Parking and business waste infrastructure consolidation • Water quality and quantity with stormwater BMPs and LID • Accessible recreational uses (including nature pathways, open spaces, and civic spaces) • Riparian habitat restoration partnerships between the Community and private and public entities (including the RCD, the Soquel Village Parking and Business Association, County Parks, Soquel History Association, and others)	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Central Coast	Santa Cruz	Stormwater Allocation Program (SWAP) for Santa Cruz County	$ 600,000	To meet State-mandated stormwater hydromodification requirements, new development and redevelopment are required to offset any increases in stormwater runoff. Normally, this is achieved using onsite controls. However, a significant number of projects do not have the space/capacity onsite to meet this requirement. The ability to utilize offsite facilities to meet the hydromodification requirement would benefit water quality, groundwater recharge, and development/redevelopment. The project will evaluate the potential for trading of stormwater capacity (volume) credits within the City of Watsonville. Trading would allow for hydromodification-required projects within watershed boundaries instead of specific site boundaries, which promotes a greater benefit to water quality, quantity, and overall watershed improvement.	Yes	Water Quality
Central Coast	Santa Cruz	Update of the Arana Gulch Watershed Assessment and Enhancement Plan (2002) Phase I and generated Phase II	$ 160,000	Update the 2002 Arana Gulch Watershed Assessment and Enhancement Plan and generate a Phase II Plan. Phase I Plan has been the guiding document for implementing identified restoration projects within Arana Gulch. Accomplishments to date include 10 of the highest-priority Phase I restoration projects that are improving water quality and wildlife habitat throughout the watershed. The Phase I plan calls for a review every 10 to 12 years to reevaluate the Plan against current conditions, guidelines, and regulations (completed in 2000, thus revision is at least a year late). Phase II will address current conditions within the watershed and identify areas for reducing peak flows, which are central to diminishing sediment-related issues. Additional opportunities for resource management will be evaluated such as revisitation of Phase I projects yet to be implemented, increased Arana Gulch watershed advocacy, flow gauge installation, annual stream-walk monitoring.	Yes	Water Quality
Central Coast	Santa Cruz	West Watsonville Slough Project	$ 14,500,000	The West Watsonville Slough Project will protect and enhance freshwater coastal wetlands, improve floodplain function in Watsonville Slough, preserve agricultural lands, and provide compatible public access.	Yes	Ecosystem
Colorado River	Imperial	Canal Relocation Study	$ 2,000,000	The Canal Relocation Study provides a regionally coordinated study and development of alternative models for relocating existing canals around cities within the county.		
Colorado River	Imperial	City of El Centro Storm Drainage Facilities Upgrades	$ —	This project will identify new public and private funding sources to fund needed improvements.		
Colorado River	Imperial	Flood Water Management Study	$ 5,000,000	This is a regionally coordinated study and development of floodwater management models using existing Imperial Irrigation District and other conduits within the county.		
Colorado River	Imperial	Storage and Retention Basins	$ 5,000,000	This project will maintain and improve the county's stormwater drainage system, including continued development of localized storage and retention basins.		
Colorado River	Riverside	Banning Master Drainage Plan Line D-1	$ 923,000	The project includes storm drain improvements for the City of Banning along Hathaway Street between Ramsey Street and George Street.		
Colorado River	Riverside	Banning Master Drainage Plan Line F	$ 1,424,000	The project provides for storm drain construction in the City of Banning along San Gorgonio Avenue from an outlet at Smith Creek Channel north, approximately 3,000 feet to Westward Avenue.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Colorado River	Riverside	Banning Master Drainage Plan Line H	$ 2,066,260	The project consists of construction of approximately 3,400 feet of reinforced-concrete pipe (RCP), ranging from 36 inches to 66 inches in diameter, for a storm drain along Hathaway Street from an outlet at Smith Creek Channel north to Barbour Street. Mapping will be complete by the end of Fiscal Year (FY) 2009-2010.		
Colorado River	Riverside	Banning Master Drainage Plan Line I	$ 550,000	This project is a box crossing on Smith Creek at Ramsey Street, including inlet and outlet works.		
Colorado River	Riverside	Banning Master Drainage Plan Line K	$ 497,000	This project is a box crossing on West Pershing at Ramsey Street, including inlet and outlet works.		
Colorado River	Riverside	Banning Master Drainage Plan Line D-2	$ 2,205,200	This project consists of storm drain improvements along Hargrave Street between Ramsey Street and Indian School Lane.		
Colorado River	Riverside	Eagle Canyon Dam	$ 7,192,510	Eagle Canyon Dam consists of the construction of Eagle Canyon Dam located south of Canyon Plaza Drive. The project is dependent on the cleanup of an existing dump by the cities of Cathedral and Palm Springs. Capital Improvement Program (CIP) costs are based on the premise that the $1,500,000 cleanup effort will be incorporated into the dam construction contract but will be funded by the City.		
Colorado River	Riverside	East Cathedral Canyon Channel - Levee Certification	$ 214,280	The project provides embankment protection to meet current FEMA standards, which is required for certification of the levee system for the west bank of the E. Cathedral Canyon Channel.		
Colorado River	Riverside	Gilman Home Channel Line A	$ 5,615,970	The project consists of construction of approximately 1,000 linear feet (LF) of RCP from 8th Street westerly in Cottonwood Road to an existing channel at George Street between 10th Street and 12th Street.		
Colorado River	Riverside	Palm Canyon Wash - Arenas Levee Restoration	$ 2,569,700	This project represents the rehabilitation of existing left- and right-bank levees to meet current FEMA levee freeboard criteria and removal of excess material from Palm Canyon Wash Channel to restore the channel flow line to the original design flow line.		
Colorado River	Riverside	Palm Canyon Wash - Levee Certification	$ 62,910	This restorative construction is required to bring the levee into compliance with FEMA certification guidelines. The project, consisting of short floodwall and soil cement cap, should be mostly completed in FY 2009-10.		
Colorado River	Riverside	Palm Springs Master Drainage Plan Line 41	$ 15,009,620	Drainage Plan Line 41 includes storm drain improvements from existing Stage 2 at Golf Club Drive westerly in East Palm Canyon Drive to Cherokee Way. Includes Lateral 41C in Mathew Drive.		
Colorado River	Riverside	Palm Springs Master Drainage Plan Lines 43 and 43a	$ 3,640,060	This project will connect the Eagle Canyon Dam outlet to West Cathedral Canyon Channel. The exact route is not settled. Current FY budget will provide for design.		
Colorado River	Riverside	Tahquitz Creek Levee Reconstruction - Palm Springs	$ 1,200,000	The proposal is to repair and reconstruct an existing flood control levee along the Tahquitz Creek in Palm Springs, from its confluence with the Palm Canyon Wash extending upstream approximately 0.75 miles adjacent to the City's wastewater treatment plant (WWTP). The repair and reconstruction of the levee would ensure that the levee satisfies Federal requirements for levee construction established in Title 44 of the Code of Federal Regulations (CFR), section 65.10, and that the levee would withstand the effects of a 100-year storm in Tahquitz Creek and provide flood control protection to the adjacent WWTP.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Colorado River	Riverside	Verbena Channel	$ 5,418,080	The original open channel, from an outlet south of Dillon Road 8,000 feet north to Two Bunch Palms Trail, will be replaced by a storm drain and detention basin system from Camino Idilio extending approximately 1 mile north to Verbena Drive at Park Lane.		
Colorado River	Riverside	West Desert Hot Springs Master Drainage Plan (MDP)	$ —	A formalized Regional Drainage Plan (RDP) would identify regional solutions and ensure that the necessary flood control facilities associated with the different development areas are implemented to mitigate flood hazards.		
Colorado River	Riverside	West Desert Hot Springs Master Drainage Plan	$ —	This project provides for the development of the Master Drainage Plan and 2011 goals for West Desert Hot Springs.		
Colorado River	Riverside	Whitewater River - Levee Restoration	$ 1,380,310	This project restores the levee located in Whitewater River to improve the integrity of the flood control structure.		
Colorado River	Riverside	Cushenbury Flood Detention Basin	$ 2,000,000	The project is proposed to capture runoff from the San Bernardino Mountains in the Lucerne Valley Sub-basin. Currently, large storm flows drain to beds of dry lakes in the area, and the lakebeds have low percolation rates. Consequently, the majority of water that drains to the lakebeds is lost to evaporation and never enters the basin. The project would divert storm flows to detention basins with high rates of percolation to decrease losses from evaporation.	Yes	Water Supply
Colorado River	San Bernardino	Donnell Basin	$ 4,000,000	Based on the Twentynine Palms Master Plans of Drainage Study, the existing Donnell Basin would need to be expanded to act as a detention basin to reduce flows downstream. A decrease in downstream flows will provide safer crossings and conveyance systems for motorists at Adobe Road, Utah Trail, and the Amboy Road Bridge. The basin project is estimated to cost $3.5 million dollars and is currently in design.		
North Coast	Del Norte	Hunter Creek	$ —			
North Coast	Del Norte	Klamath Glen River Levee System, Update pumping system and maintenance of relief well system	$ —			
North Coast	Del Norte	Klamath River Estuary Wetland Restoration Prioritization	$ —	The document develops guidance for prioritizing wetland restoration projects required through compensatory mitigation.	Yes	Ecosystem
North Coast	Del Norte	Requa Bridge Deck Raise	$ —		Yes	Transportation
North Coast	Del Norte	Sand Mine Road	$ —			
North Coast	Humboldt	Blue Lake Local Agency Levee System, Local Levee Assistance Program (LLAP) Local Levee Evaluation (LOLE)	$ 170,000			
North Coast	Humboldt	Jacobs Avenue Local Agency Levee System, LLAP LOLE	$ 135,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Coast	Humboldt	Mattole Integrated Watershed Management Initiative	$ 4,459,000	The Mattole Integrated Watershed Management Initiative provides a comprehensive approach to watershed restoration in the Mattole area through streamflow enhancement, riparian restoration, coho salmon recovery rearing, streamflow, as well as turbidity monitoring, sediment stabilization, and removal of invasive plants. Seven water storage tanks will be installed in the Mattole River headwaters, totaling 350,000 gallons to augment summer stream flows in critical reaches of coho salmon habitat. Residents agree to turn off instream pumps when directed and begin using water from storage tanks. Recovery rearing of coho salmon will be implemented as a temporary measure to avoid extirpation until stream flow and habitat issues are more fully addressed in the headwaters. Downstream work to control sediment will take place through the installation of bioengineered willow fences that will reduce active erosion and increase streamside shade through the planting of native riparian trees, shrubs, and grasses. Invasive plants will be removed on project sites prior to implementation, and turbidity and streamflow monitoring will ensure that project goals are achieved.	Yes	Ecosystem
North Coast	Humboldt	Potential Blue Lake, Local Agency Levee System LLAP, Local Levee Critical Repair (LLCR)	$ —			
North Coast	Humboldt	Potential Jacobs Avenue Local Agency Levee System, LLAP, LLCR	$ —	The system consists of two earthen embankment levees and associated infrastructure, including access roads, pressure-relief wells, culverts, and flap gates. The length of the entire project is approximately 3.4 miles. The water-side slopes of the levees are armored with riprap slope protection.		
North Coast	Humboldt	Redwood Creek Flood Control Local Levee Assistance Program (LLAP) Project	$ 154,378			
North Coast	Humboldt	Rohner Creek Flood Control and Riparian Habitat Improvement Project - City of Fortuna Stormwater Flood Management Grant Project	$ 6,900,000	This project will provide an analysis of alternatives, including: • Expansion/improvement of existing detention basin above Hillside Drive • New detention basin near pistol range east of rodeo grounds • New detention basin in upper watershed • New bypass culvert/swale near Fortuna High School • New bypass culvert/swale along Fortuna Boulevard • Removal/modifications of bridge crossings • Alteration in channel roughness through channel maintenance • Channel widening/terracing		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Coast	Humboldt	Rohner Creek Flood Control and Salmonid Habitat Improvement Project	$ 5,000,000	The Rohner Creek Flood Control and Salmonid Habitat Improvement Project is a watershed-based, channel corridor-scale project with multiple objectives. The project is intended to provide immediate and substantial improvements to channel corridor function that will benefit aquatic organisms and reduce flood frequency within the City of Fortuna. Rohner Creek, at its confluence with Strongs Creek (located approximately 1,000 feet upstream from the Eel River), has a 4.5-square-mile watershed ranging in elevation from 25 to 1,600 feet. The upper portion of the watershed is predominately composed of second- and third-growth redwood forest; whereas, the mid-portion consists of rural residential areas. The lower portion of the watershed is composed of residential, commercial, and industrial land uses and lies within the city limits of Fortuna. Because of historical channelization and encroachments, Rohner Creek through the urbanized reach of Fortuna experiences overbank flows on a 1.5-year recurrence. Historical attempts to reduce flooding throughout the corridor have resulted in the absence of complex and diverse instream habitats suitable to support native stocks of salmonids, including Chinook salmon, steelhead trout, and the State- and Federally listed Coho salmon. The proposed project is taking a channel corridor approach in identifying opportunities to integrate habitat enhancement elements with flood reduction improvements through the 1-mile project corridor in the city of Fortuna. Conceptual design-level hydrologic, hydraulic, and geomorphic analyses are currently evaluating a suite of improvement opportunities throughout the project corridor. These improvements will address localized streambank mass wasting, channelization, and the absence of salmonid habitat elements throughout the corridor. These improvements will benefit ecological and hydraulic function of the corridor, focusing on instream features and riparian plantings that will improve corridor habitats while reducing flood frequency. Once the improvements are identified and associated opinion of probable costs are developed, the City will prioritize the projects and commence final design, California Environmental Quality Act (CEQA) (California Public Resources Code § 21000 *et seq.*) documentation, and permitting to support the priority projects as available funding allows.	Yes	Ecosystem
North Coast	Humboldt	Salt River Restoration Project by Humboldt County RCD, and California State Coastal Conservancy	$ 5,950,000	This project will improve channel conditions in the Salt River by removing sediment from the channel. Nuisance in-stream vegetation will be removed and replaced with an appropriate composition of managed riparian vegetation. Setback levees will be used on the tributaries to promote natural sediment deposition trends on the alluvial fan. Sediment detention basins will be used to reduce suspended sediment levels. Erosion sources in the upper watershed will also be treated.	Yes	Water Quality
North Coast	Humboldt	Sandy Prairie Local Agency Levee System Vegetation Removal and Repair of Displaced Riprap	$ —			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Coast	Mendocino	Big River Main Haul Road Phase I Restoration	$ 2,063,630	The Big River Main Haul Road Phase I Restoration project proposes to: • Remove ecological obstructions (crossing fills, culverts, and stored sediment) at five locations that threaten water quality in the lower Big River watershed • Restore sections of Class II tributary channels • Construct bridges high above the restored channels to maintain access for ongoing restoration, compatible recreational use, and scientific study • Remove invasive weeds that threaten wetland, riparian, and forest habitats in both the Big River and its watershed Four roadway watercourse crossings and one fill-slope failure along the main access road of the park are composed of significant volumes of fill, are actively eroding, and have trapped substantial volumes of sediment (approximately 14,000 cubic yards). Culverts conveying water through the fill prisms were constructed high above the natural stream channel and are too small to convey the 100-year flood. The fill prisms and stored sediments exist in Class II watercourses and represent an ecological obstruction between forested uplands and the Big River estuary and floodplain, which occur 100 to 300 feet downstream of the crossings. Non-native plants have invaded sensitive habitats, impacting listed species such as coho salmon and steelhead trout.	Yes	Water Quality
North Coast	Sonoma	Copeland Creek Enhancement and Restoration Project	$ 13,314,257	• California Natural Resources Agency 2011 Environmental Enhancement and Mitigation Program Grant: $345,480 • Local Funds $ 4,220,647 • DWR IRWM Plan Proposition 84 (2006) Round 1 Grant Program: $1,000,000. (Sub-agreement of grant award to County of Humboldt – North Coast IRWM Plan)	Yes	Ecosystem
North Coast	Sonoma	Defining Summer Low Flow Channels in Engineered Streams	$ 450,000	The overall goal of this project is to reduce sediment delivery and facilitate sediment movement in engineered stream reaches to be determined by this project. Possible candidates that have active watershed-based approaches and are familiar to the IRWM Plan include Corte Madera Creek, Lagunitas Creek, Guadalupe River, and Alameda Creek. Sediment management will be accomplished by improving and/or removing flood control structures, and stabilizing stream banks and creating or restoring thalwegs. These multiple efforts will improve summer habitat for the nationally threatened steelhead trout.	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Coast	Sonoma	Laguna de Santa Rosa Sedimentation Study and Projects	$ 20,000,000	The California Coastal Conservancy will assist the Sonoma County Water Agency with the proposed Phase II of the Laguna de Santa Sedimentation Study. Phase II will involve the assessment for and preparation of detailed designs for one or more projects on publicly owned land that will reduce effects of sedimentation for habitat restoration and flood control. Phase II will include preparation of the environmental documentation for the chosen project(s). Phase II follows the nearly completed Phase I of this study, which was initiated because Sonoma County Water Agency requested the USACE to determine if siltation has impacted the ability of the Laguna to provide wildlife habitat and to act as a flood control basin. Phase I, therefore, evaluates the causes of sedimentation and assesses restoration needs.	Yes	Water Quality
North Coast	Sonoma	Multi-Benefit Flood and Runoff Management for Sonoma Valley	$ 10,000,000	This project addresses longstanding flooding, water supply, and water quality needs in the Sonoma Creek watershed, including the City of Sonoma, a Phase II stormwater municipality. The proposed activities continue many years of work toward achieving water management goals in the watershed. Aimed at reducing long-term environmental effects of ditching, draining, and paving, the project will: • Reduce volume and velocity of storm runoff delivered to streams • Enhance riparian corridors and increase canopy coverage • Implement runoff BMPs on residential, vineyard, and horse properties, both in the upper watershed and along streams • Reduce suspended sediment loads • Increase information sharing with our citizen and agency communities	Yes	Water Supply
North Coast	Sonoma	Multi-Benefit Stormwater Management and Groundwater Recharge for Petaluma River Watershed	$ 10,000,000	This project will provide 100-year flood protection and increase groundwater recharge potential.	Yes	Water Supply
North Coast	Sonoma	Multi-Benefit Stormwater Management and Groundwater Recharge for the Santa Rosa Plain	$ 10,000,000	Core Objectives: • Flood Hazard Reduction - Improve management of stormwater that contributes directly or indirectly to downstream flooding, thereby reducing flood hazards • Groundwater Recharge - Increase beneficial recharge of groundwater, whether or not that recharged groundwater is directly accessible as water supply	Yes	Water Supply
North Coast	Sonoma	Russian River Groundwater Banking (Artificial Storage and Recovery) Study	$ —	The Groundwater Banking Feasibility Study was initiated in 2010 for banking excess winter water from the Russian River in the Sonoma Valley groundwater basin for storage and use in the summer or during drought period. Conceptually, a groundwater banking program would divert and transmit surplus Russian River water produced at the existing facilities and store that water in the Santa Rosa Plain Groundwater Basin and/or Sonoma Valley Groundwater Basin during wet weather conditions (i.e., the winter and spring seasons), for later recovery and use during dry weather conditions (i.e., the summer and fall seasons) or emergency situations.	Yes	Water supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Coast	Sonoma	Santa Rosa Creek Ecosystem Restoration Study	$ 20,000,000	This project studies the restoration needs of the ecosystem and flood management and detention basins.	Yes	Ecosystem
North Coast	Trinity	Replacement of Garden Gulch Culvert	$ —	This project will replace the culvert for fish passage.		
North Coast	Trinity	Trinity River Restoration Program	$ —	Program activities include physical habitat modifications to the river, monitoring of river responses, and reviews and recommendations for future modifications or enhancements to current management actions (e.g., flow releases from dams, fishery harvests, hatchery practices).	Yes	Ecosystem
North Lahontan	Alpine	Markleeville Creek Restoration Project	$ 220,700	The goal of the Markleeville Creek Floodplain Restoration Project is to reestablish the natural form and function of Markleeville Creek through the site of the former U.S. Forest Service (USFS) guard station. The Alpine Watershed Group (AWG) proposes to restore the streambed configuration to more closely resemble its natural state, which would improve geomorphic function and restore the floodplain.	Yes	Ecosystem
North Lahontan	Lassen	Levee Integrity Program	$ —	Develop a Levee Integrity Program that includes inspection and maintenance.		
North Lahontan	Lassen	Water Storage Study	$ —	Develop on-stream and off-stream water storage to store floodwater and to store water for use during drought conditions.	Yes	Water Supply
North Lahontan	Lassen		$ —	This project will evaluate flooding areas and implement improvements to reduce the potential for residential flooding in Lassen County, City of Susanville, and Susanville Indian Rancheria.		
North Lahontan	Lassen	Honey Lake Shoreline Protection Project	$ —			
North Lahontan	Lassen	Carroll Street Flood Prevention Project	$ —	The project would construct a retaining wall and riprap and/or acquire the property of Carroll Street homes that are subject to recurring flooding.		
North Lahontan	Lassen	Flood Storage Capacity	$ —	This project studies the need for increases in flood storage capacity in reservoirs and behind dams.		
North Lahontan	Lassen	McCoy Dam Overflow Channel	$ —			
North Lahontan	Lassen	Levee Upgrades	$ —	This project would minimize impacts of flooding by implementing levee upgrades for waterways and irrigation canals throughout Lassen County.		
North Lahontan	Lassen	Susan River (Hog Flat to McCoy Dam)	$ —			
North Lahontan	Lassen	Susan River Parkway Project	$ 3,500,000	This project will provide bank stabilization and flood control, recreation, and increased habitats. Additionally, the project will create river parkways for conservation efforts. The project includes $0.5 million of flood management components.	Yes	Recreation
North Lahontan	Lassen	Susan River Release Valve	$ —			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
North Lahontan	Nevada	Trout Creek Restoration Project (Reaches 4 and 5) - Truckee	$ 10,500,000	The grant funds requested would construct and restore Reaches 4 and 5 of Trout Creek. Restoration of the two reaches would traverse lands owned by Holiday Development and would require infrastructure improvements to create the optimal stream restoration alignment. Infrastructure improvements include moving the balloon track, adjusting the Glenshire Drive alignment, and constructing two new bridges across Trout Creek to support the relocated balloon track.	Yes	Ecosystem
North Lahontan	Nevada	Trout Creek (Truckee) Flood Control and Restoration	$ 2,743,000	This project includes bank stabilization, stream environment zone restoration, enhanced fish habitat, newly created riparian habitat, public outreach and education, improved water quality in the Truckee River, and flood protection for the Truckee River corridor.	Yes	Ecosystem
Sacramento River	Butte	Murphy Slough Habitat Restoration	$ —	Restoration includes modifications to existing flood relief structures and bank protection works.	Yes	Ecosystem
Sacramento River	Butte	Sutter Butte Flood Control Agency Levee Improvement Plan	$ 177,500,000	The Improvement Plan includes 44 miles of levee upgrades to reduce flood risk and remove more than 34,000 properties from FEMA Special Flood Hazard Areas.		
Sacramento River	Colusa	Colusa Sub-Reach Wildlife Habitat Restoration Project	$ —	This project proposes the restoration of approximately 251 acres of wildlife habitat on portions of seven tracts within the levees of the Sacramento River between the community of Princeton and the City of Colusa.	Yes	Ecosystem
Sacramento River	Colusa	Cooperative Program for Groundwater Studies between the County of Glenn and the Colusa Basin Drainage District	$ —	This program includes investigating the potential for groundwater recharge in conjunction with the operation of flood detention facilities prior to design and construction as part of the Colusa Basin's Integrated Watershed Management Plan.	Yes	Water Supply
Sacramento River	Colusa	Integrated Resources Management for Flood Control	$ —	This project consists of three alternatives. • Alternative 1: Construction of 14 detention basins and 10,000 acres of environmental restoration measure • Alternative 2: Construction of 8 detention basins and 10,000 acres of environmental restoration measure • Alternative 3: Construction of 5 detention basins and 10,000 acres of environmental restoration measure	Yes	Ecosystem
Sacramento River	Colusa	Long-term Flood Management for Colusa Basin	$ —	This project consists of a combination of strategically placed foothill reservoirs and up to 10,000 acres of multipurpose detention basins, catchment basins, and groundwater recharge facilities along the Colusa Drain and/or tributaries to provide the most reasonable technical, environmental, and economical structural solution to significantly remedy the issues of flood control and groundwater recharge within the Colusa Basin.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Colusa	Sites Reservoir	$ —	This project would provide water supplies in average and dry years for urban, agricultural, and environmental purposes. Sites Reservoir will add flexibility to the State's water management system and can provide unique benefits, which include: • Enhanced water supply reliability for urban, agricultural, and environmental uses • Improved Delta water quality • Mitigation of snowpack storage losses due to climate change • Contribute to flood damage reduction in the Central Valley • Ecosystem restoration actions in the Sacramento River • Dedicated storage that can be adaptively managed to respond to Delta emergencies and help with restoration actions	Yes	Water Supply/ Ecosystem
Sacramento River	Colusa	Upper Stony Creek Watershed Project	$ —	In addition to managing watershed resources, the project would provide groundwater recharge and flood control by diverting and transporting peak flows through a series of man-made waterways or pipelines joining Walker Creek and Wilson Creek with the existing gravel sites.	Yes	Water Supply
Sacramento River	El Dorado	Addressing Sediment Issues in the Cosumnes American, Bear, and Yuba Rivers (CABY) Region	$ 4,282,853	Project goals are to demonstrate projects for sediment control, regional sediment monitoring, map of erosion potential with included sediment budgets and sediment transport sources, and outreach and training.		
Sacramento River	El Dorado	Finnon Lake Restoration and Habitat Improvement Project - Georgetown Divide Resource Conservation District	$ 1,501,400	Restoring Finnon Lake to its original operating capacity of 350 acre-feet while enhancing fishery and aquatic habitats, improving wetland habitat, improving upland forest habitats, and securing a sustainable water supply to combat wildfires.	Yes	Ecosystem/ Water Supply
Sacramento River	El Dorado	Hangtown Creek Restoration (South Fork American River Watershed)	$ 24,046,050	Objectives of this project include: • Develop a comprehensive flood control plan for the City of Placerville • Complete the Hang town Creek Master Plan • Relocate the trunk sewer lines out of the creek channel • Upgrade three sewer lift stations within the Hangtown Creek watershed • Ongoing restoration of Hangtown Creek and its tributaries	Yes	Water Quality
Sacramento River	El Dorado	Regional Water System Reliability and Conservation Project for American and Yuba river watersheds	$ 18,000,000	The project would improve reliability of raw water conveyance and storage, and improve water conservation by eliminating seepage and minimizing evaporation; improve and protect raw water quality for downstream municipal and domestic water users; protect fisheries from a damming source of sediment; and increase the capacity of raw water conveyance and storage to meet anticipated future demands.	Yes	Water Quality/ Water Supply
Sacramento River	Glenn	Colusa Subreach Wildlife Habitat Restoration Project	$ —	The project develops a strategy for restoration of the ecosystem along the Sacramento River between the community of Princeton and the City of Colusa.	Yes	Ecosystem
Sacramento River	Glenn	Design of Recharge and Detention Basins	$ —	The project would continue investigation and design of recharge/detention basins on South Fork Willows Creek and Wilson Creek.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Glenn	Hamilton City Flood Damage Reduction and Ecosystem Restoration	$ —	The project consists of construction of a setback levee to provide a more reliable form of flood protection to the community and agricultural areas. Degradation of the existing "J" levee would allow for reconnection of the river to the floodplain and restoration of about 1,500 acres of native habitat between the new setback levee and the Sacramento River.	Yes	Ecosystem
Sacramento River	Glenn	Integrated Resources Management for Flood Control	$ —	This project has three alternatives. These alternatives include: • Construction of 14 detention basins and 10,000 acres of environmental restoration measure; • Construction of 8 detention basins and 10,000 acres of environmental restoration measure; • Construction of 5 detention basins and 10,000 acres of environmental restoration measure.	Yes	Ecosystem
Sacramento River	Glenn	Willows Area	$ —	The project is under development. Alternatives include a nonstructural approach, a structural approach, and a combined approach. The goal of the project is to reduce flood damages to the City of Willows and surrounding agricultural lands while increasing ecological value within the South Fork Willow Creek, North Fork Willow Creek, and Wilson Creek Sub-basins in Glenn County.	Yes	Ecosystem
Sacramento River	Glenn	Willows Area Flooding - South Fork Willow Creek Detention Basin	$ —	This project initiates construction of a flood control detention basin on South Fork Willow Creek in Glenn County. The purpose of the facility is to capture periodic floodwater in the upper Colusa Basin before it can cause damage downstream, particularly to homes and infrastructure in and around the City of Willows.		
Sacramento River	Lake	Cache Creek Flow Enhancement Project	$ —	The project would determine mercury and nutrient inputs to Clear Lake to support the development and implementation of water quality protection measures.	Yes	Water Quality
Sacramento River	Lake	Middle Creek Flood Damage Reduction and Ecosystem Restoration Project	$ 48,000,000	This project eliminates flood risk to 18 residential structures, numerous outbuildings, and 1,650 acres of agricultural land while restoring damaged habitat and water quality of the Clear Lake watershed. This project includes restoration of wetlands, reconnection of floodplains, and relocating 18 structures.	Yes	Ecosystem/ Water Quality
Sacramento River	Lassen	Ash Creek Wildlife Area Restoration Project	$ 3,700,000	The project is a meadow restoration project (2,415 acres) on the lower section of the Ash Creek Wildlife Area and will protect 1,085 acres from further degradation. It will provide flood attenuation and shallow groundwater recharge.	Yes	Water Supply
Sacramento River	Lassen	Beaver Creek Meadow Restoration Project	$ 800,000	The project is a meadow restoration project that will restore approximately 100 acres of a degraded meadow system and will provide flood attenuation and shallow groundwater recharge.	Yes	Water Supply
Sacramento River	Lassen	Butte Creek Meadow Restoration Project	$ 350,000	The project is a meadow restoration project that will restore approximately 150 acres and will provide flood attenuation and shallow groundwater recharge.	Yes	Water Supply
Sacramento River	Lassen	Floodplain Restoration at Egg Lake Slough-Lennon Ranch	$ —	The project will enhance and stabilize 0.5 miles of riverbank along Egg Lake Slough, improve habitat conditions, and keep the slough from further degradation and transport of high flows.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Lassen	Mountain Meadows Restoration Project	$ 4,700	This consists of three separate project reaches proposed for meadow restoration to reestablish floodplain function, reduce fine sediment, improve forage production, and enhance habitats for wildlife and aquatic species.	Yes	Water Quality/ Ecosystem
Sacramento River	Modoc	Alturas Area Levee and Enhancement Project	$ —	The project would redesign the levee system and channel through the city in a manner that is compliant with USACE standards, protects the infrastructure of the city, minimizes risk of debris accumulation, and improves the aesthetics of the waterway to increase commercial activity in that part of town.	Yes	Recreation
Sacramento River	Modoc	Carey Ranch Riverbank Stabilization Project and Riparian Enhancement Project	$ 100,000	The project will enhance and stabilize several miles of riverbank along the Pit River, improve habitat conditions, and keep the river from further degradation and transport of high flows.		
Sacramento River	Modoc	Diamond Ranch/Canyon Creek Meadow Rehydration Project	$ —	The project will enhance a stream by placing grade-control structures that will be designed to stabilize banks and encourage flood flows to access the floodplain. The project will provide flood protection, groundwater recharge, and habitat enhancement.	Yes	Water Supply/ Ecosystem
Sacramento River	Modoc	Green Wing Properties River Bank and Wetlands Restoration Project	$ —	This project consists of riparian and wetland restoration along with watershed improvement in the surrounding upland areas. Beneficiaries of the project include the landowners and general public.	Yes	Ecosystem
Sacramento River	Modoc	Haage Ranch Riverbank Stabilization Project and Riparian Enhancement Project	$ 300,000	The project will enhance and stabilize 1.5 miles of riverbank along the Pit River, improve habitat conditions, and keep the river from further degradation and transport of high flows.	Yes	Ecosystem
Sacramento River	Modoc	Hunsinger Draw Meadow Restoration Project	$ 80,000	The project is a meadow restoration project (30 acres) along Hunsinger Creek that will provide flood attenuation, shallow groundwater recharge, and ecosystem restoration.	Yes	Water Supply/ Ecosystem
Sacramento River	Modoc	Parker Creek Restoration and Enhancement Project	$ —	This project proposes to conduct a variety of natural resource treatments, including forest restoration, stream restoration, and habitat enhancement within the Parker Creek watershed.	Yes	Ecosystem
Sacramento River	Modoc	Proposed Willow Creek Ranch/LLL, Inc. Riparian and Wetland Enhancement Project	$ —	The project will consist of riparian and wetland enhancement along with watershed improvement in the surrounding upland areas.	Yes	Ecosystem
Sacramento River	Modoc	Rattlesnake Creek Riparian Enhancement	$ 350,000	The project will enhance 3 miles of stream by placing grade control structures that will be designed to stabilize banks and encourage flood flows to access the floodplain. The project will provide flood protection, groundwater recharge, and habitat enhancement.	Yes	Water Supply/ Ecosystem
Sacramento River	Modoc	Sponseller Ranch Riverbank Stabilization Project and Riparian Enhancement Project	$ 210,000	The project will enhance and stabilize several miles of riverbank along the Pit River, improve habitat conditions, and keep the river from further degradation and transport of high flows.	Yes	Ecosystem
Sacramento River	Nevada	CABY Region Green Infrastructure	$ 300,000	This is an emerging initiative for green infrastructure to provide attenuation and detention, especially for disadvantaged communities.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Nevada	Grass Valley Drainage System Repairs	$ 4,295,500	This project provides for reduction of sedimentation and localized flooding.		
Sacramento River	Nevada	Protecting the Headwaters: Groundwater Sources and Mountain Meadows	$ 1,306,732			
Sacramento River	Placer	American River Basin IRWM Stormwater Flood Management Grant Proposal-Antelope Creek Improvement Project	$ 5,839,747	The project addresses stormwater flood control on a regional basis in Placer County by integrating upstream- and downstream-related project components into a single project.		
Sacramento River	Placer	Dry Creek Watershed Flood Control and Environmental Enhancement Project - Dry Creek Parkway Reach	$ 5,727,395	This project will reduce flood damages and enhance environmental quality of the Dry Creek Watershed by purchase of easement and fee interests or real properties within the flood corridor, improving channel and floodplain connectivity by renovation of the existing dam and removal of private non-engineered levees, establishing salmonid spawning habitat, and removing 100 acres of red sesbania in the lower watershed.	Yes	Ecosystem
Sacramento River	Placer	Dry Creek Watershed Flood Control and Environmental Enhancement Project – Miner's Ravine	$ 2,800,835	This project would reduce flood damages and enhance environmental quality of the Dry Creek Watershed by: constructing an off-channel detention basin in Placer County. Riparian and instream habitat improvements would benefit steelhead trout and many other wildlife species. Enhancements include removal of non-native plants, creating riparian habitat, enlarging the stream channel, and allowing for meander and restoration of natural processes, including enhancement of seasonal wetlands.	Yes	Ecosystem
Sacramento River	Placer	Lakeview Farms Conservation Project	$ 495,527	This conservation project is being proposed as a collaborative effort with two partners, Lakeview Farms Inc. and Ducks Unlimited, to acquire a conservation easement and improve the floodplain and wetland habitat resources on Lakeview Farms, a 138-acre property south and west of Sheridan along Coon Creek in western Placer County. The County's purchase of a conservation easement on this agricultural rice land is a part of a larger restoration effort at this site, through other funding sources, to restore the habitats that have been destroyed as a result of poor farm management. Wetlands habitat will be reconstructed to the primary benefit of the numerous waterfowl and migratory birds that are found in the area.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Placer	Proposed Antelope Creek Flood Control Project	$ 5,839,747	This is a multi-objective water efficiency and regional flood control improvement project proposed within the Dry Creek Watershed area of the American River Basin. The project will meet multiple planning objectives by improving water supply, water quality, flood protection, ecosystem restoration, and an existing public recreation corridor. Through the design and construction of several on-channel weirs along an existing open-space-protected reach of the creek, the project will provide flood control and flood damage reduction benefits to repeatedly damaged areas of downtown Roseville. Both ecosystem restoration and public recreational opportunities will be enhanced wherever possible within the floodplain of Antelope Creek, which currently includes a multipurpose public trail system. In-stream improvements will include bank recontouring to ensure overbank flows, specific habitat enhancements for fisheries, removal of invasive plant species, and replanting with native species. An interpretive trail sign system is also proposed to help educate the public on the project as they utilize the existing multipurpose trail system.	Yes	Water Supply/ Water Quality/ Ecosystem/ Recreation
Sacramento River	Placer	Proposed Regional Cross Canal Watershed Flood and Conservation Easement Project	$ —	In exchange for monetary payment, a qualifying property owner can continue agricultural activities while allowing rice lands to be periodically inundated with water during large winter storm events. This would include rice lands adjacent to Auburn Ravine, Markham Ravine, Pleasant Grove Creek, Coon Creek, Yankee Slough, and their tributaries. The goal of the easement program is to conserve these rice lands and the riparian corridors along existing creeks to the mutual benefit of the Flood Control District and the property owner. Under this program, rice-growing operations in new easement areas would not be altered but rather protected and conserved. Existing wetland and riparian areas adjacent to creeks would be improved and protected, any current waterfowl hunting operations could remain, and the property owner would receive fair market value for the sale of an easement.	Yes	Ecosystem
Sacramento River	Plumas	Fitch Canyon Restoration Project	$ —	The project would restore the meadow to reestablish floodplain function and improve habitats for wildlife and aquatic species.	Yes	Ecosystem
Sacramento River	Plumas	Integrated Greenhorn Creek Restoration Project	$ 87,910	Treatment of six project reaches along Greenhorn Creek would include stabilizing eroding stream banks and the channel bed with boulder vanes, bank sloping, and vegetation to reduce sediment and loss of property, and constructing two fish-passable riffle-pool structures to improve fish passage.	Yes	Ecosystem
Sacramento River	Plumas	Last Chance Creek Phase II Restoration Project	$ 2,867,750	This project would restore the hydrologic function of 542 acres of meadow to reestablish floodplain, stabilize 7.8 miles of channel along Last Chance Creek to eliminate gullied channel as sediment source, and enhance meadow habitat.	Yes	Ecosystem
Sacramento River	Plumas	Red Clover Confluence Restoration Project	$ 128,300	The project restores the hydrologic function of approximately 2,100 acres of channel/floodplain system using a pond-and-plug technique in Red Clover Valley. The primary project goal is to improve the water and sediment retention functions of the watershed, with objectives focusing on reduced bank erosion, improved water quality, improved fish and wildlife habitat, reduced flood flows, and increased base flows.	Yes	Water Quality/ Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Plumas	Rowland-Meadowview Restoration Project	$ 98,500	The project restores the hydrologic function of 256 acres of meadow along Rowland Creek and Last Chance Creek to reestablish floodplain, eliminate gullied channel as sediment source, and enhance meadow habitat.	Yes	Ecosystem
Sacramento River	Plumas	Spanish Creek in American Valley Rehabilitation Project	$ 38,100	The project includes treatment of three project reaches along Spanish Creek implementing gravel management through removal of gravel bars to expand floodplain capacity; stabilizing eroding stream banks with bank sloping, boulder vanes, and vegetation; and rehabilitating aquatic/riparian habitats.	Yes	Ecosystem
Sacramento River	Plumas	Spanish Creek in Meadow Valley Rehabilitation Project	$ 531,050	The project includes treatment of four project reaches along Spanish Creek, stabilizing eroding stream banks with bank sloping, boulder vanes, and planting vegetation. It also entails the implementation of gravel management through removal of gravel bars to expand floodplain capacity, reduce bedload sediment and bank erosion, and rehabilitate aquatic/ riparian habitats.	Yes	Ecosystem
Sacramento River	Plumas	Sulphur-Barry Creek Restoration Project	$ 19,000	The project reduces sediment and restores floodplain along Sulphur Creek and Barry Creek to reestablish hydrologic function, reduce bed load transport, and eliminate gullied channel as sediment source.	Yes	Ecosystem
Sacramento River	Plumas	Upper Dotta Canyon Restoration Project	$ 549,914	The project includes restoration of 253 acres of meadow floodplain and 2.9 miles of stream channel to reestablish hydrologic function, eliminate gullied channel as sediment source, and enhance meadow habitat potentially utilizing the pond-and-plug technique.	Yes	Ecosystem
Sacramento River	Plumas	Yellow Creek - Humbug Valley Restoration Project	$ 388,400	The project includes restoration of 109 acres of meadow floodplain to reestablish hydrologic function, eliminate gullied channel as sediment source, and enhance meadow habitat.	Yes	Ecosystem
Sacramento River	Sacramento	American River Basin IRWM Stormwater Flood Management Grant Proposal – Downtown Combined Sewer Upsizing Project	$ 6,899,208	The Downtown Combined Sewer Upsizing Project will reduce flood damage in the economically vital downtown area of Sacramento; improve water quality in the Sacramento River through the reduction in raw sewage releases into the source of drinking water for millions of Californians; and protect public health by reducing the likelihood and volume of diluted sewage on public streets and properties.	Yes	Water Quality
Sacramento River	Sacramento	American River Parkway Plan	$ —	The American River Parkway Plan will provide a guide for land use decisions affecting the Parkway, and the plan specifically addresses the preservation, use (including flood control), development and administration of the Parkway. The plan was most recently updated in 2008.		
Sacramento River	Sacramento	Anticipatory Erosion Control Program	$ —			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Sacramento	Arcade Creek Corridor Plan	$ 1,000,000	This plan identifies numerous remedial and maintenance projects along Arcade Creek and Cripple Creek that will fulfill the goals of the Arcade Creek Watershed Group. The types of projects identified are as follows: • Remove debris jam and flow obstructions • Remove invasive non-native vegetation • Stabilize banks • Improve pipe outfalls • Restore recreational trails • Improve floodplain function • Reconfigure the channel • Control runoff from parking lots • Stabilize swales • Remove sediment and vegetation at creek crossings • Remove concrete-lined channel. Identified projects are located in the City of Sacramento, Sacramento County, and the City of Citrus Heights.	Yes	Recreation
Sacramento River	Sacramento	Capital Improvement Projects - Pipelines	$ 5,896,000	Capital improvement projects include various pipeline improvements within Sacramento to increase pipeline capacities to meet the required design flows for specified flood events.		
Sacramento River	Sacramento	Chicken Ranch Slough - Concrete Channel Lining Rehabilitation	$ 400,000	Rehabilitation of the Chicken Ranch Slough includes lining the concrete channel to prevent seepage and improve the capacity of the channel for flood control.		
Sacramento River	Sacramento	Community Rating System Public Information Pilot Program	$ 60,000	This is a pilot program for the new Community Rating System being rolled out to the public.		
Sacramento River	Sacramento	Dry Creek Flood Hazard Mitigation Acquisitions with County Park Department	$ —	The Dry Creek Parkway project is a multi-agency project designed to return an area of Dry Creek floodway to a regional park site and open space. The floodway at this location is very broad, compromising access during flood emergencies. The Parkway project goals and good floodplain management mandate the removal of the remaining residential structures located within the floodway. At this time, 21 residential structures are remaining.	Yes	Recreation
Sacramento River	Sacramento	Elder Creek and Gerber Creek	$ 70,000,000	The North Vineyard Station Drainage Master Plan for Elder Creek and Gerber Creek improvements has a Clean Water Act Section 404 Permit (33 U.S.C. § 1344 *et seq.*) and will improve flood flow conveyance, store peak-flow volume, and enhance habitat.	Yes	Ecosystem
Sacramento River	Sacramento	Flood Insurance Promotion	$ 20,000	The project promotes the flood insurance program.		
Sacramento River	Sacramento	Flood Protection Project	$ 976,773			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Sacramento	Gardenland Flood Management, Habitat Restoration, and Recreation Project	$ 5,140,324	The Gardenland Sand and Gravel mine site is a 123-acre site on a floodplain terrace located within the designated boundaries of the American River Parkway. Sacramento Area Flood Control Agency (SAFCA) proposes to acquire the site, restore it, and incorporate it into the publicly owned American River Parkway. The site has been mined for decades and is now used for sorting, distributing, and recycling soil and construction debris. The dominant feature is a steep-sided, 62-acre mine pit that is now a lake, which is hydraulically linked to the American River through alluvial soil. It hosts non-native fish and vegetation, and the graded soils around the pit are either bare or host non-native vegetation and weeds. The site operators mow and disc much of the property to prevent the establishment of vegetation, particularly woody vegetation that would inhibit mining operations. Acquisition of the site would remove two occupied dwellings, along with various structures and equipment, from the floodway. It would provide an opportunity to restore the site and eliminate the ongoing potential for sedimentation and water pollution from the onsite storage of piles of soil and debris of unknown origin.	Yes	Water Quality
Sacramento River	Sacramento	Improve the County Automated Local Evaluation in Real Time (ALERT) System of Stream and Rain Gauges	$ 500,000	The project provides for stream and rain gauge installations to improve the County ALERT system.		
Sacramento River	Sacramento	Improved Flood Inundation and Evacuation Plan for Probable Maximum Flow from New Spillway at Folsom Dam	$ 200,000	The project provides for development of an improved flood inundation and evacuation plan as a result of the construction of a new spillway at Folsom Dam.		
Sacramento River	Sacramento	Joint Use Detention-Park Basins on Laguna Creek	$ —	The Vineyard Springs Comprehensive Plan was adopted by the Board of Supervisors in about 2000, including a drainage master plan. Subsequently, the drainage plan was revised to be more environmentally sensitive. A few detention basins are planned for joint use by Southgate Recreation and Park District.		
Sacramento River	Sacramento	Mayhew Slough - Concrete Channel Lining Rehabilitation	$ 100,000	The project provides for rehabilitation of Mayhew Slough by lining the concrete channel to prevent seepage and to improve the capacity of the channel for flood control.		
Sacramento River	Sacramento	Pasa Robles Drive - Concrete Channel Lining Rehabilitation	$ 250,000	The project provides for rehabilitation of Pasa Robles Drive by lining the concrete channel to prevent seepage and to improve the capacity of the channel for flood control.		
Sacramento River	Sacramento	Pump Station Improvements and Rehabilitation	$ 3,000,000	The project provides for rehabilitation of the pump station to improve its pumping capacity.		
Sacramento River	Sacramento	Sacramento River Mile 75.1 (Pritchard Lake Pump Station)	$ 7,000,000	The project provides for pump station improvements at post mile 75.1 along the Sacramento River.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Sacramento	South Sacramento Habitat Conservation Plan	$ —	The South Sacramento Habitat Conservation Plan (SSHCP) provides a regional approach to balancing development against conservation and protection of habitat, open space, and agricultural lands. The SSHCP protects 30 species of plants and wildlife, including 10 species that are listed as threatened or endangered under the Federal Endangered Species Act (FESA), the California Endangered Species Act (CESA) (California Fish and Game Code § 2050 *et seq.*), or both. The SSHCP also protects vernal pool, wetland, and stream habitats that are subject to the Federal Clean Water Act (CWA) (33 U.S.C. § 1251 *et seq.*) and California's Porter-Cologne Water Quality Control Act (California Water Code § 13000 *et seq.*). The SSHCP also seeks a programmatic Streambed Alteration Agreement under California Department of Fish and Game Code section 1600 *et seq.* The primary mechanism for conservation established under the SSHCP is its Reserve System, which will conserve habitat that will be managed and monitored to achieve the biological goals and objectives for the protected species.	Yes	Ecosystem
Sacramento River	Sacramento	Stormwater Source Control in the Cosumnes American Bear and Yuba Region - American Rivers	$ 1,020,000	This project will construct green infrastructure stormwater facilities to reduce sediment, pollutants, and erosive peak flows, while increasing groundwater infiltration and storage in the Yuba River watershed. It will also provide a highly exportable, innovative solution for controlling downstream flood risk. The project will be constructed at two public sites in the disadvantaged communities of Nevada City and Grass Valley—the Nevada County Rood Administrative Center and the Yuba River Charter School. The proposed approaches mimic nature's way of dealing with stormwater and provide not only economic, water quality, and hydrology benefits, but also aesthetic and habitat values. In addition, the project has an innovative and robust monitoring component to quantitatively measure benefits, incorporate education and outreach activities for a range of audiences, and coordinate with other such efforts throughout the state to promote early learning and replication throughout the CABY watersheds and the greater Sierra Nevada region.	Yes	Water Quality
Sacramento River	Sacramento	Strong Ranch Slough - Concrete Channel Lining Rehabilitation	$ 1,200,000	This project rehabilitates Strong Ranch Slough by lining the concrete channel to prevent seepage and improve the capacity of the channel for flood control.		
Sacramento River	Shasta	Burney Gardens Restoration Project	$ 1,600,000	The project is a meadow restoration project of an open meadow area (estimated budget is $75,000) and includes the restoration of an encroached lodgepole meadow area (estimated budget is $1.5 million). Removal of biomass and sale of this product is anticipated to pay for the restoration of the encroached meadow area. The project also provides flood attenuation and shallow groundwater recharge benefits.	Yes	Water Supply
Sacramento River	Shasta	Clover Creek Preserve	$ 10,597,753	The Clover Creek Preserve project proposes to restore and conserve approximately 128 acres of land that had been slated for residential development. Specific components of the project include the creation of a 46+ acre detention basin/floodplain area (with 10 to 15 acres of associated seasonal wetland, marsh, perennial pond, and riparian habitat); the enhancement or creation of 25 to 40 acres of oak woodland and 40 to 55 acres of grassland with scattered vernal pools; and the construction of bike paths, walking trails, a parking area, and habitat interpretive areas.	Yes	Ecosystem/ Recreation

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Shasta	McArthur Swamp Restoration and Management Planning Project	$ 600,000	The project would develop a restoration design plan that would use surface flow water to restore seasonal wetlands and vernal pools in the project area.	Yes	Ecosystem
Sacramento River	Solano	Dixon Area Joint Powers Authority Project	$ 14,000,000			
Sacramento River	Solano	Reclamation District (RD) 2068 Data Collection and Supervisory Control and Data Acquisition (SCADA) for Flood Operations	$ 500,000			
Sacramento River	Sutter	Flood Control	$ —	The goals of this project are to • Evaluate functionality of flood control infrastructure • Identify ways to allow floodwaters onto floodplains • Identify flood control off-stream storage • Improve infiltration ability of flood-prone areas • Protect banks and levees of channels • Determine cumulative effects of existing wetland and riparian restoration projects on flooding.		
Sacramento River	Sutter	Floodplain Restoration Levee Setback Options	$ —			
Sacramento River	Sutter	Levee Reconstruction Recommendations	$ 22,000,000			
Sacramento River	Sutter	Lower Feather River Watershed Management Plan (WMP)	$ —	The Feather River Watershed Forum was established to implement watershed management and restoration activities in the Feather River watershed of northern California.	Yes	Ecosystem
Sacramento River	Sutter	Sacramento River Bank Protection Project	$ —	This project addresses long-term erosion protection along the Sacramento River and its tributaries. Within the Sacramento area, bank protection measures typically consist of large angular rock placed to protect the bank, and then a layer of soil/rock material is placed to allow vegetation to grow back on the bank. In addition, dead trees may be added to the mixture for additional habitat value.		
Sacramento River	Sutter	Stream Systems Hillslope Processes Mining	$ —	One of the goals of this effort is to evaluate stream banks/levees and floodplain connectivity.	Yes	Ecosystem
Sacramento River	Sutter	Sutter Basin Feasibility Study	$ —	The project assesses flood risk, ecosystem restoration, and recreation issues.	Yes	Ecosystem
Sacramento River	Sutter	West Yuba City Master Drainage Study - Improvement Alternative 5	$ 38,800,000	Alternative 5 includes two detention basins. One is located at the north end of the LOC just south of Pease Road and one located just south of Bogue Road and west of the LOC. There would also be a 50-cfs (firm capacity) pump station associated with each detention basin.		
Sacramento River	Sutter	West Yuba City Master Drainage Study - Preferred Project	$ 137,000,000	RP identifies the specific drainage facilities needed to serve the West Yuba City area at buildout.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Tehama	Columbia and Kirkwood Bridge Replacements	$ 1,200,000	Bridges on Kirkwood Road and Columbia Avenue will be replaced due to sheet flow flooding that could have an impact on wells.		
Sacramento River	Tehama	Deer Creek Levee widening (upstream of SR 99)	$ —	Reconstructing and setting back the levee on both sides of the stream would: • Increase the floodplain and increase the transitory storage capacity • Restore channel form and function to improve operation and maintenance (O&M) and facilitate flood damage reduction • Remove barriers to fish passage, • Set back levees to connect rivers to floodplains • Restore channel alignment • Encourage natural physical geomorphic processes including channel migration and sediment transport, • Protect critical infrastructure corridors from floodwaters (MA-069) This project is an effort to respond to the flooding and habitat problems in lower Deer Creek and explore the concept of deliberately using the floodplain of Deer Creek to accommodate part of the flood flows in a controlled fashion. With careful planning and adequate protection for vulnerable property and infrastructure, this project will seek to reduce flood flows and allow the channel to reestablish some of its irregular, hydraulically rough, and ecologically complete pre-levee condition.	Yes	Ecosystem
Sacramento River	Tehama	Jewett and Burch Creek Analysis Project	$ —			
Sacramento River	Tehama	La Barranca and Blackberry Island	$ 5,590,050	The proposed project is a comprehensive floodplain reconnection and restoration project (Phase III) within the Sacramento River National Wildlife Refuge where 450 acres on the La Barranca Unit and 50 acres on the Blackberry Island Unit will be restored. Restoration includes the removal of gravel pits, removal of a 900-foot private levee and roads to reconnect the river and its floodplain, control invasive weeds, and replant with native riparian species. The reconnection will improve floodplain storage, reduce peak flood flows, and protect property.	Yes	Ecosystem/ Water Supply
Sacramento River	Tehama	Recharge Study Implementation	$ —			
Sacramento River	Tehama	Red Bluff River Park Gravel Removal Project	$ —			
Sacramento River	Yolo	Bridge District Levee Access Road	$ 4,500,000	The project would develop a levee maintenance and flood-fighting access road, spanning 3,250 linear feet (0.6 mile) on top of the levee crown, from the south side of the Tower Bridge to the future Mill Street, north of U.S. Highway 50. The proposed access road and off-road amenities would also serve as a recreational trail by allowing controlled use by bicyclists, pedestrians, and other recreationists. The proposed project is part of the Bridge District Specific Plan.	Yes	Transportation

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	Buckeye Creek Erosion/Flood Management Project	$ —	Erosion of the banks along Buckeye Creek west of Interstate 5 is causing sediment deposition and flooding on property north of the unincorporated town of Dunnigan. An assessment of the causes of erosion and determination of measures to effectively mitigate or minimize the erosion is needed to arrest the problem and preserve the watershed		
Sacramento River	Yolo	Cache Creek Off-Channel Detention Basin Projects	$ —			
Sacramento River	Yolo	California Highway Patrol Academy Site Project	$ 10,000,000			
Sacramento River	Yolo	Caltrans Highways Hydraulic Impact Assessment Program	$ —			
Sacramento River	Yolo	Cities-County Storm Drainage Criteria Update Program	$ —			
Sacramento River	Yolo	City of Winters Storm Drainage Diversion to Putah Creek Project	$ —			
Sacramento River	Yolo	Clarksburg Levee Improvement Project	$ —	Reclamation District (RD) 999 needs funding for 32.4 miles of geotechnical evaluations of levees that protect the unincorporated town of Clarksburg. The evaluations are necessary to determine the potential for through-seepage, under-seepage, or other levee weaknesses that might lead to levee failure. RD 999 also will need funding to implement necessary improvements based on the geotechnical evaluations. FEMA is requiring these evaluations and improvements as part of its process to upgrade Yolo County's Digital Flood Insurance Rate Maps (FIRMs). In addition, RD 999 needs to grade the landside of its levees to a 2:1 slope and grade the waterside of its levees to a 3:1 slope. RD 999 also needs to replace its 80-year-old pumping infrastructure. RD 307 needs funding for geotechnical evaluations of levees that help protect Clarksburg and the Sacramento Regional Sanitation District facilities. RD 307 also urgently needs funding to repair erosion sites on 6,500 linear feet within 6.6 miles of levees that help protect Clarksburg and the Sacramento Regional Sanitation District's Northwest Interceptor project.		
Sacramento River	Yolo	Clear Lake Operations Evaluation Program	$ —	During the winter months, Cache Creek Dam releases are dictated by the Gopcevic decree. Yolo County Flood Control and Water Conservation District (FCWCD) and Lake County Watershed Protection District have discussed the possibility of modifying these operational rules under certain conditions to benefit both Yolo County and Lake County interests. These changes could be coupled with some physical modifications at the Grigsby Riffle. These actions could reduce peak flood flows in Cache Creek by about 4,000 cfs on the levees near Woodland, while also providing flood relief to Clear Lake residents. Additionally, reoperations of the Cache Creek Dam could provide a significant amount of water supply in certain hydrologic year types.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	County Roads Hydraulic Capacity Assessment Program	$ —			
Sacramento River	Yolo	Creation of Flood Management Division or Separate Entity	$ —			
Sacramento River	Yolo	Deep Water Ship Channel Navigation Levee Repair	$ —	Correct deficiencies, protect against under seepage, and maintain the Deep Water Ship Canal Levees to current standards for FEMA 100-year and urban levee 200-year levels of flood protection. Physical improvements may include, but are not limited to, restoration and armoring of water-side levee slopes, increased levee height through crown raising or crown-top walls, slurry cutoff walls in the levee prism, seepage blankets on the levee land-side, and levee setbacks.	Yes	Transportation
Sacramento River	Yolo	Dry Creek Bank Stabilization Project	$ —			
Sacramento River	Yolo	Dunnigan Area Storm Drainage/Flood Management Project	$ —			
Sacramento River	Yolo	Elk Slough Reclamation Pumping Plant	$ —	The existing pumping plant is 80 years old. The project would replace three old pumps with four new pumps and drives. This project will increase pumping efficiency, reduce cost, increase reliability, and maintain the existing pumping capacity.		
Sacramento River	Yolo	Esparto Storm Drainage/Flood Management Project	$ —	Land within Esparto and adjacent lands that are planned for growth are subject to flooding from Lamb Valley Slough as a result of significant storm events. The flooding is likely due to a combination of the capacity limitations from bridge structures, Lamb Valley Slough, and South Fork Willow Slough. A flood control master plan is needed to determine the levee, channel, and bridge improvements needed to mitigate the existing flood hazards and to determine what additional flood control measures are needed to allow for implementation of the Yolo County General Plan. A funding strategy is needed to pay for maintenance activities and the portions of flood control improvements that have no nexus to new development in Esparto.		
Sacramento River	Yolo	Flood Emergency Preparedness and Hazard Classification Program	$ —			
Sacramento River	Yolo	Huff's Corner Levee Repair Project	$ —	Erosion control at a critical site within a 2,500-foot levee section on the south bank of Cache Creek. The section stretches from Interstate 5 upstream to high ground at a location known as Huff's Corner. Failure of this levee could result in 1 to 4 feet of flooding in Woodland and the surrounding unincorporated area, affecting 15,000 residents. Control of erosion at this site is a short-term solution. Yolo County continues to work with the City of Woodland and other entities on a long-term solution to improve flood protection in this area		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	Knaggs Ranch Acquisition	$ 15,107,500	The project consists of the purchase of the 2,622-acre Knaggs Ranch property and its preservation for agricultural conservation, flood protection, and wildlife habitat. The project would prevent development on 30% of Elkhorn Basin adjacent to Central Valley Flood Control Project (CVFCP) levees, which are part of an important flood water retention and conveyance system. With land on the other side of the Sacramento River rapidly urbanizing, protection of this site provides an important relatively undeveloped area that might flood during extreme flood events releasing pressure on other parts of the flood control system possibly preventing the flooding of nearby urban areas such as the Natomas area. The site provides habitat of statewide importance for the Federal- and State-listed giant garter snake (Threatened), the State-listed Swainson's hawk (Threatened), wintering waterfowl, Sacramento splittail, and Chinook salmon. The site includes 850 acres within the Yolo Bypass.	Yes	Ecosystem
Sacramento River	Yolo	Knights Landing Levee Improvement Project	$ —	Knights Landing Ridge Drainage District and Maintenance Area No. 6 need funding for geotechnical evaluations of the 12 miles of levees that protect the unincorporated town of Knights Landing. The evaluations are necessary to determine the potential for through-seepage, under-seepage, or other levee weaknesses that may lead to levee failure. RD 108 and Maintenance Area No. 6 also will need funding for necessary improvements identified by the geotechnical evaluations.		
Sacramento River	Yolo	Knights Landing Storm Drainage and Flood Management Project	$ —	RD 730 has requested new pumping infrastructure to pump stormwater and floodwater from the Knights Landing Ridge Cut Canal, benefiting existing and proposed residential areas in Knights Landing. RD 730 operates south of Knights Landing to Road 102.		
Sacramento River	Yolo	Levee Maintenance Fee Structure Assessment	$ —	This project will assess the Levee Maintenance District fee structure and funding opportunities in relation to maintenance demands, and will work with DWR to evaluate and recommend solutions. The Local Agency Formation Commission municipal service reviews Levee Maintenance Districts to initiate changes as appropriate. This review should occur every 5 years, but the last review was completed in March 2005.		
Sacramento River	Yolo	Mace Boulevard Bridge Improvement Project	$ —	The capacity under the Mace Boulevard Bridge over Putah Creek east of Davis is considered to be too low. The hydrologic studies associated with this project would help to determine the appropriate capacity.		
Sacramento River	Yolo	Madison Storm Drainage/Flood Management Project	$ —	The unincorporated town of Madison floods periodically from storm runoff entering the town from Cottonwood Slough, the South Fork Willow Slough, and general overland flow from west and north of the town. During these events, homes are flooded and the sewer system is overtaxed. Yolo County was to update its General Plan by 2008, and the updated plan might indicate the potential for some growth in the community. The Caltrans Highway 16 Safety Project, scheduled for completion in 2009, might provide an opportunity to partially address this flood hazard. The residual flooding that persists after implementation of the Highway 16 project needs to be addressed.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	Outfall Channel Environmental Enhancement Project	$ —	The channel between the south levee of the current Cache Creek Settling Basin and the south levee of the Settling Basin that existed until 1992 forms the Outfall Channel, which is approximately 2 miles in length and is the drainage channel for the City of Woodland and the agricultural land within the watershed adjacent to the city. The City of Woodland, by implementing its Storm Drainage Master Plan, will provide stormwater quality treatment upstream of the Outfall Channel before the stormwater is commingled with storm runoff from the agricultural area. The land between the new and old levees and outside the existing outfall channel offers opportunity for significant aquatic habitat enhancement in conjunction with water quality treatment of the drainage water.		
Sacramento River	Yolo	Putah Creek Bank Stabilization Project	$ —			
Sacramento River	Yolo	Putah Creek Diversion Dam Vegetation Removal Project	$ —	Channel capacity is substantially below design capacity of Putah Diversion Dam. This might cause the potential for overtopping of the dam, dam failure, and disruption of water supply. Control of invasive weeds (especially arundo and Himalayan blackberry) from Putah Diversion Dam to Winters would restore much of the design capacity.		
Sacramento River	Yolo	Reconciliation of Cache Creek Settling Basin Future Modifications and "Original" South Levee Project	$ —			
Sacramento River	Yolo	Sacramento Bypass-Yolo Bypass Levee Repair	$ —			
Sacramento River	Yolo	Sacramento River Deep Water Ship Channel 35-Foot Deepening Project	$ 60,000,000	This project involves both deepening the Sacramento River Deep Water Ship Channel to a depth of 35 feet mean lower-low water (MLLW) and widening in selective areas from river miles (RMs) 0.0 to 35.0, completing the construction that was suspended in 1990. It also includes maintenance dredging from RMs 35.0 to 43.4 to return that previously constructed portion of the channel to its 35-foot depth.		
Sacramento River	Yolo	Sacramento River Bank Protection Program Setback Levee Project	$ 10,000,000	Purpose of the project is to provide protection to the existing levee and flood control facilities of the Sacramento River Flood Control Project (SRFCP). The project currently includes an additional 80,000 linear feet of bank protection.		
Sacramento River	Yolo	Sacramento River Levee Rehabilitation Project (Merritt Island)	$ —	This project provides for the rehabilitation and water-side erosion repair of damage from the 2007 flood. The levees of RD 150 and Merritt Island along the Sacramento Riverbank, Sutter Slough bank, and Elk Slough bank sustained more than 14,000 feet of wave wash/erosion damage.		
Sacramento River	Yolo	Sacramento River Levee Rehabilitation Project (RM 69.9 RD 827)	$ —	RD 827 needs funds to fix a critical erosion site at RM 69.9. No levee break analysis has been completed to determine what would flood if this levee fails.		
Sacramento River	Yolo	Sacramento River Levee Rehabilitation Project (West Sacramento)	$ —			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	Sacramento River Levee Repair	$ —			
Sacramento River	Yolo	Sacramento River West Bank Levee Integrity Program	$ —	Levee Maintenance Districts need funding for geotechnical evaluations of all Sacramento River levees not included in the West Sacramento, Knights Landing, and Clarksburg levee improvement projects. These levees protect important agricultural lands. The evaluations are necessary to determine the potential for through-seepage, under-seepage, or other levee weaknesses that might lead to levee failure.		
Sacramento River	Yolo	Slip Repair	$ 10,660,000	The West Sacramento Slip Repair Project includes raising and strengthening about 5 miles of existing levees on the east side of the Yolo Bypass and south side of the Sacramento Bypass to provide a 200-year level of flood protection to West Sacramento. Construction was completed in 2005, but slips developed during high water in 2006. Design and construction are currently underway to repair the damaged levee sections at the time of this report.		
Sacramento River	Yolo	Small Sloughs and Creeks Invasive Vegetation Removal Program	$ —	Conveyance capacities of small creeks and sloughs have been reduced and could become even more reduced by invasive plants, including giant reed (arundo) and tamarisk. A vegetation removal program is planned to be initiated to maintain flood conveyance capacity.		
Sacramento River	Yolo	Southport Sacramento River Environmental Improvement Plan Project	$ 150,000,000	West Sacramento Area Flood Control Agency is proposing the measures to be implemented along 6 miles of the levee that runs along the west bank of the Sacramento River from the Barge Canal to the South Cross Levee.		
Sacramento River	Yolo	Sutter Bypass Vegetation Removal Project	$ —	Vegetation removal in the Sutter Bypass will be performed, consistent with habitat restoration activities. Sutter Bypass is losing capacity because of vegetation; water that is not captured in the Sutter Bypass can put additional pressure on the Yolo Bypass and downstream levees.		
Sacramento River	Yolo	Sutter Slough Erosion Control and Pumping Infrastructure Improvement Project	$ —			
Sacramento River	Yolo	The Rivers Site Project	$ 20,000,000			
Sacramento River	Yolo	Tributaries Detention Basins Project	$ —			
Sacramento River	Yolo	Watershed Management Program	$ —			
Sacramento River	Yolo	West Sacramento General Reevaluation Report	$ 10,000,000	The Reevaluation Report provides a thorough, State- and local-funded review of the West Sacramento flood risk management system. Based on the current Federal standards, multiple deficiencies have been found in the Federal levee system that protects the city, with the predominant dangers being seepage, stability, and erosion.		
Sacramento River	Yolo	West Sacramento Levee Improvement Project or West Sacramento Flood Protection Project	$ 460,000,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yolo	West Sacramento Levee Monitoring and Maintenance Program	$ —			
Sacramento River	Yolo	West Sacramento South Cross Levee Repair	$ —	This project will correct deficiencies, protect against under-seepage, and maintain the West Sacramento South Cross Levees to current standards for FEMA 100-year and urban levee 200-year levels of flood protection. Physical improvements might include, but would not be limited to, restoration and armoring of water-side levee slopes, increased levee height through crown raising or crown-top walls, slurry cutoff walls in the levee prism, seepage blankets on the levee land-side, and levee setbacks.		
Sacramento River	Yolo	Willow Slough Levee Improvement Project	$ —	This project provides the Willow Slough levee improvements, including associated habitat restoration, necessary to protect the town of Madison and Highway 16 from flooding.		
Sacramento River	Yolo	Woodland Area Flood Management Project	$ —	This project addresses the public outreach and technical analysis necessary to identify a long-term solution to Cache Creek flooding and provide at least 100-year flood protection to the City of Woodland and surrounding areas, with implementation of a publicly supported solution.		
Sacramento River	Yolo	Yolo and Tisdale Bypasses Sediment Removal Program	$ —	This project will remove sediment that is restricting the capacity of the Yolo Bypass and the Tisdale Bypass.	Yes	Water Quality
Sacramento River	Yolo	Yolo Bypass 2-D Hydraulic Modeling Project	$ —	This project would provide funding to support the following actions: • Determine which agency will be responsible for maintaining and updating the California Bay-Delta Authority (CBDA)-funded RMA-2 hydraulic model as Bypass projects are completed • Conduct long-term management of the model • Enable project proponents to pay for input of project data to run the model for specific projects		
Sacramento River	Yuba	External Flood Source Flood Protection Projects	$ 35,700,000	Four levee improvement alternatives have been identified as part of this project. The improvement alternatives will mitigate the flooding issues associated with the City of Wheatland General Plan Area.		
Sacramento River	Yuba	Levee Geotechnical Evaluation for RD 10	$ 2,340,000	Work to date has focused on the Lower Feather River, the Yuba River, Upper Bear River, Western Pacific Interceptor Canal, and the Lower Bear River (Bear-Feather Setback Levee). The Levee Reliability Investigation project will extend the area studied to include the levees surrounding Reclamation District 10.		
Sacramento River	Yuba	New Bullards Bar Outlet Capacity Increase	$ 50,000,000	The purpose of this project is to reduce Yuba River peak flood flows by creating more usable flood storage space in New Bullards Bar Reservoir. This will be accomplished by increasing the outlet capacity so that more water can be evacuated from the reservoir in advance of a peak flood flow.		
Sacramento River	Yuba	New Bullards Bar Reservoir Reoperation Manual	$ 500,000	The purpose of this project is to update the USACE Flood Operations Manual so that it more accurately represents whatever changes are needed in operation. This manual will be used as the guideline for operating New Bullards Bar Reservoir.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yuba	New Colgate Powerhouse Tailwater Depression	$ 8,000,000	The primary purpose of this project is to improve the flood protection capability of New Bullards Bar Reservoir. This will be accomplished by the Tailwater Depression limit allowing the Colgate Powerhouse to operate for a longer period of time during a major flood event. This will allow more water to be evacuated from New Bullards Bar Reservoir in advance of a peak flow and will allow for peak-flow releases from the New Bullards Bar Reservoir.		
Sacramento River	Yuba	Regional Flood Management Agency	$ 500,000	In response to flooding risk in Yuba County, the Yuba County Water Agency and other Yuba County flood control agencies are considering the creation of a Yuba County Flood Control Agency (YCFCA) through a Joint Exercise of Powers Agreement to the region for increased flood protection along the Feather and Yuba rivers.		
Sacramento River	Yuba	Yuba Gold Fields Project - Levee Reach 7	$ 45,000,000			
Sacramento River	Yuba	Bear River North Levee Rehabilitation Project	$ 14,700,000	A Problem Identification Report was completed by RD 2103 in 2006, which identified under-seepage deficiencies with the Bear River levee. The Problem Identification Report and subsequent foundation investigations and other studies of the levee have identified four deficiencies that should be addressed to comply with standards of the USACE and State Reclamation Board. Three of these deficiencies will be addressed by the proposed project: • Under-seepage: Construct soil-cement-bentonite cutoff walls (a total of 18,000 feet) to depths ranging from 30 to 70 feet (after degrading the levee). Most of the slurry wall (approximately 14,500 lineal feet) will be constructed along the Bear River right bank levee east of Highway 65. • Complete Existing Seepage/Stability Berm: Add a 100-foot section of seepage/stability berm between Highway 65 and access road embankment to expand the existing berm that was constructed from 1997 to 2000. • Perform Local Levee Repair: Address a potential leakage source near Sta.390+70; a 150-foot section of levee will be degraded to natural surrounding grade on the water side and then reconstructed.		
Sacramento River	Yuba	Forecast - Coordinated Operations	$ 1,500,000	This project will coordinate flood control operation of Lake Oroville and New Bullards Bar Reservoir by preliminary release of stored water in years of high rain and snowfall. Use of new gauging stations, refined forecasting methods, and a Decision Support System will improve coordinated operations during flood years.		
Sacramento River	Yuba	North Drainage Basin "C" Regional Detention Pond and Pump Station No. 10 Construction - RD 784	$ 15,469,960	This project will allow the Regional Detention Pond to be drained between storm events. The current system can drain only a portion of the water, that which can be drained using gravity. This reduces the system capacity by 60%. The work includes the pump station, backup generator, security structures, outfall to the Feather River, motor control center, Supervisory Control and Data Acquisition (SCADA) system, and minor grading on the regional detention pond.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Sacramento River	Yuba	Yuba County Levee Project	$ 750,000,000	This project includes analysis and improvement of 75 miles of levee within RD 10, RD 784, RD 817, RD 2103, and the Marysville Levee District with the near-term goal of 200+-year level of protection for urbanized areas and a 100-year level of protection for rural areas. There are ongoing efforts for levee improvements in the RD 784 and RD 2103 areas, along with a USACE Yuba Basin Feasibility Study that covers RD 784 and Marysville. Costs for these improvements will be estimated from ongoing efforts.		
San Francisco Bay	Alameda	Arroyo de la Laguna Improvement Project - Verona Reach	$ 2,170,000	This project addresses conceptual alternatives analysis of flood control solutions along the Arroyo del la Laguna, which drains the Tri-Valley area.		
San Francisco Bay	Alameda	Arroyo Las Positas at N. Vasco Improvements	$ 2,830,000	This project will increase the channel capacity of an undersized reach of Arroyo las Positas so it equals the capacity of the reach immediately east of Vasco Road.		
San Francisco Bay	Alameda	Crow Creek Fish Habitat Restoration	$ 1,000,000		Yes	Ecosystem
San Francisco Bay	Alameda	Don Castro Dam Ideal Project	$ 30,000,000			
San Francisco Bay	Alameda	El Charro Specific Plan	$ 560,000	The El Charro Specific Plan Area, a portion of northwest Livermore considered for development, is subject to flooding from the Arroyo Las Positas and the Arroyo Mocho. The City of Livermore is concerned that reduction in floodplain storage, due to development, could result in increased peak discharges downstream on the Arroyo de la Laguna. Results showed that any increased flow may result in increased flooding and erosion downstream of Bernal Avenue.		
San Francisco Bay	Alameda	Flood Facilities - Chain of Lakes	$ 23,350,000	The Chain of Lakes is located between the cities of Livermore and Pleasanton and, when complete, will consist of a series of abandoned gravel quarry pits converted into nine lakes, linked in series, plus Cope Lake. Thus far, the County owns two of these lakes, and will acquire one around 2014 and two more by 2030. The lakes will be used for seasonal water storage and conveyance, and floodwater detention.	Yes	Water Supply
San Francisco Bay	Alameda	Lakes H, I and Cope Facility Planning	$ 310,000			
San Francisco Bay	Alameda	Major Fish Passage Barrier Removals: Don Castro, Foothill Fish Ladders, Resting Pools	$ 7,000,000		Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Alameda	San Lorenzo Creek Parkways - Mission to Meek Demonstration Project with Fish Passage Enhancements	$ 7,000,000	The San Lorenzo Creek Restoration Project is a pilot for a proposed pedestrian and bicycle trail along one of the largest creeks in the East Bay. A 40-foot-deep by 150-foot-wide stream gorge in downtown Hayward is the site of this successful creek restoration. The County's Flood Control District stabilized more than 400 feet of stream bank, constructed three trailheads with creek overlooks, installed 10 interpretive panels and banners, and enhanced more than 1,000 feet of creekside habitat. If the long-term vision of creating a 12-mile urban creek and trail system is realized, this project will be the centerpiece, providing a scenic rest stop and entry point. This trail system would connect the San Francisco Bay Trail on the western edge of San Lorenzo to the Bay Area Ridge Trail on the Eastern edge of Castro Valley and provide unique recreational opportunities for residents.	Yes	Recreation
San Francisco Bay	Alameda	Shoreline Levee Construct in Board Levee between Highway 92 and Old Alameda Creek in Hayward	$ 10,600,000	The levee construction component of the proposed project, as a pilot for the Levee Project, would take place along the Cargill Levee west of the Union Sanitary District facility beginning at the confluence of Old Alameda Creek and extending approximately 3,000 feet south along the existing levee. The work will be staged along the existing levee tops. The levee would be raised to a height of approximately 15 feet with a 20-foot-wide crown, 2:1 side slopes, and an 80-foot-wide base. The levee would be constructed primarily of clean fill and dredged materials and would be built over a period of several years to allow for settling to comply with FEMA standards.		
San Francisco Bay	Alameda	Stream Management Master Plan (SMMP) Projects	$ 479,000,000	SMMP provides a summary description of each of the recommended SMMP projects by reach. The project descriptions included in the report are structured around the project summary tables, which provide the details of each project including location, project description, cost estimate, implementation issues, project precursors and project benefits.		
San Francisco Bay	Alameda	Stream Restoration between Dixon Street and Mission Boulevard in Hayward	$ 539,000	As part of the South Hayward Bay Area Rapid Transit (BART) Mission Boulevard, concept portions of Zeile Creek would be improved and restored to address flooding issues.		
San Francisco Bay	Alameda	Tidal Wetlands Restoration for Sediment Management	$ 20,000,000		Yes	Ecosystem
San Francisco Bay	Alameda	Zone 2 Line B, Fish Ladder Construction at San Lorenzo Creek Dam in Unincorporated Hayward	$ 660,000		Yes	Ecosystem
San Francisco Bay	Alameda	Zone 2 Line J, Creek Restoration between Norbridge Avenue and East Castro Valley Boulevard in Castro Valley	$ 265,000	The primary purpose of the project was to increase the creek's capacity to carry a 100-year flood. Project includes daylighting a stretch of Castro Valley Creek near Norbridge Avenue and Redwood Road, demolishing a 300-foot-long by 12-foot-wide by 6-foot-high concrete box culvert, widening creek banks, and installing a creekside amphitheater, recreational trails, and a playground.	Yes	Recreation

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Alameda	Zone 2, Castro Valley Area Capacity Improvements: Lines I, J, G, and H	$ 10,225,000			
San Francisco Bay	Alameda	Zone 3A, Line A between Confluence Union Pacific Railroad and Cabot Boulevard	$ 1,400,000	This project will provide the best overall solution meeting local flood district's design criteria, including bank stabilization, reduction of flow velocities, and containment of the 100-year storm event. The project will restore the project site by planting native vegetation within the constraints of right-of-way and design parameters.	Yes	Ecosystem
San Francisco Bay	Alameda	Zone 4 Line E, Sediment Removal from Line A to Line E-3 in Hayward	$ 1,980,000			
San Francisco Bay	Alameda	Zone 5 Shoreline Levee Construct In-board Levee between Old and New Alameda Creeks, Union City	$ 8,310,000	As part of the Salt Pond Project Coalition, the local flood district is helping to restore approximately 5,500 acres of Eden Landing Ponds in Hayward, and has provided the design for restoration. Existing salt pond levees and dikes will be removed to allow water to flow naturally in and out of the low-lying wetlands. The District has also conducted studies to learn more about Bay tidal effects on the ponds, and how Old Alameda Creek and the Alameda Creek Federal project will be integrated with the creation of new wetlands.	Yes	Ecosystem
San Francisco Bay	Alameda	Zone 6 Shoreline Levee Construct In-board Levee South of Highway 84, Fremont	$ 6,130,000			
San Francisco Bay	Contra Costa	Alamo Watersheds (DA 13) Drainage Planning	$ 300,000			
San Francisco Bay	Contra Costa	Contra Costa Water District (CCWD) Stormwater Flood Management	$ 10,000,000	This project is Phase 5 of a larger project that will replace 21,000 feet of the unlined Contra Costa Canal with a pipeline to improve source water quality available to the CCWD by preventing intrusion of poor-quality groundwater. Phase 5 will install 4,000 feet of pipeline to replace an unlined canal and levees, and a flood isolation structure to prevent breach or inflow of poor-quality water in case of a Delta levee failure.		
San Francisco Bay	Contra Costa	DA 33A Concord Boulevard Culvert Replacement	$ 400,000	This project would replace the culvert at Concord Boulevard.		
San Francisco Bay	Contra Costa	DA 48B Line A at Port Chicago Highway	$ 345,000			
San Francisco Bay	Contra Costa	DA 67 Tice Creek Flood Bypass	$ 2,481,000			
San Francisco Bay	Contra Costa	Galindo Creek Improvements	$ 1,030,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Contra Costa	Grayson Creek and Murderer's Creek Project	$ 8,000,000			
San Francisco Bay	Contra Costa	Grayson Creek Levee Rehabilitation at Central Contra Costa Sanitary District	$ 1,312,000			
San Francisco Bay	Contra Costa	Grayson Creek Sediment Removal	$ 1,826,000			
San Francisco Bay	Contra Costa	Green Valley Creek Bank Repair	$ 110,000			
San Francisco Bay	Contra Costa	Green Valley Creek Improvements	$ 7,840,000	This project provides the planning for Green Valley Creek improvements from I-680 to the first crossing of Diablo Road. Ultimate configuration and plan phasing will be developed to reduce environmental impacts. Complete project planning includes minor improvements on Green Valley Creek, upstream of the second crossing of Diablo Road.		
San Francisco Bay	Contra Costa	Kubicek Basin Capacity Improvement	$ 650,000			
San Francisco Bay	Contra Costa	Lower Walnut Creek Improvements	$ 28,000,000	This project covers Master Plan enhancement followed by restoration, levee setback, sediment removal to clear a portion of the channel, acquisition of adjacent wetland for salt marsh harvest mouse and trails adjacent to the creek. Studies with the USACE are ongoing. Work has been completed on a $260,000 CALFED grant-study. The Lower Walnut Creek Project incorporates a new way of approaching the traditional methods of operating and maintaining a flood control facility. The existing channel is a classic USACE trapezoidal earth channel that requires ongoing desilting maintenance. The alternative approach will be to move the channel levees back in the lower reaches to provide additional capacity for floodwaters and to create floodplains. This approach will provide the necessary capacity to handle floodwaters while reducing desilting costs and creating additional wetlands, riparian habitat, and revegetation potential. Other project components include improving fish passage and habitat, and increasing recreational opportunities.	Yes	Ecosystem
San Francisco Bay	Contra Costa	North Richmond Pump Station Retrofit	$ 1,350,000			
San Francisco Bay	Contra Costa	Pacheco Marsh Restoration	$ 10,900,000		Yes	Ecosystem
San Francisco Bay	Contra Costa	Pine Creek Dam Sediment Removal and Capacity Restoration	$ 750,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Contra Costa	Pine Creek Dam Seismic Assessment	$ 253,000			
San Francisco Bay	Contra Costa	Pine Creek Dam Seismic Rehabilitation	$ 4,000,000			
San Francisco Bay	Contra Costa	Pinn Brothers Marsh Creek Riparian Restoration Project	$ —	Working in collaboration with the City of Brentwood, Contra Costa County FCWCD and the National Highway Institute (NHI), the Pinn Brothers Developers plan to restore a floodplain and the riparian vegetation along 1,900 linear feet of Marsh Creek as part of a 579-unit subdivision development on 79 acres in downtown Brentwood. This project is the longest stretch of undeveloped land adjacent to Marsh Creek in the City of Brentwood. The project will expand the Marsh Creek channel, creating enough room to restore riparian vegetation while maintaining the 100-year flood conveyance capacity. Riparian vegetation will provide habitat for birds, shade for the residents who use the adjacent trail, and lower the temperature in the creek to improve habitat for aquatic species such as the endangered red-legged frog, western pond turtle, and spawning fall-run Chinook salmon.	Yes	Ecosystem
San Francisco Bay	Contra Costa	Rodeo Creek Detention Basin	$ 650,000	This project investigates the detention basin needed on Rodeo Creek upstream of Burlington Northern Santa Fe Railroad due to new State Route 4 and Hercules development.		
San Francisco Bay	Contra Costa	Rodeo Creek Restoration and Capacity Improvements	$ 5,000,000			
San Francisco Bay	Contra Costa	Rodeo Creek Stabilization at Christy Road	$ 400,000			
San Francisco Bay	Contra Costa	San Ramon Creek Improvements (Danville Area)	$ 1,105,000	The project provides for creek restoration at El Capitan, bank repair downstream of Fostoria, and mitigation landscaping from Chaney to Livoma.		
San Francisco Bay	Contra Costa	Town of Danville Drainage Area Plan	$ 1,160,000	This project will plan and develop the project for implementing the next element of the drainage area plan, including coordination with the Town of Danville.		
San Francisco Bay	Contra Costa	Upper Pinole Creek Detention Basin	$ 2,000,000			
San Francisco Bay	Contra Costa	Walnut Creek levee rehabilitation at Buchanan Field Airport	$ 1,078,000			
San Francisco Bay	Contra Costa	Walnut Creek Sediment Removal Clayton Valley Drain to Drop #1	$ 1,235,000			
San Francisco Bay	Contra Costa	Wildcat Creek Levee Evaluation	$ 640,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Contra Costa	Wildcat Creek Levee Rehabilitation	$ 1,684,000			
San Francisco Bay	Contra Costa	Ygnatio Valley Drain Bank Repair	$ 247,000			
San Francisco Bay	Marin	Bothin Marsh/Coyote Creek Restoration and Flood Control	$ 3,000,000	The project will increase the tidal prism by opening the levee between Coyote Creek and Bothin Marsh and will restore marsh habitat within the Bothin Marsh Open Space Preserve. It is also desired to increase the size of the Marsh area for stormwater absorption and increased tidal prism. The project will be designed to improve the value and quality of the habitats within Bothin Marsh. Fill will be excavated to restore marsh plain habitat; this will provide additional marsh habitat suitable for both the salt marsh harvest mouse and Point Reyes bird's beak. Also, upland cover will be enhanced to provide upland refuge for clapper rails. The entire program would entail a joint planning, acquisition, construction, and restoration project administered by the Marin County FCWCD in participation with the County Parks and Open Space Department.	Yes	Ecosystem
San Francisco Bay	Marin	Channel Maintenance Dredging--Gallinas Creek	$ —	This project provides maintenance dredging of Las Gallinas Creek for recreational/boating use to minus 7 feet.	Yes	Recreation
San Francisco Bay	Marin	Community Service Area 29 Paradise Cay Maintenance Dredge	$ 500,000	This is a maintenance dredging project that includes the north and south areas of Paradise Cay for recreational boating use to minus 7 feet within waterways and to minus 8 feet in the two entry channels.	Yes	Recreation
San Francisco Bay	Marin	Corte Madera Creek Unit 4 Zone 9	$ 265,000	This project will replace the fish ladder and revet the banks of Unit 4 in Ross, dependent on Congressional funding.	Yes	Ecosystem
San Francisco Bay	Marin	Corte Madera Creek Watershed Models	$ 920,000	The purpose of these models is to provide quantitative tools for water quality protection and enhancement, flood management, and land use planning.		
San Francisco Bay	Marin	Corte Madera Creek Watershed Plan	$ 310,000	This project will complete the plan using a community-based approach, and would use the planning process to build on community support already present, expand the participation of stakeholders, and educate stakeholders, with the ultimate goal of having the watershed plan adopted by Marin County and the incorporated communities within the watershed.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Marin	Corte Madera Creek/Ross Creek Critical Reach	$ —	This project will include, at a minimum, removal of the existing timber bulkhead/fish ladder at the concrete channel inlet, construction of a smooth transition from the natural channel to the narrow concrete channel inlet, and other measures to enlarge the channel. The USACE design is also anticipated to include top-of-bank floodwalls or landscape berms upstream and downstream of the fish ladder to contain floodwaters. This project will seek to accommodate a peak discharge up to 5,000 cfs at the lower Sir Francis Drake Boulevard Bridge and up to 6,000 cfs (but no less than 5,600 cfs) at the Ross Creek confluence. Measures that lower water levels under design discharge conditions by improving the hydraulic efficiency of the channel should be incorporated into the Unit 4 Project design. These measures, which are located upstream of the stream flow-gauge in Ross, also improve the natural and ecological functions of the creek (biotechnical bank stabilization, enlarging and restoring creek, restoring slope bank and bed).	Yes	Ecosystem
San Francisco Bay	Marin	Crest Marin Creek Drainage Study	$ —	This is a comprehensive project to address flooding of the Tamalpais Valley floor from flows associated with Crest Marin Creek.		
San Francisco Bay	Marin	Dredging, Novato Creek Zone 1	$ 1,680,000	The goal of this project is to remove sediment from Novato Creek between Railroad Avenue and Diablo Avenue as part ofthe maintenance of the Novato Flood Control Project.		
San Francisco Bay	Marin	Easkoot Creek Sediment Removal	$ 75,000	Sediment will be removed from the creek channel.		
San Francisco Bay	Marin	Fairfax Creek Channel Improvements	$ 19,700,000	For Fairfax Creek, the CIP Study calls for 46 in-channel conveyance capacity measures. Key measures include: • Completely replacing the Sherman Avenue box culvert, located over one private residential building at the end of the culvert • Removing or modifying the portion of the Town Hall building that overhangs the creek • Replacing the Merwin, Azalea, and Scenic Road Bridges, with associated channel enlargement and creek restoration work • Adding shallow, top-of-bank floodwalls or landscape berms and retaining walls as needed along discrete sections of the creek These measures alone can provide Fairfax with a 22-year level of flood protection. Existing conditions provide a 6-year level of flood protection.		
San Francisco Bay	Marin	Flood Control Zone 3 Master Plan	$ —	The Zone 3 Master Plan will revisit findings and recommendations for the zone's watersheds and develop a comprehensive plan for future flood control projects and needs.		
San Francisco Bay	Marin	Gate 5 Road Area Conceptual Drainage Study	$ —	This Conceptual Drainage Study evaluates the need to eliminate routine (e.g., every few years) street and parking lot flooding that occurs in the low, flatter areas of the Gate 5 road area. Provide flood protection to the Gate 5 road area from a 1 percent (100-year) storm event.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Marin	Las Gallinas Creek Levee Evaluation	$ 1,400,000	The local flood district and the USACE are working together on a joint study to evaluate the condition of the existing levee and to determine the feasibility of a range of improvement alternatives. Phase I of this study is currently underway and includes a geotechnical evaluation, hydrology and hydraulic analysis, and an economic evaluation and determination of feasibility for continued Federal participation in the project.		
San Francisco Bay	Marin	Lefty Gomez Field Detention Basin	$ 6,400,000	The detention basin would be formed by a 75-foot-long by 17-foot-high concrete dam and spillway structure across the creek. Two culverts will penetrate the structure—a large gated culvert, which normally will be kept open to allow unimpeded passage of a range of flows, sediment, woody debris, fish and wildlife; and a smaller, ungated culvert to allow limited, continuous discharge during detention operations. To provide necessary storage capacity, the field would be lowered an average of about 16 feet and containment features would be built along the east and north sides. Material excavated from the field will be used to build the 8-foot-high engineered earthen embankment along the east side. Concrete walls up to 3 feet high along a 150-foot stretch of Glen Drive and up to 4 feet high along the basketball courts will provide containment along the north side. The existing Sir Francis Drake Boulevard road embankment will provide containment along the south side. No containment feature will be needed along the west side because the natural topography will be sufficient for containment.		
San Francisco Bay	Marin	Loma Alta Tributary Detention Basin	$ 1,900,000	The site is situated in a gulch along an unnamed tributary to Fairfax Creek that drains approximately 115 acres. The tributary joins Fairfax Creek just downstream of Lefty Gomez Field. The detention basin would be formed by a 210-foot-long by 25-foot-high engineered earthen embankment across the gulch. A large, gated culvert will penetrate the embankment and normally will be kept open to allow unimpeded passage of a range of flows, as well as sediment, woody debris, and wildlife. When flooding is imminent farther downstream, the gate will be closed to shut off flow for floodwater detention. A spillway bypass along the west side will allow safe passage of flood flows in rare cases when the basin becomes full.		
San Francisco Bay	Marin	Lower Las Gallinas and Miller Creek Restoration Proposal	$ 52,000,000	The Las Gallinas-Miller Creek wetland complex (7 square miles) supports a significant area of mudflats in San Pablo Bay. These tidal marshes support the largest population of clapper rails in the North Bay region, and Miller Creek supports a small but self-sustaining run of genetically unique steelhead trout. This project proposes to integrate wetland restoration with flood management benefits, including levee rehabilitation, local drainage improvements, and channel dredging.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Marin	Lower Novato Creek Restoration Proposal	$ 12,200,000	The proposed tidal marsh restoration at Bel Marin Keys will affect the hydrology of several elements within the lower Novato Creek basin. Proposed modifications to Pacheco Pond and the proposed diversion of flow away from Novato Creek considered in the design alternatives will present the most substantial effects. The proposed modifications to Pacheco Pond consist of either expanding the existing pond, or creating a seasonal marsh adjacent to the pond. In addition, the diversion of water currently flowing into Novato Creek from Pacheco Pond, to the proposed tidal marsh will greatly affect existing conditions on the Bel Marin Keys tidal wetlands restoration site. These flows will provide fresh water for the proposed freshwater marsh portion of the project.	Yes	Ecosystem
San Francisco Bay	Marin	Mahon Creek Flood Restoration Project	$ —			
San Francisco Bay	Marin	Memorial Park Detention Basin	$ 7,000,000	The detention basin would be formed by an engineered earthen embankment up to 9 feet high along the south side across Sorich Creek and lower embankments along portions of the east and west sides. A large, gated culvert will penetrate the embankment and normally will be kept open to allow unimpeded passage of a range of flows, as well as sediment, woody debris, and wildlife. When flooding is imminent, the gate will allow shutoff for floodwater detention. In rare cases when the basin becomes full, an internal spillway will pass floodwaters through the culverted reach of Sorich Creek below the basin. To provide necessary storage capacity, the field will be lowered by 13 feet and, in the process, Sorich Creek will be daylighted as it passes through the park. The excavated material will be used to build the embankments. No containment features will be needed along the east and north sides.		
San Francisco Bay	Marin	Phoenix Lake Detention Basin	$ 3,700,000	This project is primarily for the purpose of water supply reserve for use during the dry season, particularly during shortages, but it also serves as wildlife habitat and a public recreation and enjoyment area.	Yes	Ecosystem
San Francisco Bay	Marin	Phoenix Lake Integrated Regional Water Management (IRWM) Retrofit	$ 7,661,000	The Phoenix Lake IRWM Retrofit is a multi-purpose proposal with five component projects, all located at Phoenix Lake—Flood Damage Reduction, Water Supply, Water Quality, Ecosystem Restoration, and Recreation and Public Access. By seismically retrofitting the dam and constructing other improvements to the hydraulic and recreational infrastructures of the lake, the lake can be operated to serve the multiple purposes of flood management, drinking water supply, water quality, ecosystem restoration, and public recreation. Therefore, the Retrofit meets the 6 regional goals and 62 objectives of the Bay Area IRWM Plan.	Yes	Water Supply
San Francisco Bay	Marin	Red Hill Park Detention Basin	$ 1,700,000	The detention basin would be formed by an approximately 500-foot-long by 12-foot-high engineered, earthen embankment across the lower end of the site connecting to the Shaw Drive and Sunny Hills Drive road embankments. A large, gated culvert will penetrate the embankment and join the existing culvert that runs underground through the Red Hill Shopping Center. The gate normally will be kept open but will be shut off during floodwater detention operations. An internal spillway will pass floodwaters through the culvert that runs through the shopping center.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Marin	Regional Best Management Practices, Field Manual, and Training for Stream Maintenance Activities	$ 130,000	The purpose of this project is to create an integrated set of regional BMPs, a standardized field manual, and consistent training for stream maintenance activities. Regionally consistent materials will help maintain flood capacity, while also contributing to habitat protection and water quality.	Yes	Ecosystem
San Francisco Bay	Marin	Richardson Bay Tidal Flooding Study	$ 25,000,000	This study will evaluate existing conditions and identify conceptual alternatives and preliminary cost estimates to reduce tidal flooding along Richardson Bay shoreline at Shelter Bay, Marin City, Mill Valley at Miller/Almonte and at Miller/Camino Alto, and Manzanita.		
San Francisco Bay	Marin	Salt Marsh Enhancement and Tidal Prism Enlargement	$ —	This project provides three measures to manage sedimentation and maintain 100-year capacity in the earthen channel: • Raise levees along the 2,000-foot-long 100-year bankfull reach below the stilling basin • Scour the channel by enlarging the tidal prism • Conduct periodic dredging. Five potential sites were preliminarily identified in the adjacent floodplain of the earthen channel for marsh enhancement and tidal prism enlargement.	Yes	Water Quality
San Francisco Bay	Marin	San Anselmo Creek Channel Improvements	$ 54,400,000	The improvements include 82 in-channel capacity measures, amounting to comprehensive, reach-scale enlargement and restoration of the creek, resulting in a generally wider and deeper channel throughout. The Capital Improvement Plan Study also calls for removing, replacing, and/or modifying nearly every existing in-channel structure.		
San Francisco Bay	Marin	SCADA System Installation in Zones 3, 4 and 7 West Creek Flood Wall Zone 4	$ 150,000	Three of the eight Flood Control Zones rely on pump stations for flood protection. Zone 3 has four stations, Zone 4 has two stations and Zone 7 has five stations. Each of these stations is equipped with an alarm system that sends a signal when the water exceeds a set level or when power is lost to the station. This project will install SCADA systems in the six stations in Zones 3 and 4. A SCADA system will allow monitoring in real time from the Civic Center of any data that can be measured, such as the rate of pumping, the heat of a motor, or how long a pump has been operating. This will allow on-duty staff to anticipate problems and respond before they actually occur. Zone 7 stations will be completed as funds become available.		
San Francisco Bay	Marin	Seminary Drive Pump Station Zone 3	$ 1,000,000	This project would construct a stormwater pump station at the Redwood Highway Frontage Road and northbound Highway 101 interchange (i.e., Seminary Drive exit) in unincorporated Mill Valley. The pump station, which will be equipped with backup power, will improve roadway drainage and eliminate roadway closures that now occur when there are high tides.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Marin	Sleepy Hollow Creek Channel Improvements	$ 9,100,000	For Sleepy Hollow Creek, the Capital Improvement Plan Study calls for 33 in-channel capacity measures. Key measures include: 1) Replacing the Taylor, Mountain View, Morningside, and Broadmoor Avenue Bridges, including associated channel enlargement and creek restoration work 2) Enlarging the channel and restoring the creek at two additional sites downstream of the Morningside Avenue Bridge and the Broadmoor Avenue Bridge.	Yes	Transportation
San Francisco Bay	Marin	Vineyard Creek Improvements Zone 1-Phase II Bothin Marsh Restoration and Flood Control Improvement Project - Zone 3	$ 5,000,000	This project will modify or replace the Center Road Culvert to maximize conveyance and to maintain bed stability and provide channel improvements such as increased cross-sectional area, elevation of creek bank with flood barriers, and improved flow velocities to control flooding from the western end of Arbor Circle to McClay Road in Novato. This project will be constructed in two phases. Phase I was constructed in FY 2007-08.		
San Francisco Bay	Marin	Wetland and Creek Restoration at Big Lagoon, Muir Beach	$ 2,500,000	The project involves three components: • Ecological restoration • Public access upgrades, including a reconfiguration of the existing parking lot • Replacement of the Pacific Way Bridge All components are designed to improve ecological function.	Yes	Ecosystem
San Francisco Bay	Napa	Milliken Creek Flood Mitigation Projects	$ 1,000,000			
San Francisco Bay	Napa	Napa River - Rutherford Reach Restoration	$ 17,800,000	Restoration objectives for the Rutherford Reach of the Napa River include the following: • Reduce bank erosion, loss of vineyard land, and flood damages by restoring stability to the Napa River • Reduce sediment loading into the river downstream and into San Pablo Bay, a Regional Water Quality Control Board TMDL objective • Restore habitat for salmonids and other aquatic species, including existing runs of steelhead trout and Chinook salmon, by creating more riffles, reducing sediment burial of spawning gravels, and increasing cover and shade • Restore a continuous corridor of riparian habitat for birds and wildlife • Replace invasive plants with native species and reduce risk of Pierce's disease • Engage landowners in the process and maintain regulatory compliance	Yes	Ecosystem
San Francisco Bay	Napa	Salvador Creek Flood Mitigation Projects	$ 1,000,000	This project will remove concrete rubble that was placed in the channel over many years by adjacent landowners trying to stop streambank erosion. Upon removal of the rubble, the streambanks will be regraded to a more stable slope and planted with native riparian vegetation.		

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Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	San Francisco	Cesar Chavez/Valencia Street Corridor Sewer Improvements	$ 24,000,000	Construction work is part of the San Francisco Public Utilities Commission (SFPUC) Wastewater CIP and is intended to provide area-wide improvements to the existing sewer system in the Mission District and lower Bernal Heights area in San Francisco. The construction project will increase reliability of the combined sewer system and minimize potential flooding in the area.		
San Francisco Bay	San Francisco	Low-Impact Design Program	$ 52,500			
San Francisco Bay	San Francisco	San Francisco Stormwater and Flood Management Priority Projects	$ 62,251,000	The proposal includes two projects—Sunnydale Flood and Stormwater Management Sewer Improvement Project, and Cesar Chavez Street Flood and Stormwater Management Sewer Improvement Project. These projects would achieve several key goals: 1) Protect public health and safety from flooding 2) Protect and enhance water quality in the San Francisco Bay 3) Provide a compliant, reliable, resilient, and flexible system that can respond to catastrophic events		
San Francisco Bay	San Francisco	Sewer System Improvement Project Drainage Basin Projects	$ 292,659	Project is a collection of capital improvements that will help the Wastewater Enterprise meet the SFPUC endorsed level of service goals for regulatory permit compliance, system reliability and functionality, and sustainable operations of the City's sewer system.		
San Francisco Bay	San Francisco	Sunnydale Sewer Improvements	$ 24,000,000	The sewer system in this area currently transports combined sewer flows from an approximate 720-acre area (about 72 percent of the area is residential, 24 percent is open space, and 4 percent consists of paved roadways and parking areas) through a single 6.5-foot-diameter sewer that was constructed in 1913. During heavy rains, this area is at significant risk of flooding. The Sunnydale Flood and Stormwater Management Sewer Improvement Project includes the construction of new and replacement sewer facilities in the Visitacion Valley/Sunnydale neighborhood to improve the system's ability to contain and control substantial rainfall events.		
San Francisco Bay	San Francisco	Watershed Assessment	$ 14,000			
San Francisco Bay	San Mateo	Bayfront Regional Flood Protection System Improvements and 5th Avenue Pump Station Renovation Project - Redwood City	$ 16,000,000	The project consists of two components—Upsizing the 5th Avenue pump station, and infrastructure improvements to the regional drainage system along the city side of the Bayfront Canal and portions of the Atherton Channel. Upsizing the pump station will address seismic safety issues and handle more storm events. The infrastructure improvements will consist of sheet-pile floodwalls that will be constructed to hold back stormwater and high tides from flooding developed land areas.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	San Mateo	Colma Creek Flood Control and Habitat Mitigation Improvements	$ —	The Colma Creek Flood Control Channel provides flood protection for residents of South San Francisco, Colma, and Daly City. Loss of salt marsh wetland habitat caused by flood control channel improvements are being mitigated by restoring 1.5 acres of salt marsh wetlands and 2.0 acres of high-quality upland habitat located at the outlet of Colma Creek to San Francisco Bay. Funding is sought to complete three projects on the Colma Creek Flood Control Channel. • One project would install a sheet-pile wall on the south side of the Colma Creek Channel from Utah Avenue to Navigable Slough, which would provide enhanced flood protection at the lower reaches of the Channel. • A second project would provide for continued maintenance and monitoring at the habitat mitigation site located along the creek banks near San Francisco Bay. • A third project would develop and implement a trash management program aimed at reducing the amount of trash entering the flood control channel from adjacent and upstream communities.	Yes	Ecosystem
San Francisco Bay	San Mateo	Sanchez/Terrace Creek Restoration Project	$ 10,000,000	Repair eroded channel, stabilize banks and levees, remove sedimentation, improve catch basins and storm drain pipes in the Laguna Avenue residential area. Improve channel conveyance capacity by increasing the size of the Terrace Creek box culvert from Laguna Avenue to California Drive, by installing a new pump station and force main in the vicinity of Carolan Avenue, and by installing a debris basin upstream from Carolan Avenue. Improve the benefits to the creek eco system	Yes	Water Quality
San Francisco Bay	San Mateo	Streambank Stabilization Using Bio-engineering	$ —	This project will demonstrate and improve use of bio-engineering techniques on eroding sections of Pescadero Creek, Tunitas Creek, Purisima Creek, and Lobitos Creek, located in unincorporated San Mateo County. The targeted eroding creek banks are located adjacent to county-maintained roads and within county rights-of-way. These creeks are designated as critical habitat for steelhead trout by the National Marine Fisheries Service. Grant funds will be used to train engineering staff and road crews, design site-specific bioengineered projects, permitting, construction, and monitoring.	Yes	Ecosystem
San Francisco Bay	Santa Clara	Alviso Slough Restoration Project	$ 16,500,000	Objectives of this project include: 1) Restore Alviso Slough's channel width and habitat to pre-1983 conditions 2) Improve the community's ability to pursue navigation, public access, and aesthetics to allow for the expansion of boating and other recreational and/or tourism opportunities 3) Maintain 1% flood protection in Alviso Slough 4) Reduce mosquito nuisance 5) Promote the integration of the Alviso Slough Restoration project with the South Bay Salt Pond (SBSP) Restoration Project, including the SBSP Phase 1 Action at Pond A8, to reestablish the saltwater connection to the Lower Guadalupe River.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Santa Clara	Bay Area Levee Certification	$ 610,000	This project will inventory levees and collect documentation to FEMA standards, and certify levees and/or scope the process of certification for those levees that have not been previously certified to FEMA standards. The project will also scope the level of effort required to improve levees to meet FEMA standards for those levees that might require physical/geotechnical improvements.		
San Francisco Bay	Santa Clara	Calabazas Creek Planning Study	$ 109,700,000	This project would provide channel and levee construction and modification, bank stabilization, revegetation, and floodwalls, as well as road and bridge modifications.		
San Francisco Bay	Santa Clara	Guadalupe River Downtown Flood Protection (from Interstate 880 to Interstate 280)	$ —	The Guadalupe River Flood Protection Project extends from Interstate 880 to Interstate 280 in the City of San Jose. The project will provide flood protection to the city's technology and commercial industries and established residential neighborhoods, protect and improve the water quality of the river, preserve and enhance the river's habitat for fish and wildlife, and provide recreational and open space benefits.	Yes	Ecosystem
San Francisco Bay	Santa Clara	Lake Cunningham Improvements	$ 9,295,000	This project plans, designs, and constructs improvements to Lake Cunningham in the city of San Jose between Cunningham Avenue and Tully Road, to function as a detention basin and provide 1% flood protection to Lower Silver Creek between Coyote Creek and Cunningham Avenue. Obtain Letter of Map Revision from FEMA to remove at least 3,800 parcels from the 1% floodplain.		
San Francisco Bay	Santa Clara	Lower Guadalupe River project	$ —			
San Francisco Bay	Santa Clara	Lower Silver Creek Project (Reaches 1 through 3)	$ —	Construct the Natural Resources Conservation Service (NRCS) Watershed Plan to improve Lower Silver Creek to ensure flood protection up to the 100-year flood event. Lower Silver Creek Project - Reaches 1 through 3 starts at the confluence with Coyote Creek and runs upstream to Interstate 680.		
San Francisco Bay	Santa Clara	Lower Silver Creek Flood Protection Project	$ 50,000,000	The project will enlarge the creek channel and requires the replacement or enlargement of existing bridges crossing the creek. Project will protect nearly 3,800 homes and businesses from a 100-year flood event. Project objectives include: • Provide flood protection from a 100-year flood event from Coyote Creek to Cunningham Avenue • Protect 3,800 homes and businesses from a 100-year flood event • Prevent potential future flooding damages from a 100-year flood event • Enhance native riparian and environmental habitat • Improve creek maintenance • Improve water quality • Provide increased opportunities for recreation in cooperation with the city and county	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Santa Clara	Lower Silver Creek, I-680 to Cunningham (Reaches 4 through 6)	$ 65,334,000	This project is part of a flood control project that partners with the NRCS to plan, design and construct improvements along approximately 2.3 miles of Lower Silver Creek, from Interstate 680 to Lake Cunningham. This project includes elements that are eligible for reimbursement from the State and Federal governments to accomplish the following objectives: • Increase flood protection to 5,400 properties in the surrounding area • Improve vehicle and pedestrian bridges crossing Lower Silver Creek • Allow for onsite mitigation of project impacts, and in some cases enhancement of existing habitat values by increased wetlands and riparian habitat	Yes	Ecosystem
San Francisco Bay	Santa Clara	Matadero/Barron Creeks Long-Term Remediation Project	$ 24,000,000	Remediation includes flood control improvements both upstream and downstream from Highway 101, extending 1.5 miles from the Palo Alto Flood Basin to Alma Street. City has approved (with conditions) the upstream portion of the Matadero Creek improvements, including Louis Road bridge replacement and heightened floodwalls and headwalls between Highway 101 and Alma Street.		
San Francisco Bay	Santa Clara	Mid-Coyote Project	$ 32,000,000	The Mid-Coyote Project is located in the central portion of the Coyote Watershed. Its limits extend approximately 6.1 miles between Montague Expressway and I-280, all in the City of San Jose. The project's primary objective is to enhance the creek's conveyance. Additionally, the project will improve fisheries and habitat values and provide appropriate public access opportunities in cooperation with the City of San Jose. This multi-year study will necessitate preparation of a detailed Engineer's Report and an Environmental Impact Report to comply with CEQA (California Public Resources Code § 21000 *et seq.*).	Yes	Ecosystem
San Francisco Bay	Santa Clara	Open Space Authority Acquisitions	$ —	Preservation of wetlands and riparian corridors will help reduce flood peaks.	Yes	Ecosystem
San Francisco Bay	Santa Clara	Regional Flood Agencies Forum	$ 100,000	The purpose of this project is to accelerate the regionwide transition of flood management agencies from a primary focus on building and maintaining channels, levees, and infrastructure, to a more integrated approach that includes floodplain management, habitat protection and enhancement, and multi-objective capital projects. Acceleration of the transition will be accomplished by improving transfer of technical information and expertise, by facilitating completion of projects that can serve as exemplars, and by informing policymakers and the public.		
San Francisco Bay	Santa Clara	San Francisco Bay Shoreline	$ 500,000,000	San Francisco Bay Shoreline is a partially funded (planning phase only) project that provides district coordination with the California Coastal Conservancy, USACE, and other project partners to plan, design, and construct improvements to accomplish the following objectives: • Provide integrated fluvial and tidal flood protection • Restore and/or enhance tidal marsh and related habitats • Provide recreational and public access opportunities throughout the tidal floodplain of Santa Clara County; Pursue continued Federal funding.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Santa Clara	San Tomas Aquino Creek Flood Control Project	$ 565,000			
San Francisco Bay	Santa Clara	San Tomas Creek, Quito Road Bridges Replacement	$ 558,000	This project funds Santa Clara's portion of the replacement cost for two bridges on Quito Road to improve roadway safety and provide adequate stormwater flow capacity in the creek under the bridge.	Yes	Transportation
San Francisco Bay	Santa Clara	Santa Clara Valley Water District Flood Protection and Stream Stewardship Program	$ 24,700,000			
San Francisco Bay	Santa Clara	South Bay Salt Pond Restoration Project	$ —	The goals of the project are to restore and enhance a mix of wetland habitats, provide wildlife-oriented public access and recreation, and provide for flood management in the South Bay.	Yes	Ecosystem
San Francisco Bay	Santa Clara	Sunnyvale and East and West Channels	$ 50,300,000	The Sunnyvale East and West Channels Improvement Project plans, designs, and constructs improvements to approximately 6.4 miles of the Sunnyvale East Channel, from Guadalupe Slough to Interstate 280, and 2.3 miles of the Sunnyvale West Channel, from Guadalupe Slough to Highway 101. This project will provide flood protection to 1,629 parcels; provide environmental enhancement benefits where opportunities exist; provide recreation enhancements where opportunities exist; reduce erosion, sedimentation, and maintenance costs; and protect fish and wildlife habitat.	Yes	Water Quality
San Francisco Bay	Santa Clara	Thompson Creek Stream Stabilization	$ 2,500,000	Work along the riparian corridor will enhance habitat by rehabilitating potentially thousands of feet of currently concrete channels back to partial riparian channels.	Yes	Ecosystem
San Francisco Bay	Solano	Alamo Creek Detention Basin	$ 5,920,000	This project would include the establishment of a 1,000-acre-foot detention basin upstream from the City of Vacaville. The detention basin would hold 1,000 acre-feet of floodwater when there are flows that exceed 500 cfs. Water would flow in and out of the basin by gravity (no pumps will be required). The frequency of flooding along Alamo Creek would be reduced from one flood in 3 to 5 years to about one flood in 28 years. Within the detention basin 1 acre of wetland habitat would be created. There would be a reduction in sediment loads and downstream erosion.	Yes	Ecosystem
San Francisco Bay	Solano	Cache Slough/Yolo Bypass Mitigation Area, Solano County, California, Office Report, Sacramento River Bank Protection Project	$ —	The Sacramento River Bank Protection Project is a continuing construction project, authorized by the Flood Control Act of 1960, to provide protection for the existing levees and flood control facilities of the Sacramento River Flood Control Project. The Cache Slough/Yolo Bypass mitigation site is similar to the Prospect Island study. For this site, a cross levee was constructed to isolate the southern tip of Liberty Island from the northern portion of the island. Two mounds were created in the interior of the island, and then the levees of the isolated tip were breached in two places to restore tidal action to the site. This project evaluated different combinations of the habitat variables (such as topography, planting, and type of levee breach) of the mitigation site to determine the habitat value that could be realized by each combination.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Francisco Bay	Sonoma	Baylands	$ —	The project site offers a unique opportunity to restore nearly 1,000 acres of historical tidal marsh habitat that will benefit the Baylands ecosystem and endangered species, and provide Bay Area communities with improved water quality, flood protection, and recreation. The Sonoma Land Trust has acquired the property.	Yes	Ecosystem
San Joaquin	Calaveras	Upper Mokelumne River Watershed Management Plan	$ 1,250,000	A complete watershed management plan is needed that will integrate much of the water quality management plan information into a comprehensive watershed management plan for the Upper Mokelumne River watershed. This document will help direct future watershed restoration and land use policies within the region by prioritizing restoration needs, resource conservation strategies and projects, and adoption of local and regional land use policies designed to provide a comprehensive management plan for the Upper Mokelumne River watershed resources.	Yes	Water Quality
San Joaquin River	Amador	Broad Street Storm Drain Diversion	$ 600,000	The project includes a diversion structure to channel some of the runoff around the historic district and in turn, prevent flooding. A 36-inch-diameter storm drain will be constructed from Gopher Gulch Creek at Gopher Flat Road, along Broad Street, to Sutter Creek in the northeast and northwest quadrants of Amador.		
San Joaquin River	Amador	Jackson Creek Enhancement Project	$ 100,000	The creek bed will be enhanced for the purposes of education, recreation, and flood control. There will be landscaping and trails placed throughout the site that will be designed and implemented to decrease the need for weed abatement, and in turn reduce flooding. Invasive species will be pulled, and native species will be planted in their place. Interpretive signage will be added for educational purposes.		
San Joaquin River	Amador	Marcucci Lane Culvert Project	$ 403,200	The Marcucci Lane Culvert Project will replace the existing culvert, aligning it with the creek flow and applying a wider arch opening to eliminate the backwater effect. The new culvert would pass the 100-year storm flows without overtopping the stream bank.		
San Joaquin River	Amador	Off-Stream Storage on Consumes River	$ 40,000,000	A combination flood control and surface water supply project will provide both a reliable water supply and some flood control for these areas. Rather than on-stream storage and a dam, this project will focus on off-stream storage. High river flows will be reduced as surplus water is diverted and stored for use during dry periods.	Yes	Water Supply
San Joaquin River	Amador	Bear River Reservoir Expansion Project	$ 44,000,000	There are three alternatives for this project that are being considered. The alternatives are: 1) Raise the Lower Bear Dam by 32 feet, increasing storage capacity by 26,407 acre-feet 2) Replace the Upper Bear Dam with a new dam; or 3) Construct a new dam on Cole Creek. The primary benefit is additional water supply for Amador and Calaveras counties through increased storage of winter flows, and other benefits include flood control, power generation, improved water quality, and cold water releases to improve fisheries.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Calaveras	Off-Stream Storage on Mokelumne and Calaveras Rivers Project Summary	$ 155,276	The Off-Stream Storage on Mokelumne River is Phase I and Off-Stream Storage on Calaveras River is Phase II of the project. Phase II may begin upon completion of Phase I or occur simultaneously. This project proposes to store surplus winter flows in the Mokelumne River. High flow discharges will be captured for distribution during the peak water-use season. A study will be performed to identify and evaluate site-specific characteristics for potential off-stream storage reservoir locations. The Calaveras River flow is derived from rainfall with almost no contribution from snowmelt. A study will be performed to identify and evaluate locations for off-stream storage reservoirs to take advantage of surplus flows.	Yes	Water Supply
San Joaquin River	Calaveras	Calaveras River Watershed Implementation Plan (WIP)	$ 325,000	Continual contamination of this critically overdrafted groundwater basin has created a need to identify new surface water sources. The WIP will include a list of management strategies that will address multiple issues in the watershed, including the need for water quality improvements for drinking water and other beneficial uses, water supply reliability, pollution prevention, and aquatic and terrestrial habitat restoration, as well as the steps necessary to implement each management strategy.	Yes	Water Supply
San Joaquin River	Calaveras	Cosgrove Creek Project	$ 5,000,000	To provide flood control protection along Cosgrove Creek in these areas, as well as surface water storage, recreation, environmental restoration, and wastewater recycling, a series of facilities will be constructed. USACE determined the location of the construction of a weir to attenuate the flashy Cosgrove Creek flood flows. The weir will be built across the creek with off-stream storage on New Hogan Dam Road, just south of Valley Springs, putting diverted water to beneficial use. It will reduce peak flows from 3,800 cfs to 3,000 cfs that currently impact more than 400 people and more than 100 structures, in this 100-year floodplain. A pedestrian/bike path along Cosgrove Creek will be included with the project to connect the La Contenta area to the Valley Springs area. Recreational fields, including soccer and baseball fields, will be constructed in the inundation area. The fields will be irrigated with recycled tertiary-treated wastewater from the Calaveras County Water District La Cantata Water Treatment Plant (WTP). Vernal pools will be implemented along the creek, contributing to riparian restoration in the area. The addition of vernal pools will diversify the surrounding habitat and species, moderate seasonal flooding during storm events, and like wetlands, remove contaminants from agricultural and urban runoff. Trails coupled with tours and pamphlets will be implemented as an opportunity to contribute to public education.	Yes	Water Supply
San Joaquin River	Calaveras	New Hogan Reservoir Pumping Project	$ 22,000,000	The pumping facility would be constructed on the north abutment of the old concrete dam, located approximately 0.25 miles east of the existing earthen dam. Water will be pumped over the northwest ridge of New Hogan Reservoir to a 30-acre-foot reservoir to regulate flows to three natural streams (Bear, No Name, and Indian creeks). These streams would be used for gravity-flow water conveyance.		
San Joaquin River	Calaveras	Pardee Reservoir Enlargement	$ —	The Pardee Reservoir would be raised 33 feet, and maximum capacity would increase from 197,950 acre-feet to a total of 371,000 acre-feet.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Contra Costa	DA 109 Kellogg Creek Project Development	$ 220,000			
San Joaquin River	Contra Costa	Deer Creek Reservoir Expansion	$ 2,069,000			
San Joaquin River	Contra Costa	Deer Creek Reservoir Expansion (r/w acquisition)	$ 187,000			
San Joaquin River	Contra Costa	Dutch Slough Tidal Marsh Restoration	$ —	The Dutch Slough Tidal Marsh restoration project is located at the mouth of Marsh Creek in northeast Contra Costa County. The project will restore 1,266 acres of wetland and upland habitats, including tidal marsh, oak woodland, Antioch dune scrub, and shaded riverine riparian areas. Phase 1 entails excavating approximately 750,000 cubic yards of material on Ironhouse Sanitary District (ISD) lands immediately west of the Marsh Creek flood control channel to create 100 acres of tidal marsh and riparian habitat at the mouth of Marsh Creek while cost-effectively providing fill material necessary to prepare the 1,166-acre Dutch Slough site east of Marsh Creek for tidal marsh restoration. Fill material from the Ironhouse Sanitary District lands will be used to bolster interior levees and elevate subsided areas in preparation for tidal marsh restoration at DWR's Dutch Slough project site. After excavation, the 100-acre ISD site west of Marsh Creek will be restored to a tidal marsh and riparian habitat zone especially designed to enhance the functionality of the Marsh Creek flood control channel and to biofilter polluted water emanating from the Marsh Creek watershed. The biofiltration wetland will reduce pollutants entering the Dutch Slough site and the Delta and thereby help protect the region's water quality source from degradation by nonpoint runoff.	Yes	Ecosystem
San Joaquin River	Contra Costa	East Antioch Creek Marsh Restoration Project	$ —	This project is located in the lower reach of East Antioch Creek between the San Joaquin River and Lake Alhambra. The reservoir rehabilitation will be conducted in two phases and has three identified goals: enhanced marsh expansion and restoration, increased tidal and storm flow capacity, and establishment of community-based conservation through public education and outreach programs.	Yes	Ecosystem
San Joaquin River	Contra Costa	East Antioch Creek Wetland Restoration	$ 6,895,000			
San Joaquin River	Contra Costa	Kellogg Creek - Sedimentation Basin Creek Restoration	$ 1,750,000			
San Joaquin River	Contra Costa	Knightsen Wetland Biofilter	$ 2,815,000		Yes	Water Quality
San Joaquin River	Contra Costa	Lower Sand Creek Basin	$ 6,190,000			
San Joaquin River	Contra Costa	Marsh Creek channel widening (Dainty to Sand Creek Road)	$ 2,600,000			
San Joaquin River	Contra Costa	Marsh Creek Drop Fish Passage Improvement	$ 146,000		Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Contra Costa	Marsh Creek Reservoir Capacity Expansion	$ 1,750,000			
San Joaquin River	Contra Costa	Marsh Creek Reservoir Emergency Spillway Assessment	$ 125,000			
San Joaquin River	Contra Costa	Marsh Creek Reservoir Seismic Assessment	$ 281,000			
San Joaquin River	Contra Costa	Marsh Creek Reservoir Seismic Rehabilitation	$ 3,500,000			
San Joaquin River	Contra Costa	Marsh Creek Supplemental Capacity and Basin Development	$ 4,500,000			
San Joaquin River	Contra Costa	Oakley and Trembath Detention Basins (East Antioch Creek)	$ 7,944,000	Plans by Contra Costa County FCWCD to expand the Oakley Detention Basin and construct the Trembath Detention Basin would serve to reduce peak runoff into the main channel of East Antioch Creek during periods of heavy rainfall, increase flood storage, and control downstream flooding. With these improvements in place, the two basins would have a combined storage capacity to accommodate a 100-year storm event. Although funding for these drainage improvements has been secured, a schedule for implementation has not been determined.		
San Joaquin River	Contra Costa	Sand Creek floodplain remapping study	$ 25,000			
San Joaquin River	Contra Costa	West Antioch Creek Culverts at 10th Street (Antioch Stormwater Flood Management)	$ 5,994,600			
San Joaquin River	Contra Costa	West Antioch Creek Improvement at Highway 4	$ 2,000,000			
San Joaquin River	Contra Costa	West Antioch Creek Improvements - L Street to 10th Street	$ 4,460,000			
San Joaquin River	Madera	Temperance Dam	$ —	New surface storage in California will improve water supply and greatly needed flexibility resulting in broad public, environmental and operational benefits. With the additional capacity and integrated operation of California's water delivery system, water diversion and deliveries can be timed in ways that improve water quality, restore wildlife habitat, support fishery needs, facilitate conjunctive management and increase flood protection.	Yes	Ecosystem, Water Quality, Water Supply
San Joaquin River	Fresno	Temperance Flat Dam	$ 33,000,000	This project would increase storage capacity, providing 1,200,000 acre-feet of storage and an additional 160,000 acre-feet of usable annual water.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Madera	Ash Slough Arundo Eradication and Sand Removal Project	$ 1,922,810	This project involves the eradication of *Arundo donax*, a non-native invasive bamboo, from critical portions of Ash Slough. Arundo blocks flood flows in the Slough and causes flood hazards, as well as fire hazards, habitat deterioration, and excessive evapotranspiration of water that could be used to recharge the overdrafted groundwater. The targeted area has been selected to prevent levee failure and flooding of the City of Chowchilla. As part of this project, the County will obtain the required permits for sediment removal from the channel, which would provide additional increased flood flow capacity. Arundo utilizes up to 20 times more water as the native grasses that will be used to revegetate the cleared areas. This is water that would otherwise percolate through the sandy soils to recharge the groundwater, be used for agricultural purposes, or flow down the Eastside Bypass into the San Joaquin River delta.	Yes	Ecosystem
San Joaquin River	Madera	Cottonwood, Dry and Brenda Creek Arundo Eradication and Sand Removal Project	$ 2,184,531	There is potential for flooding on Cottonwood Creek, Dry Creek, and Berenda Creek due to invasive plant species, particularly Arundo, overgrown vegetation, and sedimentation, which lead to a lack of channel capacity. Without proper capacity, these channels are unable to carry the design flows or flood flows. Objectives of the project include: 1) To improve flood flows in Madera County, specifically on property, both industrial and agricultural, along Cottonwood Creek, Dry Creek and Berenda Creek 2) To improve Madera County's economic viability by reducing the potential for flood flows 3) To increase water availability in Madera County by reducing unnecessary evapotranspiration from Arundo donax infestation 4) To improve wildlife habitat in Madera County along Cottonwood Creek, Dry Creek, and Berenda Creek by eradicating Arundo donax and by removing excess sedimentation 5) To improve Madera Irrigation District's ability to deliver water to its users without capacity constraints 6) To provide Madera Irrigation District's growers greater flexibility in managing their water, thus improving overall irrigation efficiency and use 7) Eradicate Arundo from 32 miles of creeks and an area of approximately 300 acres; 8) Remove 25,000 tons of sand from 32 miles of creek bottom	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Madera	Madera Ranchos Flood Control and Water Recharge Ponding Basin	$ 2,233,950	The project is a ponding basin to be located adjacent to the Madera Canal at the Southeast corner of Avenue 12 and Road 38, east of the Madera Ranchos community. The ponding basin will be a large pond that can be used for overflow of floodwaters to prevent the flooding of the Madera Ranchos community. Floodwaters will be held in the pond until they percolate into the ground, recharging the overdrafted groundwater in that area. Project goals are: 1) To develop a project that will prevent flooding of the Madera Ranchos community from 100-year flood events reduce residential community 2) To increase groundwater recharge in the area 3) To create a 120-acre-foot detention basin for flood control and groundwater recharge	Yes	Water Supply
San Joaquin River	Madera	Root Creek In-Lieu Groundwater Recharge Project	$ 5,000,000	The project identified facilities necessary to provide a system for the use of surface water on lands within Gateway Village and adjacent agricultural lands. The delivery pipeline envisioned for the in-lieu program may also be utilized for delivery of water for direct recharge, as well as to a surface water treatment facility for Gateway Village.		
San Joaquin River	Merced	Flood Control Protection on Black Rascal Creek	$ 1,250,000	This is a joint project to provide alternative, lower-cost project for much-needed flood control on Black Rascal Creek. This project would be a reduced-cost alternative to the Federal Flood Control Project (Haystack Dam), which has been in progress for many years. The proposed 200-year project consists of a single 70-acre detention basin on agricultural land with a 17.5-foot embankment crest to store 1,711 acre feet of water at spillway crest and 2,534 acre feet at dam crest. The basin would be located immediately north of Yosemite Avenue and Arboleda Avenue in Merced County on Black Rascal Creek.		
San Joaquin River	San Joaquin	Boggs Tract	$ 5,000,000	Reclamation District 404 currently has several levees that have been classified as "Provisionally Accredited," and is in the process of compiling the data and documents that FEMA requires before granting full accreditation. RD 404 is in the process of repairing erosion, clearing vegetation, and repairing damage from rodent holes on one of the levees to obtain the "Provisionally Accredited" classification for its entire levee system. The Boggs Tract area flood map is also affected by Walker Slough levee to the east. San Joaquin County FCWCD is working to obtain full accreditation for the Walker Slough levee.		
San Joaquin River	San Joaquin	Budlisilich Fish Passage Improvements	$ 350,000	This project provides for improvements to the flashboard dam, which was barrier for fish. Stockton East Water District (SEWD) agreed to make improvements as part of the Anadromous Fish Program from CDFW. The project is more than 50% complete.	Yes	Ecosystem
San Joaquin River	San Joaquin	Farmington Groundwater Recharge and Seasonal Habitat Program	$ 33,500,000	The objective of this program is to recharge an average of 35,000 acre-feet of water annually into the Eastern San Joaquin Basin. The recharge method of choice is field flooding, a practice where a small perimeter levee is built at the parcel, then flooded to a depth of up to 18 inches.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	San Joaquin	Gill Creek and Woodbridge Rood Flood Control Improvements	$ 25,000,000	In 2004, the San Joaquin County Department of Public Works Stormwater Management Division completed the Gill Creek and Woodbridge Road Watersheds Reconnaissance Study (Gill Creek Study) to identify and recommend a project that would provide a 100-year level of protection to structures and a 25-year level of protection to agriculture in the study area. The Gill Creek Study explored three alternatives with the following focuses: • Channel enlargement • Detention • Diversion into the Lower Mokelumne River The Gill Creek Study identified detention as the preferred alternative, which includes minor channel improvements and the construction of up to 15 detention basins covering a total area of 65 acres spread throughout the watersheds. The preferred alternative has the potential to provide addition benefits because the channels and detention basins could be used to convey Mokelumne River water for irrigation and direct recharge. The North San Joaquin Water Conservation District owns an existing 30-cfs irrigation system near Tretheway Road, extending west along Acampo Road. Improvements to the North San Joaquin Water Conservation District North Irrigation System or an additional system could serve the conjunctive water management needs of the area. The next step is to perform a feasibility study where the conjunctive use and flood control operation can be explored further and the benefits quantified.	Yes	Water Supply
San Joaquin River	San Joaquin	Groundwater Banking and Wisconsin Pump Station	$ 9,500,000	This project will provide integrated stormwater management through coordinated upstream diversion and percolation of peak Calaveras River flows adjacent to the SEWD water treatment plant into flood retention and groundwater recharge ponds, together with rehabilitation and upgrade of internal Wisconsin stormwater pumping facilities discharging to the lower Calaveras River in the Wisconsin Avenue area. Conceptually, both the RD 1614 Wisconsin Avenue and SEWD pumping facilities would be sized at about 30,000 gallons per minute (gpm) (66 cfs); maximum volume for the SEWD recharge ponds would be around 1,000 acre-feet (200 acres at 5 feet deep). The flood damage reduction benefit will accrue mostly from reduced damages at moderate return intervals (e.g., 10 to 50 years).		
San Joaquin River	San Joaquin	Lower San Joaquin River Flood Bypass	$ 6,125,000	This project would increase flood conveyance capacity through a constrained reach of the San Joaquin River floodway by acquiring easements and fee title to expand Paradise Cut Bypass. The project will also provide floodplain and riparian habitat for sensitive species, including riparian brush rabbit, giant garter snake, Sacramento splittail and juvenile Chinook salmon. The project would reduce the flood stage in mainstem San Joaquin River between Vernalis and Stockton and reduce the likelihood of levee failure on the San Joaquin River in Lathrop, Manteca, and Stockton areas.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	San Joaquin	MORE Water Project	$ 412,000,000	The MORE Water Project could bring 60,000 to 100,000 acre-feet per year to the Basin. The project is planned to consist of three infrastructure projects—the Water Duck Creek Reservoir, the Water Lower Mokelumne Diversions, and the Water Storage Plus Direct Diversions Project. *Lower Mokelumne Diversions*: The MORE Water Project and water right application is also seeking one or more diversions from the lower Mokelumne River. The diversions would be located along the Mokelumne River between Camanche Reservoir and Interstate 5. Under that project, up to 620 cfs would be diverted from the river at structural or nonstructural intakes. Diverted water would include only surplus spills from Camanche Reservoir, including flood flows. Under either alternative, water would be transported to the Stockton area via pipeline and Watershed Improvement District canals. Water would then be utilized during the December through June period for direct or in-lieu groundwater recharge. This project would supply an average of up to approximately 43,000 acre-feet per year during December through June. *Water Storage Plus Direct Diversions*: Water would be diverted from the southern end of Pardee Reservoir, which is located on the Mokelumne River. Diverted water would be routed into a gravity-feed tunnel/pipeline that would discharge into Duck Creek, which is a tributary to the Calaveras River. In the event that Duck Creek Reservoir is not built, water would be diverted from the Calaveras River downstream of its confluence with Duck Creek. If Duck Creek Reservoir is approved and completed, water diverted from Pardee Reservoir would instead flow into the Duck Creek Reservoir. From that point, water would be transported via pipeline to agricultural users, groundwater recharge facilities or other users, or would be routed into spreading and recharge basins. The project would supply up to an average 67,000 acre-feet per year at a maximum diversion rate of 1,000 cfs. Diversion would occur only during flooding and other high-flow periods, or in anticipation of a flood event. *Duck Creek Reservoir*: The proposed Duck Creek Reservoir is an approximately 150,000-acre-foot-capacity off-stream reservoir located in eastern San Joaquin County. The Duck Creek watershed drains into the Calaveras River at the divergence of the Calaveras River and Mormon Slough at Bellota. The Duck Creek dam system would consist of a 6,000-foot earthen main dam at the south end and a series of smaller saddle dams to the west. Water would be diverted at either Pardee Reservoir or Camanche Reservoir for storage in Duck Creek Reservoir. The water right application seeks to divert up to 1,000 cfs to storage and 620 cfs by direct diversion. The total maximum diversion capacity is 1,620 cfs from either Pardee Reservoir or Camanche Reservoir. Water diverted from Pardee Reservoir at a rate of 1,620 cfs would require a diversion structure and tunnel. Regulated releases from Bellota would be rediverted to the SEWD Water Treatment Plant, Mormon Slough, Potter Creek, Mosher Slough, the Lower Calaveras River, and potentially the proposed Alliance Canal for beneficial use or direct groundwater recharge.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	San Joaquin	Re-Operation of New Hogan Reservoir for Flood Control	$ —	This combination of options suggests that average annual deliveries to SEWD could be increased by about 25,000 acre-feet by maximizing the available supplies from New Hogan Reservoir. The reservoir is currently operated to save a certain amount of carryover storage each year; however, the carryover requirement limits the amount of storage available in wet years. All of the carryover storage water can be used in each year by farmers who currently use groundwater for irrigation. This in-lieu recharge would result in an increase of groundwater storage that could be used during dry years. Thus, this option effectively moves carryover storage from the reservoir into the groundwater basin. If the reservoir is fully emptied before the rainy season begins, then the reservoir could capture additional flows during wet years.	Yes	Water Supply
San Joaquin River	San Joaquin	Westside-San Joaquin Regional Stormwater Flood Management	$ 168,890	This project is the second phase of a larger project to increase the capacity of the California Avenue Storm Drain Basin. This new lift station will remedy the overflows during heavy storms, reduce the damage caused by the overflows, and reduce use of public resources to prevent the damage. Also, the lift station will capture the excess water for agricultural reuse.		
San Joaquin River	Stanislaus	Big Bend Floodplain Protection and Restoration Project (Formerly Todd-Venn)	$ 2,605,619	The project is located in eastern Stanislaus County approximately 5.5 miles west of the City of Modesto. The project proposes to acquire fee title to and perpetual conservation easements on approximately 167 acres and restore approximately 223 acres of the Tuolumne River floodplain. The enhanced area provides for flood damage reduction by facilitating, enlarging, and returning natural fluvial processes to the floodplain. In addition, the restored riparian corridor and its associated shaded riverine aquatic habitat, which extends approximately 2 miles on the south side of the river and 1 mile on the north side of the river, will provide enhanced habitat for a variety of fish and wildlife species.	Yes	Ecosystem
San Joaquin River	Stanislaus	Dos Rios Ranch	$ 22,319,754	The Dos Rios Ranch Acquisition and Restoration Project includes more than 1,600 acres of strategically located land where the San Joaquin and Tuolumne rivers meet immediately west of Modesto. The project is a cornerstone in the development of the Tuolumne River Parkway.		
San Joaquin River	Stanislaus	Ecosystem Restoration and Floodwater Attenuation Project, San Joaquin River	$ 3,565,496	This project will benefit California by reducing flood risk liability, enhancing the ecosystem, and reducing O&M costs for flood control facilities on the San Joaquin River. The project will improve the connection of 1,535 acres of floodplain to the San Joaquin River by breaching existing levees to reduce fish entrapment and improve transient floodwater storage benefits, and it will reduce ecosystem damage from water standing for excessive periods.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
San Joaquin River	Stanislaus	New Don Pedro Reservoir Relicensing	$ —	The Don Pedro Reservoir is a Federally licensed water storage and hydroelectric generating facility located on the Tuolumne River in the Sierra Nevada foothills, approximately 130 miles east of San Francisco. As a multipurpose project, Don Pedro provides water storage for irrigation and domestic use, as well as energy from a renewable resource. Don Pedro operations also benefit fish, wildlife, and recreation resources, as well as provide flood control benefits through cooperation with the USACE. Owned 31.54% by the Modesto Irrigation District and 68.46% by the Turlock Irrigation District, the project was placed into service in 1971. It consists of a 2,030,000-acre-foot reservoir and a 203-megawatt powerhouse. The project operates under a 50-year license granted to the Districts by the Federal Energy Regulatory Commission (FERC). The current license extends through April 30, 2016. The Districts intend to obtain a new license, and will be relicensing Don Pedro using FERC's Integrated Licensing Process. Relicensing is an intricate and lengthy undertaking that will stretch over several years and will be open to public participation.		
San Joaquin River	Stanislaus	Riddle Surface Mine	$ —	Calaveras Materials Inc. (CMI) proposes developing and reclaiming an aggregate (sand and gravel) surface mine and materials processing Plant Complex on two discontiguous sites totaling 436 acres in western Stanislaus County. CMI is proposing to reclaim the site to an agricultural reservoir (as a source of irrigation water for surrounding agricultural uses) and/or a flood detention component of the County's flood control system.	Yes	Water Supply
San Joaquin River	Stanislaus	Vierra Unit Restoration	$ 1,755,542	The proposed project will involve 511 acres. Levee breaches will be engineered and constructed to minimize erosion, allow water circulation, and minimize fish stranding. Wetlands will be restored, including grading, water control structures, and a pump and fish screen. Riparian woodland will be restored by planting followed by 3 years of irrigation and weed control. Federal levee breaching may not occur, and the U.S. Fish and Wildlife Service (USFWS) may repair local levees to deal with fish stranding. The project would eliminate the need to repair the local levees and allow the area to be opened for flood storage. Wildlife benefits include conversion of abandoned agricultural fields, now growing exotic weeds, to 200 acres of wetlands and 311 acres of riparian forest.	Yes	Ecosystem
San Joaquin River	Tuolumne	Tuolumne Ditch System Sustainability Project	$ —	This project provides for the development of a Ditch System Sustainability Project, which will identify the system's values and develop management objectives, tools, and maintenance strategies that protect, manage, and enhance the multiple values of the system while improving water delivery. The goal of the project is to sustain the values of the ditch system by developing a comprehensive plan for the management of the system.	Yes	Water Supply
South Coast	Los Angeles	Acquisition of Land in the Floodplain of the Upper Santa Clara River	$ —	This project involves the acquisition of land in the Upper Santa Clara River floodplain from willing sellers so as to restrict future floodplain development and to allow restoration of lands to a natural condition.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Acquisition of River Channel and Major Tributaries for Watershed Protection	$ —	This project involves the acquisition of riparian and floodplain parcels to limit development and preserve habitat function and other watershed benefits.	Yes	Ecosystem
South Coast	Los Angeles	Acton Master Drainage Plan	$ —	This project outlines the phased development of flood control facilities to mitigate flooding in the Acton community. Proposed improvements include four debris basins, five multi-use retention facilities, and low-impact water quality enhancement flood control facilities.	Yes	Water Quality
South Coast	Los Angeles	As-Needed Design Services - Debris Basins and Sediment Placement Sites	$ 1,000,000	This would establish and administer (on a 3-year, as-needed basis) the design services contracts for debris basins and sediment placement site (SPS) projects.		
South Coast	Los Angeles	Bartolo Pump Stations Instrumentation and Control System Upgrade	$ 975,000	This upgrade would replace a diaphragm-type pressure transducer with a new submersible-type level transmitter and would upgrade the lighting and control system.		
South Coast	Los Angeles	Big Dalton Dam Sluice Gate Modification	$ 1,500,000	This project included extensive, clearing/grubbing, water diversion, dewatering, processing 200,000 tons of sediment, onsite and offsite production hauling on switchback mountain roads, scaling, traffic control, geotextile/riprap, RCP, shoring, subdrain system, cut/fill/fine-grade earthwork, road construction, subdrains, filter material, reinforced concrete structures, weir gate, sluice gate, trash rack retrofit, silt fence, security fence, hydroseeding, and more such tasks.		
South Coast	Los Angeles	Big Dalton Reservoir Sediment Removal	$ 26,000,000			
South Coast	Los Angeles	Big Dalton, Little Dalton and Sawpit Debris Basin Seismic Rehabilitation	$ 4,300,000	Big Dalton Debris Basin is a dam under the jurisdiction of the DWR, Division of Safety of Dams (DSOD). Currently, it does not meet DSOD seismic requirements. Los Angeles Department of Public Works (LADPW) intends to seismically upgrade the spillway walls and outlet tower. Sawpit Debris Basin is a dam under the jurisdiction of the DWR's DSOD. Currently, it does not meet DSOD seismic requirements. LADPW intends to seismically upgrade the spillway walls, add a new outlet tower, and provide erosion protection on the downstream dam face to comply with dam regulations.		
South Coast	Los Angeles	Big Tujunga Dam Underground Utility Improvement Project	$ 1,000,000			
South Coast	Los Angeles	Big Tujunga Reservoir Post-Fire Sediment Removal	$ 34,000,000	This project involves the excavation of sediment within the Big Tujunga Reservoir and the deposition of the sediment in the Maple Canyon Sediment Placement Site, located in Big Tujunga Canyon in the Angeles National Forest.		
South Coast	Los Angeles	Big Tujunga Reservoir Sediment Removal	$ 245,000,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Big Tujunga Wash Mitigation Bank Management	$ 2,500,000	The Big Tujunga Wash Mitigation Bank project encompassed a 100-acre site of willow riparian, oak/sycamore woodland, and coastal sage scrub terrain overrun with Arundo and other non-native plant species. This public works project demanded economical use of public funds and a light footprint that would preserve thriving native species while eliminating exotic species that interlaced it.	Yes	Ecosystem
South Coast	Los Angeles	Bracemar Debris Basin Enlargement	$ 500,000			
South Coast	Los Angeles	Cogswell Dam Inlet/Outlet Works Rehabilitation	$ 3,000,000	This project is to rehabilitate valves, electrical systems, control systems.		
South Coast	Los Angeles	Cogswell Reservoir Post-Fire Sediment Removal	$ 22,000,000	The removal procedure will consist of dewatering Cogswell Reservoir and then removing sediment from approximately 131.7 acres of the reservoir, using heavy equipment such as excavators, bulldozers, and dump trucks.		
South Coast	Los Angeles	Cogswell Reservoir Sediment Removal	$ 145,000,000			
South Coast	Los Angeles	Compton Creek Pump Station Number 1, Replace) Engines and Main Pumps	$ 1,500,000	The project is to replace three engines and three main pumps, as well as upgrade the existing liquefied petroleum gas (LPG)-fueled backup system.		
South Coast	Los Angeles	Deer Debris Basin Enlargement	$ 500,000			
South Coast	Los Angeles	Del Valle Sediment Placement Site - Construct Foundation	$ 630,000	The project is to construct foundation of a new sediment placement site at the County Fire Department's Del Valle Training Facility in Val Verde.		
South Coast	Los Angeles	Devils Gate Reservoir Post-Fire Sediment Removal	$ 37,000,000	This project is for removal of sediment and debris from the reservoir behind Devil's Gate Dam to restore flood control capacity and establish a reservoir configuration more suitable for routine maintenance activities, including sediment management.		
South Coast	Los Angeles	Dunsmuir Sediment Placement Site Landscaping Installation	$ 1,000,000	This project will install landscaping on finished fill slopes at Dunsmuir SPS. Plans, specifications, and estimate (PS&E) is expected in FYs 2011-12 and 2012-13. The project will be advertised in FY 2012-13, and will be awarded in FY 2013-14. The project will acquire container stock in FY 2013-14 and will be installed in FY 2014-15.		
South Coast	Los Angeles	Eaton Dam Inlet/Outlet Works Rehabilitation	$ 5,700,000	This is a project to rehabilitate, replace, and construct flood control facilities from Eaton Wash Dam and Reservoir - Inlet/Outlet Works Rehabilitation, in the City of Pasadena.		
South Coast	Los Angeles	Eaton Reservoir Sediment Removal	$ 20,000,000			
South Coast	Los Angeles	Englewild Debris Basin Enlargement	$ 500,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Evaluation of Inlet/Outlet Works at County Department of Public Works Dams	$ 1,195,000	The Dams Section ($200,000) is to head the Review Committee on Dam Safety Valve Subcommittee; investigate and develop recommendations for valve maintenance, repairs and replacements, including both planning and emergency repairs; manage implementation of recommendations; manage contracts with Bureau of Reclamation and Metropolitan Water District (MWD) for inspections/evaluations and repair (MWD only) of inlet/outlet works and electro-mechanical equipment. Service contracts to implement recommendations of Valve Committee will include a contract for inspections/evaluations/repairs and/or an as-needed repair contract through the process of Request for Proposals ($150,000). Operations Services Division to provide preventive maintenance program.		
South Coast	Los Angeles	Goss Debris Inlet Enlargement	$ 500,000			
South Coast	Los Angeles	Installation of Pumps Improve Basin Drainage	$ 300,000	This project provides for seven pump installations and/or nuisance water diversion improvements.		
South Coast	Los Angeles	Irving Debris Basin Enlargement	$ 500,000			
South Coast	Los Angeles	Joint Water Pollution Control Plant (JWPCP) Marshland Enhancement Project	$ 2,637,065	This project restores the vegetation and wildlife habitat value of the 17-acre freshwater JWPCP marshland, which provides stormwater treatment and flood control. The project includes educational and recreational facilities.	Yes	Ecosystem
South Coast	Los Angeles	Linda Vista Debris Basin Enlargement	$ 1,530,000	The project will increase the undersized debris basin to meet 1 DDE capacity and will replace the existing dam with a new crib dam and outlet tower. Property Condition Report approved in 1995 update under F010. F115, including National Environmental Policy Act (NEPA) and CEQA (California Public Resources Code § *21000 et seq.*) documentation, permits, PS&E, and civil engineering.		
South Coast	Los Angeles	Live Oak Reservoir Sediment Removal	$ 3,500,000			
South Coast	Los Angeles	Los Angeles County General Dam Rehabilitation Projects	$ 75,000,000	A committee of dam engineers from DSOD, Los Angeles County Department of Public Works, Metropolitan Water District of Southern California, and the USACE rated the dams in Los Angeles County based on three factors: 1) Facility condition, which includes physical condition of the dam, amount of deferred maintenance, frequency of dam inspections, condition of monitoring instrumentation, and identification of any unsafe conditions at the dam 2) Facility age vs. useful life, which rates the facility based on its age, whether or not it has received significant rehabilitation, and if it meets relevant standards for its current use 3) Capacity to meet current and projected demands, which addresses whether or not the facility meets its original purpose and function (has capacity been reduced or restricted?) and if it can withstand anticipated physical demands such as floods and earthquakes		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Malibu/Cuyama - Integrated Watershed Protection Plan - Projects	$ 2,500,000			
South Coast	Los Angeles	Manhattan Beach Pump Station Ball Valve System Rehabilitation	$ 400,000	The project is to replace two ball valves on discharge lines with new self-contained electro-hydraulic actuators and upgrade the entire control system to integrate with the central controller and associated works.		
South Coast	Los Angeles	Marina Del Rey and Ballona Creek Feasibility Study Sediment Control Management Plan	$ —	This study analyzes the area's hydrology, oceanographic processes, water quality, sediments, biological resources, and economics under existing and future conditions with- and without-project implementation.	Yes	Water Quality
South Coast	Los Angeles	May and Dunsmuir Sediment Placement Sites - Design	$ 82,000	This project provides for the preparation of interim and ultimate fill plans.		
South Coast	Los Angeles	Morris Dam Inlet/Outlet Works Rehabilitation	$ 9,600,000	The project involves rehabilitation and replacement of runoff regulation facilities, new control system and control house, and electrical rehabilitation at Morris Dam in the Angeles National Forest for a change related to the rehabilitation of Outlets 2 and 5.		
South Coast	Los Angeles	Morris Dam Water Supply Enhancement Project	$ 13,258,175	This project will lower the operational pool behind Morris Dam by upgrading the dam's control structures to allow more stormwater to be captured for recharge at downstream spreading grounds.	Yes	Water Supply
South Coast	Los Angeles	Morris Reservoir Sediment Removal	$ 105,000,000			
South Coast	Los Angeles	Mullally Relief Drain	$ 1,000,000	This is the expansion of the Mullally Drainage Basin and the installation of an additional storm drain to serve as an overflow in the event of a clog.		
South Coast	Los Angeles	North Atwater Creek Restoration Project	$ 5,600,000	This project will construct water quality physical and structural improvements to an area along the Los Angeles River. The project will restore the creek at the North Atwater Park for stormwater runoff capture and treatment, and will provide wetlands habitat linkage to the Los Angeles River. Two acres of wetland habitat will be created.	Yes	Ecosystem
South Coast	Los Angeles	North Valleyheart Greenway Project	$ 2,100,000	This project will construct the North Valleyheart Greenway.		
South Coast	Los Angeles	Nuisance Water Improvements	$ 338,397	This project addresses nuisance water improvements at various locations.		
South Coast	Los Angeles	Operation and Maintenance Projects for Los Angeles County Dams (annually, over 5 years)	$ 250,000,000	Projected O&M costs for rated the dams in Los Angeles County.		
South Coast	Los Angeles	Oxford Basin Multi-use Project	$ 6,330,000			
South Coast	Los Angeles	Pacoima Dam Hoist and Hoist Operating House	$ 1,500,000	This provides for installation of a hoist; construction of a hoist operator house, a rockfall barrier system, and a liquid petroleum gas tank; construction and repair of retaining walls; removal of existing power poles and lines.		
South Coast	Los Angeles	Pacoima Dam Inlet/Outlet Works Rehabilitation	$ 1,750,000	This project will replace valves, add a jet flow gate, and modify risers/trash racks.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Pacoima Dam Jet Flow/Gate Valve for Sluiceway	$ 1,500,000			
South Coast	Los Angeles	Pacoima Reservoir Sediment Removal	$ 200,000,000	This project is to remove up to 3 million cubic yards of sediment from the reservoir. NEPA and CEQA (California Public Resources Code § *21000 et seq.*) documentation and permits from USFS, USACE, CDFW, and Regional Water Quality Control Board. FY 2008-09: PS&E and SPS Landscape, USFS review of PS&E, review of Draft NEPA/CEQA documentation.		
South Coast	Los Angeles	Puddingstone Diversion Dam Outlet Works Improvement	$ 500,000	This project provides a backup gate to replace a backup slide gate in the Puddingstone Dam outlet tunnel, in the City of San Dimas.		
South Coast	Los Angeles	Puddingstone Diversion Reservoir Sediment Removal	$ 9,500,000			
South Coast	Los Angeles	Reservoir Operations-Forecast Services	$ 435,000	This is a project to provide Architectural Engineering Division services; service contract for weather forecasting to assist water conservation and flood control operations.		
South Coast	Los Angeles	Rowley Upper Debris Basin Enlargement	$ 500,000	This project is for the enlargement and expansion of Rowley Upper Debris Basin.		
South Coast	Los Angeles	Safety Investigations of Dams	$ 1,500,000	This project covers Dams Section ($575,000), resources for Review Committee on Dam Safety reports/meeting/activities, Dam Safety Monitoring Program, reports to State, identification and remediation of issues affecting the safe performance of dams; and managing the Dams Rehabilitation Program, including development of concepts. Also one consultant contract per year ($150,000 each) for evaluation or resolution of dam safety concerns (e.g., evaluation of movement/spilling at Morris Dam Open Joint, geophysical testing for voids within embankment at Puddingstone Dam).		
South Coast	Los Angeles	Safety Investigations of Debris Dams	$ 1,350,000	Debris Dams are debris basins under jurisdiction of California DSOD. For Dams Section ($300,000), resources identified are to implement Dam Safety Monitoring Program, prepare reports to State, identification and remediation of issues affecting the safe performance of Debris Dams. Initiate Draft Independent Evaluation Plan for Debris Dams. Other DSOD resources include time for field investigations and preparation of Dam Safety Monitoring Reports for submittal to State and participation in MIDAS (Geotechnical and Materials Engineering Division $125,000, Survey $150,000, design $25,000). Work and resources also include MIDAS review of nonjurisdictional DB's at request of Facilities Management Division, and investigation of Private Small Dams at request of Land Development Division.		
South Coast	Los Angeles	San Dimas Reservoir Sediment Removal	$ 43,000,000			
South Coast	Los Angeles	San Gabriel Dam Browns Gulch Access Bridge	$ 1,900,000	Project will replace the existing bridge across Browns Gulch on the San Gabriel Dam access road. The existing bridge does not meet current standards	Yes	Transportation

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	San Gabriel Reservoir Sediment Removal	$ 395,000,000	Remove up to 4 million cubic yards from the reservoir over 3 years. Work for NEPA and CEQA (California Public Resources Code § *21000 et seq.*) documentation to be done under San Gabriel Sediment Management Plan Routine Carbon Monoxide Permits, completion in Spring 2012. New reservoir and SPS surveys in FY 2010-11. Property Condition Report; PS&E award, start of civil engineering in FY 2012-13.		
South Coast	Los Angeles	San Ramon Canyon Stormwater Flood Reduction Project	$ 9,464,728	The San Ramon Canyon Stormwater Flood Reduction Project will help achieve a number of the objectives of the Greater Los Angeles Area IRWM Plan. The project's primary objective is to manage stormwater runoff to reduce flood damage. In support of that objective, the project will also divert moderate and heavy stormwater flows away from highly erodible canyon walls, which will reduce or eliminate undermining of an arterial roadway, reduce or eliminate sediment and debris transport onto a primary access road, and reduce or eliminate risk of mudflows (up to a 500-year event) through a mobile home neighborhood of 500 residents. The project will also improve stormwater runoff by routing "first flows" over existing natural streambeds, and it will restore habitat by protecting the existing streambed and surrounding ecosystem.		
South Coast	Los Angeles	Santa Anita Dam Riser Modification and Reservoir Sediment Removal Project	$ 9,500,000	The proposed project consists of draining the Santa Anita Reservoir, removing sediment and debris from the reservoir by dry excavation, transporting the sediment from the reservoir via conveyor belt system, and placing it in the Santa Anita Sediment Placement Site. The project also consists of Santa Anita Dam modifications, including the construction of a new riser.		
South Coast	Los Angeles	Santa Anita Dam Seismic Remediation and Spillway Modification	$ 32,259,608	This project will enlarge the dam spillway, add a seismic buttress, and upgrade inlet/outlet works. Potential Proposition 1E (2006) grant funding was to be determined.		
South Coast	Los Angeles	Santa Anita Debris Basin Retrofit Project	$ 10,000,000	The debris basin dam rehabilitation project will bring the debris basin in compliance with DSOD. Potential Proposition 1E (2006) candidate.		
South Coast	Los Angeles	Santa Anita Reservoir Mitigation Landscaping at Sediment Management Site	$ 632,000	This project started design in FY 2010-11 and will be ready for award in fall 2013. .		
South Coast	Los Angeles	Santa Anita Reservoir Sediment Removal	$ 39,000,000			
South Coast	Los Angeles	Sediment Management Site No. 1	$ 250,000	This project will develop a new sediment management site as determined by the Sediment Management Strategic Plan, and likely includes property acquisition.		
South Coast	Los Angeles	Sediment Management Site No. 2	$ 250,000	This project will develop a new sediment management site as determined by the Sediment Management Strategic Plan, and likely includes property acquisition.		
South Coast	Los Angeles	Sediment Management Site No. 3	$ 250,000	This project will develop a new sediment management site as determined by the Sediment Management Strategic Plan, and likely includes property acquisition.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Los Angeles	Sediment Management Site No. 4	$ 250,000	This project will develop a new sediment management site as determined by the Sediment Management Strategic Plan, and likely includes property acquisition.		
South Coast	Los Angeles	Sediment Management Strategic Plan - Implementation	$ 1,170,000	This project will develop project concepts for recommendations included in the Sediment Management Strategic Plan. This could include the preliminary efforts for property acquisition, agreements with aggregate processors for reuse, or developing concepts for other final placement locations, including coordination of environmental documentation and permitting.		
South Coast	Los Angeles	Sediment Placement Sites Master Plans	$ 124,000	This project will prepare master plans incorporating better access and screening of SPS locations. Related activities that began in FYs 2009-10 and 2010-11 were done under O&M Sediment Placement Sites.		
South Coast	Los Angeles	Sombrero Debris Basin Enlargement	$ 500,000	This project will enlarge the Sombrero Debris Basin.		
South Coast	Los Angeles	Storm Drain Construction Project	$ 600,000,000			
South Coast	Los Angeles	Stream Gage - Project Concept, Design, and Construction	$ 2,750,000	This project develops concepts for new gauging stations or to improve existing stations, design the appropriate structures and equipment housing, and construct the project using force account labor.		
South Coast	Los Angeles	Sullivan Debris Basin Enlargement	$ 500,000	This project will enlarge the Sullivan Debris Basin.		
South Coast	Los Angeles	Thompson Creek Reservoir Sediment Removal	$ 3,500,000			
South Coast	Los Angeles	Tujunga Spreading Grounds Enhancement Project	$ 24,000,000	Tujunga Spreading Grounds Enhancement Project will improve water supply, water quality, flood control, and open space enhancements, native habitat, and wetlands with passive recreational and educational opportunities.	Yes	Water Supply
South Coast	Los Angeles	Upper Santa Clara River San Francisquito Creek Arundo and Tamarisk Removal Project	$ 726,500	This project will restore riparian habitat, increase water quantity, improve water quality, and reduce flood and wildfire hazards through the removal of invasive plant species in the Upper Santa Clara River watershed.	Yes	Ecosystem
South Coast	Los Angeles	Upper Sunset Debris Basin Enlargement	$ 250,000	This project will enlarge the Upper Sunset (Canyon) Debris Basin.		
South Coast	Orange	Aliso Creek Mainstream Restoration Project	$ 25,000,000	This project is for restoration of a rare coastal stream in Orange County that has been subjected to a variety of degradations. This project will recontour, establish better channel gradient (pools and riffles) by stair-step benching, eliminate non-native vegetation, plant natives, and repair an oxbow meander. This would effectively reestablish riparian wildlife corridor in area of concern. Restoration of corridor on larger scale is being envisioned. Also, a small coastal zone freshwater wetland would be reestablished.	Yes	Ecosystem
South Coast	Orange	Bolsa Chica Channel	$ 14,000,000	This project establishes a Retarding Basin.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	Borrego Canyon Wash Stabilization and Restoration Project	$ 3,232,000	Borrego Canyon Wash, a tributary of San Diego Creek, drains an area about 5.2 square miles in the upper Newport Bay watershed. It has experienced severe destabilization, including accelerated streambed and bank erosion, in recent times. Studies have identified Borrego Wash as the source of approximately one-half of the sediment discharged to Newport Bay during very wet years. Stream erosion and sedimentation adversely impact water quality beneficial uses of San Diego Creek and Newport Bay, for which a sediment TMDL was adopted in 1998 to address impairment due to excessive sedimentation. To prevent further degradation, loss of property and to comply with the sediment TMDL, the County, with the aid of the State Water Resources Control Board, completed a feasibility study that provided fluvial modeling and recommended stabilization control measures with conceptual designs. This project will implement the bank stabilization and restoration measures identified in the study.	Yes	Water Quality
South Coast	Orange	Brea Creek Channel	$ 8,400,000	This project provides for a bridge at Beach Boulevard.		
South Coast	Orange	Brookhurst Widening Bio-Swale and Synthetic Turf Installation	$ 1,600,000	This project will use remnant parcels left over from "full takes" of residential properties to create several linear bioswales. The bioswales will collect rain and dry weather flows from the curbline via reverse curb drains and will treat and infiltrate these flows, with overflow being released to the storm drain system following treatment. Additionally, drought-tolerant plants, along with one-third acre of synthetic turf, will be installed to reduce landscape water use.	Yes	Water Quality
South Coast	Orange	Carbon Creek Channel	$ 43,600,000	This project provides for reconstruction of undersized storm drain lines, and will construct ultimate improvements to convey the 100-year storm event, which will remove/reduce the FEMA special flood hazard area (SFHA).		
South Coast	Orange	Cypress Pump Station	$ 14,000,000	This project will provide a Pump Station.		
South Coast	Orange	East Garden Grove Wintersburg (EGGW) Channel	$ 181,279,000	The existing channel is an earthen-bottom trapezoidal levee channel. It is 20 feet wide at the base with wall height averaging 13 feet. Side slopes are 1.5:1 (horizontal: vertical) lined with riprap rocks. Constructed in 1960s, it was designed to convey 65% of the 25-year peak discharge. Access roadways are located on both sides of the channel for maintenance vehicular access. The proposed improvement includes a reinforced concrete-lined channel with a 60-foot base width and channel height varying between 17 to 18 feet high with maintenance roads on both sides of the channel. The land use element surrounding this channel segment consisted of a mixed residential single-family to low- to medium-high-density residential and general commercial neighborhood on both sides of the channel. The general area is under Zone A of the FEMA FIRM Panel No. 06059C0251J dated December 3, 2009. Plans and engineering specifications will be prepared for the construction of the improvement of the 2,953-foot segment of the EGGW Channel for the specified project limits. Regulatory permits will be applied for the USACE, the Regional Water Quality Control Board, and CDFW.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	East Garden Grove Wintersburg Channel Urban Runoff Diversion Project, Phase I	$ 5,488,700	The East Garden Grove Wintersburg Channel Urban Runoff Diversion Project - Phase I is a Santa Ana Regional Water Quality Control Board-approved Supplemental Environmental Project. The East Garden Grove Wintersburg Channel (EGGWC) is a regional facility in a highly urbanized watershed that conveys dry weather urban runoff and stormwater from seven cities in the County of Orange to the Pacific Ocean by way of Huntington Harbour. The project will divert dry weather urban runoff from the EGGWC through an existing storm drain system to the proposed constructed wetland treatment system within Central Park. The wetland treatment consists of three linear wetland features encompassing open water and channel areas through which diverted channel flows would move and be subjected to a series of natural treatment processes that would improve overall water quality. The project will maximize pollutant removal by subjecting the flow to several phases of treatment and various processes. Following treatment, treated urban runoff will be used to rehabilitate Talbert Lake and recharge the groundwater aquifer in the project vicinity.		
South Coast	Orange	Fletcher Basin Rehabilitation	$ 5,000,000	Fletcher Basin is owned by Orange County Flood Control District (OCFCD) and was formerly used to impede stormwater flow prior to discharge into the Santa Ana River. Currently, the site is used to dispose of excess soils. This project would convert Fletcher Basin into a recharge basin and make improvements to enhance flood control. This project would include excavating the basin of excess soils; cleaning, hauling and disposing of soils; construction of an influent pipeline and inlet/outlet structure into the basin; construction of a low-flow channel to route nuisance water directly to the Fletcher Channel; installation of a pump to evacuate the water into Fletcher Channel in the event of a forecasted storm or for cleaning; and construction of improvements to Fletcher Channel (concrete vertical walls) downstream from Fletcher Basin.	Yes	Water Supply
South Coast	Orange	Fletcher Channel and Retarding Basin	$ 5,000,000	This project addresses the Santa Ana River Channel) to the upstream Fletcher Retarding Basin.		
South Coast	Orange	Fullerton Creek Channel	$ 26,600,000	The channel has experienced lining failures and overtopping during recent years. The proposed project will increase channel conveyance capacity for a 100-year storm event. To accomplish this, the existing trapezoidal channel will be replaced with a vertical wall rectangular channel that will be constructed within the existing right-of-way.		
South Coast	Orange	Gisler Storm Channel	$ 2,000,000	This project is located along Fairview Road to 400 feet upstream of Fairview, including a crossing.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	Gobernadora Multi-Use Flood Control Detention Basin Facility	$ 14,009,085	This project is proposing to construct the Gobernadora Multipurpose Basin Project in the South Orange County Watershed Management Area. The project will consist of an urban runoff and storm/flood detention basin that will be established as a wetland and riparian habitat, a collection system to capture and divert flows from the constructed wetlands, a pump station, and pipeline to connect to the existing Portola Reservoir system. The Basin will be utilized to reduce storm peak flows by flood storage, divert and naturally treat urban runoff and storm flows to: • Reduce downstream erosion and sedimentation • Address excessive surface water and groundwater • Improve the water quality in Gobernadora Creek and San Juan Creek, including the downstream Gobernadora Ecological Restoration Area	Yes	Ecosystem
South Coast	Orange	Haster Retarding Basin and Pump Station	$ 15,677,100	Haster Retarding Basin and Pump Station over the years has experienced flooding in surrounding areas due to flooding of the existing basin and its inability to handle the 100-year peak storm flow. Analysis of the current basin has shown that the basin can handle only the equivalent of a 5-year storm event and needs to be upgraded. Presently, Haster Retarding Basin serves a dual role as a flood control facility and as a community park (Twin Lakes Freedom Park). Regrading the basin and installation of a new pump station is proposed at the Haster Retarding Basin to eliminate flooding of adjacent areas and provide 100-year flood protection. The proposed pump station is intended to be built at the southwest corner of the basin, which will allow existing park uses to continue. The improvements are intended to eliminate basin flooding while maintaining the existing discharge at the downstream outlet to avoid flooding at Aspenwood.	Yes	Recreation
South Coast	Orange	Houston Storm Channel	$ 7,000,000	This project will repair a series of deficient culverts alongside State Route (SR) 91.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	Industrial Way Water Quality and Storm Drain Improvement Project	$ 3,000,000	The hydrology analysis conducted for this watershed concluded that the flow is larger than the capacity of the existing system by 340 cfs. The City of Costa Mesa has determined that an upgrade is required. A computation was performed to determine the size of the upgrade, which is proposed to be 10 feet in diameter or equivalent. This project proposes the installation of a parallel underground storm drain system from Pomona and 18th Streets to Newport Boulevard within the public right-of-way, and construction of at least two detention basins within the project limits to encourage the natural percolation of low-flow runoff into the ground. This new system will incorporate treatment measures, including engineered treatment structures, bio-filtration systems, and gross pollution filtration devices to comply with National Pollutant Discharge Elimination System (NPDES) requirements. To eliminate flooding and the current pollution problems caused by the lack of this system, the City of Costa Mesa has partnered with the City of Newport Beach, the Costa Mesa Sanitary District, and Orange County Sanitation District to eliminate the adverse effects of the flooding. This project is not an operable segment of a larger project; however, it does address a larger problem where excessive rainwater would inundate treatment plants to capacity, which would cause wastewater to flow backward and manholes to pop open releasing polluted water onto the street and eventually into the ocean.		
South Coast	Orange	Laguna Canyon Channel	$ 23,000,000	This project provides general telephone and electronics facilities to El Toro Road.		
South Coast	Orange	Lane Channel	$ 32,600,000	The areas covered by this project include upstream of Jamboree Road to downstream of Main Street under Phase 1; and downstream of Main Street to 1,000 feet downstream of Redhill Avenue, upstream Redhill Avenue to downstream SR 55, F05 confluence to upstream Jamboree Road under Phase 2.		
South Coast	Orange	Miraloma Recharge Basin	$ 6,100,000	The project will consist of a recharge basin, which will be excavated over most of the 13-acre site to a depth of roughly 10 feet below existing ground level. Excavation will require removal and disposal of roughly 177,000 cubic yards of soil. The wetted area of the basin will be approximately 11 acres. At an average water depth of 10 feet, the basin will retain roughly 110 acre-feet of water. Given similar geology and proximity, it is estimated that the percolation capability of the proposed Miraloma Basin will be similar to that of Kraemer Basin. The average annual Kraemer Basin recharge rate of 2.7 feet per day can be used to estimate the recharge rate of the Miraloma Basin. Assuming that the Miraloma Basin is 11 acres, the recharge capacity is estimated to be 11 acres times 2.7 feet per day, or 30 acre-feet/day. On an annual basis, this corresponds to approximately 10,000 acre-feet per year.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	Modjeska Park Parking Detention/Infiltration Facility	$ 250,000	The project utilizes an existing 37,000-square-foot parking lot (at Modjeska Park) footprint to install an underground detention/infiltration facility. It consists of the removal of the existing paving surface, excavation, and construction of inlet and outlet reinforced concrete structures, and the installation of a detention/infiltration reinforced concrete box to capture the stormwater flows from the existing 48-inch RCP storm drain flowing south along Nutwood Avenue. Stormwater captured will percolate through the basin invert and replenish the groundwater table. It also includes back filling, paving of the existing parking lot, striping, and all work shown on the construction documents.	Yes	Water Supply
South Coast	Orange	Newland Storm Channel	$ 20,000,000	The project is located at C05 to downstream of McFadden Avenue under Phase 1; and downstream of McFadden Avenue to Bolsa Avenue under Phase 2.		
South Coast	Orange	Oceanview Channel	$ 10,345,000	The project is located at the confluence with C05 to downstream of Beach Boulevard, upstream of Beach Boulevard to downstream of Newland Street, and downstream of Bushard Street to downstream Brookhurst Street.		
South Coast	Orange	Orange County Regional Stormwater Infiltration Program	$ 2,000,000	The project will create a program to develop new regional infiltration facilities and expand existing facilities to capture stormwater runoff from new development and significant redevelopment at various sites throughout Orange County where onsite capture and infiltration are feasible due to site constraints, such as soil conditions, groundwater levels, and soil or groundwater contamination, or has potential to cause or contribute to degradation of groundwater quality.	Yes	Water Quality
South Coast	Orange	Patterson Street Storm Drain Upgrade	$ 3,600,000	The Patterson Street Storm Drain Upgrade Project consists of reconstructing the existing storm drain line located underground at the intersection of Knott Street and Patterson Street. The current condition of the slope is allowing for the accumulation of stagnant water. The City plans to correct this problem by retrofitting the line to the proper physical slope.		
South Coast	Orange	Peters Canyon Channel	$ 26,600,000	The project is located at the San Diego Creek (F05) confluence to downstream of Barranca Parkway, upstream of Barranca to upstream of Warner Avenue under Phase 1; and from Barranca Parkway to Warner Avenue under Phase 2.		
South Coast	Orange	Raymond Basin Enhancement Project	$ 3,600,000	Raymond Basin is a flood control retarding basin owned by OCFCD that was constructed and placed into service in 1952. The basin is located along Carbon Creek Channel and is an important part of OCFCD's regional facility network. The basin comprises two separate basins (north and south) separated by a bypass channel with a double sideweir inlet spillway. Orange County Water District (OCWD) water sources enter the basins through concrete pipelines. OCFCD allows OCWD to recharge water, provided the inflow matches the percolation rate (i.e., no stored water). OCWD historically has used Raymond Basin during OCFCD's summer period only (from April 15 to October 15 of any given year) because OCFCD requires OCWD to have a pump station to evacuate the water in the storm season.		
South Coast	Orange	Rossmoor Storm Channel	$ 2,000,000	The project provides for a storm channel at Los Alamitos Boulevard to Farquhar Avenue (Sta. 54+34 to Sta. 78+52).		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	San Juan Creek Channel	$ 27,656,000	This project is at Stonehill Drive to 2,100 feet upstream of Stonehill Drive (Sta. 51+00 to Sta. 72+00) (right side) under Phase 5; and 2,100 feet upstream of Stonehill Drive to 6,035 feet upstream of Stonehill Drive (Sta. 72+00 to Sta. 111+35) (right side) under Phase 4.		
South Coast	Orange	Santa Ana Gardens Channel	$ 11,200,000	The project is located downstream of Alton Avenue to Segerstrom Avenue.		
South Coast	Orange	Santa Ana-Delhi Channel	$ 12,350,000	The project is located at the Back Bay, downstream of University Avenue to downstream of Mesa Drive.		
South Coast	Orange	Santa Ana-Santa Fe Channel	$ 21,000,000	The project is located at the confluence of the channel with F06 to upstream of Redhill Avenue.		
South Coast	Orange	Santa Margarita Water District Gobernadora Multipurpose Basin Project	$ 9,009,085	Components of this project include the following: 1) Urban runoff water quality basin to improve water qualify for downstream riparian and wetlands areas 2) Stormwater detention basin to protect downstream wetlands and riparian habitat from further erosion and deposition damage 3) Collection system to capture and harvest drainage flows for recycled water use in the existing Portola Reservoir 4) Regional trail link for overall trail connection from Thomas F. Riley Park to Caspers Wilderness Regional Park	Yes	Water Quality
South Coast	Orange	Serrano Creek Restoration Plan	$ 3,345,212	Serrano Creek, a tributary of San Diego Creek, drains an area of about 2,590 acres in the upper watershed for the Newport Bay. Serrano Creek is in the Newport Bay Watershed. The Newport Bay currently has a Sediment TMDL, which is linked in part to the severely eroding banks in Serrano Creek. The banks of Serrano Creek have undergone substantial erosion due to upstream development in recent years. As a result, private property and public trails are at risk, riparian habitat is degraded and open space has been lost. In general, sediment supply to the unimproved stream has been reduced and local runoff has increased both in peak flow and duration. This project will implement bank stabilization and restoration measures for portions of Serrano Creek Reach 2, between Trabuco Road and Portola Parkway, in the City of Lake Forest.	Yes	Water Quality
South Coast	Orange	Trabuco Creek Channel	$ 25,800,000	The project is located 300 feet upstream of the confluence to 300 feet upstream at Del Obispo Street (Sta. 19+00 to Sta. 42+20) under Phase 7, and 300 feet downstream of Del Obispo to 1,600 feet upstream of Del Obispo (Sta. 42+20 to Sta. 61+00) under Phase 8.		
South Coast	Orange	Westminster Channel	$ 37,900,000	The project is located is from Bolsa Chica Road to upstream Springdale Street/Edinger Avenue, and from upstream Springdale Street/Edinger Avenue to downstream Bolsa Avenue.		
South Coast	Orange	Wood Canyon Emergent Wetland Project	$ 204,000	This project provides construction of emergent wetland to enhance habitat, support functions/values, improve water quality, and mitigate channel incision, degradation, and flooding.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Orange	Yockey/Newland Storm Drain Line B-5 Phase 2	$ 5,067,000	The City of Garden Grove is proposing to construct the Yockey/Newland Storm Drain Phase 2. In actuality, this project is part of a larger project that encompasses a total of six separate phases, which were identified as priority number one in the City's Master Plan of Drainage. Phase 1 of the Yockey/Newland project was successfully completed in June 2010. The flood control project involves construction of a new storm drain to reduce flooding in the southwest area of the City between Newland Street and Magnolia Avenue from the Westminster Channel to Stanford Avenue. The storm drain conveyance lines L1 through L8 of B5 will be constructed 11,700 feet in length and have lines ranging from 18 inches to 102 inches. Cost for this portion of the storm drain is estimated to be $4.4 million,		
South Coast	Riverside	Alessandro Dam Outlet Modification	$ 338,000	This project will reconstruct and restore the Alessandro Dam outlet structure to prevent blockage from sediment accumulation and improve the seismic stability of the dam, in accordance with State Division of Safety of Dams guidelines.		
South Coast	Riverside	Arroyo Del Toro Channel	$ 7,306,450	The project provides for channel improvements along Arroyo Del Toro Channel from Elsinore Outlet Channel downstream of State Highway 74 to approximately 3,800 feet to I-15 in the northwest direction.		
South Coast	Riverside	Bedford Wash and Temescal Wash Flood Protection Corridor Project	$ 6,435,000	The proposed project, in conjunction with surrounding projects, which includes the Dos Lagos Redevelopment Area, represents a model mixed land use approach designed to reclaim a 600-acre area damaged by more than 70 years of silica mining extraction and processing, and general manufacturing activity. The restoration of Bedford Wash and Temescal Wash, in combination with the balanced and sustainable approach to the redevelopment of the larger and surrounding area, makes this a unique and important project. The remediation, restoration, and preservation of Bedford and Temescal Washes will integrate with surrounding development and ongoing land use planning efforts such as the preservation of 135 acres of open space, linking the 13,000-acre Lake Mathews-Estelle Reserve with restoration activities to Temescal Wash.	Yes	Ecosystem
South Coast	Riverside	Box Springs Dam Outlet Modification	$ 338,000	This project will reconstruct and restore the outlet structure to prevent blockage from sediment accumulation and to improve the seismic stability of Box Springs Dam in accordance with State Division of Safety of Dams guidelines.		
South Coast	Riverside	Calimesa - Avenue L Storm Drain	$ 4,640,240	This project provides storm drain improvements in the City of Calimesa from an existing culvert under I-10 near County Line Road east to Calimesa Boulevard then south in Calimesa Boulevard to Avenue L and east in Avenue L approximately 2,500 feet.		
South Coast	Riverside	Corona - East Grand Boulevard Storm Drain	$ 686,600	This is a design-build project for a new underground storm drain in Grand Boulevard from 91 Freeway upstream to 7th Street in the City of Corona.		
South Coast	Riverside	Corona - South Joy Street Storm Drain	$ 782,000	This project provides for construction of an underground storm drain in Joy Street extending from Sixth Street to Second Street in the City of Corona.		
South Coast	Riverside	Corona - South Victoria Avenue Storm Drain	$ 664,000	This project provides for construction of a new underground storm drain along South Victoria Avenue from East Seventh Street to East Second Street in the City of Corona.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Corona Drain Line 9a	$ 1,150,000	The project provides an extension of an existing storm drain in Magnolia Avenue from Mt. Wilson upstream to Kellogg Avenue in the City of Corona.		
South Coast	Riverside	Corona Drain, Line 1-G	$ 424,450	This project provides for completion of a storm drain project previously abandoned by a contractor.		
South Coast	Riverside	Corona Drains - Main Street Storm Drain	$ 763,710	This is a design-build project for a new underground storm drain along Main Street between Eighth Street and Tenth Street in the City of Corona.		
South Coast	Riverside	Corona Master Drainage Plan (MDP) Line 5	$ 937,000	The project provides storm drain improvements in the City of Corona along Railroad Street between Oak Street Channel and Shale.		
South Coast	Riverside	Corona Master Drainage Plan Line 52	$ 2,901,100	This is a design-build project for a new underground storm drain extending from E. Grand Boulevard/91 Freeway, running along Pearl Street and Burlington Northern and Santa Fe (BN&SF) Railroad right-of-way to the Temescal Creek Channel in the City of Corona.		
South Coast	Riverside	Day Creek Line J	$ 2,649,320	This is an extension of the Zone 1 project located entirely in Zone 2, which is developer-driven, to complete the last link in the Day Creek Master Drainage Plan (MDP) line. Alignment, type, and total cost of facility will likely differ from the MDP concept.		
South Coast	Riverside	Eastvale Master Drainage Plan Line E-1	$ 3,781,000	This project provides for storm drain improvements along Bellegrave Avenue from County Line Channel at Hamner Avenue east approximately 1,000 feet, then north approximately 5,400 feet to the existing Line E Detention Basin. A portion of this line has been designed by Lewis Operating Group for Parcel Map 31645, but the developer project is on hold.		
South Coast	Riverside	El Cerrito Channel	$ 2,985,580			
South Coast	Riverside	El Cerrito Channel Restoration	$ 1,000,000	This project provides for replacement of 2,400 feet of the existing channel along Temescal Canyon Road northeast adjacent to Minnesota Road. A detailed cost estimate has not yet been prepared.		
South Coast	Riverside	Green Acres Dam and Outlet	$ 2,008,000	This project consists of Feasibility Study to construct a retention basin and associated outlet structure near Cortrite Avenue and Los Limones Lane. The project concept is 20 years old.		
South Coast	Riverside	Harrison Dam Outlet Modification	$ 338,000	This project will reconstruct and restore an outlet structure to prevent blockage from sediment accumulation and improve the seismic stability of the Harrison Dam in accordance with State Division of Safety of Dams guidelines.		
South Coast	Riverside	Heacock Channel-Sunnymead Line B	$ 4,007,820	This project provides for storm drain improvements along Heacock Street from Perris Valley Channel Lateral A north to Cactus Avenue. The project is no longer a USACE project and will be re-scoped as a locally funded project to minimize private property funding east of Heacock Street.		
South Coast	Riverside	Hemet Master Drainage Plan Line C Stage 4	$ 4,033,440	This project provides for an underground storm drain in Whittier Boulevard, extending from the existing storm drain at Palm Avenue east to San Jacinto Street. Originally planned to extend only to Santa Fe Street the project limits have been extended at the request of the City of Hemet.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Homeland Master Drainage Plan Line 2 Stage 2	$ 675,840	The project consists of a drainage master plan for the study area between the existing Wakefield basin and Agnew Avenue.		
South Coast	Riverside	Lake Mathews Watershed Master Water Quality Improvement Project Phase II	$ 8,000,000	The Drinking Water Quality Master Plan (DWQMP) was completed in the early 1990s through an active partnership between Metropolitan Water District of Southern California, Riverside County FCWCD, and the County of Riverside. The DWQMP investigated the effects that development may have on lake water quality and recommended steps to reduce non-point source pollution into Lake Mathews. The Cajalco Creek Dam and Detention Basin were constructed as Phase I of that plan. The project partners are updating the watershed study based on updated development projections, changing regulatory environment, and state-of-the-art stormwater treatment options. Phase II of the project will implement the updated recommendations and consist of infiltration basins, extended detention basins, constructed wetlands, and/or other BMPs located strategically along Cajalco Creek and other watershed tributary drainages. The Phase II project components will coordinate with site-specific BMPs to be implemented by new development in the watershed.	Yes	Water Quality
South Coast	Riverside	Lakeland Village - Adelfa Channel	$ 3,193,290	This project provides for storm drain improvements from Lake Elsinore southwest in Maiden Lane to Cottrell Boulevard, then west in Cottrell to a sump west of Adelfa Street and from Maiden Lane at Cottrell south in Landerville Boulevard to Anthony Avenue and west in Anthony to sump.		
South Coast	Riverside	Lakeland Village - Orange Street Lateral	$ 455,160	The project consists of improvements of a small lateral to Lime Street Channel, 700 linear feet in length, from the existing Lime Street Channel west along Fairview Street and south along Orange Street.		
South Coast	Riverside	Lakeland Village Master Drainage Plan	$ —	The MDP will depict a proposed stormwater drainage system that, when constructed in conjunction with the ultimate street improvements will provide protection against the 100-year flood discharge and alleviate the primary sources of flooding within the MDP area. The plan will include an estimate of facility capacity, sizes and costs. The MDP will serve as a guide for the long-term planning and future construction of the proposed drainage facilities. The plan will provide the approximate location and size of drainage facilities that need to be constructed by the District and/or others private interests to resolve existing flooding problems within areas already developed. Alternatives include a combination of water quality basins, debris basins, main line drainage facilities with laterals, and floodplain buy-outs.		
South Coast	Riverside	Lakeview Master Drainage Plan Lateral D-1	$ 181,000	This project provides storm drain improvements from Yucca Street easterly in 11th Street, Bell Avenue and Brown Avenue to Lakeview Dam Outlet.		
South Coast	Riverside	Lakeview/Nuevo Master Drainage Plan Line K	$ 3,324,000	This project provides storm drain improvements from an outlet west of Reservoir Avenue easterly in Apricot Avenue to Banner Street.		
South Coast	Riverside	Leach Canyon Dam Outlet Structure Modification	$ 276,000	This project will reconstruct the outlet structure to prevent blockage from sediment accumulation in Leach Canyon Dam.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Little Lake Master Drainage Plan, Line B	$ 7,735,080	This project provides for construction of an underground storm drain from just north of Berkeley Avenue, south in Meridian Street to Whittier Avenue.		
South Coast	Riverside	Little Lake Master Drainage Plan, Line B Stage 2	$ 6,072,400	This project is an underground storm drain extending from an existing storm drain in Meridian Street near Berkeley Avenue, south in Meridian Street to Whittier Avenue. The preliminary alignment and pipe sizes for the Line B Storm Drain were established as part of an overall revision to the Little Lake Master Drainage Plan.		
South Coast	Riverside	Mary Street Dam Outlet Modification	$ 338,000	This project will reconstruct and restore an outlet structure to prevent blockage from sediment accumulation and to improve the seismic stability of Mary Street Dam in accordance with State Division of Safety of Dams guidelines.		
South Coast	Riverside	Master Drainage Plan Enhancement and Implementation in Riverside County	$ 205,000,000	This project proposes updates to the District's MDPs to reflect current environmental constraints. An update will result in plans that make environmental benefits a priority, identify retrofit opportunities, and utilize regional opportunities for environmental mitigation (for TMDLs, municipal separate storm sewer system [MS4] permit compliance). This project would construct un-built MDP facilities and retrofit existing flood control facilities in the Anza, Murrieta, and Wildomar Master Plans.	Yes	Ecosystem
South Coast	Riverside	Mead Valley Master Drainage Plan Line A	$ 3,012,940	This project provides storm drain improvements from Alexander Street east to the vicinity of Brown Avenue, including Lateral A-2.		
South Coast	Riverside	Mira Loma-Beach Street Storm Drain	$ 4,534,100	The project consists of storm drain improvements for the proposed outlet just south of 58th Street proceeding north through private property and then Beach Street to just north of 55th Street where it again splits property lines to 54th Street, then both east to a sump pump in Cedar Street and west to a sump pump in Rutile Street.		
South Coast	Riverside	Mockingbird Canyon	$ 1,032,320	The project provides for acquisition of residences in the floodway from volunteer sellers.		
South Coast	Riverside	Mockingbird Canyon Restoration	$ 4,250,690	This project addresses Mockingbird Canyon restoration alternatives. The best long-term solution appears to be the restoration and streambank stabilization of Mockingbird Canyon Wash. Rather than collecting the debris from these areas every year, this approach focuses on improving reaches of the wash so that they become stable and vegetated over time, hence, transporting less sediment. A field investigation showed that some reaches of the wash are healthy, with good habitat, and with only a few invasive plants. However, some portions of the wash have no vegetation and erode quite heavily. Typically, this erosion occurs downstream of private driveway culverts and road crossings. To address this issue, it would be best to work toward restoring the natural wash, which would involve studying the wash as a whole, acquiring right-of-way, and stabilizing the wash over time.	Yes	Ecosystem
South Coast	Riverside	Monroe Master Drainage Plan - Monroe Channel (Stage 4)	$ 5,033,200			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Monroe Master Drainage Plan - Monroe Channel (Stage 5)	$ 8,103,900			
South Coast	Riverside	Montgomery Street Channel	$ 24,160	This project is for construction inspection only. The City of Banning intends to complete the developer-abandoned project using performance bonds.		
South Coast	Riverside	Moreno Master Drainage Plan Line K	$ 6,548,710	This project is for storm drain improvements from the existing Nason Basin northeasterly approximately 2,500 feet to Ironwood Avenue. The cost estimate in the CIP is based on an engineered channel. Preliminary engineering work on an alternative analysis has revealed that soft-bottomed channel costs are in excess of the floodplain value. More investigation is required before the project scope can be determined.		
South Coast	Riverside	Moreno Master Drainage Plan Line K - 1 Stage 3	$ 1,796,000	This project includes storm drain improvements from Stage 1 at Ironwood Avenue north in Moreno Beach Drive to Locust Avenue.		
South Coast	Riverside	Moreno Master Drainage Plan Line K-1 (to Petite Street)	$ 104,130	This project includes storm drain improvements along Petit Street from Line K east in Ironwood Avenue to Petit.		
South Coast	Riverside	Moreno Master Drainage Plan Sinclair Basin	$ 8,675,500	This project includes storm drain improvements north of the Moreno Valley Freeway (60 Freeway) near Sinclair Street.		
South Coast	Riverside	Murrieta Creek Master Drainage Plan Line A	$ 426,000	This project includes storm drain improvements from Del Rio Road to Front Street, not including the upgrade of these two undersized street crossings.		
South Coast	Riverside	Murrieta Creek Master Drainage Plan, Line D	$ 1,024,500	This project includes a potential contribution to the City of Murrieta for construction of the downstream end of the MDP line in conjunction with Guava Avenue Bridge project.		
South Coast	Riverside	Norco Master Drainage Plan Line N-1	$ 912,710	This project provides for storm drain improvements from the Norco MDP Line N-1 in 7th Street near Pedley Avenue east to California Avenue, south approximately 800 feet to the sump.		
South Coast	Riverside	Norco Master Drainage Plan Line Na-3	$ 608,010	This project provides for storm drain improvements for the Norco MDP Line NA in Sixth Street, south approximately 1,300 feet in Pedley Avenue.		
South Coast	Riverside	Norco Master Drainage Plan Line Nb	$ 934,000	This project provides storm drain improvements from an existing outlet at I-15 near Fortuna Avenue east approximately 1,800 feet to Valley View Street.		
South Coast	Riverside	Norco Master Drainage Plan Line Nb-3	$ 31,960	This project provides storm drain improvements from the outlet at Line NB south approximately 800 feet to Fourth Street, then east in Fourth Street approximately 800 feet.		
South Coast	Riverside	Norco Master Drainage Plan Line S-1	$ 1,588,600	This project provides storm drain improvements from the outlet at South Norco Channel east in Third Street approximately 2,400 feet.		
South Coast	Riverside	Norco Master Drainage Plan Line S-2	$ 913,000	This project provides storm drain improvements from outlet at South Norco Channel east in Second Street approximately 1,800 feet.		
South Coast	Riverside	Norco Master Drainage Plan Line S-5	$ 1,708,000	This project provides storm drain improvements from South Norco Channel east in Hillside Lane to Hillside Avenue.		
South Coast	Riverside	North Main Street Channel	$ 2,431,000	This project provides storm drain improvements from the outlet to Corona Drains Line 1 at Cota Street west approximately 900 feet to Oak Street Channel.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	North Norco Channel and Lateral N1d & Norco Spirit Ct Sd	$ 1,560,750	This project provides for an underground system to alleviate the flooding along Rose Court, Temescal Avenue, and Spirit Knoll Court. The project consists of two laterals—Spirit Knoll Court lateral and Line N-1D lateral—both connecting to the existing North Norco Channel.		
South Coast	Riverside	North Norco Channel and Laterals Nc, Nc-1, and N-2	$ 8,659,740			
South Coast	Riverside	North Norco Channel Line Na Stage 2 Restoration	$ 265,690	This project provides storm drain improvements from Norco MDP Line NA in Sixth Street, south approximately 1,300 feet in Pedley Avenue.		
South Coast	Riverside	North Norco Channel Stage 10	$ 2,242,890	This project is the local flood district's contribution to a joint project with the City of Norco and local developers for the upgrade of the existing channel between Parkridge Avenue and River Road. This project is not yet fully defined.		
South Coast	Riverside	Nuevo - Vista Road Storm Drain	$ 1,000,000	This project provides for construction of an underground storm drain in Vista Road extending from an outlet near the San Jacinto River north to Antelope Road and then generally north to Menifee Road.		
South Coast	Riverside	Ortega Channel Debris Basin	$ 500,000	This project provides for construction of a debris basin east of Ortega Highway and south of Grand Avenue.		
South Coast	Riverside	Perris Valley Channel	$ 294,000	This project is in the CIP to track Perris Valley Area Drainage Plan (ADP) funds.		
South Coast	Riverside	Perris Valley Master Drainage Plan Line B-7	$ 989,000	This project provides for construction of an underground storm drain extending from an outlet under I-215 near Nandina Avenue east to existing Line B.		
South Coast	Riverside	Phases 2-4 of the Homeland/Romoland Line A Master Drainage Plan	$ 16,181,233	This project is for storm drain improvements to: 1) Provide protection from historical flooding and remove impacted properties from the 100-year floodplain 2) Improve water quality by reducing top soil erosion and pollutants and by implementing water quality BMPs 3) Construct drainage basins and remove 500,000 tons of silt and debris that currently flow to the San Jacinto River, thereby assuring higher quality water supply to both Canyon Lake and Lake Elsinore 4) Provide flood control protection for Heritage High School, the fire station, existing Edison substation, businesses and homes 5) Recharge the local groundwater basin and create an infiltration area for recharge during low-level storm events 6) Create community parks, trails, and recreation facilities with drought-resistant landscaping for use by local residents 7) Facilitate new development and provide permanent jobs in an existing community that has high unemployment rates	Yes	Water Quality
South Coast	Riverside	Prenda Dam Outlet Modification	$ 338,000	This project will reconstruct and restore the outlet structure to prevent blockage from sediment accumulation and improve the seismic stability of Prenda Dam in accordance with State Division of Safety of Dams guidelines.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Pyrite Channel Bypass	$ 1,280,460	This is a cooperative project with County Economic Development Agency. The project involves construction of a channel bypass from Jurupa Channel east to Pyrite Street, north to the existing channel. The project will not bypass the entire Q100, but it will provide substantial relief to properties between Pyrite Street and Jurupa Avenue.		
South Coast	Riverside	Romoland Master Drainage Plan, Line A	$ 5,375,300	The drainage facility has been completely realigned and redesigned to account for basin additions in the Homeland area that have decreased the flow rate. Line A will be proposed as an earthen open channel west of the freeway. The portion of the line upstream of I-215 is a combination of concrete-lined open channel, reinforced-concrete box, and reinforced concrete.		
South Coast	Riverside	San Jacinto Master Drainage Plan Line C, C-4, and C-5	$ 5,969,860	This project consists of storm drain improvements from Esplanade Avenue south to Midway Street then along Midway Street to San Jacinto Street, including Lateral B south in San Jacinto Street to Menlo Avenue and Lateral C-5 east to Santa Fe Street.		
South Coast	Riverside	San Jacinto River	$ 11,287,200	This project, a joint venture with the City of San Jacinto, was conceived as a multi-year plan to construct the ultimate levee system (approximately 1,200 feet wide at river bottom) between the existing USACE levee 9,500 feet upstream of State Street, and a point about 8,200 feet downstream of Sanderson Avenue.		
South Coast	Riverside	San Jacinto River Gap Project	$ 40,000,000	The project consists of a soft-bottomed channel with levees from Sanderson Avenue to a point about 10,000 feet west and then northwest about 6,000 feet to Bridge Street. The channel will have capacity for about a 25-year storm event (31,000 cfs). There will be grade-control structures in the channel. Enhanced habitat values will be provided along the channel alignment, so it can be used as a corridor to connect the San Jacinto Wildlife Area (SJWA) between the Portrero and Davis Units of the SJWA. This project would: • Prevent flows up to the 25-year storm from spreading across agricultural land and thereby reduce nutrient loading to storm runoff • Make an important contribution toward the delisting of Canyon Lake and Lake Elsinore as impaired bodies of water • Provide critical habitat corridor linkage for the Portrero and Davis Units of the SJWA (the SJWA is the No. 1 priority habitat area in Riverside County for the Multi-Species Habitat Conservation Plan) • Provide managed habitat for the Los Angeles pocket mouse and San Bernardino kangaroo rat • Respect water rights in the region	Yes	Ecosystem
South Coast	Riverside	San Jacinto River Levee Repair Downstream State Street	$ 108,070	The project will reconstruct a segment of a damaged levee adjacent to Golden Era between State Street and Sanderson Avenue.		
South Coast	Riverside	Santa Ana River Stabilization	$ 265,630	This project provides for stabilization of a portion of the Santa Ana River to improve the integrity of the channel.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Santa Margarita Region Retrofit Opportunities Study and Program Framework	$ 70,495	This project consists of a study to identify and prioritize existing areas of development that have the potential to cause water quality impairments as a result of urbanization, as well as the development of a program framework to be used to further refine prioritizations based on water quality data analysis. The study would develop a retrofit program that can be implemented through the Upper Santa Margarita Watershed IRWM Region to holistically address water quality issues associated with urban development. This study would support the project, Water Quality Enhancements in Riverside County, to reduce impacts from hydromodification, promote LID, support riparian and aquatic habitat restoration, reduce the discharges of stormwater pollutants, and improve water quality. A focus for candidates will include areas where receiving waters are channelized, hardened, and/or eroded. It also includes the development tributary to these receiving waters, as well as developed areas generating pollutants to environmentally sensitive areas. The retrofit program framework will become part of the City's and County's ongoing stormwater management programs and will serve as guidance for these agencies to effectively implement retrofit projects. The framework will include a menu of project types and establish incentives and partnership programs. The framework also will include a tracking mechanism for completed projects and guidance for ongoing evaluation for additional retrofit program candidates.	Yes	Water Quality
South Coast	Riverside	South Norco Channel	$ 3,800,000	This project provides channel improvements from the confluence with South Norco Line SB northeast approximately 2,500 feet to Hamner Avenue.		
South Coast	Riverside	Southeast Flood Control and Water Conservation Demonstration Gardens	$ 1,800,000	This project will put into place a flood control system that will protect infrastructure and capture stormwater. The captured stormwater will be used to supply an adjacent native plant and water conservation demonstration garden facility. Approximately 250 residents are periodically isolated by roadway inundation of Terwilliger and Rim Rock Canyon Roads in southeast Anza. Inundation often lasts 1 week, preventing access of emergency, and school transport vehicles to the area. Smaller samples of sustainable landscaping will be implemented at public places along Highway 371 and two community facilities.		
South Coast	Riverside	Southwest Riverside Master Drainage Plan, Line G, G-1, and F-1	$ 2,915,610	This project consists of storm drain improvements from Lincoln Avenue south to Victoria Avenue in Meyers Street and includes Lateral G-1 to Van Buren Boulevard and Lateral F-1 to Harrison Street.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Storm Water Capture and Groundwater Recharge in the Perris North Groundwater Management Zone	$ 200,000	The program includes evaluation of stormwater capture and groundwater recharge potential in the Perris North Groundwater Management Zone. The evaluation will focus on existing and potential future stormwater retention basins and unlined portions of existing surface drains. Existing retention basins include Poorman Reservoir, Nason, and Lasselle. Existing surface drains include the Heacock, Oleander, and Perris drains and their tributaries. The program evaluation will include: • Analysis of historical and projected future stormwater runoff • Analysis of historical recharge from surface runoff • Analysis of the percolation potential of surface soils along drains and at retention basins • Percolation testing at up to five sites • Exploratory drilling at up to three sites to evaluate deep percolation potential • Identification of new facilities and requirements for O&M, and monitoring to facilitate stormwater retention and recharge		
South Coast	Riverside	Sunnymead Master Drainage Plan Line B-11	$ 184,561	This project provides reimbursement to the City of Moreno Valley for construction of ADP-eligible Master Drainage Plan storm drain. $184,561 from Sunnymead ADP funds.		
South Coast	Riverside	Sunnymead Master Drainage Plan Line G-1	$ 477,000	This project consists of storm drain improvements from existing Line G-1, Stage 1 at Sunnymead Boulevard north approximately 1,500 feet to I-60.		
South Coast	Riverside	Sunnymead Master Drainage Plan Line M-16	$ 692,000	This project consists of storm drain improvements from existing Kitching Street Channel at Alessandro Boulevard east approximately 1,300 feet in Alessandro Boulevard to its terminus.		
South Coast	Riverside	Sunnymead Master Drainage Plan Line P-6	$ 822,240	This project consists of storm drain improvements from Perris Boulevard to Shirebourn Road in Eucalyptus Avenue.		
South Coast	Riverside	Sycamore Dam Outlet Modification	$ 387,770	This project will reconstruct the outlet structure to prevent blockage by debris accumulation. This is a pilot project to develop a solution for the local flood district's six other Riverside Reservoirs.		
South Coast	Riverside	Temecula Pechanga Creek Restoration	$ 580,000	This project will reconstruct storm-damaged concrete slope protection.		
South Coast	Riverside	Temescal Creek Floodplain Acquisition	$ 10,089,280	This project provides for acquisition of floodplain area for flood protection, water conservation, and habitat mitigation banking. The scope of the acquisition is not fully defined.	Yes	Ecosystem
South Coast	Riverside	Temescal Creek-Foster Road Storm Drain	$ 2,725,640	This project consists of an underground storm drain in Foster Road from I-15 to Temescal Creek, including environmental enhancement adjacent to Temescal Creek.		
South Coast	Riverside	Tucalota Creek	$ 160,000	This project consists of channel improvements at the Sage Road (SR 3) crossing of Tucalota Creek.		
South Coast	Riverside	University Area Master Drainage Plan Line 13	$ 95,000	This project consists of storm drain improvements of 1,700 feet of underground storm drain paralleling railroad right-of-way from approximately 700 feet southwest of Kansas Avenue to University Wash.		
South Coast	Riverside	University Channel	$ 1,347,880	This project consists of storm drain improvements from Spruce Street southeast to the existing storm drain 200 feet north of Massachusetts Avenue and 660 feet west of Durahart Street.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Riverside	Valle Vista-Bethlam Avenue Storm Drain Stage 2	$ 1,883,000	This project provides for storm drain improvements for 800 linear feet of collector levee and 1,400 linear feet of 90-inch RCP, extending from the intersection of Olive and Fairview upstream to Palm Avenue, to protect a proposed school site.		
South Coast	Riverside	Valle Vista-Valle Vista Channel Extension	$ 734,700	This project includes the extension of 650 linear feet of rectangular channel and inlet works along the south side of Acacia Avenue west of Georgia Avenue.		
South Coast	Riverside	Warm Springs Channel	$ 1,423,080	This project consists of channel improvements from Madison Avenue west approximately 500 feet to the existing Stage 2 channel near Jefferson Avenue.		
South Coast	Riverside	Water Quality Enhancements in Riverside County	$ 36,500,000	The project aims to reduce impacts from hydromodification, promote LID, support riparian and aquatic habitat restoration, and reduce the discharges of stormwater pollutants and improve water quality. The project builds on the Santa Margarita Region Retrofit Opportunities Study and Program Framework, which involves identification of retrofit opportunities in the Santa Margarita Watershed. The project includes researching, inventorying and prioritizing areas of existing development (e.g., municipal, industrial, commercial, residential) as candidates for targeted retrofit projects that would reduce the impacts of existing development on the watershed. Specific outreach will occur through the education of homeowners associations, which will serve to identify the need and benefits to retrofit existing common landscaped areas. The project also involves hydromodification management, which will guide and support the planning, design, and construction of priority new and significant redevelopment projects (planned development projects) within the Upper Santa Margarita Watershed to manage increases in runoff discharge rates and durations.	Yes	Ecosystem
South Coast	Riverside	West Elsinore Master Drainage Plan, Line A	$ 183,630	This project provides for construction of a channel/line that is part of the West Elsinore Master Drainage Plan.		
South Coast	Riverside	West End Moreno Master Drainage Plan - Line Ll	$ 1,463,330	This project consists of construction of an underground storm drain from Dracaea Avenue approximately 500 feet west of Edgemont Street, then south 750 feet and southwest approximately 1,200 feet to I-215.		
South Coast	Riverside	Wildomar Master Drainage Plan Lateral C-1 (Billie Ann Road Storm Drain)	$ 1,918,000	This project combines Billie Ann Road Storm Drain and Wildomar MDP Lateral C-1. Construction includes a 66-inch RCP in Charles Street from 500 feet north of Refa Street and an 84-inch RCP from 500 feet south of Refa Street, traveling downstream in Refa Street to the existing reinforced-concrete box at Palomar Avenue.		
South Coast	Riverside	Wildomar Master Drainage Plan Lateral C	$ 7,500,000	This project consists of storm drain improvements from the existing improved channel near Pasadena Street upstream to Central Street.		
South Coast	Riverside	Woodcrest Dam Outlet Modification	$ 338,000	This project will reconstruct and restore the outlet structure to prevent blockage from sediment accumulation and will improve seismic stability of Woodcrest Dam in accordance with State Division of Safety of Dams guidelines.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	14th Street Storm Water Collection and Integration Project - Upland	$ 5,000,000	The project will provide flood protection by capturing and conveying storm flows to Upland Basin. The additional benefits such as water quality and groundwater recharge through the construction of a detention or retention basin will allow recharge of storm flows into multiple aquifer basins and the decrease of pollutants and silt transportation into downstream sensitive habitat such as Santa Ana River and Prado Dam. In addition, the proposed project will be capable of mitigating flood damage and loss of life from a potential catastrophic failure of the San Antonio Dam.	Yes	Water Supply
South Coast	San Bernardino	Antelope Valley Wash Recharge Ponds	$ 800,000	Antelope Valley Wash Recharge Ponds could provide groundwater recharge upgradient from City of Hesperia wells. The Hesperia Master Plan of Drainage identifies a 65-acre site for a stormwater detention basin in the Antelope Valley Wash south of Ranchero Road. In addition to stormwater detention, the site might be able to accommodate groundwater recharge. The Morongo Basin Pipeline passes by this area and would be the source of recharge water.	Yes	Water Supply
South Coast	San Bernardino	Cable Creek Basin and Spreading Grounds	$ 1,000,000	The proposed basin will be located at the Cable Creek Spreading Grounds and will serve as a sedimentation basin and flood storage/detention basin. The basin will reduce the peak discharge from Cable Creek at its confluence with Devil Creek Diversion Channel. The total basin volume is proposed to be 993 acre-feet.		
South Coast	San Bernardino	Cactus Basins No. 4 and No. 5	$ 21,600,000	As part of the proposed I-210 freeway construction project, Caltrans reconstructed Cactus Channel, which intercepts flows to the north of the proposed freeway and discharges into the Cactus Basins, south of the freeway. As a result of the new construction, additional flows will be collected in Cactus Channel and discharged into the Cactus Basins. Cactus Basins, therefore, will need to be enlarged to mitigate the increased flow. The Cactus Basin improvements will consist of a series of detention basins upstream of Baseline Road.		
South Coast	San Bernardino	Cactus Basins No. 3 and No. 3A	$ 10,000,000	As part of the proposed I-210 freeway construction project, Caltrans reconstructed Cactus Channel, which intercepts flows to the north of the proposed freeway and discharges into the Cactus Basins, south of the freeway. As a result of the new construction, additional flows will be collected in Cactus Channel and discharged into the Cactus Basins. Cactus Basins, therefore, will need to be enlarged to mitigate the increased flow. The Cactus Basin improvements will consist of three in-series detention basins upstream of Baseline Road. The first phase of construction will consist of improvements to Basins 3 and 3A. Surface water in the area will flow southward from the existing Cactus Channel into Basin No. 3 and from Basin No. 3 into Basin No. 3A. Surface water will then flow from Basin No. 3A through an existing reinforced-concrete box and pipe structure (located in the southwest corner of Basin No. 3A) under Baseline Road into the existing Rialto Channel and Basins 1 and 2.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	Chino Creek Multipurpose Corridor	$ 13,900,000	This project includes creation of a multipurpose green corridor along Chino Creek, including reconfiguring the channel cross section and creating floodplain terraces that will allow flood flows to dissipate energy and decrease velocities. Grade control structures will stop channel bed erosion. Bioengineering methods will be used to stabilize the bank. The project will revegetate and create 51 acres of new native vegetation, as well as create 3.2 miles of trails and 2.1 miles of riparian corridor. Sub-project areas include: • Channel restoration/grade control near Central Avenue Bridge • Bank stabilization near Kimball Avenue • Storm drainage confluence improvement near Chino Creek Park • Floodplain park near Magnolia Channel confluence and Chino Hills soccer complex • Stream restoration through El Prado Golf Course.	Yes	Ecosystem
South Coast	San Bernardino	Comprehensive Storm Drain Plan 3-5/3-8	$ 20,000,000	The local flood district is coordinating with the City of Colton on funding for the construction of the Comprehensive Storm Drain Plan flood protection project. This system protects residences, commercial properties, and major transportation corridors, including main routes to the regional hospital.		
South Coast	San Bernardino	Cushenbury Flood Detention Basin	$ 2,000,000	The project is proposed to capture runoff from the San Bernardino Mountains in the Lucerne Valley Sub-basin. Currently, large storm flows in the area drain to dry lakebeds that have low percolation rates. Consequently, the majority of water that drains to the lakebeds is lost to evaporation and never enters the basin. The project would divert storm flows to detention basins with higher rates of percolation to decrease losses from evaporation.	Yes	Water Supply
South Coast	San Bernardino	Del Rosa Channel Improvement and Repair	$ 6,955,644	The project is to improve the existing channel between Highland Avenue and Date Street in San Bernardino. The current channel is an interim facility with inadequate capacity and is experiencing failures.		
South Coast	San Bernardino	Drainage A Detention Basin	$ 5,200,000	Drainage A is a vegetated swale that transitions to a bedded channel downstream of Pine Avenue before the channel connects to Prado Lake in the city of Chino. The proposed project would be located in an open field immediately north of Pine Avenue, east of Euclid Avenue, south of Bickmore Avenue, and west of Sultana Avenue.		
South Coast	San Bernardino	Elder Creek Channel	$ 2,000,000	This is for the construction of the Elder Creek flood protection project. The project emphasizes the national goals of the Environmental Protection Agency to plan the development and use of land through preservation and enhancement of rivers, tributaries, and streams, as well as the land drained thereby.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	Enhanced Stormwater Capture and Recharge along the Santa Ana River Phase I	$ 8,000,000	The project for Enhanced Stormwater Capture and Recharge along the Santa Ana River consists of enhancing the Cuttle weir diversion structure, improvements to the existing San Bernardino Valley Water Conservation District Canal, construction of Valley District's Plunge Pool Pipeline Phase I, construction of pretreatment facilities, improvements to the existing spreading grounds and construction of new spreading grounds. The project will achieve: 1) Increased utilization of stormwater as a water supply 2) Increased storage of imported water during wet years for use during droughts 3) Increased water supply reliability 4) Improved water quality The design objectives for these facilities are 80,000 acre-feet in a single year at a maximum instantaneous flow rate of 500 cfs.	Yes	Water Supply
South Coast	San Bernardino	Enhanced Stormwater Capture and Recharge along the Santa Ana River Phase II	$ 22,000,000	This portion of the project for Enhanced Stormwater Capture along the Santa Ana River involves the construction of the Plunge Pool Pipeline Phase II. This section of pipeline would be approximately 2 miles long and 8 feet in diameter. The completion of Phase II would enable Valley District/western to convey up to 500 cfs from the Santa Ana River to the Metropolitan Water District of Southern California Inland Feeder for delivery to Western Municipal Water District and Riverside. This project will provide an average additional yield of 2,700 acre-feet a year (104,000 acre-feet over 39 years).	Yes	Water Supply
South Coast	San Bernardino	Etiwanda/San Sevaine Basins 1 through 4	$ 4,000,000	The proposed debris and sedimentation basins will capture runoff from the mountains and foothills north of the City of Rancho Cucamonga, namely from the East Etiwanda Creek and San Sevaine Creek. The proposed study will be performed such that Basins 1 through 4 may be designed and constructed to be permanent flood control facilities and perform in concert with the recently improved Etiwanda Basin 5 to provide 100-year flood protection. Also to be considered for the calculation of ultimate basin capacities will be burn events. Even though the primary function of the basins will, in fact, be to provide increased flood protection, the basins will also provide a reliable water supply, preserve and enhance the environment, ensure high-quality water, use rainfall as a resource, and maintain quality of life.	Yes	Water Supply
South Coast	San Bernardino	Francis Street Storm Drain	$ 9,000,000	Francis Street storm drain is an interim regional storm drain operated and maintained by the local flood district. The City of Ontario has identified a need to construct ultimate improvements to this facility. The City will be the lead agency, prepare construction documents and administrate construction. District cost share is 75% of the total project cost.		
South Coast	San Bernardino	Inland Empire Utility Agency Basin Recharge Project	$ 38,000,000	Inland Empire Utilities Agency is the lead agency for a proposal to use 19 existing basins within the Chino Basin to recharge stormwater and imported water.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	Lytle Cajon Basin	$ 1,000,000	The debris and sedimentation basin currently captures runoff from the mountains and foothills north of the City of San Bernardino, namely from Lytle Creek. The purpose of this proposed study is to determine the characteristics and extent of the drainage area as sediments are washed toward the basin's downstream gatehouse. An additional purpose of the study is to explore methods of operation or construction concepts that would more fully utilize the East Branch Lytle Creek Channel because, by design, it could certainly take more frequent flows and relieve the pressure from Lytle-Cajon Channel. For the past several years, the invert of Lytle-Cajon Channel has received all of the debris from the watershed drainage areas as it travels down this channel to its confluence with Warm Creek. This debris received by the Lytle-Cajon Channel has caused severe erosion and damage to the channel invert, with many areas exposed to the second layer of reinforcement bar. Even though the primary function of the basin will be to provide increased flood protection, it will also provide a reliable water supply, preserve and enhance the environment, ensure high-quality water, use rainfall as a resource, and maintain quality of life.	Yes	Water Supply
South Coast	San Bernardino	Lytle-Cajon Channel Repair	$ 5,000,000	The debris and sedimentation basin currently captures runoff from the mountains and foothills north of the City of San Bernardino, namely from Lytle Creek. The purpose of this proposed study is to determine the characteristics and extent of the drainage area as sediments are washed toward the basin's downstream gatehouse. An additional purpose of the project is to explore methods of operation or construction concepts that would more fully utilize the East Branch Lytle Creek Channel because, by design, it could certainly take more frequent flows and relieve the pressure from Lytle-Cajon Channel. For the past several years, the invert of Lytle-Cajon Channel has received all of the debris from the watershed drainage areas as it travels down this channel to its confluence with Warm Creek. This debris received by the Lytle-Cajon Channel has caused severe erosion and damage to the channel invert, with many areas exposed to the second layer of reinforcement bar.		
South Coast	San Bernardino	Mission Zanja Creek Feasibility Study	$ 1,000,000	The objective of the study will be to build upon the previous watershed planning efforts and provide viable alternatives to implement for improving water quality, and water supply aspects on a regional scale for the next generation. In addition, the study will provide avenues for responsible preservation and enhancement of the practical and sentimental values of the Zanja to the Native Gauchama Indians and its place in the National Register of Historical Places through potential partnerships in recreational and educational uses. The goals of the study focus on solving the flooding issues and implementing economic and environmentally viable alternatives for the long-term vision.	Yes	Water Quality

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	New Model Colony Storm Drain Project - Ontario	$ 13,600,000	The New Model Colony Storm Drain Project is a part of a long-term planned solution to a regional stormwater flood risk condition in an unimproved agricultural preserve in the City of Ontario's New Model Colony. Stormwater conveyance is critical to the overall regional improvement of storm drain risk management. The project provides stormwater drainage improvements on three arterial roadways within the New Model Colony area with a combination of source control, low-impact surface retention and treatment features, and drainage conveyance structures.		
South Coast	San Bernardino	Pine Avenue Storm Drain Project - Chino	$ 4,900,000	The project will construct stormwater drainage facilities, including a new box culvert, grading, and channel to avoid or reduce street flooding. Pine Avenue is a primary east-west regional arterial connecting commuter traffic, as well as local and interstate distribution, through the Inland Empire. Closure of the roadway due to flooding results in significant impacts to regional commuter and truck traffic flow, as well as an increase in the region's State and Interstate highway traffic. Deterioration of adequate stormwater conveyance in the Chino Preserve continues to threaten the viability public infrastructure, private property, local business, and the ability for the City to provide adequate emergency response. Completing this project substantially would address flood protection while supporting efforts to enhance water quality and impacts from erosion and sedimentation.		
South Coast	San Bernardino	Plunge Creek Spillway	$ 1,365,611	The project is to excavate the lower portion of the existing spillway to a depth of 8 feet and a radius of 250 feet around the base of the spillway to determine the location of the existing damaged structure. Construction activities will include cutoff walls, replacement of a lower invert section, invert repair and overlay, spillway walls, stilling basin rock pad, rock slope protection, and reinforced-concrete wing walls.		
South Coast	San Bernardino	Rialto Channel at Riverside	$ 4,592,636	This is for construction of the Rialto Channel flood protection project. The proposed improvements will reduce the potential for major flooding along the project site and preserve the safety and well-being of both life and structures. The improvements will provide and sustain vital infrastructure necessary to allow the community to continue to grow.		
South Coast	San Bernardino	Rimforest Drainage	$ 1,500,000	The village of Rimforest has eroding cliff-side property and bluff retreat in the southern part of the village. This problem is primarily caused by storm runoff from rainstorms and snowmelt after winter storms. The runoff flows to the south side of Rimforest and is discharged over the cliff at two principal locations. This study evaluated a number of options to redirect the majority of the runoff to other discharge locations to reduce and mostly eliminate the cliff-side erosion. Two options presented in this study appear to be feasible if new conventional storm drain systems are installed.		
South Coast	San Bernardino	San Timoteo Basin Cleanup	$ 5,000,000	This project provides for the study of methods to reduce the amount and frequency of sediment deposited into San Timoteo Basins 1 through 18.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	Sand Creek/Warm Creek Confluence	$ 3,239,799	This is to construct the Sand and Warm Creeks flood protection and water conservation project. The proposed improvements will reduce the potential for major flooding along the project site and preserve the safety and well-being of both life and structures. The improvements will provide and sustain vital infrastructure necessary to allow the community to continue to grow.		
South Coast	San Bernardino	Turner Basin Improvements	$ 13,453,000	The project area includes flood control channels, water conservation basins, and regional park facilities. The property is located between I-10 and 4th Street, and it is bifurcated by Archibald Avenue. Archibald Avenue, a major collector street, is one of the main transportation corridors into Rancho Cucamonga from I-10 and Ontario and is essentially a "gateway" into Rancho Cucamonga. In 2003, Inland Empire Utilities Agency with the Chino Basin Watermaster constructed water conservation facility improvements, including expansion of the stormwater retention basins. The improvements are to capture and conserve additional stormwater, including improvements on the western area of the Turner Basin site. The Turner Basin Improvements will be a multibeneficial use project that maximizes the use of the Turner Basin site by constructing stormwater capture basins, groundwater recharge basins, wetlands, native landscaping, road way improvements, recreation open spaces, educational trails about conservation and local history, and flood control improvements.	Yes	Water Supply
South Coast	San Bernardino	West Fontana Basin	$ 10,000,000	The proposed project is the basin portion of an overall project that will include the expansion and lining of the existing West Fontana Channel and construction of a flow-by basin along the alignment and at an existing quarry pit (near Tokay Avenue). The existing channel is currently 12 feet wide and unlined. The design of the channel improvements, including the flow-by basin, has been selected from eight alternatives submitted by the County to the Regional Water Quality Control Board. The alternative selected would convey the 100-year flow of 3,515 cfs safely to Banana Basin and provide the adequate freeboard using the San Bernardino County Flood Control District right-of-way. Even though the basin's primary function will be to provide increased flood protection, it will also provide a reliable water supply, preserve and enhance the environment, ensure high-quality water, use rainfall as a resource, and maintain quality of life.	Yes	Water Supply
South Coast	San Bernardino	West State Street Storm Drain	$ 9,000,000	This project is the final construction for the three-part system upstream from Central Avenue to Mountain Avenue. Estimated construction cost for this channel portion is $9.143 million. Segments I and II were completed in June 2003.		
South Coast	San Bernardino	Wildwood Channel	$ 2,315,849	This project will construct Wildwood Creek flood protection to reduce flood hazard risk in the area, incorporating preventative floodplain management tools. The project emphasizes the national goals of the Environmental Protection Agency to plan the development and use of land through preservation and enhancement of rivers, tributaries, streams, as well as the land drained thereby.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Bernardino	Wilson Creek Channel	$ 1,013,416	Wilson Creek is one of the two major tributaries conveying water within the City of Yucaipa. Its lower reaches, from 13th Street to the western limits of the city, are anticipated to be modified to a trapezoidal earthen channel section with riprap channel banks ranging between 1.5:1 and 2.5:1 side slopes. The length of this improvement is approximately 5,315 feet. To minimize erosion, three drop structures are proposed, which will allow the channel to be constructed at a moderate slope of 1%. Grade-control dams will be located at 500-foot intervals for velocity and erosion control. Required right-of-way for this reach of the channel will be approximately 160 feet downstream of Dunlap Boulevard and 115 feet for a distance of 1,900 feet upstream of Dunlap Boulevard as proposed in the MDP. Two stormwater detention basins are proposed in the Wilson Creek watershed upstream of the project site. One, with a storage capacity of 103 acre-feet, is proposed upstream near the east side of Second Street. The second, with a capacity of 231 acre-feet, is proposed on the Oak Glen Wash tributary on the east side of Second Street, as a means of controlling peak runoff rates downstream at the confluence Live Oak Creek.		
South Coast	San Diego	11th Street Drainage Improvements - Ramona	$ 3,600,000	This project will replace the existing 54-inch culvert with a 96-inch by 84-inch RCP system capable of conveying the required flow. The project is located on 11th Street between D Street and Main Street.		
South Coast	San Diego	Aliso Canyon Road Drainage Improvements	$ 3,900,000	This project replaces 2,100 feet of existing drainage culvert along Aliso Canyon Road.		
South Coast	San Diego	Alpine Creek Improvements	$ 1,700,000	This project will improve the flow capacity of Alpine Creek from Alpine Boulevard to Tavern Road.		
South Coast	San Diego	Anna/University Upsize - Vista	$ 2,068,576	Utility improvements associated with the project would consist of the relocation of some existing utilities and infrastructure, including existing storm drain inlets, sewer manholes, and water valve cans.		
South Coast	San Diego	Avenida de la Playa Storm Drain Upgrades and Dry Weather Diversion	$ 5,757,470	The project is designed to address the persistent problem of flooding along Avenida de la Playa in La Jolla and reduce bacteria loads to the Area of Special Biological Significance as a result of stagnation in the existing storm drain system. The current storm drain system is undersized and is unable to adequately convey stormwater flows from even moderate storms. As a result, flooding occurs, which damages local infrastructure, residences, and businesses. The project will address this issue by installing larger storm drains that will reduce the amount of flooding that occurs. This project will install a new outfall that will help rectify these issues and reduce flooding.		
South Coast	San Diego	Bonita Road Culvert Crossing - Chula Vista	$ 950,000	This project will reconstruct the crossing as reinforced concrete box culvert, redirect flow. Construct may coincide with the Willow Street Bridge project currently in design.		
South Coast	San Diego	Bonsall Landfill Slope Repair and Drainage Improvements	$ 837,000	This project includes repair of slope, access roadways, and upgrade stormwater conveyance systems to improve surface storm drainage onsite.		
South Coast	San Diego	Brookside Creek Drainage Improvements - Spring Valley	$ 1,637,000	The project will construct drainage channel improvements to convey the 100-year storm from 150 feet south of Lamar Street to 100 feet northwest of Central Avenue.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Calavo Drive Drainage Improvements - Valle de Oro	$ 850,000	The project will replace the existing 60-inch RCP culvert with a system capable of conveying the required flow.		
South Coast	San Diego	Campo Creek Watershed Groundwater Management Plan	$ 1,000,000	This project would design and install an approved streambed and bank, as well as habitat stabilization and enhancement in a section of the valley and creek bed where extreme erosion has occurred. This would enhance groundwater recharge, greatly reduce downstream erosion and sediment transport, and revitalize the local valley, creekbed and habitat.	Yes	Ecosystem
South Coast	San Diego	County of San Diego Chollas Creek Runoff Reduction and Groundwater Recharge Project	$ 1,600,000	The Chollas Creek Runoff Reduction and Groundwater Recharge Project is a project to reduce runoff from five County of San Diego facilities in the Chollas Creek subwatershed of the Pueblo San Diego hydrological unit. These facilities occupy sites that are highly impervious and could be retrofitted with LID components to reduce runoff and promote infiltration. Because each of the properties has been developed to facilitate public access, and each site consists, in part, of significantly sized impervious parking lots, one component of this project will be to use what has been learned to date about porous pavements in the Porous Pavement and Model Municipal Operations Demonstration Project as the basis for retrofitting portions of the parking lots with porous pavement over stone reservoirs to capture runoff from the parking lots, and, where feasible, to capture runoff from roof drains. The second major component of the project includes the application of other stormwater BMPs at the five County facilities that demonstrate both vegetated roof systems and the capture/reuse technologies, as well as landscape elements such as rain gardens. With an average annual rainfall of about 10 inches per year, greater attention must be given capturing and reusing as much rainfall as possible. This project will demonstrate techniques to capture rainfall and to infiltrate or return to the atmosphere rainwater that cannot be captured and reused. The purpose of this retrofitting is to prevent runoff from these impervious surfaces from transporting pollutants—particularly copper, lead, and zinc—that have been directly deposited not only on the properties through atmospheric deposition and through the storm drain system but also to Chollas Creek, which has been listed as impaired by copper, lead, and zinc and is the subject of a TMDL currently proposed for approval by the San Diego Regional Water Quality Control Board.	Yes	Water Supply
South Coast	San Diego	De Luz Road and Channel Repairs	$ 975,000	The proposed project entails roadway and embankment repair, fence replacement, traffic striping, and restoration of two spillways. A temporary asphalt concrete patch will be removed and replaced with an asphalt concrete pavement section covering approximately 1,500 square feet of existing roadbed near the Santa Margarita River Bridge for De Luz Road. Damaged asphalt concrete dikes will be removed and replaced over a distance of approximately 450 feet. The road fill prism on the south bridge approach will be armored with installation of a riprap slope on the upstream and downstream faces. To protect the road from future runoff damage, this riprap slope will extend 12 feet underground or to the bedrock in the area, whichever is reached first.	Yes	Transportation

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Dehesa Road Drainage Improvements - Crest/Dehesa	$ 720,000	Project will replace the existing two 69-inch by 38-inch pipe culverts on Dehesa Road, 0.8 mile west of Sloane Canyon Road, with a system that is capable of conveying a 100-year storm.		
South Coast	San Diego	Del Dios Highway Drainage Improvements - San Dieguito	$ 690,000	This project will replace the existing 42-inch RCP culvert with a system capable of conveying the required flow.		
South Coast	San Diego	East Los Coches Road Drainage Improvements - Lakeside	$ 4,100,000	This project will replace the existing 60-inch pipe with a larger pipe, south of East Los Coches Road, between Calle De Buena Fe and Aurora Drive.		
South Coast	San Diego	Eucalyptus Parallel - Vista	$ 1,990,872			
South Coast	San Diego	F Street Drainage Improvements - Chula Vista	$ 580,000	Over the years, several small midsized corrugated metal pipes (CMP) have been installed in this area. Several of the pipes have deteriorated and are starting to fail. Due to the number of pipes in the area, simply replacing or lining the pipes is not the appropriate solution.		
South Coast	San Diego	Ferrara Parallel - Vista	$ 544,669			
South Coast	San Diego	Foothill/Bobier Upsize - Vista	$ 2,127,587	This project has been separated from the annual Street Rehabilitation and Maintenance (CIP #8037) due to the scope of the work. The project will reconstruct the portion of Foothill Drive between Beverly Drive and Vale Terrace. The project has four segments, including the following: • Beverly Drive to Warmlands Avenue (Segment 3) • Warmlands Avenue to north of Troy Place (Segment 4) • North of Troy Place to south of Vine Circle (Segment 5) • South of Vine Circle to Vale Terrace (Segment 6) Each segment will be reconstructed to 24 feet wide with an asphalt concrete dike on each side to control drainage. Segment 5 (north of Troy Place to south of Vine Circle) will be reconstructed as a semi-rural arterial and will be 28 feet wide with a concrete curb and gutter. A graded disintegrated granite walkway for pedestrians will be installed on the east side of Foothill Drive between Vale Terrace Drive and north of Troy Place to serve the new Rancho Minerva Middle School.	Yes	Transportation
South Coast	San Diego	Forester Creek Improvement Project	$ —	This funding is being requested to widen the Forester Creek Channel and to restore ecosystem function to the last viable stretch of Forester Creek before it enters the San Diego River. In its current condition, the creek in Santee has a channel width of 75 to 100 feet and can carry only a 10-year flow between its banks. The newly widened channel is designed to achieve 100-year flood capacity and will have a top width varying from 181 feet to 358 feet. Exotic plant species will be removed from the project area. Approximately 17 acres of native riparian vegetation will be created through a planting and plant establishment program.	Yes	Ecosystem
South Coast	San Diego	Galaxy Upsize -Vista	$ 1,072,677			
South Coast	San Diego	Goodwin Upsize - Vista	$ 1,465,560			
South Coast	San Diego	Hilltop Drive Drainage Improvements - Chula Vista	$ 500,000	The project will install inlets, cleanouts, and RCP.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Hilltop Drive/L Street Drainage Improvements - Chula Vista	$ 100,000	The project will redesign existing swale, install one cleanout and 350 feet of RCP.		
South Coast	San Diego	Idaho Avenue Drainage Improvements - North County Metro	$ 530,000	Project will replace the existing drainage culvert under Idaho Avenue.		
South Coast	San Diego	Implementing Improvements to the Rose Creek Watershed: Controlling Invasive Exotic Species	$ 742,500	This IRWM Plan proposal will support the removal and subsequent restoration of approximately 68 acres of invasive exotic plants in the Rose Creek Watershed in a manner to maximize improvements in water quality, biological diversity, enhanced public safety, reduced fire risk and enhanced community connections. The final acres of removal/restoration area will depend on the amount of funds awarded as removal costs vary depending on the species and difficulty of terrain, which varies throughout the watershed.	Yes	Ecosystem
South Coast	San Diego	La Jolla Shores Ocean Protection Project	$ 2,192,000	The project has three components. 1) *Irrigation Runoff Reduction* - Irrigation runoff from the western portion of the University of California, San Diego and Scripps Institution of Oceanography campus drains directly into Area of Special Biological Significance No. 31. Portions of the irrigation water distribution system will be improved to reduce water use and prevent irrigation water from discharging into the stormwater conveyance system. Improvements will include installing system controllers to automatically adjust irrigation times in response to changing daily evapotranspiration values and optimize the watering of poor drainage sites, slopes, and heavy soil areas. 2) *Pollutant Source Reduction* – The University of California at San Diego and the Urban Corps of San Diego will partner to implement BMPs throughout the La Jolla Shores watershed to reduce or eliminate the discharge of pollutants into the ocean, including nonstormwater discharges. 3) *Kellogg Park Green Lot LID* - This LID component will remove the western half of the asphalt paving of the Kellogg Park parking lot in the Peñasquitos Hydrologic Unit (HU) and replace it with porous concrete. The porous paving will allow urban runoff to infiltrate into the ground instead of discharging directly to the storm drain system, adjacent La Jolla Shores beach, and the ASBS. Educational outreach to the surrounding community will also be conducted regarding the benefits of the project in preserving and improving the quality of urban runoff and ultimately the nearby La Jolla Shores beach.	Yes	Water Quality
South Coast	San Diego	Lake Wohlford Dam Replacement Project - Escondido	$ 15,798,100	This project would reduce seismic-related flooding hazards associated with the existing Lake Wohlford Dam, which is 114 years old and classified as seismically unstable. This issue would be resolved by replacing the existing Lake Wohlford Dam with a seismically sound earth-core rock fill dam. Replacing the existing Lake Wohlford Dam would substantially reduce infrastructure, ecosystem, public safety, and health impacts that are associated with potential flooding hazards.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Loma Alta Lagoon Acquisition and Restoration	$ —	A restoration plan will be developed to provide guidance and designs for restoration of the five parcels. By enlarging the lagoon in the area of these five parcels, a bottleneck would be removed allowing water to fan out and reduce flooding upstream from the lagoon. Implementation of the restoration plan will include acquiring all necessary permits and installation of native plants. Public access to the restored area would be allowed, but in a confined area of the project. A kiosk and parking area would be designed into the plan allowing access to residents and visitors. This would provide an opportunity for students to tour the site and possibly be involved in the actual project restoration.	Yes	Ecosystem
South Coast	San Diego	Los Angeles Parallel and Upsize - Vista	$ 4,308,605			
South Coast	San Diego	Lower S Santa Fe Upsize - Vista	$ 3,525,982			
South Coast	San Diego	Melrose Upsize - Vista	$ 1,477,440			
South Coast	San Diego	Melrose/SR-78 Parallel - Vista	$ 827,519			
South Coast	San Diego	Mercantile Parallel - Vista	$ 2,361,728			
South Coast	San Diego	Mesamint Street Drainage Improvements	$ 2,500,000	This project improves the existing drainage system along Mesamint Street and Thornmint Street with a system capable of conveying the 100-year storm.		
South Coast	San Diego	Middle South Santa Fe Parallel and Upsize - Vista	$ 1,626,598	This project will upsize 12-, 8-, and 6-inch sewer lines to 18-, 15-, and 12-inch lines along S. Santa Fe Avenue, Mercantile Street, and Pala Vista Drive between Main Street and Rincon Street.		
South Coast	San Diego	Naturalize Telegraph Canyon Creek Channel in the City of Chula Vista at San Diego Bay	$ —	The project will purchase property, demolish the concrete-lined channel, and restore a naturalized channel from the San Diego Bay to approximately 800 feet eastward; creating freshwater and coastal wetland and riparian habitat.		
South Coast	San Diego	North Santa Fe/Citrus Parallel and Upsize - Vista	$ 3,018,111	This project has been separated from the annual Street Rehabilitation and Maintenance (CIP# 8154) due to the scope of the work. This project will install a permanent storm drain system along N. Santa Fe Avenue for approximately 1,500 linear feet to address a groundwater problem. The project will repair and rehabilitate distressed pavement areas on Bobier Drive between N. Santa Fe Avenue and the City's western city limit east of N. Melrose Drive by resurfacing with asphalt concrete, which will include dugouts, skin patching, shoulder grading, traffic loops replacement, adjusting manholes to grade, restriping, and preservation of the well survey monuments.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Olive/Maryland Upsize - Vista	$ 935,912	This project provides for design and construction to widen pavement, install sidewalks, improve storm drains, acquire right-of-way, and stripe for Class III bike lanes and parking. This project includes sidewalks on the east side of the street. Tasks to complete the project include detailed design and construction of the project. Phase I was completed in September 2006, which constructed improvements from Olive Avenue to Rose Drive. Phase II will construct improvements from Rose Drive to Highland Drive, including Maryland Court, Rose Court, and a portion of Olive Avenue.	Yes	Transportation
South Coast	San Diego	Otay River Channel Improvements - Chula Vista	$ 500,000			
South Coast	San Diego	Palm Avenue Drainage Improvements - Chula Vista	$ 300,000	This project will install four inlets, two cleanouts, and 2,000 feet of RCP and headwall.		
South Coast	San Diego	Pepper Drive Drainage Improvements	$ 4,700,000	This project provides improvements to the drainage facilities on Pepper Drive from Castlewood Drive to Mollison Street.		
South Coast	San Diego	Redlands Parallel - Vista	$ 2,485,874			
South Coast	San Diego	Roosevelt Street Drainage Improvements - Chula Vista	$ 60,000	This project would construct a new curb inlet near the corner at the north side of Roosevelt, and if possible, tie into the westerly storm drain.		
South Coast	San Diego	San Marcos Creek Floodway Improvement Project	$ 12,158,258	The objective of this project is to contain the 100-year storm flows within the channelized area of San Marcos Creek so that disadvantaged areas adjacent to the creek are removed from the floodplain. The project would restore native riparian vegetation within the regraded channel to increase nutrient uptake and reduce sediment flowing downstream into Lake San Marcos.	Yes	Ecosystem
South Coast	San Diego	San Vicente Road Drainage Improvements - Ramona	$ 920,000	The project will replace two existing 30-inch by 15-inch culverts with a larger culvert under San Vicente Road.		
South Coast	San Diego	Santa Fe Place/Postal Upsize - Vista	$ 1,130,207	This project will upsize 12-, 8-, and 6-inch sewer lines to 18-, 15-, and 12-inch lines along S. Santa Fe Avenue, Mercantile Street, and Pala Vista Drive between Main Street and Rincon Street.		
South Coast	San Diego	Santa Maria Creek Flood Protection Corridor	$ 65,000,000	This project includes a significant, far-reaching plan to preserve and protect from development a number of ranches of more than 1,000 acres that are located around the town site. There is pressure to develop in this rare coastal upland grassland, much of which constitutes a riparian/seasonal wetland area. This project promises to set aside a large area, then rebuild the creek and the native habitat to slow the waters, slow the erosion, and restore the riparian zones on Santa Maria Creek.	Yes	Ecosystem
South Coast	San Diego	SR-78/Hacienda Parallel - Vista	$ 2,574,113			
South Coast	San Diego	Stabilization and Restoration of Bonita Canyon Creek - a Tributary of the Sweetwater River	$ —	The project will accomplish slope stabilization, channel restoration, and revegetation of the degraded earthen channel with native riparian species.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	San Diego	Stabilization and Restoration of Long Canyon Creek - a Tributary of the Sweetwater River	$ —	The project will accomplish stabilization of eroded slopes, channel restoration, and revegetation of the degraded earthen channel with native riparian species.	Yes	Ecosystem
South Coast	San Diego	Summit Drive Drainage Improvements	$ 900,000	This project will replace an existing 48-inch drainage culvert under Summit Drive.		
South Coast	San Diego	Sweetwater River Channel Improvements - Chula Vista	$ 2,300,000	This project is to install four cleanouts, six inlets, and 2,250 feet of RCP. An additional component is to install one inlet and 150 feet of RCP.		
South Coast	San Diego	Sycamore Parallel and Upsize - Vista	$ 4,094,996			
South Coast	San Diego	Telegraph Canyon South Branch - Chula Vista	$ 250,000	This project provides for a drainage study to determine the adequacy of Telegraph Canyon Channel south branch.		
South Coast	San Diego	Tijuana River Valley Invasive Plant Control Program - Phase 4	$ 2,978,000	The proposed project will control exotic plants, particularly giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), and castor bean (*Ricinus communis*), on 1,100 acres of prime estuarine and riparian habitats in the Tijuana River Valley.	Yes	Ecosystem
South Coast	San Diego	Townsite Upsize - Vista	$ 2,579,270			
South Coast	San Diego	Upper Santa Fe Parallel - Vista	$ 936,463			
South Coast	San Diego	Urban Stormwater Runoff Treatment and Management Projects	$ 250,000,000			
South Coast	San Diego	Vance Street Drainage Improvements	$ 200,000	This project is to construct a new storm drain, catch basin, and outlet.		
South Coast	San Diego	Vista Ramona Drainage Improvements	$ 430,000	This project will replace two existing 30-inch corrugated-steel pipelines with a larger pipe under Vista Ramona north of Timber.		
South Coast	San Diego	Vista/SR-78/Hacienda Parallel - Vista	$ 324,490			
South Coast	San Diego	Vista/Valle Terrace/Williamston Parallel - Vista	$ 3,008,281			
South Coast	San Diego	Wing Avenue Drainage Improvements	$ 6,500,000	This project improves the capacity of the existing channel, adjacent to Wing Avenue, between State Route 67 and Bradley Avenue.		
South Coast	San Diego	Woodside Avenue Drainage Improvements	$ 15,900,000	Project will replace the existing drainage system with a new system capable of conveying the required flow under Woodside Avenue and State Route 67.		
South Coast	Ventura	Lower Ventura River Habitat Restoration and Enhancement	$ 5,000,000	The Lower Ventura River Habitat Restoration project involves acquiring land and conservation easements in the 100-year floodplain along lower reaches of the river. This project will include habitat restoration and enhancement along the lower 5 miles of the Ventura River up to and including the estuary.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Ventura	Arundell Barranca Study Channel Project Design and Construction	$ 22,430,000	The proposed project is anticipated to reduce local flooding along two segments of the Arundell Barranca channel during severe rainstorms. This reduction in flooding would occur by increasing the existing capacity of the channel to convey stormwater during a 100-year storm event from the channel to the ocean. The end of the channel (proposed and existing) is at Ventura Harbor.		
South Coast	Ventura	Calleguas Creek Watershed 5-year CIP Projects	$ 35,500,000			
South Coast	Ventura	Calleguas Watershed - Bus Canyon Project	$ 29,875,000			
South Coast	Ventura	Fox Barr., Southern Pacific Railroad to Grand Avenue Channel Improvements	$ 3,600,000	This project is to replace the existing concrete channel and increase flow capacity.		
South Coast	Ventura	J Street Drain - Ormond Beach to Hueneme Road	$ 10,000,000	This project would construct channel improvements from Ormond Beach Lagoon to upstream of Hueneme Road to increase the capacity of the existing inadequate facility. The objective of the project is to provide 100-year flow protection to adjacent residential properties.		
South Coast	Ventura	Levee Certification Program	$ 136,000,000			
South Coast	Ventura	Lower Calleguas Creek - Integrated Watershed Protection - Projects	$ 345,000,000	This project would provide a sound framework and guidelines for flood control, life/property protection, sediment management, and a holistic approach in integrated watershed planning and environmental resources management within the watershed. The multipurpose study encompassed issues related to habitat preservation, land development, erosion and sedimentation, BMPs, flood control, groundwater protection and recharge enhancement, water supply, water quality, and potential sources of funding for recommended projects, among others.	Yes	Ecosystem
South Coast	Ventura	Matilija Dam/Ventura River Ecosystem Restoration Project	$ 140,000,000	This project involves the removal of the Matilija Dam that is almost completely trapped in sediment.		
South Coast	Ventura	Natural Floodplain Protection Program (NFPP) and Santa Clara Floodplain Conservation Project	$ 5,000,000	Implementation of the NFPP will preserve a critical section of the remaining undeveloped 500-year floodplain in the Santa Clara River Watershed by acquiring property easements to preclude development. Acquisition of these easements will provide downstream flood benefits by allowing flooding to occur upstream in the watershed.	Yes	Ecosystem
South Coast	Ventura	Ojai Meadows preserve Habitat Restoration and Flood Control Plan	$ 500,000	At its Ojai Meadows Preserve, the Ojai Valley Land Conservancy (OVLC) seeks $500,000 to complete the final phase of an ecological restoration project to relieve flooding on the adjacent highway and high school, to filter runoff and recharge groundwater, and to restore wetland, riparian, and upland habitat for returning wildlife and the use and enjoyment by visitors.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Ventura	Rice Creek Realignment and Enhancement	$ 500,000	This project on the OVLC's Ventura River Preserve would return Rice Creek to its approximate historical location from its current channelized location. The project will add over 1,500 feet of new riparian habitat on the site and reestablish floodplain connections and buffer habitats. This project will help shade the water to keep it cool and reduce algal blooms, reduce sedimentation in Rice Creek and the Ventura River via erosion control, increase the numbers and variety of wildlife, and act as infiltration areas to support water storage for the Ventura River.	Yes	Ecosystem
South Coast	Ventura	Santa Clara River Watershed - Integrated Watershed Protection Plan - Projects	$ 216,346,000			
South Coast	Ventura	Santa Clara River Watershed - Brown Barranca Project	$ 13,145,000	The project would construct channel improvements from Santa Clara River to Telephone Road to upgrade the existing inadequate earth ditch. The objective is to provide 100-year flood protection to the adjacent properties and to eliminate erosion of the existing channel.		
South Coast	Ventura	Santa Clara River Watershed - J Street Drain Project Phase - 2	$ 11,350,000	This project would increase the flow capacity of the existing J Street Drain within the existing right-of-way to accommodate runoff from a 100-year storm event, and reduce potential flooding in residential and commercial areas of the cities of Oxnard and Port Hueneme.		
South Coast	Ventura	Santa Clara River Watershed - Oxnard Industrial Drain Project	$ 18,928,000			
South Coast	Ventura	Santa Clara River Watershed - Peck Road Drain Project	$ 8,200,000			
South Coast	Ventura	Santa Clara River Watershed 5-year CIP Projects	$ 58,500,000			
South Coast	Ventura	Senior Canyon Detention Basin	$ 6,000,000	This is a complete a detailed feasibility study for constructing a debris/detention basin at the existing basin site. The size of the basin is estimated to be more than 100 acre-feet.		
South Coast	Ventura	Upper Calleguas Creek - Integrated Watershed Protection Plan - Projects	$ 211,079,000			
South Coast	Ventura	Ventura County Watershed Protection Division Channel Emergency Repairs	$ 19,293,372			
South Coast	Ventura	Ventura County Watershed Protection Division Channel Urgent Repairs	$ 11,338,094			
South Coast	Ventura	Ventura River Watershed - Integrated Watershed Protection Plan - Projects	$ 36,905,000			

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Coast	Ventura	Ventura River Watershed 5-year CIP Projects	$ 15,400,000			
South Coast	Ventura	Ventura Watershed - Prince Barranca Project	$ 21,140,000	The project would construct a detention/debris basin in the canyon to reduce design flood flows to the capacity of the existing flood conveyance facilities. The objective of the project is to increase the existing facility capacity enabling support of the 100-year flood flows.		
South Coast	Ventura	Ventura Watershed - San Jon Barranca Project	$ 11,400,000	The scope of this study was to evaluate existing and proposed improvements and make recommendations for future consideration. The analysis of the Sanjon Barranca storm drain system indicated that the existing capacity is less than a 10-year storm. The corresponding expected annual damages due to residual flooding were estimated to be $435,000, with a corresponding present worth value of $6,000,000. The condition of the existing facilities is fair with an estimated life expectancy of 20 years with no treatment.		
South Coast	Ventura	Virginia Colony Flood Storage and Habitat Enhancement Project	$ 6,015,015	This project would acquire easements on seven properties, to construct a detention basin on the north side of the railroad tracks, to plan mitigation measures, and to cover part of the mitigation costs. Future phases include a detention basin on the south side of the railroad tracks, channel widening, and overflow channel. These facilities would be located on, adjacent to, or downstream from the parcels that could be acquired. Water quality would be improved by trapping sediments. Water storage will add to recharge of the groundwater aquifer. The project will provide passive public recreation.	Yes	Water Quality
South Lahontan	Inyo	Bishop Creek Flood Mapping Project	$ 300,000	This project is intended to develop topographic mapping of the lower perennial Bishop Creek, update flow routing models, increase accuracy of the extent of flooding in lower reaches, and predict the magnitude and recurrence of naturally occurring flows.		
South Lahontan	Inyo	Inyo/Mono Watersheds Invasive Weed Control Program	$ 461,257	This project aims to control and eradicate invasive weeds that impact recreation, air quality, and fire hazards; to control water issues that include increased erosion, associated sedimentation, and lower water quality; and to resolve decreased flood control capacity and native habitat issues.	Yes	Water Quality
South Lahontan	Inyo	Oak Creek Watershed Fire/Flood Restoration Phase I	$ 355,760	This is a three-phase project design. Phase I is the study and engineering portion of the project, which has begun with a Bureau of Reclamation grant to assess watershed and Oak Creek irrigation system issues. The participating tribe is requesting that IRWM Plan funding be used for the vast engineering of up to three flood diversions, two reservoirs, 3 miles of creek restoration, and up to 500 acres of irrigation system as a portion of Phase I.	Yes	Water Supply
South Lahontan	Inyo	West Walker River Channel Rationalization	$ 225,000	This is an opportunity to merge holistic flood control planning with riverine enhancement. Currently, the river on the site is flat and unbounded, washing away farm soil and offering little chance for recovery of what, before the 1997 flood, had been a rich fishery environment. By incorporating natural "breakout" levees, flood events could be cost-effectively controlled, while influencing the river course in directions where historical tree-canopy fishing "hole" refuges could be restored. The pilot area for planning is a 3-mile section of the river.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Lahontan	Kern	Little Dixie Wash Flood Corridor Program	$ —			
South Lahontan	Los Angeles	45th Street East Flood Control Basin	$ 22,500,000	This project provides for construction of a drainage basin (2,083 acre-feet) near 45th Street East and Avenue P-8 on property of the City of Los Angeles Department of Airports. This project will integrate with the construction of the Avenue Q and 20th Street East detention basin for flood control, will provide possible groundwater recharge, and will preserve the natural habitat.	Yes	Water Supply
South Lahontan	Los Angeles	Amargosa Creek Pathways Project (Lancaster)	$ 1,300,000	The Amargosa Creek Pathways Project, proposed by the City of Lancaster, includes development of a top-of-bank trail or paseo along the eastern side of Lake Lancaster, and construction of a foot-bridge structure crossing the lake and connecting under Highway 14 to link to the existing trailhead at the Antelope Valley Region Fairgrounds. The project integrates stormwater/flood control with enhancement and preservation of the natural riparian habitat, and management of open/recreational space and land use. The goal is to construct a pathway in harmony with established riparian habitat, within a flood control management basin that captures stormwater and nuisance water runoff that, in turn, sustains riparian habitat. This project will increase the amount of protected natural habitat and provide improved flood control within the Amargosa Creek watershed.	Yes	Recreation
South Lahontan	Los Angeles	Amargosa Creek Recharge and Channelization Project	$ 13,500,000	This project will increase Antelope Valley's water supply, increase the amount of protected natural habitat, and provide improved flood prevention within the Amargosa Creek watershed. Proposed improvements include: • Expanding the size and capacity of the spreading ground of the natural recharge area • Developing and preserving an ephemeral stream habitat • Channelizing the Amargosa Creek (soft bottom) • Providing a grade separation of 20th Street West over Amargosa Creek This project will integrate with the construction of the 20th Street West bridge over the Amargosa Creek, the channelization of Amargosa Creek between 25th Street West and 20th Street West, and the natural habitat preservation, as well as with existing upstream and downstream Amargosa Creek improvements.	Yes	Water Supply
South Lahontan	Los Angeles	Anaverde Detention Basin, Dam and Spillway at Pelona Vista Park	$ 10,000,000	This project is to construct the Pelona Vista Dam grading, inlet/outlet structures, spillway, and storm drain piping. This project is a multipurpose flood control basin that has the ability to provide for wildlife habitat, conservation, and stormwater capture.	Yes	Ecosystem

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Lahontan	Los Angeles	Avenue Q and 20th Street East Basin (Q-West Basin)	$ 12,500,000	This project provides for acquisition and construction of a 1,612 acre-foot detention basin between Avenue P-12 and Avenue Q, from 20th Street East and 30 Street East or on the Los Angeles World Airports (LAWA) property from Avenue P-8 to Avenue P-12. This project will integrate with the construction of the 45th Street East and Avenue P-8 detention basin for flood control, provide possible groundwater recharge, and enable natural habitat preservation.	Yes	Water Supply
South Lahontan	Los Angeles	Barrel Springs Detention Basin and Wetlands (Palmdale)	$ 10,000,000	This project is for construction of an 878-acre-foot detention facility in the Barrell Springs area upstream of Old Harold Road and 25th Street East on 40 acres of City-owned property. This project will provide flood control for the City of Palmdale and will provide wetland enhancement and habitat protection.	Yes	Ecosystem
South Lahontan	Los Angeles	Hunt Canyon Groundwater Recharge and Flood Control Basin (Palmdale)	$ 10,000,000	This project is for construction of a detention/recharge basin, south of Pearblossom Highway, at 57th Street East. The basin is to have a 3,000-acre-foot capacity and will be used for storing aqueduct raw water to recharge into the aquifer and for controlling floodwaters. The proposed project would alleviate flooding and have the potential to provide a recharge area for raw aqueduct water.	Yes	Water Supply
South Lahontan	Los Angeles	Integrated Regional Flood Management Plan	$ 300,000	This project is for preparing an integrated flood management plan as part of the 2012 update to the Antelope Valley IRWM Plan funding with a Proposition 84 (2006), Round 1, Planning Grant.		
South Lahontan	Los Angeles	Upper Amargosa	$ —	The project provides for a 20-acre recharge facility, a 38-acre community nature park, a 22-acre native habitat conservation area, and 7 acres of open stream channel.		
South Lahontan	Los Angeles	35th Street West Drainage Avenue L to Avenue K	$ 3,500,000	This project will construct a storm drain to close a gap in the drainage system.		
South Lahontan	Los Angeles	Quartz Hill Storm Drain	$ 7,000,000	The Quartz Hill Drain and 50th Street West project consists of construction of a new underground storm drain system along 50th Street W between Avenue K and Avenue M-8, and road improvement through Quartz Hill downtown. Currently, the Quartz Hill community does not have an underground storm drain system, which results in severe flooding and significant disruptions when it rains. The new drainage system and road improvements are designed to keep the streets of Quartz Hill dry during future storm events.		
South Lahontan	Los Angeles	Upper Amargosa Creek Flood Control, Recharge, and Habitat Restoration Project	$ 6,983,322	This project will consist of a suite of activities designed to improve flood control, reduce dependence on imported water by stabilizing current groundwater levels (a source of local supply), and protect the environmental habitat.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Lahontan	Mono	West Walker River Restoration Plan	$ 80,000	The goal of this project is to develop a restoration plan via the completion of an assessment of the riverine and riparian conditions associated with approximately 3 miles of the West Walker River located within Antelope Valley, which is designated as an economically disadvantaged community. The Antelope Valley in Northern Mono County is home to roughly 15,000 acres of actively farmed land contributing significantly to local livelihoods. The West Walker River is ecologically important to imperiled, native trout. However this same area has experienced significant damage from stormwater events that have, in turn, resulted in significant impacts, including loss of productive farmlands, from flooding of the Walker River. In 1997, a 100-year flood event occurred, resulting in extensive losses of productive farmland and deleterious impacts to the Walker River ecosystem. Today, threats from stormwater and flood events remain, and losses of active riparian farmlands occur annually. Better understanding of the historical and current geomorphological processes associated with the West Walker River, along with assessing the current riparian habitat condition, is the first step in developing comprehensive stormwater/flood management that will provide the basis for long-term management of this economically and ecologically important portion of the Inyo-Mono IRWM region. This project will pay particular attention to assessing approximately 3 miles of the lower West Walker River system with the intent of developing management recommendations to ameliorate the threat to streambank stabilization and, in doing so, will contribute positively to local livelihoods and local fisheries.	Yes	Ecosystem
South Lahontan	Mono	Mountain Gate Trail and Restoration Project	$ —	The site has been frequently damaged by flooding. This project would restore the site and establish recreation and habitat at the site.	Yes	Recreation
South Lahontan	Mono	Rush Creek Floodway Improvements	$ —	The project would increase the capacity of the Rush Creek floodway at Silver Lake to minimize flooding and maximize peak flow events up to 750 cfs that will benefit the riparian ecosystem.	Yes	Ecosystem
South Lahontan	Mono	Town of Mammoth Lakes Storm Water Master Plan Development and Implementation	$ 507,000	In May 2005, Mammoth Lakes updated its 1984 Storm Drain Master Plan (SDMP). The SDMP was primarily formulated to control the existing drainage and erosion problems by establishing a program to rehabilitate existing development areas, while providing policies, standards, and procedures to guide future development.		
South Lahontan	Riverside	Indian Wells Valley Flood Control District Feasibility Study	$ 100,000	This project would conduct a research and feasibility study to determine what mechanisms are available to provide flood control services within the Indian Wells Valley (IWV), as well as explore whether or not the mechanisms are viable options. The general purposes of a flood control district within the IWV is to avoid environmental damage caused by multi-year flood events, and to capture and put to new use waters produced in a multi-year flood event by recharging the IWV aquifer. Study would include a review of existing studies pertaining to master drainage plans with improvements for diversions and other facilities for recharge and flood control.		

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Lahontan	San Bernardino	Amethyst Detention Basin	$ 12,100,000	San Bernardino County proposes to construct Amethyst Basin (formerly known as Oro Grande Basin No. 9), with combined detention and stormwater recharge capabilities. The basin will include the construction of associated inlet and outlet structures, channels and/or closed conduits, transition structures, wingwalls, headwalls, cutoff walls, basin embankments, emergency spillways, access roadways along tops of the embankments and around the basins, and access ramps to the basin floor.	Yes	Water Supply
South Lahontan	San Bernardino	Antelope Valley Wash Recharge Ponds	$ 800,000	Antelope Valley Wash Recharge Ponds could provide groundwater recharge upgradient from City of Hesperia wells. The Hesperia Master Plan of Drainage identifies a 65-acre site for a stormwater detention basin in the Antelope Valley Wash south of Ranchero Road. In addition to stormwater detention, the site might be able to accommodate groundwater recharge. The Morongo Basin Pipeline passes by this area and would be the source of recharge water.	Yes	Water Supply
South Lahontan	San Bernardino	Cedar Street Detention Basin	$ 2,000,000	Cedar Street Detention Basin might provide the opportunity for recharge upgradient from the City of Hesperia wells. The Hesperia Master Plan of Drainage identifies a potential site for a stormwater detention basin at the east end of Cedar Street and southwest of the California Aqueduct. In addition to stormwater detention, the 120-acre site might be able to accommodate groundwater recharge. The California Aqueduct would be the source of recharge water.	Yes	Water Supply
South Lahontan	San Bernardino	Desert Knolls Wash, Phase 3	$ 9,000,000	This provides for construction of the project at the Desert Knolls Wash Reaches II and III for flood protection, water quality improvement, and water conservation. The project emphasizes the national goals of the Environmental Protection Agency to plan the development and use of land through preservation and enhancement of rivers, tributaries, and streams, as well as the land drained thereby.	Yes	Water Quality
South Lahontan	San Bernardino	Hesperia Detention Basin	$ 26,269,151			
South Lahontan	San Bernardino	Kitchen/Dean Wash	$ 120,000			
South Lahontan	San Bernardino	Mojave River I-15 Levee	$ 1,360,000	This would construct the project at Mojave Levee Phase II for flood protection at a cost of $700,000. The project emphasizes the national goals of the Environmental Protection Agency to plan the development and use of land through preservation and enhancement of rivers, tributaries, streams, as well as the land drained thereby.	Yes	Ecosystem
South Lahontan	San Bernardino	Mountain View Acres	$ 7,065,000	This provides for construction of the project at Mountain View Acres for flood protection, water quality improvement, and water conservation at a cost of $4 million. The project emphasizes the national goals of the Environmental Protection Agency to plan the development and use of land through preservation and enhancement of rivers, tributaries, streams, as well as the land drained thereby.	Yes	Water Quality
South Lahontan	San Bernardino	Ranchero Detention Basin	$ 12,075,672	This is for construction of the project at the Ranchero Basin for flood protection, water quality improvement, and water conservation to help meet water demands and foster sustainable development in the rapidly developing communities, incorporating the latest science, engineering technology, climate models, and dual-purpose basin innovation.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
South Lahontan	San Bernardino	Sheep Creek Major Repair	$ 2,075,000	The San Bernardino County Department of Public Works is proposing to stabilize and restore the upper segment of Sheep Canyon Creek in the Wrightwood area of unincorporated San Bernardino County. The upper reaches of the creek are subject to severe erosion during storm events such that adjacent residential properties will be affected if measures to remedy the problem are not implemented. The County is proposing to install concrete structures in the channel bed and bank, and then backfill using native material.		
South Lahontan	San Bernardino	Victorville – Line E-01	$ 1,000,000			
Tulare Lake	Fresno	Dry Creek Detention Basin Extension	$ 1,100,000	Potential modifications to the existing facility include a gravity turnout from the Friant-Kern Canal and an energy dissipater. This would allow Big Dry Creek Reservoir to be filled to the DSOD-proposed maximum storage level of 10,000 acre-feet in a 2-week period.		
Tulare Lake	Fresno	Eastside Water Quality and Urban Reliability Project	$ 20,000,000	The project includes a direct groundwater recharge element (Traver Groundwater Bank) and a surface water treatment plant, which will provide a reliable supply of high-quality water to the current and future residents in the Cutler and Orosi communities and in surrounding unincorporated communities. All of the areas to be served are disadvantaged communities. The direct recharge elements of the project will capture and recharge stormwater and integrate flood retention benefits; enhance environmental wildlife habitat; and provide flexibility in operation, water control, and utilization.	Yes	Water Supply
Tulare Lake	Fresno	Fancher Creek Detention Basin	$ 2,600,000	This project provides for a letter of map revision review in compliance with FEMA.		
Tulare Lake	Fresno	Fancher Creek Flood Control Improvement Project - City of Fresno	$ 4,462,173	The Fancher Creek Detention Basin removes 682 acres from the 100-year floodplain and redirects runoff that may contain pollutants to stormwater management basins, which results in approximately 740 acre feet of additional surface water recharge per year. Once complete, the basin will have sufficient capacity to provide 100-year control of the Fancher Creek flows.	Yes	Water Quality
Tulare Lake	Fresno	Fresno Irrigation District (FID) Joint Conjunctive Use Project	$ 10,000,000	The Fresno Irrigation District (FID) Joint Conjunctive Use Project is a cooperative effort among FID, a second undisclosed district, and other local and State agencies. This project intends to utilize resources that are available to FID that might not currently be maximized and to supplement FID water supplies. The project is an agricultural project that might ultimately provide water to urban and agricultural suppliers and facilitate the environmental benefits of improving the Kings River fishery. The project consists of expanding the recharge and banking facilities along the Kings River in Fresno and Kings counties in the vicinity of the Peoples Weir for diversion of unregulated Kings River flood flows, Central Valley Project (CVP) contract water, CVP floodwaters, and potentially other sources. Recovery wells will be installed to allow for a portion of the stored groundwater to be extracted. The project is a conjunctive use project, as the available water supply will be diverted to the expanded facilities for recharge and storage in the groundwater reservoir.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Tulare Lake	Fresno	Huckaby Project on Fancher Creek	$ —			
Tulare Lake	Fresno	Kings River Levee Evaluation Project	$ 2,000,000	This project provides for a feasibility study of the Kings River Levee project.		
Tulare Lake	Fresno	Kings River North Fork Flood Projection and Wildlife Enhancement Project	$ 3,274,512	The Kings River North Fork Flood Protection and Wildlife Enhancement Project is located on the Kings River in northern Kings County. This area historically was prone to flooding prior to the development of the Kings River Channel Improvement Project by the USACE and the Kings River Conservation District. The flood project was authorized by the U.S. Congress in 1944 and completed in 1972. Due to its character and age, the project does not comply with current design or levee construction standards. The project utilized setback levees at many locations, incorporating existing conforming agricultural uses into the project. The agricultural uses provide benefit to the flood project in most locations; however, there is a flow constraint resulting from a large agricultural island at one location in the system. This location is immediately downstream from Island Weir and is upstream from State Highway 41.	Yes	Ecosystem
Tulare Lake	Fresno	McMullin On-Farm Flood Capture and Recharge Project	$ 5,500,000	This project is Phase 1 in a multi-phase project to capture Kings River flood flows, which would be utilized for on-farm conjunctive use activities (i.e., direct recharge, in-lieu recharge, irrigation). These objectives will be achieved through a combination of flood easements on 250 acres; upgrade to structures (e.g., turnout along the Kings River, McMullin Grade Crossing, Terranova Canal); and implementation of flood flow capture (FFC) BMPs on 1,250 acres. On-farm FFC activities are economically motivated by chronic and severe groundwater overdraft in Kings Basin threatening the viability of farming. Phase 1 will divert flood flows through a 500-cfs-capacity turnout onto farm fields for conjunctive use activities developed under a current NRCS pilot study. Phase 1 targets capturing (when available) 150 cfs of winter flood flows for direct recharge (9,375 acre-feet per month); 1,800 acre-feet for replenishing root zone moisture, and an average of 2,025 acre-feet per month for in-lieu recharge. Under Phase 1, the legal entity McMullin Flood Flow Capture District, which is composed of supporting landowners and others involved in groundwater and flood flow issues, will be formed. These technical, organizational and logistical efforts will be the foundation of subsequent phases, increasing the conjunctive use acreage to 5,000 acres to divert 500 cfs onto farms for recharge. At completion, this project will have the capacity to recharge 30,000 acre-feet per month for direct recharge in the winter, 4,800 acre-feet to replenish soil moisture, and an average of 5,400 acre-feet per month for in-lieu recharge during the spring. Kings River is managed by Kings River Water Association (KRWA) in coordination with USACE and its management of the San Joaquin River. This project will have the capacity to divert up to 10% of Kings River flood flows (entering into the Mendota Pool through the James Bypass) and greatly ease flood flow pressures at that location, as well as at areas upstream along the Kings River and downstream in the San Joaquin River.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Tulare Lake	Kern	Caliente Creek Habitat Restoration - Feasibility Study	$ 500,000	The project consists of a study to determine the feasibility of acquiring land upstream of Highway 58 and restoring habitat to intercept floodwater and help mitigate routine flooding of Arvin and Lamont.	Yes	Ecosystem
Tulare Lake	Kern	Calloway Cross Valley Canal Intertie	$ 13,700,000	This project would modify conveyance systems to enhance exchanges and delivery of supplies to in-lieu and direct absorptive capacity.	Yes	Water Supply
Tulare Lake	Kern	Cuddy Creek Restoration Project – Phase 1	$ 1,000,000	This project provides for the stabilization and restoration of approximately 3,000 feet of Cuddy Creek. These steps would reduce soil erosion in the watershed and sedimentation in surface water, which would reduce the discharge of pollutants to State waters from storm or nonpoint sources.	Yes	Water Quality
Tulare Lake	Kern	Formation of Flood Control District	$ —			
Tulare Lake	Kern	Improved Stormwater Management and Flood Control in Arvin Edison Water Storage District	$ 1,000,000			
Tulare Lake	Kern	Kern County's Southern San Joaquin Valley Flood Mitigation Plan	$ 10,000,000	This plan addresses 40 coordinated projects that can be constructed to enhance groundwater recharge, preservation of habitat, and management of flood and debris flows from the various watersheds that drain into the Southern San Joaquin Valley portion of Kern County.	Yes	Water Supply
Tulare Lake	Kern	Kern Lake Hydrologic Analysis	$ 100,000	This analysis would develop the flood flow frequency peak-flows and volume distributions, as well as time-off set parameters and outflow relationships required for the determination of floodplain mapping and the development of flood control mitigations in the Kern Lake Basin.		
Tulare Lake	Kern	Kern River Shoreline 48 Acres	$ 550,000	With the help of numerous volunteer groups, irrigation water mains and lateral lines will be installed as part of the restoration projects. The project will extend water lines and restore an additional 48 acres of Kern River shoreline and floodplain. The water will maintain native trees that will be planted along the highly visible Kern River floodplain. The project will include the replanting of riparian vegetation, including approximately 500 trees and shrubs, and installation of California native "golden" grass seed mix to enhance the natural Kern River habitat area. This project will implement a more environmentally sensitive flood management regime by relieving the tendencies for erosion of levees and riverbanks, thereby reducing the need to build levees higher or performing expensive rehabilitation of damaged levees. The addition of trees and native vegetation at the project site will resolve flood damage issues for floods up to the Standard Project Floods that exceed a 100-year storm.	Yes	Ecosystem
Tulare Lake	Kern	Kern River Shoreline Project Maintenance for Project Life	$ 9,000,000			
Tulare Lake	Kern	Pipeline Connecting Friant-Kern Canal in Support of Flood Storage Reservoir in Poso Creek Drainage	$ 75,000,000	The proposed project is to connect the Friant-Kern Canal to a proposed 50,000-acre-foot flood storage reservoir in the Poso Creek drainage area east of State Highway 65. Stored floodwater would be delivered for irrigation.	Yes	Water Supply

Table E-E-1. Local Agency Planned Projects

Hydrologic Region	County	Local Agency Project Name	Estimated Cost for Local Agency	Project Description	IWM Project	Type of IWM Project
Tulare Lake	Kern	Reconstruction Adams/Jefferson Street, Ford City	$ 100,000			
Tulare Lake	Kern	Rock Meadow Riparian Vegetation Restoration (32 acres)	$ 32,000	The project would fence off and restore approximately 32 acres of riparian vegetation along the Kern River, including replanting native trees and bushes and installing an irrigation system.	Yes	Ecosystem
Tulare Lake	Kern	Sandy Creek Bank and Erosion Protection - Feasibility Study	$ 100,000	This project would consist of a study to determine the feasibility of restoring a portion of Sandy Creek through the community of Taft.		
Tulare Lake	Kern	Storm Water Filtration and Retention Project	$ 500,000	The project involves installation of stormwater recapture and filtration units within the Ventura city limits and surrounding areas. Water will be placed in retention basins for use on irrigation projects.	Yes	Water Supply
Tulare Lake	Kings	Kings River Critical Levee Repairs	$ 5,000,000	This project provides for the restoration and protection of the Kings River levees operated by the Kings River Conservation District.	Yes	Recreation
Tulare Lake	Kings	Kings River Levee Evaluation	$ 2,000,000	This project is a feasibility study of levees as part of floodplain management.		
Tulare Lake	Kings	Kings River South Fork Setback Levee Project	$ —	This project is for floodplain management and land acquisition.		
Tulare Lake	Kings	North Fork Recharge Sites 11 and 16	$ 750,000	This project provides for construction of a groundwater management measure.	Yes	Water Supply
Tulare Lake	Kings	River Ranch Valley Oak Habitat Restoration and Groundwater Recharge Project, South Fork Kings River	$ 7,000,000	The project is for environmental and habitat protection, as well as improvement conservation.	Yes	Ecosystem
Tulare Lake	Tulare	Paregien Basin Project	$ 2,150,000	This project consists of a 78-acre groundwater recharge basin, associated structures, and monitoring wells that would capture floodwaters for groundwater recharge. The basin is in an established riparian condition, which is to be preserved and enhanced.	Yes	Water Supply
Tulare Lake	Tulare/Kings	Upper San Joaquin River Basin Storage Investigation	$ 62,251,000	DWR, U.S. Bureau of Reclamation, and their partners have developed a two-phase Plan of Study. Phase 1 will identify water resource opportunities and issues in the Upper San Joaquin River watershed. This phase will include an appraisal of opportunities to increase surface storage and conjunctive uses for groundwater. Phase 2 will be more detailed and will begin with public meetings to determine the scope of the study. The purpose of this project is to determine the type and extent of Federal, State, and regional interests in a potential project in the upper San Joaquin River watershed. The project would improve water supply reliability and flexibility of the water management system for agricultural, urban, and environmental uses and would enhance San Joaquin River water temperature and flow conditions to support anadromous fish restoration efforts.	Yes	Water Supply

Note:
Projects were identified as of January 2012.

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Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Alameda	Estudillo Canal, California	$38,000,000	The study area is located within the city of San Leandro, California, about 15 miles southeast of San Francisco. The watershed drains into San Francisco Bay, with a drainage area of approximately 10 square miles. A substantial number of properties within this densely populated area are designated as being in a Federal Emergency Management Agency (FEMA) Floodplain. The study will evaluate potential flood damage reduction alternatives in a highly developed area.	Yes	Ecosystem, Recreation, Flood Risk Management	No	
San Francisco Bay	San Francisco	Alameda	Oakland Airport Dike, California	$100,000	The Port of Oakland plans to construct improvements to the perimeter dike that forms the southwestern shoreline of the Airport property, in Alameda County, California. The perimeter dike serves as the flood protection system for the Airport and surrounding areas. The dike includes two distinct types of materials—clay and sand. Improvements would include a stability berm along those portions of the dike with low elevations to obtain FEMA certification of the dike for 100-year flood protection, and strengthening the sand dike portions to reduce the vulnerability of the dike to damage during seismic events. In order to construct seismic improvements, fuel pipelines in the sand dike might need to be relocated. Improvements might impact wetlands and other areas within the jurisdiction of the USACE, as well as areas within the 100-year floodplain.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Alameda	San Lorenzo Creek, California	$100,000	Construction of the San Lorenzo Creek Flood Control Project was authorized in the 1954 Flood Control Act and built in 1959 to 1961 to contain the standard project flood, determined to be 10,400 cubic feet per second (cfs) at that time. The San Lorenzo Creek Federal Flood Control Project is located on 3,200 linear feet at the downstream end of San Lorenzo Creek. Levees are built on both sides of the channel with inboard berms. Riprap armors portions of the levees. A reevaluation of the San Lorenzo Creek Federal Flood Control Project is necessary to determine what steps can be taken to reduce flood damage and reduce risk in the community.			No	
San Francisco Bay	Sacramento	Contra Costa	Grayson and Murderer's Creeks, Walnut Creek Basin, California	$2,452,000	The Grayson and Murderer's creeks feasibility study is investigating flood damage reduction, ecosystem restoration and recreation in the Grayson Creek sub-watershed of the Walnut Creek watershed. The study is considering detention basins, channel modifications, levee and floodwall improvements, and other structural and nonstructural measures for flood damage reduction on Grayson Creek and its tributaries. The ecosystem restoration and recreation measures that are being considered would be secondary to the flood damage reduction objective.	Yes	Ecosystem, Recreation, Flood Risk Management	No	
San Francisco Bay	Sacramento	Contra Costa	Lower Walnut Creek General Reevaluation	$3,360,000	The lower Walnut Creek General Reevaluation is a multi-objective project to create a more sustainable facility that maintains or improves the level of flood protection while preserving sensitive habitat for rare and endangered species.	Yes	Flood Risk Management, Ecosystem Restoration	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	Sacramento	Sacramento, Yolo, Solano, Contra Costa, San Joaquin	Sac-San Joaquin Delta Islands and Levees, California	$6,000,000	Develop a road map to identify water and related land resources problems and opportunities; utilize a watershed approach for the majority of the study area (740,000 acres), possibly incorporating a feasibility level of study for the sponsor's greatest area of concern.	Yes	Ecosystem Restoration, Flood Risk Management	Yes	$ 971,000
San Francisco Bay	San Francisco	Contra Costa	Wildcat and San Pablo Creeks, California	$5,000,000	The study area is located in the cities of Richmond and San Pablo, California. Reach 1 of the authorized flood risk management project was completed by USACE in 1995, and is located in the city of Richmond. Reach 2, within the city of San Pablo, was not constructed at the time because of concerns about economic justification, and it was subsequently placed in the deferred status. Recent flow/frequency projections, and new FEMA floodplains, as well as a 905b reconnaissance report show that Reach 2 may be economically justified at this time.	Yes	Ecosystem, Water Quality	No	
North Coast	San Francisco	Del Norte	Crescent City Harbor		Ongoing repair and dredging of Crescent City Harbor facilities.	Yes	Recreation	No	
Sacramento River	Sacramento	Glenn	Sacramento River, Glenn-Colusa Irrigation District, California	$23,380,000	Stabilizing the river level on the Sacramento River near Hamilton City is an essential component of the Glenn-Colusa Irrigation District Fish Screen Improvement Project. Stabilization will preserve the agricultural irrigation supplies to roughly 1,200 farm families, while complying with the Federal Endangered Species Act and contributing to the restoration of anadromous fish species in the Sacramento River. Improvement will ensure the continued operation of the pumping facility.	Yes	Agriculture, Water Quality, Water Supply	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
Tulare Lake	Sacramento	Kern	Isabella Lake Dam Modification Project	$500,000,000	At the Isabella Lake Project, the primary objective of the Dam Safety Modification (DSM) project is the remediation of the seismic, hydraulic, and seepage deficiencies in order to permit the project to function safely and effectively while reducing the risk to the downstream public. The main project features will include: • Main Dam full height filter and drain (with an approximately 16-foot crest raise • Improvements to the existing spillway • New 900-foot emergency spillway • Auxiliary Dam modification (with an approximately 16-foot crest raise • 80 feet (crest width) downstream buttress • Shallow foundation treatment • Upstream berm • Replacement of Borel conduit through right abutment of Auxiliary Dam • Relocation of Highways 155 and 178 to accommodate the crest raise			Yes	$ 4,731,800
Tulare Lake	Sacramento	Kern	Poso Creek, California	$4,000,000	This project is a feasibility study of construction of a flood risk management reservoir on Poso Creek.			No	
South Coast	Los Angeles	Los Angeles	Coast of California, South Coast Region	$5,182,000	Prepare a quantitative sediment budget based on previously analyzed data. Prepare an analysis of the probable effects of future sea level rise for three scenarios. Prepare responses to Agency Technical Review comments on the draft Report (May 2009). Revise the draft chapters for the Coast of California Storm and Tidal Wave Study-Los Angeles Final Report.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
South Coast	Los Angeles	Los Angeles	Los Angeles County Drainage Area Whittier Narrows Water Conservation, California	$1,200,000	Whittier Narrows Water Conservation project will expand water conservation pool behind Whittier Narrows Dam from 2,500 acre-feet to 3,500 acre-feet. Projected partners are Los Angeles County Department of Public Works, Water Replenishment District of Southern California, and USACE. The $1.2 million USACE cost share total figure reflects Federal appropriations to date (over several years, the last one being in 2010).	Yes	Water Supply	No	ZERO in construction, but LACDA did receive funding as an overall line item of $4,933,170 in O&M
South Coast	Los Angeles	Los Angeles	Los Angeles County Drainage Area, California	$39,650,000	Project consists of channel improvement to lower the Los Angeles River, Rio Hondo, and Compton Creek, and modification/replacement of as many as 25 bridges necessitated by the channel improvements. (Total USACE cost share is a combination of $4,650 and $35,000.)			No	ZERO in construction, but LACDA did receive funding as an overall line item of $4,933,170 in O&M
San Joaquin River	Sacramento	Madera	Hidden Dam, Hensley Lake, California	$8,300,000	Dam safety evaluation of Hidden Dam to investigate seepage and seismic issues.			No	
San Francisco Bay	San Francisco	Marin	Corte Madera Creek, California	$37,100,000	Corte Madera Creek and its tributaries drain an area of about 28 square miles in Marin County, and flow into the west side of San Francisco Bay. Corte Madera Creek basin is primarily a residential area, north of San Francisco. The principal communities include Corte Madera and Larkspur (combined population of about 30,000 as of January 1998). Extensive flooding continues to occur through Ross Valley and the communities of Ross, Kentfield, Larkspur, Corte Madera, and Greenbrae. The value of lands and improvements to be protected by the project is estimated to be $186 million. The project would provide protection to public, residential, and commercial property along Corte Madera Creek.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Marin	Las Gallinas Creek, California	$510,000	The Las Gallinas Creek Flood Risk Management Study is a Section 205 Continuing Authorities Program study of the Las Gallinas Creek levee in Santa Venetia. The primary goals of the study are to define the level of protection currently afforded by the existing levee system and determine whether a Federal economic interest exists to proceed with design and construction of an improvement alternative. The current floodwall was added to the levee system in 1983 in response to flooding that resulted from overtopping during a record breaking high tide. The floodwall now needs to be replaced.			No	
North Coast	San Francisco	Mendocino	Coyote Valley Dam, California	$150,000,000	The study area is located in northern California on the east fork of the Russian River at Coyote Valley, near the city of Ukiah. The Russian River drains an area of 1,485 square miles. Approximately two-thirds of this area is in Sonoma County, with the remainder in Mendocino County. The existing USACE project, Coyote Valley Dam, which was completed in 1957, consists of an earth-filled dam 160 feet high and 3,560 feet long, with a reservoir storage capacity of 122,000 acre-feet. The authorized project included sediment, flood risk management, and domestic and agricultural water supply pools with a total storage capacity of 199,000 acre-feet. An additional water supply portion, which included additional storage for about 77,000 acre feet, was placed in the deferred category as local interest considered it unnecessary at that time. Since then, increased development has created a need for additional water supplies.	Yes	Agriculture, Water Quality, Water Supply	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Joaquin River	Sacramento	Merced	Merced County Streams, California	$2,500,000	This project will provide flood protection to residential, commercial, and agricultural lands adjacent to the cities of Merced and Atwater. This area's flood protection is currently at a 50-year storm level. Funding will be used to re-scope the study area to reduce the cost of the project, and to provide 200-year level flood protection to the area. Unless corrective measures are taken, dam and levee failures could occur, leading to catastrophic damage.			No	
San Francisco Bay	Sacramento	Napa	Napa River, California	$283,093,000	The Napa River Flood Protection Project will provide 100-year flood protection to the City of Napa, protecting business and residences, and improving water quality, creating urban wetlands, enhancing wildlife habitats, and creating over 730 acres of tidal wetlands.	Yes	Flood Risk Management, Recreation	Yes	$ 1,300,000
San Francisco Bay	San Francisco	Napa	St. Helena Comprehensive Flood Protection Project, California	$30,000,000	The project is located within the city of St. Helena along the Napa River. Major floods have occurred on the Napa River in this area in 1986, 1995, 1997, and 2006. Combined, these floods cost the community over $95.6 million in property damages. The project will restore habitat of the natural floodplain terraces, including riparian and aquatic habitat. Also, the project will restore native plant and tree communities through revegetation efforts and is needed to provide 100-year flood protection to the area. The Water Resources Development Act (WRDA) of 20 07 authorized the construction of the project substantially in accordance with the California State Environmental Impact Report, as opposed to a Chief's Report.	Yes	Ecosystem, Water Quality	No	
North Lahontan	Sacramento	Nevada	Martis Creek Lake Dam Safety Assurance Program	$16,700,000	Project to evaluate the Martis Creek Dam for potential risk from seismic, seepage, and hydraulic issues.			Yes	$ 1,777,500

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
South Coast	Los Angeles	Orange	San Clemente Shoreline, California	$5,553,000	The purpose of the project is to provide the most technically feasible and economically beneficial plan for reducing shoreline erosion and protecting coastal infrastructure from storm-induced wave attack along the San Clemente, California, shoreline.			No	
South Coast	Los Angeles	Orange	San Juan Creek, South Orange County, California	$3,265,000	The feasibility study will investigate flood risk management alternatives and other related purposes along the lower portions of San Juan, Trabuco, and Oso creeks.	Yes	Ecosystem	No	
South Coast	Los Angeles	Orange	Santa Ana River Basin, California	$2,102,400,000	The Santa Ana River Mainstem Project is designed to provide flood protection to the growing urban communities in Orange, Riverside, and San Bernardino counties. The proposed improvements to the system cover 75 miles, from the headwater of Santa Ana River east of the city of San Bernardino to the mouth of the river at the Pacific Ocean, between the cities of Newport Beach and Huntington Beach.	Yes	Ecosystem, Recreation, Water Quality	Yes	$3,425,400 in O&M; the MAINSTEM project received $23,093,000 in Construction
South Coast	Los Angeles	Orange	Surfside-Sunset-Newport Beach, California	$75,100,000	This project supports periodic beach nourishment in Surfside, Sunset, and Newport Beach.	Yes	Recreation	No	
South Coast	Los Angeles	Orange	Westminster (East Garden Grove) Watershed, California	$6,260,000	A comprehensive study of the Westminster Watershed, including the East Garden Grove-Wintersburg Channel and the Bolsa Chica Flood Control Channel to develop a rehabilitation plan that will consider flood risk management, ecosystem restoration, recreation, and water quality solutions. This project is consistent with the USACE flood risk management and environmental restoration missions in Southern California.	Yes	Ecosystem, Recreation, Water Quality	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
South Coast	Los Angeles	Orange, San Diego	California Coastal Sediment Master Plan, California	$7,100,000	This project will develop a comprehensive master plan for the conservation, restoration, and preservation of the valuable sediment resources along the coast of California to reduce shoreline erosion and coastal storm damages, provide for environmental restoration and protection, increase natural sediment supply to the coast, restore and preserve beaches, improve water quality along coastal beaches, and optimize the beneficial use of material dredged from ports, harbors, and other opportunistic sediment sources.	Yes	Ecosystem, Water Quality	Yes	$ 861,000
South Coast	Los Angeles	Riverside	Murrieta Creek, California	$122,200,000	The project is a multi-purpose flood risk management, environmental restoration and recreation project along 7.5 miles of Murrieta Creek. The major project features include: • Channel widening and deepening • Environmental corridor along the length of the project • Multipurpose detention basin • Wetland restoration area • Recreation park • Three bridge replacements	Yes	Ecosystem, Recreation, Water Quality	No	
South Coast	Los Angeles	Riverside	Norco Bluffs, Santa Ana River, California	$15,130,000	The project consists of a structural solution of revetted-buttress fill using existing and imported fill material for one reach, a distance of 1 mile. The bluff stabilization protects a 65-foot-high bluff from further retreat into a residential neighborhood, which results when flood flows occur in the Santa Ana River.			No	
South Coast	Los Angeles	Riverside	Prado Basin Water Supply, California	$1,465,000	Feasibility Report for the Proposed Prado Basin Water Supply. The project will result in increasing the water storage pool during the flood season from an elevation of 494 feet to an elevation of 498 feet within Prado Basin. This will enable increased water recharge at the Orange County Water District's recharge facilities downstream of Prado Dam.	Yes	Water Quality, Water Supply	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
Colorado River	Los Angeles	Riverside	Whitewater River Basin, California		The feasibility study was completed in October 2000. The Alternative 6 recommended project consists of constructing four levees to protect the southern portion of the alluvial fan. The current design would replace the downstream levee with incised channel.			No	
Sacramento River	Sacramento	Sacramento, Yolo, Solano, Contra Costa, San Joaquin	CALFED Levee Stability Program, California	$196,000,000	A report that identified and prioritized potential levee stability projects in the Delta. Through the CALFED Levee Stability Program, the USACE is authorized to participate in flood risk improvements to Delta and Suisun Marsh levees with the potential for incorporation of ecosystem restoration elements. Additionally, the authorization has provided the opportunity to develop Emergency Response Planning tools in partnership with the California DWR.	Yes	Ecosystem Restoration, Flood Risk Management	No	
South Coast	Los Angeles	San Diego	Imperial Beach, Silver Strand Shoreline, California	$84,410,000	The Imperial Beach shoreline has been heavily impacted by erosion, which is caused by a lack of sediment transfer from the Tijuana River and San Diego Harbor due to dam and jetty impediments. The sources of this erosion are a Federal jetty protecting the San Diego Harbor and three dams on the Tijuana River, two of which are Federal. Funding would provide the Federal portion for the placement of beach sand to protect private and public property and preserve recreational opportunities.	Yes	Recreation, Water Quality	No	
South Coast	Los Angeles	San Diego	San Diego County Shoreline, California	$4,400,000	This project investigated the feasibility of providing shore protection improvements along the shores of the City of Oceanside, San Diego County, California, in the interest of shoreline protection and storm damage reduction and related purposes.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
South Coast	Los Angeles	San Diego	San Luis Rey River, California	$76,900,000	The Project includes the following: • Double levee, 5.4 miles long • Stone protected channel with a soft bottom • 1,330 feet of parapet walls at the ocean on the north and south levees • Six interior drainage ponds • 5-mile bike trail • 247 acres of conservation lands	Yes	Recreation, Water Quality	Yes	$ 1,300,000
South Coast	Los Angeles	San Diego	Solana Beach, California	$10,096,000	A study of shoreline erosion along 8 miles of San Diego County coastline. Bluff erosion is extremely dangerous to the public, considering that portions of the bluffs have collapsed and threaten private property.	Yes	Recreation	Yes	$300,000
San Joaquin River	Sacramento	San Joaquin	Stockton Metropolitan Flood Control Reimbursement, California	$33,500,000	This project will continue reimbursement of Stockton metropolitan area flood risk management projects that were completed in 1998.			No	
San Francisco Bay	San Francisco	San Mateo, Santa Clara	San Francisquito Creek, California	$53,000,000	The study area is located in the northern portion of Santa Clara County, and in southern San Mateo County, in northern California, about 22 miles south of San Francisco. San Francisquito Creek has an inadequate carrying capacity due to vegetation, sedimentation, land subsidence, levee settlement, and erosion. Flooding from the creek affects the cities of Menlo Park and East Palo Alto in San Mateo County, and Palo Alto in Santa Clara County. San Francisquito Creek starts at the base of Searsville Dam at Stanford University and flows into the San Francisco Bay about 2.5 miles south of the Dumbarton Bridge. As a result of record rainfall in February 1998, San Francisquito Creek overtopped its banks, affecting approximately 1,700 residential and commercial structures and causing more than $26.6 million in property damages. The study will evaluate potential improvement plans to help alleviate flooding problems, as well as address environmental degradation of the watershed.	Yes	Ecosystem	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
Central Coast	Los Angeles	Santa Barbara	Carpinteria Shoreline Study	$3,979,000	This study is investigating shoreline protection and coastal storm damage reduction along the 1,200-foot stretch of shoreline at the city of Carpinteria.			No	
Central Coast	Los Angeles	Santa Barbara	Lower Mission Creek Flood Control and Restoration Project	$90,229,000	The purpose of this project is to improve the flood flow conveyance and habitat for aquatic species of Mission Creek through the downtown area of the City of Santa Barbara.	Yes	Ecosystem	No	
Central Coast	Los Angeles	Santa Barbara	Santa Maria Levee Improvement Project, California	$59,194,000	Project to correct deficiencies with the Santa Maria River levee in an effort to protect the residents of Santa Maria and northern Santa Barbara County from flooding.			Yes	$ 6,089,000
San Francisco Bay	San Francisco (Design and Construct), Sacramento (Investigation)	Santa Clara	Coyote and Berryessa Creeks, California	$18,000,000	The purpose of this project is to provide flood protection for Silicon Valley's high-tech, commercial industries, and residential areas with potential damages from a 1 percent flood exceeding $202 million. Alternatives will be selected in an environmentally sensitive way that is acceptable to the local community and that addresses sedimentation and water quality issues.	Yes	Flood Risk Management, Water Quality	Y	$ 276,000
Central Coast	San Francisco	Santa Clara	Llagas Creek, California	$105,000,000	The Project area is located in southern Santa Clara County, California, in the vicinity of the communities of Morgan Hill, San Martin, and Gilroy. Llagas Creek is the conduit to the Pajaro River and the Monterey Bay for a 104-square-mile watershed around Morgan Hill and Gilroy. The creek system is especially prone to flooding, having recorded floods in 1937, 1955, 1962, 1963, 1969, 1982 and 1997. Primarily, the project consists of channel improvements and a diversion channel providing 100-year level of flood protection to urban areas and 10-year protection to agricultural areas.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Santa Clara	South San Francisco Shoreline, California	$500,000,000	The study area is located along the shoreline of South San Francisco Bay, California, extending from the city of Palo Alto to city of San Leandro. A substantial portion of the Bay shoreline consists of levees that provide protection from tidal flooding for an extensive residential, commercial, and industrial area. These levees are part of an extensive system of former salt manufacturing ponds, which can be restored to vital wetland habitat that would support multiple threatened and endangered species. The last estimated value of the urban development in low-lying areas along the Bay shoreline is approximately $5.5 billion (at September 1998 price levels). The study will reexamine tidal and fluvial flooding problems, and restoration opportunities, and potential alternative solutions.	Yes	Ecosystem, Recreation, Water Quality	Yes	$ 353,000
San Francisco Bay	San Francisco	Santa Clara	Upper Guadalupe River, California	$256,000,000	The Project area is located along the upstream portion of the Guadalupe River in the city of San Jose, Santa Clara County, California. The reach of the river proposed for improvement begins 1,800 feet upstream of the Southern Pacific Railroad crossing at the edge of downtown San Jose and extends south (upstream) for about 5 miles to Blossom Hill Road. The Guadalupe River extends from the community of Alviso at the river's mouth upstream for about 21 miles, and is one of the major drainage areas in Santa Clara Valley. The recommended project includes channel widening, a bypass channel, and construction of levees and floodwalls. This upper portion provides protection consistent with the authorized and nearly completed Guadalupe Project in downtown San Jose.			No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Santa Clara	Upper Penitencia Creek, California	$124,000,000	Upper Penitencia Creek is located in the city of San Jose in Santa Clara County, California. The project is intended to reduce flood damages in San Jose and Milpitas. Alternatives under consideration for this 3.6-mile reach include a combination of floodproofing at the upstream limit, levees, floodwalls, and bypass channels.			Yes	$ 177,000
Central Coast	San Francisco	Santa Cruz	Pajaro River at Watsonville, California	$220,000,000	This originally authorized flood control project will address flooding from the existing Pajaro River and Salsipuedes Creek project (1949) and from Corralitos Creek. The study objective is to develop a plan that provides a 100-year level of protection on both the mainstem and tributaries. This project is limited to benefits based on the Net Economic Development, although environmental sustainability will be considered because the Pajaro River contains endangered fish species.	Yes	Ecosystem	No	
Central Coast	Sacramento* *Note: In the process of being transferred to the South Pacific Division – San Francisco District	Santa Cruz	San Lorenzo River, California	$25,600,000	This is an authorized flood control levee project on the San Lorenzo River in Santa Cruz that will provide 100-year flood protection. Phase II of the project will include analyzing the dredging component and investigating the possibilities of additional floodwalls or levee raise in lieu of dredging due to the Environmental restrictions in the area. The largest recorded flood of the river inundated 410 acres, causing approximately $7.6 million in damages. The project provides flood protection to important residential and commercial areas for the 56,000 residents of Santa Cruz.			No	
Sacramento River	Sacramento	Solano	Sacramento River Bank Protection (portions of bank along Yolo Bypass)	$9,800,000	Related to/supports Sacramento River Flood Control Project. The project would increase bank stabilization through restoration and geomorphology efforts in areas within Reclamation District 2068 in the Yolo Bypass area.			Yes	$ 9,800,000

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
San Francisco Bay	San Francisco	Sonoma	Petaluma River, California	$46,140,000	The roughly 1-mile-long project extends upstream from Lynch Creek downstream to a point roughly 600 feet downstream of the Lakeville Street bridge. The project includes a concrete weir, two new pump stations, two large mitigation sites, the replacement of two vehicular bridges, one railroad bridge, and one spur line. In the central residential area of Petaluma, more than 600 structures are located within the FEMA 100-year floodplain, which was subject to catastrophic flooding from the Petaluma River in 1982, at which time $28 million in damages were incurred. The same area has flooded six times since 1982. Flood crests occur very quickly with little warning.			No	
San Joaquin River	Sacramento	Stanislaus	San Joaquin River Basins, West Stanislaus County, Orestimba Creek, California	$3,722,550	Development of a feasibility study to finalize a flood damage reduction plan for Orestimba Creek. The proposed public safety improvements will potentially diminish the frequency and significance of damage caused by flooding in this region, increasing flood protection from its current 4-year flood level to 100-year level protection. This feasibility study will identify the Federal interest in reducing the risk of flooding from Orestimba Creek to the town of Newman, California, and surrounding agricultural land. Currently, high flows overtop the banks of Orestimba Creek, spilling onto adjacent agricultural land and eventually flowing into the town of Newman. Alternative plans include a chevron levee to protect the town of Newman and channel modifications to allow more flow through a constricted portion of the creek.			Yes	$ 223,000
Tulare Lake	Sacramento	Tulare	San Joaquin River Basin, Frazier Creek, California	$1,500,000	The purpose of this study is to determine Federal interest in providing flood risk management, environmental restoration, recreation, and water quality improvements on Frazier and Strathmore creeks.	Yes	Ecosystem, Water Quality, Flood Risk Management, Recreation	No	

Table E-E-2. USACE Planned and Ongoing Projects

Hydrologic Region	USACE District	County	USACE Project Name	USACE Project Cost Share (Federal Cost Share)	Project Description	IWM Project	Type of IWM Project	Project Funded in FY 2012	Funding Appropriated in FY 2012
Tulare Lake	Sacramento	Tulare	Success Dam, Tule River, California (Dam Safety)	$500,000,000	Success Dam is an earthen flood risk management dam on the Tule River in the southern San Joaquin Valley. USACE has downgraded its risk potential associated with dam and remediation alternatives to be determined.	Yes	Dam Safety, Irrigation, Water Supply	Yes	$12,600,000
Tulare Lake	Sacramento	Tulare	Terminus Dam, Lake Kaweah, California	$8,341,000	The purpose of this project is to provide additional flood risk management and water supply storage capacity by constructing fuse gates in the Terminus Dam spillway, thereby raising the spillway crest elevation by 21 feet.			Yes	$218,500
Tulare Lake	Sacramento	Tulare	Tule River, California	$18,200,000	Success Dam is an earthen flood risk management dam on the Tule River in the southern San Joaquin Valley. USACE has downgraded its risk potential associated with dam and remediation alternatives to be determined.	Yes	Water Supply, Irrigation	No	
Tulare Lake	Sacramento	Tulare	San Joaquin River Basin, White River and Deer Creek, California	$1,500,000	The purpose of this study is to determine Federal interest in providing flood risk management and environmental restoration on White River, Dear Creek, and adjacent streams in the vicinity of the town Earlimart, California.	Yes	Ecosystem, Flood Risk Management	No	
South Coast	Los Angeles	Ventura, Santa Barbara	Matilija Dam Ecosystem Restoration	$140,000,000	The purpose of this project is to remove Matilija Dam and to identify mitigation.	Yes	Ecosystem	No	
South Coast	Los Angeles	Ventura, Santa Barbara	Santa Paula Creek		Purpose of the project is to provide flood protection to the community of Santa Paula.			Yes	$ 2,036,000
South Coast	Los Angeles	Ventura, Santa Barbara	Ventura and Santa Barbara County Shoreline, California	$2,930,000	The purpose of the project is to identify and quantify the pathways for near-shore sediment transport in Santa Barbara and Ventura counties, with emphasis on critical regions of shoreline erosion.	Yes	Ecosystem	No	

Note:

All projects were identified as of January 2012.

Appendix F: Beta Test Results

This appendix contains a brief summary of the results of the Beta Tests performed at the beginning of Stage 3 Information Gathering.

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Beta Test Agency Recommendations

Valuable feedback was received from the beta test agencies. The three beta test agencies selected were San Bernardino County Department of Public Works, Santa Clara Valley Water District, and Sonoma County Water Agency. Overall, the beta test process confirmed that the proposed methodology developed for interacting with the agencies and collecting information was sound and would achieve the desired outcomes. DWR learned that information for IWM, finance, infrastructure, and project lists is more readily available than information for risk characterization.

Some significant findings from meeting with the beta test agencies include the following:

- Local agencies do not typically compute potential damage or loss of life; this translates to limited availability of loading and exposure information.
- Most agencies focus on complying with design standards without regard to the benefit-cost ratio typically used by USACE to justify funding for flood infrastructure.
- USACE reconnaissance and feasibility studies, although a good source of risk information, are infrequently developed (many were more than 20 years old).
- Local agencies may have annual damage data but not loss of life data.

Recommendations for future information gathering that the beta test agencies offered on the checklist were as follows:

- Streamline questions on Integrated Flood Management.
- Make risk questions less technical.
- Focus on location of and exposure to inundation. Which populations are inundated? Do they know they are exposed?
- Understand the responsibilities of agencies in the region to help shape follow-up questions.
- Specifically ask about Capital Improvement Plans (CIPs) and budget documents, both of which are good sources of planned projects.

DWR used the feedback from the beta test agencies to develop a training program for the teams tasked with collecting information from agencies for the statewide Stage 3 information gathering effort. The beta test results better prepared the teams to use agency resources more efficiently.

Information Gathering Process Revisions

Overall, the beta tests confirmed that the proposed methodology and tools for the Stage 3 information gathering effort were effective and, with minor modifications, would achieve the desired outcomes. For the detailed results of the beta test specifically pertaining to information gathering, refer to the Information Gathering Beta Test technical memorandum.

Financial Information

The breadth and varied nature of the financing and funding mechanisms of the three beta test agencies became apparent during the meetings. The open-ended questions and financial documents collected from the agencies, such as annual budget plans and/or CIP information, were determined to be sufficient for initiating a discussion and capturing the broad scope of each agency's funding process. For the detailed results of the beta test specifically pertaining to finance information gathering, refer to the Finance Information Gathering Beta Test technical memorandum.

Risk Information

Based on the beta test results, the original approach would not accurately capture the available components of risk analysis in the state. Observations revealed that local agencies do not typically gather detailed risk information, such as potential loss of lives or projected flood depth-to-damage costs. A risk analysis performed in accordance with USACE standards on a statewide scale would not be representative of the risk information generally available from flood management agencies. After the beta test was performed, the original methodology pertaining to risk characterization was modified and simplified.

The revised methodology would look at risk as a compilation of five components—hazard, performance, exposure, vulnerability, and consequence. Information gathered for each agency would be reviewed for any data that would fall into these risk analysis categories. The overview of this effort to gather information specifically related to risk would be available via an inventory of risk data.

Additionally, as part of the revised methodology, maps that analyze flood hazard exposure for each hydrologic region were added as part of the information gathering products. After review of the available information, both in GIS and hardcopy mapping data, it was determined that the level of flood exposure could be shown in this visual and dynamic way.

For the detailed results of the beta test specifically pertaining to risk characterization, refer to the Risk Characterization Beta Test technical memorandum.

IWM Information

Also referred to as Integrated Flood Management (IFM), Integrated Water Management (IWM) is a collection of policies, practices, and tools applied to water resources planning and management to achieve multiple objectives and enhanced outcomes. IWM information was gathered regarding planned projects, challenges and opportunities, and management actions. As a result of the beta tests, the methodology for gathering information specifically regarding IWM/IFM was refined and simplified, and now includes an additional fact sheet and pared-down interview questions.

For the detailed results of the beta test specifically pertaining to IFM/IWM, refer to the Integrated Water Management Beta Test technical memorandum.

Appendix G: Information Gathering Meeting Materials and Tools

This appendix contains the following from the SFMP Information Gathering Process:

- Stage 3 Agency Meeting Materials
- SFMP Collected Document Processing Tools and Example Tables

G.1 Instructions for Information Gathering Template

G.2 Agency Contact Record

G.3 List of Identified Documents

G.4 Summary of Financing Strategies

G.5 List of Agency Recommendations

G.6 Fact Sheet: Integrated Flood Management

G.7 Fact Sheet: Flood Risk

G.8 Fact Sheet: Statewide Flood Management Planning Program

G.9 Sample Agency Meeting Agenda

G.10 Information Gathering Worksheet

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G.1 Instructions for Information Gathering Template

SFMP Information Gathering Template

Purpose of this Information Gathering Template

This template is to be used to capture information gathered during the Stage 3 information gathering process for the Statewide Flood Management Planning (SFMP) Program. This template is to be used to store specific information for a single agency. The information to be stored in this template includes:

(1) Agency Contact Record - Records contact information for each contact made at an agency.
(2) Existing Documents Table - List of all documents collected during the information gathering process.
(3) Financing Strategies - List of Financing Strategies used by agency to fund flood management projects (capital and Operation and Maintenance.)
(4) List of Agency Recommendations - List of recommendations for addressing problems/issues/concerns related to flood management.

How to Use this Template

Step 1: Read the Instructions
Step 2: Rename file using Agency Abbreviation, "IG Template", and date (e.g., SCV_WD_IG_Template_08-01-11.xls)
Step 3: Insert Agency Contact Information as agency contacts are identified
Step 3: Insert Existing Documents into "Existing Document Table" as information is gathered either as part of background research or from agency in person meeting or follow-up.
Step 4: Summarize Financial Strategies used by agency from meeting minutes into "Financing Strategies" worksheet
Step 5: Summarize recommendation/issues/concerns from agencies in-person meeting into "List of Agency Recommendations" worksheet
Step 6: Spell check spreadsheet
Step 7: Submit to Agency Lead for review.
Step 8: Submit to Regional Coordinator for review by regional team area specific specialists (finance, information gathering, recommendations)

Definition of Terms Used in Worksheets

General Rules for Using Template:
(1) All dates provides should be in mm/dd/yyyy format.
(2) All notes should be in sentence case *(Sentence case means provide responses in complete sentence format with no abbreviations.*
(3) Do not add/delete columns.
(4) Do not change formatting of cells as tables will be compiled for use in SFMP Flood Future Report Appendices.

The following are definition of terms used in this template:

Agency Contact Record

Agency Contact Information - Provide the agency name (from pull-down list), agency location address (street address, city, state, zip)
Agency Contact - Provide agency contact information (Contact Name, title, email address, phone number) and select key contact from key contact column.
Date - Date of Initial Contact in mm/dd/yyyy format.
Notes - Provide any notes/comments in sentence case.

Existing Documents Table

Document Number - Document Number is Agency Abbreviation (from Agency Abbreviation List) followed by sequential numbering (e.g., SCV_WD_1)
Document Title - Document title as listed on document cover page.
Document Description - A one sentence description on what the document contains.
Date Document Published - Date document published in mm/dd/yyyy format. If report provides only month and year publish date then use mm/01/yyyy format, if title provides only year use 01/01/yyyy format.
Information Data Format - Select "10" to identify category is correct format. If "other" is the format, please insert description of format.
Category of Information in Document - Select "10" to identify category of information contained within document. Multiple categories may be selected.
Filename - Use original agency filename if it describes document otherwise rename with agency abbreviation followed by year published and document description (e.g., SCV_WD_ 1995_flood_RPT.pdf). Make sure to use no special characters except underscores ("_") as the files will not upload to LifeRay site.
Agency Name - Select agency name from pull-down list.
County - Select County name from pull-down list.
Hydrologic Region - Select Region from pull-down list.
Information Source - Insert source of information (i.e., agency website, in-person meeting, follow-up contact with agency, or describe other)
Date Collected - Insert date report/study/information was collected in mm/dd/yyyy format.
Location Description - Insert description of study/report location, if available.
Comments - Provide any notes/comments in sentence case.

Financing Strategies

Agency Name - Select agency name from pull-down list.
County - Select County name from pull-down list.
Hydrologic Region - Select Region from pull-down list.
Type of Financing - Enter type of financing used by local agency as described by agency. Financing types could include local funding (parcel tax, local development fees, property tax, etc.), federal funding (USACE, NRCS, FEMA, USBR, ARRA, others), state funding (Propositions, subventions program, etc), others.
Timeframe - Timeframe of funding, if available. Timeframe may be a specific date timeframe or described in sentence format.

List of Agency Recommendations

Agency Name - Select agency name from pull-down list.
Agency County - Select County name from pull-down list.

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G.2 Agency Contact Record

Agency Information						Agency Contact					Date of Contact	Notes
Agency Name	Street Address	City	State	Zip	County	Name	Title	Email	Phone	Key Contact		
Pull Down					Pull Down							

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G.3 List of Identified Documents

Document No	Document Title	Document Description	Date Document Published	Information/Data Format								Category of Information in Document				Filename	Agency Name	County	Hydrologic Region	Information Source	Date Collected	Location Description	Comments
				Electronic							Other (Describe)												
				GIS	Word	Excel	PDF	CADD	Hard Copy	Other		Infrastructure	IFM/FM Projects	Financial	Risk								
				Yes/No								Yes/No					Pull Down	Pull Down	Pull down				

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G.4 Summary of Financing Strategies

Agency Name	County	Hydrologic Region	Type of Financing	Timeframe
Pull Down	Pull Down	Pull Down		

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G.5 List of Agency Recommendations

Agency Name	County	Hydrologic Region	Area of Concern
Pull Down	Pull Down	Pull Down	

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G.6 Fact Sheet: Integrated Flood Management

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California Department of Water Resources FloodSAFE California

Integrated Flood Management

California promotes an integrated approach to statewide flood management, which includes improving public safety, reducing flood damages, enhancing environmental stewardship and supporting water supply.

Integrated Flood Management (IFM) is an approach to dealing with flood risk that recognizes the connection of flood management actions to water resources management, land use planning, environmental stewardship and sustainability. IFM also recognizes the importance of evaluating opportunities and potential impacts from a system perspective, and the importance of coordinating across geographic and agency boundaries.

IFM uses various techniques to manage flooding, including structural projects (such as levees), nonstructural measures (such as land use practices), and natural watershed functions. Depending on the characteristics of individual watersheds, various resource management strategies may be used, such as: agricultural land stewardship, conjunctive water management, conveyance, ecosystem restoration, forest management, land use planning and management, surface storage, system reoperations, urban runoff management and watershed management.

(Detailed information on these resource management strategies is available in the *California Water Plan Update 2009*, www.waterplan.water.ca.gov.)

A Look Back

Flood management practices traditionally focused on reducing the chance of flooding and flood damages through physical measures intended to store floodwaters and to quickly convey potential floodwaters away from areas to be protected. Although this approach can reduce the intensity and frequency of flooding, it can also limit the floodplain's natural function and have other unintended consequences.

Natural Watershed Features Assist Flood Management

In recent years, flood managers have recognized the potential for natural watershed features to reduce the intensity or duration of flooding. Natural watershed features include: undeveloped floodplains that can store and slowly release floodwaters and wetlands acting as sponges, soaking up floodwaters, filtering runoff, and providing opportunities for infiltration to groundwater. Natural watershed features also include healthy forests, meadows, and other open spaces that can slow runoff during smaller flood events, reducing peak flows, mudslides, and sediment loads in streams.

(continued)

FloodSAFE CALIFORNIA PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

California Department of Water Resources FloodSAFE California

Feather River Setback Levee
(photo: Yuba County Water Agency)

FloodSAFE:

The Department of Water Resources launched FloodSAFE in 2006 to address the increasing flood risks throughout California. FloodSAFE is a multi-faceted initiative designed to improve flood management in the state, using a system-wide approach while also carrying out regional projects, and enhancing DWR's core flood management programs already in place. FloodSAFE has five primary goals:

- *Reduce the chance of flooding*
- *Reduce the consequences of flooding*
- *Sustain economic growth*
- *Protect and enhance ecosystems*
- *Promote sustainability of the flood management system*

For more information, visit www.water.ca.gov/floodsafe

(continued)

Example of Integrated Flood Management

Lower Feather River Corridor Management Plan and Three Rivers Levee Improvement Authority

The Lower Feather River Corridor Management Plan – a pilot for this approach—is being developed for a 20-mile reach of the Feather River between Yuba City and the Sutter Bypass. Levee failures in 1986 and 1997 inundated this area, causing approximately $600 million in damages and several deaths.

The Lower Feather River Corridor Management Plan includes a strategy for future management and maintenance of flood protection facilities, conveyance channels, floodplains and uplands.

The Three Rivers Levee Improvement Authority's (TRLIA) Feather River Setback Levee is a component of that corridor management strategy.

Yuba County and Reclamation District 784 established TRLIA in 2004 as a joint-powers agency, with the goal of increasing flood protection in the region. TRLIA's levee program includes the 29-mile levee system surrounding the south Yuba County communities of Linda, Arboga, Olivehurst, and Plumas Lake and includes the Bear River, Feather River, Yuba River, and the Western Pacific Interceptor Canal.

Approximately 6 miles in length, the Feather River Setback Levee has resulted in about 1,600 acres of expanded floodway and habitat along the Feather River. Regionally, the setback is expected to lower water levels by more than 1.5 feet during large flood events, easing pressure on both the Yuba and Feather River Levees and providing regional flood protection benefits to South Yuba County as well as the cities of Marysville and Yuba, but without transferring flood risk to downstream locations.

For more information, contact us at: **sfmp@water.ca.gov** or visit **www.water.ca.gov/sfmp**

FloodSAFE CALIFORNIA PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

G.7 Fact Sheet: Flood Risk

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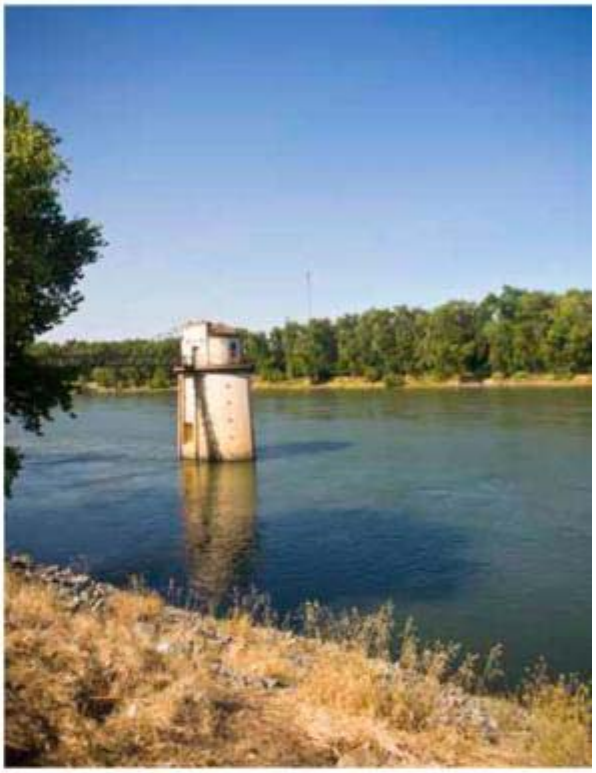
Flood Risk
and the Statewide Flood Management Planning Program

FLOOD RISK ASSESSMENT



The California Department of Water Resources (DWR) defines flood risk as the long-term average consequences of flood inundation, including both economic and life-safety consequences.

Flood risk components

- **Flood hazard:** Various types of flooding that can cause damage or harm
- **Loading:** A description of the likelihood that differing size water flows will occur at a specific location
- **Exposure:** A relationship between naturally occurring flows and potential consequences
- **Consequences:** Undesirable outcomes from floods

Characterizing flood risk in California

The Statewide Flood Management Planning Program is gathering existing studies and reports from throughout the state that describe and quantify the different components that represent flood risk.

The Statewide Flood Management Planning Program will use this information to produce a report titled: *Flood Future: Recommendations for Managing California's Flood Risk (Flood Future Report)*. The *Flood Future Report* will provide the first characterization of statewide flood risk, along with the challenges, opportunities and recommendations for improving and financing integrated flood management. A public review draft of the Flood Future Report will be available in 2012.

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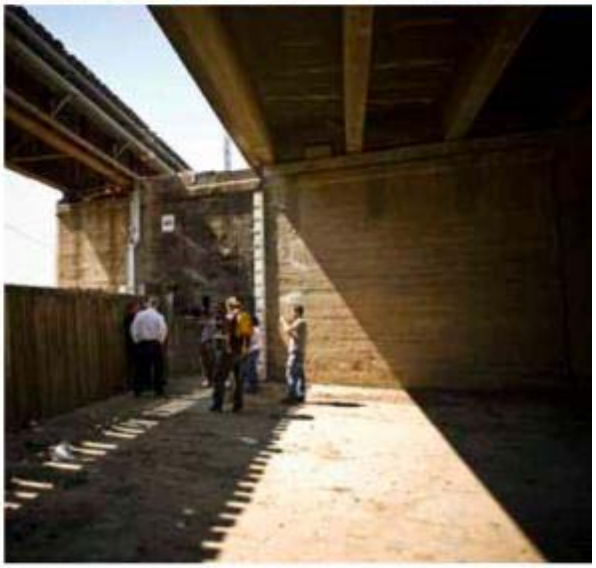

FloodSAFE CALIFORNIA PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

The Statewide Flood Management Planning Program is led by the California Department of Water Resources through the FloodSAFE Initiative and the Division of Integrated Statewide Water Management; in collaboration with local, State and federal agencies and tribes throughout California.

The Statewide Flood Management Planning Program will help guide the State's decisions, and inform federal decisions, about policies and financial investments related to integrated flood management throughout California.

FloodSAFE:

The Department of Water Resources launched FloodSAFE in 2006 to address the increasing flood risks throughout California. FloodSAFE is a multi-faceted initiative designed to improve flood management in the state, using a system-wide approach while also carrying out regional projects, and enhancing DWR's core flood management programs already in place. FloodSAFE has five primary goals:

- *Reduce the chance of flooding*
- *Reduce the consequences of flooding*
- *Sustain economic growth*
- *Protect and enhance ecosystems*
- *Promote sustainability of the flood management system*

For more information, visit **www.water.ca.gov/floodsafe**

(continued)

In order to characterize the potential vulnerabilities and consequences of flooding throughout California, the *Flood Future Report* will illustrate where flood hazards exist, and highlight where people and property are located within floodplains.

Early information gathering efforts indicate that complete flood risk information is not available for most regions in the state. Therefore, the Statewide Flood Management Planning Program will overlay the best available maps that show the areas that would be inundated by floods, on maps of California's population and property. These combined maps will identify the populations and property subject to damage from a 100-year flood and a 500-year flood.

While this information does not provide a complete description of flood risk, it does allow for comparisons of the relative concentrations of population and property that are located within floodplains throughout California.

For areas of California where information is available on all components of flood risk, the *Flood Future Report* will present the long-term average consequences (economic and life safety) of flood inundation.

For more information, visit: **www.water.ca.gov/sfmp**

FloodSAFE CALIFORNIA

PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

G.8 Fact Sheet: Statewide Flood Management Planning Program

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California Department of Water Resources FloodSAFE California

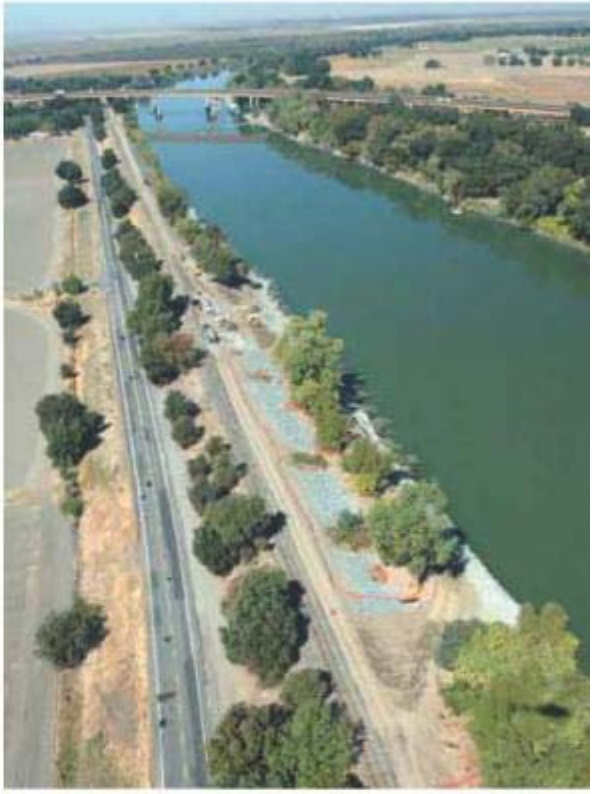
Statewide Flood Management Planning Program

FLOOD SYSTEM INVESTMENT

The Statewide Flood Management Planning Program is led by the California Department of Water Resources (DWR) through the FloodSAFE Initiative and the Division of Integrated Statewide Water Management in collaboration with Federal, Tribal, State and local governments throughout California.

The SFMP Program was developed under the FloodSAFE Initiative to expand the focus of California's flood management planning statewide. The purpose of the SFMP Program is to make recommendations to guide State and Federal flood management policies and investments in the coming decades by:

- Promoting understanding of flood risks in California
- Garnering active support for partnerships at the Federal, State and local levels
- Coordinating with other California Department of Water Resources (DWR) planning efforts
- Identifying strategies and feasible next steps in integrated flood management (IFM)
- Informing local flood management organizations of IFM strategies
- Developing recommendations to improve integrated flood management throughout the state



The Department of Water Resources is collaborating with the U.S. Army Corps of Engineers to produce the Flood Future Report, which will help guide Federal and State decisions about policies and financial investments related to integrated flood management throughout California.

California promotes an integrated approach to statewide flood management, which includes improving public safety, reducing flood damages, enhancing environmental stewardship and improving water supply reliability.

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

US Army Corps of Engineers

(continued)

Flood Future: Recommendations for Managing California's Flood Risk

The Statewide Flood Management Planning Program will release a report in 2012 titled *Flood Future: Recommendations for Managing California's Flood Risk (Flood Future Report).*

The *Flood Future Report* is an initial step to identifying flood management issues statewide and developing recommendations to help address these issues. The *Flood Future Report* will explore financing, institutional, legislative and policy strategies to help chart a path forward to meet current and future challenges.

DWR used a three step process to develop the *Flood Future Report*:

1. Collect information from Federal, State and local agencies to identify current and future exposure to flood hazards; and identify where information gaps exist.
2. Identify current and planned flood management projects throughout California, and identify strategies to improve integrated flood management.
3. Summarize key findings from the first two steps. Make recommendations for how Federal and State government agencies can assist local implementation of integrated flood management improvements.

Statewide Flood Management Planning and the California Water Plan

Statewide flood management is being addressed in the 2013 California Water Plan Flood Caucus, whose members include floodplain managers, local maintaining agencies and other organizations deeply involved in flood management.

The California Water Plan provides a collaborative planning framework for elected officials, agencies, Tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The California Water Plan evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship.

For more information, contact us at: **sfmp@water.ca.gov** or visit **www.water.ca.gov/sfmp**

January 2012

About FloodSAFE

The Department of Water Resources launched FloodSAFE in 2006 to address the increasing flood risks throughout California. FloodSAFE is a multi-faceted initiative designed to improve flood management in the State, using a system-wide approach while also carrying out regional projects, and enhancing DWR's core flood management programs already in place. FloodSAFE has five primary goals:

- *Reduce the chance of flooding*
- *Reduce the consequences of flooding*
- *Sustain economic growth*
- *Protect and enhance ecosystems*
- *Promote sustainability of the flood management system*

STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

PUBLIC SAFETY ENVIRONMENTAL STEWARDSHIP ECONOMIC STABILITY

US Army Corps of Engineers

G.9 Sample Agency Meeting Agenda

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STATEWIDE FLOOD MANAGEMENT PLANNING PROGRAM

FloodSAFE CALIFORNIA

Napa County SFMP Agenda

September 15, 2011 1:00 p.m.
Flood Control District Office, 804 First Street, Napa, CA

Session Objectives:

1. Provide participants with an overview of Project Goals and Information Gathering
2. Gather essential information for use in developing the Flood Future report
3. Receive Agency Recommendations

#	MINUTES	ITEM
1.	10-15	Welcome and Greetings, Introductions, Agenda Review
2.	10	Overview • Meeting Purpose • Project Purpose • Flood Future Report
3.	15-30	Tell us more about your Agency – 1. Role in the overall Water Community - Region 2. Roles associated with Flood Risk 3. Roles associated with IRWM
4.	15-30	Question Checklist • Overview of Full Checklist • Overview of Materials Already Collected - Stream Management Master Plan (SMMP) program documents and EIR - Individual Projects: o Arroyo de la Laguna; Arroyo de las Positas; etc.
5.	60-120	Checklist Walkthrough • Compile information During the Session • Determine Next Steps for Information Not Available During the Session
6.	15-25	Wrap-Up, Action Items, Next Steps, Last thoughts
7.		Adjourn

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G.10 Information Gathering Worksheet

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INFORMATION GATHERING WORKSHEET

TOPIC	QUESTIONS
Introductory Information:	Point of Contact AGENCY NAME: AGENCY REPRESENTATIVE: DATE: 1. Who is the Best Point of Contact for planned project, risk, and Integrated Flood Management (IRWM Planning)? Roles and Responsibilities 2a. What is the Role/Responsibility of your agency for flood management within the county? 2b. Do you know of any other flood management agencies in your county that we should contact? Agency Priorities, Opportunities, and Challenges 3. Considering the State's role in flood management, what priorities, opportunities, and challenges related to flood management do you see for this region (both in the next 10 years and for the long-tem [next 50 years])?
General Information	Flood Infrastructure Inventory 4. We are trying to identify the major flood management infrastructure in your area. Do you have (or know of) other information about major flood management infrastructure in your area that we have not mentioned in the information we brought with us? We are primarily looking for descriptions, locations (e.g., GIS / maps), and an assessment of their level of readiness to perform. 5. Please describe any procedures that you need us to take to obtain additional information/data from your agency. Communication and Engagement 6a. Does your agency work with FEMA to promote the purchase of flood insurance? 6b. Does your agency conduct public outreach programs about flood risk or flood management programs? What is the best way to gather more information about that?
Risk Characterization Information	Risk Study 7. In your area, where is flooding a concern (i.e., when you have a flood who or what gets or could get flooded, without regard to depth [gets wet])? Risk Study

TOPIC	QUESTIONS
	8. Do you have any studies/ reports that document the flood inundation concerns in your area (i.e., how do you know who gets flooded - what Reports/Studies/Information/FEMA claims/ USACE reports do you have)?
	Loading Information
Risk Characterization Information	9. Do you have damage information or information for the people/property that are at risk?
	Exposure Information
	10. Can you describe the reliability/performance of your flood infrastructure system? (Do you know of any underperforming levees; undersized culverts; low bridge decks; other CIP identified issues?) What are the opportunities to enhance your system?
IFM Information	Flood Management/ Integrated Flood Management (FM/IFM) -- general questions
	11. DWR defines Integrated Flood Management as an approach to dealing with flood risk that recognizes the: • Interconnection of flood management actions within broader water resources management and land use planning • Value of coordinating across geographic and agency boundaries • Need to evaluate opportunities and potential impacts from a system perspective • Integration of environmental stewardship; and the promotion of sustainability What is your definition of IFM? [Discuss any differences between the DWR definition and the organization's definition]
	12. Are you currently incorporating IFM in your planning process? And if not, why? What actions and issues do you expect to see related to FM/IFM in your area in the short-term (10-years) and long-term?
	FM/IFM – Planned/Potential Projects
	13. Describe any planned or potential FM or IFM projects in your region/watershed. [Try to get information, documents, or Web links that include: project name, responsible agencies, partnering agencies, type of flood hazard, purposes, location, status, brief description, related studies, cost/financing information, format of information, point of contact, in existing/being updated IRWM Plan (Yes/No)?]
	FM/IFM -- existing/ongoing Studies related to FM/IFM
	14. Describe any existing or ongoing FM or IFM studies or investigations in your region/watershed that were not included in your answer to #12. [For existing studies, try to get documents and/or Web links; For ongoing studies, try to get information, documents, or Web links that include: scope, schedule, point of contact]

TOPIC	QUESTIONS
	Integrated Regional Water Management (IRWM) Planning General
IFM Information	Available information on your region's IRWM Plan has been reviewed. 15a. What will your IRWM Plan include related to FM/IFM? [such as: other FM/IFM related information/policies/ institutional arrangements, revised prioritization process, other related items that are not included in the existing IRWM Plan] 15b. How are you coordinating with neighborhood flood management agencies? 15c. What materials are available related to coordination and/or institutional arrangements?
	IRWM Planning -- Planned/Potential Projects
	16. Based on your understanding of IFM, are there planned/potential projects in your region/watershed that should be considered in this effort? Types of projects include: • Open space, habitat, ecosystem restoration • Groundwater recharge, conjunctive use
Organizational/ Governance	Financial Information
	17. Please describe any relevant information about how past, present, and future FM projects have been or will be financed in your region.
What Else?	18. Can you think of any other information you think would be important for us to be aware of as we prepare our Flood Future Report?

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Appendix H: Glossary

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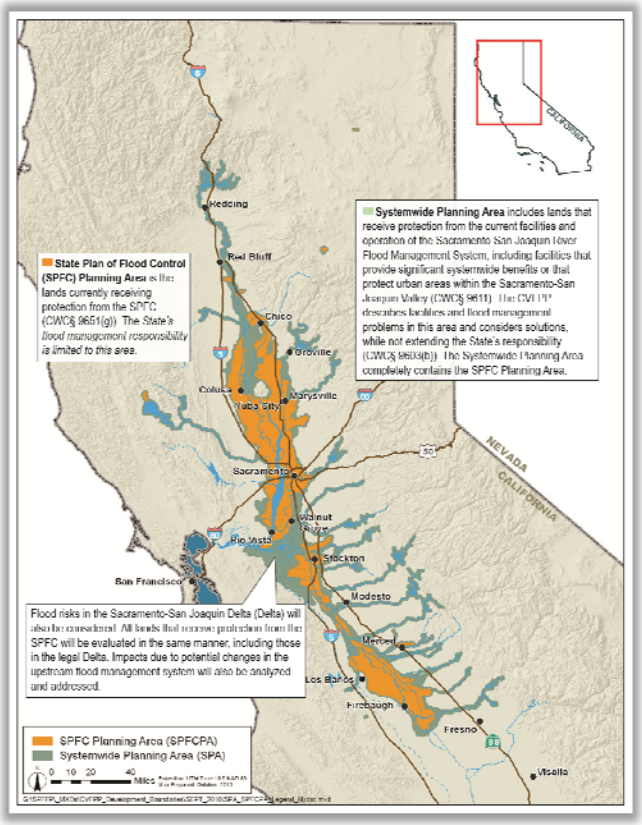
Appendix H: Glossary

2-year event	50 percent chance of exceedance in a given year
20-year event	5 percent chance of exceedance in a given year
50-year event	2 percent chance of exceedance in a given year
100-year event	(also known as a base flood) 1 percent chance of exceedance in a given year
200-year event	0.5 percent chance of exceedance in a given year
500-year event	0.2 percent chance of exceedance in a given year
A-Zone	The A-zone is an area of special flood hazard without water surface elevations determined. Flood insurance is mandatory in areas with a 1 percent annual chance of flooding.
Actions	Informed by tools and guided by plans, actions include activities that fund, manage, and oversee implementation of the projects. Actions also include fostering innovation and developing agency alignment to improve flood management policies, planning, governance, and investments. Actions based on IWM principles and thorough planning efforts will provide the most benefit to Californians.
Alluvial Fan Flooding	Flows of shallow depth and high velocity, with sediment transport, along uncertain flow paths on the surface and at the toe of alluvial fans. Typically caused by localized rainstorms, often with snowmelt.
Atmospheric River	A weather pattern that forms a narrow corridor of concentrated moisture in the atmosphere that drops torrential rains as it passes over land.
Base Flood Elevation	The elevation of surface water resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year. The base flood elevation is shown on Flood Insurance Rate Maps for zones AE, AH, A1-A30, AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO, V1–V30, and VE.
Benefit-to-Cost (B/C) Analysis	The B/C analysis is a formalized procedure for estimating the benefits that a project is expected to generate and the costs necessary to produce the project, and then comparing project alternatives. When planning for flood protection, there will be construction and implementation costs, as well as flood risk reduction benefits.
California Data Exchange Center (CDEC)	The CDEC provides a centralized location to store and process real-time hydrologic information gathered from different contributors statewide.
California Water Plan (CWP)	The CWP provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The plan, updated every 5 years, presents the status and trends of California's water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The CWP also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship.

Capacity Exceedance	Capacity exceedance implies exceedance of the capacity of a water conveyance, storage facility, or damage-reduction measure. This includes levee or reservoir capacity exceeded before overtopping, channel capacity exceedance, or rise of water above the level of raised structures.
Central Valley Flood Management Planning (CVFMP) Program	CVFMP is one program within FloodSAFE California, a multi-year initiative led and managed by the California Department of Water Resources. Primary products of the CVFMP Program are the State Plan of Flood Control Descriptive Document, the State Plan of Flood Control History Document, the Flood Control System Status Report, and the Central Valley Flood Protection Plan.
Central Valley Flood Protection Plan (CVFPP)	The CVFPP is a State plan that will describe the challenges, opportunities, and a vision for improving flood management in the context of Integrated Water Management in the Central Valley. The CVFPP will document the current and future risks associated with flooding and recommend improvements to the Federal-State flood protection system to reduce the occurrence of major flooding and the consequence of flood damage that could result. The plan was submitted to the Central Valley Flood Protection Board in January 2012 for adoption by July and will be updated every 5 years. The planning area for the CVFPP is shown below.



Central Valley Flood Protection Plan (CVFPP) Floodplain	The floodplains used for the SFMP risk characterization within portions the Central Valley are the CVFPP No Action depth grid floodplains with the addition of the flood bypasses. SFMP received the draft CVFPP floodplains on October 4, 2011. The CVFPP floodplains were based on the floodplains of the *Sacramento and San Joaquin River Basins Comprehensive Study* (USACE, 2002) and modified by the CVFPP to reflect current hydrologic, hydraulic, and geotechnical information. For the SFMP analysis, the Yolo, East Side, Upper Sacramento, Mariposa, Sutter, and Tisdale bypasses were added to the CVFPP floodplains.
Coastal Flooding	Inundation at locations normally above the level of high tide. Often caused by storm surges occurring with high tides. Impacts include property damage and beach erosion.
Community	A political entity that has the authority to adopt and enforce floodplain ordinances for the area under its jurisdiction.
Consequences	Consequences are the quantitative measures of loss, such as direct tangible monetary loss or number of lives lost, when water inundates the people and property exposed.
Critical Facilities	Essential, high potential loss, lifeline, and transportation facilities, as defined by HAZUS-point shapefiles
Debris Flow Flooding	Flows made up of water, liquefied mud, and debris. Can form and accelerate quickly, reach high velocities, and travel great distances. Commonly caused by heavy localized rainfall on hillsides denuded of vegetation.
Economic Risk	Economic risk is the likelihood of flood damage to an identified area under a given climate and land use condition.
Engineered Structure Failure Flooding	Flooding as a result of dam failure or levee failure presents the potential of catastrophic impact, depending on amount of water impounded and location of populated areas downstream.
Essential Facilities	Care facilities, emergency centers, fire stations, police stations, and schools, as defined by HAZUS-point shapefiles.
Expected Annual Damage (EAD)	EAD is the value that measures the severity of flood loss in any given year. EAD does not mean that this amount of damage will occur in any particular year, but rather that over a long period, the average damages will tend to approach that amount.
Exposure	Exposure is a description of who or what is in harm's way.
Fetch	The distance along open water or land over which the wind blows, or the distance waves can traverse unobstructed.
Flash Flooding	Quickly forming floods with high-velocity flows. Often caused by stationary or slow-moving storms. Typically occurs on steep slopes and impermeable surfaces, and in areas adjacent to local streams and creeks.

Flood Emergency Response Information System (FERIS)	FERIS is a geospatial information system that allows for integration of existing California Data Exchange Center (CDEC) systems with real-time data collection and data exchange.
Flood Hazard	The Federal Emergency Management Agency defines a flood hazard as any flood event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other loss.
Flood Insurance Rate Map (FIRM)	A FIRM is the official map of a community on which the Federal Emergency Management Agency has delineated the Special Flood Hazard Areas, the Base Flood Elevations, and the risk premium zones applicable to the community.
Flood Management	See *flood risk management*. Generally, the terms *flood management* and *flood risk management* are used interchangeably throughout the Flood Future Report.
Flood Risk	Flood risk is the likelihood of consequence of inundation within an identified area, given a specified climate condition, land use condition, and flood management system (existing or planned) in place. The consequence may be direct or indirect economic cost, loss of life, environmental impact, or other specified measure of flood effect. Flood risk is a function of the following components: • Loading, which is the frequency and magnitude of flooding • Performance of flood management measures • Exposure and vulnerability, which are the relationship between the flood hazard (rising or flowing water) and its effect on life loss, property, and/or environmental resources • Consequence Therefore, flood management actions may reduce risk by changing loading, performance, exposure, vulnerability, or consequence.
Flood Risk Management	Flood risk management seeks to reduce flood risks by managing the floodwaters to reduce the probability of flooding (including by levees and dams) and by managing the floodplains to reduce the consequences of flooding. Flood risk management requires integrating and synchronizing programs at various levels of government designed to reduce flood risk. Source: USACE, Institute for Water Resources, a dynamic resource at http://nfrmp.us/frm_terminology.cfm#def17 (accessed March 11, 2013).
Floodplain	The extent of the flood hazard for a 100-year (1 percent chance of exceedance in a given year) or 500-year (0.2 percent chance of exceedance in a given year) event, as determined by the Central Valley Flood Protection Plan, Federal Emergency Management Agency, or U.S. Army Corps of Engineers.

FloodSAFE California	FloodSAFE California refers to the California Department of Water Resources multi-faceted initiative launched in 2006 to improve public safety through flood management in the context of Integrated Water Management and to reduce potential flood damages in areas of the state with the highest risk. Although led at the State level and initially funded by bond money from Propositions 1E (2006) and 84 (2006), FloodSAFE implementation relies on the cooperation and assistance of Federal partners, Tribal entities, local sponsors, and other stakeholders. The FloodSAFE vision is a sustainable system of flood management with an IWM approach and emergency response throughout California that improves public safety, protects and enhances environmental and cultural resources, and supports economic growth by reducing the probability of destructive floods, promoting beneficial floodplain processes, and lowering the damages caused by flooding.
Hazard Mitigation Plan (HMP)	A community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage is described in an HMP. Results are accomplished through hazard mitigation, which is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.
Hazards United States (HAZUS) – Federal Emergency Management Agency (FEMA)	FEMA has developed a Geographic Information System-based U.S. multihazard assessment software, which contains a Flood Loss Estimation Model with flood hazard analysis and flood loss estimation modules for riverine and coastal analyses. The flood hazard analysis module (HAZUS) uses characteristics such as frequency, discharge, and ground elevation to estimate flood depth, flood elevation, and flow velocity.
High Potential-Loss Facility	Facilities such as dams and hazardous material sites, as defined by HAZUS-point shapefiles.
Hydrologic Engineering Center-Flood Damage Analysis (HEC-FDA)	The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) Flood Damage Analysis (FDA) model is designed to perform risk analysis as part of a flood risk study. The approach explicitly incorporates descriptions of uncertainty of key parameters and functions into project benefit and performance analyses.
Hydrologic Unit Code 8 (HUC8)	A Hydrologic Unit Code 8 is a watershed address consisting of a name and a number (for example, Lower James watershed, 02080206). The 8-digit number is a Hydrologic Unit Code or HUC. The Hydrologic Unit system is a standardized watershed classification system developed by the U.S. Geological Survey in the mid-1970s. Hydrologic units are watershed boundaries organized in a nested hierarchy by size. They range in size from regions to the smaller cataloging units, which are roughly equivalent to local watersheds.
Impact Area	Impact area is a term used for convenience to describe a geographic area for which risk is assessed.
Improvement Project	A project that will improve or add facilities to the State Plan of Flood Control to increase levels of flood protection for urban areas. Funding for improvement projects is authorized by California Public Resources Code section 5096.821(b).

Integrated Regional Water Management (IRWM)	IRWM promotes the coordinated development and management of water, land, and related resources to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.
Integrated Water Management (IWM)	IWM is a strategic approach to planning and implementation that combines specific flood management, water supply, and ecosystem actions to deliver multiple benefits. IWM relies on blending knowledge from a variety of disciplines, including engineering, economics, environmental sciences, public policy, and public information. This approach also promotes system flexibility and resiliency to accommodate changing conditions such as regional preferences, ecosystem needs, climate change, flood or drought events, and financing capabilities.
Life-Safety Risk	Life-safety risk represents the number of lives in jeopardy in an identified portion of the state, considering a given climate and land use condition, with a specified plan of flood management in place.
Loading	In the context of flood risk, loading describes the likelihood of occurrence of conditions that lead to loss of life or damage to property if the conditions are not controlled or the consequence is not managed. Loading commonly is described with a discharge-frequency function, which identifies the probability that discharge at a specified location will exceed a specified value.
Local Maintaining Agency (LMA)	LMAs include reclamation districts, State maintaining agencies, improvement districts, and individual districts like American River Flood Control District or Lower San Joaquin Levee District.
Long-Term Average (or Expected) Annual Inundation Damage	See Expected Annual Damage (EAD).
Maintenance and Inspection	Actions required for the proper care and efficient operation of various project elements. These actions may be combined or separated, as best suits the particular project. The guidance for proper maintenance and inspection are contained in ER 1130-2-303. Adaptations needed to satisfy conditions not covered in the ER are encouraged. Outlines of the maintenance and inspection records are be maintained and available for Government inspection. Government inspections will be performed in consultation with the project's sponsor. (Source: ER 1110-2-401)
Management Action	A management action is a specific structural or nonstructural strategy, action, or tactic that contributes to stated goals and addresses identified problems. Management actions could range from potential policy or institutional changes to operational and physical changes to the flood management system. Management actions are broad (not location-specific), and they vary in their level of detail.

Modification	Project modifications include changes in project operation, changes in real estate interests, the physical change of a project feature, addition of project features, or changes in the purposes of a project. (Source: ER 1165-2-119)
National Flood Insurance Program (NFIP)	The NFIP is a Federal program created by the U.S. Congress to mitigate future flood losses nationwide. The NFIP requires local communities to enforce building and zoning ordinances in exchange for access to affordable, Federally backed, flood insurance protection for property owners.
Operation	Actions that are necessary for the safe and efficient functioning of a project to produce the benefits set forth in the project authorization. The operational requirements for nonreservoir projects are to be presented as operation plans covering essentially the who, what, where, when, and how of the various project operations. An outline of operation records is to be maintained and available for inspection. The operation of reservoirs, covered in water control manuals shall be separate from this operation and maintenance manual. (Source: ER 1110-2-401)
Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R)	For Federally funded projects the definition of operation and maintenance (O&M) includes the local entity's financial obligation to operate, maintain, repair, rehabilitate, and replace (OMRR&R) the implemented project. OMRR&R is a non-Federal responsibility when local, regional and/or State entities partner on a Federal project. References to O&M provided in the Flood Future Report include OMRR&R responsibilities when the project is a Federal/non-Federal partnership.
Performance	Performance refers to the effectiveness of flood or floodplain management measures.
Plans	Plans utilize information provided by tools, as well as input from stakeholders to guide the development of the flood management strategies. Plans take into account near- and long-term actions, as well as any additional considerations, such as multiple benefits, environmental concerns, overall water management, and climate change, to formulate long-lasting resilient strategies. Plans include identifying and evaluating possible multibenefit projects and the most effective means of implementing projects using an integrated, collaborative approach.
Project Management Plan	A project management plan defines how a project is executed, monitored, and controlled. It is used to define the approach, scope, and delivery of a project.

Public Law 84-99 (33 U.S.C. 701n)	USACE has authority under Public Law (PL) 84-99, Flood Control and Coastal Emergencies (33 U.S.C. 701n) (69 Stat. 186) for emergency management activities to protect human life and improved property, reduce human suffering, help communities recover from the effects of disasters, and mitigate damage and future threats. Under PL 84-99, the Chief of Engineers, acting for the Secretary of the Army, is authorized to undertake activities, including disaster preparedness, advance measures, emergency operations (flood response and post-flood response), rehabilitation of flood control works threatened or destroyed by flood, protection or repair of Federally authorized shore-protective works threatened or damaged by coastal storm, and provisions of emergency water due to drought or contaminated source.
California Public Resources Code section 75003.5	The people of California further find and declare that the growth in population of the State and the impacts of climate change pose significant challenges. These challenges must be addressed through careful planning and through improvements in land use and water management that both reduce contributions to global warming and improve the adaptability of our water and flood control systems. Improvements include better integration of water supply, water quality, flood control and ecosystem protection, as well greater water use efficiency and conservation to reduce energy consumption.
California Public Resources Code section 75032(a)	California Public Resources Code section 75032(a) provides funds for: The inspection and evaluation of the integrity and capability of existing flood control project facilities and the development of an economically viable flood control rehabilitation plan.
Reconstruction	Reconstruction consists of addressing the major performance deficiencies caused by a long-term degradation of the foundation, construction materials, and engineering systems that have exceeded their expected service lives and the resulting inability of the project to perform its authorized project functions. (Source: USACE, Program Guidance Letter on Reconstruction, August 16, 2005, http://planning.usace.army.mil/toolbox/library/MemosandLetters/reconstruction.pdf)
Rehabilitation	Rehabilitation refers to a set of activities necessary to bring a deteriorated project back to its original condition. (Source: ER 1110-2-401)
Repair	Repair refers to those activities of a routine nature that maintain the project in a well kept condition. (Source: ER 1110-2-401)
Replacement	Replacement covers those activities taken when a worn-out element or portion of a project is replaced. (Source: ER 1110-2-401)
Residual Risk	Residual risk is the likelihood of damage or other adverse consequence remaining after flood management actions are taken.
Results	Robust tools, thorough planning, and integrated actions deliver results that provide value to California's residents, environment, and economy. Results are tracked using performance measures and sustainability indicators that help improve investment performance and increase flood management benefits.

Severe Repetitive Loss (SRL)	Any NFIP-insured residential property that has met at least one of the following paid flood loss criteria since 1978, regardless of ownership: • Four or more separate claim payments of more than $5,000 each (including building and contents payments) • Two or more separate claim payments (building payments only) where the total of the payments exceeds the current value of the property In either case, two of the claim payments must have occurred within 10 years of each other. Multiple losses at the same location within 10 days of each other are counted as one loss, with the payment amounts added together. The loss history includes all ownership of the property since 1978 or since the building's construction if built after 1978.
Slow Rise Flooding	Slow rise flooding occurs as a gradual inundation as waterways or lakes overflow their banks. Most often caused by heavy precipitation, especially with heavy snowmelt. Includes riverine flooding in deep floodplains and ponding of water in low-lying urban areas, as well as gradual flooding in areas adjacent to local streams and creeks.
Special Flood Hazard Area (SFHA)	SFHAs are areas subject to inundation from a flood that has a 1 percent chance of being equaled or exceeded in a given year.
State Plan of Flood Control (SPFC)	Collectively, the facilities, lands, programs, conditions, and mode of operation and maintenance for the State-Federal flood protection system in the Central Valley. This area is shown in the figure provided under CVFPP definition.
Tools	Tools include data, models, and assessments needed for decision making in all aspects of flood management. DWR continues enhancing and sharing technical resources (tools) across all programs and projects. This includes flood, environmental, and water management data gathering, modeling, and the technical aspects of flood readiness and emergency response. Technical and modeling information help inform thorough and thoughtful planning, along with accurate design of flood management facilities.
Transportation Facility	Runways, railway bridges, rail facilities, port facilities, light-rail facilities, highway bridges, ferry facilities, bus facilities, and airport facilities, as defined by HAZUS-point shapefiles.
Tsunami Flooding	Tsunami flooding occurs as a result of high-speed ocean waves triggered by mass movement that displaces a large volume of water. Causes include earthquakes and underwater landslides. Impact on land depends on wave height and inundation area.
Utilities	Wastewater, potable water, oil, natural gas, electric power, and communications facilities, as defined by HAZUS-point shapefiles.
V-Zone	The V-zone is an area inundated by 1 percent annual chance (100-year) flooding with velocity hazard (wave action); no base flood elevations have been determined.

Vulnerability	Vulnerability is the susceptibility to loss or damage of people and property exposed to the flood hazard.
Water Data Library (WDL)	The WDL is a searchable Geographic Information System (GIS) interface on the Internet. WDL allows users to access information about monitoring gauges, groundwater data, and water quality.

STATE OF CALIFORNIA
THE NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

UNITED STATES ARMY CORPS OF ENGINEERS
FLOOD PLAIN MANAGEMENT SERVICES PROGRAM

US Army Corps of Engineers ®

The complete report, *California's Flood Future: Recommendations for Managing the State's Flood Risk*, including technical attachments and other supporting information is available for review at:

http://www.water.ca.gov/SFMP