RECLAMATION

Managing Water in the West

Mid-Pacific Region

Year in Review 2006

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

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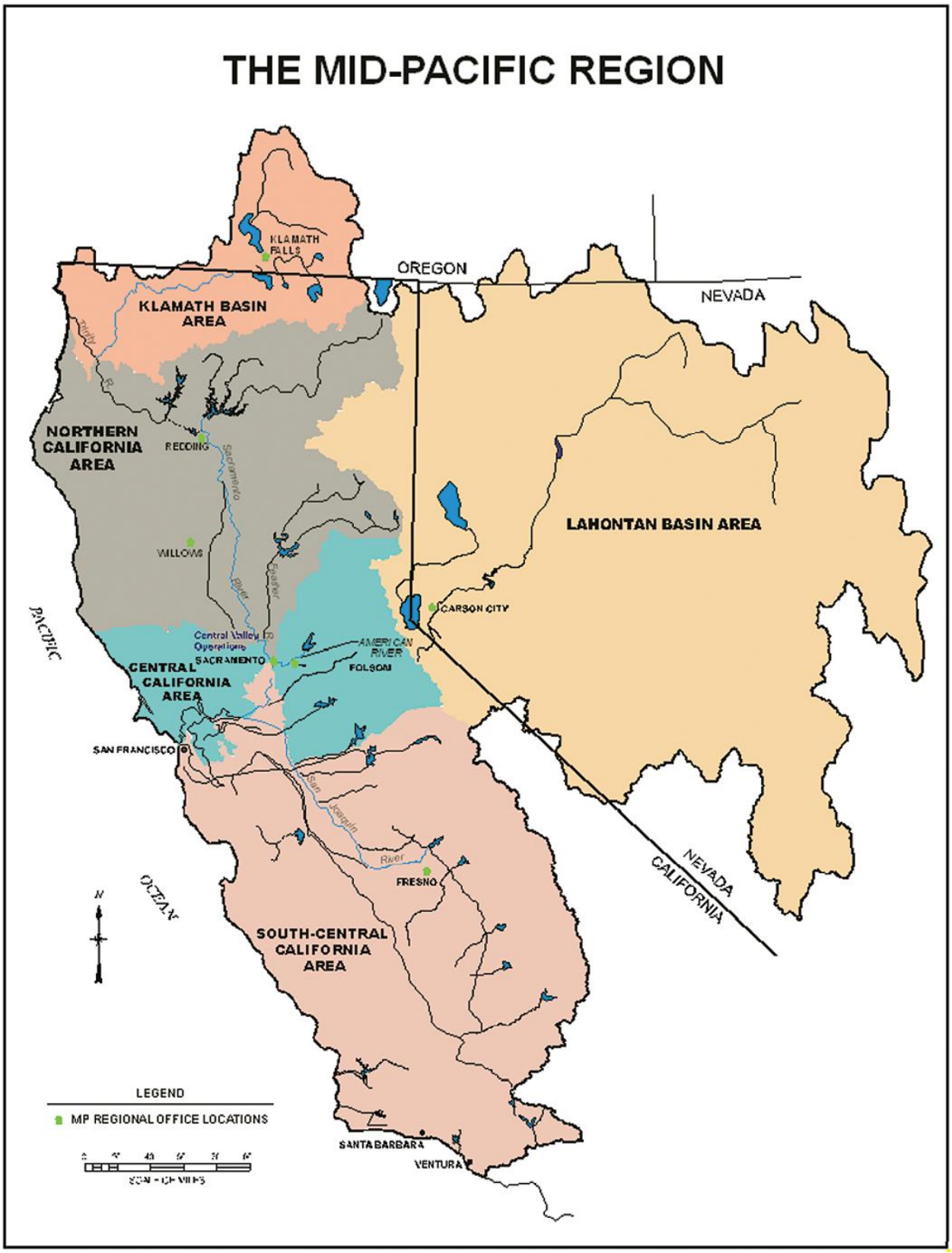
THE MID-PACIFIC REGION



The Mid-Pacific Region

Who We Are

The Mid-Pacific (MP) Region, one of five Bureau of Reclamation Regions in the 17 western United States, was created by the Secretary of the Interior in December 1942. Headquartered in Sacramento, California, the Region employs some 900 people and includes five Area Offices and two Supporting Offices:

- Klamath Basin Area Office (KBAO), Klamath Falls, Oregon
- Northern California Area Office (NCAO), Shasta Lake, California
- Central California Area Office (CCAO), Folsom, California
- South-Central California Area Office (SCCAO), Fresno, California
- Lahontan Basin Area Office (LBAO), Carson City, Nevada
- MP Construction Office MPCO), Willows, California
- Central Valley Operations Office (CVO), Sacramento, California

The MP Region covers the northern two-thirds of California, most of western Nevada, and a portion of southern Oregon. Its area includes all lands drained by rivers flowing into the Pacific Ocean along the California coast north of the Tehachapi Mountains and all lands drained by rivers originating and ending in Nevada. It also includes a small area in southern Oregon drained by the Klamath River.
The Region's major dams and reservoirs include:

Shasta Dam

California

- Shasta Dam and Lake – Sacramento River
- Trinity Dam and Lake – Trinity River
- Lewiston Dam and Lake – Trinity River
- Whiskeytown Dam and Lake – Clear Creek
- Keswick Dam and Reservoir – Sacramento River
- Folsom Dam and Lake – American River
- Monticello Dam and Lake Berryessa – Putah Creek
- San Luis Dam and Reservoir – San Luis Creek (joint Federal/State project)
- Friant Dam and Millerton Lake – San Joaquin River
- New Melones Dam and Lake – Stanislaus River

Nevada

- Lahontan Dam and Reservoir – Carson River
- Lake Tahoe Dam and Lake – Truckee River
- Boca Dam and Reservoir – Little Truckee River

Oregon

- Link River Dam and Upper Klamath Lake – Link and Klamath Rivers
- Gerber Dam and Reservoir – Miller Creek
- Clear Lake Dam and Reservoir – Lost River

The MP Region manages 11 major water projects throughout Oregon, Nevada, and California:

California

- Ventura River Project
- Santa Maria Project
- Cachuma Project
- Solano Project
- Orland Project
- Central Valley Project

Nevada

- Truckee Storage Project
- Washoe Project
- Newlands Project
- Humboldt Project

Oregon

- Klamath Project

Reclamation and MP Region History

As the Nation turned 100 years old in 1876, the mostly arid West's population began to grow, and with that growth came the need for dependable water supplies for people, livestock, and crops. Investigations by the U.S. Geological Survey (USGS) and private parties beginning in the 1880s provided the basis for some of Reclamation's earliest irrigation projects.

On June 17, 1902, President Theodore Roosevelt signed the Reclamation Act, and the U.S. Reclamation Service (USRS) was created as a unit within the USGS. In 1907, the USRS was separated from the USGS and became a bureau within the Department of the Interior. In 1923, the name "USRS" was changed to "Bureau of Reclamation." By then, many projects had been built, with some of the earliest in what would become the MP Region. These early projects included Nevada's Newlands and Truckee Carson Projects and Oregon's Klamath Project.

During the Depression, Congress authorized almost 40 projects for the dual purposes of promoting infrastructure development

and providing public works jobs. Among these projects were the beginnings of California's Central Valley Project (CVP), the largest Reclamation project and one of the biggest and best-known irrigation projects in the Nation.

Reclamation now has more than 180 projects in the 17 Western states providing agricultural, municipal, and industrial water to about one-third of the population of the West. Farmers on Reclamation projects produce about 13 percent of the value of all crops in the United States, including about 65 percent of vegetables and 24 percent of fruits and nuts.

Today, the MP Region provides more than 7 million acre-feet of water annually with the goal of balancing many competing and often conflicting needs among numerous water uses and users. These include urban and industrial use, agriculture, fish and wildlife habitat, water quality, wetlands, endangered species issues, Native American Tribal Trust issues, hydropower generation, recreation, and navigation. The Region strives to develop and implement a balanced approach to water allocation, serving the users while protecting the environment. The Region works in partnership with States, tribes, water users, power users, and other stakeholders to seek creative and collaborative solutions to Western water issues. Millions of people visit the Region's reservoirs each year to recreate.

Central Valley Project (CVP)

CVP History

Irrigation in California's Central Valley dates back to the 1850s when private interests first constructed canals to serve local areas near the rivers. Efforts to develop a comprehensive plan for the Central Valley date to 1873, when the U.S. Army Corps of Engineers prepared a report on irrigation in the San Joaquin and Sacramento Valleys and Tulare Basin.

In 1919, a plan was submitted to the Governor of California for coordinated development of the Central Valley's water resources. This created State-wide interest, and in 1921 the legislature made the first of a series of appropriations for investigating plans for the conservation, control, storage, distribution, and application of all waters of the State.

In 1931, the California Division of Water Resources submitted to the legislature the State Water Plan, a comprehensive plan to use the water resources of the Central Valley. The legislature passed the Central Valley Project Act in 1933, which authorized the sale of revenue bonds to construct the project, but during the Great Depression, bonds didn't sell easily. Most of the water development envisioned by the State was accomplished by the Federal Government beginning with the CVP's initial authorization in 1935. Construction of the CVP began in 1937 with the Contra Costa

Canal, which began delivering water in 1940. Work on the next facility, Shasta Dam, the keystone of the CVP, began in 1938, and water storage began in January 1944. Other major facilities were developed over the next 3 decades with the final dam, New Melones, completed in 1979.

The CVP Today

The CVP encompasses 35 counties in an area about 500 miles long and 60-100 miles wide. It contains some of the Nation's largest reservoirs, including Shasta and San Luis. The CVP is a system of 20 dams and reservoirs, 500 miles of major canals, hydropower plants, pumping plants, and other facilities located mainly in California's Sacramento and San Joaquin Valleys.

The CVP manages about 9 million acre-feet of water each year and delivers about 7 million acre-feet to irrigate some 3 million acres of prime farmland annually in 6 of the top 10 agricultural counties in California, the Nation's leading farm state. Some two-thirds of California's population receive their drinking water from the San Joaquin-Sacramento River Bay-Delta, and the Region helps maintain Delta water quality standards by providing water from its reservoirs to flush out salinity. The CVP irrigates about one-third of all lands Reclamation irrigates in the 17 western states, and one-sixth of the irrigated land in the United States. CVP water is also critical to California's poultry, beef, and dairy industries. The Central Valley's annual farm production exceeds the total value of all the gold mined in California since 1848.

The Delta-Mendota Canal

Some 600,000 acre-feet of water each year goes toward urban and industrial use, serving some 2 million people, and 800,000 acre-feet are dedicated for fish and wildlife purposes. Eleven CVP hydroelectric generators produce about 5.5 billion kilowatt hours of clean, renewable hydropower each year, enough energy to supply the needs of some 1.5 million people. Flood control is one of the primary CVP purposes. The CVP ranks first among Reclamation projects in value of flood damage prevention, having averted more than $5 billion dollars in flood damage since 1950. Millions of people also enjoy boating, skiing, swimming, fishing, camping, and other recreation at the Region's reservoirs.

Regional Organization and Related Activities

Managing for Excellence

The Managing for Excellence (M4E) plan identifies and addresses specific 21st century challenges that Reclamation must meet to fulfill our mission "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." To be adequately prepared, it is essential that Reclamation thoroughly examine our core capabilities in a number of key areas, as well as our ability to respond in an innovative and timely manner to future needs. The challenge will be increased by the fact that many Reclamation employees with the most technical expertise and the best institutional knowledge are nearing retirement age.

To help Reclamation prepare for the future, the National Research Council (NRC) was asked to advise the agency on "the appropriate organizational, management, and resource configurations to meets its construction, maintenance, and infrastructure requirements." The NRC convened a committee of experts from the public and private sectors and academia. After visiting Reclamation offices and projects and talking with employees, customers, and stakeholders, the committee examined several facets of Reclamation's organization, practices, and culture and published a report in early 2006 entitled Managing Construction and Infrastructure in the 21 Century, Bureau of Reclamation. In response to the NRC Report and other studies, Reclamation developed the M4E Action Plan.

The M4E Action Plan examines everything Reclamation does to carry out our mission and represents a cultural change in how Reclamation will conduct business. Each of the recommendations made from the NRC Report will be addressed in the M4E action plan, consisting of 41 action items. The action items are organized under eight key functional areas to identify and implement needed changes or improvements: (1) relationships with customers and other stakeholders, (2) policies and organization, (3) engineering and design services, (4) major repair challenges, (5) project management, (6) asset sustainment, (7) research and laboratory services and (8) human resources. Employee teams were formed to address the 41 action items, analyze the issues with input from stakeholders and employees, and develop recommendations.

Reclamation has provided information to employees through meetings, conference calls, all-employee memorandums, and video clips. Two websites were developed, one for the public and an internal one for employees. Reclamation also participated in multiple stakeholder meetings and public meetings during 2006.

A Midterm Report was published in February 2007 outlining a process and timeframe for identifying and addressing specific actions that can be taken to increase transparency, efficiency, and accountability within Reclamation. Changing Reclamation's culture to prioritize the principles of transparency, efficiency, and accountability will improve our ability to fulfill our mission. The eight identified functional areas each have individual action items that are due in 2006 and 2007. For additional information on the M4E action plan, please see the website at www.usbr.gov/excellence, e-mail excellence@do.usbr.gov, or call the Mid-Pacific Region Public Affairs Officer, Mr. Jeffrey McCracken, at 916-978-5100.

Divisions and Offices

Special Projects Office (MP-120)

The Special Projects Office serves as the primary point of contact for the Region for developing and coordinating policy and action plans for a broad range of highly visible programs, specifically the implementation of California's CALFED Bay-Delta Program. The staff implements the Region's policies associated with these programs and develops feasible and workable alternatives to proposed actions. The office functions as a coordination bridge between many entities including Reclamation offices; various Department of the Interior bureaus; and other Federal, State, public, private, and Congressional entities. For additional information, please contact the Special Projects Office at 916-978-5024 (TDD 916-978-5608).

CALFED Bay-Delta Program

The CALFED Bay-Delta Program is a collaborative effort among 25 Federal and California State agencies and representatives of California's environmental, urban, and agricultural communities to improve water quality, fish and wildlife habitat, and water supply reliability in the Delta, the hub of the State's water distribution system.

San Francisco Bay/Sacramento-San Joaquin Delta

The Delta is one of California's unique and valuable resources providing drinking water to more than 24 million Californians and irrigation water for the State's $31 billion agricultural economy which supplies 50 percent of the Nation's fruits and vegetables and 25 percent of its dairy products. The Delta's levees protect farms, homes, and infrastructure. As the largest wetland habitat and estuary in the West, the Delta also supports 750 plant and animal species, some found nowhere else on the planet.

Ultimately, California's trillion-dollar economy, the seventh largest in the world, is at risk if environmental and water management problems to restore the ecosystem are not resolved. The CALFED

Bay-Delta Program is the largest and most comprehensive water management plan in the Nation. Efforts to address the problems collaboratively in the Delta began almost 13 years ago when State and Federal agencies with management and regulatory responsibility in the Delta estuary signed a Framework Agreement in June 1994 setting forth the Operating Principles for developing a long-term solution to the Delta's problems.

Phase I concentrated on identifying and defining the problems confronting the Delta system and providing three alternatives for further analyses in Phase II. Under Phase II, a preferred program alternative was developed and a comprehensive programmatic environmental review process on a broad level was conducted resulting in the release of the Final Programmatic Environmental Impact Statement/Environmental Impact Report in July 2000.

The Record of Decision (ROD), which was signed on August 28, 2000, began Stage 1 of Phase III which would be the first 7 years of a 30-year long-term implementation plan to restore the Delta ecosystem and improve water management.

On October 25, 2004, after 4 years of Congressional CALFED negotiations, President George Bush signed landmark bipartisan legislation that reauthorized the Program through 2010 and authorized $389 million in new Federal appropriations for this major environmental initiative to restore California's critical Delta estuary while also addressing the needs of urban and agricultural waters users. This legislation ensured that CALFED would continue species and ecosystem restoration using the best available science, along with driving forward State and Federal efforts to modernize California's water management infrastructure.

CALFED agencies have spent more than $3 billion over the last decade to significantly improve the ecological health of the Delta watershed by restoring and protecting habitat and enhancing the environment for fisheries and wetlands. As one of 11 participating Federal CALFED agencies, Reclamation has implementation responsibility for water supply reliability, storage, water use efficiency, water transfers, the Environmental Water Account (EWA), and conveyance actions.

Reclamation has made major progress in moving forward on the storage investigations for four potential storage projects, advancing key conveyance projects, investing in water conservation projects, supporting scientific studies of the Delta pelagic fish decline, and protecting fish and reducing conflicts at Delta pumping facilities through the use of the EWA.

Reclamation participates as one of six Federal non-voting agencies on the California Bay-Delta Authority Board – the current State governing body for the CALFED Program. Reclamation is also responsible for the California Bay-Delta Public Advisory Committee

(BDPAC) on behalf of the Secretary and the Regional Director who serves as the Designated Federal Official. BDPAC is a 30-member Interior committee chartered under the Federal Advisory Committee Act (FACA) with the responsibility for advising and making recommendations to the Secretary on the implementation of the CALFED Program.

Additionally, the Special Projects Office is responsible for coordinating CALFED Program activities with the other Federal and State implementing agencies. This includes the preparation and coordination of the CALFED Cross-cut Budget, the CALFED Program Annual Report to Congress and the State Legislature, and the many other reporting requirements of Public Law 108-361. Many of the CALFED implementation actions require a huge amount of coordination with other programs having similar objectives, such as the integration with Central Valley Project Improvement Act actions, the Governor's strategic vision for the Delta known as the Delta Vision, the Bay-Delta Conservation Plan (BDCP), and many other interrelated efforts underway.

Office of Public Affairs (MP-140)

The Public Affairs Office manages the Region's public affairs, public involvement, and public education projects as well as internal employee information activities. Other responsibilities include meeting management, presentation planning, and exhibit development.

MP Regional Spokesperson Jeff McCracken talks to media at the Folsom 50th Anniversary celebration

The Public Affairs Officer is the Region's spokesperson, and the office is the point of contact for the news media; the public; representatives of Federal, State, and local governments as well as non-governmental groups, organizations, and businesses; and elected officials and their staffs.

Public Affairs Specialists write news releases, speeches, briefing papers, and informational articles; design fact sheets and brochures; and develop newsletters, reports, and other materials related to ongoing Regional projects and activities. The staff designs and implements communication plans and strategies to inform or involve the public, the media, stakeholders, and others – even other Reclamation employees – in MP Region projects programs, and activities. Public Affairs staff oversee the development and implementation of the Region's Internet and Intranet sites, and the office's Photo Lab provides audiovisual support, including film-based and digital photography and videography, and maintains the Region's photo library.

The office controls the Region's Congressional Correspondence, administers the VOCUS mail management system, manages the Foreign Visitor Program, and coordinates Regional tours for members of Congress and other visitors. Public Affairs is also responsible for obtaining required approvals from Washington

D.C. for any Regional office who needs to use paid advertising or wishes to submit any articles or letters to the media. For additional information, please contact Public Affairs at 916-978-5100.

Division of Environmental Affairs (MP-150)

The Division of Environmental Affairs ensures compliance with a variety of environmental statutes and provides policy and procedural guidance to other divisions and Area Offices. The major environmental issues center on the application and interpretation of the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA). The division is responsible for Region-wide compliance with the National Historic Preservation Act and hazardous materials statutes. It also conducts numerous water quality programs, environmental compliance monitoring and data management, endangered species programs, and acts as lead for the Interagency Ecological Program. For additional information on any of the following issues/programs, please contact the division at 916-978-5037 (TDD 916-978-5608).

2006 Central Valley Project Conservation Program (CVPCP)/Habitat Restoration Program (HRP) Activities and Accomplishments

The CVPCP was established during the ESA Section 7 consultation process to ensure continued operation of the CVP. The CVPCP implements an aggressive adaptive management program that protects, restores, and enhances habitats and special-status species impacted by the CVP. Seven conservation activities were funded by the CVPCP in 2006 at a cost of $2.4 million. Projects included fee-title acquisition of sensitive habitats in Contra Costa and Tulare Counties, restoration of vernal pools in Yolo County, research and planning on sensitive chaparral habitat in El Dorado County, investigation into restoration and management of the endangered palmate-bracted bird's beak, and surveys for the endangered giant kangaroo rat.

The 1992 Central Valley Project Improvement Act (CVPIA) authorized the protection, restoration, and mitigation of the CVP's past impacts through establishment of the HRP. The goals of the HRP are to stabilize and improve populations of native species impacted by the CVP that are not specifically addressed in the Restoration Activities section of the CVPIA. In 2006, 12 activities were funded by the HRP for a cost of approximately $1.6 million. Activities included fee title acquisition of alkali scrub habitat in Tulare County, research and field surveys for giant garter snake, comprehensive conservation planning in Tulare County, research and planning on sensitive chaparral habitat in El Dorado County, riparian restoration in Stanislaus and Merced Counties, vernal pool and riparian restoration, and Sacramento Valley-wide vernal pool research aimed at recovering vernal pool plant species.

2006 Habitat Monitoring and Mapping for the CVP Renewal Contractors Endangered Species Act Compliance Activities and Accomplishments

The Central Valley Habitat Monitoring (CVHM) Program data has been used to produce reports of habitat change within Federal water service contracts. These reports compare the CVHM 2000 habitat data with the CVHM 1993 habitat data. Habitat change reports for water service contract boundaries have been completed for Long-Term Contract Renewal, Interim Contract Renewal, Sacramento River Settlement Contractors, and other miscellaneous groups. Reclamation fulfilled its role by providing the U.S. Fish and Wildlife Service with the following:

- Spatial data, including CVHM 1993 to 2000 habitat data, modifying the California Department of Water Resources (DWR) land use data and providing riparian habitat data, satellite imagery, and water service contract boundaries.
- Mapping of water districts, species occurrence, and habitat change.
- A report viewer was developed for staff to review all maps and reports relating to the contract renewals. This data has been used toward Reclamation's requirement in the Biological Opinions (BOs) for the February 2006 interim contract renewals. Reclamation has developed new change detection methods to address land cover change that occurred in 2006 within the boundaries of our Federal water contractors and current Reclamation projects: new object-oriented imaging software is used to create the habitat polygons, best method for extracting change and classifying the data have been developed, Satellite Imagery for 2006 has been purchased and imaged processed, documenting editing procedures, and student Geographic Information Systems tech positions were filled to assist in CVHM editing.

2006 Hydrilla Detection and Eradication Program Activities and Accomplishments

Hydrilla is a rapidly spreading aquatic plant that has invaded thousands of acres of lakes, rivers, and canals throughout the United States. Well-established, hydrilla clogs irrigation canals and municipal water systems, reduces water delivery, increases the likelihood of flooding, and diminishes water quality.

Hydrilla detection and eradication

Reclamation continued its supportive effort to eradicate hydrilla from California waters in 2006. Clear Lake, which was extensively infested in past years, has undergone multi-year treatments and is now in its second year of being hydrilla-free. Eastman Lake and the Chowchilla River in Madera and Mariposa Counties are approaching the eradication criteria with 3 years of treatment followed by 3 years without treatment. Treated this year, but still presumed infested, are the Yuba County Water District Canal and numerous ponds in Shasta, Calaveras, and Tulare Counties. The California Department of Food and Agriculture began hand-pulling hydrilla late in 2006 on

infested sites in the Imperial Irrigation District Canal drains that were previously thought to be controlled. Sixty-five presumed uninfested water bodies in 16 counties ranging in size from a quarter acre to 43,000 acres were surveyed this year for hydrilla in northern and central California with no detections made.

Interagency Ecological Program (IEP)

The IEP, a cooperative effort involving six Federal and three State agencies, successfully conducted all Bay-Delta monitoring activities required for 2006 under State Water Resources Control Board (SWRCB) permits that allow Reclamation's CVP and the DWR's State Water Project (SWP) to divert water from the South Delta. An annual report required under Water Right Decision D-1641 was submitted to SWRCB on time. The IEP also conducted monitoring activities required by BOs administered by the U.S. Fish and Wildlife Service and NOAA Fisheries. The resulting data were used in the day-to-day management of CVP and SWP operations. The water quality and biological monitoring are stored on an interactive data base available at **http://www.iep.ca.gov.**

During the first half of 2006, Reclamation's 46-foot vessel, Endeavor, served as the sole vessel for the Environmental Monitoring Program (EMP) required under Water Rights Decision D-1641 while the DWR's San Carlos was being overhauled in dry dock. The Endeavor also served as the sole vessel for the Regional Monitoring Program, which monitors trace metal concentration in the Bay. The San Carlos returned to duty in September providing an opportunity to initiate deferred maintenance on the Endeavor. The Environmental Monitoring Program Project Work Team oversaw the planning and management of D-1641 compliance monitoring of water quality, phytoplankton, zooplankton and benthic organisms and the subsequent reporting of these data to the SWRCB. A detailed plan for revamping the benthic monitoring component of the EMP was submitted to the SWRCB for its review.

The Pelagic Organisms Decline (POD) investigations were initiated by a review of the long-term IEP database and evolved into a critical activity with ramifications for water resource planning and management throughout the Bay/Delta and its service areas in Northern and Southern California. The POD investigation is directed at characterizing and determining the cause of a decline in the relative abundance of fishes and zooplankton in the Estuary. Progress toward achieving this objective in 2006 included: (1) expansion of existing IEP monitoring (five expanded surveys), (2) continuation of studies begun in 2005, and (3) the initiation of new studies. Preliminary results were presented at the CALFED Science Conference in October 2006. A program was prepared that describes the work to be performed in 2007 and 2008. Reports and other supporting documents are available at **http://science.calwater.ca.gov/pod/shtml.**

The annual IEP workshop was conducted in March 2006. More than 200 engineers, biologists, scientists, and managers from a variety of State and Federal resource agencies, municipal agencies, and special interest groups participated in the workshop. Findings were presented through oral presentations, posters, and activities related to the IEP.

Lake Tahoe Regional Wetlands Development Program

Reclamation constructed Lake Tahoe Dam in 1913 and is responsible for its operation. The dam increased the water level of Lake Tahoe by 6 feet to provide water for urban and agricultural uses downstream. Reclamation therefore has an interest in the water quality of the lake to protect the beneficial uses of the water. Lake Tahoe and its watershed have been degraded by many environmental disturbances over the past several decades. These disturbances, including rural and residential development, new transportation routes, increased human population, and increased numbers of motor vehicles, have degraded the integrity of the watershed in various ways.

Creek restoration assessment at Rosewood Creek was part of conservation activities in 2006 for the Lake Tahoe Regional Development Program

The purpose of the Lake Tahoe Regional Wetlands Development Program is to assist in addressing the past degradation of Lake Tahoe and its watershed by undertaking projects, either directly or through financial assistance to others, to meet the environmental thresholds as defined in the Tahoe Regional Planning Agency's Environmental Improvement Program. The environmental thresholds are defined as the environmental standards necessary to protect the natural environment and public health and safety within the Lake Tahoe basin. Five conservation activities were funded in 2006 at a cost of approximately $2.8 million. Funded projects included fish passage improvements, assessment and design phase of creek restoration, riparian hardwood stand restoration, Tahoe Yellow Cress reintroduction, and basin-wide Environmental Improvement Program planning.

Office of Safety, Health, and Security (MP-160)

The Regional Office of Safety, Health, and Security provides support for the Region's Occupational Safety and Health (OSH), Security, and Accessibility Programs for the protection of employees, visitors, equipment, facilities, and contractor operations. The office ensures that the conduct of Reclamation operations complies with Federal and agency OSH standards and develops supplemental or additional Regional policy as needed. Staff members provide technical guidance to field safety professionals, conduct accident investigations and OSH program evaluations, and promote best safety practices. The office carries out the Security function, affecting Reclamation's security mission objectives. It also works to make Regional facilities accessible to all individuals. For additional information, please contact the office at 916-978-5575 (TDD 916-978-5608).

Security, Accessibility, and Occupational Safety and Health Program

In 2006 the Region continued to place considerable emphasis on critical security areas including facility protection and operational security improvements. During 2006, the Region moved to implement a wide range of other security-related measures. The Region's accessibility coordinator worked with the revised facility components to analyze and determine a viable strategy for meeting Reclamation's goal of 100 percent universal accessibility by the year 2010. Reclamation ended 2006 with places of employment being 81.3 percent accessible and recreational areas being 22.9 percent accessible, for a total universal accessibility of 50.3 percent.

In 2006, a new Regional Safety Manager and Industrial Hygienist joined MP-160 and are providing guidance and development to the Region's Safety Program.

Division of Design and Construction (MP-200)

The Division of Design and Construction works closely with the Denver Technical Service Center (TSC), Area Offices, outside entities, and others to provide a range of technical engineering, geologic, photogrammetric, and mapping support services. The division serves as the lead for the Regional Dam Safety Program. The staff prepares designs and specifications for new construction and for the modification or repair of existing facilities and provides engineering consultation services, engineering technical support for planning studies, and engineering support during construction. The staff also performs subsurface investigations and geologic analysis to support engineering designs, water resource planning efforts, operation and maintenance activities, and construction activities. The staff provides ground-water and geohydrologic support for all aspects of ground-water issues. The division's survey and photogrammetric mapping section supports design, planning, and structural monitoring activities. For additional information, please contact the division at 916-978-5300.

Lauro Dam

Battle Creek Salmon and Steelhead Restoration Project

The Battle Creek Salmon and Steelhead Restoration Project (Restoration Project) provides an opportunity to restore approximately 42 miles of prime salmon and steelhead habitat on northern California's Battle Creek plus an additional 6 miles on its tributaries, while minimizing the loss of clean and renewable energy produced by the Battle Creek Hydroelectric Project (Federal Energy Regulatory Commission [FERC] Project 1121), owned and operated by Pacific Gas and Electric Company (PG&E).

A 1999 MOU between Reclamation, PG&E, the National Oceanographic and Atmospheric Administration Fisheries Service,

(MP-200 continued)
the U.S. Fish and Wildlife Service, and the California Department of Fish and Game established a proposed plan to modify the Battle Creek Hydroelectric Project so that restoration could occur while minimizing the loss of hydropower production.

The Restoration Project includes cooperative efforts between Reclamation and DWR to develop project designs and with the California State Water Resources Control Board and FERC for the completion of environmental compliance and hydropower licensing activities. The Restoration Project is in the final stages of design, environmental compliance, and FERC license amendment processes.

Safety of Dams Program

A number of Safety of Dams activities for Regional dams were initiated or were ongoing in 2006. Comprehensive facility reviews have been performed for several dams. Issue evaluations are ongoing for a number of dams evaluating hydrologic, seismic, and static risks. Corrective action studies were continued or initiated in 2006 for Stony Gorge, Folsom, B.F. Sisk, and Whiskeytown Dams. A significant portion of Reclamation's overall Safety of Dams Program is focused on Mid-Pacific Region dams in an effort to identify and reduce risks to the public.

Construction on the Safety of Dams modification of Lauro Dam, approved by Congress in 2005, was begun in September 2005 and completed in 2006. The modification is to reduce the risk associated with a seismic event occurring at the dam and fault rupture in the foundation of the dam.

Final designs for modification of Stony Gorge Dam to reduce the risk of failure during a significant seismic event have been completed. A modification report for approval of the project was submitted for Congressional approval early in 2006. Award of a construction contract was made in 2006 to begin construction on the proposed corrective actions.

Corrective action studies are ongoing for Folsom Dam. Significant progress was made in these studies during 2006. This work included extensive coordination with the U.S. Army Corps of Engineers, the State of California, and the Sacramento Area Flood Control Agency to coordinate dam safety-related corrective actions with flood control projects.

In addition, corrective action studies were initiated for B.F. Sisk Dam and Whiskeytown Dam. These studies involve development of alternatives for modification, preparation of environmental documents, and negotiation of repayment contracts with the water users.

Division of Resources Management (MP-400)

The Division of Resources Management is responsible for Regional activities related to water rights, administration of water service contracts, the Central Valley Project Improvement Act (CVPIA), Reclamation Reform Act compliance evaluations, Native American Affairs, real estate, land resources management, irrigation and drainage, Geographic Information Systems (GIS), and land classification. Division staff members are responsible for a broad range of programs including: water acquisition; water conservation; title transfers; anadromous fish screens; Suisun Marsh; Regional recreation coordination; safety examinations of Federal facilities; Replacements, Additions, and Extraordinary (RAX) Maintenance Program activities; Emergency Management Program; Native American Technical Assistance Program; Central Valley Project (CVP) water transfer and banking activities; and oversight administration of long-term water service contracts and Sacramento River Settlement Contracts. For additional information, contact the division at 916-978-5200.

Native American Affairs

In 2006, the Region's Native American Affairs Technical Assistance Program provided $369,000 in funding assistance for a variety of water resource needs to four federally recognized tribes: the Yurok Tribe, Fort Bidwell Indian Community, Yamba Shoshone Tribe, and the Round Valley Indian Tribes. The projects ranged from water quality assessments for drinking water, ecosystems, and fisheries, to water contamination studies.

CALFED tribal activities in 2006 included MP-400's Native American Affairs Office's participation with federally recognized California tribes in information meetings specifically for tribes. The office advises the Region, on an as-requested basis, regarding the required disposition of Indian trust records as ordered by the Court, in Cobell v. Norton. The office also provides written concurrence and guidance as to the potential impact the Region's actions have on Indian trust assets, as required by Departmental Manual 512.2. The Division provides this written concurrence for every National Environmental Policy Act action – more than 100 actions in fiscal year (FY) 2006 – presented to it by the Region's five Area Offices.

Anadromous Fish Screen Program (AFSP)

Under CVPIA Section 3406 (b)(21), the Secretary of the Interior is required to develop and implement measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin Rivers, their tributaries, the Delta, and the Suisun Marsh. Since 1994, Reclamation and the U.S. Fish and Wildlife Service (FWS) have been assisting the State of California through the AFSP to install fish screens on unscreened diversions in the Central Valley. To date, 21 fish screening projects have been completed with cost-share funds from the AFSP. During 2006, the AFSP provided technical assistance and review for a number of fish screen projects in the

Reclamation District 108's new fish screen at Wilkins Slough

(MP-400 continued)
design and permitting phase. This included fish screen projects for Natomas Mutual Water Company, Meridian Farms Water Company, Patterson Irrigation District, and Reclamation District 2035.

RD 999's cylindrical screen on the Sacramento River

In 2006, a 100-cubic feet per second (cfs) diversion on the Sacramento River operated by Reclamation District 999 was screened with a retrievable cylindrical fish screen. This project represents the largest cylindrical screen installed on the Sacramento River. In addition, construction of a fish screen at Reclamation District (RD) 108 was initiated in 2006 and is expected to be completed in 2008. This project involves combining three of RD 108's largest existing unscreened pumping plants on the Sacramento River into one new 300-cfs pumping plant with a positive barrier fish screen. Further, construction of a positive barrier vertical flat plate fish screen on the Sacramento River at the Sutter Mutual Water Company Tisdale Pumping Plant continued in 2006 and will be completed in 2007. This diversion at 960 cfs is the largest unscreened diversion on the Sacramento River.

Long-Term Contract Renewals/ Sacramento River Contract Renewal Process

In 2003, the MP Region and its contractors resumed negotiations for renewal of approximately 113 long-term water service contracts (LTRC). During 2004, negotiations were completed at the division/ unit levels, and negotiations with individual contractors were concluded with all but four contractors. These renewal contracts involve approximately 5.6 million acre-feet of water for irrigation and municipal and industrial (M&I) purposes.

Beginning in early 2005, the new Operations Criteria and Plan (OCAP) and required environmental documentation were finalized, and the Region began executing the negotiated contracts. Twenty-seven LTRCs with Friant Division and Hidden and Buchanan Units had been executed in February 2001, and 52 contracts were executed in 2005. However, due to litigation concerning OCAP and a resulting decision to reinitiate Endangered Species Act (ESA) consultations for the individual contracts with FWS and NOAA Fisheries, execution of the remaining LTRCs has been placed on hold; consequently, no renewed contracts were executed in FY 2006. Interim renewal contracts will be executed for those contractors whose existing water service contracts have expired. Reconsultation on OCAP is not expected to be concluded until April 2008 at the earliest; the remaining LTRCs will be executed once this reconsultation is complete.

Approximately 145 Sacramento River Settlement Contracts (Settlement Contractors) were scheduled to expire on March 31, 2004. The contracts encompass 2.2 million acre-feet of water from the Sacramento River, of which approximately 1.8 million acre-feet is classified as base supply water (water that may be diverted by the Settlement Contractors free of charge) and approximately 380,000

(MP-400 continued)
acre-feet is CVP water (water for which the Settlement Contractors must pay the United States). Of the 145 contracts, 16 are with water or irrigation districts and 129 are with individual diverters on the Sacramento River. Twenty Settlement Contractors (primarily districts) control approximately 95 percent of the water under contract.

Negotiations between Reclamation and the Settlement Contractors were initiated in 2002. Agreement was reached on a form of contract, and negotiations were concluded with all but one of the Settlement Contractors in 2003. In 2005, 124 renewal contracts were signed following completion of OCAP and other environmental documentation; 12 contractors indicated they would not renew. In 2006, the remaining five contracts were renewed. One of the contracts that originally was anticipated not to be renewed is part of an unsettled estate proceeding and will be renewed once that proceeding is settled.

Municipal & Industrial Water Shortage Policy

The CVP has more than 250 water service contracts (including the Sacramento River Water Settlement Contracts). The water shortage provisions in these contracts vary, and potential inequities could exist when CVP water is allocated using the various shortage provisions. Since December 1991, Reclamation has held many meetings and workshops with the CVP water users and the public to develop a CVP-wide M&I Water Shortage Policy that will provide a minimum level of water supply to M&I contractors. A draft M&I Water Shortage Policy was released to the public in February 1994 for review and comment. The CVPIA Administrative Proposal for Urban Water Supply Reliability, dated June 9, 1997, addressed several of the major issues regarding the 1994 draft M&I Water Shortage Policy and supported the development and adoption of a final policy.

By Federal Register notice in October 2001, Reclamation released a draft M&I Water Shortage Policy, dated September 11, 2001, for public review and comment. A significant number of comments were received during the 30-day review period. The comments were reviewed and considered by Reclamation in the final policy development. Reclamation has used modeling studies to assess the impacts of the proposed policy, and the necessary environmental documentation has been completed. Throughout 2007, Reclamation will conduct a series of technical sessions initiated in 2006 with interested parties in an effort to finalize the policy.

Land Resources

Legislated Conveyances (Title Transfers)

The Region is working on two new title transfer actions, Truckee-Carson Irrigation District headquarters and Montecito Water Districts, which have been finalized by passage of authorizing legislation. The Region continues to work with the Lahontan Basin Area Office on issues surrounding the Humboldt transfer and conveyance of the Fallon Freight Yard to the City of Fallon.

Wild Land Fire

In accordance with the National Fire Plan, a volunteer Regional Team of technical experts (GIS specialists, logisticians, biologists, etc.) has been established to respond to requests from the National Interagency Fire Center and its Western regional centers to augment Burned Area Emergency Response and Incident Command Center teams and staffs.

Realty

Extensive contributions by Realty staff provided critical research, guidance, and document development on several complex, highly visible projects: Folsom Bridge replacement and Folsom Dam upgrade (Safety of Dams), Upper San Joaquin River Storage Investigations, Shasta Dam raise, Chiloquin Dam (Bureau of Indian Affairs), the National Resources Defense Council vs. Rodgers litigation (San Joaquin River), Barnes Ranch acquisition (Klamath – The Nature Conservancy), Winnemem Wintu realty records research, Tule Lake Internment Camp transfer to the National Park Service, San Luis Drain/Land Retirement, McCoy Basin (Solano Project), and Delta Intertie.

Realty staff updated the Regional Delegation of Authority for Land Acquisitions, Disposals, and Rights-of-Use and collaborated with the Regional Recreation Coordinator in developing an umbrella Recreation Management Memorandum of Understanding with California State Parks. The staff also continued to provide extensive realty support to all Area Offices due to the retirement/resignation of local realty specialists and also due to the increasing complexity of real estate issues and urban encroachment issues affecting Reclamation facilities.

Refuge Water Conveyance Program (RWCP)

The CVPIA has improved the amounts and reliability of water supplies to maintain and improve wetland habitat areas on Federal, State, and private refuges in California's Central Valley. These water supplies, known as Level 4, allow the refuges to meet optimum habitat management requirements for the benefit of migratory and wetland-dependent wildlife. The RWCP is responsible for providing Level 4 water to the refuges through water supply contracts with them. The RWCP is a joint effort of Reclamation and FWS. Under the RWCP in 2006, Reclamation provided approximately 460,000 acre-feet of water to CVPIA refuges. RWCP funded nine long-term conveyance agreements with

Gray Lodge Wildlife Area, Gridley, California

local, non-Federal entities for the delivery of this water to the refuge boundaries. In 2006, negotiations were completed with the California Department of Fish and Game (DFG) for a second amendment to an existing agreement for reimbursement of deep-well pumping costs to help meet water supply needs at Gray Lodge Wildlife Area.

Replacements, Additions, and Extraordinary (RAX) Maintenance and Deferred Maintenance

The initial CVP RAX Program budget for FY 2006 was $19.2 million; however, the CVP RAX Program successfully expended $23.8 million due to funds being made available from other programs within Reclamation. The program could have absorbed an additional $10 million had the funds been available, which indicates that the CVP RAX need is greater than available funds. Several large projects were awarded including: Shasta Powerplant, Paint of Penstock, $1.45 million; Delta-Mendota Canal, Repair of Radial Gates, $1.8 million; Nimbus Dam, Repair of Radial Gates, $5.3 million; Nimbus Dam, Radial Gate Stoplogs, $1.05 million; and Nimbus Powerplant, Replacement of Transformer, $1.06 million.

The CVP RAX Program consists of approximately 164 items with an estimated cost of more than $142 million. The program has consistently assured that all available dollars are applied to the highest priority items first, ultimately reducing the amount of deferred maintenance that is being reported by the MP Region and successfully sustaining its aging infrastructure.

San Joaquin River Agreement (SJRA)/Vernalis Adaptive Management Program (VAMP)

The SJRA/VAMP is a scientifically-based adaptive fishery management program to determine the relationships between river flows, exports, and other factors on salmon survival in the Delta. Under SJRA/VAMP, critical information is obtained on the impacts to salmon due to variations in river flows, CVP and State Water Project (SWP) export rates, and operations of the Head of Old River Barrier. The SJRA/VAMP is implemented through a cooperative, multi-interest partnership of State and Federal agencies, environmental parties, and various water and irrigation districts [collectively known as the San Joaquin River Group Authority (SJRGA)]. Reclamation annually acquires water from the SJRGA members to meet flow targets under the SJRA/VAMP.

In 2006, Reclamation, in cooperation with FWS and DWR, acquired 110,000 acre-feet of water to meet VAMP spring-pulse target flows; however, due to high-flow conditions in the San Joaquin River basin and tributary basins during the spring, no supplemental water releases were required from the SJRGA. Additionally, SJRA flows were acquired by Reclamation consisting of 12,500 acre-feet from Merced Irrigation District and 26,000 acre-feet from Oakdale Irrigation District.

An annual report summarizing the 2006 SJRA/VAMP program will be released in summer 2007 that will provide conclusions and recommendations for the program's technical and monitoring elements.

(MP-400 continued)
The SJRA/VAMP Policy and Technical Teams will consider the recommendations identified in the annual report for incorporation into the 2007 VAMP monitoring program. For additional information on the VAMP monitoring program, contact the Central Valley Operations Office at 916-979-2180.

Sacramento Valley Water Management Plan (Phase 8)

On May 22, 1995, the State Water Resources Control Board (SWRCB) adopted the Water Quality Control Plan (WQCP) for the Delta that contains the current water quality and flow standards for the Delta. Subsequently, the SWRCB initiated the Delta water right proceedings to determine responsibility for meeting WQCP standards that until this time had been the sole responsibility of the CVP and the California Department of Water Resources' (DWR) SWP. Phases 1–7 of the Delta water rights proceedings involved the San Joaquin Valley and other Delta issues and resulted in D-1641.

Phase 8 of these proceedings would have ultimately determined the responsibility of Sacramento Valley water right holders other than the CVP/SWP to meet those standards. It was envisioned that the Phase 8 proceedings would have been lengthy and controversial and ultimately resulted in litigation. Reclamation and DWR claim that certain water rights holders in the Sacramento Valley must cease diversions or release water from storage to help meet Delta water quality standards. Sacramento Valley water users contend their use has not contributed to water quality problems in the Delta and so, as senior water right holders and water users within the watershed and counties of origin, they should not be responsible for meeting these standards. Reclamation and DWR agreed to voluntarily meet the water quality standards pending the SWRCB's final decision regarding responsibility for meeting these standards.

The SWRCB encouraged the parties to resolve issues of responsibility through negotiated settlement. In March 2003, the involved parties, including the Northern California Water Association, DWR, Reclamation, and various CVP and SWP contractors, entered into a Short-Term Settlement Agreement. Under this agreement, the Sacramento Valley water rights holders will provide up to 185,000 acre-feet of water in most years to the CVP and SWP. The Sacramento Valley water users will provide this water by pumping ground water in lieu of diverting surface water supplies or by re-operation of existing reservoirs.

In 2006, work continued on the Environmental Impact Report/ Environmental Impact Statement required for implementation of the Phase 8 Short-Term Settlement Agreement, and discussions among the parties continued regarding some of the short-term implementation agreements. Ultimately, the parties must develop a long-term work plan to increase benefits for all parties and provide the basis for a long-term settlement agreement.

Suisun Marsh Preservation Agreement

Suisun Marsh

The Suisun Marsh Preservation Agreement and its companion Mitigation and Monitoring Agreements were revised in June 2005. The signatory agencies are Reclamation, DWR, DFG, and Suisun Resource Conservation District. The costs to implement the revised agreements are shared by the State of California through DWR (60 percent) and by Interior through Reclamation (40 percent). The purpose of the original agreements (March 2, 1987) was to ensure that a dependable water supply would be maintained to mitigate adverse impacts on the marsh of the CVP and SWP and a portion of the adverse effects of other upstream diversions. The revised agreements update the original agreements to reflect events and changed conditions, including more effective operation of the Suisun Marsh Salinity Control Gates than had been predicted, implementation of SWRCB Decision-1641 (1999), and identification in the CALFED Record of Decision of programmatic actions for the Bay-Delta, including habitat restoration in Suisun Marsh. In addition, the revised agreements identify interim and future management actions consistent with the original agreement to improve marsh habitat. These actions are in lieu of construction of large-scale conveyance facilities that had been previously planned.

Water Acquisition Program (WAP)

The CVPIA directs Reclamation, in coordination with FWS, to provide water supplies, known as Level 4, for wildlife refuges in California's Central Valley. The Level 4 water supplies consist of "Level 2" water which is usually provided by CVP yield and "Incremental Level 4" water acquired by the WAP. This water provides optimum habitat management levels at the refuges for the benefit of migratory and wetland-dependent wildlife.

Under the WAP during 2006, Reclamation purchased 83,822 acre-feet of Incremental Level 4 water from willing sellers for refuges. The Incremental Level 4 water allows for optimum development and management of wetlands to provide better water quality, habitat diversity, and a longer winter flooding period. This results in improved habitat conditions and an increase in the survival rate and breeding success of migratory waterfowl.

WAP continued evaluating the potential of using ground water, either directly or through conjunctive use opportunities, as an alternate water supply for Central Valley wildlife refuges. Both on-site and off-site sources are being investigated. This WAP ground-water study is part of an overall effort to diversify sources of Incremental Level 4 water and seek reliable long-term economical acquisitions to meet Incremental Level 4 refuge water supply needs.

Water Conservation

The Water Conservation Team sets the standards for adequate water conservation plans and monitors plans submitted by contractors for compliance. Contractors submit a new/revised plan every 5 years, in addition to annual updates on the implementation of the Best Management Practices.

The Water Conservation Office provides incentives to contractors by offering competitive grants for worthy projects that implement conservation measures. In 2006, the team provided some $4.3 million in grants to districts (combined Field Service Program and CALFED) that prompted $5.5 million in private funds to be used for water conservation projects. The office also provides technical assistance to contractors who require help in complying with water conservation standards. Through the use of staff, specialized contracts, and higher education facilities, assistance is provided for water management planning, conservation education, and demonstration of innovative technologies.

Throughout 2006, the team continued the interagency partnerships with CALFED's Water Use Efficiency Program and the urban and agricultural water management councils. The team is also focusing on measurement issues and is working with California Polytechnic State University, San Luis Obispo, to develop options for measurement of water deliveries to customers.

Water Transfers

The 2006 water year was extremely wet resulting in 100 percent allocations to all CVP contractors. As a result of the wet hydrology and increased water supply allocations CVP-wide, less CVP water was transferred in 2006 than has been transferred in recent years. From March 1 through December 31 of Water Year 2006, Reclamation approved approximately 381,000 acre-feet of CVP water for transfer under the CVPIA water transfer provisions. These transfers were used to meet agricultural, M&I, and fish and wildlife purposes within the Central Valley. Approximately 48,000 acre-feet of the overall CVP water transferred in 2006 was transferred for use by the CVPIA WAP to meet CVPIA Level 4 refuge water supply demands.

The CVPIA Water Transfer Program approved two long-term water transfer programs involving transfers of up to 40,000 acre-feet of Glenn Colusa Irrigation District's Base Supply water under its Sacramento River Settlement Contract. One program involved the transfer of 20,000 acre-feet to the Colusa Drain Mutual Water Company through the year 2010 for agricultural purposes, and the second program was for the transfer of 20,000 acre-feet to agricultural water users neighboring Glenn Colusa Irrigation District through the year 2009.

Two long-term transfers of CVP water from agricultural use to M&I use were approved by the CVPIA Water Transfer Program in 2006.

(MP-400 continued)
The CVP water transferred was agricultural water from the Stony Creek Water District, and the quantities transferred were 91 acre-feet to the County of Colusa Service Area #1 (Century Ranch) and 36 acre-feet to the Fouts Springs Youth Facility. Increased revenues collected by Reclamation as a result of the conversion of the CVP water from agricultural use to M&I are recovered into the CVPIA Restoration Fund for mitigation and restoration purposes as required by the CVPIA.

The CVPIA Water Transfer Program approved a long-term 5-year program for the annual transfer of up to 80,000 acre-feet of CVP water per year from the San Joaquin River Exchange Contractors Water Authority (Authority). The Authority will make up to 80,000 acre-feet of CVP water available per year for use by Reclamation's WAP for Level 4 refuge water supply (34,000 acre-feet in 2006) and to meet irrigation and/or M&I needs of CVP contractors within the South-of-Delta and/or Friant Division contract service areas.

Water Banking

The wet hydrology during the 2006 contractor year resulted in increased opportunity for CVP contractors to bank CVP water in established ground-water banking facilities. The Division reviewed and approved five water banking programs involving the banking of up to 205,000 acre-feet of CVP water by CVP contractors in ground-water banking facilities owned and operated by non-Federal entities within the San Joaquin Valley. Two of these programs involved Westlands Water District (WWD) banking of 65,000 acre-feet of CVP water in ground-water banking facilities owned and operated by the Semitropic Water Storage District for periods of up to 5 and 10 years. A third program involved WWD banking of 10,000 acre-feet of CVP water in the North Kern Water Storage District.

Central Valley Project Improvement Act (CVPIA)

San Joaquin River

In one of its last actions of the session, the 102nd Congress passed multipurpose water legislation that was signed into law on October 30, 1992. Previously referred to as H.R. 429, Public Law 102-575 contains 40 separate titles providing for water resource projects throughout the West. Title 34, the CVPIA, mandates changes in management of the CVP, particularly for the protection, restoration, and enhancement of fish and wildlife. Since 1992, Reclamation and FWS have worked to meet the challenges that the CVPIA presents. Its implementation has been afforded highest priority, and major strides have been made in accomplishing the Congressional mandates. Many of the CVPIA's provisions have been completed, and most of the others are well under way.

The CVPIA fundamentally changed authorization of the CVP by including fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic water supply uses, and fish and wildlife enhancement having equal priority with power generation. The ecosystem appears to be responding positively in the years since CVPIA implementation began. The numbers of anadromous fish returning to Central Valley rivers and streams has increased, and salmon have returned to spawn in areas where they had not been seen for years. There has been a significant increase in the number of ducks, geese, and other migrating birds using the new wetlands, and avian diseases appear to be declining. While the ecosystem is also responding to other factors, it is reasonable to assume that some of these beneficial effects are due to CVPIA implementation actions.

To date, implementation of the prescribed actions and programs has cost approximately $870.9 million: Restoration Fund, $537.6 million; Water and Related Resources funds, $258.7 million; State cost-share, $70.9 million; and donated funds, $1 million. The Restoration Fund appropriation for FY 2006 was $52.1 million, and Water and Related Resources was $12.6 million. In FY 2006, the largest amounts of money were obligated toward: Refuge Water Conveyance, Facility Construction, Refuge Wheeling, and San Joaquin Basin Action Plan ($13.7 million); Level 4 Water Purchases ($10.4 million); Trinity River Restoration ($10.6 million); Ecosystem/Water Systems Operations Modeling ($3.5 million); and the Anadromous Fish Screen Program ($9.9 million).

Reclamation has developed many partnerships and extensive coordination linkages with local, State, and Federal agencies; the CALFED Program; the Restoration Fund Roundtable; and private groups. CVPIA implementation continues to be coordinated with existing and ongoing restoration efforts such as the State's efforts to restore salmon and steelhead populations, the SWRCB's WQCP, and CALFED. Coordination with CALFED is particularly important as most of CALFED's actions have similar objectives and address many of the same natural resource and water management issues as the CVPIA. Close coordination and a focus on functional integration of CVPIA and CALFED have helped the MP Region achieve common goals and maximize benefits.

Human Resources Office (MP-500)

The Human Resources Office functions as the Servicing Personnel Office for the Region's employees and offices and advises management on human resource issues. The office provides organization and position analysis, diversity consultation, and recruitment and staffing activities, and also provides advisory services for employee conduct and performance issues, complaints, and grievances. Staff members negotiate and administer collective bargaining agreements with employee unions, oversee employee training and development programs,

coordinate payroll activities, and advise employees on retirement and benefit programs. For additional information, contact the Human Resources Office at 916-978-5471 (TDD 916-978-5491).

Regional Employees

As of the end of Fiscal Year 2006, the MP Region employed a staff of 912 permanent employees to include project managers who take the lead in developing water policies, negotiating contracts, and implementing habitat improvements; operations and maintenance personnel who make water management decisions, monitor facilities instrumentation, oversee generator rewinds, and develop computer control programs; and support staff who provide design, construction, data processing, human resources, procurement, budget, and other essential services. Regardless of their positions, employees worked diligently to support the Region's overall critical mission requirements related to water and natural resources management.

Office	Location	Employees
MP Regional Office	Sacramento, CA	362
	Fresno, CA	2
Central Valley Operations Office	Sacramento, CA	57
MP Construction Office	Willows, CA	39
	Weaverville, CA	1
	Redding, CA	1
	Folsom, CA	1
Lahontan Basin Area Office	Carson City, NV	22
	Truckee, CA	1
	Fallon, NV	4
Klamath Basin Area Office	Klamath Falls, OR	38
Central California Area Office	Folsom, CA	96
	Lake Berryessa, Napa, CA	16
	New Melones, Sonora, CA	17
	New Melones, Jamestown, CA	5
Northern California Area Office	Redding, CA	125
	Red Bluff, CA	9
	Willows, CA	9
	Elk Creek, CA	4
	Weaverville, CA	13
South-Central California Area Office	Fresno, CA	43
	Tracy, Byron, CA	30
	Friant, Friant, CA	14
	Cachuma, Santa Barbara, CA	3
	Total	**912**

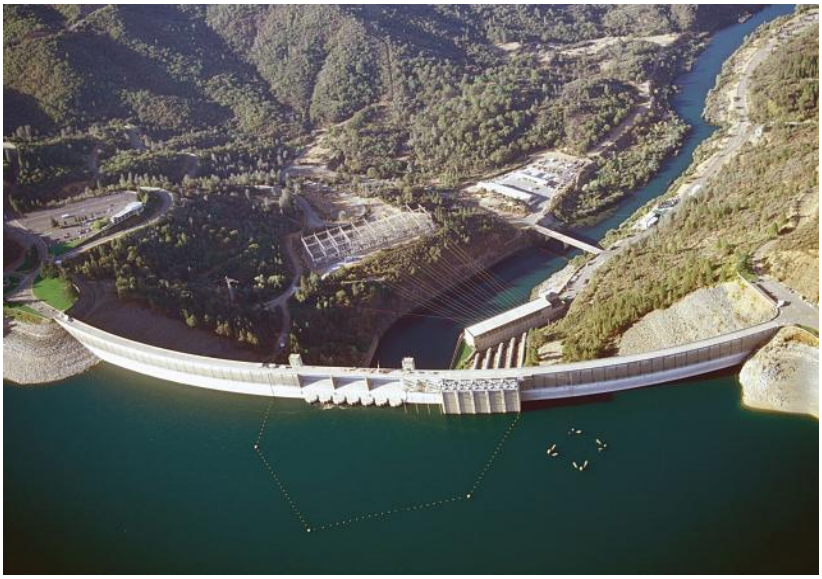
Regional Workforce Profile

At the end of Fiscal Year 2006, the Region's total employment stood at 964, of which 912 were permanent employees. The permanent workforce comprises 61 percent males and 39 percent females, and considering race or ethnicity, the workforce identifies themselves as: 10 percent Hispanic or Latino; 7 percent Asian, Native Hawaiian, or Pacific Islander; 6 percent Black or African-American; 2 percent American Indian or Alaskan Native; and 74 percent White.

The MP Region supports the employment of individuals with disabilities; 8 percent of our total workforce claims some form of disabling condition. The Region also continues to support the hiring of veterans, and of our current workforce of 912 employees, 262 are veterans.

Division of Planning (MP-700)

The Division of Planning is responsible for the coordination of multi-purpose water resource studies and development of plans and projects for management of water, land, power, and other associated natural resources for the Region. To accomplish this, the division conducts strategic planning and feasibility studies, formulates and evaluates potential effects of alternative plans, and prepares reports to support decision making. Currently, the division has authorization to conduct 12 feasibility or feasibility-type studies, including 9 within the CALFED Bay-Delta Authorization Act. These feasibility studies range from surface and ground-water storage to diversion and conveyance. The division also conducts appraisal-level and other special studies.



Downstream view of Shasta Dam

The division reviews, applies, develops, and maintains mathematical computer models for evaluating surface water supply and reliability, ground water, sediment transport, water quality, water temperature, and fishery impacts for use in developing planning investigations. Major activities include the review and use of these models and related computer applications, hydrologic data development, project planning and management related to these models, research coordination, and documentation of assumptions and results. The division is also responsible for coordinating water quality and climate change issues for the MP Region. For additional information, contact the division at 916-978-5060.

Water Storage Investigations

As a result of increases in demands for water supplies and attention to ecosystem needs in California's Central Valley, the 2000 CALFED Record of Decision (ROD), the 2004 CALFED Bay Delta Authorization Act, Public Law 108-361, and other pertinent laws, provide Reclamation authorization for water storage investigations. The goals of the CALFED Water Storage Program are to meet the needs of California's growing population and provide flexibility to improve water quality and support fish restoration efforts by pursuing more water storage capacity in surface reservoirs and underground aquifers. Reclamation is conducting these investigations in partnership with the California Department of Water Resources (DWR) and the Contra Costa Water District (CCWD).

The investigations include feasibility studies, which involve engineering, environmental, social, and economic analyses and an iterative process culminating in a Feasibility Report (FR) and environmental document. As part of this iterative process, the investigations have completed Initial Alternatives Information Reports (IAIR), and Plan Formulation Reports (PFR) are being prepared. Stakeholder and public involvement activities, a critical component of the investigations, will continue throughout the studies.

Shasta Lake Water Resources Investigation (SLWRI)

Reclamation, along with DWR, is conducting the feasibility study. The primary objectives of SLWRI are to increase the survival of anadromous fish populations in the Sacramento River and increase water supplies and water supply reliability. The alternatives being considered include raising Shasta Dam up to 18.5 feet (640,000 acre-feet of new storage). The Study Team continues refinement of project alternatives, environmental and economic studies, cost and benefit analysis, potential impacts, and mitigation strategies as well as conducting systems modeling to evaluate potential storage, operations, and conjunctive management actions. In 2006, the Study Team initiated preliminary inventory of cultural resources within the study area; initiated discussions with the U.S. Forest Service on recreation impacts; and released the Public Scoping Report in February 2006. The PFR is expected to be completed early 2007.
Website: www.usbr.gov/mp/slwri/index.html

North-of-the-Delta Offstream Storage Investigation (NODOS)

Also known as Sites Reservoir, the feasibility study is being conducted by Reclamation and DWR. Objectives are to improve water supply reliability in the Sacramento Valley, the Central Valley Project (CVP) and State Water Project (SWP) systems, provide storage for the Environmental Water Account (EWA), improve Delta water quality, improve Sacramento River flows during critical fish migration periods, restore riparian habitat, and provide water supply to wildlife refuges. Alternatives being considered include a storage capacity at Sites Reservoir of up to 1.8 million acre-feet (MAF)

(MP-700 continued)
storage capacity. The Study Team completed the IAIR in May 2006 and continues to refine the alternatives and preliminary evaluations of potential costs, benefits, and environmental impacts for the PFR.
Website: www.usbr.gov/mp/nodos/index.html

Los Vaqueros Reservoir Expansion Investigation (LVE)

Los Vaqueros Reservoir

Reclamation and CCWD are conducting a feasibility study for the potential expansion of Los Vaqueros Reservoir to address regional water quality and supply reliability needs. The alternatives considered for an expansion of Los Vaqueros Reservoir range up to 400 thousand acre-feet (TAF) of new storage. The Study Team has focused on developing and screening a large array of candidate plans, to a small set of plans for detailed development and comparison in the FR and Environmental Impact Statement/Environmental Impact Report (EIS/EIR). In 2006, an Initial Economic Evaluation Report for Plan Formulation (IEE) was completed. The IEE assesses the potential economic feasibility of an expansion of Los Vaqueros. The Study Team completed baseline habitat evaluation and initiated analysis of the mitigation areas and conveyance routes.
Website: www.usbr.gov/mp/vaqueros/index.html

Upper San Joaquin River Basin Storage Investigation (USJRBSI)

Reclamation and DWR are conducting a feasibility study to formulate and evaluate alternatives to develop additional San Joaquin River water supply that primarily involve the enlargement of Friant Dam and Millerton Lake or a functional equivalent. Alternatives address raising Friant Dam up to 25 feet, 130 TAF new storage; constructing a reservoir on Fine Gold Creek up to 800 TAF; or constructing a reservoir upstream of Friant Dam at either river mile 274 or 279 (1.3 TAF and 725 TAF, respectively). The Study Team will continue to refine and quantify retained measures; formulate, evaluate, and compare alternative plans; assess potential costs, benefits, and environmental impacts; and develop a preliminary cost allocation. An Environmental Assessment (EA) for drilling activities was completed in 2006, along with the drilling activities at river miles 274 and 279. An interim work plan was developed to revise assumptions and scope of work following the San Joaquin River Settlement. **Website: www.usbr.gov/mp/sccao/storage/index.html**

Schedule for Water Storage Investigations' Documents

	SLWRI	NODOS	LVE	USJRBSI
IAIR	June 2004	May 2006	September 2005	June 2005
PFR	Early 2007	Late 2007	June 2006*	Mid 2007
Draft EIS/EIR	Late 2008**	Mid 2008	Late 2007	Mid 2008
Final EIS/EIR & FR	Late 2008	Late 2008	Mid 2008	Mid 2009

**LVE prepared an Initial Economics Evaluation Report for Plan Formulation*
***SLWRI will be preparing an EIS*

Common Assumptions

Because of the complexity of the CALFED Water Storage Program, Reclamation and DWR have established Common Assumptions about existing and reasonably future conditions as a basis for the CALFED water storage and conveyance feasibility studies and associated model studies. A Common Model Package is being refined to characterize and quantify pertinent water management actions in California, which includes several different models integrating assumptions about water management actions such as water transfers, agricultural and urban water use and conservation, local projects, ground water and surface storage conjunctive use, recycling, EWA operations, and potential CALFED ROD actions. The common assumptions process and framework also include establishment of coordinated strategic planning, policy, and management; as well as associated tools and methods for hydrologic and economic analyses, cumulative analyses, and use of common reporting metrics for potential effects (impacts and benefits), protocols, and quality control measures.

Conveyance Program

The CALFED ROD stated that improving water supply reliability is crucial to the successful implementation of the CALFED Program. Public Law 108-361 authorized Reclamation to conduct feasibility studies and actions in both the South Delta and North Delta as part of the Conveyance Program under CALFED implementation. Water storage and conveyance work in tandem to provide infrastructure to water supply and reliability. Identification and implementation of modifications to conveyance systems are being evaluated to improve water supply reliability for in-Delta and export users, support continuous improvement in drinking water quality, and complement ecosystem restoration efforts.

South Delta Improvements Project (SDIP)

The SDIP is a joint DWR/Reclamation project which reflects the continuing commitment of the agencies to manage water project operations in a way that is beneficial to Delta water users, residents, and exporters, while protecting the flows and water quality needed to protect the Bay-Delta's valuable ecosystem. The SDIP has a two-stage decision-making process. Stage 1 addresses the physical/structural improvements proposed in the SDIP. Stage 2 addresses the proposed operational component to increase water deliveries south-of-the-Delta and begins after the Stage 1 decision is made. The Final EIS/EIR for Stage 1 was completed December 2006. **Website: www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=316**

Delta-Mendota Canal (DMC)/California Aqueduct Intertie Project (Intertie)

Reclamation is conducting a Feasibility Study (FS) that would connect the DMC and the California Aqueduct via a new pipeline and pumping plant. The primary purpose of the Intertie would be to allow for operation and maintenance activities at the C.W. "Bill" Jones Pumping Plant and the Tracy Fish Collection Facility, the

(MP-700 continued)
DMC, and the O'Neill pumping plant and intake canal. The Intertie would be used to accomplish a range of benefits, including meeting current water supply demands, maintaining and repairing CVP Delta export and conveyance facilities, and providing operational flexibility to respond to CVP and SWP emergencies. Reclamation issued a Notice of Intent to prepare an EIS for the Intertie project in July 2006. Public Scoping meetings were held in Sacramento and Stockton in August 2006. A preliminary Draft EIS was developed in 2006. **Website: www.usbr.gov/mp/intertie/index.html**

Delta-Mendota Canal Recirculation Project (DMC Recirc)
Reclamation and DWR are conducting a feasibility study to evaluate the feasibility, benefits, and impacts of recirculating water from the Sacramento-San Joaquin Delta through the CVP pumping and conveyance facilities to the San Joaquin River. The study has been proposed as a way "to provide flow, reduce salinity concentrations in the San Joaquin River, and reduce the reliance on the New Melones Reservoir for meeting water quality and fishery flow objectives through the use of excess capacity in export pumping and conveyance facilities" (Public Law 108-361, Title 1, Section 103). The Study Team completed the Plan of Study and has initiated stakeholder discussions on the development of the alternatives. An IAIR should be available spring 2007 with the Final FS and EIS/EIR in 2009. **Website: www.usbr.gov/mp/dmcrecirc/index.html**

San Luis Reservoir Low Point Project (SLLPP)
In 2006, an Appraisal Study and Plan of Study were completed. Reclamation and Santa Clara Valley Water District (SCVWD) have initiated feasibility study efforts on the evaluation and implementation of the SLLPP. The objective of the study is to optimize water supply benefits of San Luis Reservoir while avoiding additional risks to water users. The alternatives include modifying operations and/or construction of new conveyance or storage features. **Website: www.usbr.gov/mp+sllpp/index.html**

Franks Track/Thru-Delta/Delta Cross Channel (DCC) Reoperation
Reclamation and DWR began feasibility study actions for improvement at Franks Track, in part to reduce salinity intrusion in the south Delta and other surrounding areas. Because the DCC and Thru-Delta Facility are central components within the CALFED Preferred Conveyance Program in the CALFED ROD, these components are being evaluated collectively and individually. In 2006, Reclamation, DWR, and the U.S. Geological Survey teamed to develop and evaluate the use of hydrodynamic data to improve the understanding of the Delta actions.

Fresh water from the Sacramento River comes through the Delta Cross Channel Gates into the Delta's interior

Appraisal Studies and Other Projects

Auburn-Folsom South Unit Special Report

A special report was authorized by the Energy and Water Appropriations Act of FY 2006, Public Law 109-103, which states "the Secretary of the Interior is authorized to complete a special report to update the analysis of costs and associated benefits of the Auburn-Folsom South Unit..." and directs Reclamation to base the current analysis of the multipurpose Auburn Dam feature on the 1978 design. The report, completed December 2006 and prepared under the lead of the Central California Area Office, updates benefit values to current levels, identifies changes in design standards from 1978, assesses risks and uncertainties associated with the 1978 design, and recalculates the cost of the 1978 design to current dollars. Statutory requirements, project operations, demographics, and science have all changed significantly since the original formulation. The 1978 design was adapted to meet current conditions which, along with the projected future conditions, are different than what was known or projected previously. The analysis was based on various assumptions selected from a broad set of possibilities; therefore, the report presents a range of outcomes for costs and benefits. The document is available online at **www.usbr.gov/mp/ccao/docs/auburn_rpt/index.html.**

CVP Yield Feasibility Investigation Program

To comply with Section 3408(j) of the Central Valley Project Improvement Act (CVPIA), Reclamation completed the Least Cost CVP Yield Increase Plan in October 1995. The report identified options available to replace the 1.2 MAF of yield dedicated for fish and wildlife under CVPIA and concluded that a refined set of options required development. Reclamation established the CVP Yield Feasibility Investigation Program to develop and monitor these options. Reclamation continues to work on water supply benefits and cost allocation strategies for water supply projects considered under this program and other initiatives. Coordination and technical studies continue to ensure CVP yield benefits are effectively evaluated during feasibility investigations for water supply opportunities. Reclamation continues participation in conjunctive use and ground water banking opportunities and investigations of other options for improving water supply reliability through coordination with Federal and State agencies, water and irrigation districts, municipalities, environmental groups, and other stakeholders. The Water Supply and Yield Study Interim Report was forwarded to the U.S. Office of Management and Budget (OMB) in February 2006, and work continues on the final report.

Contra Costa Water District Alternative Intake Project (AIP)

Reclamation and CCWD completed and distributed the Final EIS/EIR to the public on October 27, 2006. Public Law 108-361 authorized Reclamation to expend funds "for design and construction of the relocation of drinking water intake facilities ... or take other

(MP-700 continued)
actions necessary to offset the degradation of drinking water quality in the Delta due to the South Delta Improvement Program." The proposed project includes the addition of a Delta diversion facility that would be connected via pipeline to the existing CCWD Old River Intake. Both intakes are proposed to be of the same capacity, and no increases in diversion are planned. **Website: www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=1818**

Environmental Water Account (EWA) EIS/EIR

Long-Term EWA EIS/EIR and Action Specific Implementation Plan (ASIP) – The purpose of the Long-Term EWA program is to: (1) provide a highly flexible, reliable, sustainable program that protects at-risk native Delta-dependent fish species affected by current and future CVP and SWP operations and facilities; (2) contribute to the recovery of these fish; (3) allow timely water management responses to changing environmental conditions and needs; and (4) maintain water supply reliability for all CVP and SWP water users. During 2006, under the lead of the Division of Resources Management, the environmental compliance documentation EIS/EIR and ASIP were developed. The environmental activities have been suspended indefinitely to assess uncertainties associated with the reconsultation on the Operations Criteria and Plan (OCAP) for CVP and SWP under the Federal Endangered Species Act (ESA) and ongoing planning efforts for a proposed Bay-Delta Conservation Plan.

Existing EWA EIS/EIR and ASIP – The purpose of the existing EWA program that began in 2001 is to: (1) provide a highly flexible, immediately implementable, water management strategy to protect at-risk, native Delta-dependent fish species affected by SWP/CVP operations and facilities; (2) contribute to the recovery of these fish; (3) allow timely water management responses to changing environmental conditions and needs; (4) improve water supply reliability; and (5) not result in uncompensated water cost to the Projects' water users. In November 2006, the five EWA implementing agencies began the environmental compliance process to extend the existing Stage-1 EWA program until these uncertainties are resolved, potentially through 2011.

Fish Barrier Weir and Ladder Modifications (Weir and Ladder Mods) at Coleman National Fish Hatchery (NFH)

Through an interagency agreement with the FWS, Reclamation is providing planning, design, and construction services to the Coleman NFH for the Weir and Ladder Mods. In June 2006, Reclamation and FWS, as co-lead Federal agencies under NEPA, signed a Finding of No Significant Impact based on the Environmental Assessment for the modifications. In September 2006, Reclamation issued a solicitation for construction proposals. In December 2006, FWS requested reinitiation of ESA consultation with NOAA's National Marine Fisheries Service, which was triggered by a small change in the proposed action. Reclamation anticipates that major construction activities will begin in spring 2007.

Visitors enjoy watching salmon navigate up the fish ladder at the Coleman National Fish Hatchery

Madera Irrigation District (MID) Water Supply Enhancement Project

The purpose of the project is to identify problems and potential solutions for water supply reliability and ground-water aquifer preservation in Madera County. In 2006, Reclamation completed an Appraisal Report to identify problems and potential solutions for water supply reliability and ground-water aquifer preservation in Madera County. Primary problems identified include: (1) water supply reliability resulting from increased demands from agriculture and municipal and industrial areas and (2) ground-water overdraft resulting from excessive ground-water pumping to meet water demands in the study area. The Appraisal Report has identified a Federal interest for several structural and non-structural measures and combinations of measures that could be further evaluated in a feasibility-level study. It was recommended that a feasibility study be initiated to investigate project alternatives that would address water resource problems in the study area, particularly through measures that preserve and protect ground-water resources in Madera County.

Mokelumne River Water Storage and Conjunctive Use Project (MORE WATER Project)

Reclamation has completed an Appraisal Study and found there is a potential Federal interest in a water storage/conjunctive use project in the Eastern San Joaquin Groundwater Basin, a water resource critical to the agricultural and economic viability of San Joaquin County. Potentially feasible alternatives exist, which could improve water supply reliability for CVP contractors within the ground-water basin. Restoring the aquifer to sustainable levels will have local and regional benefits for CVP contractors and others in the study area. A project which potentially improves water supply reliability in a region serviced by the CVP is an objective consistent with Reclamation's mission.

Refuge Water Supply – Mendota Wildlife Area

Reclamation and the Central California Irrigation District are preparing an EA/Initial Study (IS) for the Conveyance of Refuge Water Supply for the Mendota Wildlife Area. The primary purpose for the proposed action is to provide reliable year-round water deliveries to the Mendota Wildlife Area on the schedule prescribed in CVPIA 306(d). The Draft EA/IS identifies and evaluates the potential affected environment and environmental consequences of implementing the proposed alternative.

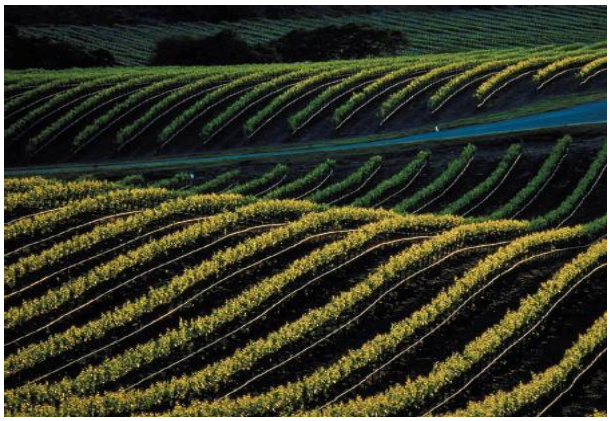
Blue Herons nest in the distant tree at the Mendota Wildlife Area

Sacramento River Water Reliability Study (SRWRS)

This study is also known as the Sacramento River Diversion Feasibility Study. Reclamation, Placer County Water Agency, on behalf of the cities of Sacramento and Roseville, and Sacramento Suburban Water District are conducting a feasibility study, consistent with the April 2000 Water Forum Agreement. The purpose of the feasibility study is to develop a plan to implement the Water Forum Agreement objectives to pursue a Sacramento River diversion to

(MP-700 continued)
meet the water supply needs of the Placer-Sacramento region and to preserve the Lower American River. In 2006, the Study Team continued to develop the EIS/EIR and is working with the U.S. Fish and Wildlife Service (FWS) and land-use authorities to address indirect effects of the potential project and with the Federal Aviation Administration to resolve potential land-use compatibility issues.
Website: www.usbr.gov/mp/srwrs/index.html

San Luis Drainage Feature Re-evaluation


Reclamation is developing a plan to provide drainage service to the San Luis Unit.

Reclamation is developing a plan to provide drainage service to the CVP San Luis Unit. In 1995, a Federal judge held that the San Luis Act mandated Interior provide drainage and ordered Reclamation to apply for a discharge permit to complete the San Luis Drain to the Delta (Sumner Peck Ranch, Inc., et. al. v. Bureau of Reclamation, et. al.). Reclamation reevaluated options for providing drainage service to the CVP San Luis Unit. The re-evaluation focused on previous studies and recent technologies. The objective is to formulate and implement a plan to provide agricultural drainage service to achieve long-term, sustainable salt and water balance in the root zone of irrigated lands in the San Luis Unit. Reclamation released the Draft EIS in May 2005 and received an estimated 1,800 comments; subsequently, Reclamation filed the Final EIS in June 2006. The proposed Federal action, to plan and construct a drainage system for the San Luis Unit, would meet the needs of the San Luis Unit for drainage service and fulfill the requirements of the court order. The Final EIS evaluated seven action alternatives and the No-Action Alternative. The In-Valley Drainage-Impaired Land Retirement Alternative was determined to be the National Economic Development (NED) Alternative. A final decision for implementation will be documented in the ROD. Feasibility level designs and cost estimates continue to be prepared; and the Feasibility Report is scheduled to be completed October 2007. The implementation of a drainage service plan will require further Congressional action.
Website: www.usbr.gov/mp/sccao/sld/index.html

Title XVI Water Reclamation and Reuse Program

The division manages the Title XVI, Water Reclamation and Reuse Program, for the Region. Projects underway include the following:

Findings of the CALFLED/Title XVI Review – Reclamation completed the findings report in February 2006, which evaluated various water recycling projects in the Southern California Comprehensive Water Reclamation and Reuse Study and the San Francisco Bay Area Regional Water Recycling Program. This report was forwarded to Congress, and a copy of the report was sent to all local agencies who submitted local planning reports to Reclamation for review.

(MP-700 continued)

City of Pittsburg Recycled Water Project – The EA, Finding of No Significant Impact (FONSI), and financial capability summaries were evaluated during 2006. After review and evaluation, notice was provided to the city that Reclamation's Office of Programs and Policies had determined the project was feasible according to Title XVI Guidelines.

City of Palo Alto-Mountain View/Moffett Area Recycled Water Project – During 2006, Reclamation evaluated the EA, FONSI, and financial capability summaries, and Reclamation is currently working with the Office of Programs and Policies to finalize a determination as to whether the reports meet feasibility requirements under the Title XVI Guidelines.

Watsonville Water Recycling – In 2006, Reclamation continued review of the Watsonville Water Recycling Project. Design studies were completed in December 2006 and construction is scheduled to start in 2007. This project will reduce salinity for agricultural irrigation in the Pajaro Valley costal area by recycling up to 4,000 acre-feet of affluent per year for blending with 10,000 acre-feet of higher quality water.

North San Pablo Bay Restoration and Reuse Project – During 2006, Reclamation and the Sonoma County Water Agency (SCWA) evaluated opportunities for water recycling supply, storage, and distribution in the northern San Pablo Bay region.

North Sonoma County Agricultural Reuse Project – Reclamation and the SCWA continued feasibility study efforts in 2006 to evaluate opportunities for recycled water, storage, and distribution in the Alexander, Russian Rivers, and Dry Creek Valleys in the vicinity of Santa Rosa. The project evaluates a regional approach to providing recycled water to 25,000 acres of agricultural lands. The objective is to provide an alternative source of agricultural water to reduce reliance on surface water and ground-water supplies.

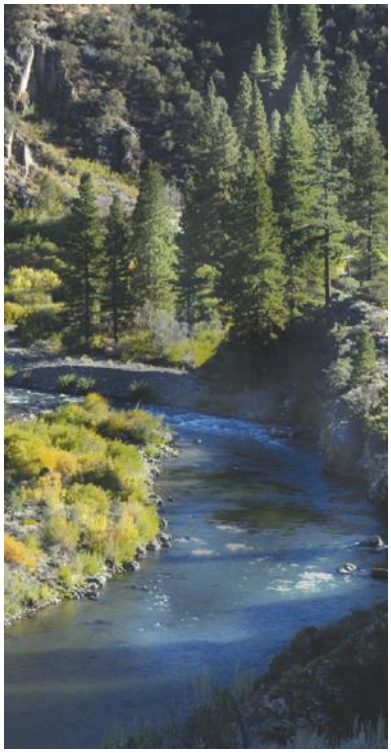
Stakeholder and Public Outreach

Stakeholder and public outreach is a critical component in the development of planning activities. In addition to meeting National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements, activities such as public scoping meetings, stakeholder workshops, and briefings provide the Study Teams the opportunity to gather input early in the development of their study. Websites, project updates sheets, and mailings are tools used to provide stakeholders and the public opportunities to keep abreast of study developments and become involved. Outreach activities notable for 2006 included: scoping meetings for the Intertie Project and the release of the SLWRI Scoping Report; DMC Recirculation stakeholder workshops; public hearings on the Draft EIS/EIR for both SDIP and AIP; notices of availability of

(MP-700 continued)
documents, such as IAIRs and environmental documents; SLWRI and USJRBSI stakeholder discussions; and project displays at various water forum events. Display boards, public meetings, discussions with stakeholders, and a website were designed to keep individuals informed of drilling activities conducted at Millerton Lake. Reclamation developed an outreach strategy to keep the public informed of upcoming construction activities at the Coleman NFH. A strategy was also developed to help inform stakeholders and the public of the overall development of the water storage and conveyance projects.

Water Quality Coordination

The Water Quality Group coordinates and manages water quality activities related to State and Regional Water Quality Control Board permits, ESA, Clean Water Act (CWA), and CVP operations. The Water Quality Group strives to ensure minimum impact to Reclamation's operations and its ability to meet customer needs while complying with State and Federal regulations. In 2006, the Water Quality Group participated in the following activities:


Truckee River

Multi-agency/stakeholder processes for several CWA activities:

- Lower San Joaquin River Salt and Boron Total Maximum Daily Load (TMDL)
- Methyl and Total Mercury TMDL in the Delta
- Upstream of Vernalis Salinity Standard
- Conditional Agricultural Waivers Program
- San Joaquin River Water Quality Management Group
- State Salinity Management Program

Multi-agency planning and scoping sessions related to daily operations:

- California Bay-Delta Authority – Drinking Water Policy, Stage 1 Evaluation
- South Delta Water Quality Standards
- DMC Water Quality Monitoring – selenium TMDL compliance
- Local Projects – Eastern Sacramento County Replacement, McCoy Basin

Reclamation-wide water quality issues:

- Reclamation water quality related policies
- Environmental Protection Agency (EPA) water quality- related polices
- Reclamation storm-water policy

Model Applications and Development

A variety of water resource modeling studies in support of ongoing feasibility and environmental projects were performed. These modeling studies have typically involved applying CalSim II, Upper Sacramento River Water Quality Model (USRWQM), and the salmon mortality and production model, SALMOD. Planning study

(MP-700 continued)
modeling activities performed included a major review of the CalSim II model for the San Joaquin Basin that was performed to address issues raised by the CalSim Peer Review panel. Model development accomplishments included: enhancement of CalSim (CalSim III) model in the Sacramento Valley; San Joaquin River Water Temperature Model from Friant Dam to the confluence with the Stanislaus River; Whiskeytown Reservoir and Clear Creek added to the USRWQM; Land Atmosphere Water Simulator (LAWS) model enhancements for simulating on-farm irrigation water management; and assistance to DWR in urban water demand modeling for the California Water Plan.

Modeling Efforts

Central Valley Production Model (CVPM)

CVPM is a regional model of irrigated agricultural production and economics that simulates the decisions of agricultural producers (farmers) in California's Central Valley from Shasta/Redding area to Kern County Water Agency/Bakersfield area. The model includes 22 crop production regions in the Central Valley and 20 categories of crops and predicts cropping patterns, land use, producer profits, and water use within the Central Valley by considering land availability, water availability and cost, irrigation technology, market conditions, and production costs. Accomplishments related to CVPM include updating of the CVPM input data, including data on cropping patterns, applied water, costs of production, evapotranspiration of applied water, project water deliveries, crop prices, price elasticities, and yields; recalibrating CVPM model using revised input data; determining the breakdown of county data into the 22 CVPM production regions; and developing an interface which allows CalSim output to be used as input in the CVPM.

Ground-water Model Development and Application HydroGeoSphere

Integrated Hydrologic Simulator (HydroGeoSphere) is a fully-coupled surface/subsurface numerical flow and transport model for water-resource analysis, planning and management and is beginning to be applied to problems within California's Central Valley. Its existing features of 2-D flow and transport in the surface water regime, 3-D flow and transport in the variable-saturated subsurface regime, and the coupled interactions between the two regimes have been thoroughly tested and verified. Ongoing and planned enhancement of HydroGeoSphere include sub-timing/sub-gridding algorithms to further increase efficiency of numerical solutions for large-scale applications, incorporation of snowmelt and temperature as well as dissolved oxygen (DO), nutrient and sediment transport simulation modules, and enhancement of surface water simulations to 3-D. Accomplishments include developing a Sacramento River basin-wide model for evaluation of impact of ground-water pumping; calibrating the Sacramento River Basin-wide model; developing a numerical model for analysis of various hydrologic scenarios; evaluating existing data and developing geological conceptual model for In Farm Drainage

(MP-700 continued)
Management modeling; and evaluating existing data and initiating development of conceptual model for wetland/subsurface water systems.

WESTSIM

WESTSIM is a finite element ground-water simulation model of land use and hydrology of the west-side of the San Joaquin Valley within Reclamation's San Luis Unit. WESTSIM, which is currently implemented using DWR's Integrated Water Flow Model (IWFM) code, is unique among current ground-water resource models of the San Joaquin Basin in its level of detail, its incorporation of wetland hydrology, and its ability to account for water deliveries to and drainage from a wide variety of land uses. Model development include data files and the associated analysis has been used to support development of CalSim model; WESTSIM has supplied stream-aquifer ground-water accretion and depletion estimates to the other watershed models; development of sub-regional water budgets have shown that a significant land area in the southern San Joaquin Basin is not well represented by current land-use based evapotranspiration model assumptions; and progress in simulating San Joaquin Basin wetland hydrology.

Technical Assistance to the State – Model Development

Urban Water Use Model

In 2006, the division completed the beta version of the Urban Water Use Model for DWR. The model, part of the California Land and Water database, is now being tested by end users in DWR and will be finalized in FY 2007. The California Land and Water Use database compiles information on agricultural and urban water use, which is essential to provide current and accurate information to the California Water Plan Update (DWR Bulletin 160).

CalSim III Utilities

Reclamation developed a prototype interactive schematic tool for the database that contains Water Resources Integrated Modeling System (WRIMS). WRIMS, currently being developed by DWR, provides input code for CalSim III and will eventually replace the CalSim II software. The tool allows interactive drag-and-drop building of WRIMS schematics; user defined connectivity of nodes with arcs; user defined properties of arcs and nodes; and saving and loading of the defined schematics.

Sacramento River Meander and Sediment Riparian Habitat Modeling

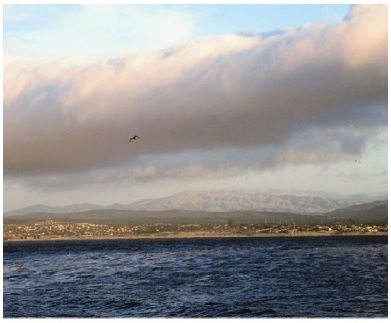
Reclamation modelers performed work that supports estimates of Sacramento River meandering, sediment loads, and riparian habitat establishment on the Sacramento River and its tributaries. Modelers developed the inputs and calibrated a numerical meander model (GSTAR-M) for the Sacramento River and developed the platform

Sacramento River

(MP-700 continued)
geometry alignment inputs representing historic channel centerlines and spatially assigned erosion coefficients required by the GSTAR-M model. Modelers also developed a Riparian Habitat Establishment Model (RHEM) to integrate the effects of river flows, ground water, and weather to simulate the growth of cottonwood vegetation on point bars and a Sediment Impact Analysis Method (SIAM) model that will be used to estimate sediment loads in the Sacramento River from tributaries.

California Public Utilities Commission Desalination Plant

In June 2006, Reclamation began assisting the Division of Ratepayer Advocates at the California Public Utilities Commission (CPUC) on developing a scope of work and interagency agreement for review and evaluation of a proposed desalination plant and related facilities on Monterey Bay. As scoped, Reclamation proposed to provide technical review assistance to the CPUC for the desalination, aquifer storage and recovery, and water conveyance features of the proposed Coastal Water Project. This particular type of work is new to Reclamation, and the effort to develop a mutually acceptable agreement has continued into FY 2007 through the South-Central California Area Office with assistance from the Mid-Pacific Regional Office.


Monterey Bay

Business Resources Center (MP-3000)

The Business Resources Center's mission is to support its regional customers by providing financial, acquisition, technological, and other professional services, information, and expertise while helping to ensure accountability. In 2006, the Center:

- Developed more effective budget reports for water customers.
- Successfully obtained a clean (unqualified) opinion on its accounting records in support of Reclamation's financial statements by ensuring implementation of accounting standards and policies.
- Awarded $193 million in contracts and $159 million in financial assistance.
- Continued refinement of a more effective process to manage the Region's $410 million budget.
- Processed more than $340 million in revenues to the Treasury.
- Managed a $53.7 million working capital fund.
- Facilitated a multi-million dollar agreement with a water district to fund a water project.
- Led the effort to complete the Federal Real Property Profile for the Region's own real property in order to meet the Presidential Asset Management initiative.
- Responded to 36 Freedom of Information Act requests.
  In 2007, the Center was reconfigured into four divisions: Finance, Administrative Services, Information Technology, and Acquisition.

Specialized Offices

Central Valley Operations Office (CVO)

The CVO staff manages the daily operations of the Central Valley Project (CVP) from the Sacramento Joint Operations Center (JOC) in Sacramento, which is shared with the State Water Project (SWP) Operations Office, the Division of Flood Management of the California Department of Water Resources (DWR), the National Oceanic and Atmospheric Administration's National Weather Service Regional Office, and the River Forecast Center (RFC). This close proximity is crucial to the CVP and SWP's coordinated operations.

Friant Dam spills over the top during an extremely wet period

CVO performs operations forecasting and manages water supply operations, water quality and salinity, instream flows, and Sacramento-San Joaquin Delta conditions. Staff members make the annual water allocation to irrigation and urban CVP contractors and coordinate flood operations with DWR, the RFC, and the U.S. Army Corps of Engineers (USACE).

CVO forecasts monthly hydroelectric power generation and coordinates daily generation and project-use schedules and forecasts with the Western Area Power Administration (Western), the power marketing agency for our surplus power products. CVO also monitors and operates CVP powerplants and facilities from the centralized control system in the JOC. For additional information, please contact CVO at 916-979-2180 (TDD 916-979-2183).

Water Operations

In the 2006 Water Year, classified as "wet" in the Sacramento River basin, Reclamation managed the CVP to meet project water and power demands and also the Central Valley Project Improvement Act (CVPIA) requirements, Endangered Species Act requirements, Biological Opinions, CALFED objectives, and the water rights decision for the San Francisco Bay/Sacramento-San Joaquin Delta (Delta) (D-1641). In Water Year 2006, the CVP supported a water supply allocation of 100 percent for both North-of-Delta and South-of-Delta agricultural and urban project water users. Allocations were also 100 percent for the water rights holders, exchange contractors, and wildlife refuges. Reclamation also facilitated water transfers to CVP water districts. The CVP Eastside contractors were offered a 100-percent allocation. In 2006, Reclamation participated in various

environmental programs. Reclamation is a co-lead agency in the annual Vernalis Adaptive Management Plan (VAMP), an ongoing 12-year program to evaluate the effects of pulse flows and export reductions on the San Joaquin River salmonids outmigration through the Delta. The 2006 VAMP did not have an official flow objective at Vernalis owing to ongoing flood releases in the San Joaquin River basin. In addition, the Head of Old River barrier was not installed due to the high flows in the San Joaquin River. The projects operated for a combined CVP/SWP export reduction to about 1,500 cubic feet per second (cfs) for the first half of VAMP and 6,000 cfs for the second half of VAMP.

Under CVPIA Section 3406(b)(2), about 404,000 acre-feet was used for fishery actions, about 195,000 acre-feet was banked as (b)(2) water for use in Water Year 2007, and about 201,000 acre-feet was returned to the CVP for project purposes (800,000 acre-feet total under CVPIA 3406(b)(2)). Reclamation also continued to play an active role in the SWRCB's periodic review of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and other water rights hearings and proceedings.

Power Operations

CVO continued making improvements with power generation scheduling in order to optimize its value to CVP water and power customers. Such scheduling processes include assuring the resources needed for regulation and operating reserves are available at all times to meet Regional power system reliability requirements.

Significant progress was made during the year in CVO's negotiations with both Western and Pacific Gas and Electric Company (PG&E) related to interconnection agreements for New Melones, Gianelli, and O'Neill Powerplants. Filing of these agreements with the Federal Energy Regulatory Commission (FERC) should occur by mid-Fiscal Year (FY) 2007, and such action will resolve Reclamation's FERC intervention on the issue. In addition, agreement was reached with PG&E to utilize the New Melones generators as if they were a part of the Western sub-control area; an operation that creates substantial flexibility for producing operating reserves and regulation. Rehabilitation and reliability improvements of the Region's powerplants continued during the year as a new turbine/runner at New Melones was installed, new windings for Shasta Units 1 and 2 were awarded to coincide with their runner replacements beginning in FY 2007, acquisition was initiated for new turbines/runners at Carr Powerplant; and specifications were completed for all three Folsom unit's turbines/runners and rewinds to commence in late FY 2007.

MP Construction Office (MPCO)

From their office in Willows, California, the MPCO staff manages all pre-construction, on-site construction, and construction contract administration on new construction, rehabilitation of existing facilities, extraordinary maintenance, concrete structures and buildings, safety of dams modifications, hazardous waste clean up and closure, fish screens, temperature control devices, fish facilities, canals and pipelines, pumping facilities, and storage dams and reservoirs throughout the Region.

Construction to reduce the risk of damage to Laura Dam from a major earthquake was completed in 2006

During 2006, MPCO maintained field stations at Folsom Dam, Folsom, CA; Shasta Dam, Redding, CA; Placer County Water Agency Pumping Plant, Auburn, CA; Trinity River Restoration, Weaverville, CA; New Melones Dam, Calaveras County, CA; and Lauro Dam, Santa Barbara County, CA. For additional information, please contact MPCO at 530-934-7066 (TDD 530-934-1345).

Lauro Dam Construction Project

Safety of Dams investigations conducted in 1979 and 1983 and field investigations conducted in 1998 concluded that movement could occur near Lauro Dam as a result of a large-magnitude earthquake and cause a surface fault displacement through its foundation. In September 2005, a $3.9 million contract was awarded to A.J. Diani Construction, Inc. of Santa Maria, CA, to reduce the risk by placing a sand filter layer and gravel filter and drain layer over the area where the fault could crack the embankment. That work was completed in 2006.

Placer County Water Agency Pumping Plant (PCWA)

Work on Phase I of the American River Pump Station Project on the north fork of the American River near Auburn, CA, continued in 2006 with completion anticipated in early 2007. A $31 million contract was awarded in August 2006 to Ford Construction Company, Inc. of Lodi, CA, for the construction of the intake channel structure, river restoration work, and diversion tunnel closure. Upon completion of this project in fall 2007, up to 35,000 acre-feet of American River water will be made available to PCWA's service area.

Red Bluff Pumping Plant Expansion and Upgrade

The Red Bluff Research Pumping Plant, completed in 1996, was originally constructed with three pumping units but was designed for four. A contract to install the fourth and final pump was awarded to Macro-Z Technology Co. of Santa Ana, CA, in September 2004. Installation of the pump will reduce water delivery problems during the spring and fall. The contract was completed in spring 2006.

Security Upgrades at MP Region Dams

Two contracts were awarded to Adesta of Omaha, Nebraska, to upgrade the security at Shasta, Keswick, and Folsom Dams. A $6.5 million contract for the Shasta and Keswick upgrades and a $4.6 million contract for Folsom upgrades were awarded. These upgrades

include active vehicle barriers, installation of an uninterruptible power supply system, under-floor raceway system, refrigerant piping, intrusion detection system, and other upgrades. Installation work for these contracts has begun at Shasta Dam, and completion is scheduled in early 2007. Final design for Folsom will be completed in early 2007 with installation in spring 2007.

Shasta Powerplant Turbine and Generator Rehabilitation

The turbines and generators at the Shasta Powerplant are old and in need of replacement. In order to update the Shasta Dam Powerplant turbine and generator rehabilitation for Units 1 and 2, a contract was awarded in May 2004 to American Hydro Corp. Unit 1 was completed in September 2006, and Unit 2 is anticipated to be completed in mid-2007. A $13,750,000 contract was awarded in September 2005 to Alstrom Power, Inc. to rehabilitate the Shasta Powerplant. This contract started in early 2006 with field work and is anticipated to be completed in June 2008.

Area Offices

Klamath Basin Area Office (KBAO)

Located in south-central Oregon and north-central and northwestern California, the Klamath Project (Project) was authorized in May 1905 for irrigation of up to 240,000 acres of family farms and ranches. Storage reservoirs are impounded by Link River Dam, Clear Lake Dam, and Gerber Dam, which provide 1,095,000 acre-feet of active storage in the Klamath River and Lost River Basins. More than 1,400 miles of canals and drains provide water for users, including six National Wildlife Refuges (NWR). Additional water regulating facilities include Anderson-Rose Dam, Malone Diversion Dam, Lost River Diversion Dam and Channel, Miller Diversion Dam, Klamath Straits Drain, and the Tule Lake Tunnel and pump. For additional information on any of the following issues/programs, please contact KBAO at 541-883-6935.

Upper Klamath Reservoir

Klamath Settlement

KBAO continues to support and participate in “FERC Plus” (Federal Energy Regulatory Commission) settlement discussions. Participants from 28 parties (Tribal, commercial and sport fishing, environmental, agricultural, local government interests, the States of California and Oregon, and the Departments of Interior, Agriculture, and Commerce) are currently considering opportunities for a “win-win” outcome. Process goals include maintaining an agriculturally viable Klamath Basin community and improving restoration potential along the Klamath River.

Klamath Project 2006 Water Year

The 2006 Klamath Basin irrigation season started out to be above average with spill conditions from January through May; however, by late June 2006, inflows into Upper Klamath Lake had dropped to below-average levels and remained there for the rest of the irrigation season. This and several other factors contributed to making 2006 another challenging water year. In March, U.S. District Judge Saundra Armstrong required Reclamation to immediately go to National Marine Fisheries Service (NMFS) Phase III flow requirements below Iron Gate Dam. Then, in early June, a dike break at Caledonia Marsh displaced some 21,000 acre-feet of storage, reducing lake levels by approximately 0.3 feet, and erroneous gauge readings below Iron Gate Dam led to releases of about 15,000 acre-feet of water above the Biological Opinion (BO) requirement, or some 0.2 feet. The combined 0.5 feet of lost lake elevation and the high flow requirement for June left the Upper Klamath Lake 1 foot below the target elevation for suckers for the remainder of the season; however, cooler-than-normal summer temperatures combined with high spring inflow aided in producing the highest initial counts of young suckers since recordkeeping was initiated.

2006 Klamath Project Pilot Water Bank

KBAO established a Klamath Project Pilot Water Bank through the Klamath Basin Water Supply Enhancement Act of 2000 to augment storage in our efforts to meet Project obligations. In 2006, the Pilot Water Bank was used to meet all Project purposes, as opposed to dedicating the entire 100,000 acre-feet to river releases. KBAO contracted for approximately 73,000 acre-feet of water at a total cost of about $4.5 million. The Pilot Water Bank consisted of water storage, land idling, and ground-water substitution. Participants were paid an average $133 per acre for idling land and $165 per acre for substituting well water for Project surface water. Some 5,788 acres were idled. Ground water was used in lieu of Project water for 2,812 acres. Further, approximately 15,000 acre-feet of water was available for the water bank as a result of exercised options contracts. KBAO provided an additional 28,000 acre-feet through off-stream storage.

Conservation Implementation Program (CIP)

A series of public meetings has shown that resolution of the numerous natural resource management issues in the Klamath River Basin would best be reached through a basin-wide, stakeholder driven, ecosystem restoration approach. KBAO is working with stakeholders throughout the basin to develop the Klamath River Basin CIP. The CIP is being designed to work with and through existing basin restoration efforts. It will increase the effectiveness of these efforts by providing coordination between them, facilitating information exchange, leveraging resources, reducing redundance, and facilitating standardization of fish population and water quality data collection. The CIP will focus efforts on the full suite of factors influencing listed and non-listed species so that the entire burden for

(KBAO continued)
restoration is not placed on irrigated agriculture. A successful CIP will contribute to the stability of the economy of the Klamath Basin, including agribusiness.

The final draft CIP program document was scheduled to be completed in a public working session facilitated by a team of organization development specialists on December 6-7, 2006, in Medford, Oregon. Considering the CIP will support implementation of other efforts, the working session was postponed to accommodate already crowded schedules of potential participants involved in FERC settlement talks and other processes. A new organizational structure and other materials on the CIP have been posted on the KBAO website.

National Academy of Science (NAS) Review

The NAS, National Research Council, is reviewing Reclamation's study entitled Natural Flow of the Upper Klamath River as well as a study entitled Evaluation of Interim Instream Flow Needs in the Klamath River – Phase II authored by Dr. Thomas Hardy and Mr. R. Craig Addley. Reclamation sponsored the review which will examine the methods and approach used in each of the studies. This outside peer review by the NAS will verify the validity and faults of the studies which will be considered during Endangered Species Act reconsultation on Project operations. A draft review of the Natural Flow Study by the NAS will be available by August 31, 2007, with a final review scheduled for release by December 31, 2007.

Barnes Ranch

To increase water available for Project purposes, in October 2006 The Nature Conservancy (TNC) purchased the Barnes Ranch. Reclamation and the U.S. Fish and Wildlife Service (FWS) each contributed $2M toward the acquisition. In Fiscal Year 2007, FWS intends to reimburse TNC for the balance of the $7.2M cost. Barnes Ranch adjoins Agency Lake Ranch, already under Federal ownership. Restoring both ranches to Upper Klamath Lake will add some 30,000-50,000 acre-feet of storage available for Project purposes during wet years by expanding the surface area of Upper Klamath Lake by 10,000 acres.

Chiloquin Dam Removal

Reclamation has assisted the Bureau of Indian Affairs (BIA), other Federal and State agencies, and local stakeholders to prepare to remove Chiloquin Dam and replace it with a pumping plant to improve endangered fish passage on the Sprague River in southern Oregon. On October 19, 2006, Modoc Point Irrigation District (MPID), owner of the dam, and the Department of the Interior jointly signed the cooperative agreements needed to allow the dam removal project to be implemented. BIA recently transferred overall responsibility and funding to Reclamation for (1) announcing, funding and awarding the construction contract, (2) acting as field construction manager, and (3) working cooperatively with BIA to

Removal of Chiloquin Dam will improve endangered fish passage on the Sprague River in Southern Oregon

(KBAO continued)
complete all permitting (Section 404, National Historic Preservation Act) processes and realty documents. Reclamation issued a new contract solicitation package in October 2006 and is scheduled to award a construction contract by March 2007. The new construction schedule will be phased over 2 years: MPID main pumping plant on the Williamson River and two new pump stations for a private landowner will be constructed between July and December 2007 and fully operational by July 2008, and Chiloquin Dam will be removed and one new pump station for a private landowner will be constructed from July-December 2008.

Northern California Area Office (NCAO)

Headquartered at Shasta Dam near Redding, California, NCAO administers Reclamation lands, water service, and repayment contracts from north of Sacramento to the Klamath Basin. NCAO also operates and maintains facilities comprising the Shasta, Trinity, and Sacramento River Divisions of the Central Valley Project (CVP) including Shasta and Trinity Dams, powerplants, and reservoirs. Field offices are located in Willows, Red Bluff, and Weaverville, California.

Trinity Dam

Shasta Dam is the second-largest concrete dam in the United States, and it impounds California's largest reservoir with a capacity of 4.5 million acre-feet. Other facilities include Keswick Dam, reservoir, and powerplant; Lewiston Dam, lake, and powerplant; Judge Francis Carr Powerplant; Clair A. Hill Whiskeytown Dam and lake; Stony Gorge Dam and reservoir; East Park Dam and reservoir; the Red Bluff Diversion Dam; the Corning Canal and Corning Pumping Plant; and the Tehama-Colusa Canal.

NCAO is also responsible for the Trinity River Restoration Program in the Trinity River Basin. NCAO staff administer the Trinity River Fish Hatchery, the Livingston Stone National Fish Hatchery, and the Coleman National Fish Hatchery. For additional information, contact NCAO at 530-275-1554.

Security Activities

Security system upgrades for Shasta, Keswick, and Trinity Dams and Powerplants are under construction with projected completion in February 2007. The upgrades include barriers, bollards, communication equipment, CCTV, a new security office, and alarms. The upgrades will allow for a more controlled environment to protect Federal property and ensure public safety at Reclamation facilities. NCAO maintains a cooperative partnership with the Shasta County Sheriff's Office and other municipalities to enhance its security program.

Transfers

NCAO continued to refine the Environmental Assessment and other requirements for the long-term transfer of up to 457 acre-feet of CVP water from a Sacramento River Settlement Contractor to a Municipal and Industrial contractor and transferred 57,694 acre-feet of CVP water among CVP contractors located north-of-Delta through December 2006.

Water Conservation

The 2006 Water Conservation Program provided seven field service program grants for northern California programs in education, conservation planning, demonstration, and efficiency improvements through new technologies and a measurement study with the Sacramento River Settlement Contractors. NCAO identified four CALFED grants for conservation activities to include dam gate improvements, measurement improvements, and canal flow control management improvements. The NCAO water conservation office is currently representing the contracting officer on 26 open water conservation program grants. Updated annual water conservation plans submitted by 13 water districts were reviewed.

Realty

NCAO completed a dedication of land needed for additional operation and maintenance by the Orland Unit Water Users' Association in the Orland Project; issued consents for bridge crossings over a Reclamation-owned easement; issued a consent for the City of Orland to lower and replace a portion of Lateral 12; issued contracts for temporary turnouts over the Tehama-Colusa Canal to Westside and Davis Water Districts; issued Special Use Permits for several events; and signed an agreement with the Western Area Power Administration for a transfer of land at Trinity Dam for a proposed substation.

Emergency Management Activities

In 2006, recommendations from the Stony Gorge and East Park Dams After-Action Exercise Evaluation Report were reviewed. As a result, improvements and enhancements to NCAO's emergency management and response measures were initiated. In June 2006, NCAO conducted a multi-agency Emergency Action Plan functional exercise for Buckhorn Dam. Before the exercise, a design team composed of NCAO and local emergency responders and agencies developed an exercise to ascertain how well they worked together and to determine possible problems. The design team helped conduct the exercise and observed and evaluated the plan. Recommendations from an After-Action Exercise Evaluation Report will be reviewed, and some recommendations will be implemented in 2007.

NCAO Capital Improvement Program

In FY 2006, NCAO stepped up an already aggressive capital improvement program to extend the life of facilities and upgrade powerplants with state-of-the-art technologies. Currently, more than

60 projects totaling more than $75 million are either underway or being planned. Recent accomplishments include:

- New digital turbine governors were installed and commissioned in Shasta Units 4 and 5
- Rehabilitation of the Shasta Station Service Unit 2 was completed
- High-voltage disconnect replacements were completed in the Shasta Switchyard
- Two new SF-6-type breakers were installed in the Shasta Switchyard

Shasta Turbine Upgrades

In October 2006, work began to replace the turbine and generator on Shasta Unit 1 to increase the installed capacity to 142 MW. This project is part of a multi-year turbine upgrade/generator uprate program that will result in a "like-new" turbine and generator unit at the Shasta Powerplant to join the three already upgraded units.

Major Projects in Progress or Planned for the Next 3 Years

- Rehabilitation of the second Shasta station service unit
- Installation of the remainder of the digital governors on Shasta Units 2 and 3
- Replacement of main unit breakers at Shasta Switchyard with SF-6-type breakers
- Generator uprate and turbine replacement of Shasta Unit 2
- Replacement of excitation systems on all six Trinity River Division powerplant generators
- Modification of the intake structures at the Coleman Hatchery to meet the requirements of the Anadromous Fish Restoration Program
- Installation of an Americans with Disabilities Act-compliant recreation trail and safety and security upgrades at the Keswick office building
- Drain cleaning in the spillway and outlet works tunnels at Trinity and Whiskeytown Dams
- Replacement of both turbine runs
- Generator rewind and turbine replacement of J.F. Carr Units 1 and 2

Red Bluff Pumping Plant Fish Passage Program

The Red Bluff Diversion Dam is a 52-foot-high concrete gated weir structure located on the Sacramento River about 2 miles southeast of Red Bluff, California. The dam was built between 1962 and 1964 to divert water from the Sacramento River to the Corning and Tehama-Colusa Canals, thus providing irrigation water to the Sacramento Valley. Because the dam created a barrier to fish passage, Reclamation implemented periods of "gates out" operation during which the dam's gates are raised on September 15 of each year and not lowered until the following May 15. During this "gates out" period, water cannot be diverted by gravity to the Tehama-Colusa and Corning Canals.

Red Bluff Diversion Dam

(NCAO continued)
While this operational change substantially reduced passage impediments for most salmonid populations, it created water delivery problems; consequently, Reclamation and the Tehama-Colusa Canal Authority are evaluating alternative means to increase the reliability of irrigation water delivery during the "gates out" period while reducing or eliminating the fish passage problems. In the interim, Reclamation has added a fourth fish-friendly pump at the Red Bluff Research Pumping Plant to partially relieve the water delivery problems. Reclamation has selected a preferred alternative for a long-term solution and in December 2006 released the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for a second comment period. The EIS/EIR should be completed in 2007.

Clear Creek Restoration Project (Project)

The Project continues to implement an ecosystem-based program for restoring Chinook salmon and steelhead habitat by focusing on increasing in-stream flows, the addition of spawning gravel, and the restoration of sections of degraded creek channel and associated floodplain. In December 2006, the Clear Creek Restoration Team, composed of local, State, and Federal agencies and organizations, received a Governor's Environmental and Economic Leadership Award for its accomplishments regarding the Lower Clear Creek Floodway Rehabilitation Project. The Project is revitalizing and restoring a 2-mile section of creek that was ravaged by mining during the last 150 years. Since 1994, the Restoration Team has implemented projects that are improving in-stream creek habitat and the recovery and maintenance of naturally-spawning salmon and steelhead populations. The Project is also restoring riparian plants and animal communities on the floodplain and is helping to increase the return of fall-run Chinook salmon from a 1967 to 1991 average of 1,689 to more than 16,000 in 2003.

Anchored root balls of large trees help keep the Creek in the desired channel

The Restoration Team has recreated 60 acres of floodplain, reduced juvenile fish stranding by filling old gravel extraction pits, and injected 95,000 tons of spawning gravel, all aided by the removal of McCormick-Saeltzer Dam in October 2000 that opened 10 miles of creek for spawning and rearing habitat for Endangered Species Act-listed spring-run Chinook salmon and steelhead. The economic benefits of increasing salmon and steelhead populations on the creek have jumped from $7.7 million to $15.7 million.

Coleman National Fish Hatchery

Two multi-year projects are in the design phase. The first project involves the rehabilitation of the hatchery's water intake system. With implementation of the Battle Creek Salmon and Steelhead Restoration Project, to begin in 2008, large numbers of salmon and steelhead will be spawning upstream of the hatchery. Rehabilitation of the water intake system will include the addition of fish screens so juveniles will not be drawn into the intakes, and certain intakes may be moved or upgraded so a reliable, high-quality water supply can be delivered to the hatchery. The project is expected to be implemented in summer 2007. The second project involves a major rehabilitation of the Administration and Shop buildings to meet seismic standards, and the Admin building may be enlarged to provide public outreach and educational opportunities. Additionally, NCAO is designing a canal overflow weir to divert water from the canal back to Battle Creek should the hatchery lose electrical power. Construction is planned for summer 2007.

Trinity River Restoration Program (TRRP)

Located in northern California, the Trinity River is one of the most beautiful in the State and is nationally known for its salmon and steelhead fisheries. In 1963, the Trinity and Lewiston Dams were completed, and reservoirs filled in 1964 to provide water supplies and power generation for California's Central Valley – resulting in the diversion and export of as much as 75 to 90 percent of the Trinity River's flow for nearly 4 decades. That changed dramatically in December 2000, with the signing of a Record of Decision (ROD) that reduced exports to about 52 percent of total inflows to Trinity Reservoir.

Trinity River

The Trinity River Restoration Program (TRRP) was established in 1984, under Public Law 98-541, to restore and maintain the fish and wildlife stocks of the Trinity River Basin to those levels that existed just before construction of the two dams. In 1992, the Central Valley Project Improvement Act (Public Law 102-575) increased instream flows to 340,000 acre-feet per year and directed the Secretary of the Interior to complete a flow study and develop procedures for restoring and maintaining the Trinity River fishery. The law also provides the authority for current restoration activities. Reclamation plays a key role in restoration efforts as a member of the Trinity Management Council, the decision-making body charged with setting policy for the TRRP. In the 6 years since the ROD was signed, restoration efforts have steadily advanced. Accomplishments in 2006 built upon the substantial progress in 2005 and are highlighted in the following sections.

Acquisition and/or Modification of Floodplain Structures

In addition to the four river crossings that were completed in 2005, other structures have required modification or removal prior to release of higher flows. An inventory of all structures (houses, pump houses, wells, out-buildings, etc.) within the upper 40 miles of river potentially impacted by wet and extremely wet water year

(NCAO) continued)
(WY) releases is complete and nearly all modifications have been implemented. More than 30 agreements and waivers of liability have been signed with landowners to reimburse them for qualifying modifications. These efforts set the stage for another record-setting release of fishery restoration flows in May 2006.

Peak Release of 10,100 cfs – May 2006

The flow schedule implemented in WY 2006 was the second one prepared without court-imposed constraints and the first one designed to meet extremely wet WY objectives. Because of the previously completed bridge crossings and other floodplain structure modifications in 2005 and 2006, the flow schedule was initially designed to include a fishery restoration peak release of at least 8,500 cubic feet per second (cfs). Due to extremely high inflows to Trinity Reservoir, Reclamation began Safety of Dams releases in March 2006 and reached a peak fishery restoration flow of 10,100 cfs in mid-May, the second highest since Trinity and Lewiston Dams were completed in 1963. The year's flow schedule reflected a strong collaborative effort by TRRP scientists and resulted in significant geomorphic improvements to the river channel and floodplain, ultimately benefiting salmon and steelhead populations.

TRRP Website

The TRRP website, **http://www.trrp.net**, continues to average more than 2,000 visits per month in its second year of operation. The site has become a valuable tool for almost every aspect of the TRRP, including contact information, status reports on current projects, real-time stream gage data, a calendar of events, links to TRRP partners, and other useful websites.

Channel Rehabilitation Sites

Following the successful completion of the TRRP's first rehabilitation site at Hocker Flat in 2005, five additional projects were implemented in 2006. With construction costs totaling about $1.3 million, more than 20 acres and two river shoreline miles were treated in a 6-mile reach of the Trinity River. Projects included a restoration site plus gravel augmentation just below the Lewiston Hatchery in the premier fly-fishing-only section of the river and four other sites just above the confluence of the North Fork Trinity River. Planning, design, and environmental compliance actions for the next 11 sites are underway, with construction planned for 2007 near Indian Creek, Lewiston, and Dark Gulch.

Valdor Gulch after construction in December 2006

Integrated Information Management System (IIMS)

Adaptive Environmental Assessment and Management (AEAM), the scientific foundation for the TRRP, requires extensive and high-quality data sets for a variety of resources. The IIMS is a multi-disciplinary data warehouse designed to support AEAM and the management of river systems. Initiated by the TRRP in 2006, the IIMS will be a modular system that will be expanded over the next 3 years. It is a cost-sharing partnership among three Mid-

(NCAO) continued)
Pacific Region Area Offices and the Denver Technical Service Center. A working version of the IIMS has been developed in the past year and exists at the TRRP office in Weaverville. Eventually the IIMS will be housed on Reclamation computer servers with public access portals to facilitate data sharing and transparency with program partners, stakeholders, and the public. Other Reclamation offices will be able to easily implement and modify IIMS modules developed on the Trinity to meet basin-specific data and analysis needs in other river basins, such as the Klamath and San Joaquin. The IIMS is being developed for Reclamation by the Utah State University and ESSA Technologies. Over the next 3 years, additional datasets and functionality will be added, with an increased selection of them being made available to program partners and the public.

Central California Area Office (CCAO)

The CCAO main office is located 23 miles east of Sacramento within the Folsom city limits; field offices are located at New Melones Lake and Lake Berryessa. The CCAO staff manages water and land resources in 12 counties. Its jurisdiction extends from the California coast to the crest of the Sierras and from the American River Basin in the north to the Stanislaus River in the south. The staff is responsible for Folsom Dam, Lake, and Powerplant; Nimbus Dam, Lake Natoma, and Powerplant; New Melones Dam, Reservoir, and Powerplant; Monticello Dam, Lake Berryessa, and Powerplant; Putah Creek Diversion Dam; the Folsom-South and Putah South Canals; Sweeny, Suisun, and McCoy Creeks and Green Valley Wasteways; Nimbus Fish Hatchery; and the Auburn Recreation Area. CCAO manages the recreation areas at Lake Berryessa and New Melones Lake and has a long-term lease with the California Department of Parks and Recreation (CDPR) to manage recreation at Folsom Lake, Lake Natoma, and the Auburn Recreation Area. For additional information, please contact CCAO at 916-988-1707.

Folsom Dam

Central Valley Project (CVP), American River Division

Folsom Safety of Dams (SOD) Projects

As a result of a comprehensive review of Folsom Dam in 2000 and subsequent risk analysis, Reclamation has identified several SOD deficiencies at Folsom Dam including:

- Seismic instability of the foundation or Mormon Island Auxiliary Dam.
- Hydrologic overtopping of the dam and dikes during a major flood.
- Static instability of dikes due to potential seepage and piping.
- Seismic instability of the concrete dam.

Reclamation is developing alternatives to reduce the risk to the public due to these dam safety issues. Since many of the alternatives

being evaluated are dependent upon alternatives for safety issues, a comprehensive Corrective Action Study (CAS) is currently underway for Folsom Dam to provide the least-cost and most effective dam safety modifications to the dam and its features.

By February 2007, Reclamation should complete the CAS which evaluates various alternatives to reduce Folsom Dam's risk to the public. The SOD Modification Report and Project Environmental Impact Statement (EIS) should be ready for Office of Management and Budget (OMB) submittal in early May 2007. The Modification Report contains the feasibility designs for the preferred alternatives.

Joint Federal Project (JFP)

Reclamation, the U.S. Army Corps of Engineers (USACE), the California Department of Water Resources and Reclamation Board, and the Sacramento Area Flood Control Agency (SAFCA) are in the final stage of a comprehensive planning and feasibility design effort to develop a JFP for Folsom Dam and Lake that expedites action by Reclamation and USACE to (1) provide 200-year or better flood protection and (2) address the dam safety hydrologic risk by passing the Probable Maximum Flood. The current plan would construct a 6-submerged tainter gate auxiliary spillway and concrete lined chute located left of the left wing dam.

Folsom Bridge

The Energy and Water Appropriations Act of 2004, December 1, 2003 (Public Law 108-137), authorized the USACE to design and construct a new permanent bridge downstream of Folsom Dam. The USACE has completed the EIS, issued a Record of Decision, and designed the bridge and bridge approaches. The USACE awarded the bridge construction contract in January 2007 and is currently scheduled to have the project completed by December 2008.

Other Folsom Dam Raise (FDR) Projects

The Energy and Water Appropriations Act of 2004 authorized the USACE to design and construct the FDR Project as recommended in the Supplemental Plan Formulation Report/EIS/Environmental Impact Report (EIR) for the American River Watershed Long-term Study. The authorized plan consists of raising the dam 7 feet. The dam-raise project would not have an impact on CVP water supply or hydropower. No additional water supply would be developed as a result of the raise project. The USACE plans to use this authorization to raise Folsom Dam 3.5 feet in conjunction with the JFP. The raise includes raising the embankment section and replacing the existing emergency spillway gates.

El Dorado Irrigation District (EID) Temperature Control Device (TCD)

Reclamation entered into a cooperative agreement in September 2005 with EID for the design and installation of a TCD at the EID intake facility on Folsom Reservoir. The TCD was authorized under Public Law 101-514, Section 206, and amended to have a Federal

(CCAO) continued)
share of 50 percent not to exceed $6,250,000. The cooperative agreement allows EID to design and construct the TCD with Reclamation oversight. Planning and environmental work are underway.

Folsom Bypass System (Parallel Pipeline)
The San Juan Water District (SJWD), the City of Roseville, and the City of Folsom (the Purveyors) are pursuing a redundant system to supply raw water from Folsom Reservoir to their respective water treatment facilities. CCAO sponsored a comprehensive value planning process in early in Fiscal Year (FY) 2006 to identify alternatives that met the basic interests of the Purveyors, Reclamation, and CVP water and power contractors. The consensus-preferred alternative consists of two components: a Northfork component and a Natoma component. The proposal for the Natoma component uses the gate structure of the JFP spillway as a new intake.

EID Fazio Water Contract
Section 206 of the Fazio legislation authorized and directed the Secretary of the Interior to enter into a municipal and industrial (M&I) water service contract with the El Dorado County Water Agency (EDCWA)for up to 15,000 acre-feet annually of CVP water. EDCWA intends to subcontract with EID and the Georgetown Divide Public Utilities District (GDPUD). Under the proposed action, EID will receive 7,500 acre-feet annually through direct diversions from existing facilities at Folsom Reservoir. GDPUD proposes to divert its 7,500 acre-feet annually at the American River Pump Station by way of an exchange with Placer County Water Agency's (PCWA) Middle Fork Project. GDPUD will need to conduct a future environmental review for infrastructure to convey water from the point of diversion to the proposed service area. Major ongoing and near-term actions include: (1) developing the required environmental documentation (EIS/EIR), (2) coordinating hydrologic analysis to ensure consistency with current CVP OCAP (Operations Criteria and Plan) consultation, and (3) negotiating and executing a contract with EDCWA.

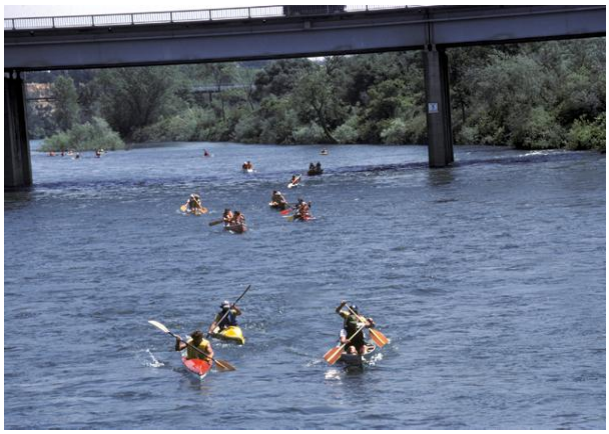
2006 Regional Director's Water Conservation Award
In 2006, Reclamation awarded the Regional Director's Water Conservation Award for excellence in water use efficiency to the City of Roseville (City). The City has developed and implemented a number of water conservation programs over the past several years to include the following: Evapotranspiration Timer Replacement Program, High Efficiency Washing Machine Rebate Program, View On Line Energy and Water Audit, Roseville Utilities Exploration Center (mini-City exhibit), LivingWise Resource Action Program, Community Outreach/Public Education, SCADA Weather Stations, Water Meter Retrofit Program, Recycled Water, and Regional Partnerships. The City has taken a leadership role to work with various partners and its customers and has established itself as a leader in water efficiency expertise.

Long-term Water Service Contracts

Long-term renewal contracts were executed in 2006 for the SJWD, El Dorado County Water Agency, East Bay Municipal Utility District (EBMUD), and the El Dorado Irrigation District. Other CVP contract renewals are still in negotiations.

Lower American River Revised Flow Standard

Reclamation is engaged in a collaborative planning process with State and Federal fisheries agencies and the Water Forum to formulate a flow management standard for the Lower American River. The Water Forum is a diverse group of business and agricultural leaders, citizen groups, environmentalists, water managers, and local governments in Sacramento County. The group has developed a set of minimum-flow requirements that account for variability in water supply and a framework for sharing biological information between Reclamation operators and fish agency experts. Continued efforts are focused on monitoring needs to inform operations decisionmaking and the environmental documentation to support the permitting needed to implement the new standard.



Recreation on the lower American River

Nimbus Hatchery

The Nimbus Fish Hatchery is operated to meet Reclamation's mitigation obligations by the California Department of Fish and Game (DFG). Extended flood control releases from Folsom Dam in 2006 created unavoidable water quality issues at the hatchery that contributed to higher-than-normal fish losses due to disease. Efforts were taken to modify the infrastructure and change fish-handling practices to avoid similar losses in the future. Other activities include the planning and design for the replacement of aging hatchery infrastructure. Designs for modifications to intake valves, water supply lines, and the consolidation of all waste discharge streams to the treatment ponds were largely competed in collaboration with Regional office staff. Efforts to replace the hatchery fish weir also advanced with the completion of a workshop where potential alternative solutions were analyzed and ranked. Initial plans for the design phase of the weir replacement effort were completed. Planning for and the initiation of informal consultations with the National Marine Fisheries Service on the effects of hatchery operations of Endangered Species Act-listed species also began in 2006. Other ongoing efforts include the normal coordination of operations and maintenance and the planning and coordinating with Sacramento County regarding their project to widen the Hazel Avenue bridge over the American River located between the hatchery and Nimbus Dam.

Water Conservation

During 2006, $145,000 in cost-share grants were provided to seven recipients as part of Reclamation's Water Conservation Field Service Program. In addition, $70,000 in cost-share grants were provided under Reclamation's Water 2025 Program and $665,000 was awarded under the CALFED Program. These cost-share grants were matched by the recipients on at least a 50-50 basis and were used for water conservation efforts such as public and school education, rebates for replacing inefficient washing machines and toilets, leak detection in conveyance pipes, funding water management plan updates, and software to upgrade meter reading and billing. Three water districts provided updates to their 5-year water management plan. Fourteen water districts provided updates to their annual reporting requirements.

American River Water Education Center (ARWEC)

The ARWEC at Folsom Dam continued presenting visitors information about Reclamation, its mission, water resources, and Reclamation's role in water conservation. In addition, ARWEC and CCAO staff, in conjunction with the USACE, water districts, and the Water Education Foundation (WEF), held Folsom Dam's 50-year anniversary celebration. Events included a 4-month special exhibit at the Folsom History Museum on the history and future of Folsom Dam, including oral histories, exhibits, and interpretation; a special evening ceremony and dinner for dignitaries and sponsors hosted by the WEF; and a public event with presentations from Congresswoman Doris Matsui, Regional Director Kirk Rodgers, then-Acting Commissioner Bill Rinne, and USACE Brigadier General Joseph Schroedel, hosted by CCAO Area Manager Mike Finnegan.

CVP, Auburn – Folsom South

American River Pump Station

Before removing the pump station to support construction of Auburn Dam, Reclamation had entered into a Land Purchase Agreement with PCWA transferring their land and facilities in the American River Canyon to the United States (but not their water rights). The agreement obligated Reclamation to deliver 25,000 acre-feet of Middle Fork Project water annually to PCWA until Auburn Dam was completed, at which time PCWA would divert all their water from the reservoir. Construction of the dam was halted in 1975 and has not resumed. Reclamation installs a temporary pump station each April which remains in service until November when it is removed to avoid inundation by high winter flows. Reclamation can no longer meet PCWA's water needs with the temporary pump station, and PCWA has year-round water needs. Additionally, it is becoming increasingly costly to Reclamation to annually install the temporary pump station. The project also restores flows to 3/4 mile of the North Fork American River previously dewatered with construction of the Auburn Dam diversion tunnel. Construction has begun, and Reclamation expects the new intake will be functionally complete in 2008.

Construction activities at the American River Pump Station

Freeport Regional Water Project

Although the Freeport Regional Water Project (FRWP) is not a Federal project, Reclamation is the Federal lead agency to facilitate implementation of CVP contracts. Reclamation's Federal Action is to provide for the diversion of CVP water as identified in the EBMUD long-term contract at Reclamation's diversion point near Freeport on the Sacramento River; provide for the assignment of 30,000 acre-feet of CVP water from the Sacramento Municipal Utility District to the Sacramento County Water Agency; and provide for the use of the Folsom South Canal by the Freeport Regional Water Agency (FRWA). The final project approvals for the FRWP construction of two pump stations on the Folsom South Canal were completed in December 2006. Reclamation continues to work closely with EBMUD and FRWA to execute final approvals for the remaining Federal actions associated with the FRWP.

Auburn Special Events

Facilitated through a contract with CDPR, 585,564 visitors utilized Auburn Project Lands for recreation during FY 2006. Thirty major special events were held within Auburn Project Lands during FY 2006. These included three large events: the Western States 100 Mile Race, The Tevis Cup Race, and the first Auburn Marathon. Providing for the health and safety of the public continues to be the highest priority for both Reclamation and the CDPR in operating public use of Auburn Project Lands.

CVP East Side Division

New Melones Resource Management Plan

Eastside Division, New Melones Resource Management Plan (RMP)/EIS. Completion of the RMP/EIS is critical to ensure a framework for long-term management of recreation facilities, land, and water resources. This integrated RMP/EIS document will reflect contemporary resources and recreation needs for the New Melones Lake Area while ensuring that the Eastside Division of the CVP continues to meet its authorized purposes of flood control, water supply, power, recreation, water quality, and fish and wildlife enhancement. The RMP/EIS will serve as the basis for future resource management decision-making that, when implemented, may result in the desired future condition for recreation and resource management. A multiple-year contract to prepare the RMP/EIS was awarded late in 2006 and has been funded through FY 2009.

New Melones Reservoir

New Melones Revised Plan of Operations

Public Law 108-361 Sec 103 d(2)(D)(vii) directs the Secretary of the Interior to develop a Revised Plan of Operations (RPO) for New Melones to "reduce the reliance on New Melones Reservoir for meeting water quality and fishery flow objectives and to ensure that actions to enhance fisheries in the Stanislaus River are based on the best available science."

CCAO is working to develop fishery studies aimed at providing the biological information needed to develop an instream flow schedule. These actions include: (1) Stanislaus Habitat Use Pilot Investigation (SHUPI) whose goal is to collect fish habitat use and density information to help describe habitat-flow relationships for juvenile salmonids in the Stanislaus River, (2) a Science and Technology Proposal whose goal isto expand the SHUPI and describe discharge to habitat relationship for juvenile salmonids in the Stanislaus River at five different discharges, (3) Coded-Wire Tagging of Chinook Salmon in the Stanislaus River whose goal is to determine contribution rates of fry, parr, and smolts to thereturning adult salmon population, (4) Fall-Run Chinook Salmon Escapement Surveys whose goal is to estimate the number of adult salmon returning to the Stanislaus River to spawn.

Federal Recreation Lands Enhancement Act Implementation

New Melones Lake will soon begin participation in the Federal Recreation Lands Enhancement Act (REA). In 2004, Public Law 108-447, Title VIII, was signed into law. The law allows several Federal agencies, including Reclamation, to charge specified fees and retain those fees collected, rather than depositing those fees into the general fund of the United States Treasury. REA also allows sales of the new Federal Interagency annual, senior, and access passes. In December 2006, Reclamation determined that the agency would participate in REA and that New Melones Lake will be the first project to fully participate. Reclamation staff are working to write policy, standard operating procedures, and guidance so that New Melones will be ready to proceed with the program prior to the start of the 2007 summer recreation season.

New Melones Runner Replacement

New Melones Unit 1 runner has been replaced along with several other life extension efforts at the powerplant. The turbine upgrade increased the efficiency of the generator by about 3 percent. The runner for Unit 2 is being replaced and is due back in service in May 2007. In addition to the runner replacement, new digital governors were installed, the plug valves were replaced, the stator and rotor were repaired, and the main power transformers were refurbished.

New Melones Special Events

During FY 2006, a number of activities took place at New Melones. These included the 2nd Annual Catch a Special Thrill (C.A.S.T.) event, which was held in conjunction with the 14th Annual Kids Fishing Fun Faire, a Public Lands Day event combined with a Take Pride in America event, tours, lecture series, fairs, Earth Day, parades, and the Sandhill Crane Festival.

A participant gets ready to fish in the 2nd annual Catch a Special Thrill event at New Melones Lake

Solano Project

Lake Berryessa Visitor Services Plan Record of Decision

The Visitor Services Plan (VSP) Record of Decision (ROD) was executed on June 2, 2006, and identified the selected plan for the future of Lake Berryessa. In addition, certain recreation-related actions

were carried forward from the 1993 Resource Area Management Plan ROD and adopted along with various mitigation measures as part of the decision. The decisions presented in the ROD reflect comments and information received during the formal comment periods and public outreach meetings conducted with the release of the Final EIS. As part of the ROD implementation process, CCAO began the appraisal process for all fixed assets in the concession areas and completed a Draft Prospectus for the VSP. Additionally, Reclamation is partnering with local groups to begin the design and development of an extensive trail system. Four new trail bridges, manufactured with recycled materials, were purchased in 2006 for installation in 2007.

Lake Berryessa Special Events

During FY 2006, a number of activities took place at Lake Berryessa. These included the 8th Annual Tribal Youth Environmental Campout and six Take Pride in America events. Construction activities at Lake Berryessa included installing new shade shelters and accessibility improvements at the Oak Shores Day Use Area; initiating construction of a new parking lot, new accessible restroom, and a hand boat launch at the Eticuera Day Use Area; and the award of the Visitor Center rehabilitation contract.

Volunteers with collected recyclables and trash at the Pope Creek Bridge area of Lake Berryessa

Lahontan Basin Area Office (LBAO)

With headquarters in Carson City, Nevada's capital, LBAO has responsibility for the western Great Basin with a focus on about 80,000 square miles in northern Nevada and eastern California. The area extends from the Truckee, Carson, and Walker River drainages on the eastern slope of the Sierra Nevada range and covers much of northern and central Nevada. LBAO is responsible for four Reclamation projects:

- Newlands Project, which includes Lake Tahoe Dam and Reservoir, Derby Diversion Dam, and Lahontan Dam and Reservoir
- Washoe Project, which includes Stampede Dam and Reservoir, Prosser Creek Dam and Reservoir, Derby Dam Fish Passage and Marble Bluff Dam, and Pyramid Lake Fishway
- Truckee River Storage Project, which includes Boca Dam and Reservoir
- Humboldt Project, which includes Rye Patch Dam and Reservoir.

Following are key LBAO issues for 2006. For additional information, please contact LBAO at 775-882-3436 (TDD 775-882-3436).

Desert Terminal Lakes Program

Funding was appropriated to Reclamation in 2002 to provide water to at-risk natural desert terminal lakes. Additional legislation in 2003 specified the appropriated funds were to be expended only on

Summit, Walker, and Pyramid Lakes in Nevada. Through 2006, Reclamation has committed nearly $117 million in funding for 19 projects including:

- $4 million for implementation of the Truckee River Operating Agreement
- $10 million for restoration of sections of the Truckee River riparian habitat
- $70 million for water and land acquisitions and other activities in the Walker River Basin
- $10 million for a water lease and purchase program on the Walker River Indian Reservation
- $10 million for Walker River Basin tamarisk eradication and riparian and channel restoration
- $5 million for fishery improvements, with emphasis on the Walker River Basin.

Boca Dam and Reservoir, part of the Truckee River Storage Project

Fallon Freight Yard Title Transfer

Reclamation originally acquired the Fallon Freight Yard property in Fallon, Nevada, in 1920 and used the 6 acres as a storage and rail yard for the Newlands Project. Beginning in 1926, the Truckee-Carson Irrigation District used the property for project purposes until they moved to their current location. The parcel is part of the Newlands Project but has not been used for project purposes since 1983. The City of Fallon has long expressed a desire to obtain the property. In 2002, Public Law 107-339 gave the Secretary of the Interior authority to transfer title of this property to the City of Fallon for fair market value. Reclamation has completed an appraisal of the fair market value and an Environmental Assessment. Transfer of the parcel is expected to be completed in February 2007.

Humboldt Project Title Transfer

LBAO has been working with the Pershing County Water Conservation District (PCWCD), the State of Nevada, and other interested parties to transfer title of the Humboldt Project to PCWCD, Nevada, and two counties. The proposed transfer has many public benefits including allowing PCWCD to own and manage Humboldt Project facilities without Federal oversight. In addition, land will be transferred to Lander County for County facilities and public access to the Humboldt River, the Derby Airfield will be transferred to Pershing County, and land for wetlands and recreational purposes will be transferred to Nevada.

In 2002, Congress enacted legislation establishing the criteria under which transfer of title may take place. In 2005, the final Environmental Impact Statement was completed. A conditional Record of Decision (ROD), signed in 2006, is conditioned on completion of compliance with Section 106 of the National Historic Preservation Act. An archaeological sampling plan was approved by the State Historic Preservation Office, and an archaeological contract was executed in September 2006. Section 106 compliance is expected to take several years.

Marble Bluff Dam Fish Conveyance: 2006 Cui-Ui Spawning Run

Approximately 999,000 endangered cui-ui swam through Reclamation's Marble Bluff Dam fish conveyance and into the lower Truckee River by the end of May 2006. This run did not surpass the previous record of 1.2 million fish set in 2005; however, the 2006 run was substantial. Drought conditions did not allow a spawning run for the cui-ui in 2004 or in 2001. There were limited spawns in 2002 and 2003.

Marble Bluff Dam on the lower Truckee River

The cui-ui, unique to Pyramid Lake, was declared endangered in 1967 after agricultural diversions lowered the lake level and a delta formed at the river's mouth, impeding spawning runs. Spawning runs as successful as the 2005 and 2006 runs are important to the Pyramid Lake Paiute Tribe who historically have relied on the cui-ui. Traditionally, members of the tribe are known as "cui-ui ticutta," or "cui-ui eaters," reflecting their ancestral food staple.

Reclamation's Marble Bluff Fish Conveyance was constructed to create an effective mechanism to convey fish around Marble Bluff Dam. The facility is maintained by Reclamation and operated by the U.S. Fish and Wildlife Service (Service). Reclamation and the Service designed and modified an existing fish passage elevator into a lock system to reduce fish stress and mortality. The fish lock began operation in 1998 and has easily passed more than 200,000 fish per day, many times the capacity of the fish elevator it replaced.

A substantial run of endangered cui-ui swam through the Marble Bluff Dam fish conveyance facility and into the lower Truckee River in 2006

Newlands Project Operating Criteria and Plan (OCAP)

Irrigation and municipal diversions from the Truckee River have decreased the flow in the river, the primary source of water for Pyramid Lake, a desert terminal lake in northern Nevada. The decreases in flow have contributed to a significant decline in the lake's elevation and to the listing of cui-ui as endangered and the Lahontan cutthroat trout as threatened. Among the many entities diverting water from the Truckee River is Reclamation's Newlands Project. The Newlands Project provides water to approximately 60,000 acres in the Lahontan Valley and uses include Indian and non-Indian agriculture and wetlands.

OCAP Administration

First implemented in 1967 and most recently modified in 1997, the OCAP are intended to provide sufficient water to Newlands Project water users to satisfy their water rights while maximizing the use of Carson River water and minimizing use of Truckee River water. LBAO, in consultation with affected parties, administers the OCAP.

Recoupment

In 1995, the United States filed a lawsuit contending that in the past the Truckee-Carson Irrigation District (District) diverted 1,057,000 acre-feet of water from the Truckee River in excess of diversions allowed under the applicable decree and the OCAP. In February 2005, the Nevada Federal District Court issued a judgment directing the District to repay 197,000 acre-feet. One way the District can repay this water is to forego diversions from the Truckee River when diversions are allowed. In 2006, the District did not have an opportunity to repay any water in this manner because the Carson River runoff was much above average and diversions from the Truckee River were not allowed. The District did take advantage of an opportunity to forego diversions in December 2005, and that is the only repayment that has occurred through the end of 2006.

Project Efficiency

The OCAP sets target efficiencies for water deliveries in the Newlands Project. The District, the entity that operates and maintains the Newlands Project, exceeded efficiency targets for six straight irrigation seasons from 2000-2005. These accomplishments are due to improved water management techniques and improved water measurement implemented by the District and Reclamation. The project efficiency was not calculated in 2006 due to precautionary drawdowns and spills.

Truckee River Operating Agreement (TROA)

Reclamation is one of a host of parties interested in reservoir operation on the Truckee River (Lake Tahoe, Prosser Creek Reservoir, Boca Reservoir, Stampede Reservoir, Donner Lake, and Independence Lake), that are finalizing a comprehensive operating agreement for the reservoirs. Parties participating in the negotiations include the States of California and Nevada, the Pyramid Lake Paiute Tribe, the Truckee Meadows Water Authority (water provider for the Reno/Sparks area), Washoe County Water Conservation District, the City of Fernley, and others. That draft agreement is called the TROA. When implemented, the agreement will result in more efficient use of the Truckee River reservoirs and multiple benefits for a wide variety of Truckee River interests such as:

- Increased municipal and industrial drought water supply for the Reno/Sparks area and the Truckee River basin in California
- Enhanced habitat for endangered and threatened fish species in the Truckee River and Pyramid Lake
- A reduction in the variability of instream flow and enhanced seasonal instream flows
- Improved water quality and reservoir storage maintenance at levels that better serve recreational uses

The parties negotiating TROA completed a draft agreement in October 2003. Interior and the State of California, as co-lead agencies, completed a revised draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) in August 2004. Representing the co-lead agencies are Reclamation, the Service, Bureau of Indian Affairs, and the California Department of Water Resources. A Final EIS/EIR is expected to be completed in 2007.

South-Central California Area Office (SCCAO)

The SCCAO staff, with offices in Fresno and Tracy, California, manages Reclamation activities from the Sacramento-San Joaquin Delta south to the Tehachapi Mountains and the south coastal Counties of Santa Barbara and Ventura. The office has jurisdiction over 2.5 million acres of irrigated land which accounts for 25 percent of Reclamation-wide total irrigated acreage and administers approximately 75 water service and repayment contracts. The SCCAO staff are responsible for water conservation for the Central Valley Project (CVP) Delta Division, San Luis Unit, and San Felipe Division and make water supply declarations for the Friant Division and the Cachuma Project.

Millerton Lake, Friant Dam, and the start of the Friant-Kern Canal

SCCAO's facilities include the Delta Cross Channel Canal, Contra Costa Canal, the C.W. "Bill" Jones Pumping Plant (formerly the Tracy Pumping Plant), Delta-Mendota Canal (DMC), B.F. Sisk San Luis Dam and Reservoir, O'Neill Dam and Forebay, San Luis Canal, Friant Dam and Millerton Lake, Friant-Kern Canal, Madera Canal, Twitchell Dam, Bradbury Dam and Lake Cachuma, and Casitas Dam and Lake Casitas. For additional information, please contact SCCAO at 559-487-5116.

Formerly referred to as the Tracy Pumping Plant, it was renamed in 2006 to the C.W. "Bill" Jones Pumping Plant

Long-Term Renewal Contracts – San Luis Unit

The Westside San Luis Unit contracts have been negotiated; however, Reclamation cannot execute the contracts until the San Luis Unit Environmental Impact Statement (EIS) for long-term renewal is final. Reclamation has put the EIS on hold until the Operations Criteria and Plan (OCAP) Biological Opinion (BO) reconsultation is completed in April 2008. Reclamation will enter into interim contracts with those contractors that expire prior to the completion of the San Luis Unit EIS/Record of Decision.

San Joaquin River Restoration Program – Settlement Implementation

In 1988, the Natural Resources Defense Council (NRDC) and others filed suit challenging the renewal of certain Friant Division CVP water service contracts. In October 2006, a Federal court approved a Settlement reached by the Department of the Interior, Department of Commerce, NRDC, and the Friant Water Users Authority, thus ending 18 years of litigation.

MP Regional Director Kirk Rodgers, along with Kole Upton and Dan Dooley representing the Friant Water Users Authority, listen as Hal Candee with the Natural Resources Defense Council addresses the media at a September 2006 press conference announcing an historic settlement to restore flows for salmon in the San Joaquin River.

The Settlement focuses on achieving two equally important goals: a "Restoration Goal" to restore and maintain fish populations in 'good condition' in the main stem of the San Joaquin River below Friant Dam, including naturally reproducing populations of salmon and other fish, and a "Water Management Goal" to reduce or avoid adverse impacts to all of the Friant Division long-term contractors that may result from the Restoration Flows provided for in the Settlement.

Presently, a multi-agency Program Management Team including the California Department of Water Resources, the California Department of Fish and Game, the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Reclamation have begun efforts to initiate an implementation process, including public outreach, planning, design, and environmental reviews.

San Luis Drainage Settlement

In May 2006, Reclamation completed an EIS on providing drainage services to the San Luis Unit. Several drainage service alternatives were evaluated that maintain environmental quality and provide for continued agricultural production in a manner consistent with the Plan of Action filed with the District Court on April 18, 2001, in response to a lawsuit, Sumner Peck Ranch, Inc., et al., v. Bureau of Reclamation, et al. The selected alternative for providing drainage service will be identified in a Record of Decision anticipated to be released in early 2007. Further action by Reclamation will require Congressional approval and funding.

Special Recognition

40 Years of Service

Congratulations to the following employees who achieved 40 years of service in 2006:

- January 27, 2006: **Robert Beingessner**, Central California Area Office, CC-606, Electrical Engineer.
- May 4, 2006: **Rose Schlueter**, Regional Office, MP-101, Executive Assistant to the Regional Director.
- May 13, 2006: **Frank Michny**, Regional Office, MP-115, Assistant Regional Director for Technical Services.
- June 23, 2006: **Gale Heffler-Scott**, Regional Office, MP-410, CVPIA Water Transfer Program Manager.

National Award - 2006 Take Pride in America

Lorendena Potter, Public Affairs Specialist in MP-140, accepted the Take Pride in America National Award in 2006

Congratulations to Ms. Loredana "Donna" Potter, a Public Affairs Specialist in the Regional Office of Public Affairs, who was selected as the 2006 Take Pride in America (TPIA) winner in the category of Federal Land Manager. Ms. Potter's work in organizing volunteers to help clean up rivers, streams, and recreational areas was recognized at TPIA's National Awards Ceremony in Washington, DC, on September 14 and 15, 2006. A Department of the Interior initiative, TPIA inspires Americans to volunteer in caring for their public lands. Ms. Potter was honored for her leadership and participation in 11 activities in support of TPIA in the Fresno area, at Lake Berryessa, and in the Sacramento metropolitan area.

Department of the Interior Valor Awards

André Leamons (left) and Dennis Schuenemann (right) display their Valor Awards

Mr. André King Leamons and Mr. Dennis Lee Schuenemann were each awarded the prestigious Department of the Interior Valor Award in 2006. The presentations were made at the 63rd Annual Departmental Honor Awards Convocation held in Washington, DC, on May 4, 2006.

Mr. Leamons, a Supply Technician in the Regional Administrative Management Office in Sacramento, was honored for saving a man's life the morning of June 25, 2005, when, after observing a car crash into a metal light pole on Walerga Road in Sacramento, he first helped break a rear window to get into the locked car and then risked his own life to climb into the burning vehicle to turn off the ignition and pull the unconscious driver out. He then carried the still-unconscious man to safety and gave him first aid, treating him for shock until the fire department arrived.

Mr. Schuenemann, a Construction Inspector for the MP Construction Office in Willows, was honored for saving lives in the early morning hours of May 2, 2005, when he helped rescue the inhabitants of an SUV that drifted off Interstate 5, went airborne, and landed in an irrigation ditch, out of sight of vehicles traveling on I-5. After calling 911, Mr. Schuenemann climbed in the dark over a barbed wire fence and down a brushy 6-foot embankment to locate the vehicle, upside down and underwater, with the car doors too badly damaged to open. He then climbed back up to the Interstate where he flagged down the emergency vehicles and guided rescuers to the SUV.

Mid-Pacific Administrative Support Council (MPASC) Awards

MPASC is an organization of Regional administrative professionals that provides networking, teambuilding, and idea exchange to further professional development. Members work together to identify issues affecting their careers and engage in problem-solving activities to increase their skills for the betterment of Reclamation's mission. MPASC's April Awards Luncheon is held during Secretaries Week to honor the Administrative Professional and Administrative Support Staff of the Year.

Lynda Duncan

At the Awards Luncheon held on April 5, 2006, at the Buggy Whip Restaurant, Deputy Regional Director John Davis announced that Ms. Lynda Duncan, Administrative Assistant to the Regional Business Manager, Business Resources Center (BRC), had been selected as the 14th Annual Mid-Pacific Administrative Professional of the Year and that Ms. Shirley Updike, Financial Technician, BRC, had won the Administrative Support Staff of the Year award.

Ms. Duncan's citation read, in part: "Lynda's commitment to "best in class" service was essential to the smooth operation and success of the BRC in 2005. Lynda's contributions exemplify the significant positive impact of high quality, professional administrative services. … Lynda was the support behind this extensive, highly technical support operation: she made meetings happen; she was there to provide support when others left… The BRC could not have performed as effectively in 2005 without Lynda's knowledge, dedicated support, and exceptional abilities."

Shirley Updike

Ms. Updike's citation read, in part: "Your selection directly reflects the exceptionally high degree of initiative, proficiency, and enthusiasm that you exhibit as a travel coordinator in the BRC. Your outstanding customer support has been clearly demonstrated by your professionalism, responsiveness, and unfailing accuracy. ... Ms. Updike, employees such as you, who readily take on additional tasks with such a positive attitude, are critical in our Region functioning effectively and delivering water to our customers."

California Major Water Projects

MP Region Congressional Districts

MP Region Budget for Fiscal Year 2007

Summarized Financial Data	FY 2006 [1] Enacted (in thousands)	FY 2007 Request (in thousands)	FY 2008 Request (in thousands)
Water and Related Resources	178,465	167,605	172,220
Policy and Administration	2,638	2,745	2,559
Permanent Appropriations	250	250	250
California Bay-Delta Restoration	36,630	38,610	31,750
CVP Restoration Fund	52,136	41,478	51,622
San Joaquin River Restoration (Legislative Proposal)	---	---	17,300
Revenues	47,701	30,877	30,292
Total Program Mid-Pacific Region	**317,820**	**281,565**	**305,993**

[1] Reflects FY06 Project Funding After Across-the-Board Recession of 1% per P.L. 109-148.

Acronyms

A

AEAM	Adaptive Environmental Assessment and Management
AFSP	Anadromous Fish Screen Program
AIP	Alternative Intake Project
ARWEC	American River Water Education Center
ASIP	Action Specific Implementation Plan
Authority	California Bay-Delta Authority
Authority	San Joaquin River Exchange Contractors Water Authority

B

(b)(2)	Central Valley Project Improvement Act, Section 3406(b)(2)
BDCP	Bay-Delta Conservation Plan
BDPAC	Bay-Delta Public Advisory Committee
BIA	Bureau of Indian Affairs
BO	Biological Opinion

C

CALFED	California-Federal Bay-Delta Program
CAS	Corrective Action Study
C.A.S.T.	Catch a Special Thrill
CCAO	Central California Area Office
CCC	California Conservation Corp
CCTV	Closed Circuit Television
CCWD	Contra Costa Water District
CDF	California Division of Forestry
CDPR	California Department of Parks and Recreation
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CIP	Conservation Implementation Program
CPUC	California Public Utilities Commission
CVHM	Central Valley Habitat Monitoring Program
CVO	Central Valley Operations Office
CVP	Central Valley Project
CVPCP	Central Valley Project Conservation Program
CVPIA	Central Valley Project Improvement Act
CVPM	Central Valley Production Model
CWA	Clean Water Act

D

Delta	San Francisco Bay Sacramento-San Joaquin River Delta
DCC	Delta Cross Channel
DFG	California Department of Fish and Game
DMC	Delta-Mendota Canal
DMC Recirc	Delta-Mendota Canal Recirculation Project
DO	dissolved oxygen

DOI	U.S. Department of the Interior
DWR	California Department of Water Resources

E

EA	Environmental Assessment
EBMUD	East Bay Municipal Utility District
EDCWA	El Dorado County Water Agency
EID	El Dorado Irrigation District
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Program
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EWA	Environmental Water Account

F

FACA	Federal Advisory Committee Act
FDR	Folsom Dam Raise
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
FR	Feasibility Report
FS	Feasibility Study
FRWA	Freeport Region Water Authority
FRWP	Freeport Regional Water Project
FWS	U.S. Fish and Wildlife Service
FY	fiscal year

G

GDPUD	Georgetown Divide Public Utilities District
GIS	Geographic Information Systems
GSTAR-M	a numerical meander model for the Sacramento River

H

HR	House Resolution
HRP	Habitat Restoration Program
Hydro GeoSphere	Integrated Hydrologic Simulator

I

IAIR	Initial Alternatives Information Report
IEE	Initial Economic Evaluation Report
IEP	Interagency Ecological Program
IIMS	Integrated Information Management System
Interior	U.S. Department of the Interior
Intertie	California Aqueduct Intertie Project
IS	Initial Study
IWFM	Integrated Water Flow Model

J

JFP	Joint Federal Project
JOC	Joint Operations Center

K

KBAO	Klamath Basin Area Office

L

LAWS	Land Atmosphere Water Simulator
LBAO	Lahontan Basin Area Office
LTRC	long-term water service renewal contracts
LVE	Los Vaqueros Reservoir Expansion Investigation

M

M4E	Managing for Excellence
MAF	million acre-feet
MID	Madera Irrigation District
M&I	Municipal and Industrial
MORE WATER PROJECT	Mokelumne River Water Storage and Conjunctive Use Project
MOU	Memorandum of Understanding
MP	Mid-Pacific
MPCO	MP Construction Office
MPID	Modoc Point Irrigation District
Mw	Megawatt

N

NAS	National Academy of Science
NCAO	Northern California Area Office
NED	National Economic Development
NEPA	National Environmental Policy Act
NFH	National Fish Hatchery
NMFS	National Marine Fisheries Service
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Service
NODOS	North of Delta Off-stream Storage
NOI	Notice of Intent
NRC	National Research Council
NRDC	Natural Resources Defense Council
NWR	National Wildlife Refuge

O

OCAP	Operating Criteria and Procedures (Nevada - Newlands Project)
OCAP	Operations Criteria and Plan (California - Central Valley Project)
OMB	U.S. Office of Management and Budget
OSH	Occupational Safety and Health

P

PCWA	Placer County Water Agency
PCWCD	Pershing County Water Conservation District
PFR	Plan Formulation Report
PG&E	Pacific Gas & Electric
POD	Pelagic Organisms Decline

R

RAX	Replacements, Additions, and Extraordinary Maintenance Program
RD	Reclamation District
REA	Recreation Lands Enhancement Act
Refuge Restoration	National Wildlife Refuge
Restoration Project	Battle Creek Salmon and Steelhead Restoration Project
RFC	River Forecast Center
RHEM	Riparian Habitat Establishment Model
ROD	Record of Decision
RMP	Resource Management Plan
RPO	Revised Plan of Operations
RWCP	Refuge Water Conveyance Program

S

SAFCA	Sacramento Area Flood Control Agency
SALMOD	Salmon Mortality and Production Model
SCADA	Supervisory Control and Data Acquisition
SCCAO	South-Central California Area Office
SCVWD	Santa Clara Valley Water District
SCWA	Sonoma County Water Agency
SDIP	South Delta Improvement Program
Settlement Contractors	Sacramento River Settlement Contractors
SHUPI	Stanislaus Habitat Use Pilot Investigation
SIAM	Sediment Impact Analysis Method
SJRA	San Joaquin River Agreement
SJRGA	San Joaquin River Group Authority
SJWD	San Juan Water District
SLLPP	San Luis Reservoir Low Point Project
SLWRI	Shasta Lake Water Resources Investigation
SOD	Safety of Dams
SRWRS	Sacramento River Water Reliability Study (also known as the Sacramento River Diversion Feasibility Study)
SWP	State Water Project
SWRCB	State Water Resources Control Board

T

TAF	thousand acre-feet
TCD	Temperature Control Device
TDD	Telephone Device for the Deaf
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TROA	Truckee River Operating Agreement
TRRP	Trinity River Restoration Program
TSC	Technical Service Center

U

USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
USJRBSI	Upper San Joaquin River Basin Storage Investigation
USRS	U.S. Reclamation Service
USRWQM	Upper Sacramento River Water Quality Model

V

VAMP	Vernalis Adaptive Management Plan
VOCUS	Mail management and news gathering system
VSP	Visitor Services Plan

W

WAP	Water Acquisition Program
WEF	Water Education Foundation
WAPA	Western Area Power Administration
WESTSIM	simulation model of land use and hydrology of the west-side San Joaquin Valley
WQCP	Water Quality Control Plan
WRIMS	Water Resources Integrated Modeling System
WWD	Westlands Water District
WY	Water Year

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The Mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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