

# RECLAMATION

*Managing Water in the West*

Mid-Pacific Region

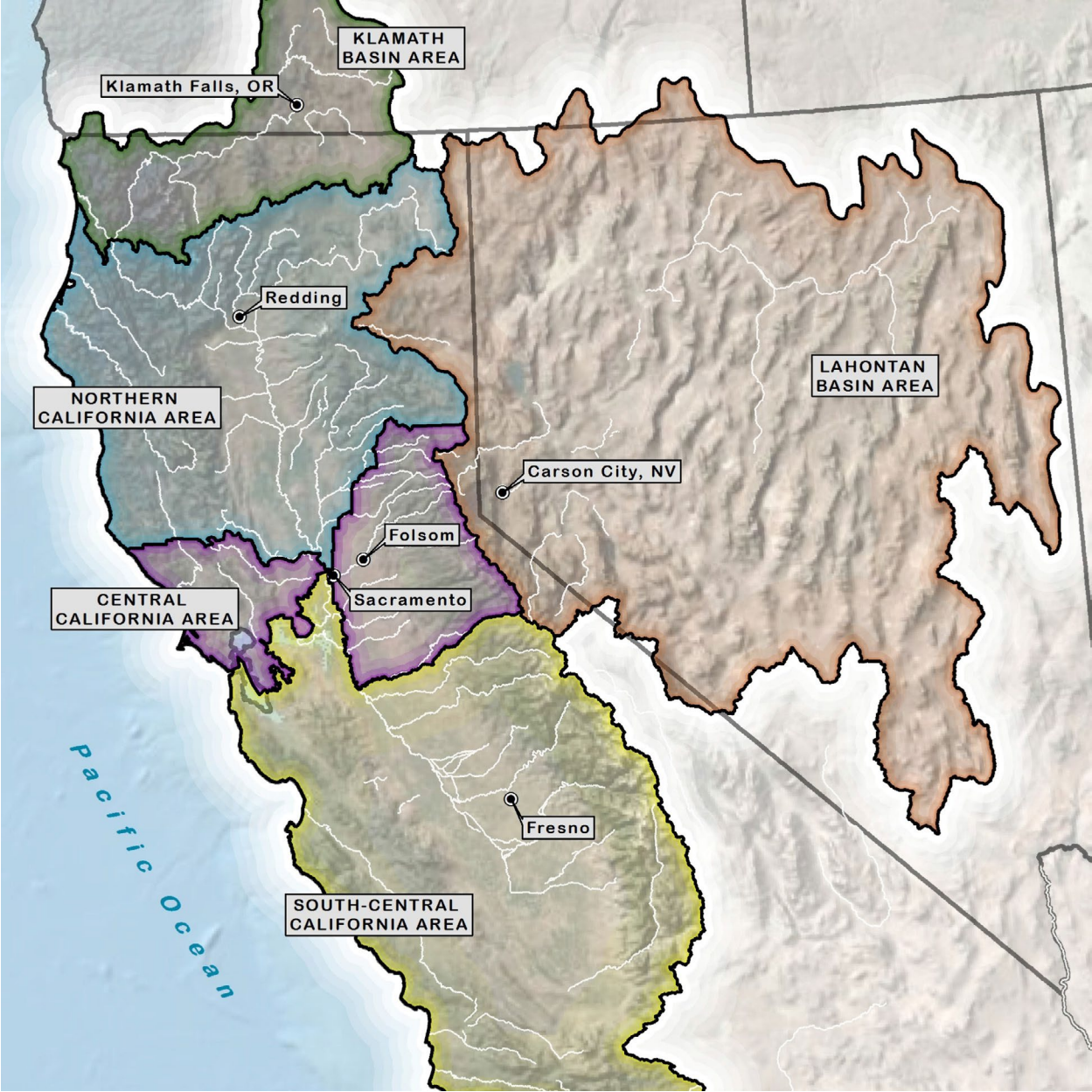
## 2014 Report of Accomplishments



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



# MP REGION MAP



Mid-Pacific Region Areas and Offices

# THE MID-PACIFIC REGION

## Message from Mid-Pacific Regional Director David G. Murillo

In 2014, the Bureau of Reclamation faced many challenges, and I am proud to say that our efforts as an organization were unparalleled as we developed efficient long-term and short-term strategies for our water supply during this record-breaking drought. The Mid-Pacific Region's 2014 Report of Accomplishments reflects the actions our dedicated team members took as they met the many difficulties throughout the Region head on. Our Region's priorities were straightforward: ensure balance in providing sustainable and secure water supplies for agriculture, communities and the environment while safeguarding power production for the future.

The focus of 2014 can be summed up in two words: drought management. On January 17, 2014, California Governor Jerry Brown proclaimed a Drought State of Emergency. Here in MP Region, as we faced a third year of drought, we solidified an unprecedented level of coordination and planning among our federal, state and local partners, tribes and stakeholders.

President Obama and Department of the Interior Secretary Jewell both traveled to California in 2014 to see the on-the-ground impacts of drought and discuss a broad array of federal actions to address the drought. We will continue to face challenges in the future – short- and long-term issues in California and the bordering states of Oregon and Nevada – and we will continue to work together with our partners on water resource issues in the Region.

Our Region remains committed to meeting future needs and improving ongoing projects and programs while dealing with diverse and complex issues brought on by both a changing climate and competing public demands. We will continue to cultivate relationships and collaborate with all of our partners to ensure drought mitigation activities include everyone – state and local government agencies, water districts, power utilities, Native American tribes and communities, environmental organizations, other stakeholders and the general public – to ensure that we use every drop of water wisely to meet a multitude of purposes while protecting human health and safety and fulfilling our commitments to our customers.



Mid-Pacific Regional Director David Murillo

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# DROUGHT - YEAR THREE

2014 was an incredibly challenging water year for the Mid-Pacific Region.

California started the year in the worst drought in the state's 160 years of record-keeping. Governor Edmund G. Brown Jr. declared a State of Emergency on January 17, directing state officials to take necessary action to prepare. As the year progressed, drought conditions worsened, further straining the limited water supplies of the Central Valley Project (CVP). By April, the Governor had issued an Emergency Proclamation on Drought. For the first time in the history of the CVP, agricultural water service contractors received no water from the Project.

From the start of the third year of this prolonged drought, it was evident that collaboration and partnerships with our customers, stakeholders and other government agencies would be vital in minimizing drought impacts and improving efficiency. While difficult decisions had to be made, Reclamation remained committed to developing and implementing strategies to deal with drought, changing climate and competing demands for water.

## Federal & State Agencies Go “All In”

Many actions were taken as a result of this close collaboration through the year, including:

- Working with state and federal authorities to facilitate water transfers, provide operational flexibility to store and convey water, expedite required environmental reviews or compliance actions and accelerate existing projects or pursue new projects to help make the best use of limited water supplies.
- As part of the activities to provide operational flexibility, early in 2014 the Region and the California Department of Water Resources (DWR) requested a temporary change to certain terms of their water rights permits as provided by the State Water Resources Control Board (Water Board). Those changes were granted and were extended and modified several times, allowing Reclamation to maximize water deliveries to the extent possible.
- CVP and State Water Project (SWP) operators, fisheries and water quality experts worked together on a daily “real-time” operations team to fully integrate decision-making.

## National Attention on Drought Impacts - Collaboration

The Departments of the Interior, Agriculture and Commerce came together early in the year with the state to find creative solutions to help stretch California's federal and state water supplies. Led by then Reclamation



Photo Contest submission of Bradbury Dam by Phillip Dayton.



Photo Contest submission of Folsom Lake by Donna Potter





Commissioner Michael L. Connor and California Department of Water Resources Director Mark Cowin, administrators from the U.S. Fish and Wildlife Service (Service), National Marine Fisheries Service (NMFS), Natural Resources Conservation Service, National Integrated Drought Information System and the U.S. Army Corps of Engineers joined in a demonstration of support for an “all-in” strategy on ongoing efforts to address drought conditions in California.

The President and Secretary both traveled to California in 2014 to see the on-the-ground impacts of drought and discuss a broad array of federal actions, already identified by federal and state partners addressing the drought.

## Managing Through Drought

Developed through a series of meetings that began in mid-2013 with water and power users, environmental interests, tribes and state and federal agencies, Reclamation developed the 2014 Central Valley Project Water Plan. The plan outlined numerous actions to help water users better manage their water supplies through drought conditions, including expanding operational flexibility and streamlining the water transfer process.

In April, Reclamation and DWR released a Drought Operations Plan in collaboration with the Service, NMFS, the California Department of Fish & Wildlife and the Water Board. The plan outlined proposed actions and a likely range of coordinated operations of the CVP and SWP through the remainder of the water year.

Although a large number of water supply contractors received a zero percent water supply allocation for the year, 2014’s spring storms did allow us to make increases in water supplies to several contractors with senior water rights.

These included increases to a 75 percent supply for the Sacramento River Settlement Contractors and wildlife refuges in the northern Central Valley and increases to meet the critical-year needs of the San Joaquin River Exchange Contractors and 65 percent for southern Central Valley refuges.

For the first time in the history of the CVP since the Delta-Mendota Canal became operational, Reclamation had to provide water from Millerton Lake, the reservoir on the San Joaquin River formed by Friant Dam, to meet contractual obligations with the San Joaquin River Exchange Contractors.

## Lessons Learned – Planning for Water Year 2015

The MP Region has been working on multiple fronts to prepare for a fourth year of drought. We continue to build on the relationships and collaborative processes developed in 2014. We have been working with our stakeholders and contractors to engage in discussions and planning for the 2015 Water Year.





We also continue to coordinate with other federal and state agencies that supply water, protect fish and wildlife and regulate water quality to develop an interagency drought strategy. Together, we are working to maximize regulatory flexibility to adjust quickly to changes in the weather and the environment and to minimize water supply losses when possible while adequately protecting fish and wildlife as required by applicable laws and regulations.

Reclamation will continue to seek solutions aimed at minimizing potential impacts from the drought to California's food security and economic stability while maintaining the Region's environmental responsibilities and protecting endangered species.

#### Quote

"This was certainly a challenging water year for California," said Regional Director David Murillo. "Reclamation and our partners have been working very closely together in order to move forward through these really tough times."



Media conference on the drought, Feb. 5, 2014



American River



Secretary Jewell speaks at the Mid-Pacific Regional Office



Mormon Island at Folsom Reservoir



Photo Contest submission of New Melones Dam by Carlene Polk



# 2014 REGIONAL ACCOMPLISHMENTS

## Bay-Delta Activities

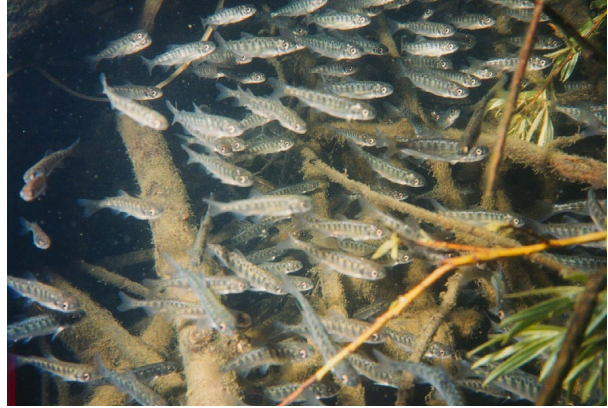
The Region's Bay-Delta Office coordinates Reclamation's responsibilities in the San Francisco Bay-Delta/Sacramento-San Joaquin estuaries and helps integrate management of the Central Valley Project (CVP) and Delta issues and activities. Major accomplishments in 2014 included:

### **Biological Support for CVP Operations –**

Reclamation scientists continue to advance our understanding of the environment to help manage the balance between water supply and the environment. Scientists worked collaboratively with other agencies, scientists and water operators through the Interagency Ecological Program, the Collaborative Science and Adaptive Management Program and in the development of a drought operations plan.

**Bay Delta Conservation Plan (BDCP) –** Reclamation supported this comprehensive conservation strategy aimed at protecting dozens of species of fish and wildlife, while permitting the reliable operation of California's two biggest water delivery projects, the CVP and the State Water Project.

**Suisun Marsh Long-Term Habitat Management, Preservation and Restoration Plan Record of Decision –** Signed Apr. 21, 2014.



Chinook juvenile salmon in the American River



Chinook salmon



Fish biologists collecting fish



## San Joaquin River Restoration Program

The San Joaquin River Restoration Program is a comprehensive, long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining Chinook salmon fishery in the river while reducing or avoiding adverse water supply impacts from restoration flows. Major accomplishments in the program in 2014 included:

- **Completed restoration flow guidelines** which govern release, management and accounting of Restoration Flows.
- **Began restoration flow releases** on the Settlement schedule.
- **Continued fall-run Chinook salmon trap and haul** study, trapping and transporting 367 adults and documenting successful spawning and first naturally spawned fall-run in the river in many decades.
- **Release of spring-run Chinook salmon** for the first time directly into the San Joaquin River.
- **Sold February unreleased restoration flows**, the result of a tremendous compromise by all parties that generated \$3.4 million in funds for the program and provided more than 12,000 acre-feet of water for human health and safety and critical agricultural needs in the third year of drought.
- **Completed four of the six needed flowage easements** to allow flows to be released beyond Sack Dam to reconnect the river.



A fall-run Chinook salmon is tagged and relocated to Reach 1 during the Trap and Haul study



The San Joaquin River near Lost Lake Park



Hills Ferry Barrier at the confluence of the San Joaquin and Merced Rivers

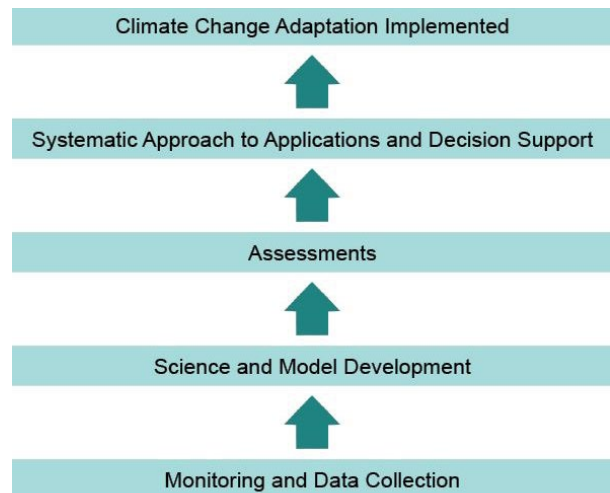




## Climate Change

Reclamation has made significant progress in assessing the impacts of climate change on water resources and implementing on-the-ground actions to mitigate impacts. In September 2014, the Department of the Interior released the Region's Sacramento and San Joaquin River Basins Climate Impact Assessment. The report found that projected changes in temperature and precipitation, combined with a growing population, will have significant impacts on water supplies, water quality, fish and wildlife habitats, ecosystems, hydropower, recreation and flood control in California's Central Valley this century. This study supports the broader Sacramento and San Joaquin Basins Study, part of the Department's WaterSMART Program. The basin study, which is expected to be completed in 2015, will provide additional analysis, including the evaluation of adaptation strategies to mitigate impacts of climate change and meet future water demands.

The study will provide a roadmap for Reclamation and the State of California to ensure a sustainable water supply well into the future. Reclamation will continue its work with the State and interested stakeholders to implement climate adaptation strategies in the Bay-Delta and other regions of the State.



This figure represents the continuum of activities Reclamation is using to incorporate the best available science into our planning activities for climate change adaptation.



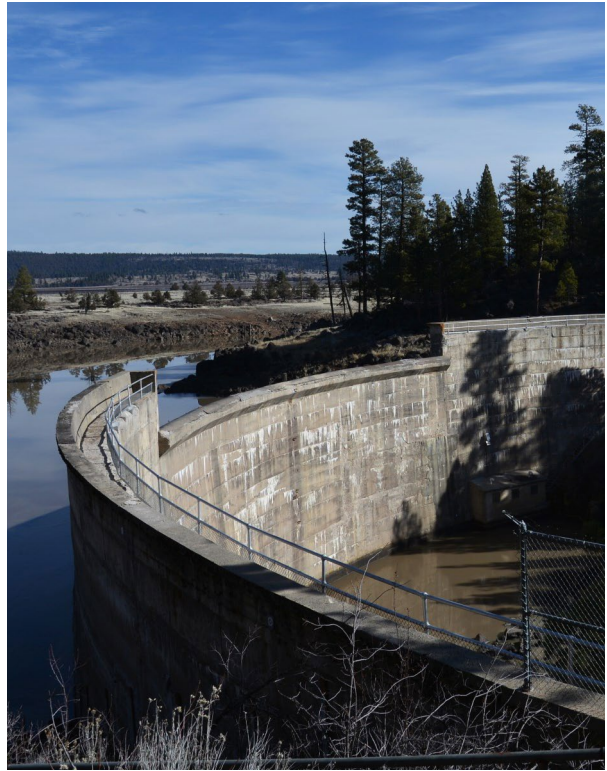
## Klamath Basin

In 2014, the Klamath Basin was faced with drought conditions for the third year in a row. This posed significant challenges for Reclamation's Klamath Basin Area Office to assess hydrologic conditions and make real-time operational decisions that met the needs of federally listed species while also upholding contractual obligations for the Klamath Project. Despite these challenging conditions, Reclamation, in coordination with federal and state agencies, Klamath Basin tribes and water users, successfully operated the Klamath Project consistent with the 2013 joint Biological Opinion, addressed real-time fisheries disease concerns and reduced the magnitude of involuntary water curtailments to the Klamath Project.

- **Water Deliveries** – Despite critical drought, Reclamation delivered approximately 64 percent of Klamath Project supply (250,000 acre-feet) for irrigation purposes.
- **Additional Inflow** – As a result of Reclamation's coordination with Project water users, a call for the Oregon Water Resources Department to enforce Project water rights allowed an estimated 20,000 to 50,000 acre-feet of additional inflow to Upper Klamath Lake. This effort facilitated the delivery of an additional 11,664 acre-feet to the Project at the end of the 2014 irrigation season.
- **Drought Response** – Implementation of the Water Users Mitigation Program (WUMP), administered by the Klamath Water and Power Agency in coordination with Reclamation, was critical in lessening the impact of the 2014 surface water shortage. The WUMP reduced Project demand by 124,295 acre-feet through 21,017 acres of demand management and the purchase of 82,261 acre-feet of supplemental groundwater.
- **Fish Disease Mitigation** – Continuous coordination on fish health with fisheries agencies, Klamath Basin tribes and PacifiCorp provided Reclamation with real-time management flexibility to implement pulse flow events in the Klamath River. These coordinated flow events assisted in reducing impacts to Klamath River salmonids from parasite outbreaks in late May and October 2014, helping to avoid a large fish die-off in the Klamath River system during the 2014 water year.



Link River Diversion Dam



Gerber Dam



## Lower Klamath River Long-Term Plan

On Dec. 31, 2014, Reclamation released a draft Long-Term Plan for Protecting Late Summer Adult Salmon in the Lower Klamath River. This draft plan for fish protection will serve as general guidance for considering and possibly undertaking actions to protect adult salmon in the lower Klamath River. The draft plan was made available for stakeholder review and comment. Reclamation will carefully review all comments and revise the draft as appropriate before releasing a final version of the plan later in 2015. The plan may be revised periodically as more is learned about disease propagation and various preventative measures.

Since the significant die-off of adult salmon returning to the lower Klamath River in 2002, Reclamation has been consulting with tribes and other partners to implement protective actions to help prevent a recurrence. While other means have been researched and considered, the primary protective action thus far has been the release of additional water from Trinity Reservoir to augment flows in the lower Klamath River during the adult return period, generally extending from mid-August through late September.



Trinity Reservoir, Nov. 9, 2014

### 10-year Long-Term Water Transfer Program for the Central Valley Project

In Sept. 2014, Reclamation issued environmental documents on the effects of water transfers between willing sellers in northern California to buyers south of the Sacramento-San Joaquin Delta and in the San Francisco Bay Area from 2015 to 2024. Reclamation conducted three public hearings on the proposal that would include transfers of CVP water through CVP or SWP facilities and transfers of non-CVP water supplies that require the use of CVP facilities.

### SCAMPI II

A new CVP cost-share agreement was negotiated with the State of California and the U.S. Fish and Wildlife Service to replace the Sharing of Costs Agreement for Mitigation Projects and Improvements (SCAMPI), which expired on Dec. 31, 2014. This cost-share agreement is critical to support the Central Valley Project Improvement Act (CVPIA) funded mitigation and restoration activities.

### Water Conservation Grant Funding – By the Numbers

Grant funding was provided for the following:

- Water and Energy Efficiency Grants (WaterSmart) - 13 projects totaling \$6.97 million
- Agricultural Water Conservation and Efficiency - Eight district-level projects totaling \$6.4 million (in collaboration with Natural Resource Conservation Service which funds on-farm applications with landowners in target district)
- CALFED Water-Use Efficiency Grants - Five projects totaling \$1.5 million



# RESTORATION PROGRAM HIGHLIGHTS

## Battle Creek Salmon and Steelhead Restoration Project

The Battle Creek Salmon and Steelhead Restoration Project is among the largest cold-water anadromous fish restoration projects in North America. It has been underway since 2010 and is slated for completion in 2016. In 2014, Reclamation awarded an environmental service contract for the project for \$5.74 million. This year, the Baldwin Creek Fish Barrier construction contract was completed. Rock slope protection undercutting at Coleman Canal was also repaired. Geologic investigation and survey data collection was completed at Inskip Diversion Dam and South Powerhouse.



Baldwin Creek Fish Barrier

## Painter's Riffle Fish Project

Reclamation and the Glenn-Colusa Irrigation District (GCID) entered into a unique partnership in coordination with the U.S. Fish and Wildlife Service under the CVPIA. Under this partnership, Reclamation provided environmental compliance and permitting technical assistance for GCID to quickly construct the Painter's Riffle Anadromous Fish Habitat Enhancement Project in the Sacramento River near Redding, CA. This project was one of the tier 1 projects in the Golden Gate Salmon Association's Salmon Rebuilding Plan and involved restoring salmonid spawning habitat.



*Photograph above:* Before - Painter's Riffle Anadromous Fish Habitat Project, looking upstream; *Photograph below:* After - Looking upstream, 3040 cfs

## Gray Lodge Wildlife Area

Construction was completed on initial phases of a project to enhance conveyance capability to the Gray Lodge Wildlife Area, which will ultimately allow for delivery of Congressional-mandated water supplies to the refuge area. This work was done in cooperation with the Biggs-West Gridley Irrigation District with construction management provided by Reclamation's MP Construction Office in Willows, Calif.







Photograph above: Before - Gray Lodge; Photograph below: After - Gray Lodge



## Trinity River Restoration Program

Milestones were reached in 2014 on this long-term effort to restore fish and wildlife populations in and along the Trinity River. Rehabilitation activities included removing encroaching riparian and non-native vegetation and constructing a split flow channel and island to increase channel margins.



Trinity River

## Reclamation District 2035 Fish Screen

Construction began for a new screened 400 cubic-feet-per-second pumping facility on the Sacramento River to replace the largest unscreened diversion currently on the river. Federal cost-share funding is being provided through the CVPIA Anadromous Fish Screen Program. The new screened diversion supports a much larger initiative to improve water supplies for the cities of Woodland and Davis and involving the Woodland-Davis Clean Water Agency.



Coffer dam after dewatering



Outlet structure dewatering



# FACILITY IMPROVEMENT HIGHLIGHTS

## Shasta Dam Temperature Control Device



Completed wire rope replacement.

## Morman Island Auxiliary Dam



Work includes an overlay of 1.7 million cubic yards of filter materials to help stabilize the earthen structure.

## Folsom Dam Joint Federal Project



Folsom spillway improvements to control structure gates, cutoff wall and excavation.





### C Canal Flume



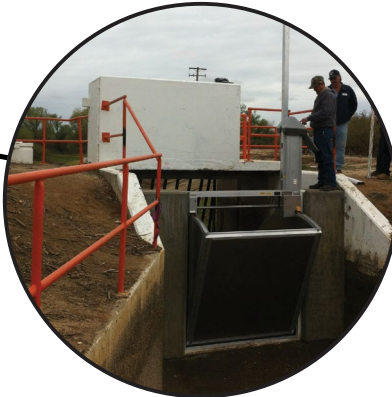
Reconstruction of aging infrastructure.

### Lake Tahoe Dam

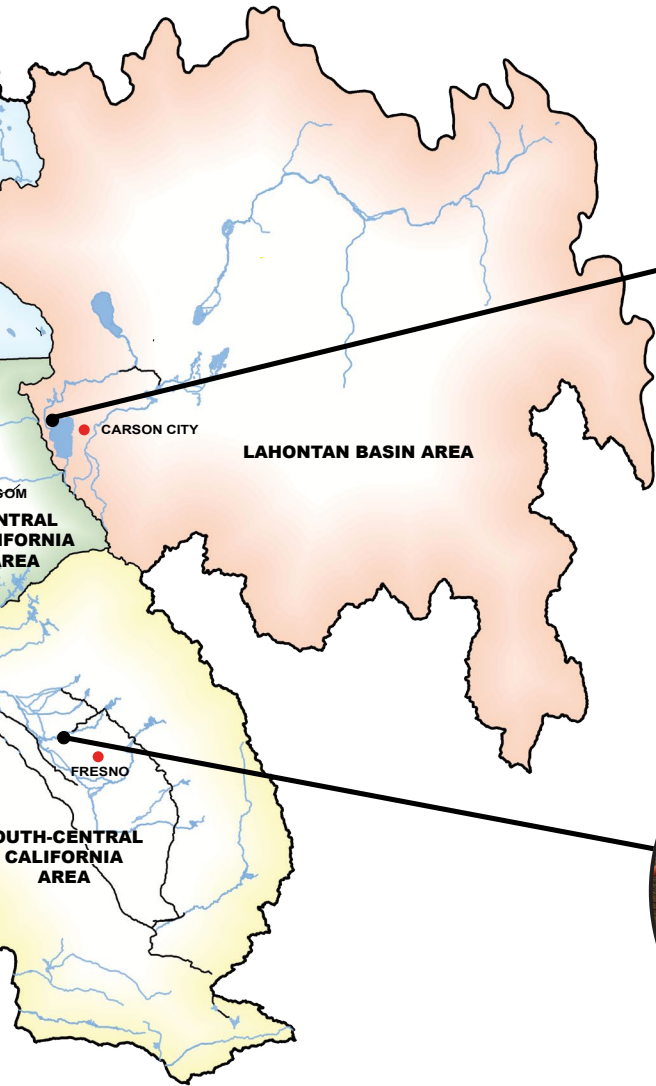


Upgrades of all 17 sluice gates.

### Madera Irrigation District



Head flume gate project installation.





# RECREATION

The Mid-Pacific Region has more than 60 recreation areas, including reservoirs, campgrounds, wildlife refuges, hiking trails and fish hatcheries. In 2014, the Region hosted approximately 6.4 million visitors to its recreational facilities, which provide a wide range of recreation opportunities such as boating, camping, picnicking, horseback riding, hiking, fishing, biking, rock climbing, sightseeing and viewing of wildlife. The Region directly manages recreation in four areas: Stony Gorge Reservoir, Folsom-South Canal Recreation Trail, Lake Berryessa and New Melones Reservoir.

The Region provides learning activities throughout the year that are both educational and interactive with outdoor activities at New Melones and Lake Berryessa, and informational tours of Shasta Dam that consist of guides discussing the construction, history and the powerplant, which is California's largest hydroelectric generating station. The American River Water Education Center near Folsom Reservoir offers educational activities that increase the public's knowledge of the American River watershed. The educational programs and activities were created with the goal of engaging youth in water-related activities and occupations, as well as providing information about water conservation and safety.



C.A.S.T. event at Shasta



Otter at Suisun Marsh





Through the America's Great Outdoors and Let's Move Outside initiatives, 310 interpretive programs and educational and recreational activities were offered year-round at Berryessa, Folsom, New Melones and Shasta lakes serving some 13,000 people. These initiatives focus on engaging Americans in healthy, fun and active outdoor recreation. Also included in these events were Catch a Special Thrill for Kids (C.A.S.T.), National Public Lands Day, Earth Day, Coastal/Lake Clean-up and environmental restoration workdays.



Wildlife viewing at Suisun Marsh



Boy Scouts from Mount Diablo Silverado Council participating in service project at Eticuera Day Use Area (Lake Berryessa)



Smittle Creek hike with St. Helena Elementary School students (Lake Berryessa)

*Photo below:* People kayaking on Lake Berryessa





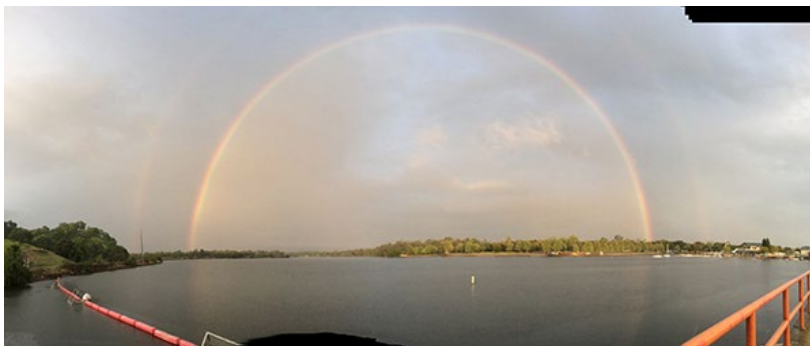
# PHOTO CONTEST

## PEOPLE'S CHOICE



Morning Glory at Friant Dam - Andy Shriver

## JUDGE'S BEST OF SHOW



Lake Natoma Under the Rainbow by Michael Ferrari

## FLORA



Fencepost on the Side of the Road - Sheri Herral

## FACILITY



Clouds of Tulare - Michael Eacock

## LANDSCAPE



Patriotic Sunset - D.J. Bandrowski

## WILDLIFE



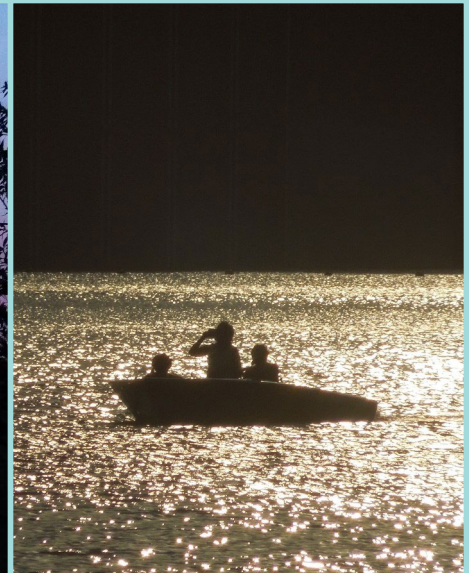
Turtle Selfie - Carlos Hernandez

## PEOPLE



Electrofishing for Endangered Suckers with Mt. Shasta in the background - Darin Taylor





Top row: Shift Change Guarding the Nest - Andrea Meier; Filling the Pool at Lahontan Reservoir - Lee Berget; Middle row: New Melones Sunset - Jaramia Bond; Mid-summer's Day Dream - Shannon Tostado; Bottom row: Trinity River at 4300 cfs - Laurie Larson; The Road to Restoring the Great Salmon Run - Andy Shriver; Birds-eye View of San Joaquin River - Joy Kelley; Shasta Dam Penstocks - Vernon Simpkins.





Front Cover: Shasta Dam;  
Back Cover: Suisun sunset