

DWR

FALL 2012

a magazine from the
California Department of
Water Resources

Reducing Our Carbon

Footprint

DWR Adopts Climate Action Plan





It seems that managing water and natural resources in California just keeps getting more and more complex. Many political, economic, regulatory, and physical changes over the past 5 - 10 years have made our (and all resource managers) jobs harder. Within the resources management community, there exist many different (and often conflicting) opinions about what needs to be done and who needs to do what to address these complex challenges.

And nevertheless, your hard work and dedication has contributed to some very significant recent accomplishments. I encourage us to honor and celebrate the great work and value that we have created by reaching some important milestones in spite of these tough conditions. In June, the Central Valley Flood Protection Board adopted the 2012 Central Valley Flood Protection Plan (CVFPP), widely acknowledged as being one of the most comprehensive planning documents the State has ever produced. Then in July, Department of Interior Secretary Salazar joined Governor Brown to acknowledge the State's progress towards completing the Bay Delta Conservation Plan (BDCP). Congratulations to everyone involved!

And even as we pause to appreciate our successes, we must continue to ask ourselves how we can better meet the growing challenges statewide. With the increasing uncertainty and growing conflict, we (the entire Department) must sharpen our vision of the long-term outcomes we are trying to bring about for Californians and strengthen our communication of this vision. In keeping with the vision, we must reexamine and clarify the roles that DWR will play, and align and prioritize our activities and actions to support the intended outcomes.

DWR is in a unique position to help foster public safety, environmental stewardship, and economic stability statewide. We can and must continue to adjust to meet the challenges. One way we can do this is to align and communicate our services according to four categories: tools, plans, actions, and results.

Tools: We must continue to enhance and share technical resources across all programs and projects. This includes flood, environmental and water management data gathering, modeling, and the technical aspects of flood readiness and emergency response. Tools inform plans, and provide means to take action.

Plans: We must encourage and create plans that incorporate multiple-benefit projects whenever possible. Plans guide implementation of strategies and tactics, which are the actions.

Actions: We must take and support priority actions that meet multi-purpose needs. Actions include implementing projects, fostering innovation, and improving governance. Actions lead to results.

Results: Tools, plans and actions deliver the results that provide value to California's residents, environment and economy. Results must be tracked using performance measures and sustainability indicators for DWR programs that improve and increase system flexibility, using an integrated water management approach.

Now, more than ever, DWR must deliver and communicate value in order to help build public and legislative support to make needed investments and policy changes. Please keep this in mind as you prepare requests, reports and summaries about your programs and projects. The "value" statements must be clearly articulated so they are easily understood by people outside of DWR.

Gary Bardini
Deputy Director

What's INSIDE



Studying, repairing, preparing... story on page 10

On the Cover:

As part of DWR's effort to reduce its carbon footprint, Bryan Brock, Program Manager for DWR's Carbon Farming Program, prepares to measure carbon uptake on Sherman Island wetland. Concurrent with subsidence research in the Delta, DWR is in the process of developing Greenhouse Gas Protocols for the new Cap and Trade Program. Additional information on DWR's Carbon Farming Program can be found at: http://www.water.ca.gov/floodsafe/fessro/levees/west_delta/

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Come Visit Us!

New Planet Exhibit at Vista del Lago Visitors Center

A 24-inch Magic Planet mesmerizes viewers, while explaining the Earth's water. Is this a science museum? No, this is Vista del Lago (VDL) Visitors Center at Pyramid Lake, one of three DWR visitors centers designed to teach the public about water.

Under the direction of Linda Sinnwell, Exhibit Design and Coordinator, and Chris Sanchez, Exhibit Designer of the Public Affairs Office, the visitors centers are undergoing a modernization—and the planet exhibit is just the first installation.

“We’re updating DWR’s current message of reliable water delivery, but we are also expanding the message of the importance of water to all life and the public’s role in conservation and stewardship,” said Sinnwell. The three-fold story begins with the value of water, how DWR delivers water, and finally a call to action for the public.

Working closely with Michelle Robinson, Water Education Specialist of the Public Affairs Office, the Exhibit Unit’s program will support the Education and the Environment Initiative (EEI) curriculum. The Magic Planet offers videos and animation about hurricanes, climate change, and ocean currents, allowing teachers the opportunity to expand on their science curriculum.

“It’s a stunning display that immediately draws the public’s attention,” said Kathleen Simmons, Vista del Lago Guide.

The new Water Wall TV monitors explain the importance of water to all living things. Zack Cunningham and Asa Holland of DWR’s Videography Unit created videos on plants, animals and people. Sinnwell developed animation to describe how the human body uses water.

Currently under construction is “Ancient Civilizations,” which features a life-sized sculpture of Knem, the God of the Nile, to entice visitors to learn how past civilizations of Rome, China, India and Egypt solved their water issues.

“It’s important to educate people about water delivery then and now, and how these methods are still utilized in today’s techniques,” said Sanchez.



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DWR Magazine
is published quarterly by the
California Department of Water Resources

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DWR Magazine's Web site is
www.water.ca.gov/publications/dwrNewsMag.cfm

Funded by
the State Water Project Contractors
Printed on recycled paper



Features

The Bay Delta Conservation Plan: A Comprehensive Solution

An ambitious plan to increase California's water supply reliability while improving conditions for fish and wildlife by tunneling under the Sacramento-San Joaquin Delta was outlined on July 25 by Governor Edmund G. Brown, Jr. and other officials.

Joining Governor Brown in the Resources Building for a Bay Delta Conservation Plan (BDCP) progress report were U.S. Secretary of the Interior Ken Salazar and Assistant Administrator for Fisheries Eric Schwaab of the National Oceanic and Atmospheric Administration.

"A healthy Delta ecosystem and a reliable water supply are profoundly important to California's future," said Governor Brown. "This proposal balances the concerns of those who live and work in the Delta, those who rely on it for water and those who appreciate its beauty, fish, waterfowl, and wildlife."

As the path for an enhanced BDCP process was announced, officials emphasized that California's water system is unsustainable from an environmental and economic perspective. The long-studied BDCP was presented as a key part of a comprehensive solution for achieving the dual goals of a reliable water supply for California and a healthy California Bay Delta ecosystem that supports the State's economy.

"As broken and outdated as California's water system is, we are also closer than ever to forging a lasting and sustainable solution that strengthens California's water security and restores the health of the Delta," said Secretary Salazar. "Through our joint federal-state partnership, and with science as our guide, we are taking a comprehensive approach to tackling California's water problems when it comes to increasing efficiency and improving conservation."

Among the alternatives being considered is the proposal to construct three water

intakes on the Sacramento River below Freeport capable of diverting 9,000 cubic feet per second into twin tunnels. The tunnels would funnel water directly to export pumps south of the Delta, eliminating the reverse stream flows and other harmful effects to fish of pumping from the Delta itself.

In addition to the twin tunnels, the BDCP calls for more than 100,000 acres of floodplain, tidal marsh, and other types of habitat restoration.

"The Bay Delta Conservation Plan has the goal of achieving water supply reliability and ecosystem restoration," said DWR Director Mark Cowin. "Biological goals and objectives drive the program, and a more definitive range of possible outflows and exports will be available before release of a public draft of the plan. Fish agencies hold final authority to set flow requirements, and the BDCP proposes to relocate part of the existing diversion capacity of the State Water Project and Central Valley Project – not create new capacity."

More than 25 million Californians rely on the Delta for at least some of their drinking water. Water from the Delta also irrigates more than three million acres of some of the most productive agricultural land in the nation. The Delta itself is a diverse recreational area, the largest estuary in the West, and home to communities rich in culture and history.

The Plan

The Bay Delta Conservation Plan, which has been in development for six years, emphasizes science, conservation, adaptive management, sustaining Delta communities, protecting upstream water users, and improving water management statewide.

Science will guide how to best restore the ecosystem and how much water can be exported. To improve the status of a wide variety of listed species and species of concern under the Endangered Species Act, the BDCP will



Left to Right: California Governor Edmund G. Brown, Jr., U.S. Secretary of the Interior Ken Salazar, and NOAA's Assistant Administrator for Fisheries Eric Schwaab speaking at July 25 event.

contain biological goals and objectives. The plan includes adaptive management to deal with factors such as climate change, new invasive species, and prolonged drought.

The California Natural Resources Agency, which oversees DWR and the Department of Fish and Game, plans to have the BDCP's Draft Environmental Impact Report completed by early 2013 for public review and a "Notice of Determination" by late 2013. The \$23.7 billion project is planned for completion in the next 15 years and construction will start in 2018.

Future studies will provide answers to such questions as how much water would be diverted in wet and dry years, and how much would be dedicated for estuarine flows to help fish with their natural life cycles.

"There will, in fact, be guidelines in place when permits for the project are issued," said Director Cowin. "It's just that those guidelines - essentially, the amount of water that can be exported, and when - could change as experts learn more about whether habitat restoration will be effective."

Water users would pay for the tunnels and related infrastructure while taxpayers would finance habitat restoration. 💧

For more information about the BDCP, visit the website at <http://baydeltaconservationplan.com>

Adapting to Changing Climate

By Sarah Sol

DWR Expands Climate Change Program

Though climate change can affect air quality, wildlife, public health and even recreation, it seems that those who work in water resources have an unparalleled interest in mitigating and adapting to it.

The reason for that is twofold.

“First, where you notice climate change is the weather,” said Elissa Lynn, Manager of DWR’s Climate Change Program. “Whether it rains, how much it rains, when it rains or snows, and how much is in your reservoirs.”

The second reason is that the changing climate—reflected in sea-level rise and the timing of snow melt—inherently affects all things related to water: flooding, aquatic ecosystems, and how specific rivers and areas are managed.

“Water managers have to adapt to a changing climate,” said Lynn. With that in mind, Lynn believes DWR’s Climate Change Program must be a leader in climate change adaptation, mitigation and education.

DWR Assistant Deputy Director for Climate Change John Andrew agrees. He said that DWR is taking a proactive approach, trying to get its “own house in order” as far as reducing greenhouse gases and planning for climate change impacts on the department while helping local and regional agencies face the same challenges.

“Climate is our business, so it’s probably no surprise that we may be taking it more seriously than other agencies,” he said. “We made a conscious decision that other agencies could have also made, to put some investment into climate change.”

Planning is a major area of emphasis for the Climate Change Program.

“A lot of the water management systems and facilities that we set up 50 years ago were based on what the climate had been for a long time, and whether you agree or disagree as to why, the hydrology is changing,” said Lynn. “There are things that are definitely occurring at different periods. We have different intensity of storms, different timing of the snowmelt, and because of that we have to plan ahead. We can’t base all of our decisions on what happened in the past, because it seems to have been changing in recent decades.”

The Team

As part of the Climate Change Program, 12 DWR employees provide expertise in a variety of subjects.

Along with Lynn and Andrew, the DWR Climate Change team from Sacramento includes Michael Healey (program support specialist), Andrew Schwarz (California Environmental Quality Act [CEQA] and mitigation), Aaron Cuthbertson (climate data, technical), Jim Lin (water-energy nexus), and QinQin Liu (urban mitigation). The regional climate team includes Peter Coombe (regional data) from the Northern Region Office, Erin Chappell (Delta) from the North Central Region Office, Michelle Selmon (land use) and Jennifer Morales (agricultural mitigation) from the South Central Region Office,

and Lauma Jurkevics (CEQA support) from the Southern Region Office.

Additionally, DWR has a CEQA Climate Change Committee providing guidance on environmental review documentation; a Climate Change Technical Advisory Group advising DWR on topics such as the future climate scenarios for the California Water Plan; and even a matrix team of representatives from major DWR



Above: University of California, Berkeley researchers calibrate and maintain greenhouse gas sensor (left) and weather station (right) as part of the ongoing greenhouse gas monitoring for DWR’s Carbon Farming Program at Sherman Island.

divisions and programs who meet quarterly to discuss climate change.

In November 2011, the Climate Change Program completed a *Climate Change Handbook for Regional Water Planning*, to help water managers assess regional and local

“ We take the **public education aspect** of this **pretty seriously... because people** so intimately **link weather with climate.** ”

—Elissa Lynn, Manager of DWR’s Climate Change Program



Above: Above: Andrew Schwarz and Elissa Lynn (right) present Climate Literacy for DWR staff.

Expanding Our Knowledge

Education and outreach are other important components of the Climate Change Program.

The program now offers two classes to DWR staff. They include Climate Literacy 101 for all staff and Climate Literacy 201 geared to-

ward project managers and others who need to understand climate modeling and environmental documentation. The classes are so well-attended that six such classes were offered within the first year.

“We’re trying to help educate about climate change impacts so people can go out in public and be well versed to have these kinds of conversations, as well as understand what impact it has on their work and our work as a department,” said Lynn.

The program’s education efforts extend to public outreach, as well, through efforts such as a 2009 “mini-documentary” and an exhibit at the Aquarium of the Pacific in Long Beach, which opened in October.

“We take the public education aspect of this pretty seriously—again because people so intimately link weather with climate,” said Lynn.

Because of the need for accurate in-

formation about climate change, DWR’s Climate Change Program is naturally interested in increasing the amount of data available. DWR was instrumental in a National Research Council project to evaluate sea-level rise, the results of which came out in a report in June. In addition to the observed rise in sea level of seven inches at Golden Gate Bridge over the past century, the new findings project a rise of 17-66 inches along the California coast by 2100.

The program is also working with the State Climatologist Michael Anderson of the Division of Flood Management to inventory climate data.

Over a period of decades, DWR has received data from private citizens who have recorded weather, temperature, and precipitation information.

“A lot of that used to come in to people’s offices as paper documents, and it’s in filing cabinets, and then offices move, and it gets rearranged, so what we’re trying to do now is get a tally of what’s out there and find out if that information is unique,” said Lynn. “Or has it been entered into a database or shared with other agencies? Some of this can be obviously very valuable. I mean, if you’re going to do some kind of climate study, you want long-term records, and we have a number of those potentially available to us, so we’re just trying to see what’s in our gold mine of data.”

vulnerabilities to climate change and project-specific greenhouse gas emissions.

“There are a lot of local water managers that don’t have their own climate funding and climate data and climate modelers, and they can’t necessarily hire a contractor to go run computer models for them and tell them what’s going to happen in their changing hydrology, so they look to the state to provide that kind of information for them,” said Lynn.

In May, DWR adopted the first comprehensive and publicly reviewed climate action plan done by a California State agency (see page 8), and Climate Change Program staff also are developing content for *California Water Plan Update 2013* future scenarios, regional reports and resource management strategies.

For more information about DWR’s Climate Change Program, visit the website at <http://www.water.ca.gov/climatechange>

Reducing Our Carbon Footprint

DWR Adopts Climate Action Plan

By Sarah Sol

In May, DWR adopted an aggressive plan to reduce its carbon footprint. “Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan” was developed to help DWR reduce its greenhouse gas (GHG) emissions to 50 percent below 1990 levels by 2020 and 80 percent below 1990 levels by 2050.

“All the activities that we have in the department that use energy and produce carbon in so using that energy are now in one strategic plan that will put us on track to reduce our greenhouse gas emissions,” said John Andrew, DWR’s Assistant Deputy Director for Climate Change.

Andrew Schwarz of the Climate Change Program managed the preparation of the Climate Action Plan. He said others within DWR, including Kathy Spanos and Mary Akens of the Office of the Chief Counsel, paved the way for the plan to be developed. The State Water Project had

already been quantifying emissions and looking into renewable energy sources, for example, and the department had already been a member of the Climate Action Registry.

“The fact that there has been a long, sustained commitment to thinking about GHGs and at least accounting for them was hugely important,” said Schwarz.

The plan also creates a consistent process for handling climate change in DWR’s environmental documents. Now, project managers can follow the guidelines presented in the plan when trying to ensure their projects comply with the California Environmental Quality Act (CEQA). Schwarz said he feels this is a major component of the plan and something of a win-win for DWR, which can be a good corporate citizen while reducing the staff resources spent on examining emissions under CEQA. Besides, he said, it makes

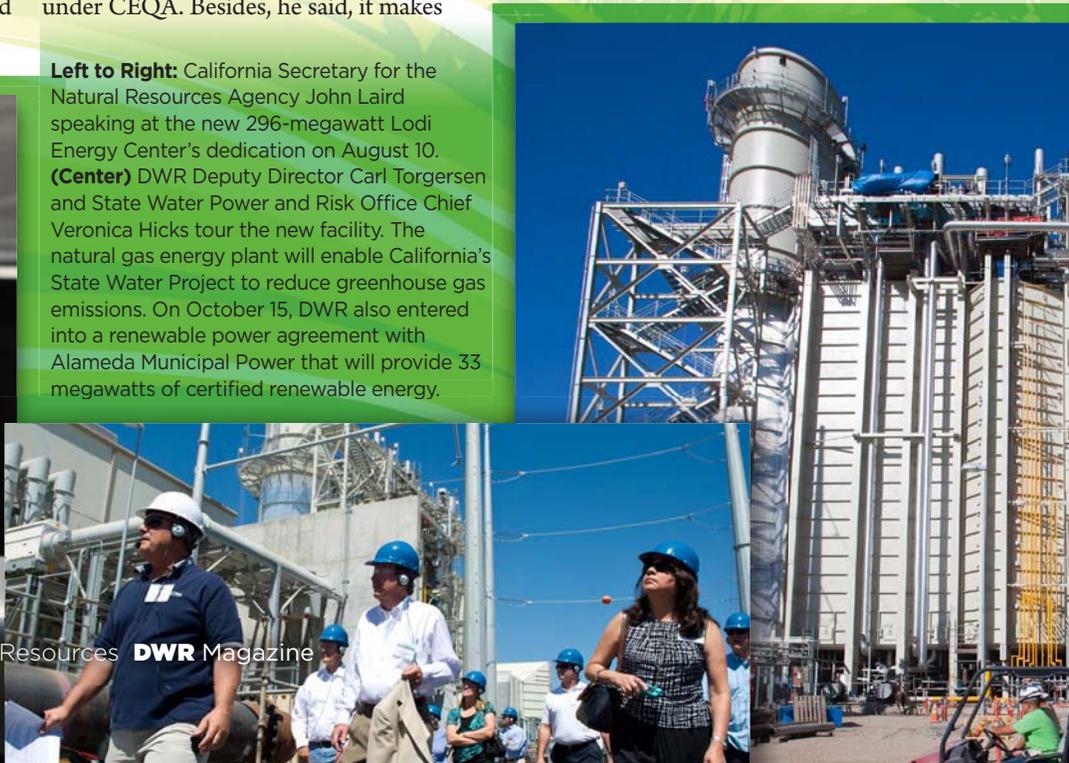
more sense to examine emissions on a programmatic level.

“It’s very difficult, and it doesn’t necessarily make sense to look at each individual project and say, ‘Oh, how do we cut emissions on that?’” said Schwarz. “There’s very little you can do on an individual project in many cases, whereas, if you look at the total of your operations, there may be other, bigger things that you can do that will be cheaper and more effective.”

Schwarz said DWR employees received guidance from the Climate Change Program this fall, specifying how project managers can use the Climate Action Plan to address CEQA analysis.

The Climate Action Plan, inspired by Senate Bill 97, Assembly Bill 32 and Executive Order S-3-05, includes 11 greenhouse gas reduction measures of varying

Left to Right: California Secretary for the Natural Resources Agency John Laird speaking at the new 296-megawatt Lodi Energy Center’s dedication on August 10. **(Center)** DWR Deputy Director Carl Torgersen and State Water Power and Risk Office Chief Veronica Hicks tour the new facility. The natural gas energy plant will enable California’s State Water Project to reduce greenhouse gas emissions. On October 15, DWR also entered into a renewable power agreement with Alameda Municipal Power that will provide 33 megawatts of certified renewable energy.



“The fact that there has been a long, sustained commitment to thinking about GHGs and at least accounting for them was hugely important.”

—Andrew Schwarz,
Climate Action Plan Manager

scope and impact. Three measures focusing largely on the State Water Project—to improve energy efficiency, find new sources of renewable energy and end a contract with the coal-fired Reid Gardner Powerplant—will result in eliminating more than 2.5 million metric tons of greenhouse gas emissions by 2050. Smaller-scale measures, such as participating in the Sacramento Municipal Utility District (SMUD) Greenergy and Carbon Offset programs, will add another 3,500 metric tons of reductions.

“It would have been legitimate for us to say, ‘Well, because 98 percent of our emissions are in the State Water Project, we will just do State Water Project-related reduction measures because that is where most of the carbon is,’” said Andrew. But the plan includes other business activities so that it can serve as an example for other agencies. “Some people will look at our plan and go, ‘Well, you know, we

don’t have big pumps and coal plants and things like that, and so we can’t follow your example.’ But things like the SMUD program—it’s literally off the shelf. There are smaller things people can do, too, and we specifically included things like that.”

Though the plan calculates reductions for both 2020 and 2050, John Andrew said the 2050 goals are the main focus because DWR is already below its 1990 emissions levels. Additionally, he said, scientific consensus is that industrialized, western countries should reduce emissions to 80 percent below their 1990 levels.

“If the entire world only gets back to 1990 level emissions, we’re in a lot of trouble, because that’s not going to be enough to stop really catastrophic climate change down the line,” he said. “Sometime soon, we’re going to have to start taking 2050 very seriously,” said Andrew. “Otherwise, it’s kind of game over.”

On September 6, 2012, the Sacramento County Board of Supervisors awarded DWR and 11 other businesses and government agencies as “Sustainable Business of the Year.” DWR was recognized for energy conservation practices, such as reducing cooling by 30 percent at data centers, saving \$2.2 million via new efficiencies in building maintenance, and adopting environmental stewardship principles in DWR engineering practices.

The Climate Change Program is midway through the process of developing its Phase II plan, which will focus on adaptation to climate change. ♦

The Climate Action Plan is available online at www.water.ca.gov/climatechange/CAP.cfm

Center: DWR Deputy Director Carl Torgersen receives a Lodi Energy Center commemorative award on behalf of DWR. As the largest of 13 project participants associated with the Lodi Energy Center, DWR has contract rights to 33.5 percent of the plant’s capacity. **Below:** At DWR’s first LEED-NC (Leadership in Energy and Environmental Design – New Construction) project, solar panels were recently installed at the new Southern Field Division Operations and Maintenance Center in Pearblossom.



Improvements Continue

Delta Levees Special Flood Control Projects

By Elizabeth Scott

The Delta Levees Special Flood Control Projects Program has funded 143 projects, thanks to the 2006 voter passage of Propositions 1E and 84, which provided nearly \$5 billion in state bond funds for flood protection projects statewide. Totalling about \$225 million, these projects focus primarily on levee improvement, but funding has also been made available for planning, research, and habitat enhancement work.

Created through the passage of Senate Bill 34 in 1988, the Delta Levees Special Flood Control Projects Program was originally designed to control flooding on the eight western Delta islands where levees help protect the state's water supply and the towns of Thornton and Walnut Grove. Today, the program is greatly expanded to include the entire Sacramento-San Joaquin Delta and portions of the Suisun Marsh. Any local agency responsible for maintenance of a Project or Non-Project levee in the primary zone of the Delta or a Non-Project levee in the secondary zone of the Delta may submit proposals and participate in the funding program.

Managed and governed in coordination with the Delta Levees Maintenance Subventions Program, the Delta Levees Special Flood Control Projects Program provides financial support to local agencies in the Delta to make

improvements to their levees, in turn improving the integrity of the entire network of levee systems in the Delta.

"The primary purpose of the program, as directed in the Water Code, is to protect discrete and identifiable public benefits," said Mike Mirmazaheri, Program Manager. "The public benefits are broad and include protecting not only urbanized areas, public highways and roads, but also water quality, recreation, and fish and wildlife habitats."

The program also funds studies and research that help expand DWR's understanding of levee stability issues, such as the Department's Delta Risk Management Strategy (DRMS). DRMS looked at the sustainability of the Delta and assessed major risks to Delta resources from not only floods, seepage and subsidence, but also a major earthquake. The study evaluated potential consequences and developed recommendations on how to manage the risk.

The Water Code requires that the program not only mitigate the habitat impacts of each project it funds, but also ensure creation of a net long-term habitat improvement in the Delta.

California's Department of Fish and Game (DFG) is included in each project as a partner agency, overseeing any needed habitat mitigation, enhancement and restoration.

"DFG plays a regulatory role in each project," explained Mirmazaheri. "The Water Code directs that a project plan shall include a provision for the protection of fish and wildlife habitat DFG determines to be necessary, as long as that provision doesn't compromise the integrity of the flood control works."

The Department developed a guideline process for governing the expenditure of Propositions 1E and 84 funds through the Program beginning in Fiscal Year 2008-09. It's a competitive process in which each project proposal must meet certain common eligibility requirements and program criteria including formulas for cost-sharing between the State and the local agency.

Today's active projects cover not only Delta levee improvements but also habitat enhancement and restoration projects associated with levee work.

Aqueduct Protection Projects

Legislation since the passage of Propositions 1E and 84 required that no less than \$35 million be spent on projects that provide protection to existing aqueducts carrying industrial and municipal water supplies across the Delta.

When Jones Tract flooded in 2004, the East Bay Municipal Utility District's (EBMUD) Mokelumne Aqueduct sustained damage, demonstrating the vulnerability

Senior Engineer Jon Wright of Delta Levees Special Projects observing fill material being transported and offloaded for levee work being performed on Woodward Island.





The primary purpose of the program, as directed by the Water Code, is to protect discrete and identifiable public benefits

—Mike Mirmazaheri, Program Manager



of the aqueduct and the water it carries to the East Bay.

In the 2009 funding cycle, the Aqueduct Protection Projects sponsored by five reclamation districts (Upper Jones Tract, Lower Jones Tract, Lower Roberts Island, Orwood-Palm Tract, and Woodward Island) were awarded more than \$35 million to improve levees that protect EBMUD’s aqueduct as it moves water from the Sierra Nevada to 1.3 million customers in the East Bay area. EBMUD, as a beneficiary, has contributed 15 percent of the total cost of the projects.

These projects include an environmental enhancement component to their design: Trees planted above the ordinary high water mark along the waterside slope of the levee create a riverside habitat for fish.

Dutch Slough Tidal Marsh Restoration Project

Identified and approved in the 2008 funding cycle, the Dutch Slough Tidal Marsh Restoration Project is one of the largest habitat restoration efforts in the Delta.

The project is now under way through collaboration among DWR, California Coastal Conservancy, Natural Heritage Institute, Ironhouse Sanitary District, City of Oakley, and DFG.

Located partially within the City of Oakley, the project will benefit a diversity of fish and wildlife, including at-risk species. It also will support

future opportunities for public recreation and shoreline access, environmental education and scientific research, along with levee protection and flood control.

The project is expected to cost a total of \$30 million, with DWR covering the largest share. Constructed in phases, the project is anticipated to be completed over the next several years.

Sherman Island Setback Levee

Identified and approved in the 2007 funding cycle, DWR awarded funds from Propositions 1E and 84 for Reclamation District 341’s construction of four sections of setback levee along Mayberry Slough on Sherman Island. The construction of the setback levee increased the levee’s stability.

The project, completed in 2009, also lowered the water side along 2,800 feet of the existing Sherman Island levee to create nearly four acres of functioning intertidal channel margin habitat that benefits native aquatic species.

Mason’s *Lilaeopsis*, a California rare plant, was transplanted to the site, and the design also created intermittent habitat that resists colonization and establishment by non-native plant and animal species.

Monitoring of the completed project over time will aid in planning future projects for the Delta Levees Program.

Left to Right: Delta Levees Program Manager Mike Mirmazaheri and Project Manager Bill Heyenbruch inspecting the site where emergency repairs were made after a large cargo ship ran into Bradford Island in 2009.

Bradford Island Emergency Repair

The Bradford Island emergency levee project, which was identified and approved in the 2010 funding cycle, repaired a levee on the 2,000-acre Delta island in Contra Costa County. Reclamation District 2059 sponsored the project to make a repair on the site where in 2009 the bow of a large cargo ship accidentally ran into and severely damaged a 100-foot section of the levee on the northeastern side of the island along the San Joaquin River. The impact of the ship ripped out half the width of the levee, causing that portion of the levee to slip away, and created cracks extending into the middle of the levee crest.

The temporary repairs made in the days following the collision held further consequences at bay, such as a breach potentially jeopardizing drinking water quality for 25 million people. Had the levee broken, salt water would have been drawn into the Delta and contaminated the fresh water supply with salt. 💧



Fill material being loaded at borrow site on Holland Tract. (Right) Levee projects have also helped protect East Bay Municipal Utility District’s aqueduct pipelines, shown crossing Upper Jones Tract.





Sherman Island: Rock'n the

With nearly 40,000 pounds of force, researchers simulated an earthquake on Sherman Island to measure how the island's peat soil would respond to strong shaking.

The August 15 experiment rocked a cow pasture like a funhouse floor, but the shaking involved serious seismic science. The results of the experiment by University of California, Los Angeles, researchers will expand our limited knowledge of how earthquakes might affect levees built on peat soils.

"Our results will feed into a seismic hazard evaluation for the Delta levees," said Scott

Brandenberg, Vice Chair of the UCLA Civil and Environmental Engineering Department and leader of the research team. "The seismic response of the peat is something that engineers struggle with and don't know enough about."

This research is of keen interest to the DWR, which works with local reclamation districts to maintain and improve the Delta's 1,100 miles of levees. Those earthen structures protect towns, farms, wildlife habitat, natural gas lines and other critical infrastruc-

It's SEISMIC!
Man-made earthquakes are providing crucial data about how to build better levees

(top) UCLA researcher Alberto Salamanca (right) and NEES intern Charys Clay discuss data collected during the test. (right) At Sherman Island, University of California, Los Angeles researchers shook an artificial levee to study how underlying peat soils respond to the motion.





Delta

ture. In addition to shielding Delta islands to prevent flooding, the levees also help hold back saltwater from San Francisco Bay that could otherwise contaminate the fresh water pumped from the south Delta to supply the State Water Project and Central Valley Project.

The levees themselves were typically built over the past 160 years of a mixture of soils, including sand, clay, silt, and peat. But most levees in the western Delta rest on highly-organic peat soil formed over thousands of years by decomposing tules and other wetland plants.

“The peat is underlying a lot of the Delta levees and is very important to the performance of the structure during a seismic event,” said David Mraz, Chief of DWR’s Delta Levees and Environmental Engineering Branch.

To conduct the experiment, the UCLA researchers built a 40-foot long reinforced model levee on property owned by DWR. They topped the model levee with a machine called an eccentric mass shaker. The shaker’s electric motor spun counterweights to generate tens of thousands of

(top) UCLA researchers Andrey Kozhukhovskiy, Scott Brandenburg, and Jonathan Stewart observe testing from the mobile command center. (center) Water flowing into the moat around the levee to keep the peat saturated. NEES interns Estefan Garcia (right) and Jasmin Sadeh are placing PVC pipe to observe wave propagation away from the model levee during shaking.

pounds of shaking force, as the researchers measured soil movement, build-up of pressures, and other properties with an array of instruments radiating out from the shaker. These measurements will provide the raw data to help define the dynamic behavior of peat soils as a building material. Researchers conducted multiple tests through the day at various levels of force and spinning frequency. They added increasing levels of weight to the shaker to simulate earthquakes of varying magnitudes, until the force of the shaking reached a level comparable to a 6.5 magnitude event on a local fault. Experts say the Midland fault, a few miles east of the test site on Sherman Island, is capable of generating a quake of such magnitude. Though the scientists had designed and built the model levee to prevent its failure during the shaking, the day’s final test bounced the wooden frame holding the shaker nearly to the breaking point.

Scientists were not interested in whether the model levee would fail during the shaking, as it was built stronger than a typical Delta levee. Instead, with instruments arrayed within 300 feet of the model levee, they tried to gage how the underlying peat soil transferred the ground motion energy to the model levee and whether the peat settled or slumped in response to the transmitted energy.

The research was funded by the National Science Foundation through the George E. Brown Network for Earthquake



Engineering Simulation (NEES). DWR was a cooperating partner, providing a research location, and some staff time to support their research efforts.

A year earlier, in August 2011, the UCLA researchers had conducted a similar experiment on Sherman Island, with a key difference. In last year’s experiment, the underlying peat soil was dry to a depth of six feet, and the shaking did not cause significant settling of the peat soil. For the most recent experiment, researchers flooded the area around the model levee to saturate the peat. They believe the wet peat will respond differently to seismic energy, as Delta levees and the peat lying beneath them are typically saturated.

It may take as long as a year to analyze all of the data collected from the shaking tests. For test data visit the website at <http://nees.org>.

Brandenberg said he could make only limited immediate conclusions from the experiment on wet peat soil versus dry.

“It appears that the response was different and we measured a bit more water pressure in the peat,” he said. “Developing scientific conclusions related to levee-peat interaction will take some time.” ♦

In the Spotlight:

Northern Region Office

Working in a land of coastal redwoods, sun-baked valleys, small cities and wilderness areas, DWR's Northern Region Office employees bring the Department's equally diverse programs and skills to far-north California.

"We work in beautiful country with colorful, independent and wonderful people," said Northern Region Office Chief Curtis Anderson. "I really enjoy working here."

Established in 1965 when DWR was still planning to connect the Eel and other northern rivers to the State Water Project, the Northern Region Office (NRO) is anchored in Red Bluff, which is centrally located in the region that includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lassen, Modoc, Plumas, Shasta, Siskiyou, Tehama, and Trinity counties, as well as portions of Mendocino, Lake, Sierra and Yolo counties. This is a land of heavy rains and few people (55 percent of California's

precipitation and 3 percent of its population).

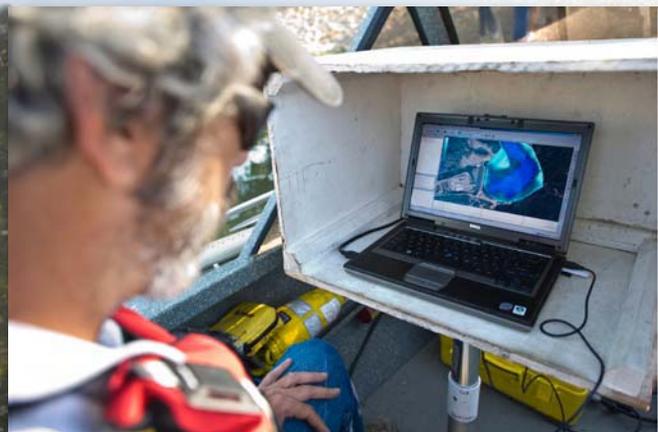
Northern Region's 68 employees – key players in DWR's Division of Integrated Regional Water Management – work with local, State, and federal agencies as well as individuals to help manage water resources. They also offer DWR's technical expertise and financial assistance to the area, collect and analyze data, and plan for future water management needs.

"NRO employees are hardworking, dedicated, and passionate about the work they do," said Anderson. "These attributes really make me proud to be part of the NRO team."

And when big storms threaten, the Northern Region is ready to mobilize along with the Eureka Flood Center in Humboldt County and the Flood Operations Branch in Sacramento.

"Our office is strategically located to provide technical guidance and assistance to local and regional organizations with water resource planning and en-

Left to Right: Water Quality Section Environmental Scientist Beverley Anderson-Abbs and Chief Scott McReynolds gather equipment for water quality testing. Transportation Surveyor Jim West of the Engineering Studies Section performs bathymetric studies along the Sacramento River.



gineering; surface and groundwater monitoring and studies; environmental analysis and restoration; land use surveying and mapping; drought, water conservation, and watermaster activities; resolution of interstate water conflicts; floodplain management activities, and emergency response actions,” said Anderson. “The regional offices also collect and analyze regional water resources data in support of many DWR programs.”

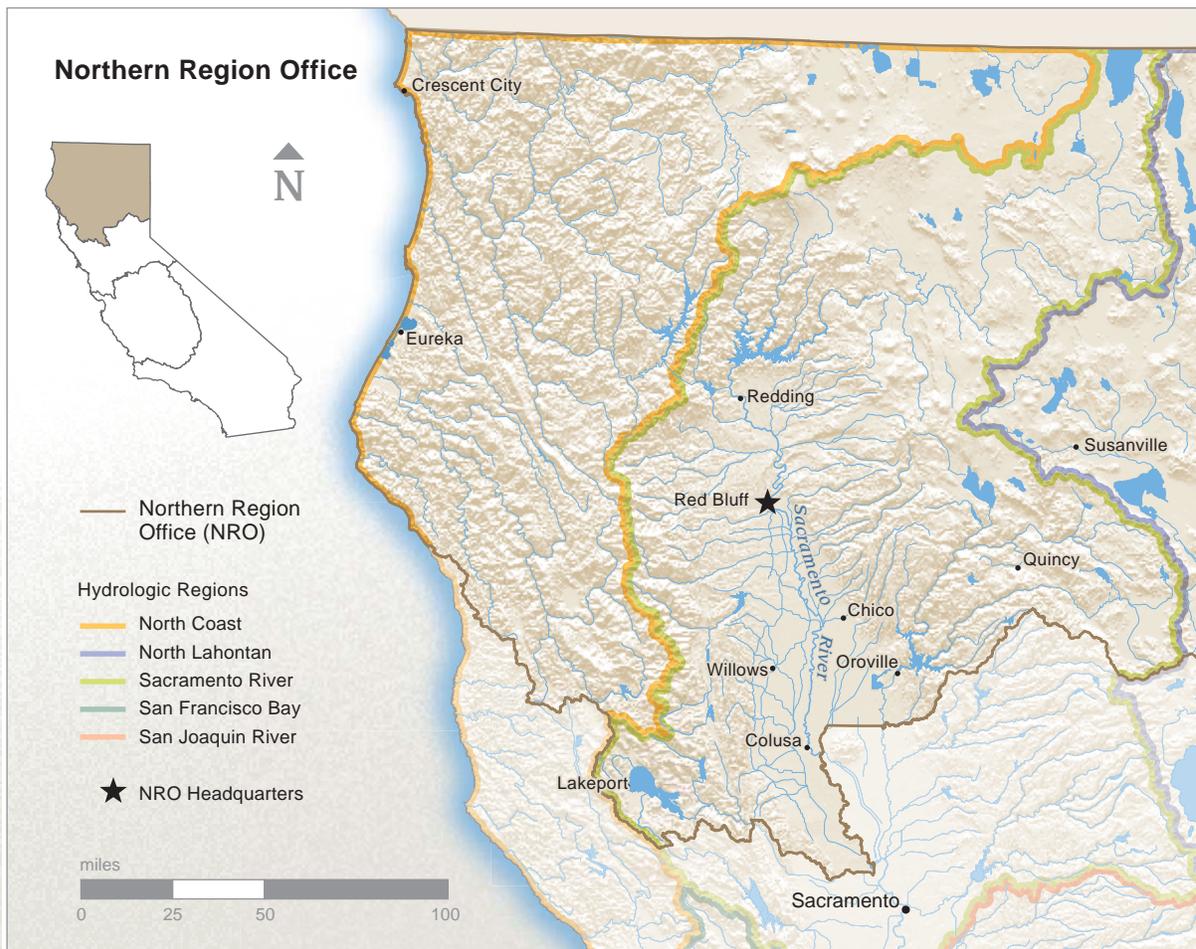
The Branches

From planning investigations to surface water measurements, NRO’s four branches - Administrative, Water Management, Environmental Assessment, and Regional Planning – cover an array of assignments.

“In addition to providing specialized services to the State, federal, and local agencies, the branches maintain liaisons with county and local water districts, conduct investigations, and prepare reports on water management issues and the development of water projects through the advance planning stages,” said Anderson.

Projects involve engineering, geologic, land and water use,

Left: Environmental Scientist Barbara Castro identifies native riparian vegetation.



environmental, floodplain management, integrated water resources, management and planning investigations, climate change analysis, and surface and groundwater assessments.

Water Management Branch

Major roles of the Water Management Branch, which includes the Engineering Studies, Flood and Watershed Engineering, Surface Water Investigation, and Watermaster Service sections, are comprehensive water resources development and floodplain management.

“The Branch performs engineering work leading to the design of fish protection and river restoration, conducts land and bathymetric surveys, conducts hydraulic analyses related to flood control, floodplain mapping, maintains about 60 stream gages, and provides watermaster services in nine Northern California Service Areas,” said Branch Chief Bill Mendenhall.

Specialized services include the installation and maintenance of stream gages, engineering services, topographic and global positioning surveying, hydrologic and hydraulic modeling and analyses, floodplain mapping, and flood emergency management.

The Branch also has staff stationed at DWR’s Sutter Maintenance Yard near Yuba City. They collect hydrologic data in the Sutter Buttes region.



Environmental Assessment Branch

The Environmental Assessment Branch contains the Water Quality, Environmental Compliance, and Environmental Services sections.

“As part of the Water Quality Section’s duties, employees collect and analyze physical and chemical surface and groundwater quality data, including fish tissue, phytoplankton, zooplankton, benthic macro-invertebrate and bacteria sampling,” said Dave Bogener, Chief of the Environmental Assessment Branch.

The Environmental Compliance Section performs studies on wildlife, climate change adaptation, river restoration, sustainability planning, and California Environmental Quality Act and National Environmental Policy Act compliance. Along with supporting DWR’s recreation programs within NRO, the Environmental Services Section conducts environmental investigations and monitoring, and prepares environmental documents and permits.

“The Branch has dedicated Geographical Information Systems (GIS) specialists and provides field assistance to support compliance with environmental laws and regulations,” said Bogener. “The Branch also provides specialized services in the fields of wildlife biology, entomology, limnology, water quality, environmental analyses, botany, fisheries biology, recreation and macro-invertebrate analyses.”

Regional Planning Branch

“The Regional Planning Branch’s major activities include groundwater and geologic investigations, land and water

use analyses, data collection and management, and program coordination with federal, State, local, tribal and non-governmental organizations,” said Dan McManus, Chief of the Regional Planning Branch.

The Groundwater and Geology Section performs integrated water resource management, groundwater basin assessment, well design and construction, and geologic mapping. The Land and Water Use Section conducts surveys, water balance studies, urban and agricultural water management planning, water transfer analysis, climate data collection, leak detection services, and California Irrigation Management Information System (CIMIS). The coordination, data collection, and management of both sections’ activities are done in the Data Collection and Management Section.

The Program Coordination Section assists with programs, such as Statewide Planning (California Water Plan), Integrated Regional Water Management (IRWM), Climate Change Program, FloodSAFE, National Flood Insurance Program, Delta planning initiatives, Statewide data management programs, DWR and State Water Resources Control Board grant programs, State Water Project operations and relicensing activities, reservoir storage investigations, water transfer operations, drought-related programs, and tribal water management issues.

Partnership Projects

The NRO also partners in collecting and analyzing data, designing solutions, and coordination with local agencies, stakeholders and with other DWR Divisions, such as Operations and Maintenance, Environmental Services, Flood Management, Statewide Integrated Water Management, and the FloodSAFE Environmental Stewardship and Statewide Resources Office.

“As a significant partner in the preparation of the Oroville Relicensing documents, we conducted numerous environmental and recreational surveys that were used for the EIR/

(Top to bottom) Left to Right: Jessica Salinas-Brown and Tito Cervantes of the Land and Water Use Section survey NRO’s 13 counties to determine land and water use changes. Kaylie Humbert and April Scholzen of the Data Collection and Management Section with retired Chief of the NRO Glen Pearson (center) measure groundwater levels of well in Tehama County. At the Woodson Bridge, Engineer Les Grade of the Surface Water Investigation Section determines flow rates on the Sacramento River.



(Above) Left to Right: Tito Cervantes and Jessica Salinas-Brown inspect CIMIS station in Tehama County. (Left) Left to Right: Wayne Ables, Les Grade, and Joe Scott of the Water Management Branch prepare equipment for taking surface water measurements for flood flows.

EIS and FERC application,” said Teresa Connor, Chief of the Engineering Studies Section.

Other projects include the preparation of the Cold Water Rice Implementation Plan; North-of-the-Delta Offstream Storage Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) and the U.S. Bureau of Reclamation’s Feasibility Report; California Water Plan’s land and water use surveys for Butte, Modoc, and Siskiyou counties, Klamath Basin groundwater level changes monitored by Reclamation, Elder Creek sediment survey and design along with environmental monitoring support for the Sycamore Creek Flood Management Project for the Central Valley Flood Protection Plan; and river and environmental restoration projects.

“We have ongoing programs involving environmental monitoring, the California Water Plan, the Northern California Water Management Program, and watermaster service,” said Anderson.

River and Environmental Restoration Projects

From surveying to construction, NRO has worked on various river and environmental restoration projects, such as on the Trinity River, enhancing the fishery, and restoring the riverine ecosystem. In the Upper Feather River watershed, mountain meadow restoration helps to reduce winter run-off, increase summer inflow, and decrease eroded sediment inflow into Lake Oroville. In partnership with Oroville Field Division, FloodSAFE Environmental Stewardship and Statewide Resources Office, and the Division of Environmental Services, NRO conducts bank swallow population surveys along the Feather and Sacramento Rivers. In partnership with University of California, Davis, and with support from the Division of Environmental Services, NRO environmental scientists monitor the green sturgeon populations, currently listed as a threatened species under the federal Endangered Species Act, and their movement in the Sacramento River. 💧

Northern Region Office Chief

Curtis Anderson, Chief of the Northern Region Office since November 2, 2009, represents DWR for matters under the Department’s jurisdiction within the Northern Region.



Prior to becoming NRO’s Chief, Curtis served as Chief of the Resources Assessment Branch. He has also been the manager for the Water and Environmental Monitoring Program, the Clough Siphon Project, and the Trinity River Restoration Program. He co-represented DWR in the Trinity Management Council and represented NRO and provided assistance for the implementation of FERC relicensing requirements for Oroville Dam.

With more than twenty years of experience working in Northern California on a variety of projects regarding water development, flood control, and environmental restoration, his expertise includes project planning, formulation, management, and coordination with other State, federal, local agencies, including public outreach. He is also one of two DWR employees to receive CalTrout’s Golden Trout Award. In 2007, Curtis received the award for his work on the Trinity River Restoration Program. The other recipient was former Director Ronald Robie.

Curtis has a bachelor’s degree in Civil Engineering from Chico State University, and is a Professional Engineer with the State of California.





A Broader Perspective of the Green Sturgeon By Jennifer Iida

DWR Magazine staff recently interviewed one of Northern Region Office's Green Sturgeon Expert David Grant about studying the little known breeding habits of the green sturgeon on the Sacramento River along Tehama, Butte, Shasta, and Glenn counties.

The green sturgeon is among the longest and largest living freshwater fish species. This peculiar species has remained almost unchanged for more than 200 million years.

Q: Why study the green sturgeon?

A: There are two distinct population segments (DPS) of green sturgeon. The fish of the Southern DPS, which are listed under the federal Endangered Species Act as threatened, only use the Sacramento River for spawning, not to live in. Until a few years ago, spawning information was unknown, but we now understand and believe spawning only occurs in the upper 100 miles of the Sacramento River. Outside of the breeding season, the green sturgeon is found in oceanic waters, bays, and estuaries, utilizing both salt and brackish waters. It spawns in deep pools of large, fast-flowing, freshwater rivers. I've been surveying for them for three years now.

Why is this information important to survey?

It's a concerted effort by the University of California, Davis, and State and federal agencies, and is part of the Biological

Opinion for Operational Criteria and Plan (OCAP.) The Biological Opinions are very important regulatory documents developed by National Marine Fisheries Service and U.S. Fish and Wildlife Service regarding the coordinated operations of the State Water

Project and the Central Valley Project. The review and recommendations provided by these agencies help ensure that the investments being made regarding Bay Delta planning and decision making are supported by the best available scientific knowledge. So up here in the Northern Region, studies have gone on with the North-of-the-Delta Off-Stream Storage project (NODOS). One of the primary objectives of NODOS is to increase the survival of anadromous fish (fish that hatch and rear in fresh water rivers, then migrate to the ocean and return to same river to spawn.)

How do you survey for the green sturgeon?

The Dual Frequency Identification Sonar (DIDSON) camera monitor on the boat sends us a shadow image of the fish. Based on size and behavior, we can deduce whether they are sturgeon. The DIDSON system allows us to survey in waters too turbid for conventional underwater camera equipment. The sturgeon are very seasonal; they start showing up in March. We start doing our surveys from May through July, and we have found over the past three years that spawning mainly occurs during May and June. Once they spawn, they begin moving downstream. A good day is when we get good, solid images, and we know beyond a doubt that we're seeing sturgeon.

Are these fish really green?

They have green or olive stripes on the bottom of their bodies. They're a little bit smaller than the white sturgeon. They also live a very long time and may reach 50 to 100 years old. Adult green sturgeon breed every three to five years.

What conservation efforts are in effect right now?

The U.S. National Marine Fisheries Service listed the green sturgeon Southern population as threatened in 2006. Fishery managers in California, Oregon, Washington, and British Columbia, Canada, have restricted or closed commercial and sport fisheries everywhere the green sturgeon occurs. Decommissioning the Red Bluff Diversion Dam and replacing it with a pump station and fish screen in 2012 has allowed the green sturgeon to access spawning areas above the dam.

How do you feel about working on this project?

Before coming to DWR, I worked at California Department of Fish and Game for about five years. I was a Fisheries Biologist there, so it's been a natural path to be working on the fish studies now. To me, it is being a part of discovering a lot of what was previously unknown about these fish. I am a problem solver, and fieldwork takes a lot of problem solving.



Briefing

Delta Water Supply Project

Stockton residents recently joined the other 25 million Californians drinking treated water from the Sacramento-San Joaquin Delta.

The Delta Water Supply Project (DWSP) was constructed by the City of Stockton using various sources of funding including a \$12.5 million DWR grant through the Proposition 84 Safe Drinking Water, Water Quality and Supply, Flood Control, River, and Coastal Protection Bond Act of 2006. The project was dedicated on May 30, 2012. Stockton residents received their first taste of Delta water on June 28, 2012.

The DWSP includes a new surface water intake facility and pump station on the San Joaquin River at Empire Tract, 12 miles of new underground pipelines to convey the Delta water to a new state-of-the-art surface water treatment plant, and pipelines to convey treated water from the plant to the City's existing distribution system.

Located north of Eight Mile Road on Lower Sacramento Road, the plant has the capacity to treat and deliver 30 million gallons per day (mgd) of water, which will meet nearly one-third of the City's water needs. When the final build-out of the plant is completed (estimated in 2050), it will have the capacity to treat up to 160 mgd of water.

The DSWP will help the city replace other declining surface water resources, protect groundwater supplies, and provide current and future water needs for the Stockton Metropolitan Area.

By providing a new surface water source for the City, the DWSP will result in an immediate decrease in the amount of groundwater pumped from the Eastern San Joaquin Groundwater Basin (a critically overdrafted basin) to meet existing and future demand. As this is a conjunctive use program, initially groundwater levels will increase by in-lieu recharge, and ultimately, treated water from the water treatment plant will be injected into the groundwater basin for later extraction and use.

Genny Schrader, Senior Water Resource Engineer in DWR's Bay-Delta Office, managed the Proposition 84 grant that funded a portion of the DWSP intake and pump station facility. Management responsibilities included contracting with the City of Stockton, regular grantee correspondence and communication, preparing contract amendments, reviewing and approving progress reports, site visits, and reviewing invoices and approving payments.

"Completion of the DWSP has achieved goals of Proposition 84 by



(Top to Bottom) The City of Stockton's new water treatment plant in Lodi. Supervising Engineer Bob Pedlar of DWR's South Delta Management Section and Senior Civil Engineer Michael Callahan of the City of Stockton inspect the recently poured concrete roadway and generator yard construction. City of Stockton officials cut ribbon during May 30th dedication. Carollo Engineers Construction Manager Tim Karlstrand and DWR Project Manager Genny Schrader of the Delta Water Supply Project Intake and Pump Station Facility discuss challenges of constructing the facility adjacent to the San Joaquin River.

constructing a new drinking water intake facility in the Delta that provides high quality water," said Schrader. "Stockton residents should benefit from this reliable, high-quality water supply for years to come." 💧

California Flood Preparedness Week

When flood season in California officially began on October 15, DWR and other agencies kicked off the State's first flood preparedness week.

During "California Flood Preparedness Week," DWR noted that more people die in flooding than any other natural disaster in the United States, and that a flood disaster has been declared in every California county at least once in the

past 20 years.

As the State of California's lead flood management agency, DWR's Division of Flood Management works to prevent, reduce, and mitigate damages from flooding.

To prepare for flood emergencies, the Division of Flood Management provides "Flood Fighting Methods" training to employees of numerous agencies and organizations. ♦

Below: At the Flood Fight Methods Training Class, DWR Flood Fight Specialist Rick Burnett supervises filling of sandbags by participants from the U.S. Army Corps of Engineers, Sacramento District. **Right:** Levee Inspector and Flood Fight Methods Training Instructor Richard Willoughby of DWR's Flood Project Integrity and Inspection Branch explains the dynamics of a boil sandbag ring.

For more information about flooding in California, visit <http://www.water.ca.gov/ca-flood-preparedness>





Left to Right: Supervising Engineer Eric Butler with the Central Valley Flood Protection Board, Principal Engineer Jeremy Arrich of DWR's Central Valley Flood Planning Office, and Chair Sara Agahi of FMA's Awards Committee.

DWR Awarded Top Honor for Central Valley Flood Protection Plan

DWR and the Central Valley Flood Protection Board were presented the "Award for Excellence" for the Central Valley Flood Protection Plan during the Floodplain Management Association's 2012 Annual Conference on September 5, 2012.

The Central Valley Flood Protection Plan (CVFPP), which was required by 2008 legislation, was developed from the FloodSAFE California Initiative, launched by DWR in 2006 to address the increasing flood risks throughout

California. The CVFPP written by DWR's Division of Flood Management and reviewed by the Central Valley Flood Protection Board (Flood Board) describes a comprehensive framework for improving public safety, ecosystem conditions, and economic sustainability while recognizing the financial challenges facing local, State and federal government agencies. The Flood Board unanimously adopted the CVFPP in June of 2012.

Judges from the Floodplain Management Association praised the plan as "forward-thinking" and said it will have "multiple benefits on a broad, regional scale including flood protection and mitigation, environmental protection and enhancement, and smart fiscal management."

The association serves as an unbiased forum to advance best practices, technologies, policies, regulations, and legal and financing strategies, with a focus on California, Nevada and Hawaii. The association's members work to reduce flood damages through planning and infrastructure. ♠

A Focus on Levee Studies and Channel Projects

On July 31, the U.S. Bureau of Reclamation (Reclamation) and the Department of Water Resources issued the Final Programmatic Environmental Impact Statement/Environmental Impact Report for the San Joaquin River Restoration Program.

The document describes the direct, indirect and cumulative impacts of implementing the restoration program. It is available online at the program website at www.restoresjr.net.

Led by Reclamation, the program is a multi-agency effort to implement a court-approved settlement of a lengthy lawsuit over San Joaquin River water use. Focusing on a 153-mile portion of the river downstream from Friant Dam near Fresno, the program aims to improve flows and reintroduce self-sustaining salmon into the San Joaquin, California's second-longest river.

Much has been accomplished since the program's inception in 2006, including extensive studies of river flows and fish habitat. In 2010, the river ran continuously to the Delta, a distance greater than 330

miles, for the first time in 50 years, except during major floods.

The program is based on a court-approved Settlement agreed upon and accepted in 2006. Key program activities are designed to restore and maintain native fish populations, including salmon, to the San Joaquin River.

DWR is an implementing agency in the San Joaquin River Restoration Program, along with the Department of Fish and Game, the National Marine Fisheries Service, and the U.S. Fish and Wildlife Service.

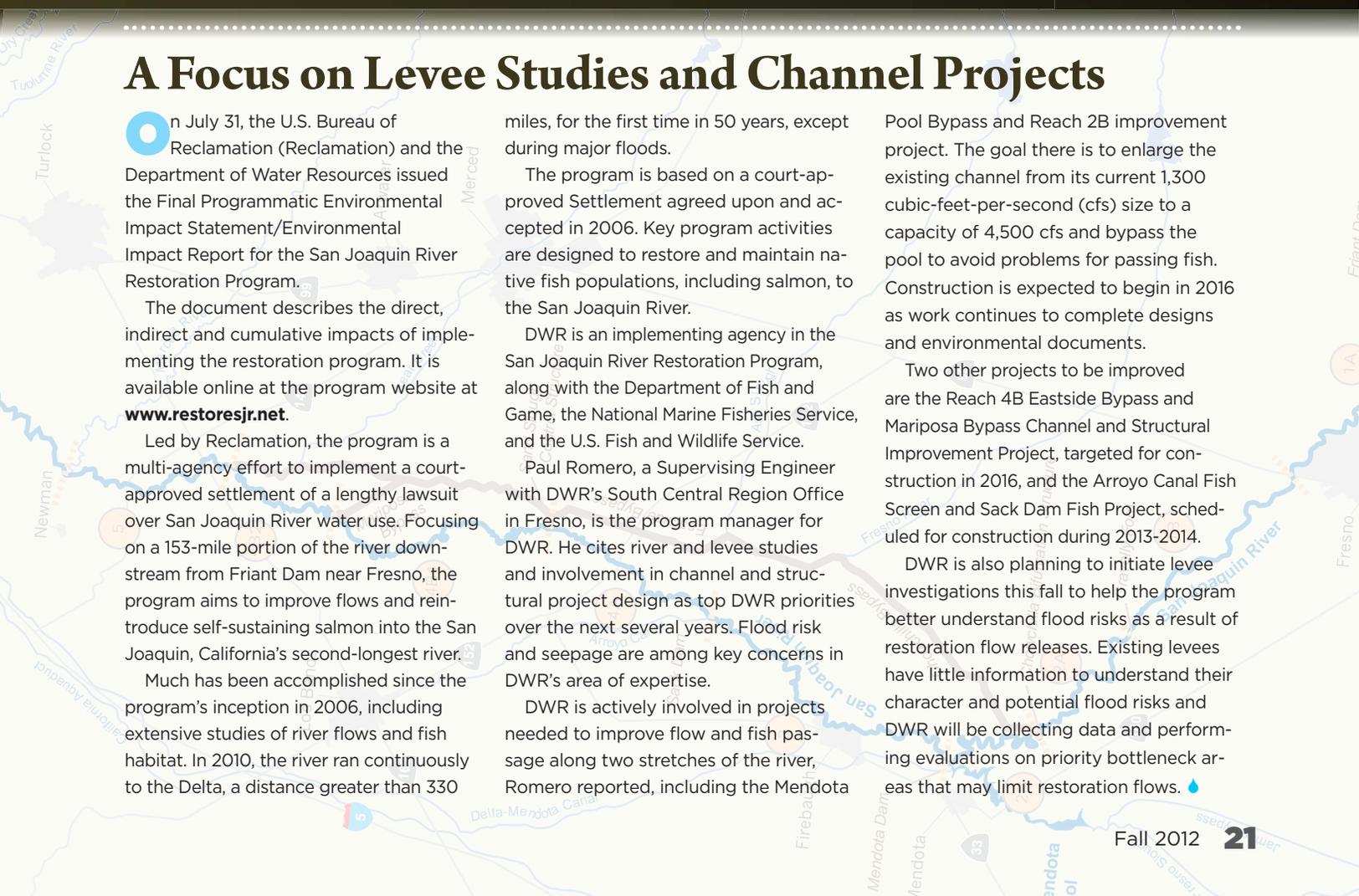
Paul Romero, a Supervising Engineer with DWR's South Central Region Office in Fresno, is the program manager for DWR. He cites river and levee studies and involvement in channel and structural project design as top DWR priorities over the next several years. Flood risk and seepage are among key concerns in DWR's area of expertise.

DWR is actively involved in projects needed to improve flow and fish passage along two stretches of the river, Romero reported, including the Mendota

Pool Bypass and Reach 2B improvement project. The goal there is to enlarge the existing channel from its current 1,300 cubic-feet-per-second (cfs) size to a capacity of 4,500 cfs and bypass the pool to avoid problems for passing fish. Construction is expected to begin in 2016 as work continues to complete designs and environmental documents.

Two other projects to be improved are the Reach 4B Eastside Bypass and Mariposa Bypass Channel and Structural Improvement Project, targeted for construction in 2016, and the Arroyo Canal Fish Screen and Sack Dam Fish Project, scheduled for construction during 2013-2014.

DWR is also planning to initiate levee investigations this fall to help the program better understand flood risks as a result of restoration flow releases. Existing levees have little information to understand their character and potential flood risks and DWR will be collecting data and performing evaluations on priority bottleneck areas that may limit restoration flows. ♠



DWR Scientist Reports No Invasive Mussels in State Water Project

By Pete Weisser

DWR continues to safeguard the State Water Project (SWP) from invasive foreign mussels. To thwart the spread of quagga and zebra mussels to the SWP, DWR employs a three-prong strategy of monitoring, scientific research and boat inspections.

At the peak of the 2012 summer boating season, the SWP remained free of invasive quagga and zebra mussels.

This encouraging update comes from scientist Tanya Veldhuizen, a key staffer for DWR's Aquatic Nuisance Species (ANS) program in the Division of Operations and Maintenance, which operates the SWP.

Quagga mussels were found in Lake Mead in January 2007. Via Colorado River water imports, quagga mussels subsequently infiltrated about 25

waterbodies in Southern California. Zebra mussels were discovered in January 2008 in an isolated reservoir in rural San Benito County. That is San Justo Reservoir, where they remain confined.

Both sets of mussels originated in Eurasia, reaching the U.S. in ocean-going vessel ballast some 20 years ago. Their expanding populations pose an expensive nuisance for water and power systems by clogging small diameter pipes and depleting aquatic food species in reservoir ecosystems.

In an August 2012 report, Veldhuizen noted that trained DWR staff continue to routinely monitor the SWP for invasive mussels. More than 800 SWP samples taken since 2007 have produced no findings of mussels.

In July 2010, DWR hired RNT Consulting, Inc., an expert mussel control firm with international experience, to consult on safeguarding the SWP. That

consultation includes detailed studies of SWP facilities, as well as cooperative research with DWR scientists on California mussel habitat, biology and control methods.

Tanya's report featured a statistical update on newly activated boat inspection programs at SWP lakes in Southern and Central California. Boat inspections are vital to prevent movement of mussels on boats being trailered from one lake to another.

At San Luis Reservoir, the inspection program operated for DWR by California State Parks made 2,800 inspections during its first six months of operation, with just 216 boats failing inspection, mostly due to water on board. At two Southern California SWP lakes, Castaic and Pyramid, a new inspection program run by the Los Angeles County Department of Parks and Recreation in a six-month period made 10,132 inspections, with 1,292 boats failing.

Gary Watts, Quagga Mussel Program Coordinator for State Parks, believes the "success rate" for boaters complying with "clean, drain and dry" practices appear to be increasing. He attributes this trend to growing expertise by inspectors and greater awareness by boaters of the mussel challenge and how they can meet it. ♦

At right, Castaic Lake Aquatics Manager Joe Walsh inspects a boat for quagga and zebra mussels.



People

New Assignments

Chief Deputy Director

Dale Hoffman-Floerke, who brings 35 years of expertise in fishery and water quality studies along with 23 years in management, was appointed in July of 2012 as DWR's Chief Deputy Director by Governor Brown.

"I am truly honored to be given this management opportunity in the Department. I look forward to this next stage in my career," said Dale. "As Chief Deputy Director, I have an opportunity to use my experience to further water management in California. I am proud to serve in this capacity alongside the dedicated, professional staff in the Department."

In her new assignment, Dale assists Director Mark Cowin in overseeing the supervision and management of DWR and in developing and implementing policy for the protection, conservation, and management of the state's water supply.

"Many of you have worked with Dale

over the years, and know that her expertise, insight, and integrity will be a great asset as we move forward to address critical challenges on the State Water Project, the Delta, environmental and ecosystem protection, climate change impacts, and other issues," said DWR Director Mark Cowin. "She will also be a strong and effective leader in working with DWR management and programs on administrative and organizational issues."

Dale has served as Acting Deputy Director for Delta and Statewide Water Management since 2010. Dale has worked in various DWR assignments since 1980, including as Chief for the Division of Environmental Services, Chief for the Colorado River and Salton Sea Office, Chief of the Environmental Compliance and Evaluation Branch, Recreation and Wildlife Resources Advisor, and Senior Environmental Scientist.

Before her 11 years at San Joaquin District (now called the South Central Region Office) as an Environmental Specialist, Dale's first DWR assignment was as a Student Assistant in 1977 for the Water Quality Section of the Division of Operations and Maintenance. As one of her assignments, Dale spent three weeks in a boat on the California Aqueduct monitoring the entire length of the San Joaquin Field Division.

A graduate of Humboldt State University with a Bachelor of Science degree in Fisheries Biology and a native of San Francisco, Dale lives in Davis with her husband Rob. She enjoys doing anything outdoors, including hiking, fishing, and traveling. ♦



Delta Field Division Chief

As the new chief of Delta Field Division since March 2012, Joel Ledesma leads staff in covering the needs of five pumping plants, four reservoirs, four dams, two major environmental protection projects, and 115.6 miles of three aqueducts.

Joel, who has more than 21 years of State Water Project (SWP) experience, began his DWR career in 1987 as a Student Assistant with the Division of Operations and Maintenance (O&M). After graduating in 1990 from California State University, Sacramento with a Bachelor of Science degree in Electrical and Electronic Engineering with a concentration in Power, Joel was hired by O&M's Operations Control Office (OCO) as an Electrical Engineer. He later worked for the Project Operations Center's (POC) Engineering Section and

O&M's Control Systems Branch, where he supported the POC and field divisions.

As Chief of the SWP Energy Management Systems Branch (EMS) of the OCO for five years, Joel provided technical and professional support to the SWP. Some of his projects included the Joint Operations Center's move, the initial SWP startup with the California Independent System Operator Corporation (ISO), Business 2000- Phase 2B, and Market Redesign Technical Upgrade (MRTU) project to comply with all regulatory and energy market requirements mandated by the Federal Energy Regulatory Commission and ISO.

In 2008, Joel became Chief of the Systems Support Office managing the branches of the Control System,

EMS, Communication, and Contracts Reporting and Administration. He also led the SWP in implementing the Cyber Infrastructure Protection (CIP) - Program.

"What I like about the Department is that there are many challenges that are industry wide, so it allows us to keep up with what is going on in the industry," said Joel. "What I do here is done at PG&E, Southern California Edison, and several water utilities."

A resident of Sacramento and an avid soccer player, Joel enjoys being the coach of his two sons' soccer teams. ♦



2011 Training Office Awards

By Sean Walsh

DWR's Governance Board devoted part of its June 4, 2012 meeting to acknowledge 11 DWR employees for their contribution to the Department's training program.

Kathie Kishaba, Deputy Director for Business Operations and Governance Board Chair, presented the 2011 Training Office Awards. The Training Team of the Year award was presented to five of the eight volunteer trainers who generously gave their time, effort, and dedication to update materials and instruct the "Introduction to Purchasing" course.

Their support of this class has ensured that Department employees have the necessary

knowledge and skills to apply the proper procurement strategies when acquiring equipment and materials to support ongoing Department operations. Sharmane Daniels was individually recognized as the Lead Coordinator of this team.

Laura White of the Division of Environmental Services (DES) was presented the "Training Coordinator of the Year" award in recognition of her outstanding work as the DES' Training Coordinator. Her diligence in tracking DES employees' training and her proactive work with the Training Office helped to ensure DES' organizational needs were met. Her efforts to schedule "Workplace Safety" training helped DES employees to be in compliance with DWR's Training Goals and Objectives. By her timely, complete, and accurate submittals of Training History Updates to the Training Office, Laura's efforts ensured DES employee's training histories remain valid and current.

Two other employees were also recognized for their special individual contributions to the DWR Training Office in 2011.

Karen Cole-Ainley of the Division of Technology

Services was presented the "Superior Technical Support" award in recognition and appreciation for the excellent technical support she provided the Training Office with the SAP Training and Events Module.

Thanks to her expertise and hard work, DWR now has access to validated reports to track attendance for the Supervisory Training Program and other mandated training. Karen has also been instrumental in the effort to improve SAP functionality by automatically enrolling the next person on the wait list when class openings occur. This will be of great benefit to our Training coordinators and much more equitable for potential attendees.

Karen Parr of the Office of Workforce Equality was presented the "Superior Training Accomplishment" award in recognition and appreciation of her work to provide the Mandated Preventing Sexual Harassment Refresher training to DWR's managers, supervisors, and confidential employees. Due to her efforts, to date over 1,500 employees have received this training via the highly interactive on-line training program. The Training Office appreciates the collaborative way in which Karen works with them and for serving as a valuable resource not only for this course, but for other courses provided by the Office of Workforce Equality. *No photo is available of Karen.*



Left to Right (Above) Karen Cole-Ainley and Laura White
(Below) Kathie Kishaba, Mike Bingaman, Vicki Camp, Sharmane Daniels, Derek Yagi, and Elizabeth Ware
(Not in photo) Guy Gagot, Paul Mensch, and Daniel McConnell

2011 Volunteer Trainers and Presenters

The Training Office would like to acknowledge the nearly 200 volunteer trainers and presenters who supported DWR's training program in the past year. Because they served as class instructors or made presentations as part of a class, in addition to their

regular responsibilities, we are truly fortunate to have such dedicated individuals who are willing to put in the extra time and effort to share their knowledge and expertise. We thank them for their commitment to employee training and development.

Derrick Adachi	Sean DeGuzman	Kathy Kelly	Steve Nemeth	
Mary Akens	Wendi Dodgin	Spencer Kenner	Perla Netto-Brown	Jane Schafer-Kramer
Kathy Aldana	Jennifer Dong-Kawate	Laurence Kerckoff	Holly Nichols	Mary Jo Schall
Jamie Anderson	John Engstrom	John King	Bob Nozuka	Kasey Schimke
Michael Anderson	Teresa Engstrom	Kathie Kishaba	Teresa Oakley	Michelle Selmon
John Andrew	Tasmin Eusuff	Jeanne Kuttel	Kim Oliphint	Geoff Shaw
Arlene Bailey	Sonny Fong	Mark Lambert	John Pacheco	Sue Sims
Gary Bardini	Ted Frink	Paula Landis	Victor Pacheco	Brian Smith
Rob Barry	Guy Gagot	Bob Lanini	Mark Pagenkopp	Mary Smith
Ron Bass	Myra Galvez	Curtis Lannom	David Parker	Erick Soderlund
Terry Becker	Cheryl Garrett	Jeannie Lee-Jones	Karen Parr	Harry Spanglet
Tom Beiler	Tim Garza	Jeanne Lee	Jim Pearson	Katy Spanos
Mike Bingaman	Dennis Gastinell	Richard Lee	Bob Pierotti	Jim Spence
Lauren Bisnett	Teresa Geimer	Boone Lek	Andy Pollak	Pierre Stephens
Kora Bitcon	Danielle Gist	Latrice Leslie	Rudy Portis	Ward Tabor
Chris Bonds	Frank Glick	Leiji Liu	Jay Punia	Selwyn Thomas
Daniel Boulant	Gretchen Goettl	Ignacio Lopez-Alvarez	Nancy Quan	Ted Thomas
Joe Burke	Neil Gould	Rick Louie	Gurdip Rehal	Allen Thompson
Rick Burnett	Ruppert Grauberger	Elissa Lynn	Chuck Reilly	Aileen Tokunaga
Vicki Camp	Kamyar Guivetchi	Andy Mangney	Andy Reising	Lisa Toms
Lisa Carter	MD Haque	Lorraine Marsh	Michelle Ridgeway	Craig Trombly
Lily Cervantes	Gerri Higgs	Scott Martin	Andrea Riley	Jim Veres
Teresa Chaney	Norm Hill	Daniel McConnell	Dave Rizzardo	Nancy Walker
Terese Chaney	Art Hinojosa	Angie Mejia	Robin Rodriguez	Megan Walton
Andy Chu	Mark Holderman	Paul Mendoza	Paul Romero	Elizabeth Ware
Francis Chung	Eric Hong	Paul Mensch	Maury Roos	Matthew Warnick
John Clements	Gina House	Ed Mentz	Valerie Royo	Robert Whaley
Nova Clemenza	Scott Hunt	Dean Messer	Mitch Russo	Molly White
Binta Coleman	Jennifer Iida	Mutaz Mihyar	Ahmad Sadighi	Nikki Wilson
Rob Cooke	Jeff Ingles	Aaron Miller	Dave Samson	John Wilusz
Mark Cowin	Amanda Jack	Nancy Miller	Raymond Sanchez	Mike Wofford
Barbara Cross	Rich Jerue	Scott Morgan	Vera Sandronsky	Gil Wong
Cathy Crothers	Christina Jimenez	Michelle Morrow	Rita Sanko	Derek Yagi
Lisa Crothers	Lauma Jurkevics	Ron Mountjoy		Dan Yamanaka
Bill Croyle	Dave Kearney	Cale Nasca		Tio Zasso
Donna Cruz				
John Curless				
Sharmane Daniels				

New Hires

Brenda Albert

Engineering
Construction Supervisor III

Darren Becker

Executive
Office Technician (Typing)

Kevin Brown

Flood Management
Senior Engineering Geologist

Christopher Bucknor

Operations and Maintenance
Materials and Stores Specialist

Teresa Butler

Engineering
Engineering Geologist

Regidor Cadiz

Technology Services
Systems Software Specialist II

Julianna Clark

Environmental Services
Environmental Scientist

David Conley

Operations and Maintenance
Associate Information Systems Analyst

Sabrina Cook

Statewide Integrated Water
Management
Environmental Scientist

Carl Costas

Public Affairs Office
Senior Photographer

Ruth Darling

Flood Management
Environmental Scientist

Edward Davis

Operations and Maintenance
Utility Craftsworker

Matthew De Clercq

Operations and Maintenance
Utility Craftsworker

Geeta Devi

Fiscal Services
Accountant Trainee

Gavin Dillon

Environmental Services
Senior Environmental Scientist

John Egan

Operations and Maintenance
Heavy Equipment Mechanic

Siran Erysian

Integrated Regional Water Management
Research Analyst II (GIS)

Ricky Evans

Operations and Maintenance
Utility Craftsworker

Gregory Garner

Engineering
Right of Way Agent

New Hires

Joaquin Garza
Integrated Regional Water Management
Junior Engineering Technician

Dennis Gatchalian
Engineering
Engineer

Mahesh Gautam
Flood Management
Engineer

Erik Goodman
State Water Project Analysis Office
Engineer

Jasmine Guerrero
Business Services Office
Staff Services Analyst

Suzanne Khayat
Flood Management
Associate Governmental Program Analyst

Gaurav Kwatra
Bay-Delta Office
Assistant Information Systems Analyst

Roderick Lapurga
Operations and Maintenance
Associate Telecommunications Engineer

David Le
Fiscal Services
Staff Services Analyst

Norman Lee
Operations and Maintenance
Engineer

Theresa Lee
Fiscal Services
Associate Accounting Analyst

Kathryn Legro
SWP Power and Risk Office
Associate Hydroelectric Power Utility
Engineer

William Leonard
Operations and Maintenance
Heavy Equipment Mechanic

Erik Loboschefskey
Environmental Services
Engineer

Jose Lopez
Operations and Maintenance
Heavy Equipment Mechanic

Florence Low
Public Affairs Office
Senior Photographer

Mei Lui
Bay-Delta Office
Engineer

Ovsep Muradyan
State Water Project Analysis Office
Engineer

Jagadish Nagendra
Operations and Maintenance
Senior Control Engineer (Supv.)



By
Jennifer
Lida

a Snapshot of the New Photography & Audio-Visual Unit

Pictures say a thousand words, especially when they involve before and after snapshots. During the past year, we've captured just that—a dramatic transformation of DWR's Photography Unit.

Along with moving into their remodeled location on the fourth floor of the Resources Building in Sacramento, the Photography Unit, which is part of the Public Affairs Office's Graphics Services Branch, now consists of four photographers, two audio-visual staff, audio-visual equipment with video library, an updated studio with new backgrounds and lighting, and an online digital library that will launch near the end of this year.

"While change in large quantities can be a recipe for upset, the Department has already greatly benefitted from these changes with new staff to cover the Department's photographic needs statewide; updated

Left to Right (Front) DWR Photography Unit staff include Alan Arroyo and Will Murray of the Audio Visual Unit and Carl Costas (center). (Back) Paul Hames, Mike Miller, Veronica Pace, John Chacon, and Florence Low.

camera gear and software to capture and process images; and a remodeled and more efficient office space," said Mike J. Miller, Chief of the Photography Unit.

New Digital Age

With more than 35,000 digital images being processed, including some dating back to the 1950s, most of DWR's photography will soon be available online.

"It's the evolution of the photo lab into the current day and age of electronic imagery," said Miller. "Making images more available in better ways for the world."

This new digital conversion is a state-of-the-art host site for displaying and tracking DWR photos by offering up a smoother client and server environment. Anyone

requesting photos will have the ability to download files in a variety of resolutions. Find photos you like, click on the agreement of terms, then download. The user friendly website will be quick and efficient while showcasing highlights of DWR's mission.

"It's great to see this evolve. This new organization will help fulfill photo requests from folks across the states and around the world," said Senior Photographer Paul Hames, who has worked for DWR for 15 years.

The Team

As the newest members of the Photography Unit, Carl Costas and Florence Low, both former *Sacramento Bee* photographers, have worked in the photography field for a total of 28 years.

"Every image I make has a thread of those early years running through it," said Costas.

Florence Low has also traveled around the world capturing the likenesses of amazing people and witnessing heart-wrenching moments for news publications.

"Photography inspires me to be creative and to seek the beauty that surrounds us," said Low.

The team would not be completed without newly-hired Office Technician Veronica Pace and seasoned DWR photographer John Chacon, who has been instrumental in organizing the new unit.

Creative juices have continued to flow throughout the recent changes. Miller's twenty-one years of DWR graphic design experience has enhanced the team's vision since his move to management in 2010. "I've enjoyed moving from design to management, helping to facilitate photographic and audio visual professionals to do what they are passionate about," said Miller. 💧

Our Services:

Photo Lab

- Ground and aerial photos
- Studio and on-location photography
- Photo research
- Custom color and B&W photo reproduction
- Digital scanning and retouching
- Matting and Framing

Audio-Visual

- Recording of presentations and public hearings statewide
- Loans out equipment (projectors, screens, digital cameras, DVD players, monitors)
- Video and audio duplication
- Maintains video library of DWR programs and activities from 1950s to the present



(Top to Bottom) Photographer Paul Hames taking aerials. Photographers John Chacon and Carl Costas (right) prepare new studio backgrounds. Photographer John Chacon photographing Sherman Island.



New Hires

Veronica Pace

Public Affairs Office
Office Technician (Typing)

Robert Reis

Operations and Maintenance
Senior Corrosion Engineer

Andrew Rogers

Flood Management
Environmental Scientist

Elena Romano

Human Resources Office
Labor Relations Specialist

Robert Ross

Operations and Maintenance
Associate Governmental Program Analyst

Matthew Ruble

Engineering
Engineer

Jack Saare

Flood Management
Utility Craftsworker

Juli Sawaya

Flood Management
Office Technician (Typing)

Sonya Sims

Fiscal Services
Office Technician (Typing)

David Smith

Engineering
Right of Way Agent

William Soszka

Operations and Maintenance
Associate Information Systems Analyst

Nakithia Thomas

Fiscal Services
Accountant Trainee

Cynthia Weber

Integrated Regional Water Management
Office Technician (Typing)

Jeffrey Woled

Statewide Integrated Water Management
Research Writer

Zachary Wright

Flood Management
Engineer

Wendy Yang

Human Resources Office
Personnel Specialist

Promotions

Anthony Agustin

Operations and Maintenance
Senior Hydroelectric Power Utility Engineer

Russell Allenbaugh

Operations and Maintenance
Senior Control Engineer (Supervisor)

To learn more about the Photography Unit, visit them in Room 430 or their website at <http://www.water.ca.gov/newsroom/photolab.cfm>

Retirements

Lawyer Bob James Retires at 90 Ending 63-Year State Career

Bob James retired on October 30, 2012, ending a 63-year State career and 50 years with DWR.

Earl Warren was California's governor when Bob entered state service in 1949. Born in Alameda on July 5, 1922, Bob is 90, but looks 15 years younger.

Slender, courtly and soft-spoken, James has been a respected figure in DWR legal affairs since he joined the Department in 1962.

He worked with key leaders who advocated and developed the State Water Project, including Governor Edmund G. (Pat) Brown and then-DWR Director William Warne (Director from 1961-1967) and his successors. Including two Interim Directors (Howard Eastin in 1983 and Michael J. Speer in 2003), James served under a total of 11 DWR directors. He missed only one, Harvey O. Banks, DWR's first. Banks' directorship ended in 1961, the year before James joined DWR.

"We've been very lucky at DWR to have had a series of excellent, talented directors, especially in the early decades, who successfully planned, built and operated the State Water Project," said James. During a long and distinguished legal career, Bob dealt with many water issues, helped settle a 1972 strike by DWR workers and became a top policy adviser to DWR Directors, including William Gianelli (1967-1973), Ron Robie (1975-1983) and David N. Kennedy (1983-1998).

Working with Gianelli, Bob was instrumental in ending a brief strike by DWR hydroelectric workers in 1972.

Under Director Robie, Bob served as Deputy Director for the SWP from 1975-1983. Robie, a lawyer and Legislative water policy expert, introduced a strong

conservation component into DWR management, reflecting increasing environmental legal constraints on water development. Robie in 1980 achieved Legislative passage of Senate Bill 200 (by State Senator Ruben Ayala) authorizing a Peripheral Canal. Governor Edmund G. (Jerry) Brown, Jr., signed the bill into law but it was overturned by a 1982 referendum.



James was an advisor, also, to the late David N. Kennedy, whose 15 years as director gave him the longest tenure as director. James capped his DWR career by serving as the Department's Chief Counsel in 1986-1988. Though he retired in 1988, James quickly returned to active duty in the legal office as a retired annuitant. He terminated that status with his "second and final retirement" in October 2012.

Asked about the unusual length of his career, James explained: "I liked my work and I just kept going." He enjoys good health which he attributes to good habits and lots of exercise in his Carmichael garden.

The Department and California's water environment have changed over the decades, James reflects. "Environmental constraints on water development are much stronger today. At best, the review process is very long. You'd have a hard time building an Oroville Dam today, as compared to the 1960s."

James also believes that DWR is, understandably, not as "aggressive" on water developments in an age when consensus is a dominant value among water managers.

Reared in the Bay Area, Bob attended Fremont High School in Oakland. In 1940, he enrolled at the University of California at Berkeley, studying Economics. World War II interrupted his college studies. James served in an Infantry unit in North Africa and Italy. After the war, James completed his studies at UC, graduating in 1946. He attended Boalt Hall Law School on the G.I. Bill, earning his law degree in 1949.

Following brief stints with the Department of Employment's Unemployment Insurance Appeals Board and the Franchise Tax Board, James moved into the realm of water law, joining the Reclamation Board staff. The board set flood policy for California's Central Valley. He worked on flood-related water law issues for the board for a decade before moving over to DWR in 1962.

Bob's retirement plans include lots of gardening and home-related activities with Barbara, his wife of 50 years.

Deborah Condon

From working at the Berlin Film Festival to hiking Camino de Santiago de Compostela in Spain, Deborah Condon, an Environmental Program Manager, has many adventurous retirement plans awaiting her after dedicating a quarter of century of environmental expertise to DWR.

Deborah, a New Jersey native, began her 25 years with DWR in 1987 as a Graduate Student Assistant with the Central District. She participated in fisheries, salinity, and benthic field studies. During her career, she worked in the Divisions of Operations and Maintenance and Flood Management as an Environmental Scientist. Her favorite projects included, writing Bulletin 132-Appendix E, being State Project Manager for the federal Sacramento River Bank Protection Project, and working on the Central Valley Flood Protection Plan.

Of all of her projects, she highlights Flood Management's Levee Repairs Program as her most rewarding.

"As chief of the environmental support section, I worked with an integrated team of engineers, geologists, attorneys, construction inspectors, and landscape architects, as well as a dedicated environmental staff," said Deborah.

"We were able to complete more than 100 levee repairs in a remarkably short time. We accomplished these using



creative solutions that both benefited sensitive species and expedited progress."

Along with traveling around the world, Deborah is also looking forward to gardening, restoring her 107-year old home, and competing in her friendly neighborhood limoncello challenge - which she whips up with fresh lemons from her old lemon tree.

David Watson

For more than 15 years, David Watson served as a Hydroelectric Plant Mechanic at the Pearblossom, Devil Canyon and Mojave Siphon Powerplants at DWR's Southern Field Division before retiring in May of 2012.

With most of his time at Mojave Siphon Powerplant, David was responsible for the upkeep and repairs to pumps, generators, gates and other intricate elements of the powerplants.

"I also worked on the California Aqueduct, taking care of gates and gear boxes," said David.

The San Bernardino native also highlights his involvement in containing the 2003 Southern California wildfires as one the most significant accomplishments in his DWR career.

"I received a letter of recognition for responding in a time of emergency during the Devil Canyon and Mojave Siphon Powerplant wildfires," said David.

While David's DWR career has come to a close, he plans to continue spending his days near the water - casting and reeling. "Fishing, fishing, and more fishing is how I plan to spend retirement," he said.



Promotions

Alan Arroyo
Public Affairs Office
Audio-Visual Equipment Technician

Sheilah Azvedo
Fiscal Services
Accounting Officer

Nirmala Benin
Statewide Integrated Water Management
Senior Engineer

Jesse Bishop Sr.
Technology Services
Systems Software Specialist III

Robert Black
Engineering
Senior Engineer

Ann Bradell
Business Services Office
Associate Governmental Program Analyst

Anthony Brooks
Operations and Maintenance
Utility Craftsworker Supervisor

Denny Brown
Engineering
Supervising Engineer

Karin Brown
Operations and Maintenance
Associate Governmental Program Analyst

Travis Brown
Environmental Services
Environmental Scientist

Michelle Bull
Business Services Office
Office Technician (Typing)

Teresa Chaney
Public Affairs Office
Staff Services Manager II (Supv.)

Samantha Cherry
Business Services Office
Staff Services Analyst

Jessica Chin
Technology Services
Data Processing Manager II

Darren Choyce
San Joaquin Field Division
Hydroelectric Plant Operations
Superintendent

Nova Clemenza
State Water Project Analysis Office
Senior Engineer

Jamie Cole
Executive
Staff Services Manager I

Sean Crame
Executive
Office Technician (Typing)

Craig Cross
Integrated Regional Water Management
Program Manager I

Promotions

Aaron Cuthbertson
Statewide Integrated Regional Water Management
Engineering Geologist

Asit Dani
Technology Services
Senior Programmer Analyst

Matthew Darling
San Luis Field Division
Hydroelectric Plant Mechanic I

Jared Davis
Flood Management
Service Assistant

Mark Dobbs
San Joaquin Field Division
Hydroelectric Plant Electrician II

Douglas Ellis
Safety of Dams
Senior Engineering Geologist

Dana Fernandez
Technology Services
Senior Programmer Analyst

Ramoncito Firmeza
Fiscal Services
Accounting Officer

Sarah Fredericks
Environmental Services
Environmental Scientist

Sergio Fuentes
Engineering
Associate Cost Estimator

Guynel Gagot
Business Services Office
Business Service Assistant

Terri Gaines
FloodSAFE Environmental Stewardship and Statewide Resources Office
Program Manager II

Cheryl Garrett
Business Services Office
Associate Governmental Program Analyst

Steven Giambone
Fiscal Services
Associate Governmental Program Analyst

Viola Gilbert
Engineering
Office Services Supervisor I (Typing)

Brian Hamman
Operations and Maintenance
Office Technician (Typing)

Angela Harris
Business Services Office
Business Service Officer I (Supv.)

Greg Harvey
Flood Management
Engineer

Phu Hoang
Fiscal Services
Associate Governmental Program Analyst

Yen-Hsi Deng

From bridges to hydraulic structures, Yen-Hsi Deng ends his more than 23 years of State service leaving a legacy of projects.

“As the design engineer designing the more than 100-foot tall South Connector of the State Route 5/14 intersection in Los Angeles County after the Northridge earthquake, I was rewarded to work on this project, which was the first of this concept and material used,” said Yen-Hsi, who worked 17 years for Caltrans. “As the structural coordinator for a statewide retrofit sound wall program, I also coordinated teams in completion of 14 bridge-widening projects in Los Angeles County.”

While with Caltrans since 1989, Yen-Hsi led a team in planning, project delivery and construction of bridge projects in Districts 7, 11, and 12.

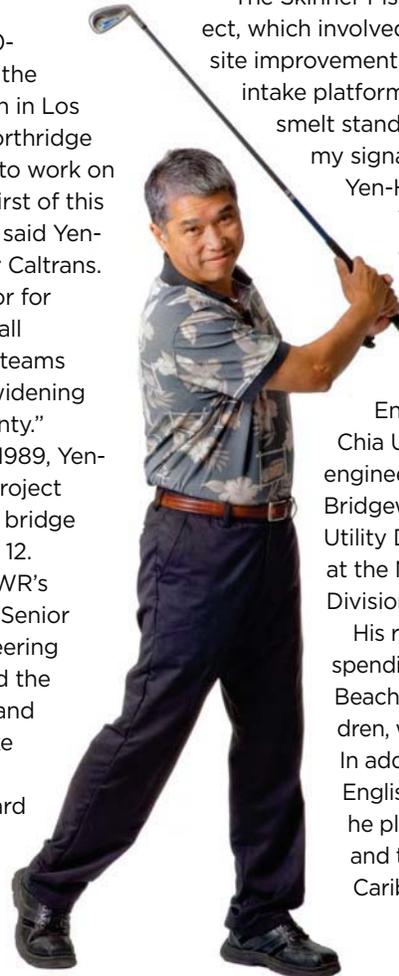
In 2006, Yen-Hsi joined DWR’s Division of Engineering as a Senior Engineer in the Delta Engineering Branch. His projects included the Delta Habitat Conservation and Conveyance Program’s intake structure study, the installation of 10 Delta smelt standard screens for DWR-owned siphons at Sherman and Twitchell Islands, bridge replacement of the South

Bay Canal Modification project, permanent barriers of the South Delta Improvement Program, and the San Joaquin Field Division Facility modifications.

“The Skinner Fish Science Building project, which involved the design of buildings, site improvement features, and a water intake platform structure with Delta smelt standard fish screens, was my signature DWR project,” said Yen-Hsi.

Yen-Hsi has a Master of Science degree in Civil Engineering from Rutgers and a Bachelor of Science degree in Civil Engineering from Feng-Chia University, Taiwan. His engineering career began at the Bridgewater Township Sewer Utility Department and later at the New Jersey Transit Rail Division.

His retirement plans include spending more time in Long Beach with his twin grandchildren, who were born in July. In addition to improving his English and learning Spanish, he plans to golf, exercise, and travel to Europe, the Caribbean, China, and Mexico.



Promotions

Steven Hoang
Fiscal Services
Accounting Officer

Marc Hoshovsky
FloodSAFE Environmental Stewardship and Statewide Resources Office
Program Manager III

Jeffrey House
Operations and Maintenance
Hydroelectric Plant Electrical Supervisor

Kaylie Humbert
Integrated Regional Water Management
Junior Engineering Technician

Kimberly Johnston-Dodds
Executive
C.E.A.

John Keller
Engineering
Supervisor of Equipment and Materials Inspection

Laurence Kerckhoff
Executive
Attorney IV

Maksim Khashchuk
Flood Management
Engineer

Nita Khushal
Business Services Office
Associate Governmental Program Analyst

Katharine Killeen
Executive
Attorney IV



CONGRATULATIONS

... to DWR’s Newest Parent: Ally Wu, an Engineer with the Division of Flood Management’s Flood System Analysis Section, has a son named Brysen Karl, who was born on July 29, 2012 weighing 5 pounds, 2.2 ounces and measuring 16.5 inches long.

Mark Lambert

Through the use of images, script and sound, Mark Lambert has creatively told DWR's multi-faceted story in a shelf of films and videos covering a span of more than 35 years.

Mark, who retired in September as Lead Person of DWR's Film and Video Unit, stacked up more than 30 national and regional awards for films and videos produced for DWR and other departments or agencies, such as Forestry and Fire Protection, Fish and Game, Parks and Recreation, Education, Corrections, Boating and Waterways, Health Services, Regional Transit, Developmental Services, Conservation, Conservation Corps, the Association of California Water Agencies, and the Governor's Office.

Stating that "we're only as good as our last film," Mark was instrumental in his unit's transition to professional video production in 1990, and recently to high definition video.

"Mark said farewell to DWR with a remarkable film-making track record," said Teresa Chaney, Chief of Graphic Services.

Mark began visiting DWR's Graphic Services Branch while still a student film-maker at Sacramento State in the mid-70's. After graduating with honors in Instructional Media and Communications Studies, Mark was hired as a Graduate Student Assistant by Clay Dudley, founding Chief of Graphic Services.

DWR wanted to keep Mark around, so the department hired him as a full-time producer/director in 1980. He later became Director of the Television Communication Center.

"DWR had the best 16-millimeter motion picture facility in Northern California," said Mark. "That's why, in 1975, I chose DWR's Graphic Services Branch film unit as my career path." Mark is embarking on his new script-to-screen production company. 💧



Promotions

John King

Operations and Maintenance
Hydroelectric Plant Electrical Supervisor

Lisa Larsen

Operations and Maintenance
Staff Services Manager I

Ignacio Lopez-Alvarez

Operations and Maintenance
Supervising Hydroelectric Power Utility Engineer

John Martinez

Human Resources Office
Associate Governmental Program Analyst

Michael Mathews

San Joaquin Field Division
Hydroelectric Plant Electrical Supervisor

James McCabe

Flood Management
Utility Craftsworker

Jeremiah McNeil

State Water Project Analysis Office
Supervising Engineer

Josue Medina

San Joaquin Field Division
Hydroelectric Plant Operator

Lori Miles

Integrated Regional Water Management
Business Service Assistant

Megan Minnich

Engineering
Associate Governmental Program Analyst

Mehdi Mizani

State Water Project Analysis Office
Engineer

William Murray

Public Affairs Office
Audio-Visual Equipment Technician

Deborah Myrum

Statewide Integrated Water Management
Staff Services Manager I

Anish Nand

Operations and Maintenance
Associate Hydroelectric Power Utility Engineer

Thu Nguyen

Fiscal Services
Accounting Officer

Anicia Orense

Fiscal Services
Senior Accounting Officer

Irma Peralez

Human Resources Office
Associate Personnel Analyst

Kenneth Pergeson

San Joaquin Field Division
Utility Craftsworker

Alexis Phillips-Dowell

Integrated Regional Water Management
Senior Engineer

Michael Preiss

Operations and Maintenance
Associate Hydroelectric Power Utility Engineer

Mitchell Pryor

Business Services Office
Business Service Officer II (Supv.)

Gregory Rowe

State Water Project Power and Risk
Associate Hydroelectric Power Utility Engineer

Julie Saare-Edmonds

Statewide Integrated Water Management
Staff Land and Water Use Scientist

David Sale

Engineering
Construction Supv. III

Phillip Sanchez

Business Services Office
Staff Information Systems Analyst

Sophia Saucedo

Engineering
Office Technician (Typing)

Jennifer Segur

Public Affairs Office
Graphic Designer III

Gholam Shakouri

Statewide Integrated Water Management
Staff Land and Water Use Scientist

Jagdeep Sidhu

State Water Project Analysis Office
Engineer

Candice Simpson

State Water Project Analysis Office
Associate Governmental Program Analyst

Linda Sinnwell

Public Affairs Office
Exhibit Designer/Coordinator

Linda Solomon

Oroville Field Division
Hydroelectric Plant Operations Superintendent

Adam St. Clair

Fiscal Services
Associate Governmental Program Analyst

Jonathan Stahlke

Southern Field Division
Hydroelectric Plant Electrician II

Alicia Tay

State Water Project Analysis Office
Senior Engineer

Karen Tolentino

FloodSAFE Environmental Stewardship and Statewide Resources Office
Engineer

Omid Torabian

Fiscal Services
Accounting Officer

Promotions

- Garrett Townsend**
Flood Management
Service Assistant
- Melissa Mengping Tsou**
Fiscal Services
Accounting Officer
- Stephanie Varrelman**
Executive
Staff Services Manager II (Managerial)
- Matthew Warnick**
Human Resources Office
Associate Governmental Program Analyst
- James Williams**
San Joaquin Field Division
Hydroelectric Plant Electrical Supervisor
- Shuklan Wong**
Fiscal Services
Senior Accounting Officer (Supervisor)
- Pavel Zakusilo**
Flood Management
Engineer

Retirements

- Rashid Ahmad**
Engineering
Supervising Engineer
- Ivan Ainslie**
San Luis Field Division
Hydroelectric Plant Electrician I
- Anthony Borelli**
Human Resources Office
Training Officer I
- John Gibson**
State Water Project Analysis Office
Staff Environmental Scientist
- William Gordon II**
Delta Field Division
Utility Craftworker
- Wendy Halverson-Martin**
Executive
Program Manager III
- Stephen Hogan**
San Luis Field Division
Utility Craftworker
- Alice Jones**
Southern Field Division
Hydroelectric Plant Electrician I
- Charles Kratzer**
Integrated Regional Water Management
Senior Engineer
- Richard Lackie**
Engineering
Mechanical Construction Supervisor II
- Hiren Majumdar**
Engineering
Engineer
- Jerry Mays**
San Joaquin Field Division
Utility Craftworker Supervisor

Retirements

- Robert Niblack**
Integrated Regional Water Management
Senior Engineering Geologist
- Merritt Rice**
Flood Management
Supervising Engineer
- Forrest Smith**
San Luis Field Division
Senior Land Surveyor
- Trude Smith**
Engineering
Associate Land Agent
- Richard Stewart**
San Luis Field Division
Utility Craftworker
- Michael Talley**
Delta Field Division
Utility Craftworker
- Aileen Tokunaga**
Executive
Staff Services Manager II (Managerial)
- David Watson**
Southern Field Division
Hydroelectric Plant Mechanic I

In Memoriam

Jack Jacobi Coe, Retired District Engineer of Southern District, passed away at the age of 88 on June 3, 2012. During his 37 years of State service, he was District Chief (now called Southern Region Office Chief) from 1974 until his retirement from DWR in 1985. After his retirement, he was a Consulting Engineer at Boyle Engineering in Newport Beach until 2003.



A native of San Francisco, Jack graduated from the University of Oklahoma with a Civil Engineering degree and the University of Southern California (USC) with a PH.D. in Environmental Engineering. He later taught at the engineering departments of Cal Poly Pomona and USC. Jack was also president of the Los Angeles Section of the American Society of Civil Engineers.

Preceded in death by his wife of 60 years, Marilyn and son Cary, Jack is survived by 3 children, 7 grandchildren and 3 great-grandchildren, and a brother.
Photo courtesy of the Los Angeles Regional Water Quality Control Board

Twenty-Five Years of Service



Dee Alstatt
Southern Field Division
Senior Hydroelectric Plant
Operator
October 2012



Teodoro Alvarez
State Water Project Analysis
Office
Supervising Engineer
November 2012



Richard Draeger
Safety of Dams
Senior Engineer
July 2012



Sheree Edwards
Operations and Maintenance
Supervising Engineer
October 2012



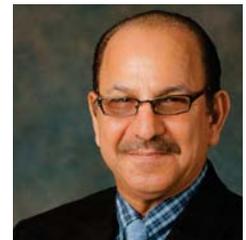
Gordon Enas
Engineering
Principal Engineer
October 2012



Coe Hall
Operations and Maintenance
Principal Hydroelectric Power
Utility Engineer
July 2012



James Herota
Central Valley Flood
Protection Board
Staff Environmental Scientist
July 2012



Hamid Kharazi
Operations and Maintenance
Senior Hydroelectric Power Utility
Engineer (Supervisor)
October 2012



Geoffrey L. Dyer, retired Senior Operator from San Luis Field Division, passed away at the age of 68 on July 6, 2012 at his home in Dayton, Oregon.

Geoffrey began his 14 years with DWR in the Apprentice Program, then he worked at the Joint Operations Center in Sacramento. With San Luis Field Division, he worked mainly at Gianelli Pumping-Generating Plant until his retirement in December of 2004.

Before joining DWR, he served in the U.S. Air Force for more than 20 years. As part of the 2002 Winter Olympics Torch Relay to opening ceremony in Salt Lake City, Geoffrey was selected to carry the torch through the town of Larkspur, north of San Francisco in 2002.

He is survived by his wife Dianna of 45 years, two daughters, and two granddaughters.

Retired Construction Management Engineer **Carl Hagelin** passed away at the age of 101 on April 9, 2012.

A graduate of the University of Colorado with a Master of Science degree in engineering and the University of Nebraska with a Bachelor of Science degree in civil engineering, Carl served in the Army during World War II. After his military service, he returned to Colorado to work on the Big Thompson Project. Before joining DWR, he spent two years working on a dam, powerhouse, and reservoir in Turkey.

During his more than 17 years of State service, he worked on several State Water Project facilities, including Oroville Dam. In 1957, he was Project Engineer on the Whale Rock Dam project. In 1960, he worked on Coastal Aqueduct at the new San Luis Obispo Field Office. He retired as Construction Management Engineer from Design and Construction (now called the Division of Engineering) in 1975.

Predeceased by his wife of 59 years, Ramona, he is survived by his two daughters, five grandchildren, and three great-grandchildren.



Debbie Lewis-Barbour
Operations and Maintenance
Supervising Telecommunications
Engineer
November 2012



Stefan Lorenzato
FloodSAFE Environmental
Stewardship and Statewide
Resources Office
Staff Environmental Scientist
August 2012



Karen McGrath
Human Resources Office
Personnel Supervisor
August 2012



Charles Mussett
San Luis Field Division
Transportation Surveyor
October 2012

No Photo Available

Roberta Howe
Integrated Regional Water Management
South Central Region Office
Engineer
October 2012

Shawn Perkins
Flood Management
Water Resources Technician II
October 2012

**Congratulations to
Professional Engineer
Exam Graduate**



Miguel Sierra
San Joaquin Field Division
Hydroelectric Plant Electrical
Supervisor
July 2012



Jim Wiekling
Statewide Integrated Water
Management
Supervising Engineer
July 2012



Jon Wright
FloodSAFE Environmental
Stewardship and Statewide
Resources Office
Senior Engineer
November 2012



Farah Zamiri
Operations and Maintenance
Mechanical Engineer
September 2012



**Yu
(Joey)
Zhou**
Bay-Delta
Office
Engineer
June 2012



Carmen Ochoa Hashagen, retired Chief of DWR's Labor Relations Office, passed away at the age of 69 on September 19 at St. Charles Hospital in Bend, Oregon.

Carmen Ochoa joined DWR in 1987 as the Chief of the Equal Employment Opportunity Office. She was Special Assistant to Chief Deputy Director John Caffrey from 1988 to 1990. She also worked for other departments, including Transportation and Corrections. She retired from State service in 2000.

Raised in Los Angeles, she graduated from California State University, Los Angeles. She taught several years for Los Angeles Unified School District before moving to Sacramento, where she joined the State.

She is survived by her husband of 32 years, Ken, her mother, and three brothers.

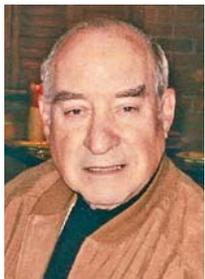
Leonard Mellow, a retired Senior Hydroelectric Plant Operator from San Luis Field Division, passed away at the age of 71 on July 27 in Turlock.

With almost 11 years of DWR service, he retired in 1992 from the Operations Branch in San Luis Field Division. He joined DWR as a Hydroelectric Plant Operator.

He is survived by his wife Gale, 3 step children, 6 grandchildren, 2 great-grandchildren, his brother Howard (a retired DWR Senior Water and Power Dispatcher) and his sister Ruth.

Norman (Mac) MacKenzie, a retired electrical engineering technician II, passed away in Sacramento on May 26, 2012, one week shy of his 90th birthday. He worked at DWR for 32 years.

Born in Middleboro, Massachusetts, he eventually called Northern California home after his service to our country during World War II in both the Army and Navy. He attended Heald Business College in San Francisco as a drafting student, then began his career



in the Bay Area at the Pacific Telephone and Telegraph Company. In 1951, he moved to Sacramento and joined DWR as a Delineator. After becoming an Electrical Draftsman, he retired as an Electrical Engineering Technician II

in the Power and Pumping Plants Section of the Electrical Design Branch in 1983.

Known for his active participation in the Masons, Blue Lodge, Mac was also competitive on the golf course with his cronies and will be remembered for playing a wicked trombone during festivities. A genuine animal lover, Mac could be seen several times a day walking his dogs throughout the Pocket neighborhood in Sacramento, where he lived for nearly 50 years.

Preceded in death by his wife Betty, he is survived by his daughter Lisa and granddaughter, MacKenzie.

One of DWR's legendary flood fighters, **Donald Yeoman**, passed away at the age of 74 on July 23. During his 40 years of State service, he worked for the Division of Flood Management, where he retired as Flood Management Supervisor in 2001.

"Don's leadership was instrumental during the Floods of 1986, 1995, 1997 and 1998 in managing the most complex and critical flood fight operations, sometimes involving hundreds of field workers," said George Qualley, retired Chief of Flood Management. "During the Great Flood of 1997, Don transitioned from one major crisis to another on both the Sacramento and San Joaquin flood systems, going long periods without sleep, and often forgetting to eat."

A native of Missouri, Don started his State career with the Reclamation Board as an Engineering Aid on survey party in the field before joining DWR's Flood Management. He worked in various capacities inspecting levees. Don received several awards, including for the Sherman Island emergency levee repair in January of 1992.

"I remember my first job in charge of 100 men on flood fight," said Charles Woolsey, DWR retiree. "I worked as he did for 33 straight days of 12-to-14 hours during the 1997 flood. I got overtime and he did not as a supervisor, but he worked just as hard and long as I did."

"Don Yeoman was a great leader and very effective in the field during flood emergencies," said Jay Punia, Executive Officer of the Central Valley Flood Protection Board. "When I became his supervisor in 1998, I was intimidated because of his extensive experience and great personality, but quickly we developed a mutual respect for each other and enjoyed working together. He always preached to his staff that you have to make quick decisions because there is no time to waste in emergency flood situations."

Don is survived by his wife Gladys, children Donna, Gary, and Pamela and 12 grandchildren. 💧



Lake Oroville Recreation Website

“Since the site went live on January 26, we’ve had hits from across the country, and as far away as Denmark, Slovakia, the Ukraine, and even countries in the Middle East and Africa,” said Bill Samuels, a DWR Staff Environmental Scientist in the Recreation Planning and Implementation Program.

Bill coordinated the update, providing new information tabs on the visitors center, fish hatchery, camping, boating, swimming, hiking, hunting, Native People, the Gold Rush, the Clay Pit State Vehicle Recreation Area, and a calendar of events. He also took many of the photographs used throughout the site.

“The website reveals the extensive recreation opportunities that DWR provides at Lake Oroville in partnership with California State Parks,” said John Pierre Stephens, DWR Supervising Engineer in North Central Region Office who manages the Recreation Planning and Implementation Program. “With all the recent recreation enhancements at the Oroville State Recreation Area, it was a good time to update the website.”

Cordi McDaniel, Mapping Specialist with DWR Graphic Services, created the multi-layered, user-friendly maps.

“Visitors can get information at a glance as well as explore other areas of interest around Lake Oroville,” McDaniel explained. The maps detail camping,

boating, and day use facilities, including area trails. Look for updated recreation information and maps for the other SWP reservoirs in the coming months. 



Lime Saddle Campground offers 30 tent sites, 15 RV sites with electric and water hookups, and one group site for six tents. Each campsite has a picnic table, a campfire ring, and a grill. Restrooms and showers are located within the campground. There is also a sanitation station for RVs. Trails, a boat launch area, and the Lake Oroville Marina are nearby. [map and reservations](#)

Floating Campsites are the most unique way to enjoy Lake Oroville. These 20' x 24' double-decker platforms can fit 15 people and include docking for three boats, a gas BBQ, restroom, picnic table, lockable storage closet, food preparation area, and food storage. You must provide your own boat and provide all of your own equipment, including lights, water, sleeping materials, etc. [more information and reservations](#)

People around the world are discovering the fun offered at Lake Oroville through the new website at

www.water.ca.gov/recreation/locations/oroville/

DWR Mission Statement

To manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments.



Randy Mager, Staff Environmental Scientist with FloodSAFE Environmental Stewardship and Statewide Resources Office, kayaks to inspect and monitor wetland habitat restoration on Sherman Island.