

DWR NEWS | *People*

WINTER 2011-2012

Sutter Maintenance Yard

Doing What it
Takes to Get
the Job Done

San Joaquin Restoration
Flows Resume
PAGE 10

Georgiana Slough
Non-Physical Barrier Study
PAGE 16

California Water
Commission Storage
Workshops
PAGE 22





Since becoming the deputy director for Integrated Water Management (IWM) in August of 2011, I am often asked, “What is IWM?”

IWM considers concurrently all aspects of water resources management (such as flood management, water supply reliability,

groundwater management, protection of water quality, sustainable and efficient water use, environmental stewardship, etc.) from a regional or system perspective. Further, IWM promotes system flexibility to adapt to changing conditions (such as climate change, policies and regulations, etc.) and enhances the natural environment. IWM happens by partnering across all levels of government and interest groups to align water planning, policies, and regulations.

DWR is committed to IWM and is working to improve alignment and synergies among our many programs to deliver SWP water to 25 million Californians, improve flood protection, ensure dam safety, and protect California’s natural resources. All of these efforts are coordinated and considered prior to making decisions or taking action.

The California Water Plan paints the larger picture of IWM. The 2005 California Water Plan promoted IWM and Integrated Regional Water Management (IRWM) planning. Further, DWR promotes IRWM planning and implementation through local assistance and grant programs. Currently, there are 48 IRWM planning areas whose members are working to combine local perspectives to efficiently manage their water resources. DWR is working with local interests and regional groups to promote systemwide integration and facilitate, assist, and finance IRWM activities.

The impacts of water management activities on lives and the environment are most apparent at the local and regional levels. DWR’s role in managing uncertainty and reducing risks ranges from our inspection of approximately 1,250 jurisdictional dams, local flood emergency response assistance, development of local and regional flood risk reduction projects, facilitation and assistance to the IRWM planning areas, delivery of numerous local water management grants and projects, and support of environmental stewardship activities. All of these local and regional efforts are backed by long-standing DWR data and analytical programs and technical assistance.

DWR’s systemwide management activities must support broad project benefits and economic stability for everybody in the state. These systemwide activities include, but are not limited to, system reoperation, water transfers, sustainability indicators, overall statewide water operations, system and statewide flood planning, and large-scale restoration activities. DWR’s data programs support systemwide operations, planning, and technical assistance efforts.

DWR’s business administration, program management, grants administration, fiscal accountability, communication, and resource planning responsibilities provide the foundation for all DWR activities. Climate change and environmental planning activities cut across all DWR programs to address future local, regional, and statewide public safety and water management needs. These activities form the backbone for water management policies and guidelines.

In the coming years, all of us here at DWR need to continue and improve coordination and collaboration with each other, and with other government agencies, environmental interests, and other parties to further implement IWM to develop projects and policies that fulfill the Water Plan’s vision for the future of California water:

California has integrated, reliable, and secure water resources and management systems that:

- *Enhance public health, safety, and quality of life in all its communities;*
- *Sustain economic growth, business vitality, and agricultural productivity; and*
- *Protect and restore California’s unique biological diversity, ecological values, and cultural heritage.*

As we embark on the new year and evaluate our goals and objectives for 2012, it seems fitting to close with this vision in mind. Fulfilling this vision and the objectives of IWM will be challenging, but together we will continue to make significant contributions to improve public safety, protect water supplies, and enhance the environment.

Gary Bardini
Deputy Director

Edmund G. Brown Jr.
Governor

John Laird
Secretary for Natural Resources

Mark Cowin
Director, Department of Water Resources

Maggie Macias
Editor

Contributing Writers:

Jennifer Iida	Elizabeth Scott
Christina Jimenez	Ted Thomas
Tiffany Navarrette	Sean Walsh
Cait Plantaric	Pete Weisser
Rick Ramirez	

Design:
DWR Graphic Services

Printing: DWR Printing Production Services

Photography:
DWR Photography Unit

DWR NEWS/People is published quarterly by the California Department of Water Resources.

Please send questions, comments, or story ideas to:
DWR NEWS/People
Public Affairs Office
Department of Water Resources
1416 Ninth Street, Room 252-21
Sacramento, CA 95814

Email:
dwrpeople@water.ca.gov

Phone: (916) 653-8743

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

Funded by the State Water Project Contractors

 **Printed on recycled paper**



On the Cover: Utility Craftworker Chip Vanderford prepares to operate excavator for loading material to take to repair the roadway at Sutter Bypass.

Table of Contents

FEATURES

Cover: Sutter Maintenance Yard: Doing What It Takes to Get the Job Done.....	4
San Joaquin Restoration Flows Resume, Program Earns Interior Department Award.....	10
Proposition 84 Integrated Regional Water Management Implementation Grant Program.....	13
Georgiana Slough Non-Physical Barrier Study.....	16
SWP Reservoir Boat Inspections Intensify in DWR's Invasive Mussel Control Program.....	20
California Water Commission Storage Workshops.....	22
A Better Way.....	24
In the Spotlight: North Central Region Office.....	28

STATE WATER CONTRACTOR PROFILE

San Gabriel Valley Municipal Water District.....	32
--	----

NEWS IN BRIEF

Hydropower License Planning and Compliance Office Staff Honored.....	36
Training Coordinator Workshop for 2011.....	37
DWR Management Development Program Graduates of 2011.....	38
Public Draft 2012 Central Valley Flood Protection Plan.....	39

AWARDS

Twenty-Five Years of Service.....	38
Apprentice Graduates of 2011.....	40

PEOPLE NEWS

Retirements.....	41
New Hires.....	44
Promotions.....	48
Obituaries.....	50



With new printing changes, the magazine is now being printed in color at no additional cost.



Utility Craftworker Andy Freitag operates roller during the regrading of 22 miles of the Sutter Bypass east levee in December of 2011.



Sutter Maintenance Yard

Doing What It Takes to Get the Job Done

By Cait Plantaric

On New Year's Day 1997, a levee breached near the city of Arboga – Arboga, nearby Olivehurst and parts of Linda were evacuated, three people died in the flooding, and helicopters rescued stranded motorists from the tops of their cars and overpasses. Fifty thousand people were evacuated from Marysville and Yuba City on January 2. On January 5, at 4 a.m., **Karen Hull**, then a Sutter Maintenance Yard supervisor, headed to work on State Route 20 (the Yard is approximately seven miles west of Yuba City, on State Route 20). To the north and south, highways 70 and 99 were impassable. Along a deserted road through Marysville and Yuba City, Hull was stopped at roadblocks manned by California Highway Patrol officers and Yuba County sheriff's deputies. They told her to go back; no one was being allowed in because of flooding. But Hull showed them her emergency

personnel badge at each roadblock and continued on because she had a job to do. Like everyone else at the Yard, Hull started patrolling levees in 12-hour shifts when the Department of Water Resources (DWR) activated the Flood Operations Center (FOC) on December 26.

Part of the Division of Flood Management (DFM), the FOC responds to flood emergencies statewide and coordinates its flood emergency response activities with local, State and federal agencies. When the FOC is activated, it operates 24 hours a day, seven days a week – as do the flood fight and patrol teams it oversees.

When asked what was going through her mind as she drove to work on January 5, she replies, "I don't know. It's just getting up and going to work every day – you've got to get here. I had some concerns about whether I was going to get here the usual way I get to work, but one way or another, I was going to get here. If I had to go up to Redding and come down I-5 and through Colusa or whatever I had to do, I was going to get here."

The night before, a levee had also breached near Meridian, where several Yard crew members live. Though their homes were in danger and they were worried about their families,



friends and neighbors, every crew member came to work because they had a job to do: fight the flooding and do what they could to protect their communities and people living in the area.

Most people do not go toward a flood disaster, but if you're a member of the Yard crews, that's exactly what you do. Yard staff have been known to load up their gear in the middle of the night, pack a bag, head to wherever the flood emergency is – Yuba City, Jones Tract, Firebaugh – and stay until the emergency is over.

Emergency Response

Responding to flood emergencies does not last hours or days – but weeks of 12-hour shifts, seven days a week. The work includes 'round-the-clock levee patrols during which patrollers must be focused looking for early signs of trouble and prepared to immediately evaluate and respond to them. After a patrol team assesses the situation, its response is

coordinated with its incident command team and the FOC. The response may include, among many things, sinking a tall, flagged stake into the ground near the potential trouble spot, so other patrol units can easily identify the areas on or adjacent to levees that must be closely monitored or calling in a DWR-trained California Conservation Corps (CCC) or California Department of Forestry and Fire Protection (CAL FIRE) flood fight team.

When flood waters finally do recede, months of repair

work remain ahead. Repair work must be coordinated with local levee maintaining agencies (LMAs), which include local reclamation districts (RDs); state entities like the Department of Fish and Game (DFG); and federal agencies like the U.S. Fish and Wildlife Service and the U.S. Army Corps of Engineers. Repair work must be completed before the next flood season begins on November 1. Fortunately, not every winter brings a flood emergency but as the Jones Tract event demonstrated under blue skies on June 4, 2004, levees can breach at any time and in any type of weather.

In the Yuba City area, the first levees were built in the 1850s. Realizing these levees and the Sutter Bypass would have to be maintained if they were going to protect communities and farmland near the Sacramento and Feather rivers and their tributaries, local LMAs, RDs and farmers established what would become the Yard in 1929, 27 years before DWR was created. Currently, the Yard is part of DFM's Flood Maintenance Office (Maintenance Office) and has four crews with six to eight members. Crew One is responsible for an area that includes parts of Butte, Tehama and Glenn counties. Crew Two manages Maintenance Area 17 and a pumping plant in Lake County, and is responsible for most of the area in Colusa County. Crew Three is responsible for the Sutter Bypass as well as the Lower Feather River and Yankee Slough areas in Sutter County. Crew Four manages maintenance at the three pumping plants associated with the Sutter Bypass and maintains the Yard facilities.

Today, the primary mission of the Yard remains the same as in 1929: flood fighting and maintaining the flood management system to reduce the risk of flooding. Because northern California can experience extremely wet winter storms and because of the massive watersheds that feed its rivers and streams, flooding in the Central Valley has always been a matter of "when" not "if."



Utility Craftworker Superintendent Karen Hull responded to the floods of 1997 as Sutter Maintenance Yard Supervisor. Above: Levee patrol in 1997.



Sutter Maintenance Yard staff of 34 maintains 370 miles of weirs, channels, bypasses, and streambeds in six counties.

Maintenance of the System

When the Yard crews are not responding to flood emergencies (or monitoring potential flood emergencies), they are kept busy maintaining the 370 miles of weirs, channels, bypasses and streambeds of the State-federal flood management system for which they are responsible. Maintenance activities include, but are not limited to: vegetation management, burrowing rodent management, and minor erosion repairs.

Of all the maintenance activities the crews handle, the most daunting is vegetation management. It's not simply the area the four crews must manage – from Elder Creek in Tehama County south to Knights Landing, from Lake County east to the Feather River – but the amount of coordination involved. Daily maintenance activities like mowing and vegetation removal must be coordinated within DWR and with LMAs, RDs, and county, State and federal agencies.

One key reason for this level of coordination is making sure all environmental laws or regulations are followed, and as Division of Flood Management Chief **Keith Swanson** notes, “The area has some of the best habitat in California, so every entity that has jurisdiction in the area has an interest in what the Yard crews do and how well DWR manages the balance between maintaining the flood management system’s design flows for public safety and enhancing the environment.”

Another key reason for this level of coordination is DWR’s increasing understanding of how fragile environmental systems are and the potential impact of human actions on these

systems. DWR has incorporated research findings about the benefits of protecting and enhancing natural environmental systems for flood management, water conveyance and quality, and species enhancement and stabilization into its maintenance procedures. For example, before a Yard crew removes vegetation in a channel, they are required to coordinate with the Maintenance Office’s Environmental Support Branch (Environmental Support Branch) to survey for endangered and protected habitats, such as wetlands, as well as endangered and protected species, like the giant garter snake.

Additionally, because the Central Valley is a key migratory route for many sensitive and protected bird species – including burrowing owls, Swainson’s hawks, bank swallows and tri-colored blackbirds – Yard crews work with environmental scientists to survey all bird species in areas where mowing or other vegetation removal is scheduled. Another area may be scheduled for vegetation maintenance if birds are nesting or have not finished fledging their young. According to recently retired DWR Staff Environmental Scientist **Bonnie Ross**, bird surveys occur from early spring through late summer, and work windows have been defined in consultation with DFG in order to avoid disturbing nesting birds because different species migrate, nest, and fledge their young at different times of the year.

When crews are permitted and cleared to work in an area, they are selective about which and how much vegetation is removed. According to Hull, there are good reasons for not



Utility Craftworker Jeromy Sannar of the Maintenance Crew II grades the levee crown roadway on the Sutter Bypass.

removing all vegetation in the channels, including: leaving much needed habitat for animals, and vegetation can slow flood flows, act as wave buffers and help direct flows. With few exceptions, crews focus on removing invasive, non-native species and only enough vegetation to maintain channel design flow capacity. To do this, crews use mowers, bring in CCC or CAL FIRE “hand crews.” In environmentally sensitive areas, a small, low environmental impact tractor called an ASV is used. This extremely small tractor has rubber tracks, low ground clearance, and a mulching head that allows vegetation to be finely mulched in place and left without adversely impacting the environment. It clears vegetation in four to six foot swaths, allowing for extremely selective vegetation removal.

After the low vegetation is cleared, hand crews clear tree limbs that can't be reached by the ASV, so large flood debris doesn't get caught and block flood flows. The benefits of using the ASV and hand crews are twofold: channel design flow is maintained and much-needed natural habitat is kept intact.

The other important area where crews manage vegetation is on levees. Grasses on levees help prevent both wind and

water erosion. Riparian habitat on river banks (away from levee toes) can also help prevent wind and water erosion. However, grasses and brush on levees and near the levee toe must be kept cut to provide visibility and access during annual levee inspections and emergencies.

Protecting the Levees

When levees are inspected, inspectors look for things that negatively impact levee integrity – e.g., sloughs (when part of a levee slope has given way and slid toward the levee toe), cracks and rodent holes. Sloughs and cracks are usually easy to see; however, rodent holes are not. When rodents burrow into the water side of a levee, they create voids, empty spaces that water will seek out and fill in its relentless effort to move. In some instances, rodent holes go all the way through a levee, compromising the levee's ability to retain water.

Once water gets into a void, it can seep all the way through a levee, creating a “boil” on the land side of the levee. Called a “boil” because water appears to be boiling up out of the ground, the volume of water coming out of a boil is one indicator of how permeable the seepage path through the levee is, and the clarity of the water indicates whether soil is still being scoured out of the interior of the levee by the seepage flow. Clear water means the situation is stable; water carrying soil usually means the situation is deteriorating and can lead to a levee failure. Because boils can signify serious problems with levees, it is important that they are visible. If they are not visible to inspectors and Yard crews because of vegetation, what is a small problem that can be monitored and dealt with quickly can degrade into a serious repair job or worse.

Visibility on levees isn't only important for maintenance reasons, however. During flood emergencies, having access to boils is imperative because the most effective way of controlling soil movement caused by seepage flow is building a sandbag ring around the boil. Once the space created by the ring fills with a sufficient amount of water, the weight of that water pushes against the water coming out of the boil, slowing



the water velocity enough to prevent additional soil from being scoured out. However, if the area around the boil is covered with brambly vegetation like blackberry bushes, an effective ring cannot be built until the vegetation is removed, costing critical time in an emergency. Thus, managing vegetation on and adjacent to levees is imperative.

Because rodent holes can cause such serious problems, repairing them is one of the more important maintenance activities Yard crews manage. Before repair work can begin, however, Yard crews must coordinate with the Environmental Support Branch to survey the holes and ensure protected species are not using them for nesting. Some species like the giant garter snake can be avoided by working during specific work windows. However, when burrowing owls are present, Yard crews must wait until the young are fledged and the owls are no longer using the burrow before beginning repairs.

The most common repair for rodent holes is grouting. The grout (a mixture of bentonite, cement and water) is pumped from a mixing hopper at the crown of the levee into what looks like a 50-foot long, 2-inch diameter fire hose. Crews pull this grout-filled hose along the sides of the levees, pumping grout into targeted rodent holes and filling the voids, thus reducing the vulnerability of levees to failure caused by seepage.

The other significant maintenance activity in which Yard crews engage is minor erosion repairs, which are usually done during the summer and early fall. Because most of the levees in the area are more than 100 years old, they were built from the materials at hand. The most readily available materials were silt and sand – neither of which is appropriate for constructing levees because both erode quickly when exposed to water. Typically repairs require cutting a “key way,” a shelf-like structure, into a levee just below the repair site. The key way allows Yard crews to get equipment and repair materials as close as possible to the site. Once the key way is cut, crews clear loose sand and silt out of the erosion site. After this, “compactable soil” is placed in the erosion site and compacted. This preferred levee fill is soil that has some clay content



Utility Craftworker Bill Lemenager prepares to haul material to the Sutter Bypass.

because clay helps bind the soil together, making it less susceptible to erosion from water. If additional erosion protection is needed, a mixture of rock and soil is placed and compacted, providing conditions suitable for revegetation.

After the repair is completed, willows or grasses are often planted at the repair site. The roots of the willows eventually lock together, creating a living net that helps hold the repair in place and prevent further erosion. This type of repair provides much-needed habitat and reduces the risk another erosion repair will be necessary at that site.

Why do the Yard staff respond so quickly and resolutely to flood emergencies? Why are they willing to work 10-hour days through blazing hot Central Valley summers and cold, wet, windy Central Valley winters?

When asked, Hull, now the Yard superintendent, replies, “They have a tremendous sense of responsibility about their jobs, about the work they do,” she adds. “It’s important work. It means something to us at the end of the day to say, ‘We went out there and did something today to protect the State’s people, to protect their property, to protect their livelihoods.’ We can see the results of the work we do. We can see the benefit of it, and it’s a good feeling.”

Left: Crew 1 is placing rock to repair an erosion in the levee slope in State Maintenance Area 16 in Sutter County.





San Joaquin Restoration Flows Resume, Program Earns Interior Department Award

By Pete Weisser

Water year 2012 interim flows began on the San Joaquin River in early October after the river's restoration effort won special federal recognition in September.

The water year that began in October marks the third consecutive year of interim flows. These meticulously calibrated flows enable ecological and water studies aimed at revitalizing the river and helping biologists restore a self-sustaining Chinook salmon population in California's second longest river.

On September 21, U.S. Interior Secretary **Ken Salazar** selected the program for a "Partners in Conservation" award. The honor recognizes the program's conservation, cooperation and communication achievements. The award was presented to **Alicia (Ali) Forsythe** of the U.S. Bureau of Reclamation, federal program manager for the restoration program, during ceremonies in Washington D.C.

Led by the Interior Department's Bureau of Reclamation, the San Joaquin River Restoration Program (SJRRP) is an ambi-

tious collaborative effort to restore a 153-mile segment of the San Joaquin River below Friant Dam. In recent decades, this part of the heavily-tapped river has often lacked continuous flows.

The program is designed to implement a 2006 court-ap-

proved settlement that resolved an 18-year lawsuit over how the San Joaquin's water is used. The settlement has two major goals: To restore and maintain a salmon population in the San Joaquin, from Friant Dam downstream to its confluence with the Merced River, and to reduce or avoid adverse water supply impacts to Friant Dam water users.

As for fish, the goal is to achieve a naturally reproducing, self-sustaining population of Chinook salmon---spring and fall run. The program's deadline to



Above: At the Sand Slough Control Structure, Central Valley Flood Protection Board tour group stands near the Washington Road bridge on the connector channel between the San Joaquin River and the Eastside Bypass. Middle: Tour group presentation at the Mariposa Bypass Control Structure looking upstream into the Eastside Bypass.

San Joaquin River Restoration Area



Reaches of the San Joaquin River under evaluation include the following:

- Reach 1** – Friant Dam to Gravelly Ford
- Reach 2** – Gravelly Ford to Mendota Dam
- Reach 3** – Mendota Dam to Sack Dam
- Reach 4** – Sack Dam to the confluence of Bear Creek and the Eastside Bypass
- Reach 5** – Eastside Bypass/Bear Creek confluence to the Merced River confluence



Reach 4B1 downstream of Sand Slough



Sack Dam



Mendota Dam



Reach 2B downstream of the Chowchilla Bifurcation



Friant Dam



Scout Island

reintroduce salmon to the San Joaquin between Friant Dam and the Merced River is December 31, 2012.

DWR is a vigorous partner in this effort, along with the Bureau of Reclamation, the U.S. Fish and Wildlife Service, National Marine Fisheries Service and the State Department of Fish and Game.

Stakeholders include farmers and growers --- especially members of the Friant Water Authority, who use irrigation water from Friant Dam --- environmental groups, anglers and river recreationists, and local and regional water and flood control agencies.

Carefully calibrated interim flows began in 2009 and continued in 2010 and 2011. The experimental flows provide data on water temperatures, fish needs, seepage and groundwater conditions, levee stability and water recapture and reuse conditions. Typically, the flows begin at about 350 cubic feet per second (cfs) early in October, are increased to about 700 cfs for a "pulse" of about 10 days, and then reduced. Full river restoration flows are scheduled to begin in 2014.

During 2010, the San Joaquin flowed to the Delta as a continuous river for the first time in more than 50 years, except in flood years. California's precipitation and river runoff were well above average in 2011, so San Joaquin flows were also higher than usual.

DWR plays a significant role in restoration activities and environmental documentation. DWR's focus includes leading site-specific channel improvement projects and addressing flood management issues.

Paul Romero, DWR's SJRRP manager, reports that the Department leads an effort to improve a critical reach of the river. This is the Mendota Pool Bypass and Reach 2B Improvement Project. It's intended to expand the river channel from a current capacity of 1,300 cfs to at least 4,500 cfs and bypass the Mendota Pool to allow successful fish migration.

On August 12, Central Valley Flood Protection Board members and staff made a special tour to see vital segments of the San Joaquin restoration effort and get comprehensive

briefings on the scene. The briefing tour was arranged by Board Executive Director **Jay Punia** and led by Board President **Ben Carter**, Board Members taking part included **John Brown, Butch Hodgkins, John Moffatt, Emma Suarez, Teri Rie** and **Mike Villines**, along with the Board's Chief Engineer, **Len Marino**, and other Board staff.

Forsythe, Program Manager from the Bureau of Reclamation, led the briefing on the program's overall progress. The tour made briefing stops at several key elements of the program, including the Eastside and Mariposa Bypasses and the Sand Slough Control Structure in Reach 4B, and the Chowchilla Bifurcation Structure in Reach 2B. Romero of DWR briefed the board visitors on the Mendota Pool Bypass options toward the end of the board's visit, which covered more than 400 miles of travel.

Kevin Faulkenberry, DWR's South Central Region Office (SCRO) Chief, provided his perspective on restoration policy and the need to work cooperatively with river stakeholders. Faulkenberry preceded Romero as DWR's SJRRP manager and has years of experience working on San Joaquin River issues. He noted that while the program faces many challenges, it also offers multiple opportunities to revitalize the San Joaquin River.

During their tour, board members heard a wide range of viewpoints and suggestions from river area growers and representatives of San Joaquin water and flood control agencies whose lives and activities are impacted by the program, including comments by Friant Water Authority General Manager **Ron Jacobsma**.

On November 2 and 3, the Water Education Foundation conducted its fourth annual two-day bus tour to view San Joaquin restoration sites.

The program's next annual report --- covering 2011 activities and 2012 scheduled actions --- is due for publication in early 2012.

Upstream side of the San Joaquin River headgates at the Chowchilla Bifurcation Structure.





Proposition 84 IRWM Implementation Grant Program

By Elizabeth Scott

In August, DWR awarded nearly \$205 million in grant money to 25 Integrated Regional Water Management (IRWM) regional applicants for implementation of projects that assist local public agencies or non profits to meet long-term water needs of California.

For some projects, construction is now under way. This award was the first of three rounds of competitive grant solicitations. Ultimately, DWR will award approximately \$808.5 million for regional projects ready or nearly ready to proceed to implementation.

This funding comes from the \$1 billion for IRWM provided by Proposition 84, the Safe Drinking Water, Water Quality, and Supply, Flood Control, River and Coastal Protection Bond Act (Prop 84), passed by California voters in 2006.

The Integrated Regional Water Management Planning Act (the IRWM Planning Act), passed in 2002 and revised in 2008, encourages local agencies to work cooperatively to manage local and imported water supplies and improve the quality, quantity, and reliability of those supplies by looking collectively at issues from a regional perspective. IRWM operates on the principle that each stakeholder holds a piece of the water management solution for their region and that the best solutions require better communication and understanding of regional issues than has previously occurred.

IRWM planning has been embraced by water managers and interested stakeholders throughout California. Regional Water Management Groups per the 2008 IRWM Planning Act have formed ‘regions’ in which to develop IRWM plans. Forty-eight State-recognized IRWM regions have been established to date.

DWR’s Financial Assistance Branch, led by Portfolio Manager **Tracie Billington**, oversees various grant programs including the Proposition 84 Planning and Implementation Grant Programs. DWR’s IRWM planning grant program, led by Program Manager **Joe Yun**, is the first step for regions seeking money to help fund the development of an IRWM plan.

“One outcome of those plans is to identify and prioritize regional goals and objectives and to develop actions or projects designed to meet the regional goals,” explains **Trevor Joseph**, DWR’s IRWM implementation grant project manager. “Regions with adopted plans that meet current IRWM plan standards were eligible to receive funding through the IRWM implementation program,” said Implementation Program Manager **Zaffar Eusuff**.

Other regions with adopted plans meeting 2002 IRWM Planning Act standards have been awarded implementation grants based on a commitment to develop plans meeting current IRWM standards.

“Proposition 50, the Water Security, Clean Drinking Water, Water Coastal and Beach Protection Act of 2002, was actually the start of the IRWM grant program,” says Joseph. At that time there was a planning grant solicitation, just as with Proposition 84, and two rounds of implementation grants, administered by both DWR and the State Water Resources Control Board. After the passage of Proposition 84 and the

Left to Right: Chief of the Financial Assistance Branch Tracie Billington, who joined DWR in 2000, previously worked in the hazardous waste field. Supervising Engineer Zaffar Eusuff, Senior Engineering Geologist Trevor Joseph, and Principal Engineer Tracie Billington review applicant portfolios for the implementation grants program for the Division of Integrated Regional Water Management. Chief of Implementation Grants Section Zaffar Eusuff has also worked for DWR’s Division of Flood Management and Bay-Delta Office since joining DWR in 2005.

2008 IRWM Planning Act, the IRWM Program Guidelines, including the IRWM plan standards, were updated to ensure consistency with the authorizing legislation and to include additional standards, such as consideration of climate change adaptation and mitigation.

“When a region submits an application through the implementation grant program, the application may contain multiple projects with diversified benefit types. One condition is that those projects must be consistent with their IRWM plan,” says Eusuff.

First Round Awarded Projects Tackle Wide Range of Water Management Issues

Grant money awarded in August goes to regions throughout the state for projects to tackle a broad range of water management issues. Below is a description of typical projects that are the building blocks of the IRWM Implementation Grant Program.

Water Supply

The Poso Creek IRWM Region received approximately \$8.2 million, of that approximately \$4.7 will be used to construct a Cross Valley Canal to Calloway Canal intertie which will improve water supply reliability. The intertie will be about one mile in length, and will yield approximately 5,700 acre-feet per year of increased water supply.

The Santa Ana Watershed IRWM region received approximately \$12.7 million in grant funds. One of the funded projects, the Perris II Desalination Facility, will improve water supply reliability by constructing and operating a brackish water production well which will provide feed water to desalination facilities.

Water Quality

Improved water quality is a goal of the Inyo-Mono IRWM Region. Out of the approximate \$1.1 million grant, more than a half-million dollars will help launch the Coleville High School

Water Project. The project will install an ion exchange treatment system to remove uranium in well water. Treated water will then be kept in additional storage tanks.

Water Recycling

The American River Basin IRWM region received a grant award of approximately \$16 million. More than \$1.5 million will be used to improve regional water recycling efforts, a recycled water project for the Sacramento Regional County Sanitation District. Among the features designed in this project is a recycled water pipeline from the existing water reclamation facility to a cogeneration plant.

Wastewater Treatment

The Santa Barbara County IRWM region received a total of approximately \$3 million and will use more than \$500,000 dollars to make improvements to wastewater treatment in the region. The grant money will be spent on upgrading the Goleta Sanitary District Wastewater Treatment Plant. Once the upgrade is completed, 100 percent of the flow will be treated to the full secondary treatment level.

Ecosystem Restoration

The North Coast IRWM Region was awarded over \$8 million, with approximately \$845,000 for the Nissakah Creek Fish Passage project. The project is designed to restore fish passage increasing the viability of the remnant population of steelhead that spawns in this headwater stream helping restore a part of the cultural heritage of the Hopland Tribe, and will benefit salmonid restoration efforts in the Russian River watershed.

Groundwater Management and Conjunctive Use

The Antelope Valley IRWM region received a total of \$5.4 million in grant funding. Grant funding will support construction of the Water Supply Stabilization Project No. 2. (WSSP2), which will increase future water supplies in their region. This will be a groundwater banking project that will include new infrastructure to store excess water available from the State Water Project (SWP) during wet periods and then recover and serve it to customers during dry or high demand periods, or when there is a disruption in deliveries from the SWP. By “banking” excess



Top Photo: Existing groundwater production wellhead prior to pump station construction.



Bottom Photo: After construction the groundwater production well will be enclosed within a pump station that looks similar to this photo.

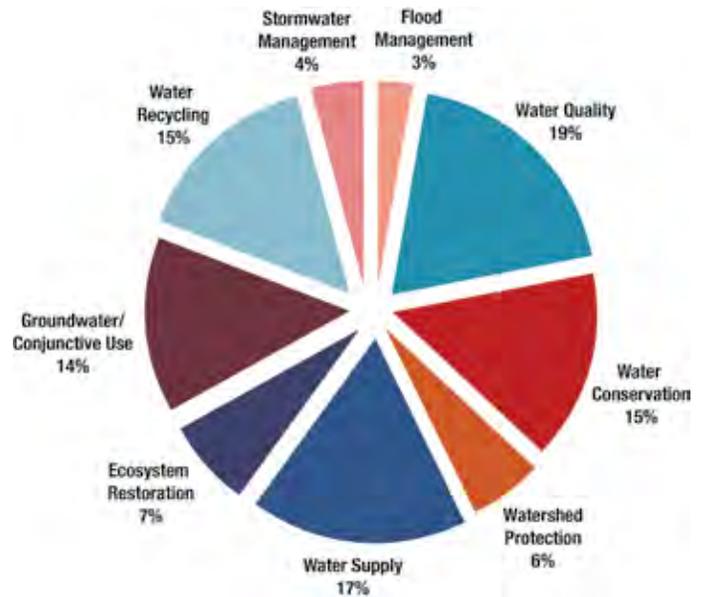
water for future use, the WSSP2 will significantly reduce the region's dependence on water deliveries from the Delta. The WSSP2 will also increase the amount of groundwater in the basin through recharge and will preserve agricultural land and open space.

Future Plans

DWR plans to complete two additional rounds of implementation grant funding. Round two will solicit applications and award around \$131 million during the 2012-13 fiscal year time period. Round three is expected to begin in 2014 and award about \$472.5 million.

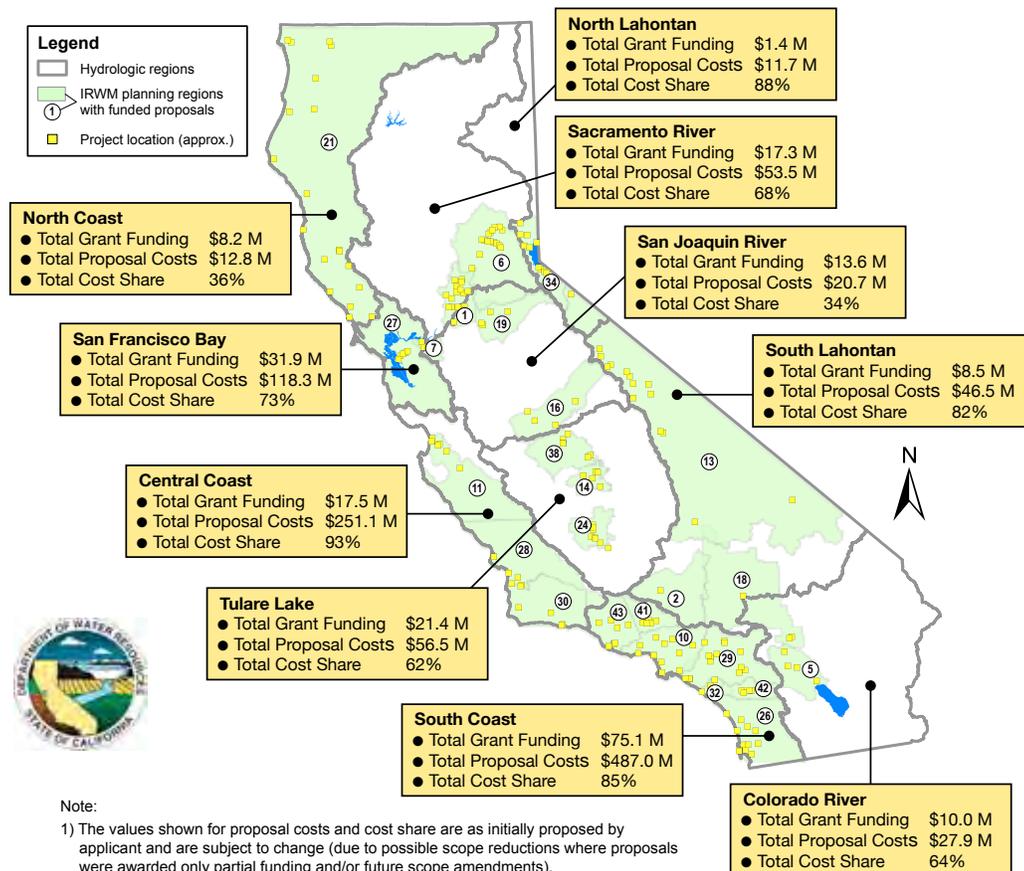
"The bulk of the money is planned for grant awards in round three in order to give regions adequate time to investigate their needs and formulate new projects accordingly while meeting the current IRWM plan standards before entering the competitive process," explains Eusuff.

Proposition 84 Implementation Grant Benefits (Round 1)



Of the almost 200 projects funded by the program, each project will provide multiple benefits. This pie chart shows the nine primary benefits.

Proposition 84 Implementation Grant Awards (Round 1)





Georgiana Slough Non-Physical Barrier Study

By Jennifer Iida

As it winds through the Delta, the riparian corridor of the Sacramento River has simulated the banks of the mighty Mississippi in many movies. But today, a real-life drama of survival is bubbling beneath the waters of the Sacramento itself.

Starring in this closely monitored production are young Chinook salmon navigating a tricky route through the

maze of Delta waterways to the Pacific Ocean, where they will struggle to survive until they can return to these same Sacramento waters as spawning adults. But reaching the ocean isn't easy, and this is today's story, played against a backdrop of strobe lights, bubbles and underwater sound effects.

The scene is the wide and deep Sacramento at the mouth

Panorama of the Sacramento River side of the study area by Gary Darling



to San Francisco Bay

Sacramento River



of Georgiana Slough near Walnut Grove, a divergent channel from the Sacramento River that leads young salmon to the interior Delta where predators await.

Studies indicate that 65 percent of the young salmon that enter Georgiana Slough don't survive to leave the Delta. Many are eaten by striped bass or other predators, and some may be lost to pumping operations of the State Water Project and federal Central Valley Project in the southern Delta.

Keeping the fish out of this interior Delta maze is the goal of DWR's Bay-Delta Office, which is working

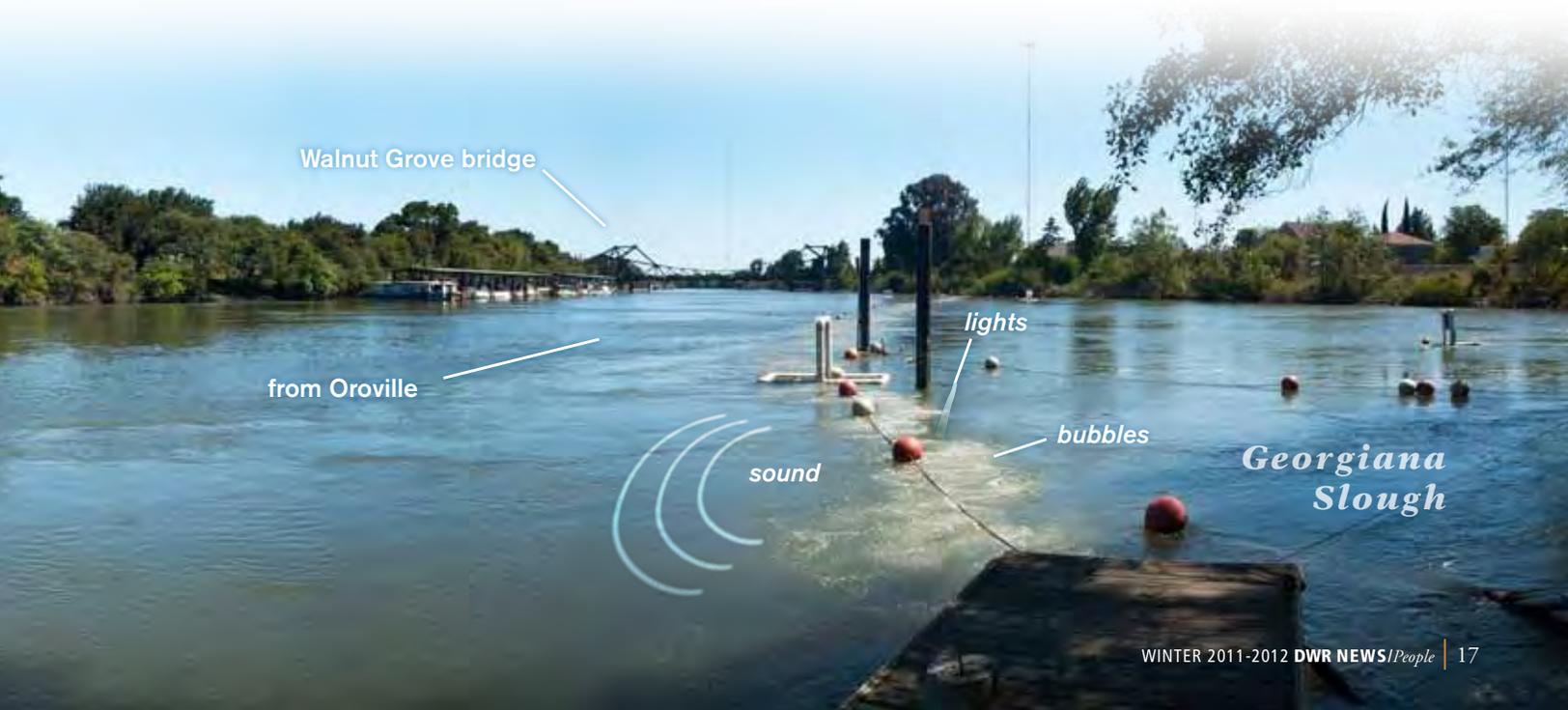
with underwater strobe lights and offensive electronic sounds in a curtain of bubbles to keep the migrating salmon on the "straight-and-narrow" toward Suisun Marsh, the Golden Gate Bridge, and the open Pacific Ocean. In other words, the main channel of the Sacramento River is their safest and most direct route to the ocean feeding grounds.

Let the show begin

Construction of the Georgiana Slough Physical Barrier (GSPB) started on the banks of the river in February 2011 following a successful public meeting in December 2010 at

the Jean Harvie Auditorium in Walnut Grove. The meeting welcomed public comment and provided locals with project details and schedule.

During this time, DWR Sacramento Project Headquarters, Division of Engineering, Division of Environmental Services, North Central Region Office, and Bay-Delta Office staff and contractors provided the expertise and dedication needed to install the Bio-Acoustic Fish Fence (BAFF) under extremely challenging winter conditions in the murky, swift river. Soon thereafter, 1,500 juvenile late fall Chinook salmon were transported in

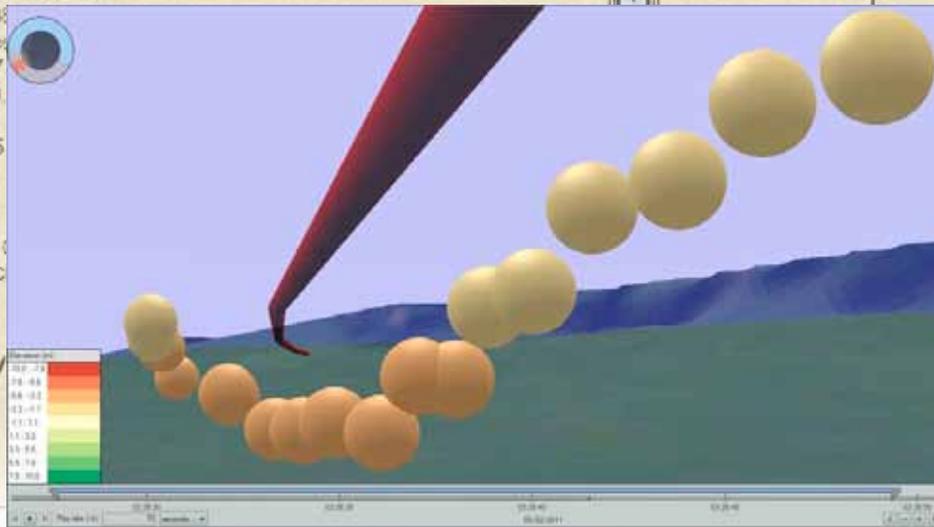


a width of 200 feet was

entrance (33
hence 27.6 fe
'0', thence 27
Lt '86' and 29
Sacramento.
May 2005

FERRY

er may be at
should exerc
area.



This figure represents a study fish passing under the BAFF. The red line represents the BAFF and the spheres are calculated locations of one study fish. The red color of the BAFF indicates that the BAFF was "on." Since each study fish was implanted with an acoustic transmitter, the transmitted sound pulses are detected at various locations (hydrophones or underwater microphones). As the fish moves downstream near the BAFF, the three-dimensional track of the fish is determined by using the timing of when the pulse is heard and some geometry. This fish did not have a behavioral response to the barrier.

WATER TANK
Ryde

groups from the U.S. Fish and Wildlife Service (USFWS) Coleman National Fish Hatchery to the site and surgically implanted with acoustic tags. Food rationing and holding conditions within the hatchery before tagging were managed, to the extent possible, to produce fish ranging in size from 110 to 140 millimeters (mm) fork length (about 4.5 to 5.5 inches long).

Once the fish were carefully

tagged, it was possible to detect movement using underwater hydrophones. The hydrophone is a device that picks up the acoustic energy or sounds underwater and converts it into electrical energy. The hydrophones record certain frequencies of underwater sounds, including the unique "ping" transmitted from each acoustic tag. The fish were released approximately 5.5 miles upstream of the barrier to allow time to acclimate to the river conditions and disperse throughout the channel. They were then tracked as they interacted with the barrier.

The passage of tagged salmon in the immediate area and downstream of the barrier in the Sacramento River and Georgiana Slough was monitored

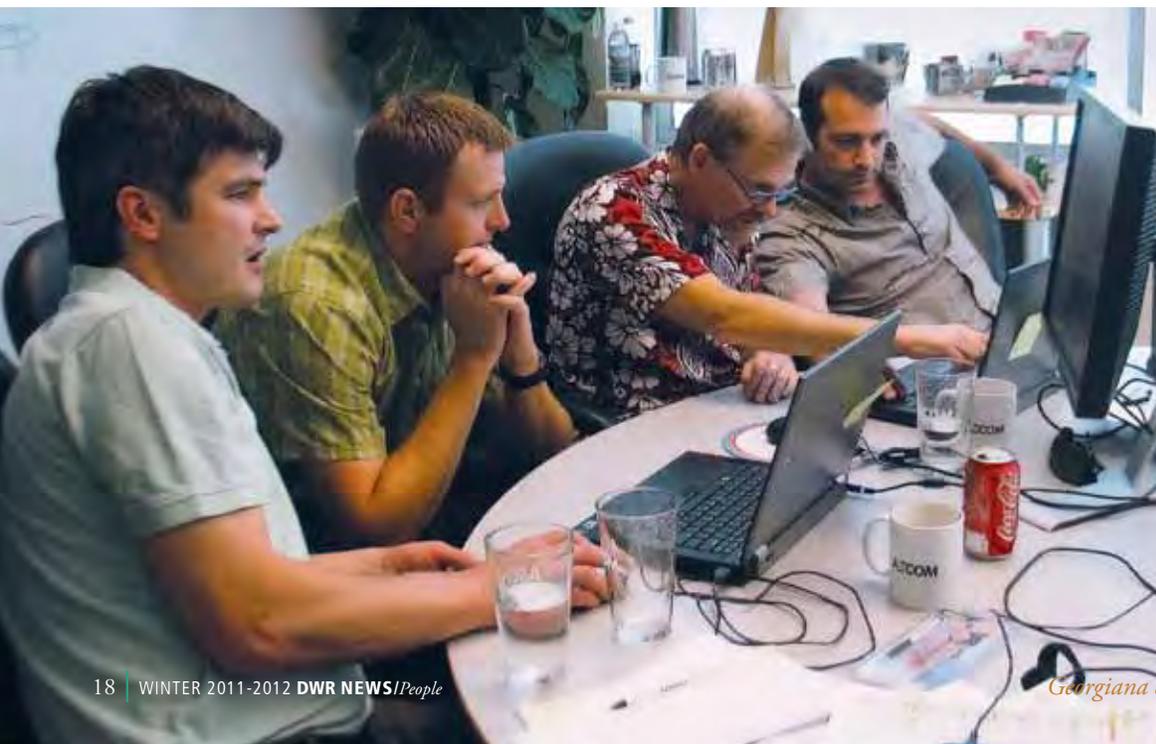
both when the barrier was on and when it was off.

"The preliminary results look very encouraging because there appears to be a behavioral response to the barrier even during high flows, and the fish survival to the barrier was very high, more than 95 percent arrived," said DWR Project Manager

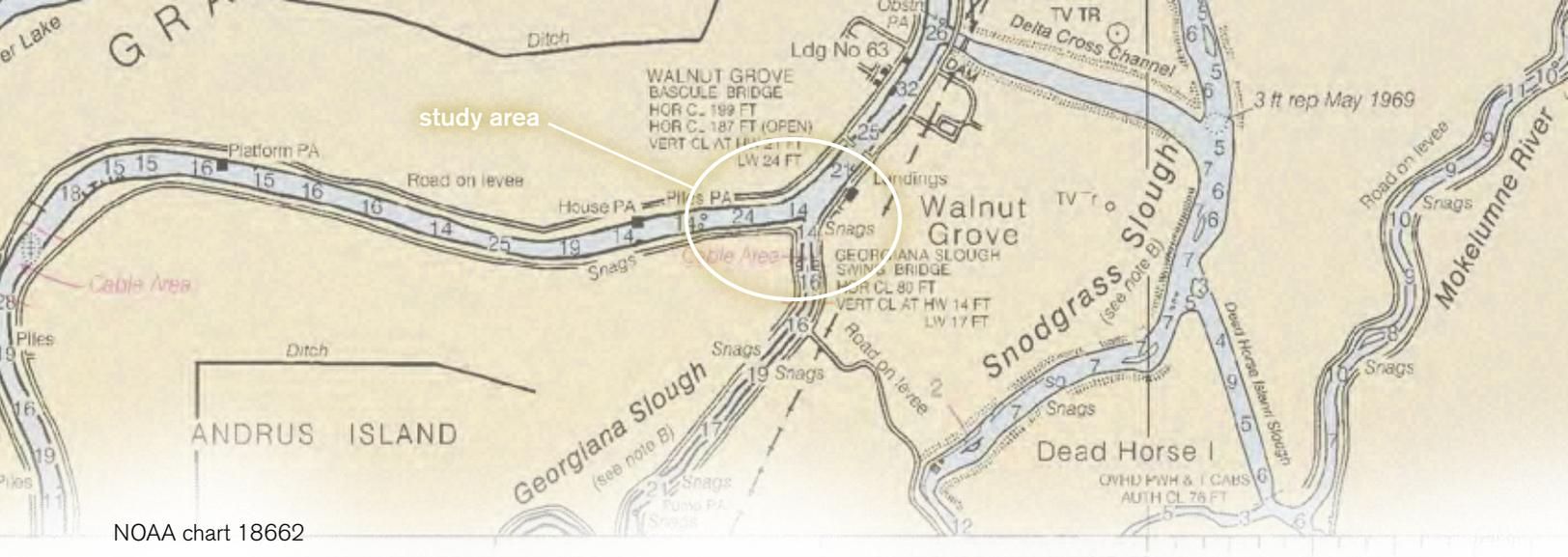
Jacob McQuirk.

Striped bass and other predatory fish were also tagged and monitored to determine the behavior, movement patterns, and potential predation (by the tagged predator fish) of tagged juvenile Chinook salmon.

"There was evidence of predation in the vicinity of the barrier for about six percent of the experimental fish. Overall, when the barrier was off

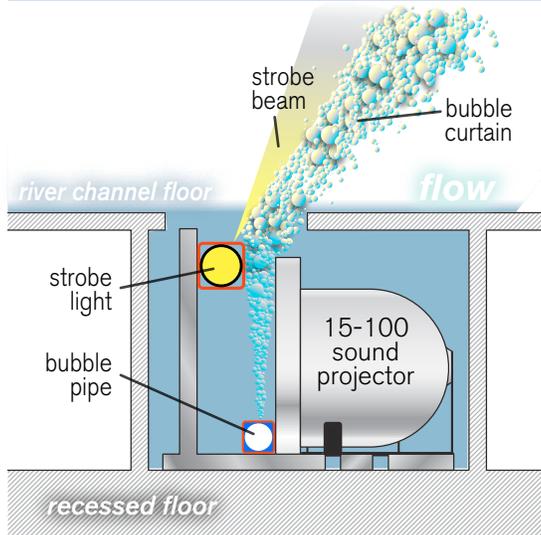


Left to Right: Jacob McQuirk and Josh Brown of DWR, Dr. Mark Bowen of the Bureau of Reclamation, and Dr. Russ Perry of the U.S. Geological Survey evaluate fish tracks. The team determined the fate of each individual experimental fish and the BAFF's potential behavioral effect on the fish.



NOAA chart 18662

This multi-stimulus fish barrier combines high-intensity light-emitting diode (LED) Modulated Intense Lights (MILs), an air bubble “curtain,” and sound at frequencies and levels that are repellent to Chinook salmon. The sound system and MIL flash rate can be tuned to known sensitivities of various fish species. Investigations indicate that the most effective acoustic deterrents for multiple fish species fall within the sound frequency range of 5 to 600 hertz (Hz). The sound is trapped by refraction within the bubble curtain, producing a sharply defined sound field that fish can only detect within a few meters of the barrier. The flashing MILs are aligned for the light beam to project onto the bubble curtain. This helps identify the bubbles so that the source of the sound can be determined by the fish.



approximately 22 percent of the fish entered Georgiana Slough and approximately eight percent entered when the barrier was on,” said McQuirk.

The Second Act

“The preliminary results present a high level overview. The barrier’s actual deterrence efficiency is still being determined and much more rigorous methods are being used,” according to DWR Senior Engineer **Ryan Reeves**, who will be project manager of the GSNPB study in 2012.

Ryan also points out that there is significant evidence to suggest that the movement and fate of juvenile salmon out-migrants may be affected by several conditions, including day-night phase, Sacramento River discharge, and tidal phase. Some of the environmental variables being considered to develop an understanding of the barrier’s effectiveness include the flow split between the Sacramento River and Georgiana Slough, water velocity along the face of the barrier, ambient light and water temperature, electrical conductivity, and turbidity.

Barrier operation effectiveness was also monitored for sound and light at several locations in the vicinity of the barrier at various depths within the

water column to determine the extent of the sound field and light field when the barrier was “on.”

The knowledge and understanding gained as part of the GSNPB studies are leading to solutions for the problem of California’s decreasing salmon and steelhead populations. They encourage actions under way in multiple agencies to maintain the long-term operations of the State Water Project and federal Central Valley Project while protecting salmon and steelhead.

Results from this 2011 study, which wrapped up in June, will be used to refine the BAFF and experimental design and operation for the study planned for 2012 and possible studies in future years.

Other participants in GSNPB study included the U.S. Bureau of Reclamation and U.S. Geological Survey.

“Further testing in subsequent years will be needed to fully address several areas of uncertainty, such as the response of barrier performance to large-scale variation in Sacramento River flows during the late-winter and spring period of juvenile salmonid emigration from the Sacramento River, but so far, it’s turned out to be an extremely worthwhile study,” said McQuirk

For more information about the GSNPB study, visit DWR’s Web site at: http://baydeltaoffice.water.ca.gov/sdb/GS/index_gs.cfm#Documents



SWP Reservoir Boat Inspections Intensify in DWR's Invasive Mussel Control Program

By Pete Weisser

Four years after the initial California discovery of invasive mussels, DWR has intensified boat inspections in its invasive mussel management program. Scientific research and State Water Project monitoring also continue.

Aided by expert consultants and allied with a statewide interagency team, DWR scientists lead a continuing fight to safeguard the State Water Project (SWP) from invasive mussels. Their chief weapons in this fight are scientific research, surveillance along the SWP, and an expanded boat inspection program at SWP reservoirs in Southern and Central California.

Quagga mussels were first reported in Lake Mead in January 2007. They soon spread via Colorado River diversions into more than 20 water bodies in Southern California. The SWP, which draws its water from northern Sierra watersheds, thus far remains free of quagga populations.

Zebra mussels, the only other invasive mussels found in California, were discovered in January 2008 in one remote small Central California reservoir---San Justo Reservoir near Hollister.

"We continue to use research, SWP surveillance and boat inspections to minimize risk of SWP infestation from these invasive freshwater mussel species," said **Tanya Veldhuizen**.

She and **Jeff Janik** are DWR environmental scientists and key staff members in DWR's Aquatic Nuisance Species (ANS) Program.

Quagga and zebra mussels are unwanted visitors in America. They arrived more than two decades ago, probably in boat ballast, from Europe.

Small and hardy, these invasive mussels can clog small diameter pipes, dramatically impact food webs of lakes and reservoirs and damage engines of boats and watercraft.



Expanded Boat Inspections

A key deterrent to quagga migration into SWP waters is inspection of watercraft being transported from infested water bodies.

Boat inspection programs at SWP lakes were expanded during 2011. Los Angeles County's Department of Parks and Recreation is now under contract to provide boat inspections and a boater education program at Pyramid and Castaic lakes, SWP reservoirs in Southern California.

Boat inspections went into effect at San Luis Reservoir in October 2011, under California Department of Parks and Recreation (California State Parks) supervision.

Above: California State Parks staff conducting boat inspection at Sawpit Canyon entrance to Silverwood Lake. Middle: Mussels clogging a small diameter pipe. (Photos courtesy of Metropolitan Water District of Southern California and Department of Fish and Game)

“All vessels entering San Luis Reservoir’s four boat ramp facilities will be inspected for quagga and zebra mussels prior to entering the water,” announced **Denis Poole**, supervising ranger, California State Parks. Poole explained that inspection programs like this are designed to prevent the spread of invasive quagga and zebra mussels into California reservoirs, aqueducts and water systems.

California State Parks has been conducting boat inspections at Lake Perris and Silverwood Lake, two other SWP reservoirs in Southern California, since April 2009. Boat inspection activities have also been ongoing at Lake Del Valle in the Bay Area and for commercially trailered houseboats at Lake Oroville in Butte County.

Scientific Mussel Research

DWR-directed investigations by RNT Consulting, DWR’s mussel consulting firm, indicate that most Northern California SWP lakes and reservoirs—including Lake Oroville—lack sufficient calcium and pH to nurture mussels. Central California facilities rank as slightly more suitable for mussels while Southern California water bodies seem suitable for mussels, based on calcium and pH.

DWR hired RNT in July 2010 to consult on invasive mussels. The firm has extensive experience with invasive mussel control in the U.S., Europe and South America. **Renata Claudi**, RNT’s chief scientist, has coauthored four books on invasive mussels.

DWR scientists Veldhuizen and Janik continue to conduct research on zebra mussels at San Justo to learn more about their growth and survival requirements, incorporating that knowledge into developing cost effective and environmentally safe methods to control mussels in the SWP.

They share their research and that of RNT with other water agencies engaged in mussel management, SWP contractors, hydropower operators, federal agencies, other researchers and especially with the Department of Fish and Game (DFG), which spearheads the State response to invasive mussels in California.

Susan Ellis, a supervising DFG biologist, heads the State’s Quagga and Zebra Mussel Interagency Team, which includes representatives from several State and federal agencies.

State agencies involved on the Interagency Team are the Department of Food and Agriculture, which checks for mussels at its border stations; the Department of Boating and Waterways, which conducts mussel outreach with California boat owners and provides partial funding for boat inspections at Perris and Silverwood lakes; California State Parks, which operates many State Recreation Areas with lakes and reser-

voirs for boating recreationists; and DFG, many of whose biologists and wardens are active in mussels control and outreach efforts.

DFG even has a select cadre of dogs trained to sniff out quagga mussels during boat inspections.

Federal agencies coordinating with the State on mussels include the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service and the U.S. Forest Service.

DFG also offers an informative online web page devoted to invasive species control activities. It’s accessible at:

www.dfg.ca.gov/invasives/quaggamussel/

SWP monitoring by DWR staffers trained to identify quagga and zebra mussels is a continuing standard early detection measure. Such surveillance efforts are staffed weekly to bi-monthly from April through October, when mussel reproduction is most active and the threat of their introduction to the SWP is greatest. During the cold weather months, surveillance is reduced to monthly samplings. More than 20 locations along the SWP are monitored regularly.

Bacterial Deterrent Research

Meanwhile, a private-sector effort continues to refine a bacterial deterrent to invasive mussels. Marrone Bio Innovations, a firm based in Davis, has developed a bacterial product, called Zequanox.

During 2011, Zequanox was approved by the U.S. Environmental Protection Agency (EPA) after testing at Davis Dam in the Colorado River, under auspices of the U.S. Bureau of Reclamation.

Testing focused on how the product should be formulated and delivered as a control agent for mussels without harming fish.

For use in California, Zequanox must obtain approval by the California Department of Pesticide Regulation (DPR). **Keith Pitts**, Marrone’s vice president for regulatory and government affairs, said the company hopes to obtain DPR approval early in 2012.

Zequanox would then be added to the more than 90 products already approved by DPR for use in controlling zebra and quagga mussels in the State. Zequanox is the only deterrent based on bacteria.

Above: Department of Fish and Game staff train dogs to detect invasive quagga and zebra mussels.





California Water Commission Storage Workshops

By Jennifer Iida

Store more water. It's a plea resonating across continents and in our own backyard. In California, storage is vitally important to meet a full range of water supply, environmental and farming needs, today and in the future.

The importance of water storage was the focus of California water leaders when they gathered last fall to discuss existing, planned and needed storage projects at two California Water Commission (CWC) Storage Workshops. Consistent with the 2009 water legislation, the water storage projects discussed at the workshop included CALFED surface storage projects; groundwater storage, prevention and remediation projects; conjunctive use and reservoir reoperation projects; and local and regional surface storage projects.

California has one of the world's largest and most productive water systems. It's an interconnected alignment of the State Water Project, the federal Central Valley Project and numerous regionally-managed water projects serving more than 35 million people and irrigating nearly six million acres of farmland.

"The future is about adding flexibility in how we manage our water supply, and looking to local and regional facilities to help with and enhance statewide systems," said DWR Director **Mark Cowin**, speaking at the first storage workshop last September at the California Automobile Museum in Sacramento.

Evolution and the Future

"We have to change our way of thinking," said Association of California Water Agencies Executive Director **Timothy Quinn**.

California's storage facilities have served the state well for flood management and supply, but greater flexibility is needed to meet the increasing challenges of expanding urban areas, climate change, ecosystem restoration and groundwater overdraft.

Propelling New Water Storage

A lively discussion of storage project types, their benefits and objectives took place during the two Water Commission workshops where nearly 350 water leaders gleaned ideas and information during the sessions.

"The two workshops were well attended and there were a diverse group of speakers," said DWR's Manager of Statewide Integrated Water Management **Kamyar Guivetchi**. "The workshops provided the CWC members and participants extensive and intensive information on existing and proposed water storage projects as outlined in the SBX7-2 legislation, as well as methods for evaluating their public benefits."

Panelists agreed on the need for new storage, but also that there are many unresolved questions about how surface reservoirs, or groundwater basins, or other facilities can be

Above: At the California Automobile Museum, water leaders gathered for the California Water Commission storage workshops.

engineered to meet multiple purposes, including water supply reliability, water quality and ecosystem restoration, and how to calculate public benefits in breaking down project costs.

In other words, building reservoirs and other storage facilities is vastly different today than in the past. "There are different challenges, threats and uncertainties and we have to adapt our infrastructure for the future," said MWH Engineer **Bill Swanson**, a member of the workshop panel.

The pulse of new approaches to water storage planning can be found in the current Los Vaqueros Reservoir expansion project in Contra Costa County and studies for the proposed Sites Reservoir in Colusa and Glenn counties, the possible raising of Shasta Dam north of Redding, the proposed Temperance Flat Reservoir upstream of Friant Dam on the San Joaquin River and the long-debated In-Delta Storage Program.

These new projects are envisioned to support aquatic and riparian ecosystem restoration focused on the Delta and its tributaries, improve drinking water quality, and help meet water supply needs of California's growing population and diverse economy.

Dealing with Dollars and Sense

Comprehensive water legislation passed in 2009 by the California Legislature calls for a \$3 billion investment to pay for public benefits associated with water storage projects. Public benefits categories include ecosystem improvements, flood control, water quality improvements, emergency response, and recreation.

The funding is tied to future passage of an \$11.14 billion general obligation bond, the Safe, Clean and Reliable Drinking Water Supply Act of 2012. The Act would provide funding for projects and programs to address ecosystem and water supply issues. The bond is comprised of seven categories, including drought relief, water supply reliability, Delta sustainability, statewide water system operation improvement, conservation and watershed protection, groundwater protection and water quality, and water recycling and water conservation.

Experts predict California's population will grow from 38 million to 50 million people in the next 30 years. During this time the complex statewide network of agencies that manage our surface and groundwater storage will have to work closely together because there is no single solution to meeting future water needs for homes, businesses, farms, and the environ-

ment. Cooperation, evaluation, creativity and trust will all be part of the big picture for future water storage dealings. Flat water rates may be applied across the board and supplies may be helped by desalination and conservation along with other efforts. However, California will need a more integrated system.

"These two workshops have begun to change the way we consider and talk about an array of projects – system reoperation and optimization, conjunctive surface-groundwater management, and more groundwater and surface water storage -- to increase and improve water storage, seen not as a silver bullet, but as part of a broader, diversified regional water portfolio," said Guivetchi. "There are many options

available for California to improve and increase its water storage infrastructure, and it will take significant effort, time and funding to make it happen."

Agencies and other groups participating in the water storage workshops included U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, Metropolitan Water District of Southern California, Public Policy Institute of California, Floodplain Management Association, Natural Heritage Institute, Yuba County Water Agency, Association of California Water Agencies,

Groundwater Resources Association, Kings River Conservation District, Kern Water Bank Authority, Sacramento Groundwater Authority and Regional

Water Authority, Contra Costa Water District, The Nature Conservancy, Sites Joint Powers Authority, Friant Water Agency, Delta Wetlands Project, Legislative Analyst's Office, Environmental Defense Fund, the Department of Fish and Game, and several engineering firms.

For more information on the surface storage investigations:

<http://www.water.ca.gov/storage/>

The California Water Commission's nine members are appointed by the Governor and subject to Senate confirmation. Its historical role includes advising the Director of the Department of Water Resources on matters within the Department's jurisdiction, approving rules and regulations, and monitoring and reporting on the construction of the State Water Project. The future of water storage continues to be a key issue for the Commission.



Association of California Water Agencies Executive Director Tim Quinn provided opening remarks at workshop on water storage in California from extraction to sustainability.



Ted Frink has commuted by bike up to 26 miles daily during most of his 20 years with DWR.

A Better Way

Today DWR employees are making a big impact, not only on their health, but also the environment.

IT IS NOT UNCOMMON TO FIND more DWR employees riding bicycles or driving in a vanpool to work these days. With the exercise, money savings, and environment inspiring many to make these transportation choices, DWR is taking part in helping its employees throughout California find more sustainable ways to get to work.

By providing bike lockers, van pools, and bus and light rail pass subsidies for employees, DWR is helping reduce commuter traffic, greenhouse gases, and air pollution resulting in healthier and more sustainable communities.

“These particular programs demonstrate that there are various transportation options available that DWR employees can use to become more sustainable,” said DWR’s Sustainability Coordinator **Mary Simmerer**. “Not all employees may use every option, but the combined impact of all these programs is significant. By consistently utilizing these programs, DWR employees can actually put sustainability concepts into everyday practice.”

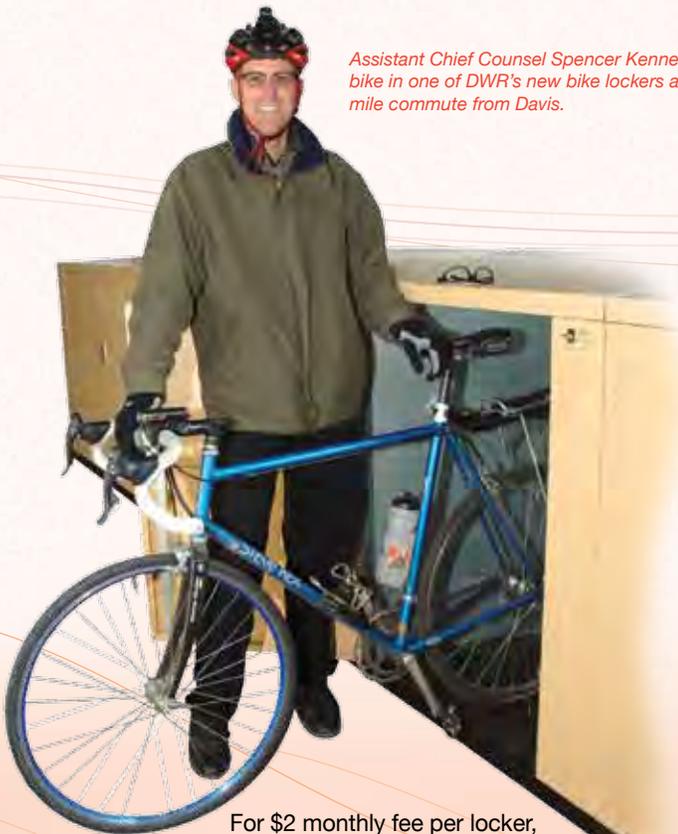
The demand for more sustainable methods of commuting to work has led DWR to create and expand several programs. With the creation of the vehicle pool program in June of 2011, employees will have a better option of traveling for work assignments in a DWR vehicle. To meet the increased bike locker demand by DWR employees, DWR recently purchased an additional 50 bike lockers. These programs are just a few ways that DWR is helping to promote sustainability every day.

Bike Locker Program

With more than 166 bike lockers throughout Sacramento, DWR employees can pedal to work and have more secure places to park their bikes. “The lockers provide a secure location for parking bikes which otherwise would have to be parked in the rain or be left in the open and subject to possible vandalism,” said Transportation Office Chief, **James Pearson** who has worked on the Bike Locker Program for the last 17 years.

Left to Right:
With a total of 56 roundtrip miles daily, DWR bike commuters and bike locker program participants include (Front) Senior Engineer Randy Beckwith of FloodSAFE at 5 miles, Environmental Program Manager II Ted Frink of FloodSAFE at 8 miles (Back) Senior Engineer Phil LeCocq of Engineering at 3 miles, and Staff Counsel Spencer Kenner of the Office of Chief Counsel at 40 miles.





Assistant Chief Counsel Spencer Kenner stores his bike in one of DWR's new bike lockers after his 20 mile commute from Davis.

“The bike lockers are my ace in the hole – security for the bike, shelter from the elements and steps from the shower. And a shout out to Allan Wong, charged with distributing the lockers, who’s reinvented the meaning of extraordinary service,” said **Spencer Kenner** of the Office of the Chief Counsel.

“Along with helping me reduce my costs for parking, car maintenance, and gas, the lockers have helped keep my bike safer.” Ted has commuted by bike into downtown Sacramento from Davis, Elk Grove and East Sacramento.

To participate in the bike locker program in the Sacramento area, contact James Pearson at (916) 653-9051 or jpearson@water.ca.gov

If you would like to learn more about the Bicycle Coordination Committee, contact acting chair Ted Frink at (916) 651-9618.

Vehicle Pool Program

The vehicle pool program allows DWR employees located at the Joint Operations Center, West Sacramento, and downtown Sacramento to have the option of traveling to work assignments in a DWR vehicle.

“Basically any employee in the greater Sacramento area can use any of the vehicles for state business if they are available via Outlook,” said Vehicle Pool Program Manager **Ann Bradell**. “All vehicles are now able to park at the State Garage across from headquarters.”

By allowing the vehicles to be booked via Outlook, DWR employees can easily determine which vehicles are available and book them well in advance.

The vehicle pool program created from nine vehicles gathered from several DWR divisions consists of five sedans, three minivans, and one truck. Two sedans and one minivan are located in downtown Sacramento. At the Joint Operations Center, there are two mini vans and one sedan. In West Sacramento, there are two sedans and one truck.

The vehicle pool program reduces the need for additional rental vehicles and utilizes DWR’s vehicles more efficiently.

“One of the major goals of this program is to track the actual vehicle usage and then, as circumstances permit, substitute electric or hybrid vehicles into the pool,” said Simmerer.



Vehicle Pool Manager Ann Bradell reviews log next to DWR's two sedans and one minivan located in downtown Sacramento.

For \$2 monthly fee per locker, DWR employees are renting 10 bike lockers at the Joint Operations Center on El Camino Avenue, eight two-tier indoor bike racks, 68 bike lockers at the Bonderson Building and 72 bike lockers at the Natural Resources Building in downtown Sacramento. Of the 50 new bike lockers, 12 lockers at the Natural Resources Building and 38 lockers at the Bonderson Building are currently being rented by DWR employees.

“With the additional new lockers, all DWR employees who have requested a bike locker now have access to one,” said Simmerer. “New secure day-use bike parking is being planned for employees who ride their bike between DWR facilities during the course of their work day. DWR is also instituting a bike locker share program for people who only ride a few times a month, but still want a secure place to store their bike.”

According to the September bike survey completed by more than 300 employees state-wide, 42 percent of the employees rode their bike to work in the last year and 35 percent of them ride four or more days a week. When asked what encourages them to bike ride, the reasons included 81 percent for exercise, 65 percent for saving money, and 44 percent for concern about the environment.

“Having a bike locker and shower facilities at DWR offices has been one of my perks in working for DWR,” said Environmental Program Manager II **Ted Frink** with FloodSAFE Environmental Stewardship and Statewide Resources Office who has commuted on bike from 8 to 26 miles daily for almost all of his 20 years with DWR.

“*“The bike lockers are my ace in the hole – security for the bike, shelter from the elements and steps from the shower.”*
Spencer Kenner”

"Ultimately, vehicle pool vehicles will reduce DWR's greenhouse gas footprint in addition to the other benefits."

Van Pool Program

In addition to providing a better transportation option to employees statewide, DWR's five field divisions are also helping reduce commuter traffic.

DWR's 23 vans located in Oroville, Byron, San Luis, Bakersfield, and Pearblossom are not only providing a way to travel to DWR assignments, but also an option for commuting to and from work.

"Although participants are fully paying for their transportation costs, the 200 employees participating in the vanpools are also taking part in helping reduce commuter traffic statewide," said Pearson.

Field employees interested in the van pool program should contact their Administrative Officer.

Subsidy Program

With the increase in gas prices and Sacramento's population, DWR employees' participation in the public transportation subsidy program has soared.

More than 400 DWR employees with some commuting from as far as San Francisco are currently participating in the subsidy program, which allows employees to be reimbursed 75 percent of the cost of their public transportation pass up to \$65.

"The purpose of the program is to benefit employees and the environment by subsidizing employee public transportation commuting expenses and by reducing traffic congestion and pollution," said DWR's Transportation Analyst **Zambia Cain** in the Office of Administrative and Executive Services. "DWR is obligated to make available to its employees subsidized transit passes, pursuant to Governor's Executive Order D-73-88."

New Transit Payroll Deduction Program

The DWR Transit Payroll Deduction Program (TPDP) allows DWR employees the option of having monthly transit pass fees deducted as a pre-tax expense from their paychecks.

"This program saves employees' "out-of-pocket" costs for a monthly transit pass and reduces Travel Expense Claims (TEC's) for the Department," said **John Engstrom** of DWR's Capital Outlay and Sustainable Business Practices Programs.

The TPDP, which was an initiative proposed by **John Dunnigan** of the Office of the Chief Counsel to the DWR Green Team, is now available to greater Sacramento area employees by emailing to: commuter@water.ca.gov



Diesel particulate filter installed on DWR's on-road diesel trucks.



DWR Fleet

The installation of 60 diesel particulate filters in 2011 is another way DWR's fleet is becoming more sustainable.

"These filters are trapping and storing the fine particulate matter that diesel creates," said Fleet Management Office Chief **Brian Borlace**. "Basically, it's the catalytic converter for diesel."

The filters were installed on DWR's on-road diesel trucks weighing 14,000 pounds gross vehicle located from Oroville to Pearblossom.

DWR also owns 314 alternate fuel vehicles located at 10 DWR locations statewide. There are 42 at San Joaquin Field Division, seven at Southern Region Office, and 41 at Southern Field Division. There are 18 at South Central Region Office, 23 in Los Banos, 26 at Delta Field Division, 98 in Sacramento, eight at Sutter Maintenance Yard, 15 at Northern Region Office, and 36 at Oroville Field Division.

By making the most of these various transportation programs, DWR employees embody the spirit of DWR's Sustainability Policy and help DWR "to become a sustainability leader and ecosystem steward within State government and the California water community."

SUSTAINABILITY TIP

TIRE SIZE	TIRE INFLATION PRESSURE	
	FRONT	REAR
P255/70R16 109S	(A) 180 (26)	180 (26)
	(B) 180 (26)	180 (26)

Ⓐ: TO 5 PASSENGERS
Ⓑ: TO MAX. LOAD OR TRAILER TOWING

PART NO. : MR491176 E

Keep Tires Properly Inflated

You can improve your gas mileage by up to 3.3 percent by keeping your tires inflated to the proper pressure. Under-inflated tires can lower gas mileage by 0.3% for every 1 psi drop in pressure of all four tires. Properly inflated tires are safer and last longer.

The proper tire pressure for your vehicle is usually found on a sticker in the driver's side door jamb or the glove box and in your owner's manual. **Do not use** the maximum pressure printed on the tire's sidewall.

Fuel Economy Benefit: Up to 3%
Equivalent Gasoline Savings:
Up to \$0.11/gallon

<http://www.fueleconomy.gov/feg/maintain.shtml>



IN THE
SPOTLIGHT

North Central Region Office

By Christina Jimenez

Two to four inches in diameter and to depths of more than 1,000 feet below the ground surface, monitoring wells are strategically placed from the Bay Area to Lake Tahoe and from Sutter County to the Delta by local agencies and the North Central Region Office (NCRO) to measure groundwater levels and groundwater quality. Although NCRO processes more than 8,000 well completion reports annually, monitors hundreds of groundwater wells, and collaborates and coordinates with many groundwater management agencies; groundwater management is merely one of the invaluable services NCRO provides to support the management of California's water resources.

As part of the Division of Integrated Regional Water Management, NCRO operates as liaison to local, State, and federal agencies and interests in central California across 27 counties. In addition to groundwater management activities, NCRO technical staff conduct a wide range of activities, including land and water use surveys, surface water investigations, bathymetry measurements, flow monitoring, water quality and supply evaluations, State Water Project (SWP) recreation planning, financial assistance, and outreach to help manage the water within their region and along the border with Nevada.

"NCRO supports many DWR programs by collecting and analyzing water resources data and conducting planning and outreach activities," said **Eric Hong**, NCRO chief since March 2010. "This work helps provide a fundamental basis for programs to use in their decision-making process."

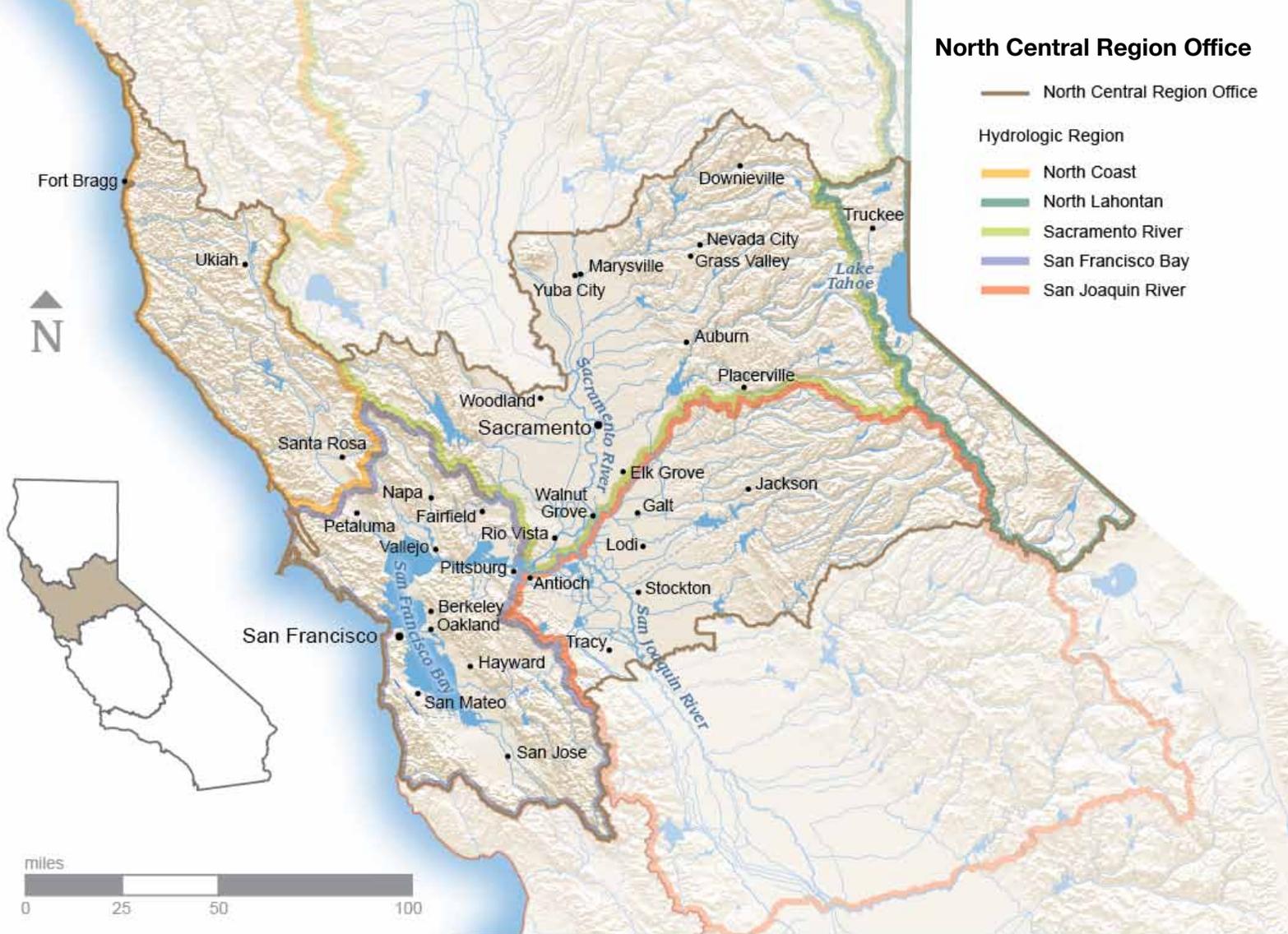
Established in the 1960s and originally known as the Central District, NCRO was created to administer support across its unique region. Today, based in West Sacramento with approximately 75 employees, the office is organized into four branches: the Administrative Branch, Water Management Branch, Resources Assessment Branch, and Regional Planning and Coordination Branch. With a wide range of expertise, NCRO staff includes engineers, scientists, engineering geologists, research analysts, IT specialists, technicians, administrative staff, scientific aides, retired annuitants, and student assistants.

Managing Groundwater Supplies

Since groundwater accounts for about 30 percent of the State water supply and is a major source of water for many residents, businesses and farmers, groundwater supply and land and water use data and studies are critical in the planning for future years.

"Many parts of the region pump groundwater for domestic, municipal, industrial, and agricultural uses," said NCRO's Water Management Branch Chief **Juan Escobar**. "One of the main management objectives is to prevent groundwater

Left to Right: Control Systems Technician I Tom Coleman and Water Resources Technician II Wayne Jensen of the Surface Water Data Section prepare to deploy a blue-tooth enabled river-ray trimaran velocity measurement boat. Engineering Geologists Tad Bedegrew and Erin Smith with the Geology and Groundwater Investigations Section, successfully retrieve a groundwater sample using a HYDRASleeve™ sampler from a monitoring well in Anderson Valley, Mendocino County. Dave Huston and Shawn Mayr conduct flow monitoring with a tagline using a boat-mounted acoustic doppler current profiler in the Yolo Bypass toe-drain at Lisbon Weir



overdraft which results when more groundwater is extracted than is recharged.” In areas of groundwater overdraft there is an increased potential for land subsidence, which can occur when clay sediments within a groundwater aquifer collapse due to the lowering of groundwater levels. Land subsidence due to excessive groundwater extraction has historically caused regional land surfaces to drop close to 30 feet in the Delta Mendota region of the San Joaquin Valley.

According to Escobar, the installation of monitoring wells helps show how groundwater levels change throughout the year and helps evaluate long-term trends in groundwater basins. With these data, groundwater managers are better able to plan for future use.

Beginning his DWR career as a student assistant in 1994, Escobar has worked with the Divisions of Engineering and Operations and Maintenance before making his way to NCRO, where he has spent the past six years.

Playing a large role in characterizing, monitoring, and managing the region’s groundwater basins are NCRO’s

engineering geologists. “The construction of groundwater monitoring wells and collection, evaluation, and reporting of groundwater level and quality data are fundamental components in the proper management and stewardship of our region’s groundwater resources,” said **Chris Bonds**, NCRO’s Geology and Groundwater Investigations Section chief. “Our engineering geologists are actively involved in and much sought after by local agencies in this cooperative groundwater management effort.”

Surpassing a decade with NCRO, Bonds has managed the NCRO’s engineering geologists for more than six years. Prior to overseeing the team, he worked alongside the group as an engineering geologist. Hand-in-hand with assessing the region’s groundwater supplies, NCRO staff also provides agricultural information by conducting land and water use surveys to help determine regional water demands and supplies. Each year, one or more counties in the North Central Region are surveyed. Land use surveys are conducted by NCRO staff traveling throughout the counties documenting the

crops grown and irrigation methods employed and entering this information into laptop computers. This data is then used to quantify current and projected future agricultural water requirements for local, regional, and statewide planning efforts, including updating the California Water Plan.

NCRO staff is also responsible for operating and maintaining 35 stations within the region that are a part of the California Irrigation Management Information System (CIMIS). These CIMIS stations provide weather data to the agricultural and landscape sectors, as well as the community for more efficient application of water for irrigation purposes.

Surface Water Data and Emergency Response

During most years, DWR installs and removes four temporary barriers in the south Delta to improve water levels, water quality and fish migration paths. The Bay-Delta Office manages this program and has contracted with NCRO since the program's inception to monitor hydrodynamic and water quality changes caused by the barrier operations.

"We measure water levels, flow velocities, water quality, and the channel bathymetry to ensure that the barrier operations do not negatively impact the environment and also that the barriers are installed and removed as per the design drawings. DWR wants to make sure the channels are returned to their original configuration," said **Bob Nozuka**, NCRO's Resources Assessment Branch chief.

The NCRO surface water specialists dedicate a large amount of time to studying water quality and quantity data in the Delta. "About 95 percent of our work deals with the Delta



Engineering Geologist Mark Souverville with the Geology and Groundwater Investigations Section performs a field evaluation of a soil sample collected during the drilling of the Sacramento River well test hole.

or waters that eventually end up in the Delta," said Nozuka of his team. "Our data is used for optimizing Delta operations, as well as for modeling and planning for future projects to help improve specific aspects of the Delta."

Working with DWR for nearly a quarter of a century, Nozuka has been with NCRO for the last 14 years. Prior to his role as branch chief, he provided technical expertise on surface water data collection.

Stage, tide and flow velocity stations are part of the network of data collection stations the NCRO surface water experts manage. "We operate quite a few stations for flood management that are specifically used as flood early-warning alert stations, as well as flood forecast points for high water," said Nozuka. NCRO staff also performs emergency flow measurements during the wet season at sites like the Yolo Bypass.

In similar reactive emergency work, NCRO houses one of DWR's six Incident Command Teams. "As part of emergency response, this is unique to our office," said Escobar. Consisting of 31 NCRO staff, the 34 member Incident Command Team #3 -- like all Incident Command Teams -- is trained and prepared to respond to flood response emergencies and is ready to deploy on short notice to emergency sites to deliver flood fighting assistance. The most recent activations of the team occurred during the floods of 2006 at the North Natomas Cross Canal and in Firebaugh.

Planning for Recreation and Water Management

In 1961, the implementation of the Davis-Dolwig Act assigned responsibility to DWR for recreation planning at SWP



Water Management Branch Chief and Incident Commander for Incident Command Team #3 Juan Escobar gives an incident briefing at the Incident Command Post in West Sacramento to respond to a simulated emergency response exercise in November.

facilities, as well as the preservation and enhancement of fish and wildlife. NCRO compiles data annually, with the support of local agencies, on facility recreation use and updates recreation planning information in SWP reports. The office also coordinates activities such as Catch A Special Thrill (C.A.S.T.) for Kids recreation events at lakes Oroville, Del Valle, Castaic, Silverwood and Perris.

“This 50 year old program is now supporting the development of extensive recreation enhancements at Lake Oroville, as well as inter-agency planning for Delta recreation,” said **John Pierre Stephens**, NCRO’s Regional Planning and Coordination Branch chief. Heading the branch for three years, Stephens has spent 17 years with DWR, including five years at the NCRO.

The branch also supports many other water supply planning, interstate water allocation, floodplain management, and financial assistance programs. These include the California Water Plan, the Truckee River Operating Agreement, the

National Flood Insurance Program, and Integrated Regional Water Management planning and implementation grants. **Gary Lippner** acts as NCRO’s regional coordinator to facilitate the office’s support of more than 50 DWR programs and coordination with hundreds of local and regional water agencies.

Managing for the Future

Comprehensive studies of California’s water resources are critical to planning and managing future water supplies.

“The work activities performed by NCRO are foundational for conducting planning efforts and studies,” said Hong, “Being able to provide that information to other programs and agencies to help them develop long-term plans allows us to be a valuable resource for DWR.”

With regional expertise, great teamwork and a band of motivated people, NCRO will continue to provide local agencies and DWR programs the critical data necessary to effectively manage central California waters.

Water Resources Engineer Bruce Shaffer of the Water Supply Evaluations Section collects information at the outlet works from Rector Reservoir in Napa County for a reservoir yield study.





San Gabriel Valley Municipal Water District

By Elizabeth Scott

One could call the San Gabriel Valley Municipal Water District (SGVMWD) the “little district that could.” In the midst of Southern California’s struggling economic climate, the SGVMWD boasts a rare accomplishment – water rates that haven’t been raised in 17 years.

“Above and beyond that, we’ve been able to provide grants and low interest loans of quite a bit of money to our member cities to use for city projects and to upgrade their infrastructure,” says Assistant General Manager **Dave Johnson**.

Much of the credit for these accomplishments goes to the forward-thinking board of directors leading the district. One example: In the 1980s when the district built a 1.05 megawatt hydroelectric power plant at its San Dimas turnout, and then entered into a 20-year contract to sell that energy to Southern California Edison.

“The federal government at that time was really upping the ante on green power and the whole idea of helping finance a design for a hydroelectric facility,” explains Johnson. The federal government in the 1980s provided financial incentives to implement production of green power, and SGVMWD recognized it had a perfect location to build. “It ended up being very lucrative for 20 years.”

He’s proud that the district is able to boast of that accomplishment. “Although a lot of folks got on board with Southern California Edison with those types of contracts, very few of them were able to satisfy them for 20 years,” Johnson explained. “We were one of the very few left that were able to accomplish that. A lot of other folks sold back their contracts or dropped off through the years, unable to satisfy their terms.”

To the benefit of the member-cities, what’s old is suddenly new again.

That hydroelectric contract, as well as investments carried for many years have paid off for the small six-employee, four-city member special district.

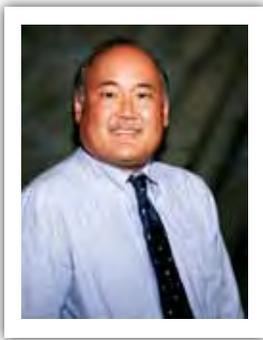
“Our primary purpose as a district is to benefit our four cities, Azusa, Sierra Madre, Monterey Park and Alhambra,” says Johnson. “When our cities over-pump out of the basin, we supply supplemental imported water to put back into the basin on their behalf.” Johnson explained that the district isn’t in the money making business, but formed to accommodate the four cities. “That’s what we were created in 1959 to do, and we’ve been doing that ever since. But this can be challenging because of the restrictions up in the Delta and the amount of State allocation,” stresses Johnson.

History and Management

In 1959, SGVMWD was created after approval from voters of Alhambra, Azusa, Monterey Park, and Sierra Madre. Today, the district is led by General Manager **Darin Kasamoto**.

Kasamoto has been with the SGVMWD since 1997. He was hired as the Assistant Manager and was appointed general manager in 2004. Previously employed by the Los Angeles County Department of Public Works as a civil engineer, Kasamoto holds a Bachelor of Science degree from Purdue

Left to Right: Built in 1985, the San Dimas Wash Hydroelectric Facility produces one megawatt of power (Serving approximately 500 homes). At the San Dimas Channel Rubber Dam, the water comes from the hydroelectric facility which uses the storm channel to divert the water into the local spreading grounds for percolation. With a maximum flow of 55 cfs, the San Gabriel Flow Structure water flows into the San Gabriel River.



*General Manager
Darin Kasamoto*

University in Civil Engineering, and a Master of Science Degree from California State University, Long Beach in Civil Engineering. He is also a registered professional engineer in the State of California.

Johnson joined the district in 1980 when he was hired as a maintenance operator. Johnson was promoted to assistant general manager in 2006. He's also been a senior operator and an operations foreman. Johnson has played an active role in the design, inspection, and operations of the district's facilities and projects, and has overseen the district's hydroelectric plant project for the past 20 years. He's also managed the corrosion projects, surveys, and studies performed on the pipeline to ensure its integrity.



*Assistant General Manager
Dave Johnson*

A Unique System

Serving a population of more than 200,000 people, SGVMWD with a service area of 27 square miles maintains facilities and the 38-mile Devil Canyon-Azusa pipeline. Constructed in 1972, the pipeline delivers water from the State Water Project (SWP) to the Main San Gabriel Basin. It runs west from Devil Canyon Metering Facility in the San Bernardino Mountains to the San Gabriel Canyon Spreading Grounds in Azusa.

"Our system is all gravity, no pumps, and that's unique," notes Johnson. "In fact, we have three pressure-reducing stations and turnouts to make the water manageable at the end."

As one of the 29 SWP Contractors, SGVMWD began its contract with DWR in 1962 for the delivery of 25,000 acre-feet of water per year from the SWP. To obtain 28,800 acre-feet of water per year, the contract was amended in 1964.

SGVMWD also uses the Los Angeles County flood control system to move its water and uses the county spreading grounds to recharge groundwater in the basin. This in itself proves to be challenging in different years for different reasons. "Operationally, we've had to be creative in many years," explains Johnson. "Throw a hydroelectric-generating contract in there, and it can be tough to pull off at times."

San Gabriel Canyon spreading grounds in Azusa.



But, despite the operational challenges, the district is in the process of working with an engineering firm on a feasibility study to possibly add four more hydroelectric powerplants on its system.

“Green power is big again, and many cities, like our member city of Azusa, have pledged to be an average 20 percent green from 2011 to 2013,” explains Johnson. “For other districts and cities, green power’s out there somewhere for them, but they have an issue of transporting it in. For our member city, it’s already here.”

According to Johnson, once the district satisfied the Southern California Edison contract, they entered into a 10-year agreement with the City of Azusa to sell power to them.

“It’s nice to be able to benefit one of our member agencies directly, and building those additional units on the system would enable us to do more,” said Johnson.

A Water Conservation Message

SGVMWD is a major proponent of conserving water in all ways in order to help address the region’s growing environmental and economic concerns. The district has launched a public education campaign to spread this practice throughout the San Gabriel basin.

“Our focus on conservation efforts is a result of our Board being responsible and recognizing that we all need to pull together here in the San Gabriel Valley,” explains Johnson. The board and our general manager continue to look for opportunities as a district for the benefit of the basin.”

Johnson says he’s proud that the district’s Board knows the issues facing the basin, and is willing to participate with other agencies to come up with different ways to rely less on imported water. He says that’s another reason the SGVMWD is unique.

“The whole idea of us getting out there with the message of water conservation has not always been a part of what we were trying to accomplish here,” says Johnson. He points out that over time water has become far more contaminated and that the basin now relies on so much imported water because so many more people have moved to what is basically

a desert.

“Then there’s the issue with the Delta smelt,” says Johnson. “That’s really just got everybody scratching their heads and realizing that we need to work together and figure out other ways so that we’re not so dependent and don’t find ourselves

in a situation here with more years of drought. The conserve mentality we had during the drought is now the mentality we need to have all the time here.”

The district has funded water conservation pilot programs in each of its member cities. The district’s objective is twofold: first, to save water at each location; and, second, to provide teaching examples of technology, materials and procedures that save water. Each member city has received grants in excess of \$50,000 to implement projects that demonstrate water conserva-



Pressure reducing stations along the Devil Canyon-Azusa Pipeline include inlet pressure at 300 psi and outlet pressure at 145 psi.

tion techniques such as water-efficient technology and equipment, water-wise and California native plants, and in-school curriculum.

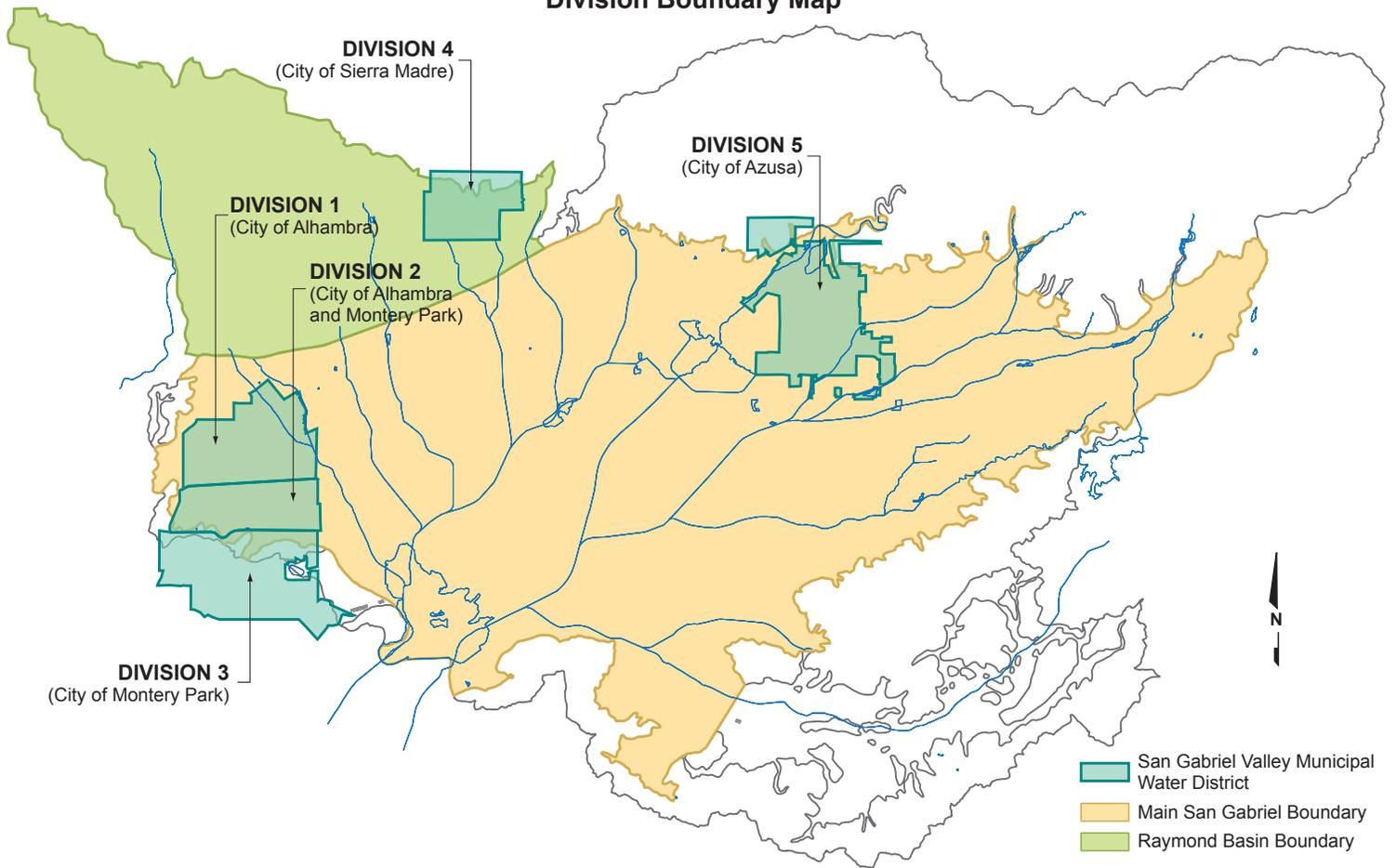
In Alhambra, The Gateway Plaza was transformed from a water-intensive turf lot to a water-efficient garden and demonstration project.

The City of Azusa has four pilot projects under way, one of which is located at the North Park Recreational Center. There the city has removed an old irrigation system and installed new, water-efficient irrigation equipment through the Memorial Park North Recreation Center Water Conservation Project. The city has placed educational signage at the Park and Recreation Center to inform residents about the project and the importance of water conservation as they walk through gardens displaying water-efficient vegetation, including California native plants.

At Monterey Park’s City Hall, planters lining the front of the building now have water-efficient equipment such as sprinkler heads and nozzles, as well as weather-based, “smart” water controllers. The planters have been re-vegetated as well to include more water-efficient species of plants.

The largest conservation pilot project to date is in the city of Sierra Madre, where two new steel reservoirs will be built. The Mira Monte Reservoir and Mt. Wilson Trailhead Water

**San Gabriel Valley Municipal Water District
Division Boundary Map**



Conservation Project are vital to fund because seismic deficiencies in the now-replaced water storage and distribution system could have disrupted the city’s water supply in the event of a major earthquake. The cost of the Mira Monte project is approximately \$8 million and is funded by water bond proceeds, a low-interest rate loan from the SGVMWD, local (SGVMWD) and federal grant money and repaid through water rates paid by all city residents.

SGVMWD’s Board of Directors, along with the general manager are looking well beyond meeting the immediate water supply needs of their member cities. They’re looking toward the future and recognizing how important it is to consider what the district can do for the benefit of everyone in the San Gabriel Basin.

“The Board and our general manager are actively trying to get involved to see what we can do here as a district for the benefit of everyone,” remarks Johnson.

What has SGVMWD figured out that other districts could learn?

“That there’s a vital need for all of us to come together, be

less political and work together for the good of the basin,” Johnson answers. “I do already see a push to really do that here. I see a lot of organizations meeting together trying to figure out ways, spending time and effort and even money to benefit everybody, not just for the benefit of one district.”

“I’m seeing water agencies and organizations really buckling down and saying, hey, let’s start working together to figure this out for the benefit of all of us. To me, that’s a big deal.”

Johnson says that in his 31 years with the district, he’s never seen such a push for so much basin-wide collaboration. “Everybody sees the need,” says Johnson. “Everybody really sees the writing on the wall.”

Hydropower License Planning and Compliance Office Staff Honored

By Rick Ramirez

A reburial ceremony was recently performed by tribal elders marking the end of a decades long journey for several ancient Native American remains. The rustic site was chosen by the tribe¹ for its natural, undisturbed beauty and proximity to the original resting place of the remains. Federal and state permits that protect the site in perpetuity facilitated the permanent transfer of the remains from a state facility in West Sacramento to this final resting place.

This long overdue reburial of remains was possible in large part to the unrelenting efforts of **Cassandra Enos-Nobriga**, program manager II, during her tenure with the Hydropower License Planning and Compliance

Office (HLPCO). As a result, she was honored by then Deputy Director **Raphael Torres** with a Meritorious Service Award for her critical role in working with tribes, State and federal agencies on this effort and coordinating the valuable input of the Real Estate Branch and Office of the Chief Counsel.

While these remains were not originally disturbed by DWR activities, they were collected with other long-buried Native American remains that were removed during the construction of Oroville Dam and stored in a climate-controlled, secured, state facility for over 50 years. Consistent with archaeological practices of the time, the remains were catalogued and examined for cultural resources information by the Department of Parks and Recreation.

Reburial of all the warehoused remains was discussed with the culturally affiliated tribes during the Oroville Facilities

relicensing process, but the complexity and sensitivities surrounding repatriation and reburial prevented a comprehensive solution. However, HLPCO did not give up and, focusing on a select subset of remains, began a low key effort that was

intended to provide a process blueprint for reburying all the remains.

Guided by the wishes of the tribe that was the most likely descendant of the selected remains, Cassandra immediately researched legal issues, met with tribal representatives, and engaged numerous State and federal agencies to fashion a workable solution that led to the reburial described above. Her ability to

combine perseverance, hard work, sensitivity, intelli-

gence, and foresight allowed her to creatively achieve a solution that appeared unattainable to many.

Deputy Director Torres noted, “Many times our efforts are measured in dollars saved, kwh of energy generated, or acre-feet of water saved. Cassandra’s success reminds us that the impacts of our public trust responsibilities aren’t always so easily measured. We are grateful she was able to bring her unique skill set to help realize our plan. We have high hopes for working with the tribes to bury the rest of the remains. Cassandra is truly deserving of the award.”

¹Editors Note: Tribal identity and site location are purposely omitted to maintain security for the remains.



Left to Right: With Lake Oroville in background, Raphael Torres, Cassandra Enos-Nobriga, and Rick Ramirez show award given for working with Native Americans on reburial efforts.

Training Coordinator Workshop for 2011

By Tiffany Navarrette

To help prepare for the 2011 Appraisal and Development (A&D) Program and learn about the latest training information, 33 of DWR's training coordinators gathered on August 9 for the Training Coordinator's Workshop at the DWR Training Center.

The annual Training Coordinator's Workshop is an opportunity for the Training Office to inform new and experienced training coordinators of their roles and responsibilities, provide information regarding updated training policy and procedure, and answer any questions that training coordinators may have regarding their expectations. Also, the Training Office solicits input from the training coordinators to ensure that DWR's training programs continue running smoothly.

With presentations from the Purchasing and Training offices, some workshop topics included Training Resources, the A&D Program, and the Upward Mobility and Career Related Fund.



Left to Right: (Front Row) Training Office Photo includes Chuck Borelli, Tiffany Navarrette, Michael Kelly-DeWitt (Back Row) Gareth Johnson, Sean Walsh, Brittany Davis, John Riehl, Russell Kiriu

Along with the information presented by the Training Office, it is the shared experiences and interactions among the training coordinators that provide a valuable asset for the training coordinators to best serve their division's training needs.

As the liaison between the division or office and the Training Office, a few of the training coordinator's assignments include ensuring that training information is available to all interested employees, assisting during the annual A&D Program, registering employees in DWR and State classes, and assisting employees with private and non-State class registration.

Left to Right: (Front Row) Diane Lewis, Darla Cofer, Jaime Cofer, Beth McNicholas, Leesa Kitts, Stacy Garrett (Middle Row) Brittany Davis, Sunita Tyagi, Nancy Kotko, Andria Avila, Marilynne Hite, Kimberly DeMille, Amber Woertink, Mikee Green, Cynthia Pollard, Judith Gould, Victoria Rodriguez, Debra Carlson (Back Row) Leticia Quintero, Tammy Kearney, Robin Storey, Sharon Jenkins, Natatia Wright, Christie Silva, Laura White, Beverly Snipes, Julie Pagenkopp, Susan Fredell, Gina Craig, Patricia Stanley, Elizabeth Bonora





2011 DWR Management Development Program Graduates

By Sean Walsh

With the 26 DWR mid-managers graduating in 2011, DWR's Management Development Program has graduated more than 450 mid-managers in the last 16 years.

To be part of this year-long internal training program, mid-level managers are nominated by their direct supervisors to participate. The program teaches participants more about DWR and helps them develop the tools to become more effective leaders. During the the program, participants team together to develop and complete a project, which could be implemented by the Department. Each team gives a presentation on their project on the final day of the program.

On October 26, 2011, the 2011 DWR Management Development Program came to a close with the five project teams giving their presentations to an audience, which included four Deputy Directors; **Dale Hoffman-Floerke, Gary**

Bardini, Kathie Kishaba, and John Pacheco, five Division Chiefs; **Kim Oliphint, Tim Garza, Rob Cooke, Richard Sanchez, and Dean Messer**, and San Luis Field Division Chief **Jim Thomas**, Human Resources Office Chief **Kathy Aldana**, Operations and Maintenance Water Management Branch Chief **Tracy Pettit**, SWPAO SWP Project Cost Branch Chief **Dave Paulson**, SWP Executive Manager **Ralph Torres**, Southern Field Division Operations Branch Chief **John Bunce**, and **Patrick Bell**, one of the MDP instructors from the University of California, Davis staff. **Kim Oliphint**, then Chief of Management Services, also served as the program mentor this year.

After the presentations were complete, the deputies and chiefs shared their thoughts and support of the participants, their projects, and the program in general.

Twenty-Five Years of Service



Richard Breuer
Environmental Services
Environmental Program Manager I
January 2012



David Canchola
Delta Field Division
Hydroelectric Plant Maintenance
Superintendent
January 2012



Gregory K. Brown
Delta Field Division
Control Systems Technician III
January 2012

Above: Left to Right: (Front Row) Kim Oliphint, John Pacheco, Tracy Hinojosa, Kathie Kishaba, Rob Cooke, Richard Sanchez, John Bunce, Gary Bardini (Middle Row) Terry Gaines, Nazrul Islam, Sheryl Moore, Cheryl Barros-Keeton, Karen Gehrts, Kora Bitcon, Katie Adams, Dale Hoffman-Floerke, Jennifer Dong-Kawate, Julie Myers, Hamid Eshraghi, Scott Crist, Janet-Marie Salinas, Edward Mentz, Marc Hoshovsky (Back Row) Aaron Miller, Chris Wilkinson, Brent Lamkin, Doug McElvain, Joseph Tapia, Gary Lippner, Eric McGrath, Jeff VanGilder, Don Anderson, Dana Martinez, Michael Tufts

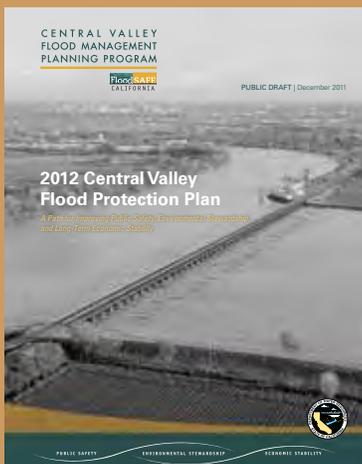


Mother Nature's Silver Lining to a Record Dry December and January

Ice skating on Tenaya Lake in Yosemite is a very rare event. The last time you could do this was in 1930. The road is usually closed due to snow and the lake is snow covered. This year the road was open until mid-January allowing passage to the frozen lake in conditions ideal for skating.

DWR Bay-Delta Office Senior Engineer Kathleen Buchnoff of the Delta Conveyance Special Studies Section ice skating on Tenaya Lake in Yosemite.

Public Draft 2012 Central Valley Flood Protection Plan Presented to Board



DWR presented the Public Draft 2012 Central Valley Flood Protection Plan (CVFPP) to the Central Valley Flood Protection Board (Board) on January 27, 2012 in the Natural Resources Building auditorium. Representing DWR were Deputy Director **Gary Bardini**, Chief of Division of Flood Management **Keith Swanson**, Chief of Central Valley Flood Planning Office **Jeremy Arrich**, and Environmental Program Manager **Marc Hoshovsky** of the FloodSAFE Environmental Stewardship and Statewide Resources Office.

State law requires DWR to prepare the CVFPP to reduce risk and impact of flooding in regions protected by the state plan of flood control. The CVFPP recommends a state system-wide investment

approach to improve public safety, ecosystem conditions, and economic sustainability, while recognizing financial challenges facing local, State and federal government agencies. This is a significant milestone for California. The CVFPP was developed through a robust engagement process with more than 450 people dedicating hundreds of hours.

The Board is expected to review the plan, receive public comments, and then revise and adopt a final CVFPP by July 1, 2012. To view the plan, visit <http://www.water.ca.gov/cvfmp/documents.cfm>

DWR Apprentice Graduates for 2011

Congratulations to the following 14 Operations and Maintenance Apprentice Program Graduates



Lori A. Grimes
Hydroelectric Plant Operator
Southern Field Division



Erika D. Arias
Hydroelectric Plant Operator
San Joaquin Field Division



Oscar I. Dupont
Hydroelectric Plant Electrician
Southern Field Division



Harrison Trevor Hunter
Utility Craftworker
Sacramento Maintenance Yard



Andrew Freitag
Utility Craftworker
Sutter Maintenance Yard



Richard Hurte
Utility Craftworker
Sutter Maintenance Yard



Justin Bronson
Utility Craftworker
San Luis Field Division



Joseph R. Rodriguez
Hydroelectric Plant Operator
San Joaquin Field Division



Ian LaBon
Hydroelectric Plant Operator
Southern Field Division



Jacob Stamm
Hydroelectric Plant Operator
Southern Field Division



Johnathan Lowell Starks
Hydroelectric Plant Electrician
Southern Field Division



Kyle E. Morris
Hydroelectric Plant Mechanic
Delta Field Division



Antonio R. Perez
Hydroelectric Plant Mechanic
Delta Field Division



Marcus A. Jenkins Jr.
Hydroelectric Plant Mechanic
San Joaquin Field Division

Retirements

Judith Cole



Pumps, generators, and valves are no strangers to Retired Chief Planner and Scheduler **Judy Cole**. During her 33 years with DWR, she not only worked with these parts at all nine San Joaquin Field Division's pumping plants, but she also taught and directed the training of 140 apprentices to work on them.

"My most rewarding assignment was with the Training Center," said Cole, who was operations and electrical instructor for four years and supervisor for 10 years at the Operations and Maintenance Apprentice Center at San Joaquin Field Division (SJFD). "I believe I assisted a good number of apprentices to better themselves and had an opportunity to share my knowledge and experiences."

Although she never imagined herself working in a pumping plant while attending Bakersfield College with plans to become a math teacher, Judy knew she was ready for career change after working as a clerk typist for Workers Compensation Insurance Fund in Bakersfield from 1974 to 1978.

"I wanted a greater challenge than I had as a clerk typist," said Judy. "I am also a night owl and so working evenings and nights fitted my personality."

After entering the program in 1979, Judy became a graduate of the Hydroelectric Plant (H.E.P.) Operator Program in 1982.

Along with Edmonston Pumping Plant, which is the largest of the State Water Project pumping plants, Judy worked at all SJFD pumping plants. As H.E.P. operator, she operated pumps, generators, auxiliaries, switches, valves, aqueduct facilities, and turnouts from unit control panels, plant control rooms or remotely from control centers.

In 1995, she was promoted to senior H.E.P. operator assigned to the start-up crew of Coastal Phase II. She oversaw the construction of Polonio, Devil's Den, and Bluestone Pumping Plants.

Her next assignment was with the San Joaquin Field Division Area Control Center, where she started, synchronized, regulated, stopped and secured generators and pumping units. She also controlled aqueduct flow by remotely controlled checks and turnouts.

Judy returned to the San Joaquin Field Division Training Center as instructor in 1996. She taught technical courses for operations and maintenance personnel. In 2000, she became supervisor of the Training Center and chief operator at Chrisman and Teerink Pumping Plants. A decade later, Judy ended her DWR career as chief planner and scheduler at San Joaquin Field Division.

Since November of 2011, Judy is no longer planning and scheduling for DWR, but for her life as a retiree.

"I plan to learn to golf, travel starting with a cruise to Hawaii in January, attend nieces' and nephews' sports and school events, take crafts classes with my sister, volunteer work, and anything else that fits my fancy," said Judy.

Retirements

Kenneth Andrade
San Luis Field Division
Utility Craftworker

Arthur Baikie
Southern Field Division
HEP* Mechanic I

Diane Bowlan
Flood Management
Staff Services Manager I

Luis Carrillo
Operations & Maintenance
Program Water & Power Dispatcher

Gary Faulconer
Southern Field Division
Staff Environmental Scientist

Robert Floyd
Operations & Maintenance
Senior Water & Power Dispatcher

Dolreich Fua
Central Valley Flood Protection Board
Supervising Engineer

Loreto Garcia
Operations & Maintenance
Water & Power Dispatcher

Ronald Hall
Southern Field Division
Senior HEP** Utility Engineer (Supv.)

Gary Hankins
San Joaquin Field Division
HEP* Electrical Supervisor

Khondkar Majidul Islam
Safety of Dams
Engineer

Tim Johnston
Engineering
Transportation Surveyor

Joanne Koopman
Southern Field Division
Business Service Officer I

Denise Lasater
Engineering
Associate Governmental Program Analyst

Jennifer McGough
Southern Field Division
Utility Craftworker

John Meininger
Engineering
Associate Mechanical Engineer

*Hydroelectric Plant
** Hydroelectric Power

Retirements

Frank Glick



Frank Glick, one of DWR's top geologists, retired in October 2011, ending a 33-year career.

In the first half of his career, Glick worked in the field, traveling extensively and working on a wide variety of geologic assignments. These included geological studies for the California and Coastal Aqueducts and investigations for

the Peripheral Canal. After becoming Project Geology chief in 1994, he focused on running the office that provides expert geologic services to key DWR divisions, including Engineering, Operations and Maintenance, and occasionally Flood Management.

Director Mark Cowin noted that over the years Glick received 10 unit citation awards for excellent geologic work on State Water Project facilities, special projects and emergencies throughout the State.

"Your 33 years of geologic contributions to the Department are unsurpassed. Literally, nobody knows the geologic conditions and the records of the California State Water Project better than you," said Cowin. "Some people may say you have left no stones unturned."

Glick joined DWR in the Southern District in 1977 as a student assistant, working part-time while earning a Bachelor's Degree in Geomorphology at California State University, Northridge. Active in scouting as a boy, Glick wanted a career working outdoors. "When I took Geology 101," he recalls, "I knew that was the field I wanted to follow --- the study of the earth's surface."

"I spent five years working and putting myself through college," he remembers, "I worked as a printer, as a box boy and then checker at an Alpha Beta grocery store."

Upon graduating in 1979, Glick passed DWR's junior engineering geologist exam, was hired, and moved to Sacramento. He worked with about 10 other geologists in Project Geology, on the fifth floor of the Resources Building. The unit would double in size over the next two decades, with little staff turnover.

Many of Glick's assignments involved both design and construction. He performed geologic study and analysis of areas related to the State Water Project throughout California. His favorite projects involved exploration relating to the Los Vaqueros and Los Banos Grandes dams, South Geysers Powerplant and the Devil Canyon Powerplant facilities.

Glick worked on numerous emergencies dealing with levees, fires and the California Aqueduct. In February 1997, he helped on flood emergency duty in the town of Walker on the east side of the Sierra. "We were able to save houses and put the Walker River back into its channel," he reports. "It was the most exciting emergency flood work I have performed."

In 1986, Glick became a licensed professional geologist, and in 1989 he became a licensed certified engineering geologist.

As a veteran geologist, Glick taught classes and served on exam panels for more than 20 years. In the late 1980s, he helped bring Computer-Aided Design and Drafting (CADD) capabilities to the Division of Engineering. This helped DWR progress technically into computerized geologic maps.

Excellent DWR geologists and engineers helped Glick sharpen his professional skills. Glick's role model was his first supervisor, Hal Allsup, who helped improve his writing skills and taught him about engineering geology. Glick also acknowledged DWR engineers he has worked with, including Ralph Torres and Carl Torgersen, and especially Les Harder, an engineer with a doctoral degree, who "asked the most questions and held me to the highest standards." Glick also credits the skills of his coworkers, including the recently retired Ted Bruce, and his current supervisor and Geotechnical Services Branch Chief Jeanne Kuttel, for helping Project Geology achieve high standards of productivity. Frank hopes to do some future geologic work for DWR as a retired annuitant.

A boater, camper and travel aficionado, Glick and his wife, Kathy, plan more travel in retirement. Frank also hopes to pursue a longtime hobby of researching Boy Scout history and collecting scouting memorabilia.

Retirements

Bill Hom



Bill Hom retired on December 31, 2011 after a 38-year career with the Department of Water Resources. A native of Hong Kong, Bill moved to the Bay Area as a teenager and attended San Jose State University where in 1974 he earned his Bachelor of Science degree in Civil Engineering.

Bill was drawn to engineering after his older brother became an engineer. "I could see that it was a good field that combined science with public service," he explains. "I liked the idea that civil engineering contributed to society by building roads and other infrastructure that served the basic needs of daily life. I liked being part of the reason why when you turn on the faucet, water comes out."

Bill's first job out of college was with the Southern District office (today the Southern Region Office) as a junior civil engineer, working on wastewater reclamation practices in California and conducting inventory of wastewater treatment plants in Southern California. This assignment, along with others, sent Bill out to work with the public, helping local agencies and water districts address their local water issues. Bill liked the public service aspect of the job and as his career advanced with the Department, he sought out projects that gave him an opportunity to continue assisting local agencies and communities.

During his 27 years with Southern District, Bill rose through the ranks as an assistant engineer and associate engineer. He earned his professional engineer license in 1983, and was promoted to senior engineer in 1989. Bill was assigned to work in the field after several presidential declared disasters, conducting flood damage inspections in Los Angeles, Ventura, Santa Barbara, and San Bernardino Counties. In 1989 and early 1990, he was in the Bay Area performing earthquake damage inspections after the 1989 Loma Prieta Earthquake.

In 2000, Bill moved to Sacramento to join the Division of Flood Management, where he remained for the final 11 years of his career. During this time he was a member of the emergency response teams during the 2004 Jones Tract Levee Break and the two flood events of January and April 2006.

But it was again working closely with the public that Bill was most noted for within the Division of Flood Management, in that he was the lead for the National Flood Insurance Program's community assistance visits and floodplain management workshop activities. Bill, at the time of his retirement, was responsible for 15 floodplain management workshops annually where he and his staff helped community officials, engineers and surveyors to understand the National Flood Insurance Program and how to efficiently manage floodplains development and mitigate flood loss.

Don't expect Bill to take a back seat in his retirement years. Remaining a public servant at heart, Bill plans to get back out there, providing community service through volunteer work.

Retirements *continued*

Raul Meza
State Water Project Analysis Office
Engineer

Charles Ragsdale
Operations & Maintenance
Senior Water & Power Dispatcher

Henry Rick Ramirez
Executive
Chief of Utility Operations

Mark Reimer
San Joaquin Field Division
Utility Craftworker Supv.

Mark Richert
San Joaquin Field Division
HEP* Electrical Supervisor

Maghsoud Saghaimarroof
Engineering
Associate Electrical Engineer

Mildred Simmons
Statewide Integrated Water
Management
Staff Services Manager I

Cheryl Stonich-Elam
Oroville Field Division
Control System Technician II

Samuel Sublett
Engineering
Supv. Engineer Equipment and
Materials Section

Forest Tull
Oroville Field Division
Maintenance Mechanic

Diane Verhines
Operations & Maintenance
Water & Power Dispatcher

Daniel Whisman
Flood Management
Principal Engineer

*Hydroelectric Plant
** Hydroelectric Power

Retirements

Curtis Johnston



Curtis Johnston took part in several rewarding DWR projects during his 32 years in the field of operations.

“I have been involved with a variety of situations over the years that has made working for DWR a great experience,” said Curtis, who retired as hydroelectric plant operations superintendent for San

Joaquin Field Division in December.

After starting his DWR career at Delta Field Division, Curtis joined Southern Field Division and became part of the team of operators on the startup of Warne Powerplant in 1982. He was later promoted to senior operator to West Branch plants in Southern Field Division, where he worked with engineering and test groups to determine the early run out problems with Alamo Pumping Plant Unit 1.

Curtis worked at Edmonston, Chrisman, and Teerink pumping plants and participated in the SAP Business 2000 project as San Joaquin Field Division’s (SJFD) chief operator

He became SJFD’s HEP operations superintendent in 2000. He participated in the Valley String Peaking Study and Tehachapi Afterbay Enlargement Feasibility Study that led to completion of the Tehachapi East Afterbay facility.

During his plant operations supervision in the last 16 years, Curtis led SJFD’s Operations Branch in making sure the plants and aqueduct facilities were operated safely and efficiently.

In 2009 and 2010, he assisted with the review and update of the Project Operations and Maintenance Instruction OP-2, which is the most significant revision of Operation and Maintenance’s Safe Clearance Procedures document that employs a Lock Out - Tag Out protection program to permit workers to work safely on normally dangerous equipment.

Most recently he had been project manager for the current SAP Work Clearance Management Software (WCM) “Operational Switching” program upgrade. This upgrade includes many processes that are used to prepare switching orders to isolate equipment into SAP. “This should make preparing switching documents easier and more efficient and it also should make the business of switching safer,” said Curtis.

Curtis also had the pleasure of serving as a member of the Hydroelectric Trades Joint Apprenticeship Committee for more than 10 years and felt enormous satisfaction in helping shape the careers of many DWR journey operators, mechanics, and electricians.

“I was also involved over the years in developing and teaching a variety of training classes including Project O&M Instruction, OP-2 Certification, High Voltage Switching, Electrical Safety training, and various leadership training classes,” said Curtis.

Curtis said he is grateful for all the wonderful people he has worked with over the years and the special relationships that have transpired.

“I don’t think you find many organizations today where you have known and worked with so many individual employees over a span of 20 to 30 years. That kind of loyalty and professionalism is very unique in the business environment today,” said Curtis.

Curtis is looking forward to traveling around the country and conquering projects around the house, but his number one priority is family.

“Most of all I want to spend more time with my wife, Maureen, daughters Sandy and Jennifer, son Curtis and his wife Jodi plus five grandkids whom I want to enjoy before time gets away,” said Curtis.

New Hires

Virginia Afentoulis
Bay-Delta Office
Environmental Scientist

Stephen Ambrose
Engineering
Assoc. Elect. Engineer

Allison Balino
Flood Management
Research Analyst I

Danielle Jolene Bohlen
Engineering
Mechanical Engineer

Justin Alamares
Engineering
Engineer

Christopher Bailey
San Joaquin Field Division
Utility Craftworker

Heather Bartos
Oroville Field Division
Office Technician (Typing)

Jeremy Bradford
Delta Field Division
Utility Craftworker

Retirements

Kim Oliphint



Born and raised in West Sacramento, **Kim Oliphint** began her State service with the Department of Health career right after graduating high school in 1974. “I thought I was rich,” said Oliphint of her \$2.12 per hour youth aid salary.

Thirty five years later, Kim is exiting State service with 23 of those years dedicated to DWR’s Human Resources and Business Operations, where she most recently served as Division of Management Services chief since September 2008.

While finishing up her Bachelor’s of Science degree in Business Administration at the California State University, Sacramento in 1987, Kim began her career with DWR as an associate personnel analyst. Prior to DWR, she spent more than 10 years with the Board of Equalization.

During her 23 years with DWR, Kim worked on a variety of personnel and department-wide projects. She highlights a handful of assignments from the 90s as her most rewarding projects.

“In 1992, I was the first Staff Manager over a Personnel Transactions Unit in the State and started up the Statewide Personnel Transactions Manager’s forum that is still going strong today,” said Oliphint.

From August 1996 to October 1997, Kim was the administrative officer for Executive and Division of Management Services during the Dave Kennedy and Bob Potter era.

“I really enjoyed working with them, especially Bob Potter. He was a very special (and funny) guy and it was an end of an era for the Department.”

In 1997, Kim was the Human Resources team leader for the original SAP implementation project. Starting as a project team of six, the assignment progressed to more than 80 staff and consultants. They worked on changing employee time reporting and Human Resources transactions from paper to electronic filing.

“Back then it was our first attempt at doing a big project. It was just really interesting to work with great people, make a lot of contacts, just very rewarding to go from a paper based human resource system and now it’s all electronic,” said Kim.

Kim plans to return to DWR as a retired annuitant to see through some existing assignments, including DWR’s safety and fuel management projects. She will also be mentoring employees and teaching some DWR training courses upon her return.

Kim also plans to spend her retirement with family. On her travel itinerary, and in the luxury of her new condo on wheels, are family trips to the San Francisco Giants spring training in Arizona, Northern California’s Lake Almanor, and visiting her college-bound daughter in Monterey. She is also looking forward to volunteering in her 12-year old son’s classroom and spending time with her mom.

New Hires *continued*

Alex Caputo
Fiscal Services
Accountant Trainee

Victor Carter
Delta Field Division
Utility Craftworker

Rosy Chan
Delta Field Division
Electrical Engineer

Samantha Cherry
Management Services
Office Technician (Typing)

Anthony Chu
Operations & Maintenance
Prog. Manager II, CA Bay-Delta Auth.

Andrew Cutlip
Flood Management
Engineer

Andrew Devalk
Southern Field Division
Junior Engineering Technician

Cynthia Escobar
Executive
Office Technician (Typing)

Morgan Forbush
Oroville Field Division
Mechanical Engineer

Kristin Ford
Flood Management
Environmental Scientist

Christine Found-Jackson
Integrated Regional Water
Management
Southern Region
Environmental Scientist

Jana Frazier
Oroville Field Division
Guide II

Sergio Fuentes
Engineering
Associate Cost Estimator

Eric Gifford
Engineering
Electrical Engineer

Greg Harvey
Flood Management
Engineer

Maggie Hunnicutt
Executive
Office Technician (Typing)

Russell Kanz
Executive
Prog. Manager II, CA Bay-Delta Auth.

Manisay Khamphanh
Environmental Services
Environmental Scientist

Bryce Kozak
Bay-Delta Office
Fish & Wildlife Technician

Retirements

Bonnie Ross



As a child, DWR Environmental Scientist, **Bonnie Ross** says she was a plant, insect and animal “freak” and dreamed of becoming a marine biologist who would make a difference like Jacques Cousteau. Well, life on the high seas didn’t pan out, but an enduring and rewarding career along California’s rivers did.

California’s abundant wildlife and recreational resources have kept Bonnie bouncing for decades but ultimately retirement beckoned and she decided to hang up her full time field gear on November 1, 2011.

Before life with DWR, Bonnie worked at the Bronx Zoo for four years as a zoology specialist and graduated from the University of Connecticut with a degree in Animal Husbandry. She then came to California to get a Bachelor of Science degree in Biology and a Master’s in Marine Biology from San Jose State. She earned a second Master’s in Conservation Biology at Sacramento State. Her degrees led to a job with the County of Sacramento’s Parks Department as a naturalist and the Department of Fish and Game as a fish and wildlife scientific aid. She began her DWR career in 1995 as a scientific aid in the Division of Environmental Services before being hired at the Division of Flood Management.

“One of my favorite DWR assignments was working on the Flood Protection Corridor Program because I started at the inception and we actually saw projects completed!” said Bonnie.

Bonnie enjoyed working as an environmental scientist in the Flood Projects Branch, partnering with Corps planners and evaluating project environmental impacts, as well as coming up with mitigation plans, and preparing the necessary environmental documents.

“Since December of 2005, I’ve been in DFM, mostly in the Flood Maintenance Office as an environmental lead for flood maintenance projects. Having been here for 16-plus years, I have gained a lot of experience and friends, so I am a sort of a “go to” person for information, which I really enjoy,” said Bonnie

Bonnie added she is grateful for the associations and friendships she has made with other State and federal coworkers and that they will be fondly missed, but the favorite part of her career was working at the Effie Yeaw Nature Center on the American River and sharing nature with kids.

Nevertheless, balancing her new retirement phase will not be a problem for Bonnie with a variety of activities already in the works.

“Travel adventures, playing in my vegetable and native plant gardens, docenting, delivering nature programs to elementary school kids and cleaning out the garage are all on my list,” said Bonnie.

New Hires *continued*

Jeremy Lepage

San Luis Field Division
Control System Technician II

Jason Little

Flood Management
Engineering Geologist

Tyler Lynch

Southern Field Division
Junior Engineering Technician

Melissa Mark

Operations & Maintenance
Office Technician (Typing)

David Maurin

Engineering
Associate HEP** Utility Engineer

Jennifer McClure

San Joaquin Field Division
Office Technician (Typing)

Michael Musto

Flood Management
Engineer

Benjamin Pertubal

San Joaquin Field Division
Control System Technician II

David Pfluger

Operations & Maintenance
Precision Electronics Specialist

Reynalou Reyes

Operations & Maintenance
Office Technician (Typing)

Andrew Sanchez

Operations & Maintenance
Heavy Equipment Mechanic

Donald Santos

Bay-Delta Office
Fish & Wildlife Technician

Suzanne Shoblom

Fiscal Services
Office Technician (Typing)

Jagdeep Sidhu

Flood Management
Engineer

Samantha Sparks

Bay-Delta Office
Office Technician (Typing)

Jessica Spurlock

SWP Analysis Office
Engineer

Michelle Stout

Executive
Office Technician (Typing)

Alyssa Stutz

Oroville Field Division
Engineer

Michelle Swink

Operations & Maintenance
Office Technician (Typing)

Andrew Tate

Engineering
Engineering Geologist

** Hydroelectric Power

Retirements

Bob Jordan



As a child, **Bob Jordan** enjoyed taking things apart and putting them back together. This marked the start of Bob's more than 46 years as a troubleshooter.

His desire to learn about electronics led Bob to repairing radios for the U.S. Air Force during the Vietnam War. From 1984 to 1986, Bob worked for Sacramento's

AT&T installing and repairing telephone for several State buildings, including the Resources Building.

After his layoff from AT&T, Bob began his 14 years with DWR's Management Services in the Communications Office as an assistant control systems technician in 1986. As part of a team of five that installed DWR's first own telephone system, Bob researched, purchased, and installed DWR's telephones throughout California.

"Before the new phone systems at DWR, if employees had a problem, they would call the local telephone company to lease new phones or have repairs made," said Bob. "The new systems allowed DWR to purchase and repair its own phones, thus saving the Department a great deal of money. This was brand new territory, not only for DWR, but every State agency."

In the early 1990s, Bob was assigned to build DWR's first computer network from design to installation. He helped design the wide area network from the Eureka Flood Center to Devil Canyon Powerplant, installing hubs, routers, and wires for each DWR facility to connect to DWR's fiber optic backbone cable. This provided for a continuous, Department-wide network.

During his installation of phone lines and computer wires, Bob was under almost every desk at DWR.

"My goal was to standardize everything to make it all the same, so that anyone could come in and see the logic of what had been done and do the repairs," said Bob. "I kind of view myself as a pencil sharpener. My job is to keep your pencil sharp to keep you working."

Although Bob is proud of his role of bringing DWR into the information age, he does note some regrets. "Computers have greatly changed the work atmosphere," said Bob. "It has taken over people's lives. It has reduced human interaction and imagination."

In 1999, Bob joined the Y2K project with the project management team to make sure all DWR electronics was up to par for Y2K.

"The Control System techs did actually find some flow meters that would stop working, so they had to be revised," said Bob.

Bob joined DWR's Division of Technology Services' Network Client Support as an associate information systems analyst. He installed and repaired computers for the Division of Management Services from 2001 until he retired in 2011 as a staff information systems analyst.

As a troubleshooter for life, Bob's retirement plans include continuing his hobby of restoring Volkswagens. Along with spending more time with his wife of 45 years, he plans to rebuild a 1967 Volkswagen.

New Hires *continued*

Christiana Theonard
Fiscal Services
Senior Accounting Officer (Supv.)

Monette Vandermaiden
Fiscal Services
Accounting Officer

Matthew Wood
Engineering
Mechanical Engineer

Patrice Thomason-Bell
Fiscal Services
Staff Services Manager I

Joan Weber
Engineering
Senior Engineer

Veronica Wunderlich
Bay-Delta Office
Environmental Scientist

Garrett Townsend
Flood Management
Maint. and Serv. Occup. Trainee

Christopher Williams
Flood Management
Utility Craftsworker

Retirements

Rosette Hall



As part of the Southern Region Office's Administrative Branch during her 23 years with DWR, **Rosette Hall** found great reward in helping employees reach their training, travel, and other administrative goals.

"I enjoyed my work," said Rosette. "Overall, I have had a memorable experience with my

career at DWR Southern District (now known as the Southern Region Office). I worked with great people. I will miss my co-workers, and everyone I worked with in the Department."

When she joined Southern District as an accounting clerk II in 1988, she manually processed all travel expense claims, accounts payables, and bank reconciliations. She also acted as the district's training coordinator.

After two years, she was promoted to an accounting technician, then management services technician, utilizing the

department's enterprise SAP application. In addition to compiling statistical information for various reports, she processed all training, travel, conferences, conventions requests, and accounting functions. Along with assisting with personnel functions and timekeeping, Rosette helped monitor program expenses compared to budget. Her cheerful and helpful nature was to assist wherever needed. Rosette was meticulous in her work, with a keen eye for details.

In 1994 and 2003, she received a Meritorious Service Award for the quality of service that she provided.

Before joining DWR, she worked several years for banks. She served in the accounting department, and also served as translator for five languages in the international department. She also managed the computer department.

Rosette loves to travel and has done so throughout Europe and other countries.

Her retirement plans include doing volunteer work, taking classes, and traveling more.

Promotions

Roshanak Aflatouni
Engineering
Associate Electrical Engineer

Vince Alvidrez
San Joaquin Field Division
HEP* Electrical Supervisor

Joanne Arcilla
Management Services
Assoc. Govern. Program Analyst

Michael Barrera
Southern Field Division
HEP* Mechanical Supervisor

Gene Barry
Engineering
Supervising Engineering Geologist

Kari Bianchini
Engineering
Senior Engineer

Darick Blake
Engineering
Structural Design Technician II

Justin Bronson
San Luis Field Division
Utility Craftworker

Autumn Brown
Engineering
Executive Secretary I

Katrina Burkett
Management Services
Staff Services Analyst

Eric Butler
Central Valley Flood Protection Board
Supervising Engineer

Tseng-Jung Chen
Engineering
Structural Design Technician III

David Collier
San Joaquin Field Division
HEP* Mechanic II

Hilario De Guzman
Engineering
Senior Specification Writer

Simarjit Dhanota
Integrated Regional Water
Management
Engineer

Erica Fong
Flood Management
Environmental Scientist

Joel Galyan
San Joaquin Field Division
HEP* Mechanical Supervisor

Steven Garcia
FESSRO***
Engineer

Charles Garrett
Engineering
Water Resources Technician I

Kimberly Goncalves
Executive
Assoc. Govern. Program Analyst

Elaine Hall
Management Services
Staff Services Manager II (Managerial)

Marie Hancock
Delta Field Division
Control System Technician II

Ashley Hemping
State Water Project Analysis Office
Engineer

Lisa Huff
San Luis Field Division
Business Service Assistant

Ronald Jackson
San Joaquin Field Division
Utility Craftworker Supv.

Timothy Kennelly
Operations & Maintenance
Supervising HEP** Utility Engineer

Elise King
Integrated Regional Water
Management
Assoc. Govern. Program Analyst

Jeffrey Kuhl
Safety of Dams
Senior Engineer

*Hydroelectric Plant
** Hydroelectric Power
*** FloodSAFE Environmental Stewardship
and Statewide Resources Office

Retirements

Katy Spanos



After more than three decades, **Katy Spanos** is leaving the Department of Water Resources (DWR) as an Assistant Chief Counsel in the Office of the Chief Counsel, where she devoted a great deal of expertise to environmental law, dam safety, climate change and statewide and regional water management. “I have worked in

almost every substantive and procedural area of DWR, with the exception of employment law,” said Spanos of her 32 years with DWR.

The Minnesota native began her State service in 1977 with the Department of Food and Agriculture after earning her Juris Doctorate from the University of California, Davis in 1976. Katy also earned a Bachelor of Arts degree in Russian Studies from the University of Michigan in 1970, and a Certificate of Studies in Political Science at the Institut de Science Politique in Paris, France.

Two years after joining the Department of Food and Agriculture, Katy began her career with DWR as a Staff Counsel in 1979. Throughout her years with the Department, she has worked on a wide variety of projects. Her most cherished include the 1979 Peripheral Canal legislation and developing alternative energy sources for the State Water

Project during Governor Edmund G. Brown Jr.’s first administration. She also enjoyed learning the ins and outs of complex Delta issues.

However, of all the projects, “starting the Environmental Coordination Committee in 2007-8 with Delores Brown, chief of the Office of Environmental Compliance in DES at the time, has to be one of the most significant things I have done,” said Spanos of the intra-agency committee. “It is pretty exciting to see how it has grown and become an established part of DWR culture, and developed its own subcommittees on subjects such as wetlands, recreation, land use, environmental stewardship and water quality.”

While reflecting on her favorite aspect of DWR and what she will miss most, Spanos highlights the people of the Department. “The people. The people. The people. I can’t imagine a better place to have worked. The caliber and commitment of DWR employees is outstanding. They really give of themselves – both to their work and to their colleagues – but they also understand and respect the importance of family.”

As one chapter closes and her retirement journey begins, Kate is looking forward to having the time to clean the garage, organize files and spend time with family, friends and neighbors. “I am also looking forward to having time to take trips. I’ll start out small with walks in the neighborhood and around Sacramento; then short trips to nearby places in Northern California. There is so much to see close by,” said Spanos.

Promotions *continued*

Ian A. Labon
Southern Field Division
HEP* Operator

Deborah Lewis-Barbour
Operations & Maintenance
Supervising Telecommunications
Engineer

Victoria Mathews
Southern Field Division
Control System Technician II

Dale Moisio
Southern Field Division
HEP* Mechanic II

Michelle Morrow
Executive
Assistant Chief Counsel

Jesus Murillo
Southern Field Division
Control System Technician II

Loi Nguyen
Integrated Regional Water
Management
Assoc. Govern. Program Analyst

Andrew Pendery
Engineering
Construction Supervisor II

Leslie Pierce
Statewide Integrated Water
Management
Prog. Manager I, CA Bay-Delta Auth.

Charles Reece
Environmental Services
Staff Environmental Scientist

Christopher Ridley
Operations & Maintenance
Electrical Engineer

Joseph Rodriguez
San Joaquin Field Division
HEP* Operator

Tony Small
Engineering
Associate Land Agent

Gerald Snow
FESSRO***
Staff Environmental Scientist

Stephani Spaar
Environmental Services
Environmental Program Manager II

Jacob E. Stamm
Southern Field Division
HEP* Operator

*Hydroelectric Plant
*** FloodSAFE Environmental Stewardship
and Statewide Resources Office

Promotions *continued*

Brendan Thorpe
Engineering
Mechanical Construction Supervisor I

Chris Tracy
Safety of Dams
Senior Engineering Geologist

Twylla Winslow
Fiscal Services
Staff Services Manager II (Managerial)

Tiffany Navarrette
Management Services
Training Officer I

Michael Wright
Central Valley Flood Protection Board
Senior Engineer

Eric Wulff
Safety of Dams
Senior Engineer

Oleg Yakimov
Integrated Regional Water
Management
North Central Region
Water Resources Technician I

*Hydroelectric Plant
** Hydroelectric Power
*** FloodSAFE Environmental Stewardship
and Statewide Resources Office

Obituaries

Loren Andrew Jacobs



Loren Jacobs, a retired hydroelectric plant senior operator with the Division of Operations and Maintenance in San Joaquin Field Division, passed away at the age of 78 on October 9, 2011.

After 20 years as an electrician in the Navy, Loren joined San Joaquin Field Division as a hydroelectric plant operator in 1970. He took

part in the Edmonston Pumping Plant dedication ceremony with then-Governor Ronald Reagan in October of 1971.

As an operator, he worked at Chrisman Pumping Plant and Teerink Pumping Plants. After his promotion to senior operator in 1974, he worked at the Area Control Center, where he managed the startup and stop of all units at SJFD's pumping plants. After 24 years of State service, Loren retired in 1994.

He is survived by his wife Claire, younger sister Sally, his two children Eric and Julie, and four grandchildren.

Frederick Maciel



Fred Maciel, a retired senior information systems analyst, passed away at the age of 71 on October 4, 2011.

Fred began working in the computer field in 1966 as a student assistant for the Division of Operations and Maintenance. He became a programmer II in 1968 with the Computer Services Office.

In 1971, he joined Caltrans as a data processing manager I. After a decade, he returned to DWR as data processing manager II supervising the Information Systems and Services Office (now Technology Services) Client Services Branch. He was also a member of the Y2K Project Team. After 36 years with the State including 20 years in DWR's Division of Technology Services, he retired in 2002.

He is survived by wife Amy, three children, four grandchildren, his mother, two brothers, and a sister.

Lori Moke

Lori Moke, former associate management analyst with DWR, passed away at the age of 54 on October 31.

During her 32 years of State service, she worked for DWR's Fiscal Services, Operations and Maintenance, and Management Services until joining Employment Development Development in 2000. In 1998, Lori was DWR's employee transportation coordinator. In addition to her several awards

for being a DWR volunteer trainer, Lori also received a certificate of appreciation for being part of the SAP Phase I Implementation Team.

Lori is survived by her husband John, a daughter, a son, two grandsons, four brothers, and two sisters.

Obituaries *continued*

Thomas S. McLean



Thomas S. McLean, retired senior engineer in the Sacramento Project Headquarters, passed away at the age of 77 on October 28, 2011 in a Texas nursing home.

During his 38 years with DWR from 1959 to 1997, he worked on several State Water Project facilities throughout California. In addition to his work on the California

Aqueduct, he worked on the Bottle Rock Powerplant, East Branch, and North Bay Aqueduct. He retired as a senior engineer for Field Engineering in the Division of Design and Construction's (now Division of Engineering) Sacramento Project Headquarters. Thomas became a lifetime member of the DWR Alumni Club. He enjoyed playing golf with Design and Construction employees.

"As my mentor, he taught me many things in construction administration that even with the current new technology,

advanced software, and innovative policies, these practices are still of high value to me and still part of DWR procedures," said Construction Supervisor II Rey Ballesteros of the Sacramento Project Headquarters. "He was a very nice and well-mannered man, smart and organized, yet practical and reasonable. I enjoyed and was honored working for him."

As part of the original crew, he also worked on Whale Rock Dam, the first major dam designed and built by DWR near Cayucos, California.

"Mr. McLean was very dedicated to his work and established many professional and personal friendships throughout his years with the Department," said DWR's Emergency Preparedness and Security Manager Sonny Fong, who worked with Thomas at Sacramento Project Headquarters. "He traveled and worked on many large projects such as East Branch Enlargement and the North Bay Aqueduct System. He is remembered by many construction staff as a great friend and mentor."

Thomas is survived by seven siblings.

Nelson Granzella



Nelson Granzella, a retired DWR photogrammetrist II and Navy veteran of the attack on Pearl Harbor, passed away November 16 at the age of 93.

A Sacramento resident, Nelson's 20 years with the Navy began at the age of 17 after high school. While sleeping in quarters aboard the USS Wapello in Pearl Harbor,

Nelson was awakened by Japanese bombs exploding on nearby Hickam Field on December 7, 1941. In 1944, Nelson and his crew of the USS England, a destroyer escort, received a presidential citation for sinking a record six Japanese submarines in 12 days, according to his Sacramento Bee obituary.

After serving as a chief quartermaster in Washington D.C., London, and Morocco on photo intelligence assignments,

including aerial photo interpretation during the Cuban Missile Crisis, Nelson joined DWR in 1983 as a photogrammetrist for the Division of Land and Right of Way (now part of the Division of Engineering). As part of the Surveys and Photometrics Office, Nelson operated a plotter and other equipment to help produce hundreds of maps of the State Water Project for design and construction, operations and maintenance, and right of way engineering.

Nelson not only survived the attack on Pearl Harbor, but also won his battle against throat cancer.

"He was an absolute joy," said Cindy Beach, who worked with Nelson at DWR in the 1980s. "He was full of life and was such a positive and fun person. His passing is such a loss for all."

Born in Richmond to Italian immigrants who were grape growers in the Napa Valley, Nelson is survived by his wife of 58 years, Helen, two sons, and two grandchildren.

DWR NEWS/People
Public Affairs Office
1416 Ninth Street, Room 252-21
Sacramento, CA 94236-0001

STATE OF CALIFORNIA • DEPARTMENT OF WATER RESOURCES

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.