STATE OF CALIFORNIA • DEPARTMENT OF WATER RESOURCES

DWR NEWS | *People*

WINTER 2008–2009

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The California State Water Project (SWP) is widely recognized as one of the premier engineering achievements of the last century. In 2001, the American Society of Civil Engineers awarded the State Water Project its "Civil Engineering Monument of the Millennium" in the category of water supply and distribution. This impressive distinction was the result of ASCE surveying its national membership in late 1999 to determine the 10 civil engineering achievements that had "the greatest positive impact on life in the 20th century."

Besides being honored as an engineering wonder, it is fitting that the SWP was also recognized for contributing to the economic health of California in making it one of the largest economic powers in the world. Indeed, it is hard to imagine what life in California would look like today without the benefits provided by a safe and reliable water supply system.

The Department of Water Resources (DWR) takes great pride in having shepherded this great California asset from conception more than 50 years ago to its current role in meeting the water resource needs of 25 million Californians with 32 storage facilities, reservoirs and lakes, 17 pumping plants, three pumping-generating plants, five hydroelectric power plants, and 701 miles of open canals and pipelines.

Over the 50 year life of the SWP, DWR has launched many engineering and technical programs and activities to maintain the operational health of the SWP and conform to the requirements of utility operation in modern day California. While these efforts have been historically successful, there is increasing evidence that routine state institutional support for these efforts is no longer able to keep pace with the dynamic business environment in which the SWP operates as a water and power utility.

Despite being a state agency with a unique mission, DWR's SWP operation is subject to the same oversight regulations from the Department of Personnel Administration, Department of General Services, Department of Finance, and the State Personnel Board as any other state agency. The standard review times and protocols employed by these agencies are often not conducive to the unique needs of a state run utility and frequently place DWR at disadvantage in meeting the business and operational needs of the SWP.

As a result, continued safe and reliable operation of the SWP is now a major concern among those in DWR who have responsibility for that operation. That concern is magnified when considering the new operational challenges for the SWP in response to climate change, drought, environmental protection, judicial orders, and new regulatory requirements.

During the next few months we must find immediate and long term solutions that will allow California to continue depending upon the SWP to reliably provide the benefits it urgently needs now and in the future.

Raphael Torres
Deputy Director

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***Left to Right**: From its creation to the field work, Chief of Geodetic Branch Scott Martin, Project Manager Chuck Owens, and Acting Chief of Conjunctive Water Management Branch Eric Hong have witnessed the extensive contributions that the Sacramento Valley Global Positioning System network is making to the engineering and scientific communities in Northern California.*

GLOBAL POSITIONING SYSTEM

Technology Helps DWR Keep Track of Subsidence

By Don Strickland

Many Americans would probably be surprised at the number of "spin off" products that have made their way into mainstream society from the United States space program.

Most know about the breakfast drink "Tang," but there's a plethora of consumer items that began in space, including: enriched baby food; scratch-resistant lenses; aerodynamically improved golf balls; athletic shoes; shock-absorbing helmets; smoke detectors; trash compactors; and sports bras.

The Global Positioning System, or GPS, is a space-based radio navigation system that's becoming a staple of everyday American life…a very handy device for getting from here to there in your car or figuring out where you are on a backcountry hike. GPS devices provide accurate location and time information in all weather conditions, day and night, anywhere in the world.

Working with about 20 federal, state and local agencies, DWR is now using GPS technology to measure land surface elevations in the Sacramento Valley. After survey data is published by the National Geodetic Survey, it can be used for a number of purposes including monitoring for land subsidence induced by groundwater pumping, floodplain mapping, and public works projects.

"To establish a GPS network in the Sacramento Valley, DWR felt it was important to involve local agencies in the planning and implementation of the project," said Conjunctive Water Management Branch Supervising Engineer

At one of 340 stations in the Sacramento Valley, Dave Landon from the Butte County Public Works Department monitors a geodetic quality GPS unit at station located in Colusa County. Station locations were determined based on four criteria: network spacing, safety, stability, and public accessibility.

Eric Hong. "Although this created some additional challenges, the local agencies' participation enhanced the overall project and their support helped ensure it's success."

The Sacramento Valley GPS geodetic control network covers all or part of 10 counties, or about 5,000 square miles, and includes approximately 340 stations or survey points. It extends from northern Sacramento County eastward to the U.S. Bureau of Reclamation's (USBR) Folsom Lake network, southwest to DWR's Delta/Suisun Marsh network, and north to the Bureau's Lake Shasta network. It also includes all of two smaller pre-existing geodetic networks in Yolo and Glenn counties.

To complement the regional GPS network, DWR also monitors 13 extensometers in the Sacramento Valley, a technology that produces a continuous record of elevation changes at one location.

DWR NEWS/People spoke with Project Manager **Chuck Owens** of the Conjunctive Water Management Branch at the Division of Planning and Local Assistance (DPLA) and **Scott Martin**, Chief of the Division of Engineering's (DOE) Geodetic Branch.

Has the survey data been published and is it being used by DWR and other agencies?

(Owens) No, the National Geodetic Survey (NGS) has not yet published the baseline data, which is now being processed. When NGS does publish the results in the National Spatial Reference database, the information will be valuable to DWR's Division of Planning and Local Assistance (DPLA) and the Division of Flood Management (DFM). Cities and counties will also be able to use the data for a variety of public works projects – roads, buildings, bridges, etc. For subsidence monitoring, the network must be re-surveyed to measure net changes in elevations by comparing new survey data with the baseline survey data.

> *"Cities and counties will also be able to use the data for a variety of public works projects – roads, buildings, bridges, etc."*
>
> Chuck Owens
> Division of Planning and Local Assistance
> Conjunctive Water Management Branch

(Martin) DFM will be able to use the published values for the network stations as reference for floodplain mapping efforts in the region. Other potential DWR uses include control for bathymetric (underwater) surveying, high water event surveying, and levee repair work. Having one large cohesive network ensures that all data collected in reference to any of the stations will fit together seamlessly in tools such as Geographic Information Systems (GIS) software.

Which DWR divisions have been involved with this project?

(Owens) DPLA conceived and managed the project, DOE performed technical work, and DFM contributed financially. DPLA contracted with Frame Surveying & Mapping to establish the network stations with the NGS and coordinate the GPS survey, which was estimated to cost about $600,000.

Project Manager Chuck Owens of the GPS network project in the Sacramento Valley has seen the project grow from 75 to 340 stations since he assisted in the project's conception in 2006.

Global Positioning System

Transportation Surveyor Abraham Magdaleno reviews observation parameters and conditions during a field survey at Miller Park in Sacramento. Depending on the satellite constellation geometry and availability, some periods during the day may not be suitable for high precision observations.

DFM contributed $100,000, USBR $200,000, and DPLA the balance. I asked the ten counties and at least as many water districts in the network area to contribute labor and equipment for the GPS survey, and more than 20 agencies and 47 staff participated. This resulted in significant savings to the overall project cost. The local agencies participated from start to finish, as did the two federal agencies, USBR and NGS.

Has this kind of thing ever been done by DWR?

(Owens) Yes, DWR established a much smaller network in the Delta/Suisun Marsh area using entirely DWR resources in 2002. The Sacramento Valley network is one of the largest 2 cm vertical accuracy networks in the world. The collaboration with counties and water agencies was unique and added to the complexity of coordinating activities to establish the network. However, involvement by the locals in this project greatly enhanced the network that was established – we took care to ensure that the network design also met the needs of the participating agencies.

(Martin) The Sac Valley network is one of the largest, perhaps the biggest in terms of area, Height Modernization (referenced to the North American Vertical Datum of 1988, now the Federal and State standard) GPS networks in the United States. We are very proud of the contributions that this network will make to the engineering and scientific communities in Northern California.

What have been the results of this project?

(Owens) Actually, this project is an ongoing land subsidence detection monitoring program. The first and most significant milestone was completed in June, 2008, with the establishment of the network and conducting the baseline GPS survey. Monitoring for subsidence induced by groundwater pumping depends on periodic measurements and comparing the new data with the baseline data to measure changes in elevations. It is anticipated that data from subsequent GPS surveys will be posted on DWR's website for all to see and use.

Does the new GPS system represent a major improvement in the way you measure land surface elevations…?

(Owens) Yes it does. The method is not brand new, but having the huge network of stations where it's needed gives us a capability that we did not previously have.

(Martin) As I mentioned, any data collected using the stations in the network anywhere in the 5,000 square mile coverage area will fit together with any other data also using this network. For an agency doing mapping and modeling over very large areas, this is extremely important.

STUDIES HELP PREPARE OWENS

Chuck Owens grew up in the San Fernando Valley and studied engineering geology, hydrology and fluvial geomorphology at a few schools including Cal-State University Northridge, University of California, Los Angeles, Cal-State University Los Angeles, and Cal-State University Fullerton. After a decade at the State Water Resources Control Board and a one-year detail as a Regional Program Manager at U.S. Army Corps of Engineers Headquarters in Washington D.C., he came to DWR in April 1998.

Most of his DWR work has been in the Sacramento Valley – conducting conjunctive use investigations, modeling, installing wells, and managing grants, contracts and projects.

"Since the senior thesis for my BS degree in Geology focused on Central Valley subsidence," he says, "the Sacramento Valley GPS Project has brought me full circle back to this familiar subject – subsidence."

Global Positioning System

You have 340 "survey monuments" in the system. Please explain what they are and their importance…?

(Owens) The stations or "monuments" have been surveyed into place so we know their exact positions, vertically and horizontally. There are different types of stations but most are brass discs embedded into existing concrete structures like headwalls or flood gates. Where there are no suitable existing concrete structures, we drive an eight foot long steel rod, or multiple rods, into the ground until hard materials are encountered and we can't go any further.

(Martin) One of the key benefits derived from involving the local agencies in this project is that they are now aware of where the stations are located in their respective areas, which means they will be more likely to use and protect them.

> *"One of the key benefits derived from involving the local agencies in this project is that they are now aware of where the stations are located in their respective areas, which means they will be more likely to use and protect them."*
>
> Scott Martin
> Chief of the Division of Engineering's Geodetic Branch

One function of the system is to monitor for subsidence caused by groundwater pumping. Is that kind of subsidence a big problem in California…?

(Owens) Pumping-induced land subsidence is a sizable problem in the San Joaquin Valley, and it occurs locally in some other places, but it's not a big problem now in the Sacramento Valley. The Sacramento Valley GPS network is needed to detect subsidence so that pumping may be curtailed before subsidence is a big problem. Many Sacramento Valley local agencies have Groundwater Management Plans with a Basin Management Objective to protect against subsidence, so the GPS network will help them implement their plans. Accurate elevations are important for various purposes and subsidence monitoring is DPLA's purpose for this network. What can happen with groundwater, if too much is pumped, is the water occupying void spaces between the coarse geologic materials is removed and the materials compact and fine materials between aquifers are compressed. Then aquifer capacity is lost and the ground surface subsides. When DWR conveys water between two points and there's subsidence between the two points, then water will pond there instead of moving to where it's needed. That's why subsidence monitoring is important to DWR – to protect conveyance and engineered water management structures.

(Martin) There are areas along the California Aqueduct near the town of Huron where the land elevations have subsided nearly 30 feet in the past 50 years, primarily do to groundwater extraction, causing some serious problems with the California Aqueduct through this area.

***Left to Right**: Scott Martin of the Division of Engineering and Eric Hong of the Division of Planning and Local Assistance review Sacramento Valley GPS network stations map.*

Devices called "extensometers" have been used for some time to check subsidence. One near Zamora (between Woodland and Dunnigan) shows six inches of ground elevation decline between 1994 and 2007. Do you consider that to be an alarming statistic…?

(Owens) No, I wouldn't say "alarming," but the area is actively subsiding and we know the cause. The Yolo-Zamora Water District doesn't supply water to farmers within its boundaries because it doesn't have surface water. So, everyone is on wells, there's a high density of wells, and the collective pumping is causing subsidence. For engineered water conveyances, even small changes in hydraulic gradients are important to flow, and therefore, subsidence is important to water management agencies.

A great deal of attention is being focused on the Delta… with subsidence one of the major concerns. Will your new system be of help in the effort to deal with Delta subsidence…?

(Owens) As I said earlier, the Delta already has a GPS network like the one we just established in the Sacramento Valley. The problem with measuring subsidence is that there's no single method that does it all and that's why, at least in the Sacramento Valley, we're planning to use three different methods: GPS, extensometers, and a satellite method. That is what's needed in the Delta.

(Martin) The Delta Network was last surveyed in 2002, but was originally created in 1997. Movement is underway to fund another campaign to survey that network early in 2009 to give us another set of comparison data to look at for the Delta. This update will help with the many projects ongoing in the Delta and give us a more accurate reference system to make sure we are designing facilities to accommodate predicted sea level rise.

The new GPS system is currently covering all or part of 10 Northern California counties. Any plans to expand it?

(Owens) There's a network of sorts in the San Joaquin Valley now, but it doesn't cover enough area and may not be of geodetic quality. I think a similar program of three methods (GPS, extensometers, & InSAR) should be established for the Sac Valley, the Delta, and the San Joaquin Valley because subsidence at all three have potential to seriously impair water conveyance. If it were my job, I'd ask the local agencies to participate in the design and field surveys – DWR should practice integrated regional water management by leading the way.

(Martin) The floodplain mapping efforts being funded by DFM in the San Joaquin Valley are addressing some of the needs in the region for that program. That work is being done to the same accuracy standards as the Sacramento Valley Network.

Any other future plans for the system?

(Owens) We plan to resurvey the network every three years. The baseline survey that was completed in June will be used as the comparison reference for subsequent surveys. We'll be able to measure net change from June 2008.

The network should be operated for about 5 cycles (15 years), then we'll evaluate whether to reduce the frequency of surveys or conclude they are no longer needed. It's also planned to augment the system with "InSAR" (interferometric

***Left to Right**: Transportations Surveyors Greg Sanfilippo, Abraham Magdaleno, and Tim Johnston of the Division of Engineering often lead teams of DWR surveyors performing the work necessary to establish and observe highly precise survey control throughout California using GPS for use on a wide variety of DWR programs.*

Global Positioning System

synthetic aperture radar on a satellite platform) which will give us remarkable accuracy on a regional scale, but only for an instant in time. Densifying the network where well density is high and transfers are made is also under consideration."

Owens says he's concerned that the GPS network's 7 km station spacing may not be capable of detecting areas of subsidence smaller than 7 km, so more stations may be added to densify the network. A pilot study of methods and costs is underway.

InSAR is beyond the research phase and has been applied successfully at several locations. Together with the 13 Sacramento Valley extensometers, GPS and InSAR would provide a state-of-the-art subsidence monitoring program.

"This project," says Owens, "demonstrates that counties and water districts with common purpose can work well together, a prerequisite for integrated regional water management."

"I agree" said Martin. "Although it took a little longer to get everything done, I think we ended up with a much better product that was designed to meet the needs of several DWR programs and benefit many other local, State, and Federal agencies as well. Ultimately, the collaboration saved DWR a significant amount of funding that can now be used to do additional monitoring using the various tools that Chuck already mentioned. And now every agency that provided personnel for the field campaign has staff with some experience in geodetic quality surveying. Everyone came out a winner from this project." ■

DWR employees participating in the GPS project include:

Chuck Owens *(Project Manager)*, DPLA Conjunctive Water Management Branch

Scott Martin, *(Primary Technical Advisor)* DOE Geodetic Branch Chief

Eric Hong, DPLA, Conjunctive Water Management Branch

Joe Mello, Operations and Maintenance *(San Luis Field Division)*

Charles Mussett, Operations and Maintenance *(San Luis Field Division)*

James Santos, Operations and Maintenance *(San Luis Field Division)*

Jim Harlan, Operations and Maintenance *(San Luis Field Division)*

Jim West, DPLA *(Northern District)*

Abe Magdaleno, DOE *(Geodetic Branch)*

Wayne Blackburn, DOE *(Geodetic Branch)*

Tim Johnston, DOE *(Geodetic Branch)*

Fred Vonderscheer, DOE *(Geodetic Branch)*

Greg Sanfilippo, DOE *(Geodetic Branch)*

EXPANDING THE PROJECT

A 15 year DWR employee, Scott Martin has served as Chief of the Division of Engineering's 35-person Geodetic Branch for the past six years.

Martin spent about two years providing technical oversight for the GPS project and assisting with resource coordination. He suggested the collaborative effort which expanded the original concept from 75 stations to 340.

Prior to joining DWR, he spent nearly 17 years with private sector engineering consulting firms in the Sacramento, Eureka, and Mother Lode areas. Martin has been a licensed land surveyor in California for 22 years and has served as a member of the Coordinating Council of the California Spatial Reference Center (http://csrc.ucsd.edu/) for the past eight years. He was raised in Angels Camp and currently lives with his wife and two daughters in Diamond Springs.

"I spent nearly two years," says Martin, "providing technical oversight and assisting with the coordination of resources on the Sacramento Valley GPS project. I'm pleased my suggestion that it be a collaborative effort ended up expanding the original concept from 75 stations to 340." ■

CRUNCHING THE WATER NUMBERS

for California's People, Farms, Economy

By Margarita Macias

Millions of people, hundreds of farms and a big chunk of California's economy depend on State Water Project water delivered by the Department of Water Resources.

Late each year, DWR draws intense interest as it estimates how much water the State Water Project (SWP) will be able to deliver the following year.

Farmers – including those who irrigate 750,000 acres with SWP water – need to make planting decisions early, and those decisions largely depend on the availability of water.

"Some farmers literally take the State Water Project Allocation to the bank," said **John Leahigh**, Chief of DWR's SWP Planning Operations.

Above: *(Left to Right) Engineer Molly White, Senior Engineer Tracy Pettit, and Principal Engineer John Leahigh of Operations and Maintenance's Operations Planning Office review the database for determining State Water Project allocations.*

Left*: Paul Mendoza, who has worked 10 years in the State Water Project Analysis Office, reviews Table A charts from State Water Project Contractors.*

Urban areas, most of which also have other sources of water as do some farmers, need a sound estimate of SWP deliveries to pencil out supply ratios and costs.

The SWP allocation is expressed as a percentage of the SWP contractors' Table A requests. Table A water amounts are the maximum amount of SWP water that the State agreed to make available for delivery during the year per the long-term water supply contracts.

The Initial Allocation, or estimate, made prior to December 1st is conservative since the Department would not want to reduce it later. This could leave some users high and dry, especially farmers who had already taken out bank loans and planted their fields.

Water Year 2009 is starting out badly. DWR handed down its second lowest Initial Allocation in the history of the SWP.

"It reflected the low carryover storage levels in the State Water Project reservoirs, ongoing drought conditions and court-ordered restrictions on water deliveries from the Delta," said **Tracy Pettit**, Chief of the Supply Management Section for DWR's Division of Operations and Maintenance (O&M) since 2005.

The Initial Allocation was 15 percent of the amount requested by the 29 public agencies (State Water Project Contractors) that receive and distribute SWP water. DWR announced the allocation on October 30, a month early, to give everyone a heads-up that it could be a long, dry year.

The lowest Initial Allocation was 10 percent of SWP Contractors' requests in 1993, but that number was increased to 100 percent as hydrologic conditions improved. In 2008, the Initial Allocation of 25 percent was increased to 35 percent in January 2008.

***Left to Right**: State Water Project Analysis Office's Water Deliveries Section staff Senior Engineer Paul Mendoza reviews water delivery schedule with Engineer Reza Zamanian, Water Resources Engineer Associate Frank Acuna, and Engineer Mohammed Musazay.*

"Allocations are not raised until the Department is 100 percent sure of enough water to increase the delivery amount."

Tracy Pettit
Senior Engineer

The Department bases its delivery projection on current reservoir storage, historical or forecasted hydrologic data, and the requested delivery demand by the State Water Project contractors. As the year progresses, the model is updated monthly.

The first allocation is based on historical hydrology at the 90 percent exceedence level, meaning that in the 50-plus years on record, only one in 10 was drier.

"Allocations are not raised until the Department is 100 percent sure of enough water to increase the delivery amount, which is a challenge given the uncertainty of the hydrology, the regulatory constraints imposed on the Project and the ever changing conditions of the Delta," said Tracy.

Negative impacts of reducing allocations – especially to agriculture – were dramatically illustrated in 2008 when dry conditions forced the federal Bureau of Reclamation to reduce Central Valley Project (CVP) water deliveries in the middle of the irrigation season. Agriculture in the San Joaquin Valley sustained heavy losses despite emergency action by DWR to assist the CVP by transferring groundwater to parched farms via the California Aqueduct and the Department's "loan" of additional water to CVP contractors.

Crunching the water numbers that so much of the state depends on requires teamwork and skill. Among the leading players are **John Leahigh** and **Tracy Pettit** of O&M and **Paul Mendoza**, Chief of the Water Deliveries Section for the State Water Project Analysis Office (SWPAO).

The Process

Mendoza's office kicks off the process on October 1 by compiling water delivery requests for the coming year.

"Our role is to gather information from all of the SWP contractors, enter the information into a database, then let Operations and Maintenance know it is ready for review," said Paul, a Senior Engineer who joined SWPAO in 1998.

DWR uses a special computer model to help calculate allocations.

After all pertinent information is gathered, **Molly White**, an engineer in O&M's Supply Management Section, runs it through the Department's Delta Coordinated Operations (DCO) Model. Information fed into the model includes SWP contractor delivery requests, hydrologic data, regulatory and court restraints on pumping, and a long list of other data.

Molly White, who joined the Supply Management Section in 2007 runs information through the Delta Coordinated Operations Model to compute initial allocation percent.

"We look at the whole SWP picture on a monthly basis," said Tracy.

"The DCO model, used since 1995, was built in-house by DWR and continues to be enhanced over the years," said John, a Principal Engineer who has supervised SWP allocations since 2000. "The shift to DCO from the 'Rule Curve' computation method was brought about by the increasing complexity related to Delta requirements that came about after the updated Delta smelt (Fish and Wildlife Service) and Winter-run Chinook salmon (National Marine Fisheries Service) Biological Opinions and an updated Water Quality Control Plan (State Water Resources Control Board), and culminating with the Bay-Delta Accord in December of 1994."

Biological Opinions are fishery agency guidelines that DWR and the federal Bureau of Reclamation must follow in Delta pumping operations to protect native fish species. And rulings by courts can trump everything.

Delta pumping, and consequently water deliveries to farms and cities, was significantly curtailed by an interim federal court decision filed December 14, 2007 intended to protect the threatened Delta smelt. And this past November 2007, the California Fish and Game Commission enacted emergency regulations that could further reduce pumping to protect the Longfin smelt, a Delta smelt cousin. Also, in order to further protect the Winter-run and Spring-run salmon, additional actions may be taken at the export facilities.

On December 1, a lawsuit to halt all Delta export pumping by the SWP and the Bureau of Reclamation's Central Valley Project was filed in Sacramento County Superior Court by the California Water Impact Network and the California Sportfishing Protection Alliance, who allege pumping operations are violating environmental laws.

Many factors are considered by the time Molly White's computer model computes an allocation percent that is reviewed by Tracy Pettit, John Leahigh and others and taken to DWR Director **Lester Snow** for approval.

By December 1, SWPAO is required to announce the initial allocation for the next calendar year.

"To assist operations in determining if the allocation can be increased, we record, maintain, and supply them with the SWP contractors' actual deliveries and updated water delivery schedules throughout the year," said Paul.

Allocated Table A amounts typically make up the majority of annual SWP deliveries. An annual average of 2.8 million acre-feet has been delivered to the 29 SWP Contractors over the past decade. Included in this amount is an average annual Table A delivery of 2.5 million-acre feet. Also, of the 83 MAF that has been delivered since deliveries began in 1962, a total of 69 MAF was Table A. The high water mark was 3.6 MAF in 2006, with 3.0 MAF of the deliveries as Table A.

It would take a very wet winter to reach that mark in 2009, even without regulatory and judicial constraints. ■

"The DCO model, used since 1995, was built in-house by DWR and continues to be enhanced over the years,"

John Leahigh
Principal Engineer

KEEPING CALIFORNIA'S DAMS SAFE

Is Vital Mission of DSOD

By Margarita Macias

With more than 450 people killed, 200 people missing, and bodies washed as far as the Pacific Ocean, the 1928 failure of the 205-foot-high St. Francis Dam in Southern California is ranked as California's second deadliest disaster and the biggest loss of life in an engineering disaster in the 20th century. The dam, which failed on its first filling, had been designed and constructed two years earlier without regulatory oversight.

As a result of the St. Francis disaster – surpassed only by the 1906 San Francisco earthquake and fire – registration was required for civil engineers and the California Legislature created the California Dam Safety Program in 1929. When the Department of Water Resources (DWR) was created in 1956, the program became the new agency's Division of Safety of Dams (DSOD). Its mission of protecting lives and property remains unchanged.

Division of Safety of Dams Engineers at annual inspection of Indian Ole Dam in Lassen County.

In September, DSOD staff presented an educational Dam Owner Workshop during the 2008 conference of the Association of State Dam Safety Officials (ASDSO) in Indian Wells, California.

"This national conference was DSOD's chance to talk with people around the nation about dam safety," said **Y-Nhi Enzler**, Supervising Engineer in Design Section 2.

Unlike the first workshop presented in 1989 as a slide show, this four-hour workshop included interactive PowerPoints by six DSOD presenters.

"With more than 75 people attending the workshop from a variety of backgrounds from dam owners and consultants to engineers and dam operators, participants left impressed by DSOD's level of expertise," said Y-Nhi. "California has one of the oldest dam safety programs in the nation."

The national conference included more than 16 hours of educational instruction, 21 technical sessions, a workshop, a trade show, a field trip, and opportunities to network with 800 dam safety professionals from the U.S. and several foreign countries.

"When I attended my first national dam safety conference in 1989, 75 people attended," said **Rick Draeger**, Senior Engineer in the Field Engineering Branch. "This year, there were 850 people at the conference. This is the largest dam safety conference in the nation. DSOD also provided three moderators for the conference."

Overview of DSOD

DSOD Chief **David Gutierrez** kicked off the workshop with an overview of DSOD and its history, noting that it regulates more than 1,200 dams in California.

Seismic Evaluation Program

Wallace Lam, Supervising Engineer in Design Section 3, explained DSOD's Seismic Evaluation Program.

"The goal of the seismic evaluation program is to prioritize and evaluate California dams that are under high seismic exposure and downstream damage potential," said Wallace. "If we find problems, we work with the owners on how to resolve them. The program is designed to get us in a better position to prepare for future earthquakes, so we can promptly make adjustments, hopefully prior to the actual event."

According to Wallace, this workshop was a great opportunity to communicate with the dam owners so they understand how the Division conducts the program to fulfill the mission of dam safety.

A Change in Technology

Bill Pennington, Senior Engineer of the Field Engineering Branch, spoke about the use of ShakeMap, ShakeCast, and Geographic Information Systems (GIS) to prioritize post-earthquake dam inspections.

ShakeCast and related tools allow utilities, transportation agencies, businesses, and other organizations to control and optimize the earthquake information they receive. With ShakeCast, they can automatically determine the estimated

> *"This year, there were 850 people at the conference. This is the largest dam safety conference in the nation. DSOD also provided three moderators for the conference."*
>
> Rick Draeger
> Senior Engineer

***Left to Right**: At the 2008 Association of State Dam Safety Officials Conference, DWR's Safety of Dams participants and speakers included Russell Bowlus, Rick Draeger, Melissa Collord, Bill Pennington, Wallace Lam, John Vrymoed, Melissa Pi, Y-Nhi Enzler and DSOD Chief David Gutierrez.*

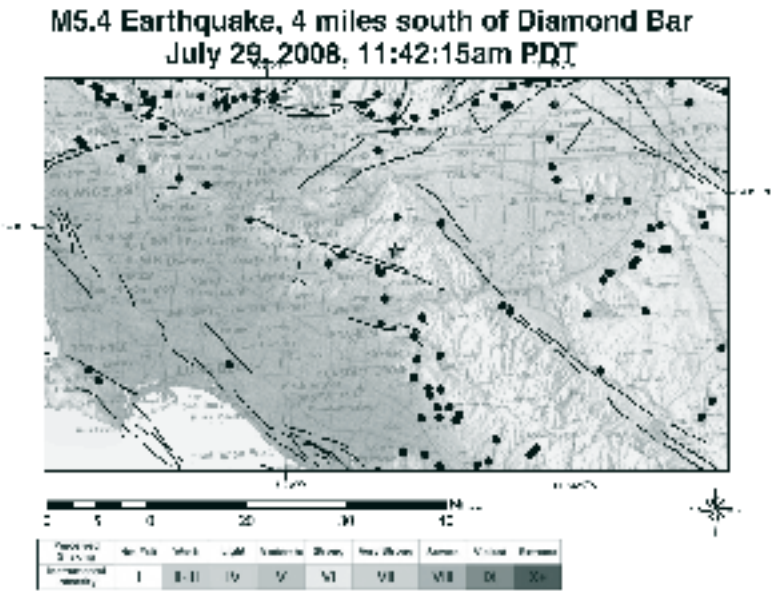
shaking value at their facilities, set thresholds for notification and likelihood of damage at each facility, and then automatically notify (by pager, cell phone, or email) specified operators and inspectors within their organizations. The responders can then set priorities for response.

"It helps us know in some detail how severely a dam may have been shaken. We can also suggest to the dam owner where they might want to focus their inspections first if they don't have ShakeCast," said Bill. "When the Loma Prieta earthquake occurred in 1989, we didn't have these tools. We just had a search radius for potentially affected dams and an earthquake epicenter. The information we had to prioritize inspections back then was very limited. The tools that we have now can help us focus our attention rapidly. We're going to be more efficient with our response teams now."

Within a minute of an earthquake, ShakeCast will provide information, such as the magnitude, latitude, longitude of epicenter.

"The whole way in which we look at the seismicity has changed radically in the last 10 years," said Bill.

"Earlier, a rainfall or flow discharge station might have only 15 years of data. Now, we have 45 years of data which we could use to develop new equations."



DSOD's Hydrology Program

Y-Nhi's presentation provided an overview of DSOD's Hydrology Program.

She explained that the Hydrology Manual is being updated to incorporate new data. "The Manual is used to check the spillway adequacy and develop the design flood," said Y-Nhi. "Earlier, a rainfall or flow discharge station might have only 15 years of data. Now, we have 45 years of data which we could use to develop new equations."

Future Hydrology Program work will include reviewing hazard classifications from other organizations and development of a new form, establishing design return period for new dams, developing snowmelt guidelines, determining rainfall distribution in California's various hydrologic regions, and providing new equations for the unit hydrograph parameters.

Left to Right: *The Safety of Dams Hydrology Committee in 2008 included. (Front Row) Andrea Lobato, Melissa Collord, Y-Nhi Enzler. (Back Row) Param Dhillon, Richard Olebe, Frank Fong, John Diefenthal, and Bill Pennington.*

Above: *In addition to showing location of earthquake and dams, Shakemaps also show estimated intensity of ground shaking.*

DSOD and FERC Partnerships

Melissa Collord explained DSOD/FERC (Federal Energy Regulatory Commission) watershed hydrologic studies and future DSOD/FERC partnerships. The purpose of the watershed studies is to achieve uniformity in spillway adequacy assessments.

Of the 1,250 state-regulated dams in California, 202 hydropower dams are under the joint jurisdiction of FERC and the DSOD.

DSOD's Inspection Program

The final presentation was by Rick Draeger of DSOD's Inspection Program, which includes 17 field engineers. They visit all 1,250 dams under DSOD's jurisdiction at least once a year and perform 1,400 maintenance and 200 construction inspections per year.

From 1995 to 1998, 248 radial gates at 58 jurisdictional dams were inspected using DSOD's high angle climbing teams. As a DSOD Field Engineer, Rick's responsibilities also include structure and instrument inspection, construction supervision in Southern California and emergency response statewide. Rick noted that rodent and vegetation control is the biggest maintenance problem for most dam owners.

Vigilance is a keyword at DSOD, where every employee's focus is making certain that California doesn't have another St. Francis Dam disaster. ■

Above: *During one of his 140 dam inspections in 2008, DSOD Senior Engineer Rick Draeger performs a construction inspection on the right abutment of Big Tujunga Dam located in the San Gabriel Mountains about 20 miles northeast of Burbank.*

Below: *Steel bars being inspected at Marshburn Dam in Orange County.*

"Vigilance is a keyword at DSOD, where every employee's focus is making certain that California doesn't have another St. Francis Dam disaster."

San Bernardino Valley Municipal Water District

By Amy Norris

The San Bernardino Valley Municipal Water District (Valley District) was formed in 1954 with an eye towards the future. Though Valley District would not receive its first delivery until 1972 when the State Water Project (SWP) finally crossed the Tehachapi Mountains, its mission was to plan for and deliver a long-term supplemental water supply to the region. Fifty-five years later, Valley District is still planning for the future, leading the way on the Upper Santa Ana River Watershed Integrated Regional Water Management (IRWM) Plan, and promoting aggressive water conservation strategies.

Randy Van Gelder was appointed General Manager of Valley District in January 2007 though he has been with the organization since 1979. He received his Bachelor of Arts degree in Chemistry from the University of California, Riverside then pursued graduate studies in applied statistics. Van Gelder began at Valley District as Director of Finance and Administration, and became assistant General Manager in 2001 before moving to his current position.

Van Gelder is not alone in his long-term commitment to Valley District. "It is common place for many employees to stay at the District for 25, 30 and even 40 years," he said. He attributes staff longevity to talented employees, great leadership and a committed Board of Directors. "The Board's stability and confidence in the staff allows us to work on those long range water projects, like the State Water Project, which span the usual terms of most elected officials."

Van Gelder views the instability of imported water supplies as the most pressing issue now, and in the future. The District's current initiatives focus almost exclusively on increasing the reliability of water supplies.

"We try to work cooperatively with our retail water agencies to ensure buy-in and to better inform them of the issues associated with imported water supplies," said Van Gelder.

Promoting Water Conservation

Local water agencies respect Valley District's leadership and share its water management vision. Valley District was unanimously chosen by more than a dozen local water agencies to lead the preparation of the Upper Santa Ana River Watershed Integrated Regional Water Management Plan. After two years of collaboration and now complete, the plan ensures a reliable water supply for the San Bernardino, Yucaipa, Big Bear, and San Gorgonio Pass areas for the next 30 years. One of the chief tenets of the plan calls for reducing demand through water conservation programs.

Valley District actively pursues its own innovative water conservation measures. The Board of Directors recently authorized the expansion of the Weather Based Irrigation Controller (WBIC) program throughout all 325 square miles of service area. The District is covering 50 percent of the cost to purchase, install, and manage for one year WBICs for all parks within its boundary. With over 3,000 acres of parks, the District expects to save over 2,500 Acre Feet (AF) per year.

Left: *In 2008, Valley District moved to their new San Bernardino headquarters with a water efficient landscape. Valley District, which serves 325 square mile area and 600,000 people, covers the cities and communities of Bloomington, Colton, East Highlands, Grand Terrace, Highland, Loma Linda, Mentone, Redlands, Rialto, Yucaipa, San Bernardino and portions of Fontana and Riverside County.*

Bottom and page 19: *Crafton Hills Reservoir and Dam, completed in 2002 and located in Yucaipa, provides regulatory and emergency storage for deliveries of State Water Project water to Valley District and San Gorgonio Pass Water Agency. Valley District spans the eastern two-thirds of the San Bernardino Valley, the Crafton Hills, and a portion of the Yucaipa Valley.*

"We try to work cooperatively with our retail water agencies to ensure buy-in and to better inform them of the issues associated with imported water supplies."

Randy Van Gelder
General Manager of Valley District

"The cost per acre-foot of water savings over the life of the controller is $70, which is about as inexpensive as a water use efficiency program can be," said Van Gelder.

The District is also installing a network of local weather stations to provide the daily evapotranspiration data to the irrigation controllers. Once parks are converted, the program will expand to schools and other large turf areas and potentially even residential landscaping.

Securing Water Supply

In addition to the District's water conservation initiatives, the better part of 20 years has been spent securing a water rights permit for water made available by the construction and operation of Seven Oaks Dam. This project is being developed and implemented between Valley District and Western Municipal Water District of Riverside County. Van Gelder believes it took extraordinary vision and foresight to successfully conduct the planning and environmental work necessary to make this water supply a reality. Supplies will be available from this source after the SWRCB finalizes the draft water rights permit that resulted from the final hearing that took place in May 2007.

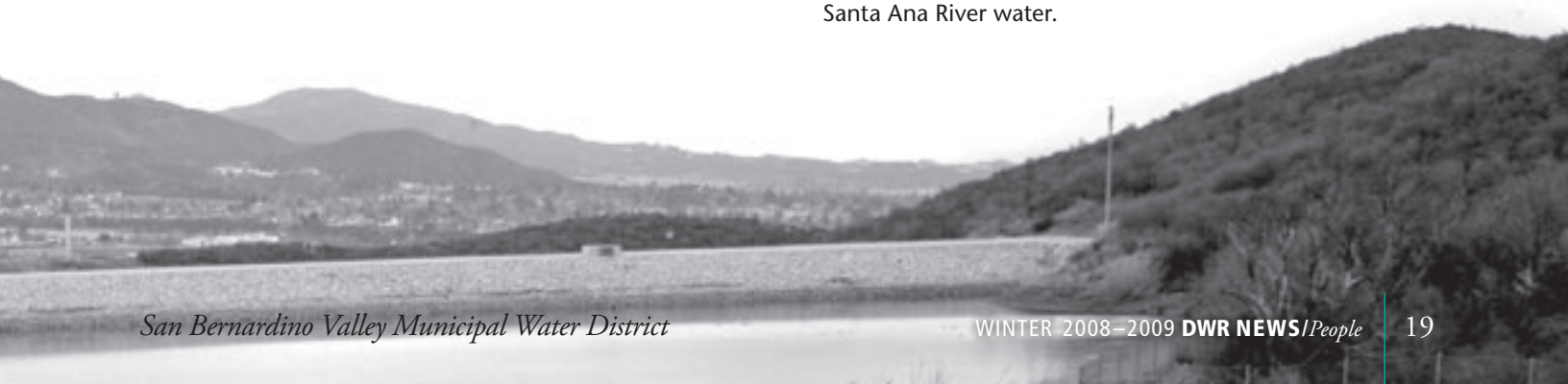
According to Van Gelder, the additional water supply that will be made available by Seven Oaks Dam will be especially important in future dry years. And currently, despite last year's 35 percent allocation, and the prospect of limited deliveries to SWP contractors this year, Valley District is managing to maintain its water supply with no cutbacks.

Local hydrology for the "2007-2008" water year was a little above average for the San Bernardino area as opposed to the dry conditions experienced by Northern California. Based on this, Valley District was able to not only meet all direct delivery demands, but also carry over about 9,000 AF for use in 2009.

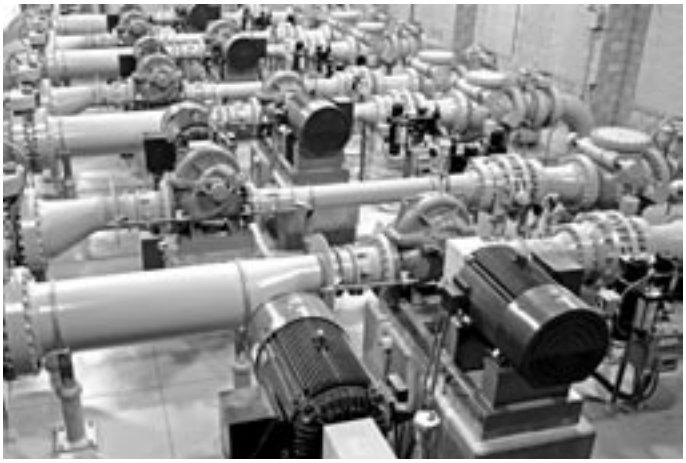
For water year "2008-2009" Valley District developed a matrix of imported water supply scenarios. Various SWP allocations ranging from 15 to 55 percent were considered against the full range of local hydrologic conditions for 2008-09 from critically dry to extremely wet. Based on this analysis, Valley District projects it has a better than 80 percent chance to make all deliveries in 2009. This is supported by the 9,000 AF of carryover from 2008.

Pursuing a Supplemental Water Supply

Though Valley District has been meeting its water needs, the District continues to aggressively pursue supplemental water supplies, both local and imported. Valley District signed the Yuba River Accord which secured 1,100 AF of water in 2008. Valley District participated in the 2008 Drought Bank and placed an order for the 2009 DWR Drought Bank. The agency also initiated discussions with two groundwater banks in Kern County and may store some water from the 2008 allocation in a groundwater bank for later use. On the local resource side, the District applied for and received a Temporary Urgency Water Rights Permit from the State Water Resources Control Board in early 2008. This permit allowed the District to divert and recharge over 7,000 af of local Santa Ana River water.



San Bernardino Valley Municipal Water District



The East Branch Extension Phase I project completed in 2002 that allowed delivery of State Water Project (SWP) water into the Yucaipa area is another project that has increased water supply reliability. Before the completion of Phase I, the area was significantly over-drafting its groundwater supplies. Now an advanced SWP water treatment plant that can produce as many as 12 million gallons per day is operating in the Yucaipa Valley meeting as much as 50-70 percent of the overall water demand at any one time. This allows the groundwater basin to recover. In the future, there are plans to increase production to at least 36 million gallons per day.

San Gorgonio Pass Water Agency is partnering with Valley District on Phase II of the East Branch Extension. The project will consist of approximately six miles of new large diameter pipeline, a new pump station, reservoir and enlargement of the existing Crafton Hills Pump Station. It will allow both agencies to deliver their full Table A allocations and may provide reliability as another delivery resource in the event of an earthquake. The project benefits and costs are essentially split evenly between the two agencies.

Valley District's strong leadership, focus on conservation, and water supply reliability have made the agency very successful in meeting its regional water supply needs. The district is widely recognized for its innovative programs and commitment to integrated regional water management. ■

Top: *The Foothill Pump Station (in photo), an in-line booster station in the Foothill Pipeline, supplies water to the Greenspot Pump Station, which is located on the State Water Project's East Branch Extension.*

Middle: *Foothill Pump Station has an installed capacity of 96 cfs (eight 12 cfs pumps) and a pumping lift of 160 feet.*

Bottom: *Crafton Hills Pump Station with a capacity of 40cfs and spare unit of 20 cfs has the highest pumping lift (650 feet) of the three East Branch Extension Phase I pump stations.*

Valley District Water Supply

The naturally supported safe yield of the Valley District service area is 250,000 AF per year. This is made up of 50,000 AF per year in surface water diversions and 200,000 AF per year in groundwater production. However, current demand is about 300,000 AF per year. This 50,000 AF per year deficit is made up through a combination of 25,000 AF per year of direct deliveries of SWP water and 25,000 AF per year of groundwater extractions over the safe yield which will have to be replaced at some point. It will be replaced by SWP water recharge and Santa Ana River water made available from the District water rights. Water use efficiency and recycled water programs are also being implemented to reduce the gap between supply and demand.

As the 5th largest State Water Project Contractor, Valley District's Table A allocation is 102,600 AF per year. Current direct delivery demands range from a low of 10,000 AF per year in an extremely wet hydrologic year up to a maximum of 35,000 AF per year in a critically dry year locally. This range is so large because many of the Valley District customer treatment plants have local surface water sources that are used before SWP is ordered, and during dry years more water is used overall.

WebEx Available to DWR Employees

It may not be necessary to reserve a conference room in a distant location or travel by airplane to attend a meeting. With DWR's Introduction of WebEx to the workplace, Department employees now have the option of meeting instantly with fellow workers, consultants and others, via the Web.

"WebEx allows people to get together all over the state to edit, review, and share documents without having to leave their office areas," said **Victor Jimenez**, Information Technology Research and Development Analyst with DWR's Division of Technology Services, who performed the study in April 2008, to find an enterprise-wide collaboration tool.

WebEx, founded in 1995, provides conferencing sessions to more than 2.2 million people every day. With Web conferencing, you have the ability to interact with many people in a variety of locations via one phone call and an Internet session. All you need for WebEx sessions are access to the Web and a phone line. You no longer need to make several phone calls, send a series of emails or set up audio conferences to meet with others.

"We found that WebEx had a really solid solution for what the Department was looking for," said Victor. "It's not just one particular thing that we are talking about, like Web cast meetings. There is more to it."

Why WebEx?

WebEx is an interactive on-line web collaborating tool that allows employees to work together as if they were all located in the same conference room. With the ability to share the session with all participants, session hosts or presenters can allow permission to other participants to review and share Word documents, PowerPoint Presentations, videos from their computer and even share a particular computer application. During a session, the session host or presenter can create an on-line whiteboard for all participates to annotate during their meeting.

Another feature that WebEx offers is the ability to virtually raise their hand during a session to avoid overlapping voices. During a session, the host or presenter has the ability to mute all participants, provide a copy of the presentation and notes, as well as provide a questionnaire poll during the session.

In September of 2008, each division selected a designated WebEx host administrator for its division. Due to the number of staff in each division, some divisions have multiple host administrators. These host administrators are DWR staff members that are allowed to setup WebEx meetings for their divisional management and employees. During the first phase of the project in October 2008, all host administrators were given an overview and training of DWR's WebEx tool.

> *WebEx's primary purpose is to help improve collaboration, to reduce extra travel time to distant field offices, and to be utilized in conference room."*
>
> Victor Jimenez
> Information Technology Research & Development Analyst

"WebEx is deployed as an enterprise tool for the Department, each division can use utilize its features anytime from anywhere. Divisions have access to unlimited sessions and can run sessions simultaneously," said Victor. "With WebEx, there is no need to contact the Telecommunication Branch to setup a bridge line (conference call). A conference phone number (toll-free) is automatically associated with your WebEx session. WebEx's primary purpose is to help improve collaboration, reduce extra travel to distant field offices; and to be utilized in conference room."

Another key requirement was to make sure that the collaboration tool provided green technology.

"Some organizations cite 'green' concerns as a reason to replace carbon-producing travel with remote Web conferences," said Victor. "Web conferencing was a $935 million market in 2006, growing at 19.5 percent compound annual growth rate through 2010."

Effective organizations use web conferencing as more than just a substitute for face-to-face meetings. Increased collaboration at all levels is crucial to the high-performance workplace concept. Web conferencing can help people work with colleagues and business partners, share information, make better decisions, work on more projects simultaneously and increase the impact of their work. In some cases, they can offer efficiencies beyond physical meetings

(through polls and testing or backroom chats). Reducing travel can provide hard return on investment savings, but improved ways of working can provide far greater benefits. *Below are some of the key features of DWR's WebEx Enterprise Solution:*

- **Integrated public switched telephone network audio:** Users can dial into an audio conferencing bridge that is linked into the web conference. Participants can see who is speaking and presenters can control individual phone connections (such as mute or give other presenters rights to take control of presentation). Audio conference only meetings are also available through WebEx.
- **Videoconferencing:** Although this feature is available; the Division of Technology Services is requesting that you continue to follow the existing protocol to request video-conferencing sessions. If you would like more information regarding this, please contact DWR's Telecommunications Division. Due to the limited amount of bandwidth in some of the regional offices, we are encouraging DWR staff to refrain from using the webcam features.
- **File sharing:** Participants can exchange files during their WebEx session.
- **Application/document sharing:** Participants can write directly into the presenter's application or document.
- **Advanced security:** Extra features that are required for sensitive meetings. These features include participant-level passwords to prevent sharing, forcing new passwords for every meeting; the ability to block anonymous users, limiting participants to specific IP addresses; and automatic purging of online documents after the meeting.
- **Remote Control (Help Desk):** Useful for technical support. It gives one participant control of applications or the desktop on another system. Keep in mind that the end-user must provide access and can stop remote control access at any time.
- **Archiving:** Audio and interactive portions of the conference can be recorded for later viewing. Participants can "sit in" on the conference if they were not able to attend in real time. Archiving mandated by regulatory audit trail requirements is on the rise.
- **Feedback:** Participants can indicate whether they want the speaker to slow down, speed up, and answer a question by raising virtual hand during session and more.
- **Polling:** WebEx provides a quick survey tool to allow all participants to answer a specific question in real time.
- **E-learning (Training) facilities:** DWR will be looking to setup a training center via DWR WebEx portal. Specific functionality to support online training and learning scenarios can be incorporated, such as participant testing, teacher monitoring of student desktops and learning management system integration. The feature will be added in the near future.

To access the on-line meeting portal visit http://dwr.webex.com. There you will find a list of scheduled on-line meetings. For any DWR technical support issues, please contact DWR's Help Desk (helpdesk@water.ca.gov). ■

DWR's WebEx Host Administrators by Division

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Executive Support

DWR's New Location in West Sacramento

In December/January/February, more than 230 DWR employees, equipment and materials were relocated from six locations throughout the Sacramento area to 3500 Industrial Boulevard in West Sacramento.

"This is the largest DWR move on record. It is even larger than when we moved staff from the Resources Building downtown to the JOC," said **Susan Lemmon**, an Associate Business Management Analyst who has worked in Facilities since 1996. "We are moving three divisions including all of the Division of Environmental Services and Central District (DPLA) along with some employees from the Division of Engineering."

DWR employees housed in the new 78,681-square-foot building with attached warehouse come from the Division of Environmental Services, Division of Planning and Local Assistance's Central District, and Division of Engineering's (DOE) Sacramento Project Headquarters, Project Geology, Surveys, and Project Safety Offices.

Staff were previously located at the Bonderson Building at 901 P Street, 1725 23rd Street, and 1801 6th Street in downtown Sacramento and a lab at 950 Riverside Parkway in West Sacramento. Storage and labs were also relocated from 950 Riverside Parkway, 1800 7th Street, and the Sacramento Corporation Yard in West Sacramento.

Before several employees temporarily moved into the Bonderson Building in 2006, they were previously located at 3251 S Street in downtown Sacramento.

The new building, which is leased until the year 2023, contains office space, including 21 private offices, 11 quiet rooms, three conference rooms, labs, shower and locker rooms, warehouse, alternate fuel vehicle charging station, 250 parking spaces, and a 60,000-square-foot secured parking compound for State vehicles including sedans, trucks, boats, all-terrain vehicles, and trailers.

Susan Lemmon of DWR's Facilities Management Section was the project manager for the move to the new 78, 681 square foot office location on 3500 Industrial Boulevard in West Sacramento.

From the installation of computers and phone lines to delivery of furniture and materials, Facilities Management coordinated this move with the Division of Technology Services and the Department of General Services.

Other Moves

After the relocation of staff into the new building on Industrial Boulevard, DWR employees and consultants will be relocated into the Bonderson Building. Those moving to the Bonderson Building include more than 100 employees and consultants from Delta Habitat Conservation and Conveyance Program, DWR Training Office, and the DOE Levee Repair Project Headquarters.

In spring of 2009, the Division of Environmental Services Feather River Program currently located at Oroville Field Division will be relocating to a new facility in Chico. ■

Where are DWR Employees?

SACRAMENTO

1416 Ninth Street
DWR Headquarters

1721 13th Street
Training Center and Warehouse

909 S Street
Operations and Maintenance

901 P Street
Planning and Local Assistance, Office of Water Use Efficiency and Transfers, Engineering, Flood Management, Delta Habitat Conservation and Conveyance Program

2200 X Street
Safety of Dams

1400 Enterprise Boulevard
DWR Printing Production Services

3500 Industrial Boulevard
Environmental Services, Central District, and Engineering

1450 Riverbank Road
Flood Management, Engineering, Environmental Services/Bryte Lab

New Assignment

Kim Oliphint Appointed Chief of the Division of Management Services

Kim Oliphint, who has worked over 20 years for DWR, has been appointed Chief of the Division of Management Services.

Kim says her primary goal is to maintain and foster a healthy, happy and productive work environment. "If I have staff that enjoy their job and like to come to work each day, they in turn will provide great service to the employees of the department," said Kim.

In managing a budget of more than 17 million and staff of 160 employees, Kim's new assignment includes planning, organizing, and directing the operations of the Division of Management Services (DMS) in the areas of personnel, training, labor relations, facilities management, management analysis, procurement and contracting services, printing, records, mail, and transportation operations. She will also work with several agencies, such as the Department of Personnel Administration, Department of General Services, State Personnel Board, Department of Finance and Public Employee Retirement System.

Before her new assignment, Kim served as the Chief of the Departmental Services Office in the Division of Management Services. She supervised the Procurement and Contracting, Facilities Management, Management Analysis, Records Management, Transportation and Printing Production offices.

"I promote a team environment," Kim says. "DMS provides diverse services to the department and all DMS staff know that we need to work together to provide those services to DWR staff partners and customers. This includes being respectful of one another, being cooperative, 'thinking outside the box,' providing stellar customer service…sprinkled with a little bit of fun."

Since joining DWR in 1988, Kim has also held positions as Chief of the Management Analysis Office, team lead for Human Resources on the initial SAP Implementation, Administrative Officer for Executive and DMS, and Chief of the Payroll and Benefits Section of the DWR's Personnel Office.

Kim's State career began with the Board of Equalization Human Resources Office, where she worked for 10 years. In 1990, she graduated with a Bachelor of Science degree in Business Administration with an emphasis in Human Resources from California State University, Sacramento.

"In my twenty-plus years at DWR I've gotten to know a lot of people at all different levels in the organization," Kim says. "I think these relationships will be my most valuable asset in my new role as DMS chief." ■

OTHER AREAS:

El Camino Avenue
Operations and Maintenance, Flood Management, State Water Project Power and Risk Office, Management Services, Technology Services, California Energy Resources Scheduling, National Weather Service, Central Valley Flood Protection Board

2825 Watt Avenue
Flood Management

MORE DWR LOCATIONS:

302 Startare Drive, Eureka
Eureka Flood Center

6908 Colusa Highway, Sutter
Sutter Maintenance Yard

2440 Main Street, Red Bluff
Northern District

460 Glen Drive, Oroville
Oroville Field Division

81313 Highways 70, Beckwourth
Beckwourth Sub-Center

5280 Bruns Road, Byron
Delta Field Division

31770 Gonzaga Road, Gustine
San Luis Field Division

3374 East Shields Avenue, Fresno
San Joaquin District

4201 Sabodan Street, Bakersfield
San Joaquin Field Division

Route #1, Coalinga
Coalinga Operations and Maintenance Center

121 West Carriage Lane, Lancaster
Lancaster Project Headquarters

34534 116th Street East, Pearblossom
Southern Field Division, Devil Canyon Field Office

16051 Highways 173, Hesperia
Mojave Field Office

770 Fairmont Avenue, Glendale
Southern District

New Assignment

Susan Sims Appointed Chief Deputy Director

Susan Sims, appointed DWR Chief Deputy Director in October of 2008, has 26 years of experience in State agency administration and public information. As Chief Deputy, Sue's responsibilities include overseeing the Department's management and policy development.

"I am involved in some of the department's administrative matters, such as the budget, personnel, implementing new programs and how the state budget will or won't impact DWR," said Sue. "I would certainly like to have the chance to meet and communicate with more DWR staff not just at headquarters, but also in our other offices throughout the state. Last summer, several of us visited some of the field divisions, district offices and facilities staff with the Director, and I'd like to do more of that."

Sue's state career began in 1983 as a speechwriter for Governor George Deukmejian. As speechwriter for more than 400 speeches, Sue became acquainted with California water policy and agricultural issues while working closely with the Resources Agency. As Deputy Cabinet Secretary in 1990, she worked as liaison to 70 state agencies and departments on major policy initiatives with emphasis on education, environment, international trade, public safety and economic development.

For 14 years before joining DWR, Sue worked for the California Environmental Protection Agency. From 1991 to 1995, Sue worked for the Integrated Waste Management Board as Advisor to the Board Chairman after the state's landmark recycling law (AB 939) took effect. This bill required all communities to drastically reduce the amount of garbage going to landfills.

> *"I would certainly like to have the chance to meet and communicate with more DWR staff not just at headquarters, but also in our other offices throughout the state.*
>
> Susan Sims
> DWR Chief Deputy Director

"It was an exciting time as cities and counties geared up with curbside recycling programs and the 'reduce, reuse, recycle' ethic took hold in California," said Sue.

In 1995, she became Deputy Director for External Affairs at the Department of Toxic Substances Control. Sue was involved in a program to help clean up brownfield properties—former industrial properties in urban areas that can be sanitized and used for homes, businesses and parks.

In the last four years, Sue has worked for DWR as Assistant Director for Public Affairs. She has directed communications programs for statewide water management issues including climate change, Delta sustainability, water supply reliability, conservation, flood, drought, and emergency response.

Sue, a native of Pasadena, graduated from the University of California, Los Angeles (UCLA) with a degree in Political Science. In her last year at UCLA, Sue was a Student Intern at the White House. Sue, who earned her management certificate from California State University, Sacramento in 2003, is also a 1977 graduate of the Leadership California program. ■

Running for a Cause

After his father was diagnosed with Multiple Myeloma in March of 2008, **Brian Moniz** of DWR's Southern District became inspired to cross the finish line of the 26.2-mile Nike's Women's Marathon – A Race to Benefit the Leukemia & Lymphoma Society.

"I elected to do the San Francisco race on October 19, because not only is it in my favorite city, but it would put me close to my family," said Brian, an Engineer who has worked nine years for DWR.

Brian and his wife Jamie, who also entered the Marathon, together raised $10,880 to help find a cure for cancer. Before October 19, neither had ever run more than five miles in a single jaunt. To prepare for the race in the hilly streets of San Francisco, Brian and Jamie spent five months in training with early Saturday morning runs, daily stretching and icing, and countless miles of earth pounding in the Los Angeles area.

"My dad has always shown me that I can accomplish anything as long as I put my mind to it," said Brian. "So I took this challenge as he takes on his, and in the end we will both be victorious."

The Great Day

After awakening at 4 a.m. on race day, Brian and Jamie went through their usual routine of stretching, hydrating and having a smoothie. Then, they met their team and walked to the starting line in Union Square.

After the Star Spangled Banner and a firing of the starting gun, they began the race from Post Street. Next, they ran towards the Embarcadero and the world famous San Francisco piers.

"During miles one through five, our strategy was to start out at an easy pace and try to conserve energy," said Brian.

As soon as they hit their first hill at mile six, it brought a sense of sobriety to the brutal nature of the beautiful course. They were running through the Presidio area and capturing beautiful views of the Bay and Golden Gate Bridge, but the gnarly hill beneath them was relentless and continuously pushed back at their legs, testing their physical limits.

As they began their five miles through the beautiful green landscapes of Golden Gate Park, Brian noticed the inevitable onset of pain begin to hammer away at his knees and ankles. Brian and Jamie continued to the Great Highway and a breezy three-mile run along the Pacific towards Lake Merced. The time around Lake Merced was definitely the most agonizing part of the entire run.

Brian Moniz high fives his dad just before crossing the finish line of the 26.2 mile Nike's Women's Marathon.

"The pavement started to feel hard and unforgiving against my feet. Our pain was intense, but by no way was it comparable to what cancer patients endure, and we need only to cross the finish line to put it to rest. This change of perspective brought about a fighting spirit in us," said Brian.

As they reached the last mile and could see the finish line, they held hands and their faces gleamed with smiles because they realized that they were about to complete one of the most amazing challenges of their lives.

"What really made our victory sweet was high fiving my dad and mom just moments before crossing the finish line. Thank you to all of my gracious supporters for your love, your words of support, and your generous donations. You are what made all of this possible. You have helped change the lives of many cancer patients and their families, and you have helped change the face of cancer," said Brian. "My dad is well on his way to winning his battle, and I cannot wait to be there to high-five him as he goes flying by to his victory."

Leukemia & Lymphoma Society (LLS) founded in 1949 is the world's largest voluntary health organization that funds blood cancer research, education and patient services. LLS's mission is to cure leukemia, lymphoma, Hodgkin's disease and myeloma while improving the quality of life of patients and their families. For more information about The Leukemia & Lymphoma Society, view their Web site at **http://www.leukemia-lymphoma.org/hm_lls** ■

DWR Management Development Program Graduates for 2008

On October 15, 2008, the 2008 DWR Management Development Program closed with the five project teams giving their presentations to an audience that included the Chief Deputy Director, **Sue Sims**, three Deputy Directors; **Mark Cowin**, **Tim Haines** and **Ralph Torres**, two Division Chiefs; **Kamyar Guivetchi**, and **Kim Oliphint**, San Luis Field Division Chief **Jim Thomas**, San Joaquin Field Division Chief, **Jeff Said**, and Chief of the State Water Project Power Planning and Contract Management Office, **Mike Werner**. Kim Oliphint 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. Since the creation of the Program in 1995, 350 DWR mid-managers have graduated. This year, 28 graduates were added to that distinguished list.

The DWR Management Development Program is a year-long internal training program for mid-level managers. The participants are nominated by their direct supervisors. During the course of the Program, participants learn more about DWR as well as develop the tools to become more effective leaders. They are teamed with other participants to complete a project over the course of the Program. They give a presentation on this project on the final day of the Program. ■

"Since the creation of the Program in 1995, 350 DWR mid-managers have graduated. This year, 28 graduates were added to that distinguished list."

Left to Right: *(Front Row) Ralph Torres, Bill Gow, Dan Mendibles, Peter Villanueva, Amir Rangchi, Joe Gonzalez, Mark Richert, Richard Olebe. (Middle Row) Kuen Tsay, Cathy Shannon, Lynne Bitnoff, Kim Deane, Tom Beiler, Ajay Goyal, Steve Cimperman, Vic Nguyen, Anna Kolakowski, Bob Wirth, Bill McLaughlin. (Back Row) Bill Forsythe, Sanjaya Seneviratne, Bill Looper, Bob Moeller, Dan McManus, Bruce Ross, Dave Alexander, Dave Rizzardo, Juan Escobar, Kim Oliphint, Mark Cowin. (Not in Photo) Milan Cernosek.*

DWR Apprentice Graduates of 2008

Since its creation in 1972, DWR's Operations and Maintenance Apprentice Program has enrolled more than 500 apprentices. The program provides training for Utility Craftworkers, Operators, Mechanics, and Electricians. As part of the program, apprentices complete on-the-job training, classroom training, home study, and a final exam. On December 17, the 2008 Apprentice graduates celebrated their graduation in Bakersfield. Congratulations to the following DWR Apprentice graduates:

To learn more about the DWR's Apprentice program, visit the Web site at ***www.apptrain.water.ca.gov***

Aaron Bonner
Southern Field Division
Hydroelectric Plant Mechanic

Ronald Brunner
Southern Field Division
Hydroelectric Plant Operator

Jason Bunce
Southern Field Division
Hydroelectric Plant Mechanic

Eddie Cressy
Southern Field Division
Hydroelectric Plant Mechanic

Seth Gargano
Southern Field Division
Hydroelectric Plant Operator

Michael Hopkins
Oroville Field Division
Utility Craftsworker

Jaime Jimenez
San Joaquin Field Division
Hydroelectric Plant Mechanic

Jose Lopez
Southern Field Division
Hydroelectric Plant Operator

William Osuch
Oroville Field Division
Hydroelectric Plant Electrician

Robert Ross
Delta Field Division
Hydroelectric Plant Operator

Raul Salcedo
Delta Field Division
Utility Craftsworker

Peter Setzchen
Oroville Field Division
Hydroelectric Plant Operator

Alfredo Toy
San Joaquin Field Division
Hydroelectric Plant Electrician

Unit Citation for Salton Sea Ecosystem Restoration Program

On November 5th, DWR's Colorado River and Salton Sea Office and Department of Fish and Game staff were presented Unit Citations and Certificates of Appreciation for their exemplary work on completion of the Environmental Impact Report (EIR) for the Salton Sea Ecosystem Restoration Program.

"Staff from our two agencies worked very well together on this very challenging project, including responding to over 33,000 comment letters we received on the draft EIR. Receiving the recognition for completing this effort is a nice gesture that shows management is appreciative of our efforts," said **Dale Hoffman-Floerke**, Chief of DWR's Colorado River and Salton Sea Office

The team members of the Colorado River and Salton Sea Office included Environmental Program Manager I **Jerry Boles**, Supervising Engineer **Doug Osugi**, Supervising Engineer **Vic Nguyen**, Staff Environmental Scientist **Marti Kie**, Executive Secretary **Ramona Malinowski**, Associate Governmental Program Analyst **Marcella Keppler**, and Dale Hoffman-Floerke. Other members included Staff Counsel IV **Linda Ackley** of the Office of the Chief Counsel and Environmental Program Manager I **Chuck Keene** of Southern District.

Members worked very diligently, often putting in long, arduous hours, including a vast number of public meetings outside of Sacramento, to prepare and complete this Report.

The Report served as the focal point for the first hard evaluation of measures to address restoration of the Salton Sea ecosystem. Scoping of alternatives began in earnest in 2005, the draft EIR was circulated for public comment in October 2006, with the final certified by the Secretary for Resources in June 2007. Throughout this process, advice was solicited from a Public Advisory Committee established in the 2003-04 legislation, which called for the preparation of this programmatic assessment of Salton Sea Restoration opportunities, an ecosystem restoration study, a preferred alternative, costs, and a funding plan.

Completing the EIR, selection of the preferred alternative and the funding plan involved a huge list of stakeholders, with wildly diverse, often competing and conflicting interests. Their efforts on this analysis helped facilitate the Secretary for Resources' submittal to the Legislature in 2007 a preferred alternative for its consideration should it decide to move forward with funding for restoration of the Salton Sea ecosystem. Each member of the Office and key staff from the Southern District Office and Legal office played a very important role in helping to achieve this impressive milestone. ■

***Left to Right**: Salton Sea Ecosystem Restoration Program team from DWR included Jerry Boles, Ramona Malinowski, Doug Osugi, Sue Sims, Linda Ackley, Vic Nguyen, Dale Hoffman-Floerke, Chuck Keene, and Marcella Keppler. (Not in photo: Marti Kie)*

Unit Citation—Proposition 50 Integrated Regional Water Management Grant Program Team

On October 3, Integrated Regional Water Management (IRWM) Grant Program Team members were recognized for their outstanding accomplishments. Their efforts contributed to the successful development, solicitation, evaluation, and award of Proposition 50 Integrated Regional Water Management grants.

"The IRWM Grant Program Teams successfully developed and implemented the IRWM grant program. The teams' contributions to DWR's IRWM initiatives are greatly appreciated," said Deputy Director **Mark Cowin**.

Proposition 50 (Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002) authorized the Legislature to appropriate $500 million for competitive grants for IRWM projects jointly implemented by DWR and the State Water Resources Control Board. The IRWM Grant Program team has demonstrated an unwavering commitment to cooperation and open communication. The IRWM Grant Program team accomplishments include conducting technical evaluation and scoring of 54 applications for Planning Grants, awarding 28 Planning Grants for a total of $12.6 million, and awarding $184 million to 12 Implementation Grant proposals for projects totaling over $2 billion.

Due to the diverse nature of the grant applications, which is a significant departure from the traditional single purpose grant funding programs, the IRWM Grant Program team developed a completely different model for grant programs which helps foster IRWM planning, one of the key initiatives of the California Water Plan, Update 2005. Five years of continuous and dedicated effort were necessary to produce a new model for water management and financial assistance. ■

IRWM Grant Program Team Members

Division of Planning and Local Assistance

CONJUNCTIVE WATER MANAGEMENT BRANCH

Ralph Svetich
Norman Shopay
Harley Davis
Joe Yun
Judy Colvin
Joseph Chang
Natalia Deardorff
Anna Aljabiry
Brett Wyckoff
Craig Cross
Darby Vickery
Mark Nordberg
Derick Louie
Tasmin Eusuff
Chuck Owens
Samson Haile-Selassie
Ilene Wellman-Barbree
Tom Lutterman
Nancy Pashugin
Maria Pang
Jin-Lu Lin
Cynthia Meadows

NORTHERN DISTRICT

Shawn Pike
Todd Hillaire
Wayne Ables
Julia Delphia
Millie Hockings

CENTRAL DISTRICT

Matt Nolberg
Sandy Maxwell
Tanya Meeth
Shicha Chander
Geoffrey Anderson

SAN JOAQUIN DISTRICT

Ernie Taylor
Al Steele
Amanda Peisch

SOUTHERN DISTRICT

Chang Lee
David Inouye
Susan Woolam
Abiodun Aderonmu
Jennifer Wong
Brian Moniz

STATEWIDE WATER PLANNING BRANCH

Steve Cowdin
Farhad Farnam
Lorraine Marsh

OFFICE OF THE CHIEF COUNSEL

Linda Ackley

Left to Right *(Front Row) Chuck Owens, Farhad Farnam, Maria Pang, Derick Louie, Ilene Wellman-Barbree. (Middle Row) Darby Vickery, Norman Shopay, Tom Lutterman, Tasmin Eusuff, Shicha Chander, Joe Yun, Jin-Lu Lin, Natalia Deardorff. (Back Row) Todd Hillaire, Craig Cross, Harley Davis, Al Steele, Steve Cowdin, Mark Nordberg, Brett Wyckoff, Lorraine Marsh, Linda Ackley.*

Twenty-Five Years of Service

Reed Barnes
Operations and Maintenance
(Southern Field Division)
Utility Craftsworker Supervisor
January 2009

Joe G. Guerra
Operations and Maintenance
(San Joaquin Field Division)
Utility Crafts Superintendent
December 2008

Jim Hartline
Operations and Maintenance
(Delta Field Division)
Hydroelectric Plant
Maintenance Superintendent
December 2008

Ron Ingle
Fiscal Services
Accounting Administrator II
December 2008

John Morris
Operations and Maintenance
(San Luis Field Division)
Hydroelectric Plant Mechanic II
December 2008

Jess Salazar
Operations and Maintenance
(Southern Field Division)
Chief Hydroelectric Plant
Operator
January 2009

Reza Shahcheraghi
Operations and Maintenance
Engineer
February 2009

Linda Sue Solomon
Operations and Maintenance
(Oroville Field Division)
Chief Hydroelectric
Plant Operator
January 2009

Silvia Sparks
Operations and Maintenance
(Southern Field Division)
Business Services Officer I

Terry Stutz
Operations and Maintenance
(Oroville Field Division)
Utility Craftsworker
Superintendent
January 2009

Jim Thomas
Operations and Maintenance
Chief, San Luis Field Division
December 2008

Mike Torabian
State Water Project
Analysis Office
Associate Engineer
January 2009

Twenty-Five Years of Service

Ron Allen Vanscoy
Operations and Maintenance
Water Resources
Engineering Associate
December 2008

Michael Wilkins
Operations and Maintenance
(San Joaquin Field Division)
Utility Craftsworker
December 2008

Carol L. White
State Water Project
Analysis Office
Research Analyst II
January 2009

No Photo Available

Curtis Trujillo
Operations and Maintenance
(Oroville Field Division)
Utility Craftsworker
February 2009

Professional Engineer Exam Graduate

Alicia Tay
State Water Project
Analysis Office
Engineer
October 2007

Retirement

Margie Cole
Management Services
Office Services Supervisor I

Retirements

A. Wayne Ayers
Safety of Dams
Senior Engineering Geologist

Mary Bennyhoff
Central District
Management Services Technician

Deborah Benson
Operations & Maintenance
Associate Governmental Program Analyst

Pamela Casselman
Central District
Water Resources Technician II

Maria Chan
Engineering
Structural Design Technician II

Michael Cooney
Central District
Senior Environmental Scientist

Frank Fong
Safety of Dams
Supervising Engineer

Robert Gordon
Oroville Field Division
Heavy Equipment Mechanic

Shirley Gray
San Joaquin Field Division
Management Services Technician

Marla Hambright
Planning & Local Assistance
Research Program Specialist I (Demography)

David Johnson
San Luis Field Division
Utility Craftsworker

Robert Kaper
Engineering
Supv. of Equipment & Materials Inspection

Ta-Chiang Liu
Engineering
Supervising Engineer

INFORMATION PROVIDED BY DWR'S PERSONNEL OFFICE

Retirements

Deborah Nichols
Safety of Dams
Office Assistant (Typing)

James Phillips
San Joaquin Field Division
Chief HEP* Operator

Roberta Shuper
Engineering
Junior Engineering Technician

Sterling Sorenson
Flood Management
Water Resources Engineering Associate

Joyce Tokita
Public Affairs Office
Associate Governmental Program Analyst

Josephine Turner
Flood Management
Staff Environmental Scientist

Hassan Vagharfard
Operations & Maintenance
Engineer

John Vrymoed
Safety of Dams
Principal Engineer

Tolbert Williams Jr.
San Joaquin Field Division
Utility Craftsworker

*** Hydroelectric Plant**

INFORMATION PROVIDED BY DWR'S PERSONNEL OFFICE

Dale Padgett

During **Dale Padgett's** more than 35 years with DWR, he has worked on an array of assignments from flood protection to the installation of pumps.

"Many events have taken place during my career, such as the winter flood which filled the forebay and washed out the liner with mud and debris at Las Perillas Pumping Plant in the late 70's," said Dale. "I really enjoyed being assigned to work with Engineering on the first new Hitachi Pump installation at Edmonston Pumping Plant from 2006 to 2007."

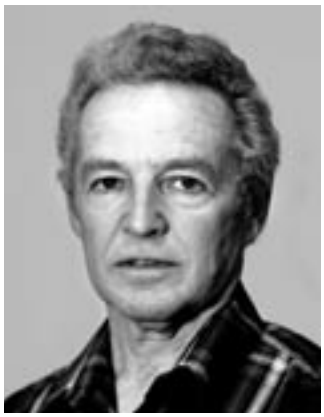
Dale's DWR career began as a Maintenance Man I at Lost Hills Subcenter in 1973. He then transferred to Pearblossom Subcenter for three years as a Maintenance Man II.

To be closer to family in the Bakersfield area, Dale transferred back to Lost Hills in 1977. He was assigned to the silt removal project, which started from San Luis Field Division to Lost Hills, to remove asbestos contaminated mud along the bottom of the canal liner.

In 1981, Dale transferred to Plant Maintenance as a Mechanic Apprentice and graduated as a Hydroelectric Plant Mechanic from the Apprentice Program in 1985. During his 27 years in the mechanical field, Dale worked in all nine pumping plants at San Joaquin Field Division, spending the last 22 years at Edmonston Pumping Plant.

"Overall, I have had a memorable experience with my career in DWR having met and worked with really great people," said Dale, who retired in January of 2009. "I plan to enjoy my grandchildren and travel, hunt and fish as often as I can." ■

Russell Cammell



As a DWR Hydroelectric Plant Operator for 30 years, **Russell Cammell** enjoyed working on generators and pumps at six of DWR's Southern California State Water Project (SWP) facilities.

After 10 years with Southern California Edison as a Powerplant Equipment Operator, Russell joined the staff at DWR's Pearblossom Pumping Plant in 1978.

"I really enjoyed the technical aspects of the work, like responding to equipment troubles and restoring generators to service after relay protection device trips," said Russell.

The six facilities where Russell worked include Pearblossom Pumping Plant, Mojave Siphon Powerplant, and Devil Canyon Powerplant in the southern reaches of the SWP. During the addition of Units 3 and 4, Russell worked at Devil Canyon Powerplant. He also worked at Mojave Siphon Powerplant from its construction to startup.

For the East Branch Extension, Russell worked on the startup for Greenspot, Cherry Valley, and Crafton Hills pump stations

"After 40 years of shift work, I now plan to be busy catching up on enjoying living a regular life. I enjoy long distance cycling events and I have two horses that keep me busy," said Russell, who retired from the Division of Operations and Maintenance's Southern Field Division in December. "In addition to spending more time with my Thoroughbred ex-race horse and a Haflinger, I will also continue to ride the 200-mile per day California Triple Crown cycling events of which I have participated in 37. My goal is to achieve 50 in the next two years." ■

Retirements

Fred Williams

Eight years after the creation of DWR's Apprentice Program, **Fred Williams** began his DWR career on January 31, 1980 as a Hydroelectric Plant Operator Apprentice in Class Six.

"I was one of six apprentices that came out of Delta Field Division. My trainer was the late Mr. Virgil Hackler, who instilled in me the seriousness of the situations that I may be faced with as a journeyman operator," said Fred. "He made sure that I understood that no actions should be taken in haste, nor should the action being taken be with doubt because my life and the lives of others may be affected."

After two years, Fred was accepted as a Journey level Operator at the Delta Field Division. In November 1986, Fred became a Water and Power Dispatcher.

"I rotated through the shifts for several years and learned volumes about the project from the Project Operations Center perspective," said Fred.

Fred left State service in 1996 until returning as a Water and Power Dispatcher in 1999. In March of 2003, he was promoted to Senior Water & Power Dispatcher.

"I learned a lot about supervision from my cohorts. I have had the privilege of assisting younger dispatchers to levels of confidence still using the patience and sincerity model that was instilled in me over twenty years prior," said Fred. "I wish to commend all of the guys who showed me stick-to-it, like Mr. Peter H. Scheele, Chief of Oroville Field Division; Mr. Sebastian Perez, Chief of Southern Field Division; Mr. Curtis Johnston, Operations Superintendent of San Joaquin Field Division. Mr. Bernard T. Sherry. Thank you, gentlemen."

"I have decided to retire in order to spend more time with my aging mother and my wife of three years, but my companion for the past 19 years. I have enjoyed my career with the Department. I enjoyed the personal worth that I gained by being a public servant," said Fred. ■

Dave Ortega

Dave Ortega is retiring after more than 27 years with the Department of Water Resources as a Hydroelectric Plant Electrician ll. Previous to his employment with DWR, he spent nearly six years with the City of Santa Clara.

Dave worked on many major projects during his employment at the Oroville Field Division (OFD). He recalls that in the early 80's, OFD staff changed out all the 230 kv breakers in both the Hyatt and Thermalito switch yards. In the late 80's he was involved in installing the supervisory control system, and in the early 90's replacing all the generator voltage regulators. More recently, Dave assisted in retrofitting all the switchyard 230 kv breakers. Beginning in 2001, he started a six-year project refurbishing all the main units at Hyatt Powerplant.

Dave was also an instructor at the San Joaquin Training Center, working with Curtis Wada to teach the High Voltage Switching Class and Ted Soderstrom with the Motor Controls Class. He is thankful for the privilege of being trained by some of the best electricians when he began his career with DWR. According to Dave, those electricians were at DWR when the State Water Project began deliveries, so had worked out most of the bugs in the plant by the early 1980's. He feels he learned to do things the right way and safest way known at that time. He feels fortunate to have had the opportunity to learn from these electricians, and pass on his knowledge to the new generation of men and women who carry on the work.

"Those that will carry the torch after I leave are very talented individuals fully capable of handling anything that comes up, whether it's electrical, mechanical, technical or engineering. So, I don't feel bad about leaving although I will miss their company," said Dave.

He plans on keeping busy during his retirement after some time off. He plans to travel and enter into a new venture of real estate investing. While the market may seem rocky now, Dave said he is looking at this as a great opportunity to get in while there are deals to be made. ■

New Hires

Anthony Adame
San Joaquin Field Division
HEP* Electrician Apprentice

John Amabile IV
San Luis Field Division
HEP* Electrician Apprentice

Shawn Bega
San Joaquin Field Division
Utility Craftsworker
Apprentice

Robert Black
Engineering
Engineer

Darick Blake
Engineering
Structural Design Technician I

Justin Bronson
San Luis Field Division
Utility Craftsworker Apprentice

Elizabeth Bryson
Flood Management
Engineer

Jaime Cofer
Public Affairs Office
Office Technician (Typing)

Matthew Darling
San Luis Field Division
HEP* Mechanic Apprentice

Brian Davis
San Joaquin Field Division
HEP* Operator

Richard Dreher
State Water Project
Analysis Office
Supv. of Technical
Publications

Mitra Emami
Flood Management
Engineer

Andrew Freitag
Flood Management
Utility Craftsworker
Apprentice

Joshua Fulton
San Joaquin Field Division
HEP* Mechanic Apprentice

Michael Guzman
Engineering
Right of Way Agent

Jeremy Hill
Flood Management
Engineer

Christina Honeycutt
Management Services
Staff Services Analyst

Myron Horse
Flood Management
Engineer

Richard Hurte
Flood Management
Utility Craftsworker
Apprentice

Matthew Johnston
Southern Field Division
HEP* Mechanic Apprentice

Ian Labon
Southern Field Division
HEP* Operator Apprentice

Lianwu Liu
Bay-Delta Office
Engineer

Olivia Magana
Flood Management
Engineer

James Mcnearney
Engineering
Right of Way Agent

Jeffrey Mcowens
Southern Field Division
Utility Craftsworker
Apprentice

Lisa Melton
Oroville Field Division
Warehouse Worker

Doris Munoz Paredes
Fiscal Services
Accountant Trainee

Brian Murphy
Flood Management
Engineer

John Murray
San Joaquin Field Division
Building Maintenance
Worker

James Ober
Environmental Services
Environmental Scientist

Daniel Ramsour
Engineering
Construction Supervisor I

Wesley Robertson
Technology Services
Office Technician (Typing)

Joseph Rodriguez
San Joaquin Field Division
HEP* Operator Apprentice

Frank Ruiz
San Luis Field Division
Utility Craftsworker

Cynthia Schut
Delta Field Division
Utility Craftsworker
Apprentice

Amardeep Singh
Operations & Maintenance
Engineer

Jacob Stamm
Southern Field Division
HEP* Operator Apprentice

Eduardo Trejo
Operations & Maintenance
Engineer

Steven Turner
San Luis Field Division
Utility Craftsworker
Apprentice

Gopalan Vishnan
Flood Management
Engineer

Annie Whitlatch
Engineering
Engineer

Robert Wickstrom
Delta Field Division
Utility Craftsworker
Apprentice

Kent Zenobia
Flood Management
Engineer

Promotions

Dolores Alejo
Executive
Executive Secretary I

Rachel Ballanti
Engineering
Office Technician (Typing)

Joseph Barron II
Engineering
Supervising Engineer

Lisa Batiste
Office of Water Use
Efficiency
Associate Governmental
Program Analyst

Dana Billy
Southern Field Division
Administrative Officer I
Resources Agency

Lauren Bisnett
Engineering
Executive Secretary I

Ronald Brunner
Southern Field Division
HEP* Operator

Kathleen Buchnoff
Bay-Delta Office
Senior Engineer

Daniel Callahan
Environmental Services
Associate Information
Systems Analyst

Tseng-Jung Chen
Engineering
Structural Design Technician II

*** Hydroelectric Plant**

INFORMATION PROVIDED BY DWR'S PERSONNEL OFFICE

Promotions

Darren Choyce
San Joaquin Field Division
Chief HEP* Operator

Ann Cobb
Engineering
Office Assistant (Typing)

Bonnie Crozier
Engineering
Construction Inspector Technician

Drucilla Dunton
Planning & Local Assistance
Research Writer

Yaser Eilahi
Engineering
Electrical Engineer

Efrain Escutia
Flood Management
Engineer

Hamid Eshraghi
Southern Field Division
Senior Engineer

Michael Floyd
Flood Management
Supervising Engineer

Janiene Friend
Executive
Administrative Assistant II

Kristin Garrison
Environmental Services
Staff Environmental Scientist

Gary Gauthier
Safety of Dams
Engineer

Karen Gehrts
Environmental Services
Senior Environmental Scientist

Joyce Gibson
Management Services
Associate Personnel Analyst

Jasbir Gill
Engineering
Right of Way Agent

Jorge Gomez
Operations & Maintenance
Precision Electronics Specialist

Ariel Gonzales
Fiscal Services
Associate Accounting Analyst

David Grant
Northern District
Environmental Scientist

Kristine Heller
California Energy Resources Scheduling
Business Service Assistant

Daniel Hester
Operations & Maintenance
Supervising Control Engineer

Thanhlan Hoang
Fiscal Services
Accountant Trainee

Angela Hong
Flood Management
Office Technician (Typing)

Lawanda Jaramillo
Northern District
Administrative Officer II
Resources Agency

Robin Jenkins
Operations & Maintenance
Supervising Control Engineer

Lolita Johnson
Fiscal Services
Senior Accounting Officer

Woon Jung
Executive
Associate HEP** Utility Engineer

Jamie Leca
State Water Project Analysis Office
Research Analyst II Economics

Yihong Liu
California Energy Resources Scheduling
Accountant Trainee

Danny Luong
Technology Services
Systems Software Specialist II

Candi Malone
Engineering
Staff Services Analyst

Russell Mills
California Energy Resources Scheduling
C.E.A.

Erik Murphy
Central District
Associate Information Systems Analyst

Theresa Nunez
Management Services
Associate Personnel Analyst

Kimberly Oliphint
Management Services
C.E.A.

Jesus Parrilla
Fiscal Services
Associate Accounting Analyst

David Paulson
State Water Project Analysis Office
Supervising Engineer

John Personeni
Engineering
Construction Inspector Technician

Troy Phillips
Technology Services
Assistant Information Systems Analyst

Jorge Quintero
Delta Field Division
Mechanical Engineer

Gregory Reeves
San Joaquin Field Division
HEP* Electrician II

Ruben Reveles, Jr.
Oroville Field Division
Warehouse Worker

Itzia Rivera
Flood Management
Environmental Scientist

Vincent Rodriguez
Flood Management
Senior Engineer

Sean Rossi
San Joaquin Field Division
Senior HEP* Operator

Anthony Rucker
Management Services
Materials & Stores Specialist

Pamela Ryan
Executive
Senior Librarian

Mahyar Sabbaghian
Flood Management
Senior Engineer

Marjorie Sales
Technology Services
Assistant Information Systems Analyst

Jeffrey Schuette
Flood Management
Staff Environmental Scientist

Nalini Shankar
Fiscal Services
Accounting Administrator I (Supv.)

Wendy Stewart
Flood Management
Research Analyst I

Anna Torres
Engineering
Staff Services Analyst

Wendy Underhill
Technology Services
Senior Information Systems Analyst

Maria Vacaru
Fiscal Services
Associate Accounting Analyst

Megan Walton
Flood Management
Staff Services Analyst

Jean Woods
Planning & Local Assistance
Senior Land & Water Use Scientist

David Wright
Flood Management
Senior Engineer

Shengjun Wu
Planning & Local Assistance
Senior Engineer

*** Hydroelectric Plant**
**** Hydroelectric Power**

INFORMATION PROVIDED BY DWR'S PERSONNEL OFFICE

Obituaries

Pauline Amaro

Pauline Amaro, retired Executive Secretary of The Reclamation Board (now Central Valley Flood Protection Board) passed away at the age of 75 on November 13.

Pauline attended American Legion Elementary School in Sacramento until her family moved to the Bay Area in 1942. After her family returned to Sacramento in 1950, Pauline graduated from C. K. McClatchy in 1951.

After graduation, Pauline worked as a Secretary for the Bureau of Reclamation. Then, she became a medical secretary and moved to San Francisco where she worked for several doctors. In 1965, she joined The Reclamation Board as an Intermediate Stenographer and later Senior Stenographer.

In 1969, Pauline began her DWR career. She was assigned to the Flood Control Project Branch in the Division of Planning. After the creation of the Division of Flood Management, Pauline transferred and was secretary to six branch chiefs. In 1989, Pauline returned as Executive Secretary to The Reclamation Board, where she retired in December of 1996. She worked as a retired annuitant from 1997 to 2001.

"Pauline Amaro served The Reclamation Board with dedication and commitment. She took pride in her work and she was very well respected by her coworkers and the Board members," said Jay Punia, Executive Officer of the Central Valley Flood Protection Board.

Pauline is survived by a brother, sister, nephew and four nieces. Remembrances in Pauline's honor may be made to the Alzheimer's Aid Society. ■

Clay Dudley

Clay Dudley, former Chief of DWR's Graphic Services Unit, died in Fresno at age 90 on October 7, 2008.

In a 25-year DWR career, Dudley documented on film and video major milestones in the construction and operation of California's State Water Project. Starting with DWR in 1957 as a photographer, he became an audio visual specialist in 1961, and won promotion in 1967 to Graphic Services Supervisor.

When he retired in December 1982, Dudley was Chief of Graphic Services. He led the unit to a high level of technical excellence, producing professional quality photo, film and video products.

Clay Dudley, who was born in Flat River Missouri, learned his photographic skills in the U.S. military. He joined the Army in November 1939, training as a photographer in the Army Air Corps.

Stationed at Hickam Field in Hawaii, Dudley took photos during and after the December 7, 1941 Japanese air attack. Decades later, he recalled grabbing a rifle and camera when the alarm sounded, and filming the aerial assault. One of his treasured souvenirs was a photo he took of his barracks engulfed in flames.

Dudley served throughout World War II. He earned a Bronze star while serving in the Central Pacific. He had attained the rank of Technical Sergeant by the time he was discharged in September, 1945.

After the war, the family moved to California, settling in Sacramento. Dudley worked as a professional photographer, first in a partnership with another lensman and later with McCurry's, a well-established Sacramento studio. While working fulltime to support his family, Dudley earned a Bachelor and Master's degrees in Psychology from Sacramento State College.

Prior to joining DWR, Dudley for several years in the early 1950s worked as a photographer for the Division of Highways.

In addition to his photographic career, Dudley enjoyed playing guitar in a group called "The East Guadalajara Iron Works Marching Brass Band." The eight-piece ensemble played for several DWR celebrations and events. Clay became a guitarist in his youth, playing in harmony with an older brother, as the sons of a lead miner in Missouri.

After retiring in December, 1982, Dudley moved to Fresno, remaining active musically and as a golfer.

His daughter, Jane and wife, Helen, of 63 years predeceased Clay. Survivors include sons, Terry and Toccoy; daughter, Tracie, and three grandchildren. ■

Obituaries

Don Duncan

Don Duncan, a retired Systems Software Specialist III, passed away at age 60 on October 26 in Fair Oaks.

Don's 34 years of DWR service began as a Student Assistant. In 1975, he became a Data Processing Trainee and later an Information Systems Technician. After several promotions, he became System Software Specialist III (Supervisor) in 2007. He retired from DWR in 2008.

Don received a unit citation for participating in the support of SAP Enterprise Resource Planning System. He also received a meritorious service award in appreciation of his exemplary service and innumerable contributions to the DWR information systems.

Don is remembered for his legacy of being a mentor and coach to those around him.

Don is survived by his wife Betty of 40 years, two sons, and four granddaughters.

Ed Robbins

Charles Edwin "Ed" Robbins, a retired Water Services Supervisor, passed away at the age of 71 on November 23 in Orem, Utah.

During his 43 years of DWR service, Ed began his career as an Engineering Aide. In addition to working for the Division of Planning and the Snow Surveys Team, his assignments included Delta and San Joaquin Drainage Investigations. Most of his career was spent as a contract writer for the State Water Project Analysis Office, where he designed water conveyance contracts. In his last DWR position from 1996 to 2001, he supervised water operations at Oroville Field Division. He was involved with the flood operations of 1997. He was also instrumental in managing new temperature requirements for the Feather River.

Ed retired in 2001 to move to his birth state of Utah with his wife Betty to be closer to his six children and 14 grandchildren. ■

Richard Van Der Volgen

Richard Van Der Volgen, DWR retired Water Resources Engineering Associate, passed away at the age of 61 on August 31 at Mercy Medical Center in Redding.

During his 32 years with DWR, Richard's assignments included preparation of design and contract drawings throughout the State Water Project for the Electrical Section. After beginning his career as a Transportation Surveyor, he worked as a Delineator, Electrical Engineering Technician II, and later Water Resources Engineering Associate. In addition to Coastal Branch Aqueduct and South Bay Pumping Plant, his projects also included Alamo, Mojave Siphon, and Devil Canyon Powerplants. He retired from DWR in 2007.

After his retirement, Richard and his wife moved to Mt. Shasta, California. He enjoyed fishing, camping, shooting and collecting coins.

Richard is survived by his wife Julie and extended family. ■

Donald Lewis Smith

Donald Lewis Smith, DWR retired Chief of the Mechanical Pumping Plant Design Section, passed away at the age of 83 on September 25.

Don, a Navy veteran, joined DWR in 1958 as an Associate Mechanical Engineer, Hydraulic Structures and became Supervising Mechanical Engineer, Hydraulic Structures in 1981. His DWR assignments included working on the Bottle Rock and South Geyser projects in the 1980's. He retired from DWR in 1983.

He is survived by his wife of 57 years, Marge, four children, five grandchildren, and four great-grandchildren. ■

James Louie

James Louie, a retired Associate Engineer, passed away at age of 88 on October 9.

Born in Canton, China, he immigrated to the United States in 1926. He served in the United States Army. During his 39 years as a civil engineer, he worked 15 years for DWR until his retirement in 1982.

He enjoyed fishing, traveling and gardening, especially growing orchids. James was also president of the Soo Yuen Tong Benevolent Association for three years

He is survived by two brothers and a sister. ■

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.

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