



Water Supply Is a Statewide Issue

At a special meeting held on June 6, 2008 the Fresno County Board of Supervisors adopted a resolution proclaiming a Local Emergency due to severe water shortages. The Board also requested that the Governor proclaim a State of Emergency, which he did on June 12, 2008 and requested State and Federal assistance, "as a result of the 2008 Drought Conditions."



Governor Schwarzenegger signs the State of Emergency drought proclamation on June 12, 2008 in Sacramento

These actions were in response to looming economic impacts to the agriculture economy caused when farmers were forced to let crops go fallow or forgo planting due to water shortages.

Businesses, government and other groups statewide are following media coverage and legislative action related to the 2008 drought. A new \$9.3 billion bond to fund water conservation and reservoir projects is being proposed for placement on the November ballot by Governor Schwarzenegger and Senator Dianne Feinstein. This is in addition to the \$9 billion for water projects approved by California voters in 2006.

Local agencies work together to increase drinking water supply

These proclamations and news coverage spotlight the increasingly critical issues of water supply, storage and transport. With a large and rapidly growing population, drinking water supplies are also of concern. In the Fresno/

Clovis area, groundwater pumped from the aquifer accounts for approximately 90% of the water we use in our homes and businesses every day. Many local agencies, including the Fresno Metropolitan Flood Control District, are connected to the drinking water supply, and regularly work together to replenish it.

A deliberate, community-wide groundwater replenishment, or recharge program is in operation every day. The recharge of groundwater helps close the gap between the supply of groundwater and community demand. There are two types of recharge: natural and artificial.

Natural recharge occurs in streams, channels, and rivers. As water flows it soaks into the soil and eventually makes its way to the groundwater aquifer. Natural recharge is an important part of the hydrologic cycle.

Artificial recharge is a man-made means of recharge using constructed facilities. Examples of artificial recharge facilities are recharge basins (shown right), injection wells, and canals.



One of more than 80 District basins used for artificial groundwater recharge.

Since urbanization has densely covered once-open land with pavement, roads and buildings, in many places, rain water can no longer soak through the soil to the groundwater aquifer. To replace the lost natural recharge, artificial recharge facilities needed to be created.

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Message from the General Manager



Bob Van Wyk

A recurring theme in this issue and prior issues of Flood Line deals with partnership projects with other public agencies and the private sector. The District Board of Directors fully supports and encourages partnership projects and multiple use of District facilities.

Working cooperatively with other agencies often produces increased efficiency with tax payer dollars, particularly when a facility provides more than one benefit to the public. An example of this is this issue's cover story on the statewide drought. Unknown to many of our area's citizens is the daily, cooperative effort of a number of public agencies and private companies to accomplish replenishment of our area's groundwater supply. Systemic coordination produces the real result of an increased groundwater supply.

Another example of the benefits of public agency partnership is illustrated in the story on page 4 where the

Clovis Fire Department uses District basins for officer candidate testing.

Combining public agency budgets to produce the pollution prevention messages identified on page 5 shows how innovative approaches to meeting regulatory requirements in public education can save money.

The story on the District Board's adoption of the new fiscal year budget (page 6) talks about the current focus on construction in the capital program. The soft construction market has produced lower than usual bids on District projects. This has resulted in construction of more capital improvements for fewer dollars while providing work for contractors and their employees.

The District continually looks for ways to provide service to the public in efficient and innovative ways, and thankfully it has agency partners such as the cities of Clovis and Fresno, the County of Fresno, Fresno Irrigation District and many other local and state agencies willing to do the same.



Director's Perspective

New! Each issue of Flood Line will feature an article by one of the seven members of the District's Board of Directors. Directors are appointed for four-year terms; four by the City of Fresno, two by the County of Fresno, and one is appointed by the City of Clovis.

When I was asked to be on the board of directors my first thought was what could I, a banker, possibly bring to the Flood Control board? I'm not an engineer. I don't even know what those giant pipes in the ground are called. Well, that was five years ago and although I am still learning all the terminology I realize that the most important aspect of being a director is not knowing where basin II or RR is. We have maps for that.

What is important is the honor of representing my community and always remembering that it is the people of our community that we serve and ensuring that we don't lose sight of what is best for everyone. It is important to me that I am accessible to the people in my community and willing to help and give direction when needed. I believe that as a board our strength comes from the diverse group of individuals serving, which include a CPA, local businessmen, engineers and myself, a banker and the only woman. We all come from different backgrounds and different parts of the city and county bringing a wide range of experience to the District.

That being said we have the easy part. It's the District staff that does all of the hard work from determining where to buy land, developing, planning and structuring our drainage services to best protect our community from flood waters. While providing flood protection is our primary function I am very proud of the fact that we work with the cities and other local agencies to not only make our basins more aesthetically pleasing, but to create recreational spaces such as parks with play equipment, soccer fields and baseball diamonds while maintaining the integrity of the local plant and wild life.

Being a Director has turned out to be one of the most rewarding positions I have held and I am honored to be able to serve and work with a group of gentlemen all of which have demonstrated the utmost in integrity and respect for the people in our community.



**Director
Jennette Williams**
*represents the
City of Fresno*



"Water Supply", continued from page 1

The Cities of Fresno and Clovis and the Fresno Irrigation District have purchased hundreds of acres of land and constructed permanent facilities for groundwater recharge purposes.



In addition to its primary functions of controlling flood waters from the foothills and rain water as it falls on the urbanized area, the District provides year-round recharge of our community's groundwater supply. Eighty four District stormwater basins located throughout

Clovis and Fresno have a secondary use as recharge basins. During summer months, irrigation water is diverted from canals into basins to recharge the groundwater supply. This is why you see water in basins during the summer, when there hasn't been any rain in months.

Bakman Water Company recently entered into a recharge basin use agreement with the District and is the newest community partner in groundwater recharge.

An annual average of 60,000 acre-feet of water is artificially recharged to the groundwater aquifer through this multi-partner teamwork. Artificial recharge in District basins is cost efficient at an estimated \$2.50/acre-foot.* An acre-foot is equal to 325,851 gallons.

*Cost to the City of Fresno.

To augment water supplies, the cities of Clovis and Fresno have built surface water treatment plants, which provide roughly 9% of our community's water needs. To learn more about these fascinating facilities visit: www.ci.clovis.ca.us and www.fresno.gov.

Using Less is Best

While some communities are rationing water, we aren't there yet. To keep us from getting there, Clovis and Fresno have water use rules such as residential water schedules, and they also offer help with improving water efficiency in homes and businesses. For help and tips in Clovis call 324-2609, and in Fresno call 621-5480 or visit www.fresnowater.org.

The District also promotes water conservation through encouraging citizens to follow watering rules, in part because residential runoff can carry lawn chemicals and other pollutants to basins. Conserving water can also preserve existing groundwater quality.

A groundwater conservation measure the District employs, and more so as funding allows, is irrigating some



landscaped basin sites with surface water. Water is pulled from the basin (from storms or residential over watering)



These District basins are irrigated with surface

water, conserving groundwater - our main source of drinking water. District staff submitted applications for state grants to provide surface water irrigation at five more basin sites.

or from a nearby canal to irrigate trees and turf. This fiscal year there are three basin surface water irrigation pump projects budgeted. All three basins will have the top one-third (closest to street level) landscaped

with trees and turf. The basins are located at Hughes and McKinley Avenues, at Highway 180 just west of Highway 99, and at Figarden near Bullard Avenue. This last site is adjacent to a City of Fresno park project featured in the last issue of *Flood Line*.

Water Conservation Tips

Provided by the City of Fresno Water Conservation Division

ARE YOU USING TOO MUCH WATER IN YOUR YARD? On average, 50 to 70% of home water is used outdoors for watering lawns and gardens. This is where we can save the most water. Water that flows onto the sidewalks and into the gutters and streets is water wasted. Don't water concrete!

WATER CYCLE! For the healthiest and most water-efficient lawn, try to water in several short watering cycles rather than one long one. Three 5 to 10 minute sessions spaced 30 minutes to an hour apart will allow your lawn to better absorb moisture than one straight longer session, and there is less water runoff. This method also allows your grass to develop deeper roots.

DON'T OVER FERTILIZE - The application of fertilizers increases the need for water and is a source of water pollution. Use fertilizers according to direction.

SWEEP TO CLEAN DRIVEWAY - Save water by sweeping instead of hosing. Use a broom to clean your driveway and pavement. It is wasteful to hose your pavement to clean it off. Wash down paved surfaces only to alleviate immediate fire or sanitation hazards. Direct any water runoff to water your landscape.



Public Outreach and Special Events

Each year District staff participates in special events all over Fresno and Clovis. Talking with the public at events gives the District the chance to let people know what services their tax dollars provide through FMFCD. Information about the flood control and urban storm drainage system is explained, as well as how and why to keep stormwater runoff clean.

Answering questions and giving demonstrations one-on-one or to small groups provides a nice personal touch in public outreach. Events such as the recent Vibe events in downtown Fresno, the Party for the Planet at the Chaffee Zoo, National Parks Family Day at Roeding Park, the annual Master Gardeners Garden of the Sun tour, and Farm and Nutrition Day at the Fresno Fairgrounds put us in front of thousands of people every year.

Other special events close to the District's heart are tree planting events and grand opening of recreation facilities at some of its stormwater basins in Clovis and Fresno. Coming up later this year are two tree planting events and the grand opening of a newly developed basin with soccer goals and a softball diamond.

The first tree planting event is scheduled for Saturday, September 13th and the second will take place in late fall, at basins along Highway 180 near Highway 99.

Clovis Fire Uses Basin for Captain Candidate Testing



Under pressure in the field - (l-r) Selma Fire's Deputy Chief Mike Kain, Lori Shively from Clovis Fire Personnel, Clovis Fire's Battalion Chief Lee Kraft, Clovis Fire Engineer Larry Hernandez assisting with CPR, Clovis captain candidate Bret Black, and the scenario's actor, Chad Fitzgerald.

It happens every two years. The Clovis Fire Department tests a handful of its firefighters for promotion to the rank of captain. Five candidates presented themselves for consideration this time, and took part in a two-day testing process. The tests simulate a captain's day and consist of everything from finding one's way around town, to giving a presentation, to simulated emergency situations and performance under pressure.

Three locations in the field were selected for different exercises, and two firefighters accompanied each candidate on their stops. At each location proctors from other local fire departments (Fresno, Selma and Visalia) observed the candidates in action to rate their level of performance.

One stop was a District basin on Dakota near Clovis Avenue. An actor portraying a drunk driver explains to the candidates that he has driven his

car into the basin. One person (a CPR dummy) lays injured on the bank, and one imaginary person is in the imaginary car submerged in the basin. Candidates are not told about the person in the water because they have to find out whether there are other victims on the scene.

"The two firefighters who participate in the testing process with each candidate are instructed to make mistakes on certain tasks to test the candidates' ability to catch and correct the mistakes", explained Clovis Fire Captain Troy Coleman. Captain Coleman arranged access to the District basin for use in the testing process and was present to observe and coordinate. Other fire personnel who were part of the day's events were Deputy Chief Rick Bennett and Captain John Leigh.

All five candidates passed the exam and are eligible for promotion to the rank of captain.

Pollution Prevention Messages and Agency Resources Combined



Scenes from the new collaboratively created and funded PSA.



A new public service announcement (PSA) has been created collaboratively by five local agencies to address common pollution prevention messages. Television and radio stations aired the “Partners for a Clean Community” PSAs from March 31 through May 11, 2008.

“Partners” include the California Department of Transportation (Caltrans), the City of Clovis, the City of Fresno, the County of Fresno and the Fresno Metropolitan Flood Control District (District). The District is the lead agency responsible for coordination and implementation of the Fresno/Clovis area National Pollutant Discharge Elimination System (NPDES) permit.

The PSAs feature a cast of sock puppets using dialogue and narration that encourage behaviors by citizens that prevent stormwater pollution. The puppets provide an attention-getting and engaging means to educate the public. Both English and Spanish audiences were targeted in this campaign.

Many public agencies have stormwater pollution prevention messages they publicize as required by their NPDES permit, and sometimes there are areas of overlap – which means

opportunities to pool resources and work together for the purchase of more television and radio advertisements. This partnership in creating an advertising campaign was the first of its kind among these agencies.

There were three common messages focused on in this campaign:

- Recycle used motor oil
- Put litter in its place
- Recycle plastics and packaging

Other pollution-preventing, positive behavior messages will be incorporated into future PSAs, and the sock puppet theme will continue to be used in future PSAs and printed materials.

The benefits of working together are budget efficiency through an increased number of radio and television commercials, including an additional run on Spanish language radio, which ran from June 16-July 13. Next to English, Spanish is the most widely spoken language in the Fresno/Clovis area.



News Line

Sixteen Clean Stormwater Mini-Grants Awarded

The District’s Board of Directors awarded \$25,000 in grants to 16 schools and community organizations. The grant projects promote environmental stewardship and protection of local water resources in a variety of ways. This year’s awards focused heavily on education and all of the projects being funded teach aspects of pollution prevention and water resources management.

Since 1997 the District has awarded grants to help fund 113 projects through the Clean Stormwater Grant program. Schools, community service organizations (such as Stone Soup Fresno, Tree Fresno, Boy Scouts of America, and many others), and local agencies have



been strong partners in educating

our community about water resources and how to keep them clean. Many lasting partnerships have been formed over the years, and often grant recipients network with each other. The grant program has proven to be a cost-effective pollution prevention and conservation outreach tool.

Trends in Urban Planning Mean Changes in Urban Storm Drainage

The last issue of Flood Line featured the Southeast Growth Area (SEGA) as the new growth frontier in Fresno. The Fresno Metropolitan Flood Control District is one of many agencies looking ahead to meet the needs of this 14-square mile area expected to house 55,000 residents by 2025. The SEGA is generally located east of Temperance, south of the Gould Canal and north of North Avenue.

What's new is the higher density of the SEGA, and its embrace of 'smart and sustainable growth'. These have significant impacts on the urban storm drainage design for the area, and the master planning principles at work in the SEGA are changing the way public services are planned.

Smart growth is more town-centered than development has been over the past 60 years in Fresno and Clovis. It is transit and pedestrian oriented, and has a greater mix of housing, commercial and retail uses. It also preserves open space and many other environmental amenities. Smart growth in already-developed areas also includes infill development.

Smart growth creates ripples of change

The higher densities that come with smart growth increase

the amount of stormwater runoff generated, creating a need for pipelines that handle more water at once. The District has used the same design standard for the past 35-40 years, and the urban storm drain system in place in Clovis and Fresno assumes drainage needs based on having a modest sized single-family home on a 6,000 square foot lot. Also assumed is drainage from the front yard only.

New, higher density lots in the SEGA, and a few developments elsewhere, have an average lot size of approximately 4,000 square feet, with a larger home that sometimes covers two-thirds of the lot. Smaller lot sizes paired with larger homes, and with all on-site drainage directed toward the street, equals greater amounts of water that must be conveyed away from streets and stored. Water storage needs are being anticipated and additional stormwater basin site purchases serving the SEGA are budgeted in the 2008/2009 fiscal year.

"Flood Control has changed its lot coverage assumption from 30% to 50%, and changed roof-to-gutter time from the historical norm of 25 minutes to 20 minutes. The new assumption is that the entire lot will drain to the street and the backyard and a portion of the roof area will be drained

"Trends" continued on back page

Board Adopts Budget for 2008/2009

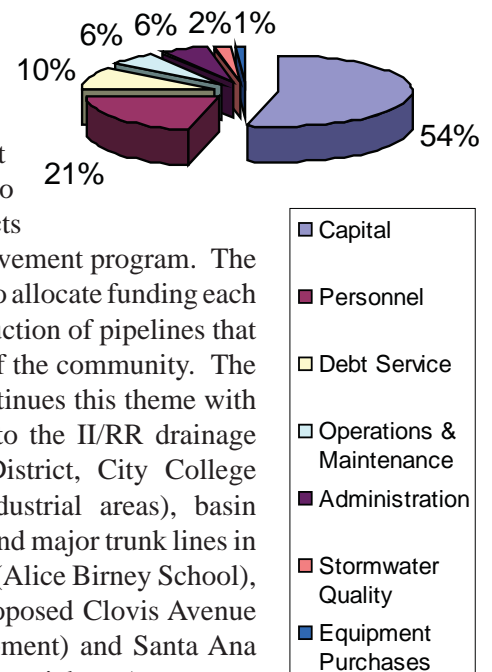
The Board has adopted the District's 2008/2009, \$34,823,498 operating budget. The District's major program areas are providing 1) a regional flood control system (the rural program), 2) an urban drainage system, and 3) a water conservation and groundwater recharge program. Revenue comes from a combination of property taxes and developer fees.

The largest percentage of this year's budget is devoted to the construction of new facilities. Approximately 54% of the FY 2008/2009 budget is dedicated to building flood control and urban drainage facilities such as storm drainage pipeline and basins to serve new housing and business developments, dams and reservoirs that intercept and control foothill flood flows, and additional pipeline and basin capacity needed to serve older areas.

Over time, as more capital projects are added to the District's inventory, the costs for operations and maintenance will increase. However, this year they are holding at just 6% of the budget.

With the lull in residential development activity, the District has more time to focus on other aspects

of its capital improvement program. The District continues to allocate funding each year for the construction of pipelines that serve older areas of the community. The current budget continues this theme with funding allocated to the II/RR drainage systems (Tower District, City College and Van Ness industrial areas), basin pumping systems and major trunk lines in McKinley Avenue (Alice Birney School), Tulare Avenue (proposed Clovis Avenue mixed-use development) and Santa Ana Avenue (Levitz industrial area).



Water Policy Work Group Meets at District



Shown in photo (l-r): Ron Addington, CEO San Joaquin Business Council, Stockton; Jim Tischer, California Water Institute; Gene Voiland, Bakersfield; Fritz Grupe, Chair, Grupe Companies, Stockton; Lynne Ashbeck, Senior Facilitator, Center for Collaborative Policy; John Shelton, Senior Resource Specialist, Delta Vision, Sacramento; John Herrick, Manager Counsel, South Delta Water Agency; Tom Flinn, Public Works Director, San Joaquin County; Randall Neudeck, Program Manager, Metropolitan Water District of Southern California; Bob Van Wyk, General Manager, Fresno Metropolitan Flood Control District. (Not Pictured, Tom Zuckerman, Lodi, California)

On June 4th the Water Policy Working Group of the California Partnership for the San Joaquin Valley met at the Fresno Metropolitan Flood Control District. The group is composed of Partnership board members that have an interest in water policy, and also consists of technical advisors who assigned to specific issues. The group has been meeting since September in various San Joaquin Valley locations and Southern California as well.

The Partnership was created by a Governor's executive order in 2005 and focuses on the eight counties in the San Joaquin Valley (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus & Tulare). The focus of the Water Working Group is on ensuring an adequate, diverse water supply for the San Joaquin Valley to support the lifestyle of its 3.9 million residents, support economic growth, retain the world-class agriculture base, maintain a reliable urban water supply, and protect the local environment.

"Our goal is to develop a unified vision for water policy that meets the needs of all eight counties in the San Joaquin Valley as well as the balance of California. The goal is to find areas that we can agree on and together work productively to implement and work around those areas where agreement is not currently possible" explained James Tischer, Project Manager at the International Center for Water Technology at CSU Fresno and a member of the group.

"We actually had quite a breakthrough while at your facility that resulted in a resolution that was passed at the June 13th California Partnership board meeting. Note that the San Joaquin Valley counties and MWD [Metropolitan Water District] agreed on the series of actions indicated in the resolution. We hope that is the first success at identifying areas of working together and more successes follow." (To read the resolution, visit www.sjvpartnership.org/uploaded_files/Doc/ResolutionCPSJVWater_061308.pdf)

Lynne Ashbeck works with the group in the capacity of Senior Mediator/Facilitator for the Center for Collaborative Policy (CSU Sacramento). Ms. Ashbeck, also a Clovis City Council member, stated, "The Water Policy Working Group emerged from the California Partnership for the San Joaquin Valley as the forum to work through some of the many details and nuances surrounding water policy in our region. Under the capable leadership of Gene Voiland, former Stockton Mayor Gary Podesto, and Kern County Supervisor Ray Watson, this group has demonstrated the best in what can happen when diverse groups come together around shared interests to solve common problems.

"Over the last year, this group of water experts, policy makers, and civic leaders from Los Angeles to Stockton has met to work through water issues from a regional perspective...not simply from what one community needs over another. The group has tackled a wide array of subjects, ranging from estuary health, storage options, improvements to the Delta infrastructure, and conveyance. Through it all, the group has stayed focused on the shared end result--a comprehensive, sustainable, feasible water policy for the Valley. The group is continuing their discussions through the end of 2008 and continues to demonstrate the value in the Partnership, regional thinking, and problem-solving."

The California Partnership for the San Joaquin Valley is an unprecedented public-private partnership sharply focused on improving the region's economic vitality and quality of life. There are ten special purpose work groups:

1. Advanced communication services,
2. Air quality,
3. Economic development,
4. Energy,
5. Health and human services,
6. Higher education and workforce development,
7. K-12 education,
8. Land use, agriculture and housing,
9. Transportation, and
10. Water quality, supply and reliability.



Close Up: Andrew Remus



Andrew Remus (r) speaks with a development project manager about stormwater runoff controls.

Resources Manager.

When asked what he likes most about his job Andrew replied, "I enjoy working at the District because of the scale of the District's responsibilities and the opportunity to work on a wide and dynamic array of environmental management challenges. Most California water management agencies focus, by their nature, on a limited number of issues directly

Andrew Remus is a Staff Analyst in the District's Environmental Resources department, and has been with us for three years. "Andrew was an excellent addition to our experienced environmental team. He works hard and brings a lively wit to any situation." said Daniel Rourke, Environmental

Resources Manager. In contrast, the District - in the course of building and managing its flood control and drainage systems - is constantly engaged in municipal, state and federal affairs, water quality and habitat issues, neighborhood and business relations campaigns and in responding to regulatory developments that variously facilitate or complicate the District's efforts to efficiently and effectively serve the residents of the Fresno-Clovis area. Contributing to these efforts is very rewarding work."

Andrew came to the District from Inyo County where for six years he managed the nuclear waste project with the proposed federal Yucca Mountain repository. For ten years before that he worked for Tulare County's Local Agency Formation Commission (LAFCo) and as the Airport Land Use Commission staff person. During that time he also served as the county's U.S. Census Bureau Liaison.

Born and raised here in Fresno, Andrew graduated from Fresno State, where he met his bride of 21 years, Beth. They have two daughters, Sara (14 years) and Julie (10 years). Julie plans to be an engineer and Sara is aiming for a life as an international spy.

"Trends" continued from page 6

by small collector pipes. This is critical because it means more water leaving the lots sooner. This reflects the new building practices of today", explained Wendell Lum, the District's Master Planning Manager.

Working with developers

Coordination with the development community through meetings organized by the Building Industry Association

(BIA) keep the District's Master Planning engineers current on trends in new construction. "We've been changing the [Storm Drainage and Flood Control] Master Plan to more closely fit building trends in home development", stated Mr. Lum. This kind of communication is important because before construction begins a drainage plan for all proposed development must be submitted to the District for approval. Early and frequent communication allows for more accurate plan submittals by developers, and fast plan review by District staff.



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Board of Directors

Richard Welton, Chairman • Kendall Groom, Vice-Chairman • Frank Franco • George Marcus • Roy Spina • Jennette Williams • Mike Rastegar

Need a Speaker?

If your community group is in the Fresno/Clovis area, contact Brandy Swisher, at brandys@fresnofloodcontrol.org or 456-3292, to arrange a presentation on flood control and urban drainage, water resource management or pollution prevention.