2nd Quarter 2009

TID TIDINGS

Newsletter of the Tulare Irrigation District

SURPLUS WATER FROM MILLERTON LAKE

TID Brings in 41,000 acre-feet

Three long dry years watching groundwater levels drop each one of them. This was the story not only for TID, but for the entire Kaweah Basin. The cities of Tulare and Visalia, still primed and working hard to keep up with all the activity stemming from the unprecedented several-year growth spurt, saw their sole source of water to fuel this housing and commercial spread dwindling too. In this third dry year, we all hunkered down and prepared to deal with record low groundwater levels and minimal surface water supplies.

What TID has done over the last several weeks, while by no means a panacea for the seeming drought we are still in, is a story worth telling. Despite a mediocre year - about 80% of average snowpack expected to translate to less than that in runoff in the Sierra rivers - Millerton Lake was filling rapidly and a spill down the San Joaquin River was approaching. The U.S. Bureau of Reclamation told its contractors to get ready to take some water and take it fast to avoid losing it. Districts like Tulare ID, Lower Tule River ID, as well as others in Friant, geared up quickly and moved rapidly into a mode more resembling a wet-year flood operation. To us, this was not a time to pass on water due to cost, take our time to prepare for the summer irrigation run, or hope for better times ahead in terms of winter snowfall. This was a time to open up the flood gates and bring in all we can into the regional Kaweah Basin – take it now as it were, since it may not be there next time around.

We've been preparing for this situation for awhile, knowing that our reduced access to San Joaquin River water on a dependable basis will shrink with new demands for fishery restoration downstream of Friant Dam. We have anticipated the need to capture all the surplus Friant water we can when made available, our thinking being that this will help make up for the loss of more dependable water that we have been accustomed to seeing. TID has been expanding and improving our system telemetry and canal controls such that we can react quickly to flow changes and maximize canal flows with reduced risk of overtopping. We have also been building up reserve funds for the express purpose of spending some of them to buy Friant water – and lots of it – on a moment's notice. With help from the City of Tulare, we are expanding our recharge facilities to absorb more water in surplus conditions.

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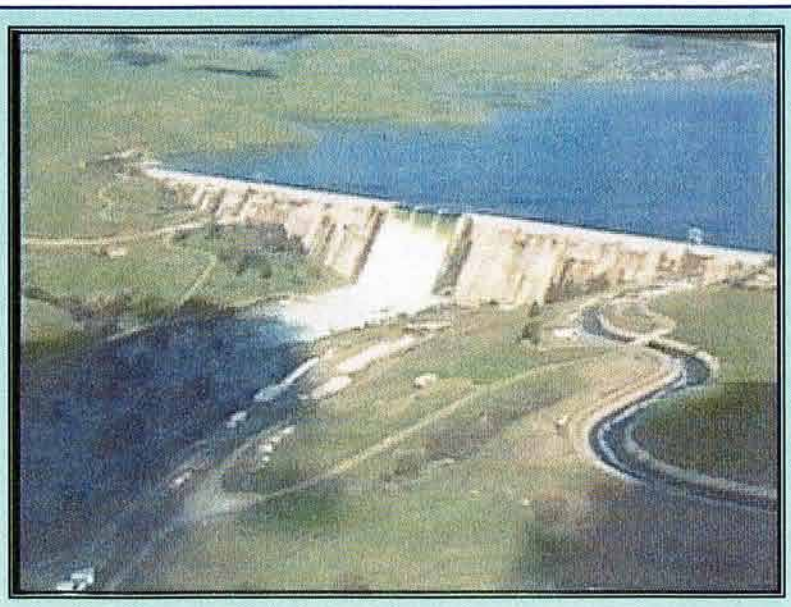
The Board of Directors holds regular public meetings on the 2nd Tuesday of every month at 9:00 am at the District office in Tulare.

In This Issue:



A Millerton Lake spill like the one pictured at left was avoided in part by the quick acting and hard work of the employees of TID, other Friant districts, and the Friant Dam operators. This aerial photo was taken in 2006.

(Continued from Page 1, Water from Millerton)

Shortly after USBR's notice of surplus conditions and Class 2 supplies, we opened up all our canals and recharge basins for service, worked round-the-clock for a couple of days to get lots of water flowing in short order without overtopping canals and ditches, and were glued to the phone for a while informing water users of the situation and taking orders for deliveries. Our Water Dept. and O&M/Ditch Tender crews are to be commended for quickly shifting gears and working to get a lot of water into the area without incident.

This has been an effort to bring water into the basin nearly any way we could, using channels and ditches not usually filled in more typical and controlled irrigation runs in the late spring and summer. We brought in leftover water from other Friant districts (to later pay back at lesser amounts), we delivered some of our surplus allotment to other districts who could take water for crop demands for later returns, all in an effort to maximize getting water into the groundwater basin. We set an all-time sixty-year record for the number of days during which we maintained such high flows diverted in from Friant. At times during this month-long run we have been bringing in close to 1,700 AF of CVP water each day. When all told, we have imported about 41,000 AF during this surplus condition, enough to satisfy the City of Tulare's pumping demand for nearly two years. While not all this water accrues to the City of Tulare, they and the City of Visalia have aided in our effort to get water into the underground during this surplus water run.

The cities' involvement reflects their emerging commitments to do what they can to replenish the underground supply on which they depend. Tulare provides financial assistance to TID on an annual basis, and we use the funds to buy water in conditions such as this one for filling basins that benefit their well field pumping. Visalia has recently been working with TID to find ways to promote TID's use of the Packwood Creek and Cameron Creek channels, which exhibit heavy seepage losses, in order to percolate water into the underground in areas that benefit Visalia's water system. We've been running the creek channels during this surplus operation and Visalia pays for water that is determined to have seeped out of the channels and into the aquifer under the city. Helping too is Kaweah Delta WCD under their longstanding agreement to provide a financial contribution to the cost of imported water brought into the basin.

The gist of it is that we are bringing in costly imported water and running it down our Main Intake Canal as well as the Lower Kaweah and St. John's rivers, fanning it out into an array of channels and basins for delivery and recharge and, in the end, selling less than half to TID farmers. It might seem like a lot of effort and expense for a relatively small amount of water with little financial payback in the bigger picture, but TID's practices are changing to react to the current reality of water supplies. We know that, unless we can react fast and spend reserves to buy and deliver this water when available, we will surely fall farther behind in terms of the area's regional water balance.

Millerton Lake—Too Small for the Job

Millerton Lake, the reservoir behind Friant Dam on the San Joaquin River, is the centerpiece of the Friant Unit of the CVP. Some say the dam site was not the ideal choice of USBR when the project was being formulated in the 1940's, but the land and associated water right permits were readily acquired from Madera Irrigation District, so the site was chosen. Filtered through the upstream hydropower systems of SCE and PG&E, the average annual runoff of the San Joaquin River is about 1.8 million AF, while the dam and lake site allowed for construction of a reservoir that could hold only 520,000 AF, barely over one-half of the average runoff. So it is that, in a lot of years, the lake will fill and potentially overflow at some point since it can't hold all the water coming in. Even in drier years like this one, when most reservoirs in the state are at record low levels, Millerton Lake runs the risk of spilling unless the Friant districts can move water into their delivery systems via the Friant-Kern and Madera canals. This situation of an undersized reservoir has been the key reason that the USBR is undertaking serious studies of another dam site in the upper San Joaquin basin. Being able to hold more water in many years could provide a myriad of benefits to and including irrigation district needs, recreation, downstream fishery requirements, and flood protection.

TID Older Equipment Fleet – Out to Pasture

TID needs to clean up its act! Like many other water districts with on-road heavy equipment running on diesel fuel, we now must comply with new state mandates aimed at reducing diesel emissions and associated health risks. Administered by the California Air Resources Control Board (CARB), the program is titled the "Fleet Rule for Public Agencies and Utilities" and has been in place since October 2006. This initial regulation is for public agencies, and additional CARB regulations for public off-road equipment, private fleets of off/on-road heavy equipment, and agricultural diesel equipment will be the next phase.

CARB is concerned with eliminating particulate matter (PM) that has an aerodynamic diameter of 10 microns or smaller, commonly referred to as PM10. To put this particle size into perspective, a human hair is approximately 50 to 100 microns thick – very tiny indeed! Exposure to PM10 has been shown to aggravate a number of respiratory illnesses and may even cause early death in people with existing heart or lung diseases. Smaller particles such as PM2.5 have the potential for greater health consequences since they can be deposited deep in the lungs and contain other substances that can be very harmful to one's health.

CARB requires that any public agency that leases or operates on-road diesel-driven equipment and vehicles with a 1960 to 2006 model-year fleet to comply.

The targeted vehicles must have a vehicle weight rating greater than 14,000 pounds. The District's fleet contains ten such pieces of equipment that fall under the regulation. Compliance measures include:

TID disposed of this 1985 Truck Tractor

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1. Retirement of equipment (this requires that the engine be destroyed)
2. Re-power equipment – involves replacing the motor with a new 2007 or newer motor
3. Retrofit motor with a Best Available Control Technology (BACT) filter to remove PM.

Agencies are allowed to phase the compliance of equipment and vehicles in order to address time and cost constraints of this program. The compliance time frame consists of percent completion requirements by 2007, 2009, and 2011.

TID staff has taken a very detailed look at its fleet to determine what replacements, retrofits or re-powering compliance options would be viable. For some of our older equipment, we found that replacement was much more cost effective given the equipment expected life spans. On some of the newer equipment, we found that retrofits were feasible due to the lower costs and ability to utilize their existing computer-driven motors to accommodate the complex BACT filtering systems. Re-powering of equipment has not proven to be practical due to the likelihood that the equipment that could be re-powered will not likely last long enough to justify the cost.

The District began its CARB conversion program in the fall of 2007 by replacing the model-year 1985 truck tractor that was utilized for hauling heavy equipment. The District also retrofitted two dump trucks with BACT filters. These actions enabled TID to meet all 2007 compliance deadlines at a cost of about $136,000.

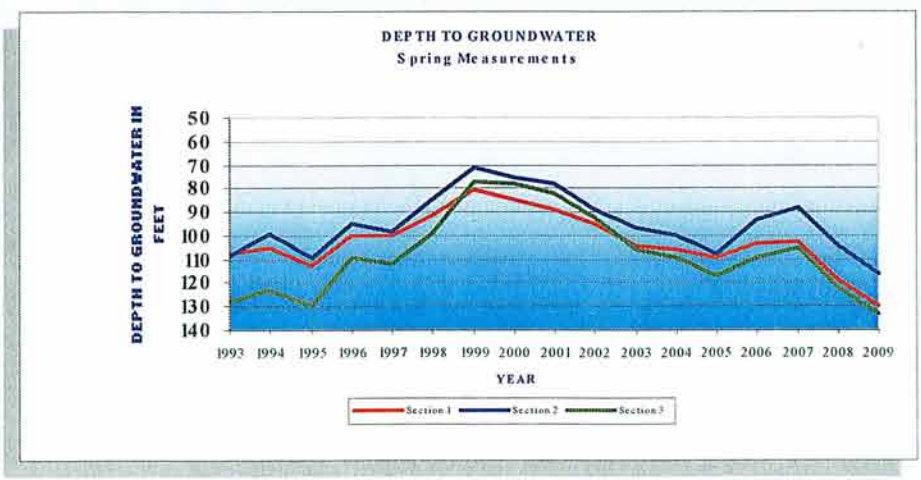
Looking towards the 2009 deadline, the District is in the process of a combination of retrofit and retirement projects to meet CARB requirements. It is estimated that the cost to meet 2009 CARB deadlines will be around $210,000. By the 2011 final deadline for full compliance, the District anticipates expenditures in 2010 and 2011 to be around $25,000 and $75,000 respectively.

This program also requires a significant amount of record keeping. TID must keep individual records on each piece of equipment and must be prepared for inspections as required by CARB. Each vehicle must also be labeled in a viewable location with CARB-specified information. Violations of this regulation can carry civil penalties as specified by state law. Several local counties, including Tulare County, were recently fined for not meeting CARB standards for their fleets. Failure to keep vehicle records is subject to a daily fine of $100, and failure to label vehicles is also subject to the same daily fine for each day not in compliance.

TID staff will continue to stay informed on regulations that affect the air quality and health impacts associated with District operations. Like the CARB compliance measures embarked upon thus far, any new expenditures will be brought before the TID Board's equipment committee and Board action. While the total cost of the CARB program may seem unnecessary for some of the vehicles and equipment we felt were in working order, these new state mandates left us little choice but to comply or face subsequent stiff penalties and fines.

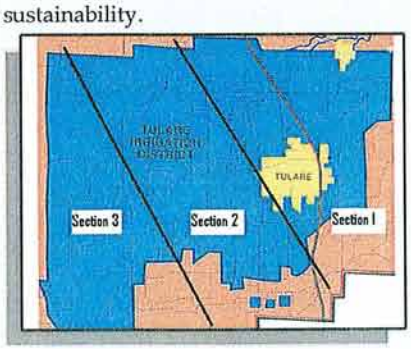
GROUNDWATER REPORT
All-Time Low Depth Record—No Fanfare, Please!

TID is not bragging about this record setting number. A previous record broken is usually something to feel good about, something to spread around and advertise. Not so with our semiannual groundwater report. Our spring groundwater level data gathering makes it official - a record low depth to water across the District, surpassing the lowest set back in 1994. The average depth to groundwater across the District is now at about 125 ft. See the chart below for the historical trend since 1993. While the gain in levels since last fall was about 1.6 ft, this was less previous years, where the winter and early spring runoff results in a significant rebound in levels. The bad news is that levels have receded by about 10.9 ft since last spring, one of the steepest seasonal drops in recent history. The causes are several, with the third dry year in a row one of the major contributors. Heavier pumping plays a role too, and the expanding urban well fields of Tulare and Visalia, as well as intensive grain and corn irrigations by farmers in the area, are the actors in this regard.



What can be done? There are two simple answers - one, to reduce pumping and, two, to bring more surface water into the area for both in-lieu and direct recharge to the groundwater. Cutting back on pumping does not support the economy of the region and is not a path that local authorities wish to venture down. Ways to bring in more surface water, whether it be innovative water operations to retain more high-flow Kaweah River water before it reaches the historical Tulare Lake Bed or the importation of additional water from the Friant system, are the much-preferred choices. This will continue to be a challenge as surface water becomes more scarce and its cost increases commensurately.

Reflecting back in time, however, the quest to capture more water when available and make it usable for Tulare farms has never been easy. TID and its prior and present Boards of Directors have taken on the challenge in the past and, in so doing, have established water assets for the region that serve us well today. We will continue in this effort, not rest on past accomplishments, and strive to maintain the water resources for our landowners and their future generations. See the article "Surplus Water from Millerton Lake" in this issue for one example of what must be done to stay ahead of the curve regarding our region's water supply sustainability.



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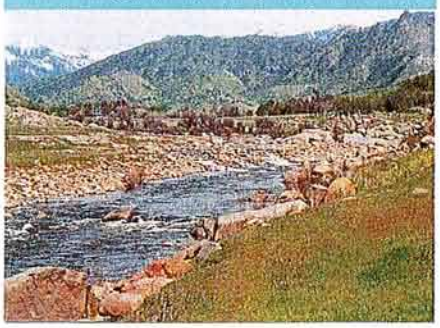

Founded in 1889, Tulare ID was one of the first irrigation districts in California. Its purpose is to serve the water supply needs of the greater Tulare area, a rich and agriculturally diverse region within the Southern San Joaquin Valley. The water provided comes locally from the Kaweah River and is also imported from the Federal Central Valley Project.

Important Dates to Remember

June	20th-2nd installment due
July	First week of—Anticipated end of irrigation run
August	14th and 21st—State Board of Equalization publication dates
September	8th—State Board of Equalization starts

The TID Tidings is published quarterly by the Tulare Irrigation District. Questions about the articles or items appearing in the TID Tidings can be answered by reaching the Tulare ID office at (559) 686-3425