

Tulare Irrigation District
 6826 Avenue 240
 Tulare, California 93274

LOOK INSIDE...
 Kaweah Hydro Plant
 Town Hall Meeting
 Farmer of the Year
 Groundwater Report
 Water Supply Outlook

Visit us at...
www.tulareid.org



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

April	14 - TID Board of Directors Meeting
May	1 - Second Installments Mailed 1 - TID - Town Hall Meeting 12 - TID Board of Directors Meeting 25 - Memorial Day (Office Closed)
June	9 - TID Board of Directors Meeting 20 - 2nd Tax Assessment Delinquent (5% Penalty)
July	4 - Independence Day (Office Closed) 14 - TID Board of Directors Meeting

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



TID TIDINGS

Newsletter of the Tulare Irrigation District

POTENTIAL NEW KAWEAH HYDRO PLANT

While drought and lack of water occupy the thinking of most of us involved in Kaweah River operations, the Kaweah River Power Authority steadily continues with its study of another potential hydropower plant at Terminus Dam on Lake Kaweah. Along with the Kaweah Delta WCD, TID is a member of the KRPA and is participating in the study. The new power plant would sit downstream of the existing Unit No. 1 plant below the dam. Unit No. 1, which began operation in 1989, has steadily produced energy being sold to SCE, and revenues from such sales have been used by both TID and KDWCDC to advance water management and groundwater recharge operations within the Kaweah Basin.

Unit No. 1, which was increased in energy-generating capacity afforded by the enlargement of the lake's storage capacity in 2004, can now generate up to 21 MW. Yet, lake levels and flows through the turbine must be at prescribed thresholds for the turbine to spin. At certain times of the year, flows being released at the dam are bypassed around the turbine when lake storage is below about 18,000 AF or when water demands from Kaweah River users fall much below 350 cfs. Also, Unit No. 1 can only take a maximum of about 1,400 cfs, and oftentimes in the summer demands can exceed 2,000 cfs.

The feasibility and cost-effectiveness of another generator or generators to utilize flows otherwise being bypassed have remained questionable and unproven, going back to the installation of the Kaplan turbine over twenty years ago which is still in use at Unit No. 1 today. Harnessing the energy of the bypass flows has thus plagued KRPA operators for many years – until now. A Cross-Flow turbine, operating much like a spinning water wheel, is being viewed as something that could be a cost-effective approach to make use of lower flow releases from the dam and reduced “head” that the turbine experiences when the lake storage is low. Planning is underway, with a license application pending with the FERC, a water diversion application with the SWRCB, and consultants undertaking design and cost studies. Bank financing will likely be the means to cover the planning and construction costs for the project, estimated to be upwards of \$6 million.

Along the way as planning proceeds and costs are confirmed, the KRPA board will be provided status reports and ultimately reach a conclusion as to whether the construction costs can be paid back within a reasonable time frame, after which power sale revenues from the new plant can be devoted to the mutual objective of both TID and KDWCDC, which is to secure much-needed water for the region and help sustain its limited groundwater resources.

Board of Directors

David Bixler
 President

Richard Borges
 Vice President

Michael Thomas

Scott Rogers

Dave Martin



J. Paul Hendrix
 General Manager

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

1st Qtr. 2015

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Cross-Flow Turbine - Under Consideration by Kaweah River Power Authority



Seeing no water in the District's canal system for over two years, folks might be wondering what's going on at TID. What happened to our water supplies? How are we staying busy? Are we able to stay afloat should the drought continue? We are planning a town hall meeting on May 1st to discuss these things and more. It's going to last just half a day, and breakfast will be served. Look for an announcement coming in the mail soon. One of the key topics we will talk about is the new state legislation regarding groundwater management and regulations.



**JIMI VALOV (VALOV & SONS FARMING)
FARMER OF THE YEAR 2015**

On March 25, 2015, the noon Kiwanis Club of Tulare hosted its 55th annual Farmer of the Year banquet lunch celebration at the Tulare Heritage Complex recognizing an outstanding farmer and community activist from the greater Tulare area. The 2015 honoree is Jimi Valov. **Congratulations Jimi!**

Groundwater Report

The farmer accounts of groundwater woes abound - failing wells, deeper wells, rapidly falling water levels, waiting lists months long for repairs, well production way down. We thought we'd seen the worst of it in 2014 but here we are, facing another summer just as bad as the last. We've just finished the spring depth-to-water surveys and were bracing for the worst. Yet, from last spring, the average rose by 3 ft., up to 152 deep from 155 ft. We even saw an uptick from the expected low last fall, from 159 ft. With such a dry winter we anticipated little, if any, recovery.

The long-term downward trend continues to be troubling, but why the leveling off, if not a slight recovery, in the midst of one of the worst drought in recent times? We see it all around us in the Tulare area and within neighboring districts as well. Row crop ground, some of which under rotational cropping patterns, is being planted to trees. Some react with trepidation, knowing that the water demand hardens and that the land cannot be fallowed as before during times of scarcity. Yet, a single crop will use less than rotational crops, and young trees bring a few years of nominal water use. The tree-crop trend may well be significant enough that the aquifer below has been given a respite, some of it short-lived as trees mature, some of it may be permanent as single cropping patterns settle in where double- or triple-cropping patterns prevailed before. The District's upcoming crop surveys will shed some light on this suspected impact. We will be able to see from the current and prior years' surveys the changeover from open ground to almonds, pistachios and walnuts. In addition to crop conversions, last December's storms, bringing in 2.7 inches of rain at 200% of normal for the month, helped keep wells off for open ground pre-irrigation that occurs each winter. Also causing an unanticipated stress reliever on the basin may be the number of wells either under-producing or failing altogether during this drought.

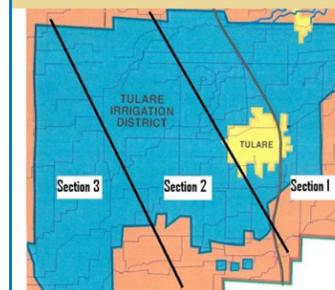
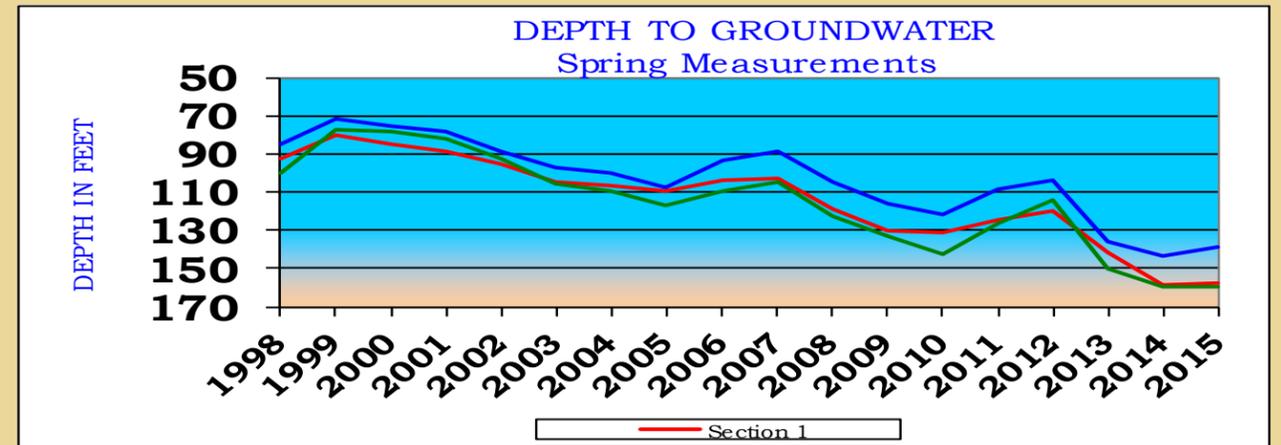
Call it a market-driven correction or something else, this slowdown in the "race to the bottom" isn't going to save the day as far as the state's concerned. The newly-passed Sustainable Groundwater Management Act (SGMA) is the law of the land, and it means that the Kaweah sub-basin, like all others in the Central Valley, must come into long-term balance within the next 25 years, and then demonstrate that we can sustain the balance over another 30 years beyond that. That won't happen by itself, and our region needs to establish an agency or agencies that will develop plans to achieve this.

Over a 50-year time horizon, the cities in our area are likely to grow, land-use patterns will continue to change, and TID will seek in earnest to maintain, if not improve on, its ability to import more water for groundwater recharge purposes. It follows that we are

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discussing the development of a regional groundwater sustainability plan with the cities of Tulare and Visalia. Collectively, these three public agencies represent about a third of the total Kaweah sub-basin and are situated close to each other right in the middle of it. This planning effort will build on existing agreements we have with both cities to bring in new water and replace water being pumped out for city dwellers, industry and agriculture. More will be said about this at our town hall meeting scheduled for May 1st.



	2008	2009	2010	2011	2012	2013	2014	2015
Section 1	119	130	131	124	120	141	159	158
Section 2	104	116	122	108	104	136	144	138
Section 3	122	133	142	127	114	150	159	159
Average	115	126	132	120	113	142	154	152

Water Supply Outlook

Not good news here! As is painfully evident all around us, the drought rages on. With the winter essentially behind us and southern Sierra snowpack data indicating around 20% of average, little is anticipated out of the April-July snowmelt runoff supply. Our supply from the Kaweah River may only amount to 10,000 AF or less. The earlier forecast of an El Niño arrival by mid to late winter is now down to a fifty-fifty chance, and little of the rainy season is left anyway. Making things worse is USBR's current posture that all of Friant's Lake Millerton supply is destined for delivery down the San Joaquin to the lower river Exchange Contractors, leaving a zero Class 1 allocation for Friant members such as TID.

The USBR, and its balancing act regarding CVP operations, is reeling from pressures from all sides as this record drought continues unabated. A few winter rain storms have produced runoff into the Delta; however, it is estimated that over 350,000 AF was not pumped by the state and federal export facilities and instead let go towards the Golden Gate due to Endangered Species Act-related restrictions for Delta smelt and salmon. Federal export operations were deterred too with the pileup of water hyacinth at the pumping facilities. The non-native aquatic plant thrived and spread beyond expectations last summer with static Delta channel conditions and warmer weather last fall. CVP contractors on the west side expect the zero allocation from the San Luis Unit to hold, and the Friant Unit supply, if not usurped by USBR for the down-river Exchange Contractors, would only yield about a 15 to 20% Class 1 allocation for distribution in the Madera and Friant-Kern Canals. As seen from the eastern side of the Valley, the balance scale tilts only one way, and it's not towards the Friant side.

As happened last year, it's so dry that our long-term exchange partner, Lindsay-Strathmore ID, is likely going to call on all of our Kaweah water this summer. Years like these make it difficult to see the LSID exchange as anything but detrimental, but overall we have gained considerable water from LSID in average and wetter years, more than offsetting these recent return amounts. We will discuss more on this topic at the District's landowner meeting being held May 1st as further highlighted in this issue.

All of this means, once again, that it is very likely that TID will have no summer run in its ditch system this year. Disturbingly, we have not seen any water in our system since February 2013! Climate change or not, the odds are that these severely dry years will not repeat forever, and that some degree of normalcy in water supplies will soon return, whatever normal may mean in the future.