

November 1, 2013

STATE WATER RESOURCES CONTROL BOARD
ORDER WR 2008-0016

North San Joaquin Water Conservation District

Water Right Permit 10477 (Application 12842)

ANNUAL REPORT REGARDING GROUNDWATER MANAGEMENT

State Water Resources Control Board (State Water Board) Water Rights Order 2008-0016 contains a condition that requires North San Joaquin Water Conservation District (District) to undertake the following:

5. The District must submit an annual report to the Deputy Director regarding progress on groundwater management by the district in the Eastern San Joaquin groundwater basin and any existing or proposed measures to address over pumping within the district boundaries. The first report is due one year from the date of this order, and subsequent reports are due annually thereafter.

GROUNDWATER MANAGEMENT ACTIVITIES

The District imposed a groundwater pumping charge on all groundwater producing facilities for Fiscal Year 07-08 and 08-09. Funds from the groundwater charge total approximately \$800,000 annually. These funds were used to construct fish screens at the District's diversion facilities, to conduct test borings to determine the most effective recharge sites, and repair District's existing distribution facilities. However, for fiscal year 09-10, no groundwater pumping charge was imposed because of passage of Measure V which eliminated the District's ability to impose groundwater charges without obtaining a vote of the people in the District. The District placed on the June 2010 ballot a measure (Measure C) that would have re-instated the District ability to impose groundwater charges subject to the provisions of the Water Code and compliance with Proposition 218. Measure C was defeated in the June election.

The District is currently exploring alternate revenue raising methods to fund improvements to both the existing distribution system and new facilities to place the District's surface water to use in both the irrigation of agricultural lands and groundwater recharge. Currently the District has several projects that have been included in the Eastern San Joaquin Integrated Regional Water Management Plan list of projects for funding with DWR Proposition 84 Grant funds. In addition the District is moving forward with the identification of potential customers for surface water to assist in the development of additional improvement districts for local funding of the necessary improvements.

In 2012 the District was successful in forming an improvement district, Tracy Lake Improvement District (TLID) and issuing warrants, to fund a new project, called the Tracy Lake Recharge Project. This new project includes recharge and irrigation delivery functions and will be funded with a combination of federal grant funds and assessments on landowners in the improvement district. The District has requested that a new point of

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diversion for the Tracy Lake Recharge Project be added to its Permit 10477 as part of its current Change Petition.

The District is also actively investigating partnerships with other local water agencies including Woodbridge Irrigation District and the City of Lodi to fund projects that will maximize surface water and reduce the regions dependence on groundwater from the overdrafted basin. Specifically, the City, NSJWCD and WID are working to identify periods of time when the City could use water under NSJWCD's Permit 10477 in its water treatment plant for delivery to M&I customers, in-lieu of groundwater. NSJWCD is also actively working with San Joaquin County and East Bay Municipal Utility District to identify conjunctive use opportunities within NSJWCD's boundaries.

The District is proceeding with a Petition for Extension of Time requesting the State Water Board provide the District an additional 15 years to place its water to beneficial use. The District is also proceeding with its 2007 Petition to Change its Place of Use, add Points of Diversions and add Underground Storage to facilitate use of the District's full 20,000 acre feet of water. The District is close to finalizing environmental review for the pending Petitions for Change for Permit 10477, Petition for Extension of Time for Permit 10477 and the Tracy Lake Recharge Project.

The District anticipates approving a revised projects plan for putting the full amount of its permit to beneficial use, and completing CEQA review of that plan, within the next month.

The District has reviewed the San Joaquin County's groundwater data for the 2012-2013 year and found as follows:

Annual Overdraft

The State formally recognized the overdraft problem in 1982 when it designated the Eastern San Joaquin County Groundwater Basin (Basin) as being "critically overdrafted."

A number of studies have been completed over the years, with the first detailed report by Brown and Caldwell, consulting engineers, accepted in 1985. That study estimated the overdraft to be 269,000 acre-feet annually (AFA) for the 600,000 acre area of San Joaquin County lying easterly of the San Joaquin River.

More recent studies have estimated the overdraft to be anywhere from 130,000 to 200,000 AFA. No absolute number is possible, only estimates. It is reasonable to estimate 200,000 AFA is the annual overdraft. This works out to be about 0.33 AFA for each of the approximate 600,000 acres within the Basin.

The Fall 2012 Groundwater Report released by the County in 2013, shows the following for wells located in NSJWCD.

Number of wells measured: 131
Number of wells with decrease: 46
Number of wells with increase: 62
Number of wells with no change: 1

The detailed well information is included in the report, attached hereto as Exhibit A.

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Based upon the above assumption that the average overdraft is 0.33 AFA per acre, the 150,000 acre District has a current overdraft of 50,000 AFA. But only 100,000 acres of the District have been developed and now use 176,000 AFA of groundwater. Some 50,000 acres which are now dry pasture, will be developed in the future, as vineyards and houses are moving into those areas. Assuming a new groundwater demand of 1.75 AF/acre, development of the 50,000 acres will increase the district overdraft to 137,500 AFA. In the central area of the District the average water level decline in the last year has been 2.9 feet. (See pages 3-3 to 3-6 of attached report).

Accumulated Overdraft

It is generally accepted that the empty, usable space (accumulated overdraft) is somewhere between two and three million acre-feet. Again, assuming that the accumulated overdraft is spread uniformly throughout the Basin, the District's share is 500,000 to 750,000 acre-feet.

Groundwater Production

The following table develops groundwater use by type of development within the District, with the total groundwater usage based on no surface water available.

Estimated Groundwater Use 2012-2013				
Use Code	Description	Quantity	AFA/Unit	Total AFA
0	Single Family Dwelling	100 each	0.5	50
51	Rural Residential	2428 each	1	2,428
52	Rural Residential, 2+ Residences	250 each	2	500
291	Nursery	716 Acres	4	2,864
352	Large Winery	10 each	4	40
353	Small Winery	6 each	2	12
-	Misc. Commercial	100 each	0.5	50
401	Irrigated Orchard	8,185 acres	2.8	22,918
420	Irrigated Vineyard	45,309 acres	1.5	67,964
450	Irrigated Row Crops	7,204 acres	2.8	20,171
460	Irrigated Pasture	11,070 acres	4	44,280
462	Horse Ranch	40 each	2	80
471	Dairy	27 each	5	135
480	Poultry Ranch	13 each	5	65
-	Ag. Residences	1,028 each	1	1,028
-	Golf Courses	592 acres	4	2,368
-	Cemeteries	83 acres	4	332
-	Lodi Schools*			27
-	City of Lodi	-	-	9,300
-	Lockeford Community SVC District	-	-	520
-	County Service Areas	-	-	232
-	Micke Grove park	62 acres	4	248
-	Micke Grove Golf Course	87 acres	4	348
	Subtotal			175,960
	Less Surface Water			0

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	TOTAL			175,960
	*Not included in City and Service Areas			

Estimated Overdraft for 2011-2012 and 2012-2013

The accepted figure for current average annual overdraft on a multi-year basis is 50,000 AFA for the District. It is greater in dry years and less in wet years and will increase in the future. Historical hydrology is divided into five equal classifications; wet, above normal, below normal, dry, and critically dry. This means that overdraft would be greater during roughly 40% of the time, and less during 40% of the time.

It is believed that the average natural recharge of the Basin is approximately 1 foot per year, from rainfall, irrigation percolation, and streams. This means that approximately 600,000 AFA are naturally recharged during an average year. Remember that on an average, approximately 800,000 AFA are currently taken from the Basin, causing a 200,000 AFA overdraft. Remember also, that the average water level decline is about 1 foot per year.

2011-2012 was a below normal water year and overdraft was more than average, and likely exceeded the estimated average annual overdraft of 50,000 acre-feet. 2012-2013 was also dry and estimated overdraft will likely exceed 50,000 acre-feet. In both water years the average precipitation was approximately 60% of the average annual amount of record since 1949, 17.3 inches.

Surface Water Needed for 2012-2013

As indicated above, 50,000 acre-feet of surface water would be required annually to offset an average overdraft of that amount, but surface water is not currently available every year. The only realistic way to deal with an average overdraft of 50,000 AFA, is to use 100,000 acre-feet or more during wet years because none is available in dry years.

The District is petitioning for an extension of time with the State Water board to allow time to construct projects necessary to place 20,000 AFA of Mokelumne river water to use, which has been available about 50% of the time since 1987. The District must not only increase its use from the current 3,000 AFA to 20,000 AFA, but must also acquire another 80,000 AFA for use during wet years, just to cope with the overdraft caused by existing development. Another 175,000 AFA would be required during wet years to replace groundwater used by possible future development. The District is working with the other agencies in San Joaquin County to develop the additional surface water supply.

EXISTING/PROPOSED MEASURES TO ADDRESS OVERPUMPING

Besides the groundwater pumping charge, the District has not imposed any additional restrictions or measures to reduce groundwater pumping. The District does not believe that the Water Conservation District act authorizes the District to restrict individual groundwater pumpers. The District is concentrating on rehabilitating the existing distribution facilities to increase surface water use, which constitutes “in-lieu recharge” of

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the groundwater basin and on identifying sites that will be effective in recharge sites and be prepared for recharge activities when the District water supply is available.

In addition, the District is investigating other options for additional water including groundwater banking during wet years to offset the overdraft condition during dry years. To help accomplish this objective, the District is exploring the formation of other improvement districts for funding the local share of improvement costs.