

Memorandum

16 January 2014

To: Michael Lozeau, esq.

From: Richard McHenry, PE

Subject: San Joaquin County and Delta Area Watershed, Proposed Waste Discharge Requirements (WDRs) Comments, Focused comments on Surface Water Sampling

The following are my findings and comments following review of the proposed waste discharge requirements (WDRs) General Order for growers within the San Joaquin County and Delta Area Watershed. I also reviewed the available monitoring data, management plans, CEQA documents and supporting information for the proposed WDRs.

Findings and Facts

The San Joaquin County and Delta Area has approximately 618,000 acres of cropland under irrigation and approximately 6,000 growers with “waste discharges from irrigated lands”. Approximately 5,865 growers and 582,000 associated irrigated acres including managed wetlands will require regulatory coverage under the proposed WDRs. (WDR Finding 12) Small farming operations, comprising 69% of growers, account for approximately 6% of the total irrigated lands. (Information Sheet, p. 33) Therefore, the 69% of small growers irrigate approximately 34,920 acres, or an average of 8.6 acres each, while the 31% of large growers irrigate approximately 547,080 acres, or an average of 300.9 acres each.

The San Joaquin County and Delta Area region has approximately 5,000 linear miles of surface water courses (including 480 linear miles of named surface water courses) that are, or could be, affected by discharges of waste from irrigated lands. (WDR Finding 13) Approximately 44 named water bodies, encompassing 1,715 linear miles of surface water courses and 262,159 surface water acres, have been listed as impaired pursuant to Clean Water Act section 303(d) within the third-party area. Agriculture is identified as the potential source of impairment for approximately 19 of the 303(d)-listed water bodies. The majority of the listed water bodies are within the legal Delta. (WDR Finding 16)

The water quality monitoring under the proposed WDR is “representative” in nature instead of and does not measure individual field discharge monitoring. (WDR Finding 23) It is argued that representative monitoring will allow the Board to determine whether wastewater bodies accepting discharges from numerous represented irrigated lands are meeting water quality objectives, to determine if existing high quality waters are being maintained, to determine whether farming

practices are protective of water quality and representative monitoring provides a significant cost savings since all surface waters or all groundwater aquifers that receive irrigated agricultural discharges are not monitored. The proposed Order, (Finding 23) does admit that: *“there are limitations to representative monitoring’s effectiveness in determining individual sources of water quality problems, the effectiveness of management practices, and individual compliance with this Order’s requirements”*. Monitoring under traditional WDR’s and NPDES permits require monitoring of the wastewater discharge as well as the receiving water and/or groundwater. While the proposed WDR requires “representative” monitoring, it allows the Executive Officer to require technical reports when monitoring or other available information is not sufficient to determine the effects of irrigated agricultural waste discharges to state waters.

In May 2004, the State Water Board adopted the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy). The purpose of the NPS Policy is to improve the state's ability to effectively manage NPS pollution and conform to the requirements of the Federal Clean Water Act and the Federal Coastal Zone Act Reauthorization Amendments of 1990. The NPS Policy requires, among other key elements, an NPS control implementation program’s ultimate purpose to be explicitly stated. It also requires implementation programs to, at a minimum, address NPS pollution in a manner that achieves and maintains water quality objectives and beneficial uses, including any applicable antidegradation requirements.

“Monitoring was performed at 15 Management Plan Monitoring (MPM) sites; Duck Creek @ Highway 4, Lone Tree Creek @ Jack Tone Road, and Unnamed Drain to Lone Tree Creek @ Jack Tone Road (also known as Temple Creek), Grant Line Canal @ Clifton Court Rd, Grant Line Canal near Calpack Rd, Littlejohns Creek @ Jack Tone Rd, French Camp Slough @ airport Way, Mokelumne River @ Bruella Rd, Terminous Tract Drain @ Hwy 12, Kellogg Creek along Hoffman Ln, Mormon Slough @ Jack Tone Rd, Sand Creek along Hwy 4 Bypass, Bear Creek @ North Alpine Rd, Roberts Island @ Whiskey Slough Pump and Walthall Slough @ Woodward Ave. Based on the prioritization of constituents with exceedances, MPM was conducted for water column toxicity to *Ceriodaphnia dubia* and *Selenastrum capricornutum*, and sediment toxicity to *Hyalella azteca*, copper, lead, chlorpyrifos, diazinon, dieldrin, diuron, disulfoton, malathion and simazine.” (SJCDWQC April 30, 2013 Management Plan Update Report 3, page 3)

Fact Summary

The San Joaquin County and Delta Area region has approximately:

- 618,000 acres of cropland under irrigation.
- 6,000 growers with waste discharges from irrigated lands.
- The area has approximately 5,000 linear miles of surface water courses.

- 44 named water bodies, encompassing 1,715 linear miles of surface water courses and 262,159 surface water acres, have been listed as impaired pursuant to Clean Water Act section 303(d) within the third-party area.
- Monitoring is conducted at only 15 sites.

Comments

Clearly water bodies accepting discharges from numerous represented irrigated lands are not meeting water quality objectives and existing high quality waters are not being maintained as WDR Finding No 16 states that: *“Approximately 44 named water bodies, encompassing 1,715 linear miles of surface water courses and 262,159 surface water acres, have been listed as impaired pursuant to Clean Water Act section 303(d) within the third-party area. Agriculture is identified as the potential source of impairment for approximately 19 of the 303(d)-listed water bodies. The majority of the listed water bodies are within the legal Delta.”*

As is documented in Table 4 of the *SJCDWQC April 30, 2013 Management Plan Update Report*, sampling conducted in the area from 2004 through 2012 shows routine exceedance of water quality standards for: dissolved oxygen, pH, EC, TDS, ammonia, nitrate, e-coli, arsenic, boron, copper, lead, molybdenum, nickel, Azinphos methyl, carbofuran, chlorpyrifos, cypermethrin, DDD, DDE, Diazinon, Dieldrin, disulfoton, Diuron, endrin, HCH delta, linuron, Malathion, methidathion, methomyl, methyl parathion, paraquat dichloride, permethrin, thiobencarb, Simazine, and toxicity to ceriodaphnia dubia and capricornutum. Clearly, water bodies accepting discharges from numerous represented irrigated lands are not meeting water quality objectives and existing high quality waters are not being maintained

Since many of the water bodies in the area have been designated as impaired and sampling shows routine exceedances of water quality standards, the represented agricultural practices have been shown to be not protective of water quality.

2. Samples are collected at 15 Surface Water “Discharge Sites”. The region has approximately 618,000 acres of cropland under irrigation and 6,000 growers with waste discharges from irrigated lands. It is assumed that of the approximately 6,000 farms, discharges of wastewater occur at more than one point on each farm. Sample collection at 15 “representative” surface water locations is not capable of determining if any single discharge is the cause of downstream water quality standard exceedance, stream impairment, or whether agricultural management practices are effective. In order to determine if any single wastewater discharge exceeds water quality standards, it would be necessary to sample that discrete discharge. To determine if any single discharge degrades water quality and causes degradation of the beneficial uses of the receiving stream, it would be necessary to sample both upstream and downstream of the individual point of discharge.

3. Samples are collected at 23 Surface Water “Discharge Sites”. The Western San Joaquin River Watershed region has approximately 618,000 acres of cropland under irrigation and 6,000 growers with waste discharges from irrigated lands to 5,000 linear miles of surface water courses many of which have been listed as impaired pursuant to Clean Water Act section 303(d). One can only conclude that farm discharges may be many miles upstream from a “representative” sampling location and that interlying farm discharges would cause significant dilution to any pollutants discharged.

4. Sampling and toxicity test reporting for ceriodaphnia dubia, a water flea, shows only one end point, percent survival. This is an acute toxicity end point. Chronic toxicity testing would also include endpoints of growth and reproduction. Intermediate levels of pollutants, below acutely toxic levels, may cause sublethal toxic effects. Failure to analyze samples for sublethal effects precludes determination of compliance with the Basin Plan Water Quality objective for toxicity. It is also not possible to conclude any samples collected were not toxic since sublethal effects were apparently not analyzed.

5. The proposed WDR reports water quality objectives for hardness dependant metals as being “variable”. For permitting situations, the State Board ruled long ago that variability in limitations for hardness dependant metals was unacceptable. The toxicity of metals instream varies with hardness, which can vary significantly upstream and downstream of any given discharge. Use of the lowest observed hardness would result in the most protective evaluation of water quality.

6. Throughout the proposed WDRs and supporting documents, antidegradation and best practicable treatment and control of wastewater discharges is discussed. The proposed WDR contains no restriction on degradation of surface waters up to the point of meeting water quality standards. It is discussed throughout the mentioned documents that many of the streams in the area have been designated as impaired. The proposed WDR documents that the agricultural discharges routinely exceed water quality standards which degrade the beneficial uses of the receiving streams. Individual discharges are not regulated under the proposed WDR. The Regional Board apparently has no knowledge of the water quality discharged from individual farms and there is no knowledge of any treatment or control at any individual farm. There is knowledge however that the combined agricultural discharges have and continue to significantly degrade water quality. It would seem impossible to state that best practicable treatment and control of a discharge is being provided when water quality has, and is, significantly degraded and there is no knowledge of what “treatment or control”, if any, is being provided at any individual farm. Domestic, commercial and industrial wastewater dischargers are required to adequately treat their wastes to meet water quality standards and meet end of pipe limitations with strict monitoring of the actual discharge and receiving stream. It cannot possibly be in the interest of the people of California to have to trade the quality of their water for the interests of agriculture.

Conclusion

The region has approximately 618,000 acres of cropland under irrigation and 6,000 growers with waste discharges from irrigated lands. It is assumed that of the approximately 6,000 farms, discharges of wastewater occur at more than one point on each farm. Sample collection at 15 “representative” surface water locations, far downstream, is not capable of determining if any single discharge is the cause of a downstream water quality standard exceedance, stream impairment, or whether agricultural management practices are effective. It is also not possible to determine if any individual wastewater Discharger is providing best practicable treatment and control of their discharge. In order to determine if any single wastewater discharge exceeds water quality standards, it would be necessary to sample that discrete discharge. To determine if any single discharge degrades water quality and causes degradation of the beneficial uses of the receiving stream, it would also be necessary to sample both upstream and downstream of the individual point of discharge.

Pollutants will generally be diluted or volatilize as they flow downstream. If the sampling locations are at extreme downstream locations, which they appear to be, it can reasonably be assumed that the approximately 5,000 miles of waterways lying above the sampling location are of lower water quality. The lowest water quality would be immediately downstream of the point of discharge of the pollutant in question, which may be many miles upstream of the sampling location. The proposed WDR and the limited downstream sampling locations only allows the Regional Board to conclude that streams and waterways lying above the sampling location are of lower water quality with higher levels of toxicity and more pollutants exceeding water quality standards. The sampling as proposed, and as has been conducted, does not capture the worst case water quality conditions.