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Subject: Irrigated Lands Regulatory Program, Proposed Waste Discharge Requirements for discharges from irrigated lands within the San Joaquin County and Delta Area, Surface Water Monitoring and Sampling, 2008 through 2012.

The proposed Waste Discharge Requirements lack a representative monitoring program and as a result is not protective of the beneficial uses within the San Joaquin Delta Area watershed.

Because the protection of the beneficial uses of waters of the State is a function of the ability to monitor those waters to determine their quality, it is absolutely imperative that a representative monitoring program be in place. Yet, the proposed permit fails to provide basic protections of water quality. Contrary to the claim, the Order will not result in the implementation of best practicable treatment or control (BPTC) by those discharging to high quality waters because the Order lacks satisfactory monitoring requirements. Deficient monitoring requirements precludes representative characterization of

receiving water quality. This in turn prevents identification of high quality waters. It also restricts characterization of adversely impacted or impaired waters. Hence, protection of beneficial uses is made unfeasible if high quality waters cannot be identified.

Attachment A of the WDR's discuss the definition of 'high quality waters'. However, I have not found any documentation identifying high quality waters in the watershed covered under the subject WDR's.

The San Joaquin Delta Watershed region includes 965 square miles of watershed and is drained more than 480 linear miles of named surface water courses, 5000 linear miles of water courses that are, or could be, affected by discharges of waste from irrigated lands (WDR Findings 12 and 13). On average that amounts to about 100 square miles of land and more than 500 linear miles of water course per single core monitoring station.

Monitoring only the major watercourse at the downstream-most position of the watershed completely disregards the protection of the beneficial uses of all but the lowest elevations of these waterways.

Evaluating the effectiveness of a technology or a practice requires that the change in water quality attributable to the specific practice or technology be verified. To do that a reference sample from the point of discharge and then a comparison sample taken from the same location after



the technology or practice is implemented must be collected and analyzed. In actual practice, multiple samples over range of operating conditions must be collected to verify positive changes. It is not reasonable to think that the effectiveness of a technology or practice can be known without verifying it by testing the discharge water. This requires monitoring at the edge of the field by collecting and testing the water samples before the discharge water is mixed and diluted. The inability to identify and characterize pollution at its source invalidates any effort to verify or evaluate the effectiveness of pollution treatment or control at the source.

It is not possible to evaluate the effectiveness of a farm's water treatment system or of its management practice (BMP) from a distant downstream monitoring location. Between the point of discharge and the point of sample collection, the discharge water is mixed and diluted. Other waters from natural and industrial sources of unknown quality and character such as other agricultural discharges alter and mask the defining character of the discharge water. Any changes in water quality due to a particular management practice at farm is concealed within this soup of waters and pollutants, thus the performance of the BMP is essentially unknowable. The point of discharge is the only representative monitoring point for evaluating BMP performance.

The problem of determining the quality and character of distant upstream water conditions is made more difficult within a complex watershed composed of multiple sub-



watersheds. In such cases like the San Joaquin Delta Area Watershed region, each watershed must be individually evaluated and each discharge separately monitored. The downstream water quality is not representative of the conditions in the sub-watersheds or of any point of discharge from the edge of the field. Downstream water quality may, at best reflect the gross average conditions of the dominant flows into the watershed; it will not provide information about small tributary streams, lesser flows, or conditions close to points of the individual agricultural discharge. The downstream water quality is not a valid measure of the water quality in any or all of the individual sub-watersheds. Given only downstream monitoring data, the specific conditions of individual upstream sub-watersheds are not effectively monitored, sources of pollution remain hidden, best practicable treatment or control of pollutants is unfeasible, and the beneficial uses of the upstream waters are left unprotected. The conclusions of the Annual Monitoring Reports for this region confirm that beneficial uses are not being protected and that the sources of pollutants cannot be determined.

Review Of Annual Monitoring Reports (AMR) 2008 through 2012:

To illustrate these points I refer to the statements, findings, and conclusions of the more recent AMR's.

Each year, the AMR's clearly state that the primary objectives of the monitoring program are to "characterize discharge from irrigated agriculture" and "determine if the implementation of management practices is effective in



reducing or eliminating discharge and impairments to beneficial uses" (Monitoring Program Objectives, SJCDWQC March 1, 2013 AMR, SJCDWQC March 1, 2012 AMR, SJCDWQC March 1, 2011 AMR, SJCDWQC March 1, 2010 AMR, et al.). The AMR states that the objectives include assessing "the impact of waste discharges from irrigated agriculture to surface water. (Monitoring Objectives, SJCDWQC March 1, 2013 AMR, et al). However, sampling and/or monitoring of points of discharge from irrigated agriculture is not documented in these reports. Only sample results from distant downstream stations are reported. From these solitary, remote locations, hundreds of square miles of agricultural operations and thousands of miles of waterways are observed and the effects of waste discharges scores of miles distant are accurately assessed

Each year the AMR's conclude that beneficial uses are not being protected, that the water quality exceedances can be attributed to any number of causes or sources, but none have ever been identified. (Conclusions Section SJCDWQC March 1, 2013 AMR, SJCDWQC March 1, 2012 AMR, SJCDWQC March 1, 2010, Conclusions and Recommendations SJCDWQC March 1, 2011 AMR, et al.). Given that discharges from irrigated agriculture are never directly measured, the existing stations, always distant points downstream, will never definitively identify the sources of pollution. Under the existing program, the sources of pollution and impairment will likely remain undefined, and a matter only for speculation. Further, identifying high quality waters will not be possible for the reasons stated above.

