

January 12, 2009
SAB026703

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Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

**SUBJECT: Response to California Sportfishing Protection Alliance Comments to
Byron Sanitary District Tentative Waste Discharge Requirements**

Dear Robin:

The California Sportfishing Protection Alliance (CSPA) provided comments on the Tentative Waste Discharge Requirements (TWDRs) for the Byron Sanitary District (BSD) wastewater treatment plant (WWTP) in a letter to the Regional Water Quality Control Board (Regional Board) dated January 7, 2009. We feel that CSPA misunderstood portions of the WWTP improvement project and have prepared this letter to provide clarification.

The CSPA letter expresses concerns that the WWTP will not provide adequate treatment to domestic wastewater generated in the community of Byron, and that, because the wastewater ponds are in hydraulic communication with Fisk Creek, the WWTP should be regulated under a National Pollution Discharge Elimination System (NPDES) permit. We do not agree with this conclusion, and feel that the WWTP is sufficiently protective of the environment, and best regulated under the Regional Board's land discharge program.

Prior to the WWTP improvement project, the WWTP consisted of a wet well, Imhoff tank, six evaporation/percolation ponds and land application area. Solids have not been removed from the Imhoff tank and the tank has not provided adequate treatment in several years. As part of the WWTP improvement project, the Imhoff tank will be replaced with channel-mounted rotating screen.

The CSPA letter claims that the TWDRs do not comply with the State Water Resources Control Board's Resolution No. 68-16 (Antidegradation Policy). The CSPA letter cites the results of historic groundwater and effluent sampling to support this claim. The CSPA letter specifically raises the concern of high concentrations of ammonia detected in effluent samples. The previous permit regulating the WWTP required effluent samples to be collected from the Imhoff tank prior to the treatment ponds. Effluent samples do not consider treatment occurring in the treatment ponds and soil, and are therefore not representative of the quality of wastewater being discharged to groundwater or applied to the application area. The TWDRs more appropriately set effluent

discharge locations to monitor the quality of discharge wastewater from the WWTP. Ammonia is expected to be nearly completely removed in the treatment ponds.

The CSPA letter also raises concerns that the results of groundwater samples indicate that groundwater quality has been degraded by the discharge of wastewater from the WWTP. BSD and its consultants believe that the older monitoring wells at the site (MW-1, MW-2, and MW-3) were not properly constructed or sited. The older wells were located in areas that may become inundated with either ponded stormwater or Fisk Creek. We feel it is likely that groundwater samples collected from these wells are influenced by surface water entering the wells either directly through the casing or through faulty surface seals. Newer wells located near the treatment ponds (MW-4 and MW-5) indicated groundwater quality is similar to groundwater quality observed in background wells (MW-6 and MW-7). BSD has replaced the older wells as part of WWTP improvement project, as well as MW-4, which was relocated inside the WWTP perimeter fence to provide better security for the well.

A partial list of results from groundwater samples, including the replaced monitoring wells, collected from in December 2008 is provided in Table 1. As seen in Table 1, water quality in the replaced wells (MW-1R, MW-2R, MW-3R, and MW-4R) are similar to the quality of other wells at the site. Wells MW-6 and MW-7 are considered representative of background groundwater quality. And well MW-3R is located east of the land application area, which was utilized late last summer to drain the ponds in order to removed sludge as part of the improvement project. Well MW-1R is located in the northwest portion of the WWTP, upgradient of the ponds, on the opposite side of the treatment plant as Fisk Creek, and is not representative of groundwater that may be entering Fisk Creek. The relatively high concentration of nitrate detected in MW-1R may be a result of agricultural activities on the property west of the WWTP. The TWDRs require continued monitoring and evaluation of the groundwater quality.

TABLE 1
DECEMBER 2008 GROUNDWATER QUALITY RESULTS
BYRON SANITARY DISTRICT WWTP

Constituent	MW-1R	MW-2R	MW-3R	MW-4R	MW-5	MW-6	MW-7
Ammonia-N, mg/L	0.6	1.2	0.9	0.5	ND	ND	0.5
Nitrate-N, mg/L	28	ND	ND	2.3	ND	1.0	0.5
Total Dissolved Solids, mg/L	3,430	1,650	8,170	2,960	2,680	15,000	12,400

It is important to note that ammonia concentrations detected in the groundwater samples are significantly lower than the concentration of 40 mg/L detected in the Imhoff tank cited in the CSPA letter, indicating that significant ammonia removal is occurring in the ponds.

Based on statements made in Cleanup and Abatement Order No. R5-2002-0733 (CAO) and Time Schedule Order No. R5-2005-0900 (TSO), the CSPA letter concludes that there is a connection between the WWTP and Fisk Creek. Although there is a hydraulic connection between the wastewater ponds and the creek, via groundwater, it is not clear that discharged wastewater

influences the quality of the creek. The statements in the CAO and TSO are based on data from monitoring wells MW-1, MW-2, and MW-3, which the discharger and its consultants feel may not be representative of groundwater quality due to poor construction and siting. More data, collected from the replaced wells, is required to determine the interaction of the pond effluent, groundwater, and Fisk Creek. The TWDRs require an evaluation of groundwater data to determine this interaction. Furthermore, the TWDRs set groundwater quality limits equal or below the quality of background water to ensure that groundwater quality shall not be degraded (F.2 Receiving Water – Groundwater Limitations).

The CSPA letter claims that the WWTP is not the best practicable treatment and control (BPTC) for the treatment of wastewater generated in the community of Byron, based on historic groundwater and effluent quality results described in the TWDRs. As previously discussed, effluent samples collected from the Imhoff tank effluent are not representative of the quality of water discharged from the WWTP. Similarly, groundwater samples collected from the older monitoring wells are not representative of groundwater quality below the WWTP. December 2008 groundwater samples indicate that the WWTP is providing sufficient treatment to be protective of the environment.

Provision G.1.d of the TWDRs requires the preparation of a *Groundwater Evaluation Report* no later than February 1, 2012 to describe and evaluate groundwater quality data collected from the monitoring well network for at least eight consecutive quarters after the new monitoring wells are installed. If the *Groundwater Evaluation Report* indicates that the discharge of waste causes groundwater quality to degrade below background groundwater quality, BSD must submit a *BPTC Evaluation Workplan* to evaluate the WWTP treatment and disposal system to determine the best practicable treatment and control for each groundwater waste constituent listed in Groundwater Limitations F.1.a of the TWDRs. We feel this approach will allow BSD and the Regional Board to determine the best practicable treatment and control for the WWTP based on reliable, representative data, and will not create an unnecessary financial or operational burden for BSD.

The CSPA letter states that the pond system is not the best practicable treatment and control for BSD's wastewater, and that many wastewater treatment plants in the Central Valley produce disinfected tertiary effluent. Pond systems are successfully used by communities to treat wastewater flows similar to BSD. Contrary to the assertion in the CSPA letter, the WWTP is more than a shallow hole into which untreated wastewater is thrown. Wastewater is screened prior to entering the ponds, and the ponds are designed to allow sufficient oxygen transfer to facilitate biological oxidation of the wastewater. The WWTP also contains features to ensure that wastewater is contained in the ponds and does not overflow into the open space area east of the application area or Fisk Creek.

The CSPA letter also claims that the Imhoff tank is the only physical treatment process at the WWTP. This is not true. The Imhoff tank is being replaced with a screening system that will mechanically remove solids from the wastewater stream before the ponds. In addition, settling, which is a physical treatment process, will occur in the ponds.

The CSPA letter makes claims that wastewater discharged from the WWTP do not meet the requirements to be exempt from Title 27, which regulates the disposal of waste on land. Title 27 provides an exemption for discharges of domestic wastewater if the discharge is regulated by waste discharge requirements that are consistent with applicable water quality objectives. The WWTP is currently regulated by Waste Discharge Requirements Order No. 5-00-058. Although the WWTP does not require the discharge of wastewater that meets potable water limits, the current permit sets limits that prevent wastewater of lesser quality as the receiving water (groundwater) from being discharged. A wastewater discharge is not required to bring receiving water to drinking water quality.

The CSPA letter compares the BSD WWTP with a court opinion (Northern California River Watch v City of Healdsburg, No. 04-15442 D.C., No. CV-01-04686-WHA), regarding an unpermitted wastewater pond with a "significant nexus" with the Russian River. Because the Byron WWTP is currently regulated under waste discharge requirements, and under the requirements of the TWDRs, the receiving waters will not be degraded, this comparison is not valid.

We appreciate the comments provided by CSPA and the opportunity to clarify any misconceptions about the WWTP wastewater.

Sincerely,

Nolte Associates, Inc.



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