

Central Valley Regional Water Quality Control Board  
5/6 February 2009 Board Meeting

Response to Comments for the Byron Wastewater Treatment Facility  
Byron Sanitary District  
Tentative Waste Discharge Requirements

---

The following are Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff responses to comments submitted by interested parties regarding the tentative Waste Discharge Requirements (WDRs) for the Byron Sanitary District Wastewater Treatment Facility (WWTF). Public comments regarding the proposed Orders were required to be submitted to the Regional Water Board by 9:00 a.m. on 12 January 2008 in order to receive full consideration.

The Regional Water Board received comments regarding the proposed WDRs by the due date from the Byron Sanitary District (Discharger) and the California Sportfishing Protection Alliance (CSPA). The submitted comments were accepted into the record, and are summarized below, followed by Regional Water Board staff responses.

---

**BYRON SANITARY DISTRICT COMMENTS – 8 January 2008**

---

**General Discharger Comments** - The Discharger requested several minor, non-substantive wording changes in its comment letter including inconsequential word changes to clarify Findings describing wastewater treatment operations. Changes have been accepted and incorporated into the proposed WDRs.

**Discharger Comment No. 5 and 6. Provision Due Dates** - The Discharger has requested extended due dates by up to five months for Provisions F.1.a and F.1.e, which require the submittal of a *Construction As-Built Completion Report* and their finalized *Operation and Maintenance Plan*, respectively.

**RESPONSE:** During a meeting on 5 January 2009, the Discharger stated that the extended dates requested were considered more realistically achievable given their current financial status for project completion. Changes have been accepted and incorporated into the proposed WDRs.

**Discharger Comment No. 9. Land Application Area Monitoring** - The Discharger has requested that “a footnote to the Rainfall constituent stating that rainfall will be taken from the California Irrigation Management Information System Brentwood Station (Station 47), which is located 5 miles northwest from the WWTP.”

**RESPONSE:** Regional Water Board staff concurs with the suggestion and has incorporated the change into the proposed WDRs.

---

**BYRON SANITARY DISTRICT COMMENTS – 12 January 2008**

---

**General Discharger Comments** – The Discharger provides its perspective to comments submitted by California Sportfishing Protection Alliance (CSPA).

**RESPONSE:** In general, Regional Water Board staff agrees with the comments provided by the Discharger, except as noted below:

**Discharger Comment p.1, paragraph 4** – The discharger states that "effluent samples do not consider treatment occurring in the treatment ponds " because effluent sampling was required after the Imhoff tank prior to the ponds.

**RESPONSE:** Finding No. 22 of the proposed WDRs presents the average of two sampling events in February 2005, as provided in the Discharger's RWD, for effluent data to the land application area. This data shows ammonia remaining at 40 mg/L after pond treatment (i.e. zero percent removal from the Imhoff tank) and validates CSPA's concern regarding high concentrations of ammonia in the effluent. However, Regional Water Board staff recognizes that the limited data may not represent typical discharge quality. Regional Water Board staff also understands that replacing the Imhoff tank with a channel mounted rotating screen and the improvements in pond flow design will provide better treatment capability. The proposed MRP specifies appropriate sampling and monitoring to provide more reliable data for determining pond treatment adequacy.

**Discharger Comment p.4, paragraph 1** – The Discharger states that groundwater discharges are not required to bring groundwater to drinking water quality.

**RESPONSE:** The Discharger is correct that discharges to land are not required to improve natural background quality of groundwater. (Basin Plan, p. III-9.00; Controllable Factors Policy, pp. III-1.00, IV-15.00.) However, waste discharges cannot cause groundwater to exceed water quality objectives, even if the objectives are based on Title 22 drinking water standards. If background water quality is worse than the objective that would otherwise apply, the objective is set equal to background quality. (*Ibid.*) Thus, the wastewater discharges cannot cause groundwater concentrations to exceed either the objectives in the Basin Plan (including Title 22 standards incorporated by reference), or natural background, whichever is greater. As the Discharger points out, effluent quality is not representative of the discharges to groundwater because pollutant removal occurs in the ponds and the soil column. In addition, where the groundwater has assimilative capacity (i.e., the groundwater is "high quality" because its quality is better than applicable water quality objectives), waste discharges to groundwater can exceed applicable objectives if the Regional Water Board authorizes degradation consistent with Resolution 68-16.

**Discharger Comment p.4, paragraph 2** – The Discharger states that the potential hydrologic connection between the ponds and Fisk Creek is distinguishable from the *City of Healdsburg* case because the facility is regulated by WDRs that prohibit degradation.

**RESPONSE:** This statement is incorrect. The question is not whether the discharges to the ponds are regulated, but whether they should be regulated by WDRs or a NPDES permit. However, for the reasons discussed in the Discharger's January 12 letter, there is insufficient evidence to conclude that there is a hydrologic connection between the pond and Fisk Creek such that the pond is a wetland or that discharges to the ponds are point-source discharges to a water of the United States. (See also, *San Francisco Baykeeper v. Cargill Salt Div.* (2007) 481 F.3d 700 (mere adjacency to waters of the United States does not bring a waste pond within Clean Water Act regulation).)

---

### **CALIFORNIA SPORTFISHING PROTECTION ALLIANCE COMMENTS**

---

**Designated Party Status.** CSPA requested designated party status for the board hearing scheduled for 5/6 February 2009 with regard to the proposed WDRs for the Byron Sanitary District Byron WWTF. The commenter will be granted designated party status for the subject hearing.

**Introductory Comments:** The commenter makes the following claims: The ponds are 3 to 5 feet deep and are not mechanically aerated. Because of the shallow pond depth, the commenter assumes the ponds are aerobic and non-facultative. While a properly designed aerobic system could potentially convert ammonia to nitrate these processes are generally not continuous or reliable. The lack of anaerobic conditions will prevent denitrification. Therefore the presence of both ammonia and nitrate, depending on the conversion rate, should not be unexpected in both the ponds and any percolate or discharge from the ponds. Proposed WDR Finding No. 22 shows effluent data for disposal to the land application area after pond treatment with nitrate at less than 0.05 mg/l and ammonia at 40 mg/l, which shows no nitrification at the time of sample collection. The wastewater is not disinfected. The commenter states that after elimination of the Imhoff tank, the only physical treatment will be in the pond system.

**RESPONSE:** The commenter is incorrect that there will not be treatment other than the pond system. As stated in Finding No. 29, the existing Imhoff tank will be replaced with new headworks consisting of a channel-mounted rotating screen providing a physical treatment prior to the ponds. Additionally, as stated in Finding No. 34, the ponds will be fitted with new piping to allow improved flow design. In combination, these improvements are expected to provide more reliable treatment efficiency.

Neither ammonia nor nitrate exceed applicable water quality goals based on historical groundwater data. Additionally, although disinfection would reduce the potential coliform threat to groundwater, the use of sodium hypochlorite would also increase the salinity of the effluent and create trihalomethanes. Therefore,

pending completion of the Groundwater and Pond Evaluation Report, there is no reason to require denitrification or disinfection at this time.

**Comment No. 1. “The proposed WDR does not comply with the Board’s Antidegradation Policy by failing to contain limitations that are protective of groundwater quality ...”** – The commenter states that the Discharger’s sole use of percolation/evaporation ponds for wastewater treatment is not best practicable treatment and control (BPTC), especially when wastewater treatment plants throughout the Central Valley are providing tertiary treatment with nitrification, denitrification, and ultraviolet light disinfection.

**RESPONSE:** The groundwater limits contained with the proposed WDRs are protective as they are either background or numerical limits taken directly from the Basin Plan.

Regional Water Board staff recognizes the need for the Discharger to continually evaluate the wastewater treatment system and potential groundwater degradation. Therefore, Provision F.1.d of the proposed WDRs has been clarified to include the following statement: “If it is determined that operations of the WWTF has degraded groundwater quality and the upgrades described in Finding No. 3 will not prevent further degradation, the Discharger shall evaluate its treatment system as required by Provision F.2.” If the Facility may degrade groundwater, Provision F.2 requires a BPTC study and implementation of upgrades necessary to meet the requirements of Resolution 68-16..”

Additionally, Regional Water Board staff disagrees that tertiary treatment or ultraviolet light disinfection are BPTC for land discharges or small facilities. The Regional Water Board generally requires tertiary treatment is only for surface water discharges, and only when 20:1 dilution is not available. This level of treatment is not required for indirect discharges to groundwater. Small communities throughout the Central Valley commonly use pond treatment, which has proven to be an effective means for natural attenuation of wastewater adequate to meet water quality objectives in groundwater. The Discharger’s Report of Waste Discharge provides evidence that the treatment ponds have been constructed to allow adequate oxygen transfer and hydraulic retention to provide sufficient wastewater treatment. Staff has concluded the Discharger’s improvements, as listed in Finding No. 3 of the proposed WDRs, will prevent any further degradation of groundwater quality. Such improvements include replacing the Imhoff tank with a channel-mounted rotating screen. The Imhoff tank has had a history of poor performance and the rotating screen is expected to provide more reliable solids removal and a less variable waste stream entering the ponds.

---

**Comment No. 2. “The wastewater discharge does not meet the minimum requirements for exemption from California Code of Regulation Title 27.”** – The commenter states that Byron’s wastewater discharge is not in compliance with Waste Discharge Requirements as evidenced by Regional Water Board’s proposed and past enforcement actions. The commenter also states that the discharge is not in compliance with the Basin Plan due to coliform bacteria migration that exceeds groundwater quality objectives, ammonia migration into groundwater that causes toxic concentrations, and the threat to degrade groundwater quality due to nitrate concentrations exceeding the drinking water MCL. The commenter states the proposed WDRs should not be adopted but revised to incorporate Title 27 requirements.

**RESPONSE:** Finding No. 77 of the proposed WDRs explains the issue of the applicable exemption from Title 27 for this facility.

The discharge to the ponds consists of secondary treated municipal sewage which receives additional pollutant removal in the soil before the wastewater reaches groundwater. Sludge is not discharged to the ponds.

The applicable exemption exempts,

Discharges of domestic sewage or treated effluent which are regulated by WDRs ..., or for which WDRs have been waived, and which are consistent with applicable water quality objectives, *and treatment or storage facilities associated with municipal wastewater treatment plants ...*

(Cal. Code of Regs., tit. 22, § 20090, subd. (a) (emphasis added).) This exemption has two parts. It exempts discharges of domestic sewage or treated effluent that are regulated by WDRs or a waiver, and that are consistent with applicable water quality objectives. It separately exempts treatment or storage facilities associated with municipal wastewater treatment plants. This second part of the exemption is not subject to the requirement that the discharge meet water quality objectives. Since the ponds are exempt under the second part of subdivision (a), the permit need not include findings that the pond discharges already comply with these requirements. As discussed above, the requirements of the proposed order ensure that the pond discharges will meet applicable Basin Plan requirements. Since these requirements will ensure compliance with the Basin Plan once all requirements are met, the finding that the waste discharge requirements are consistent with water quality objectives is accurate.

Applying the Title 27 exemption before the Discharger demonstrates that the discharge (as opposed to the WDRs) are consistent with all water quality objectives does not mean that “Non-15” facilities need not comply with Basin Plan requirements. All WDRs for all facilities must require that discharges do not

degrade groundwater or cause groundwater to exceed water quality objectives. (See, e.g., Order No. WQ 81-5 (City of Lompoc).) Even under “Non-15” requirements, pond liners may ultimately be necessary if other treatment or controls are ineffective.

The commenter makes reference to data originating from wells with questionable data reliability due to suspected surface water intrusion. As discussed in Finding No. 50 of the proposed WDRs, new monitoring wells have been constructed to replace monitoring wells MW-1, -2, -3 and -4, which are being replaced due to inadequate construction and/or site location. The new monitoring wells are being placed in areas that will monitor groundwater quality downgradient of the WWTF and provide more reliable data. The proposed WDRs require a timely submittal of the Groundwater and Pond Evaluation Report that will include an evaluation based on eight quarters of groundwater data, and which may also require the discharger to develop necessary BPTCs. Notably, while the commenter makes claim that “ammonia has migrated to groundwater at toxic concentrations” historical monitoring data shows a maximum ammonia concentration of 2.7 mg/L, more than ten times less than the U.S. EPA Health Advisory. Additionally, clayey soil underlying the facility is expected to provide adequate filtering capacity of coliform bacteria. The monitoring well data showing coliform bacteria concentrations exceeding the Basin Plan Water Quality Objective can be correlated to the wet season and potential surface water intrusion.

**Comment No. 3. “The Byron wastewater discharge constitutes a discharge of waste to surface water and must be regulated in accordance with the applicable Federal NPDES regulations.”** – The commenter states that because of the proximity of percolation/evaporation ponds to Fisk Creek, the cited maximum percolation rate (0.4 feet per day) and the Findings made in the Time Schedule Order No. R5-2005-0900 and the proposed WDR there exists enough evidence to “show that the Discharger’s ponds have a significant nexus to Fisk Creek.” In addition, the commenter cites Finding No. 13 of TSO No. R5-2005-0090, which states that the Facility has degraded surface water quality. The commenter also cites *Northern California River Watch v. City of Healdsburg* (9th Cir. 2006) 457 F.3d 1023, to support the statement regarding the groundwater nexus with Fisk Creek. The commenter also cites (on page 2) a statement in Finding 23 that there are wetlands adjacent to the ponds. The commenter concludes that the discharge of Byron Wastewater Treatment Facility requires regulation under a NPDES permit.

**RESPONSE:** Regional Water Board staff disagrees that the Byron WWTF should be regulated in accordance with applicable Federal NPDES regulations. As stated in the proposed WDRs, the Byron WWTP area soils are Marcuse Clay and the ponds, berms and levees are constructed of clay. Further, groundwater is found in a sandy aquifer beneath a clay layer that extends from the surface to 20 to 35 feet below ground surface. Because of the clay layer, the aquifer is

confined or semi-confined. The court concluded in *Healdsburg* that the waste pond and its surrounding wetlands were “waters of the United States” because they were wetlands, they were adjacent to waters of the United States, and they had a significant nexus to those waters. Merely being hydrologically connected or adjacent to a water of the United States does not cause a waste pond to be a water of the United States. (*Healdsburg, supra* at 1029-1030; *Cargill Salt Div., supra*.)

Based on the existing data, there is insufficient evidence of a “significant nexus” to a “water of the United States” to require a NPDES permit for this facility. Regional Water Board staff agrees that the hydraulic relationship between Fisk Creek, any adjacent wetlands and the percolation/evaporation ponds needs to be investigated. Thus, Provision F.1.d of the proposed WDRs has been changed to include a *Groundwater and Pond Evaluation Report* and now requires: “In addition, the Discharger shall evaluate the hydraulic relationship between the disposal ponds, Fisk Creek and any wetlands adjacent to Fisk Creek, including but not limited to identifying the conditions under which Fisk Creek is either a losing or gaining surface water body.” The results of this evaluation will provide the necessary evidence to confirm that Byron’s discharge has potential to degrade surface water quality and whether the discharge requires regulation under a NPDES permit.