



## California Sportfishing Protection Alliance

*"An Advocate for Fisheries, Habitat and Water Quality"*

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15 February 2010

Mr. Ken Landau, Assistant Executive Officer  
Mr. Joe Karkoski, Assistant Executive Officer (Acting)  
Ms. Anne Olson, Senior WRCE  
Regional Water Quality Control Board  
Central Valley Region  
11020 Sun Center Drive, Suite 200  
Rancho Cordova, CA 95670-6144

VIA: Electronic Submission  
Hardcopy if Requested

RE: Tentative Order, Revised Waste Discharge Requirements, Musco Family Olive Company and the Studley Company Wastewater Treatment and Land Disposal Facility, San Joaquin County

Dear Messrs. Landau, Karkoski and Ms. Olson;

The California Sportfishing Protection Alliance (CSPA) has reviewed the proposed Waste Discharge Requirements for the Musco Family Olive Company and the Studley Company Wastewater Treatment and Land Disposal Facility (Permit) and respectfully submits the following comments. The deadline for comments was identified in the cover letter as 15 February 2010 and, since the 15<sup>th</sup> was a holiday, these comments are being submitted on the following business day.

CSPA requests status as a designated party for this proceeding. CSPA is a 501(c)(3) public benefit conservation and research organization established in 1983 for the purpose of conserving, restoring, and enhancing the state's water quality and fishery resources and their aquatic ecosystems and associated riparian habitats. CSPA has actively promoted the protection of water quality and fisheries throughout California before state and federal agencies, the State Legislature and Congress and regularly participates in administrative and judicial proceedings on behalf of its members to protect, enhance, and restore California's degraded water quality and fisheries. CSPA members reside, boat, fish and recreate in and along waterways throughout the Central Valley, including San Joaquin County.

- 1. The proposed waste discharge requirements (WDRs) do not comply with California Code of Regulations (CCR) Title 27 as the discharge is not in compliance with the applicable water quality control plan (Basin Plan).**

California Water Code section 13173 defines designated waste as being either of the following:

- “(a) Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.

- (b) Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.”

The Basin Plan *Water Quality Objectives for Groundwater* requires groundwater not exceed: 2.2 MPN/100 ml for coliform organisms; the maximum contaminant levels (MCLs) from CCR Title 22 for drinking water; taste or odor producing substances that cause nuisance or adversely affect beneficial uses, and; toxic substances that produce detrimental physiological responses in human, plant, animal or aquatic life associated with designated beneficial uses. The beneficial uses of groundwater, as identified in the Basin Plan, include municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

There is no containment of wastewater in the reservoir or the land application areas to prevent the release under ambient environmental conditions of the minerals and salts represented by either TDS or FDS. In fact, Findings 61 and 62 of the proposed WDRs point to evidence that the pollutants contained in Musco’s wastewater have been released.

Secondary MCLs for total dissolved solids are 500 mg/l (recommended level), 1,000 mg/l (upper level), and 1,500 mg/l (short-term level). Recommended values for salinity to protect agricultural and industrial uses start at levels much lower than the Secondary MCLs. Finding 59 of the proposed WDRs states that “[m]eteoritic water is encountered in shallow wells along the central swale upstream of the 84 MG Reservoir and has a TDS range from 670 to 1,800 mg/L.” The Fact Sheet to the proposed WDRs (pp. 5 – 8) provides summary water quality data for 35 wells. For most of the wells, the relationship to the discharge is described in Finding 56. Of these wells, more than a dozen show mean TDS concentrations less than or equal to approximately 1,500 mg/l. Three of these wells are shown to have mean TDS concentrations of less than 800 mg/l. It is evident that groundwater with TDS at approximately 1,000 mg/l is present in the immediately adjacent vicinity of the Musco facility. For the sake of argument, even if FDS (rather than TDS) were the appropriate parameter to use in regulating salinity, Musco’s mean FDS discharge of 2,316 mg/l (Finding 24) is well in excess of both background groundwater quality and the upper and short-term secondary MCLs. In addition, aerial photographs of the Musco site and the fact that Musco has resorted to planting a salt-loving grass on its application areas should provide ample evidence that the water quality of the discharge renders it unfit for most agricultural applications and that the discharge, if allowed to continue, poses an obvious and serious threat to the beneficial use of agricultural supply.

Finding 24 of the proposed WDRs describes the water quality of the discharge to the land application areas as having the following mean values:

Constituent	Units	Mean
BOD	mg/l	598
TDS	mg/l	2,986
FDS	mg/l	2,316
Total Kjeldahl Nitrogen	mg/l	47

Nitrate Nitrogen	mg/l	0.18
Total Nitrogen	mg/l	47
Chloride	mg/l	355
Sodium	mg/l	816

The Musco discharge is waste that consists of, or contains, pollutants (namely, salts) that, under ambient environmental conditions, have been and could be released in concentrations exceeding applicable water quality objectives and that are reasonably expected to affect beneficial uses of the waters of the state. The discharge is, therefore, designated waste and must be regulated and managed in accordance with Title 27 of the California Code of Regulations. The proposed WDRs must be revised and re-issued to comply with the California Water Code and Title 27.

Discharges of wastewater may be exempted from CCR Title 27 requirements only if: waste discharge requirements have been issued; the discharge is in compliance with the applicable Basin Plan, and; the wastewater is not hazardous (Section 20090). The Basin Plan contains water quality objectives for groundwater. The Basin Plan *Water Quality Objectives for Groundwater* requires groundwater not exceed: 2.2 MPN/100 ml for coliform organisms; the maximum contaminant levels (MCLs) from CCR Title 22 for drinking water; taste or odor producing substances that cause nuisance or adversely affect beneficial uses, and; toxic substances that produce detrimental physiological responses in human, plant, animal or aquatic life associated with designated beneficial uses. The Basin Plan also includes the State and Regional Board Antidegradation Policy (Resolution 68-16). The Antidegradation Policy requires the maintenance of high quality waters. In accordance with the Antidegradation Policy changes in water quality are allowed only if the change is consistent with maximum benefit to the people of the state; does not unreasonable affect present and anticipated beneficial uses; does not result in water quality that exceeds water quality objectives, and; best practicable treatment and control of the discharge is provided.

Finding 31.b of Cease and Desist Order No. R5-2007-0139 for Musco states the following:

“Process wastewater storage and application has resulted in increases in groundwater concentrations over time, causing degradation or pollution of the underlying groundwater. Although background groundwater concentrations have not yet been determined, the data clearly shows that the continuing current discharge loading rate to land does not protect water quality. Additional monitoring wells are needed to assess the extent of groundwater impacts.”

Degradation has already occurred. Continued degradation has the potential to unreasonably affect present and anticipated beneficial uses, and threatens to result in water quality that exceeds water quality objectives, at a minimum, by causing TDS or FDS in the groundwater to increase from approximately 1,000 mg/l TDS (upper level secondary MCL) to some value in excess of the 1,500 mg/l TDS short-term level secondary MCL.

The Antidegradation Policy requires that an allowance for any degradation must be shown to be in the interest of the people of the state, must not exceed water quality standards and that the discharger must provide best practicable treatment and control (BPTC) of the discharge. To the

contrary, the discharge has caused degradation and possibly pollution of the underlying groundwater and has been the subject of numerous enforcement actions.

Finding 31.b of Cease and Desist Order No. R5-2007-0139 states the following:

“Process wastewater storage and application has resulted in increases in groundwater concentrations over time, causing degradation or pollution of the underlying groundwater. Although background groundwater concentrations have not yet been determined, the data clearly shows that the continuing current discharge loading rate to land does not protect water quality. Additional monitoring wells are needed to assess the extent of groundwater impacts.”

Finding 80 of the proposed WDRs states that the discharge to the storage reservoir has degraded groundwater quality and that the discharge to the land application areas has the potential to degrade groundwater quality. Finding 80 also describes a number of factors upon which degradation due to nitrate is dependent.

Total nitrogen discharged from the facility is characterized as 47 mg/l. Nitrogen will generally convert to nitrate as it migrates to groundwater. The primary drinking water MCL for nitrates is 10 mg/l. The discharge presents a reasonable potential to degrade groundwater conditions, which by exceeding the primary MCL for nitrate. The storage reservoir was apparently not designed to nitrify and/or denitrify. The removal of nitrogen from wastewater is common practice and can be considered best practicable treatment and control of the discharge.

Finding 88 of the proposed WDRs states the following:

*“The process wastewater treatment and reuse facilities associated with the discharge authorized herein are exempt from the requirements of Title 27, Section 20005 et seq. The exemption is based on the following:*

- a. *The wastewater regulated by this Order does not need to be managed according to California Code of Regulations, Title 22, Division 4.5, Chapter 11 as a hazardous waste.*
- b. *Based on extensive technical studies of the wastewater quality, discharge operations, and site-specific geology and hydrogeology, the discharge authorized by this Order will not exceed water quality objectives. This Order ensures that discharges from the LAAs comply with the antidegradation policy. Therefore, the discharge to the LAAs is consistent with the Basin Plan and is exempt from Title 27 pursuant to Section 20090, subdivision (b).*
- c. *Groundwater monitoring demonstrates that discharges from the treatment/storage reservoir have not caused underlying groundwater to exceed Basin Plan objectives. This Order ensures that discharges from the reservoir comply with the antidegradation policy. Therefore, the discharge to the treatment/storage reservoir is consistent with the Basin Plan and is exempt from Title 27 pursuant to Section 20090, subdivision (b).”*

The State Water Resources Control Board (State Board) issued a Water Quality Order for the Lodi White Slough Facility, WQO-2009-0005 (Lodi Order) dated 7 July 2009. The Lodi Order includes clarifications on how to apply the Title 27 exemptions. The Lodi Order requires the Discharger to provide evidence showing that the discharge meets applicable preconditions before the Regional Board can make Findings that the discharge is exempt from Title 27. Findings are not adequate if they merely assume that the Discharger will comply with WDRs requiring the Discharger to comply with the Basin Plan. (See Guidance Memo *Applying Title 27 Exemptions after the City of Lodi Order*, from Lori Okun to Pamela Creedon, dated 28 October 2009) The WDRs must find that the discharge currently complies with the Basin Plan. Without such a Finding, the Regional Board cannot legally make the Finding that the Discharger's land disposal activities meet the precondition for an exemption. In this case, the discharge still exceeds water quality standards and the WDR is reliant on a "new" technology to be installed and operational before an expansion in flows is allowed (see Finding No. 79). The Discharger does not meet the preconditions of current compliance with the Basin Plan, which is necessary to receive an exemption to CCR Title 27.

**2. The proposed WDR does not comply with the requirements of the State and Regional Board's Antidegradation Policy (Resolution 68-16).**

Proposed WDR Finding No. 77 correctly states that; "*State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:*

- a. The degradation is consistent with the maximum benefit to the people of the State;*
- b. The degradation will not unreasonably affect present and anticipated future beneficial uses;*
- c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and*
- d. The discharger employs best practicable treatment or control (BPTC) to minimize degradation."*

The Antidegradation Policy discussion ignores the fact that groundwater at the site has been, and currently continues to be, degraded by the wastewater discharge. The wastewater discharge has and continues to degrade designated beneficial uses. For instance, the WDR does not address the economical impacts of allowing California's critical groundwater resources to be degraded. What percentage of groundwater in the state is actually usable for its designated beneficial uses and what are the impacts of "writing off" another aquifer for a specialty food processor. Are olives available in such limited quantities in California that trading the state's groundwater quality is necessary? What would be the increased cost of a can of olives if groundwater were not allowed to be degraded? Are there not other olive producers that could fill the void if Musco were required to stop polluting immediately? Are black olives a good trade for polluted groundwater? Are olives a rare and necessary commodity for which California is willing to trade groundwater quality? What are the impacts to the users of groundwater? What are the costs in

California for treating groundwater to meet industrial requirements? What are the costs in California for treating groundwater to meet drinking water MCLs? How many people in California have been sick or died from nitrate poisoning? What are the crop yield reductions and the related costs to agriculture and consumers from excessive salt in groundwater? These questions must be answered to evaluate adequately whether degradation from this discharge is consistent with the maximum benefit to the people of the State of California. The proposed WDRs, however, bases its determination that it is consistent with Resolution No. 68-16 on the statements that some groundwater degradation is acceptable because economic prosperity of local communities is of benefit, that significant degradation of groundwater quality beyond existing degradation is limited, that Musco has engaged in cost-saving measures to reduce water and chemical use and associated wastewater discharges, and that Musco has proposed to try an evaporation-based treatment system . The proposed WDR does not seriously address the best interest of the people of California. The Antidegradation Policy analysis is simply wrong and insufficient.

Finding 31.b of Cease and Desist Order No. R5-2007-0139 states the following:

“Process wastewater storage and application has resulted in increases in groundwater concentrations over time, causing degradation or pollution of the underlying groundwater. Although background groundwater concentrations have not yet been determined, the data clearly shows that the continuing current discharge loading rate to land does not protect water quality. Additional monitoring wells are needed to assess the extent of groundwater impacts.”

Finding 80 of the proposed WDRs states that the discharge to the storage reservoir has degraded groundwater quality and that the discharge to the land application areas has the potential to degrade groundwater quality.

Degradation has already occurred. Continued degradation has the potential to unreasonably affect present and anticipated beneficial uses, and threatens to result in water quality that exceeds water quality objectives, at a minimum, by causing TDS or FDS in the groundwater to increase from approximately 1,000 mg/l TDS (upper level secondary MCL) to some value in excess of the 1,500 mg/l TDS short-term level secondary MCL.

Finding 17 of the proposed WDRs state that “[p]rior to use, the Discharger treats the raw water by polymer flocculation, clarification, granulated media filtration and chlorine disinfection. Water supplied to the boiler is also routed through an ion exchange water softening system that is regenerated with sodium chloride.” Finding 18 states that “[a]ll wastewater discharged to the LAAs receives treatment in the wastewater treatment/storage reservoir prior to discharge.” The treatment provided in the reservoir is not described, but appears to consist only of the aerators referenced in the proposed Monitoring and Reporting Program. It fascinates us to see the level of care and resources expended on processes that generate revenue contrasted with the level of treatment provided for water quality and environmental concerns. Clearly the discharger is aware of and employs water treatment technologies. It has simply chosen not to use them when it comes to protecting water quality and complying with water quality regulations. Musco is certainly not employing best practicable treatment measures.

The Regional Board first issued WDRs for Musco's Tracy facility in 1986. WDRs Order No. 86-074 regulated the use of Musco's Class II surface impoundments of designated wastewater: an existing 38.5 acre-feet surface impoundment and two proposed surface impoundments with capacities of 36.0 acre-feet and 17.8 acre-feet. In 1996, the Regional Board issued revised WDRs Order No. 96-075 regulating the use of the existing 38.5 acre-feet and 32.3 acre feet surface impoundments and a proposed third surface impoundment. In 2005, the Regional Board issued WDRs Order No. R5-2005-0024 regulating the use of two Class II surface impoundments: Pond A and Pond B, with respective capacities of 38.5 acre-feet and 32.3 acre-feet.

The Regional Board first issued WDRs for land application wastewater at the Musco facility in 1987. WDRs Order No. 87-132 authorized the discharge of approximately 10,000 gallons per day (gpd) to 4.5 acres of land. In 1997, the Regional Board issued revised WDRs Order No. 97-037 to reflect the Discharger's increased process wastewater flow rate of 200,000 gpd to the land disposal area. The revised WDRs authorized the discharge of 500,000 gpd to 200 acres of land. In 2002, the Regional Board issued WDRs Order No. R5-2002-0148 for the treatment and disposal of a monthly average of 800,000 gpd of olive processing wastewater to 200 acres of land owned by the Discharger.

Note that the original proposal for Musco's Tracy facility was to control its wastewater discharge via full containment of process wastewater and that the third Class II surface impoundment proposed as recently as 1996 was never constructed. Full containment, as originally proposed, would be an example of best practicable control. While Musco may be working to control the quantity of its discharge, Musco is not employing best practicable control measures.

### **3. The proposed WDRs improperly use Fixed Dissolved Solids to regulate salinity.**

Footnote 1 to Finding 23 of the proposed WDRs asserts that "*TDS [total dissolved solids] is not the best salinity indicator when the degradable organic content of the waste is high because dissolved organic matter contributes to the TDS value and overstates the actual salinity. In such cases, FDS is the preferred salinity indicator because the test method does not measure most dissolved organic constituents. EC is often still a good salinity indicator when dissolved organic matter is present in the waste, but some dissolved organic compounds can contribute to EC. Because the Discharger's wastewater contains high concentrations of dissolved organic matter, this Order uses FDS [fixed dissolved solids] data to the maximum practical extent to characterize and regulate the wastewater discharge.*" First, there is no water quality standard or objective for FDS such as exists for TDS and EC. Second, there is no evidence that dissolved organic matter is not migrating to degrade groundwater quality. Third, FDS levels are not comparable to previous results for TDS and/or EC. The use of FDS appears to solely be a means of restarting the regulatory process, resulting in additional delay. Delay in regulatory actions results in additional profits for the polluting industry but delays protecting groundwater quality. The existing MCLs expressed in terms of EC and/or TDS are applicable water quality standards and must be met, measuring FDS will not provide a means of determining whether the standards are being exceeded.

**4. The proposed WDRs fail to determine background groundwater quality and establish protective effluent limitations despite adequate data.**

Even if the discharge could somehow be demonstrated not to be designated waste, the proposed WDRs are still not protective of the underlying groundwater and its beneficial uses.

The Fact Sheet to the proposed WDRs provides summary water quality data for 35 wells. Additional wells are mentioned in the table in Finding 56. Of these wells, more than a dozen show mean TDS concentrations less than or equal to approximately 1,500 mg/l. Three of these wells are shown to have mean TDS concentrations of less than 800 mg/l.

Finding 54 states that there are five off-site groundwater monitoring wells and one off-site domestic supply well that are monitored quarterly. The table in Finding 56 shows eight monitoring wells (MW-1, MW-2, MW-2C, MW-14, MW-23, MW-25, MW-27, and MW-29) as having been designated as upgradient wells. Without a map identifying the locations of the monitoring wells with respect to Musco's processing, storage, and land application areas, it is difficult to evaluate the appropriateness of these designations. By simple arithmetic, however, it appears that at least some of the wells designated as upgradient must be located on-site. Monitoring wells for this facility were not installed until 2002 (Findings 42 through 44 of Order No. R5-2002-0148). The discharge of process wastewater (and, likely, olive pits, leaves, etc.) commenced approximately five to fifteen years prior to well installation. There is no on-site monitoring well data that can be considered representative of pre-discharge conditions or conditions that are unaffected by the waste discharge. Finding 31.a of Cease and Desist Order No. R5-2007-0139 states the following:

*“On-site monitoring well data was not collected prior to the initiation of land discharge; therefore, pre-discharge groundwater quality at the Musco property cannot be established using on-site monitoring wells. Off-site monitoring wells are necessary to determine background groundwater quality and to develop a Water Quality Protection Standard.”*

Therefore, the apparent assertion that multiple on-site monitoring wells are considered upgradient and unimpacted by Musco's discharge is puzzling. In addition, the proposed WDRs fail to mention the “*stockwatering well located to the west of the 95-acre field in Assessor's Parcel Number 251-32-006 in Tracy*” referenced in Revised Monitoring and Reporting Program No. R5-2002-0148. Any conclusions based on the assumption that on-site groundwater monitoring data are reflective of upgradient groundwater conditions are suspect, at best.

Findings 64 and 66 of the proposed WDRs present Musco's opinions as to ambient groundwater quality. The proposed WDRs do not include any Finding on the Regional Board's position with respect to background groundwater quality. Finding 78 merely points back to the Discharger's opinion in Finding 66. Instead, based on Finding 65, it appears that the Regional Board proposes to avoid the issue of background groundwater altogether by relying solely on intra-well data analysis from monitoring wells that were all installed several years after commencement of waste discharge at the Musco site. Most dischargers would likely be delighted to be allowed a few decades in which to approach a level of steady-state degradation and/or pollution to then be



used as the reference point above which additional degradation might then be found in violation. This approach effectively rewards Musco for its past transgressions. In addition, the avoidance of any kind of determination of the background groundwater quality seems counter-productive to the development of Musco's nearly quarter-century delinquent Water Quality Protection Standard for its Class II surface impoundments.

The proposed WDRs, if not revised to comply with the California Water Code and Title 27, must be revised to include effluent limitations based on water quality objectives and background water quality to protect the beneficial uses. The proposed WDRs include attachments identifying soil and stormwater monitoring locations and should be revised to include an attachment identifying groundwater monitoring well locations.

Thank you for considering these comments. If you have questions or require clarification, please don't hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Jennings". The signature is written in a cursive, flowing style.

Bill Jennings, Executive Director  
California Sportfishing Protection Alliance