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9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http://www.waterboards.ca.gov/sandiego

December 10, 2008. Item 13. Supporting Document 5.

TO: Michael McCann
Assistant Executive Officer

FROM: Joann Cofrancesco
Water Resource Control Engineer
Compliance Assurance Unit

Jeremy Haas
Environmental Scientist
Compliance Assurance Unit

DATE: November 20, 2008

SUBJECT: Administrative Civil Liability Complaint No. R9-2008-0057 to Santa Margarita Water District

Background

Administrative Civil Liability (ACL) Complaint No. R9-2008-0057 was issued to Santa Margarita Water District (Discharger) on September 22, 2008 for violations of State Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, and Regional Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region*.

Discharger Comments to Complaint

In a letter dated October 31, 2008, the Discharger responded to ACL Complaint No. R9-2008-0057. We have reviewed the response and are providing the following analysis:

Analysis

<u>Use of Ductile Iron and PVC</u>

The Discharger contends that it is "common practice to have ductile iron and PVC together in both water and wastewater applications." However, when two Regional Board staff interviewed Leo Schemp of Leucadia Wastewater District, Schemp commented that his district does not combine ductile iron and PVC. Also, the Discharger advised staff that it has taken steps to replace all of the PVC flanges with steel flanges, which would be unnecessary if the PVC and ductile iron pipe mix was acceptable.

Effects to Arroyo Toad Habitat

The arroyo toad is listed as federally endangered and California species of concern. The Discharger makes several contentions regarding likely effects to arroyo toads. The Discharger contends that it is unlikely that the arroyo toad was directly affected by either spill because receiving waters were dry at the time of the spills. It notes that, based on the time of year, juvenile toads would not have been active yet, and would still be in tadpole state or in an estivation (a form of hibernating below the creekbed surface). It contends that the "likely depth of percolation was only a few inches deep" and "the depth expected for estivating toads to occur (is) several inches to several feet." The Discharger contends that the soil in the Cristianitos Creek was unsuitable for the arroyo toad. Finally, the Discharger suggests that the "exposure to pollutants was temporary" because of the cleanup efforts.

These arguments do not warrant reduction in the recommended liability for the following reasons.

First, although the spill occurred outside key arroyo toad regions in the creek, area is home to a large population of arroyo toads, according to the April 2003 Draft NCCP/HCP Planning Guidelines. Although the discharger contends that the *"US Fish and Wildlife Services did not require any additional mitigation measures[,]"* Sharon Taylor of the U.S. Fish and Wildlife Service (USFWS) advises staff that *"it is appropriate for the SMWD to enhance and/or restore habitat to compensate for injury that occurred as a result of the large volume of raw sewage discharged into this sensitive habitat and the species present at the Ecological Reserve".* (see attachment 14)

Next, Ms. Taylor notes that *"even if the creek bed was dry, the metamorphs, juveniles, and adults would have been likely buried in the substrate and potentially exposed to the spill during this time based on existing survey data."* Also, there is no evidence that either creek was completely dry at the time of the spills. To the contrary, as noted in the Ortega Spill inspection report, there was water in San Juan creek approximately 400 feet upstream of the Ortega spill when the Regional Board inspected the site on April 8, 2007 – one day after the spill stopped (see attachment 2 to the Technical Analysis).

Notably, the sampling results indicate that the sewage spill reached the creek (see attachment 4 to the Technical Analysis, Page 13 of the Discharger's Response to Investigative Order No. R9-2007-0069, and attachment 13, sampling location map). Thus, if there were juveniles in the area of the spill and in the creek, they would have been in the creek and were likely affected by the sewage spill.

Regarding depth of the spilled sewage, sewage mud was observed to be several inches thick in the upland area to the south of the creek during staff's inspection. According to the April 2003 Draft NCCP/HCP Planning Guidelines, the arroyo toad has been found to move 75 feet to 302 feet from the streambed. The depth of sewage percolation was not measured by the District. Also, Ms. Taylor comments *"high concentrations of fecal indicator bacteria are persistent in the sediment and remain in the sediment for several weeks following a major spill event."*

In an email dated November 20, 2008, Ms. Judy Gibson of the U.S. Fish and Wildlife state that their "survey reports show that arroyo toads inhabit the area all along the Cristianitos Creek ... including the areas above and below the weir and the pool area described in the report for the incident occurring on July 3-4, 2007."

Finally, the Discharger reports that "*Obtaining biological opinions on the effect of sewer spills was not a typical practice for the District"*. The Discharger also notes that its contractor only evaluated the *"damage done by the equipment and the repair"* and not due to the sewage. Due to the lack of adequate investigation into the sewage spills, a substantial penalty should be imposed.

The Regional Board Has Regulatory Authority Over The Sewer Spills

The Discharger contends that the Regional Board cannot take enforcement action because it has "failed to prove that the discharge entered 'waters of the State.'" The Discharger's contention is mistakenly based on a federal Clean Water Act jurisdictional delineation from another project in the area. The Discharger claims that "waters of the United States" and "waters of the State" are "generally coincident," and that based on the ordinary high water mark, the stream channel itself is only 10 to 13 feet wide. Even if these contentions were accurate, which they are not, the sampling results indicate that the sewage spill reached the creek. Photographs within attachment 2 to the Technical Analysis depict water in the San Juan Creek bed approximately 400 feet upstream and two miles downstream of the spill. Staff was also on site the day after the Christianitos Creek spill, and observed that the sewage "spilled from the District's 16" force main into Christianitos Creek." ("The raw sewage flew along a direct road into the Christianitos Creek (Fig. 2 & 3) for a total estimated distance of about 1,000 feet.") It was reported by the staff inspector that most of the sewage "percolated into the ground through the creek bed; small ponds were visible at the time of the investigation (Fig. 4 & 5)."

Moreover, even if staff had not observed the sewage in the creek bed, the Regional Board has jurisdiction to take enforcement action with respect to these sewage spills under California Water Code ("CWC") section 13350. Under CWC 13260, the Board's authority extends to the regulation of waste discharges that "could affect the quality of waters of the State." Certainly, raw sewage placed on the bank of a seasonal stream and not removed "could affect the quality of waters of the State."

Recommendation

The Discharger's arguments do not support revising the recommended penalty in Complaint No. R9-2008-0057. The recommended penalty of $133,190 is appropriate for violations of State Board Order No. 2006-0003-DWQ, and Regional Board Order No. R9-2007-0005 for the reasons cited in the Technical Analysis and here. The recommended penalty takes into account the operational responses the Discharger made following the spills, is far below the statutory maximum penalty and is consistent with other penalties imposed by this Board for similar sewage spills.

Attachment 13
to
Memo Recommentations

Ortega Force Main Spill – April 2007

Attachment 14
to
Memo Recommentations

From: <Sharon_Taylor@fws.gov>
To: <JCofrancesco@waterboards.ca.gov>, <EBecker@waterboards.ca.gov>
CC: <John_L_Brooks@fws.gov>, <Judy_Gibson@fws.gov>, <Scott_Sobiech@fws.gov>,...
Date: 8/2/2007 7:39 AM
Subject: Santa Margarita Water District (SMWD) Sewage Spill (OES No. 07-4003)

Joann,

As Judy Gibson of my staff has been in contact with you previously concerning that we appreciate you for notifying and working with our agency on the Santa Margarita Water District (SMWD) Sewage Spill (OES No. 07-4003) at Cristianitos Creek in the amount of 600,000 gallons that occurred on July 3-4, 2007. [Note: The estimated spill volume reported by the SMWD was 495,934 gallons].

Cristianitos Creek is a tributary to San Mateo Creek. The spill occurred near the boundary between the Donna O'Neill Land Conservancy (Rancho Mission Viejo area), City of San Clemente, and Marine Corps Base Camp Pendleton. The spill area is within the boundary of the Southern Orange County HCP. Information used below on Trust resources are from survey information in CFWO and Orange County databases.

We have concerns for the federally protected species that are designated as trust resources under the Service's trusteeship including the endangered arroyo toad (Bufo californicus), the endangered least Bell's vireo (Vireo belli pusillus), and migratory birds known to occur at the site. Based on research by USGS, contaminants and diseases have been identified as stressors that have contributed to direct mortality of amphibians as well as the decline of amphibian populations. Contaminants have been identified as one of the four major causes in amphibian malformations. Raw human sewage contains a mixture of contaminants including a variety of bacteria, protozoans, viruses, and numerous toxic chemicals, as well as high concentrations of nitrogen and phosphorus (Mallin et al.2007). Amphibians are sensitive to elevated levels of nitrate. The discharge of untreated sewage would release high levels of nitrate that could cause amphibian toxicity (Rouse et al. 1999). Sewage-contaminated water contains viruses and bacteria that are a potential vehicle for disease transmission to ecological receptors (Botero et al. 1996, Kinde et al. 1996, Hamilton 2007, and Friend 1985). Amphibians are known to be susceptible to infection from a number of bacteria, including those that potentially could be found in human sewage (Taylor et al. 2001). In addition, high concentrations of fecal indicator bacteria are persistent in the sediment/soil and remain in the sediment/soil for several weeks following a major spill event (Mallin et al. 2007). Wildlife concerns from exposure and/or infection from untreated sewage also include suppression of the immune response system, alterations in the defense mechanisms, and depression of essential biological activity that can lead to susceptibility to disease and latent infections (Friend 1985).

Below is a list of our trust resources that were likely injured as a result of the reported discharge of raw sewage into Cristianitos Creek. We believe that it is appropriate for the SMWD to enhance and/or restore habitat to compensate for injury that occurred as a result of the large volume of raw sewage discharged into this sensitive habitat and the species present at the Ecological Reserve. To assist SMWD in their efforts

to achieve this goal, we have provided a list of potential recipients for funds and examples of projects that could be implemented to enhance and restore habitat to compensate for this loss. We also welcome the opportunity to review projects that SMWD proposes. Our Agency looks forward to cooperatively working with you and SMWD as we all move forward to discuss options to mitigate the natural resource impacts resulting from this sewage spill. As a Co-trustee, we would like to be present in any possible negotiations to discuss options with the SMWD regarding these or other projects that could be implemented.

Listed Species Present in Spill Area:
Arroyo Toad: While the creek may have been dry during the spill, this creek is a major location for the species and toads are present year-round. Toads were likely burrowed/aestivating in soils where sewage was absorbed into the ground and direct contact likely occurred. Also, sewage may have contacted and contaminated toad prey (native ants) which would have been an additional pathway of exposure to the toads.

Least Bell's Vireo: Vireos breeding in riparian vegetation in/adjacent to creek. Disturbance to breeding birds likely occurred from remedial and cleanup actions implemented during spill response. Also, exposure to vireos could occur from feeding on contaminated prey. As gleaners, vireos feed on insects. Contaminant exposure to prey likely occurred if insects had contact with sewage.

Non-listed Species covered under Southern Orange County HCP Present in Spill Area:
Yellow-breasted Chat: Chats are breeding in riparian vegetation in/adjacent to the creek. Disturbance to breeding birds likely occurred from remedial and cleanup actions implemented during spill response. Also, exposure to chats could occur from feeding on contaminated prey. As gleaners, chats feed on insects. Contaminant exposure to prey likely occurred if insects had contact with the sewage.

Yellow Warbler: Warblers are present in riparian vegetation in/adjacent to the creek. Disturbance to breeding birds likely occurred from remedial and cleanup actions implemented during spill response. Also, exposure to warblers could occur from feeding on contaminated prey. As gleaners, warblers feed on insects. Contaminant exposure to prey likely occurred if insects had contact with the sewage.

Western Spadefoot Toad: As with arroyo toad, this creek is a major location for the species and spadefoot toads are present year-round. Toads were likely burrowed/aestivating in soils where sewage was absorbed into the ground and direct contact likely occurred. Also, it is likely there was exposure to toad prey (insects, worms, other invertebrates) from the sewage contamination.

Trust resources present in locations downstream of the spill area:
Southern Steelhead: Present in San Mateo Creek which is a migration route to breeding pools in the upper portions of the watershed.

Tidewater Goby: Present in San Mateo Creek in the lagoon at the Pacific Ocean.
Southwestern Willow Flycatcher: Breeds in the San Mateo Creek watershed closer to the Interstate 5 crossing of the creek.

Western Snowy Plover: Present on the beach at the San Mateo Creek mouth.

Potential Recipients of Compensatory Funds for Habitat Enhancement and/or Restoration Activities as a Result of Injury to Trust Resources:

Rancho Mission Viejo Land Trust: This entity administers habitat management funding for the Southern Orange County HCP. This Trust could receive and account for funds directed to implement habitat enhance and /or restoration activities.

County of Orange: The County administers wilderness parks within the San Juan Creek watershed. Several species potentially affected by this spill (arroyo and spadefoot toads, vireos, chat, warbler, steelhead) are present in the San Juan Creek watershed. The County could receive and account for funds directed to implement habitat enhancement and/or restoration activities.

Potential Restoration Projects for Injury to Trust Resources:

Within San Mateo/Cristianitos Watershed (or San Juan Creek Watershed if San Mateo Creek is inappropriate/unavailable):

1. Removal of non-native plants and animals that are predators on or competitors with native species and their habitats (e.g., arundo, tamarisk, pampas grass, bullfrogs, crayfish, non-native fish).
2. Biological investigation of contaminant risk from sewage: effects of exposure amount and duration on reproduction and survival; persistence of contaminants in ecosystem; effects to target species prey items.

References:

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As a Co-Trustee of the natural resources in this area, the U.S. Fish and Wildlife Service is beginning to identify our concerns of the complex impacts of the Sewage Spill on our natural resources. I wanted you to know of the U.S. Fish and Wildlife Service's desire to be present in any possible natural resource damage settlement discussions. Our Agency looks forward to cooperatively working with you as we all move forward to assess the natural resource impacts of this sewage spill and move towards restoration and monitoring efforts.

Sincerely,
Sharon K. Taylor, DVM, PhD

Sharon K. Taylor, DVM, PhD
Environmental Contaminants Division Chief
Carlsbad Fish & Wildlife Office
U.S. Fish & Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011
Phone: 760-431-9440 ext 220
Fax: 760-431-9170
Email: sharon_taylor@fws.gov