

May 24, 2007

Matt Mitchell
USEPA
75 Hawthorne Street (WTR-5)
San Francisco, Ca. 94105

Re: Bioassessment of the Central Drain to the Alamo River at the City of El Centro Wastewater Treatment Plant Discharge

Mr. Mitchell:

Enclosed please find a copy of the Bioassessment Report sent by Tierra Environmental Services. The City of El Centro, Wastewater Treatment Plant is requesting to change our permit from salt water to fresh water.

If you have any questions, please contact our office at (760) 337-4522.

Sincerely,

A handwritten signature in black ink, appearing to read "Randy Hines".

Randy Hines
WWTP Supervisor
RH/fd

CC: Terry Hagen, Director of Public Works
Jose Cortez, Water Resources Control Engineer

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Public Works Department
1275 Main Street, El Centro, CA 92243 (760) 337-4505 Fax (760) 337-3172

Street Maintenance Division
307 West Brighton Avenue
El Centro, CA 92243

Support Services Division
307 West Brighton Avenue
El Centro, CA 92243

Motor Equipment Division
307 West Brighton Avenue
El Centro, CA 92243

Underground Utilities Division
307 West Brighton Avenue
El Centro, CA 92243

Wastewater Treatment Division
2255 LaBrucherie
El Centro, CA 92243

Water Treatment Division
3010 S. Eighth Street
El Centro, CA 92243



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ENVIRONMENTAL SERVICES

March 23, 2007

Mr. Felix DeLeon
Chief Plant Operator
City of El Centro
Public Works Department,
Wastewater Treatment Division
2255 N. LaBrucherie Road
El Centro, CA 92243

Subject: Bioassessment of the Central Drain to the Alamo River at the City of El Centro Wastewater Treatment Plant Discharge

Dear Mr. DeLeon:

The following letter report documents the findings of our bioassessment of the Central Drain upstream and downstream of the El Centro Wastewater Treatment Plant discharge pipe beneath LaBrucherie Road. The Central Drain empties into the Alamo River, approximately 7.5 miles east of the El Centro Wastewater Treatment Plant. The Alamo River flows north across the United States/Mexico border to the Salton Sea.

Objective

Tierra Environmental Services was retained by the City of El Centro to conduct a rapid assessment of aquatic and shore organisms in the Central Drain at the point of discharge from the El Centro Wastewater Treatment Plant. The objective of this survey was to determine whether the water, plant life, and aquatic life at this discharge point are more typical of saltwater or freshwater environments. The goal of the City of El Centro is to gain approval from the U.S. Environmental Protection Agency (EPA) to use alternative freshwater criteria for a body of water segment where no marine beneficial use designation occurs, even if the salinity is above one part per thousand.

Background

The El Centro Wastewater Treatment Plant discharges into an agricultural drain (Central Drain) that flows from west to east, ultimately emptying into the Alamo River. The agricultural drain is approximately 3 – 4 meters wide and is less than 1 meter deep upstream of the discharge point. Because the El Centro Wastewater Treatment Plant discharges to the Central Drain beneath LaBrucherie Road, biological assessment was

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only possible upstream and downstream of the discharge point. The Central Drain is approximately 6 meters wide and 1-2 meters deep downstream of LaBrucherie Road and the flow volume appears to be at least double that of the flow upstream of the road and discharge point. The El Centro Wastewater Treatment Plan discharges 3.8 – 4.0 million gallons per day of treated wastewater to the Central Drain.

The Alamo River originates in Baja California, Mexico and empties into the Salton Sea at Red Island. The Alamo River was formed in 1905-1907 when the Colorado River broke through levees and also filled the Salton Sea. Currently, nearly all of the water in the Alamo River is from agricultural drains. The Alamo River is less polluted than the nearby New River; however, the water is unsuitable for domestic use or irrigation.

The California Toxics Rule (CTR) at 40CFR 131.38(c)(3) provides that waters that have salinity between 1 and 10 parts per thousand should be addressed as follows:

For waters in which the salinity is between 1 and 10 parts per thousand as defined in paragraphs (c)(3)(i) and (ii) of this section, the applicable criteria are the more stringent of the freshwater or saltwater criteria. However, the Regional Administrator may approve the use of the alternative freshwater or saltwater criteria if scientifically defensible information and data demonstrate that on a site-specific basis, the biology of the water body is dominated by freshwater aquatic life and that freshwater criteria are more appropriate; or conversely, the biology of the water body is dominated by saltwater aquatic life and that saltwater criteria are more appropriate.

Methods

A bioassessment of the outfall was conducted between the hours of 1100 and 1330 February 20, 2007 by C. Nordby and M. Page of Tierra Environmental Services. Sampling stations were established approximately 200 meters upstream from the point of discharge and approximately 100 meters downstream from the point of discharge. At each sampling station the following data were collected: water salinity, dominant vegetation, and aquatic invertebrates.

Water salinity was measured using a hand held, temperature compensated salinity refractometer. The refractometer is accurate to 1 part per thousand (ppt) and was calibrated using deionized water prior to each measurement.

Aquatic invertebrates were collected from the shore using a kick net, which was dragged along the drainage bottom perpendicular to the bank for a linear sampling distance of approximately 6 feet. This net is also efficient in the capture of small fishes, if present. Shore vegetation and wildlife was recorded using visual and aural observation.

Results and Discussion

The agricultural drain that serves as the outfall for the El Centro Wastewater Treatment Plant is very sparsely vegetated with only several weedy species present, primarily at the interface between the earthen bank and the ordinary high water mark. The substrate of the channel is composed of fine mud. Water in the drainage upstream of the discharge point flows slowly to the east towards the Alamo River. The flow volume and velocity more than doubles downstream of the discharge point, but the flow is still relatively slow.

Salinity. Water salinity at each station was:

200 meters upstream of outfall – 1 ppt.
100 meters downstream of outfall – 1 ppt.

Although the salinity readings measured 1 ppt, the environment was more typical of a freshwater agricultural drain than a saltwater environment, which is typically in the 35 ppt range. The slightly elevated salt content may be attributed to the salinity of the soils in the Imperial Valley and the use of fertilizers on the extensive agricultural fields.

Vegetation. Vegetation was similar at both sampling sites, e.g., was dominated by weedy species. There were no trees or shrubs present and the banks of the drain appeared to have been mowed. Dominant plant species included Bermuda grass (*Cynodon dactylon*), dock (*Rumex* sp), saltgrass (*Distichlis spicata*) and Indian sweetclover (*Melilotus indica*). Despite its common name, saltgrass does not require saline soils. Bermuda grass can tolerate some salinity but is most common in freshwater systems. Indian sweetclover is indicative of freshwater systems.

Aquatic Invertebrates. The aquatic invertebrates collected at each sampling station are presented in Table 1. Epifaunal molluscs dominated each site with physids the dominant taxa followed snails of the family Planorbidae (Table 1). Both of these taxa are freshwater taxa.

In addition to freshwater mollusks, freshwater crustaceans, insect midges and other insects were collected. These included the detached claws of crayfish, which are a freshwater taxa.

Conclusion

Based on the salinity measurements and the aquatic organisms that inhabit the Agricultural drain that receives discharges from the El Centro Wastewater Treatment Plant, it is concluded that this system is a freshwater ecosystem. None of the species found in saltwater ecosystems were present, including barnacles (*Balanus amphrite*), pileworms (*Nenathes succinea*), and brackish water snail (*Thiara granifera*). The discharge drainage is small and shallow and is easily accessed. Therefore, the samples collected during this rapid assessment are considered representative of the overall system.

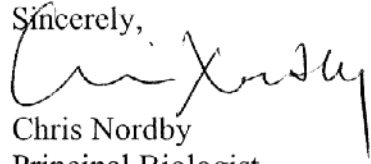
Mr. Felix DeLeon

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Please feel free to call me at (858) 578-9064 if you have any questions regarding this biological assessment.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Nordby". The signature is fluid and cursive, with a large initial "C" and a long, sweeping tail.

Chris Nordby

Principal Biologist

**Table 1. List of Organisms
Collected at Two Sampling Stations
at the City of El Centro
Wastewater Treatment Plant**

Upstream

Mollusca

Gastropoda – snails

Planorbidae (2 individuals)

Physidae

Physa (37 individuals)

Arthropoda

Insecta

Diptera – midges, mosquitoes

Notonecta (6 individuals)

Downstream

Arthropoda

Crustacea

Astacidea

crayfish claw (2 claws)

Chordata

Osteichthyes

Cyprinodontiformes

Poeciliidae

Gambusia affinis (136 individuals)

Cichlidae

Tilapia sp. (2 individuals)

Mollusca

Gastropoda – snails

Physidae

Physa (6 individuals)