

## BARRETT'S BIOLOGICAL SURVEYS

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July 13, 2009

Mr. Rocky Vandergriff  
Seeley County Water District  
PO Box 161, 1898 W Main Street  
Seeley, Ca 92273

Re: Biological Assessment of the Seeley County Water District Wastewater Treatment Facility Discharge Location

Dear Mr. Vandergriff,

This letter report documents the results of the bioassessment of the waterway (Map: Attachment A) at the wastewater treatment facility discharge. Samples were taken at two locations using an aquatic kick net dragged along the drain bottom. No upstream sample was as the wastewater treatment facility discharges into end of the slough. These samples were gathered at the discharge and 100 meters downstream of the discharge into the New River. Water samples were collected at the same areas. The slough at the discharge location flows to New River. The New River flows approximately 50 miles north through Imperial County to the Salton Sea.

### Objective

Barrett's Biological Surveys was retained by Seeley County Water District to conduct a rapid assessment of aquatic and shore organisms at the point of discharge from the Seeley County Water District Wastewater Treatment Facility Discharge located at 1898 W Main Street, Seeley, Ca 92273.

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 Seeley County Water District 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.

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### Background

The Seeley County Water District wastewater treatment facility discharges into a slough which then discharges into the New River which ultimately flows north to the Salton Sea. The slough is approximately 20 feet wide with a flow of less than 1 foot deep. The slough drains into the New River which drains into the Salton Sea. The New River flows north from Mexico. Agricultural drain waters, industrial wastes and treated and untreated wastewater enter the United States within the flow of the New River. In the United States, agricultural drain and runoff water and treated wastewater enter the New River. All agricultural water is from the Colorado River and enters Imperial County through the All American Canal.

Agricultural water from the Colorado River has elevated salt levels. Farmers have installed tile at an average depth of 3 to 4 feet in their farmground to remove excess salinity and prevent salt contamination of their ground. As a result of removing salt from the soil, drain waters show an elevated salinity level.

The California Toxics Rule (CT) 40 CFR 131.38©(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 at (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 0830 and 1145 (81°F) on July 9, 2009 by M. Barrett t of Barrett's Biological Surveys and an employee of the Seeley County Water District. Sampling stations were established at the discharge (32°47'45.9"/115°42'00.2") and 100 meters downstream (32°47'55.8"/115°42'11.9') of the discharge of the slough into New River. At each sampling station the following data were collected:

- Water salinity
- Dominant vegetation
- Aquatic organisms
- Animals

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Aquatic invertebrates were collected from shore using an aquatic kick net, which was dragged along the bottom of the slough and New River perpendicular to the bank for a linear distance of approximately 5 feet. This net is also efficient in capture of small fishes.

Shore vegetation and animal species were visually observed.

Equipment used:

- Aquatic kick net
- Swing sampler/wide mouth bottles
- Garmin GPS
- Swarovski binoculars
- Caldwell wind wizard

### Results and Discussion

The slough serves as the discharge point for the Seeley County Water District wastewater treatment plant. The dominant plant in the project area included arrow weed (*Pluchea sericea*), iodine weed (*Allenrolfea occidentalis*) and salt cedar (*Tamarix sp.*).

### Salinity

Water salinity was measured using a hand held, temperature compensated salinity refractometer (VeeGee Refractometer Model STX-3). Instrument is accurate to 1% . Equipment was cleaned with distilled water after each sampling.

Readings:

Discharge: 2% = 2 ppt

100 meters downstream of discharge: 4% = 4 ppt

### Vegetation

Vegetation was similar at all sampling sites (Attached photographs ). The dominate species included arrow weed, iodine bush and salt cedar. All are common along agricultural waterways and arrow weed, iodine weed and salt cedar can tolerate salinity.

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The slough receives water from Seeley County Water District Wastewater Treatment Facility water which has originated from the Colorado River, a freshwater source. Also, New River water extends up this slough.

#### Aquatic Invertebrates

The aquatic invertebrates and vertebrates collected at each sampling site are presented in Table 1, below.

#### Fishes

One specie of fish was observed:

1. Red Shiner (*Notropis lutrensis*) which are not known to be tolerant of saline conditions (Moyle, 1976).

#### Vertebrates

Grackles (*Quiscalus mexicanus*) were observed in the project area and crickets (*Grylloides sigulatus*) were heard. Mourning doves (*Zenaida macroura*), black necked stilts (*Himantopus mexicanus*), cottontail (*Sylvilagus audubonii*), bees (*Apis mellifera*) and wasps (*Vespula pensylvanica*) were observed in the vicinity.

Table 1  
 List of Organisms Found at Sampling Sites

Sample	Discharge	100 M Downstream
<b>Classification</b>		
<u>Chordata</u> Osteichthyes Cyprinodontiformes  Cyprinidae <i>Notropis lutrensis</i>	Not Present	Present
<b>Insecta</b>		
Bees ( <i>Apis mellifera</i> )	Present	Present
Wasp ( <i>Vespula pensylvanica</i> )	Present	Not Present

**Conclusion**

Based on the freshwater aquatic organisms and freshwater vegetation and wildlife at the sampling sites from the discharge of the Seeley County Water District Wastewater Treatment Facility, it is concluded that this is a freshwater ecosystem.

Species typically found in a saltwater system, such as barnacles (*Balanus amphrite*), pileworms (*Nenathes succinea*), or brackish water snail (*Thiara granifera*) were not observed. Saltwater vegetation or wildlife were also not observed.

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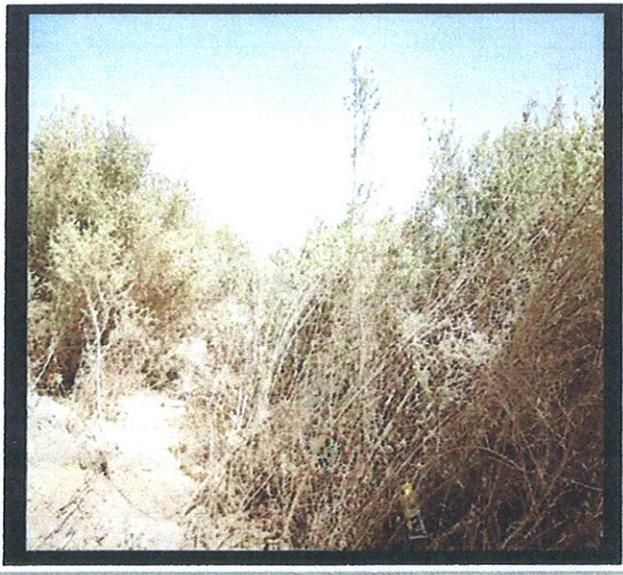
The discharge area is a typical slough found in Imperial County and easily accessed. As a result, the samples collected during this rapid assessment are considered representative of the overall system.

Sincerely,

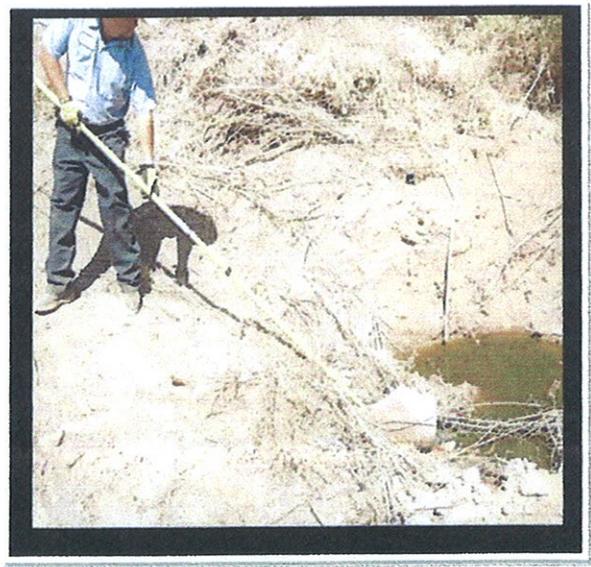
A handwritten signature in cursive script that reads "Marie D. Barrett". The signature is written in black ink and is positioned below the word "Sincerely,".

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Marie Barrett  
Biologist



Arrow weed  
Found at Discharge

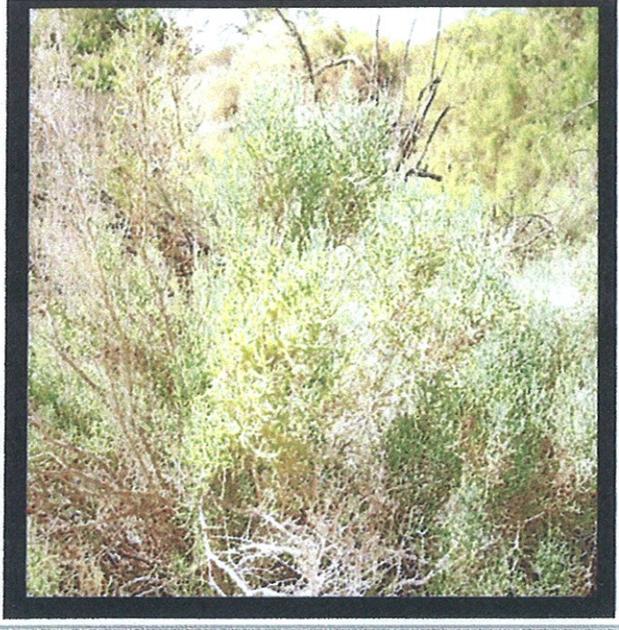


Taking water sample at Discharge

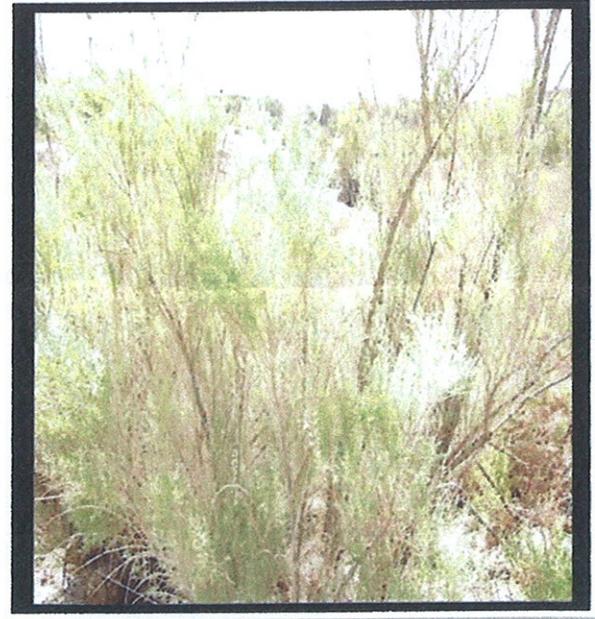


Discharge from wastewater treatment plant

PHOTOGRAPHS



Iodine bush



Salt cedar



100 Meter Downstream Sampling Site  
New River  
Salt Cedar Vegetation

