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December 5, 2005

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**SUBJECT: COMMENTS ON PROPOSED CHANGES TO 303(D) LIST  
MURRIETA CREEK (HSA 905.22) AND SANTA  
MARGARITA RIVER (HSA 902.22) SAN DIEGO REGION (9)**

Dear Ms. Potter:

This letter is in response to your request for comments on the State Water Resources Control Board's proposed revisions to the 303(d) list. This letter presents Rancho California Water District (RCWD) comments on proposed changes to the 303(d) list for Murrieta Creek. RCWD objects to listing Murrieta Creek as being impaired by arsenic, copper, nitrogen, and zinc. This letter also presents RCWD's objections to retaining the 303(d) listing for phosphorus in Murrieta Creek and the Santa Margarita River.

**Background:** From 1997 to 2002, RCWD discharged tertiary treated recycled water to Murrieta Creek, in accordance with NPDES requirements established by the San Diego Regional Board. RCWD collected extensive receiving water data for Murrieta Creek and the Santa Margarita River during this period. On the basis of the collected receiving water data, the Regional Board in 2001 proposed listing Murrieta Creek and the Santa Margarita River as being 303(d) impaired due to phosphorus concentrations. RCWD objected to this proposed 303(d) listing on the basis that: (1) the Basin Plan phosphorus objective is not a true and unique numerical standard, as the Basin Plan contains an alternate method of demonstrating compliance with the phosphorus objective, (2) no impairments to actual beneficial uses were demonstrated, and (3) discharging highly treated recycled water to Murrieta Creek and the Santa Margarita River can result in environmental and water quality benefits.

Despite RCWD's objections, in 2002 the Regional Board and State Board approved adding Murrieta Creek and the Santa Margarita River to the 303(d) list as being impaired by phosphorus. Concurrently, the Regional Board implemented stringent phosphorus and nitrogen concentration effluent limits in RCWD's renewed NPDES permit, and issued a Cease and Desist Order to RCWD directing compliance with the new NPDES limits. The new effluent limitations were not attainable using the best available technology (as BAT is defined in the Basin Plan). The Regional and State Board 303(d) revisions and the new limits on phosphorus and nitrogen approved in 2002 thus led to the termination of a project.

### **Objections to Proposed 303(d) Listings**

RCWD objects to the proposed 303(d) listings for Murrieta Creek for arsenic, copper, and zinc, as the proposed 303(d) listings are not supported by sufficient data. RCWD objects to the proposed listing of Murrieta Creek as being 303(d) impaired for nitrogen, as such a listing is not consistent with the actual Basin Plan standard for nitrogen.

**Murrieta Creek – Arsenic:** As rationale for listing Murrieta Creek (HSA 902.52) as being impaired by arsenic, Regional Board staff note that 2 of 13 samples collected along Murrieta Creek exceeded an arsenic concentration of 0.05 mg/l. Data presented in the Regional Board's 303(d) Fact Sheet, however, indicate that of the 13 collected samples, the two samples that exceeded the arsenic concentration standard of 0.05 mg/l were collected on the same day (June 6, 1998).

It is inappropriate to use samples that were collected on only one day during a five (5) year period as justification for assuming that the Basin Plan objective is exceeded. To the contrary, evidence suggests that the samples of June 6, 1998 were anomalous. On June 6, 1998, Murrieta Creek flow was predominantly comprised of tertiary treated recycled water from the RCWD Water's Santa Rosa Water Reclamation Facility. RCWD's recycled water discharge was terminated during 2002, but during the time of operation, RCWD's reclamation facility achieved 100 percent compliance with the arsenic standard. Surfacing groundwater is the other key contributor to Murrieta Creek flow during the month of June. RCWD maintains a number of groundwater wells in the Murrieta Creek basin, and the RCWD domestic water supply has consistently achieved 100 percent compliance with the 0.05 mg/l arsenic standard. Evidence thus suggests that the June 6, 1998 samples are not characteristic of Murrieta Creek water quality. Noncomplying samples from this single date should not be used as justification for the proposed 303(d) listing for arsenic.

**Murrieta Creek – Copper:** As rationale for listing Murrieta Creek (HSA 902.52) as being impaired by copper, Regional Board staff note that 2 of 13 samples collected along Murrieta Creek exceeded a copper concentration of 1.0 mg/l. As with arsenic, however, both of the samples that exceeded the 1.0 mg/l copper standard were collected on June 6, 1998.



On June 6, 1998, Murrieta Creek flow was predominantly comprised of tertiary treated recycled water from RCWD's water reclamation facility. RCWD's recycled water discharge was terminated during 2002. During the life span of the discharge, however, RCWD's reclamation facility achieved 100 percent compliance with the 1.0 mg/l copper standard. RCWD groundwater wells in the Murrieta Creek basin (groundwater is the other source of non-storm flow in Murrieta Creek) also achieved 100 percent compliance with the 1.0 mg/l copper standard. Evidence thus suggests that the June 6, 1998 samples are not characteristic of Murrieta Creek water quality and noncomplying samples from this single date should not be used as justification for the proposed 303(d) listing for copper.

**Murrieta Creek – Nitrogen:** The Regional Board proposes listing Murrieta Creek as being impaired by nitrogen on the basis that 39 of 160 receiving water samples exceeded a nitrogen to phosphorus (N:P) ratio of 10:1. Listing Murrieta Creek as being impaired by nitrogen is improper, and is not consistent with implementing the actual nitrogen goals set forth in the Basin Plan. Indeed, the Basin Plan does not establish a fixed numerical standard for nitrogen. The Basin Plan nitrogen objective is addressed as part of the Water Quality Objectives for Biostimulatory Substances (page 3-6 of the Basin Plan). Regarding nitrogen, the Basin Plan biostimulatory substances objective states:

*Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and upheld. If data are lacking, a ration of N:P = 10:1 shall be used.*

Data are not lacking for Murrieta Creek. The more than 160 samples collected and analyzed by RCWD during 1997-2002 represent a significant data base. This significant record of surveillance demonstrates that variation in the N:P ratio is the norm. The record of surveillance also demonstrates that this N:P variation is both seasonal and spatial in nature. Less than 5 percent of the samples had a N:P ratio of 10:1. Approximately one quarter of the samples exceeded a N:P ratio of 10:1, and approximately 70 percent of the samples had a N:P ratio of less than 10:1.

The Basin Plan does not stipulate that an N:P ratio in excess of 10:1 constitutes noncompliance. Rather, the Basin Plan requires that the natural range of N:P be determined by the water quality surveillance and that the natural N:P ratio be upheld. The water quality surveillance of Murrieta Creek does not demonstrate any noncompliance with Basin Plan standards for nitrogen. Listing Murrieta Creek as being 303(d) impaired by nitrogen on the basis that some of the samples showed a N:P ratio in excess of 10:1 is not warranted. Further, such a 303(d) listing does not take into account the actual standard for nitrogen as defined in the Basin Plan.

**Murrieta Creek – Zinc:** As rationale for listing Murrieta Creek (HSA 902.52) as being impaired by zinc, Regional Board staff note that 2 of 13 samples collected along Murrieta Creek exceeded a zinc concentration of 0.05 mg/l. As with arsenic and copper, however, the Regional Board's Fact Sheet indicates that both of the Murrieta Creek samples that exceeded the zinc limit were collected on June 6, 1998.



Data from this single day's sampling would appear to be anomalous. During June 6, 1998, Murrieta Creek flow was predominantly comprised of tertiary treated recycled water from RCWD's water reclamation facility. RCWD's recycled water discharge was terminated during 2002, but during the time of operation, Rancho's reclamation facility achieved 100 percent compliance with the zinc standard. Surfacing groundwater is another key contributor to surface flow in Murrieta Creek during the month of June. RCWD maintains a number of groundwater wells in the Murrieta Creek basin, and the RCWD wells consistently achieved compliance with the 5 mg/l zinc standard.

Evidence thus suggests that the June 6, 1998 samples are not characteristic of Murrieta Creek water quality. Noncomplying samples from this single date should not be used as justification for the proposed 303(d) listing for zinc. Further, conditions that existed in Murrieta Creek on June 6, 1998 (the RCWD recycled water stream discharge) are no longer representative of current conditions.

### **Objections to Proposed "Do Not Delist" Recommendations**

**Murrieta Creek and Santa Margarita River – Phosphorus:** The 303(d) list proposed by the State and Regional Board would maintain Murrieta Creek and the Santa Margarita River as being 303(d) impaired by phosphorus. RCWD objects to retaining phosphorus on the 303(d) impaired list for Murrieta Creek and the Santa Margarita River.

As justification for maintaining Murrieta Creek as 303(d) impaired by phosphorus, the Regional Board's "Fact Sheet Supporting Do Not Delist Recommendations" notes that 105 of 167 samples from 1997-2002 exceeded a phosphorus concentration of 0.1 mg/l. The Basin Plan provides exception to this 0.1 mg/l concentration value, however. Page 3-6 of the Basin Plan establishes the following Water Quality Objectives for Biostimulatory Substances:

*Inland surface waters, bays and estuaries and coastal lagoon waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses.*

*Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate algae and emergent plant growth. Threshold total phosphorus (P) concentrations shall not exceed 0.05 mg/l in any stream at the point where it enters any standing body of water, nor 0.025 mg/l in any standing body of water. A desired goal in order to prevent plant nuisance in streams and other flowing waters appears to be 0.1 mg/l total P. These values are not to be exceeded more than 10% of the time unless studies of the specific water body in questions clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1, on a weight to weight basis shall be used.*

*Inland surface waters shall not contain biostimulatory substances in concentrations in excess of the numerical objectives described in Table 3-2.*



*Note – Certain exceptions to the above water quality objectives are described in Chapter 4 in the sections titled Discharges to Coastal Lagoons from Pilot Water Reclamation Projects and Discharges to Inland Surface Waters.*

In lieu of listing unique “not to be exceeded” numerical objectives for nitrogen and phosphorus, Table 3-2 of the Basin Plan incorporates the second of the above paragraphs into a footnote. This footnote, in part, states:

*A desired goal in order to prevent plant nuisance in streams and other flowing waters appears to be 0.1 mg/l total P.*

Chapter 4 (Implementation Plan) the Basin Plan sets forth conditions for exception to the 0.1 mg/l region-wide phosphorus “desired goal.” In the Section entitled “Discharges to Inland Surface Waters,” the Basin Plan (pages 4-36 and 4-37) states:

*The Regional Board may use the goal for phosphorus concentrations in flowing water contained in the Biostimulatory Substances objective as guidance in establishing appropriate effluent limitations; or*

*Alternatively, the Regional Board may determine compliance with the narrative objective based upon the following four factors:*

- *Measurement of ambient concentrations of nitrogen and phosphorus;*
- *The dissolved oxygen requirements of downstream beneficial uses;*
- *Use of best available technology (BAT) economically achievable for the removal of nutrients; and*
- *The development and implementation of a watercourse monitoring and management plan.*

The Regional Board utilized this exception to the 0.1 mg/l phosphorus “desired goal” in (1) developing the 1996 RCWD NPDES permit, and (2) assessing RCWD compliance with Basin Plan phosphorus objectives during 1997-2002.

Because the Basin Plan allows exceptions to the 0.1 mg/l P concentration “desired goal”, the 0.1 mg/l P concentration objective should not be used as a basis for determining 303(d) compliance of flowing waters of Murrieta Creek and the Santa Margarita River. Instead, the Basin Plan narrative objective for phosphorus should be utilized as the litmus test for 303(d) compliance. In the 2002 listing of Murrieta Creek and the Santa Margarita River as being 303(d) impaired for phosphorus, Regional Board and State Board staff did not present convincing evidence documenting: (1) noncompliance with the Basin Plan narrative objective for phosphorus or (2) impairment of beneficial uses along Murrieta Creek of the Santa Margarita River. RCWD believes that the available data support a conclusion that Murrieta Creek receiving waters do not suffer from impairment of beneficial use due to phosphorus. Further, the monitoring information indicates that: (1) dry-season flows in Murrieta Creek during 1997-2002 were dominated by the discharge of highly treated recycled water from RCWD’s water reclamation facility, and (2) the RCWD discharge did not result in any significant adverse effect to downstream water quality and beneficial uses.



### Additional Comments

**Murrieta Creek – Iron and Manganese:** The Basin Plan establishes iron and manganese objectives for Murrieta Creek at 0.3 mg/l and 0.05 mg/l, respectively, not to be exceeded more than 10 percent of the time. The Regional Board's Fact Sheet notes that 7 of 11 manganese samples and 5 of 11 iron samples exceeded the respective Basin Plan objective during 1997 through 2000.

RCWD tertiary treated recycled water comprised a key component of the Murrieta Creek flow during non-storm periods during 1997-2000. As the RCWD recycled water discharge was terminated in 2002, data from the period 1997-2000 may not be representative of current water quality in Murrieta Creek. It is noteworthy, however, that the RCWD recycled water achieved nearly 100 percent compliance with the Basin Plan iron and manganese objectives during 1997-2000.

### Summary

RCWD objects to the proposed listing of Murrieta Creek (HSA 902.52) as being 303(d) impaired by arsenic, copper, and zinc. The sampling data base is insufficient to warrant such a listing, as receiving water concentrations exceeded the Basin Plan objectives for arsenic, copper, and zinc only on one day (June 6, 1998) during the extensive sampling period.

RCWD objects to listing Murrieta Creek as being 303(d) impaired for nitrogen as: (1) the Basin Plan does not stipulate a numerical nitrogen standard, and (2) the Basin Plan does not establish a numerical standard for N:P ratio. Instead, the Basin Plan requires that natural N:P ratios be identified through surveillance and upheld.

RCWD also requests that the State Board and Regional Board reconsider the 303(d) listing of Murrieta Creek and the Santa Margarita River as being impaired by phosphorus. Because the Basin Plan allows exception to the Basin Plan 0.1 mg/l phosphorus "desired goal", this 0.1 mg/l concentration value should not be used as a litmus test for 303(d) compliance.

Thank you for the opportunity to comment on the proposed 303(d) listings for Murrieta Creek (HSA 905.22) and the Santa Margarita River (HSA 902.22). If you should have any questions about our objections to the proposed Section 303(d) listings for Murrieta Creek or our recommendation to delist Murrieta Creek and the Santa Margarita River as being 303(d) impaired by phosphorus, please contact Mr. Bob Lemons, RCWD's Director of Engineering at (951) 296-6900.

Sincerely,

RANCHO CALIFORNIA WATER DISTRICT



Brian J. Brady  
General Manager

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