SANTA BARBARA
CHANNELKEEPER*

Protecting and Restoring the Santa Barbara Channel and Its Watersheds

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February 27, 2007

Deborah Neiter
Los Angeles Regional Water Quality Control Board
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

Re: Santa Barbara Channelkeeper Water Quality Data Submittal and 303(d) List Recommendations.

Dear Ms. Neiter,

Santa Barbara Channelkeeper (Channelkeeper) is pleased to submit to the Los Angeles Regional Water Quality Control Board (LARWQCB) these data and recommendations regarding the 303(d) List. The following pages outline our recommendations and rationale for the listing of several water bodies for multiple impairments on the 303(d) List.

The data provided in this submittal comes from the Stream Team, Channelkeeper's citizen water quality monitoring program. This program has collected water quality data from 15 sites throughout the Ventura River watershed since 2001. A State approved QAAP and monitoring plan for Channelkeeper's Stream Team program exists and is already on file with the State Board.

Attached to these recommendations please find:

- Excel spreadsheet summaries for physical parameters, bacteria, nutrient data, and algae observations.
- Photographic records of algae impairments
- A map of Stream Team sites
- An unprojected GIS shapefile of Ventura River Stream Team sites in WGS1984 datum.
- Raw data files

Countless staff and volunteer hours have been spent collecting this water quality data for over 6 years. This data set represents the most comprehensive, existing water quality data set for the Ventura River Watershed. We sincerely hope that the LARWQCB considers these data and recommendations with care.

Water Quality Criteria for Listing Recommendations

Conductivity
The LARWQCB has not established any water quality objective for conductivity. For these recommendations we have used *2200 umhos/cm* as the most conservative existing criteria.

- Public Health Goals (2) = Upper Limit = *1600 umhos/cm*, Short Term Limit = *2200 umhos/cm*
- Agricultural Water Quality Limit (1)= *700 umhos/cm*

TDS

- LARWQCB Basin Plan = *1500 mg/L* is the most conservative criteria listed for the Ventura River (3)

Turbidity

- Primary MCL = *5 NTUs* (5), (6) (non-storm turbidity)
- LARWQCB Basin Plan - *20% greater than natural turbidity* (3) (0.125 NTU is median natural turbidity based on 5 years of data from N. Matilija Creek Reference Site) For these recommendations we use *1.9* as non-storm turbidity standard. 1.9 is 1,267% above natural turbidity.
- USEPA (8) suggested reference turbidity for Ecoregion III, Sub-region 6 = *1.9* NTU

Algae

Multiple lines of available evidence:

- *Photographic evidence*
- *Elevated daytime, dissolved oxygen levels greater than 120% saturation (4)*
- *Percent cover data*
- *Elevated nutrient data*

Nitrate

- Public Health Standard = *10 mg/L*
- LARWQCB Basin Plan (3) = *5 mg/L*

Water quality targets established in the Basin plan are based on human health standards and are not adequate to address aquatic life issues. For this reason the following standards are also used for these recommendations.

- LARWQCB Malibu TMDL (7) = *1 mg/L*
- USEPA suggested standard for Ecoregion III = *0.38 mg/L*

Phosphate

- USEPA (8) suggested maximum phosphorus concentration for Ecoregion III = 0.022 mg/L For these recommendations we use *0.03 mg/L*.
- LARWQCB Malibu TMDL (7) = *0.01 mg/L*

Bacteria

- Enterococci - EPA (9) Freshwater = *62 MPN*
- E. Coli – EPA (9), LARWQCB Basin Plan (11) = *235 MPN*
- Total Coliform – LARWQCB Basin Plan Marine Water (11) = *10,000 MPN*

Recommendations

Ventura River Reach 1

- *List for nitrate.* Rationale: 42 of 202 samples exceed 1 mg/l.
- *List for phosphate.* Rationale: 167 of 201 samples exceed 0.1 mg/l. 136 of 201 samples exceed 0.3 mg/l.
- *Channelkeeper supports the existing algae listing.* Rationale: Historical photographic evidence submitted. 24 of 70 dissolved oxygen samples exceed 120% saturation. 19 of 52 observations indicate the presence of greater than 30% algae coverage. Ventura River Reach 1 has elevated levels of nitrate and phosphate.

Ventura River Reach 2

- *List for indicator bacteria.* Rationale: 42 of 148 enterococcus samples exceed 62 MPN/100ml.
- *List for nitrate.* Rationale: 82 of 251 samples exceed 1 mg/l
- *List for phosphate.* Rationale: 214 of 249 samples exceed 0.1 mg/l. 168 of 249 samples exceed 0.3 mg/l.

- *Channelkeeper supports the existing listing for algae.* Rationale: Historical photographic evidence submitted. 45 of 138 dissolved oxygen samples exceed 120% saturation. 36 of 103 observations indicate the presence of greater than 30% algae coverage. Ventura River Reach 2 has elevated levels of nitrate and phosphate.

Ventura River Reach 3

- *List for indicator bacteria.* Rationale: 17 of 72 enterococcus samples exceed 62 MPN/100ml.
- *List for nitrate.* Rationale: 16 of 116 samples exceed 1 mg/l
- *List for phosphate.* Rationale: 51 of 113 samples exceed 0.1 mg/l.
- *List for algae.* Rationale: Historical photographic evidence submitted. 26 of 70 dissolved oxygen samples exceed 120% saturation. 26 of 51 observations indicate the presence of greater than 30% algae coverage. Ventura River Reach 3 has elevated levels of nitrate and phosphate.

Ventura River Reach 4

- *List for indicator bacteria.* Rationale: 14 of 46 enterococcus samples exceed 62 MPN/100ml.
- *List for phosphate.* Rationale: 8 of 40 samples exceed 0.1 mg/l.
- *List for algae.* Rationale: Historical photographic evidence submitted. 15 of 35 observations indicate the presence of greater than 30% algae coverage. Ventura River Reach 4 has elevated levels of phosphate.

Canada Larga

- *List for conductivity.* Rationale: 55 of 62 samples exceed 2200 umhos/cm.
- *List for TDS.* Rationale: 21 of 51 samples exceed 1500 mg/l.
- *List for turbidity.* Rationale: 10 of 59 non-storm samples exceed 5 NTU.
- *List for indicator bacteria.* Rationale: 42 of 68 E. Coli samples exceed 235 MPN/100ml. 55 of 70 Enterococcus samples exceed 62 MPN/100ml. 19 of 64 Total Coliform samples exceed 10,000 MPN/100ml.
- *List for nitrate.* Rationale: 13 of 61 samples exceed 1 mg/l.
- *List for phosphate.* Rationale: 22 of 61 samples exceed 0.1mg/l. 12 of 61 samples exceed 0.3 mg/l.

San Antonio Creek

- *List for indicator bacteria.* Rationale: 48 of 235 E. Coli samples exceed 235 MPN/100ml. 141 of 266 Enterococcus samples exceed 62 MPN/100ml.
- *Channelkeeper supports the existing listing for Nitrogen.* Rationale: 133 of 298 samples exceed 1 mg/l. 61 of 298 samples exceed 3 mg/l.
- *List for phosphate.* Rationale: 129 of 296 samples exceed 0.1 mg/l. 82 of 296 samples exceed 0.3 mg/l.
- *List for algae.* Rationale: Historical photographic evidence submitted. 65 of 191 observations indicate the presence of greater than 30% algae coverage. San Antonio Creek has elevated levels of nitrate and phosphate.

Matilija Creek

- *List for phosphate.* Rationale: 37 of 127 samples exceed 0.1 mg/l.
- *List for algae.* Rationale: Historical photographic evidence submitted. 48 of 95 observations indicate greater than 30% coverage. Matilija creek has elevated phosphate levels.

N. Matilija Creek

- *List for phosphate.* Rationale: 15 of 65 samples exceed 0.1 mg/l.

Please contact Ben Pitterle at (805) 563-3377 (ben@sbck.org) with any questions, comments, or responses. Santa Barbara Channelkeeper thanks you for your consideration.

Sincerely,

Ben Pitterle
Director of Watershed Programs

References

(1) Ayers, R. S. and D. W. Westcot, Water Quality for Agriculture, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985)

(2) California Environmental Protection Agency (Cal/EPA), Office of Environmental Health Hazard Assessment, Public Health Goals for Chemicals in Drinking Water (various dates), http://www.oehha.org/water/phg/

(3) The Central Coast Regional Water Quality Control Board Basin Plan

(4) Leydecker, Al, Ph.D. Santa Barbara Channelkeeper, Ventura Stream Team 2001 – 2005 (January, 2006)

(5) California Department of Health Services, California Code of Regulations, Title 22, Division 4, Chapter 15, Domestic Water Quality and Monitoring, http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/regulations_index.htm

(6) U.S. Environmental Protection Agency, Title 40, Code of Federal Regulations, Parts 141 [Primary MCLs] and 143 [Secondary MCLs], http://www.epa.gov/waterscience/drinking/.

(7) Los Angeles Regional Water Quality Control Board. Total maximum Daily Load for Nutrients in Malibu Creek and Lagoon, (2004).

(8) US Environmental Protection Agency (US EPA). 2000. Ambient water quality criteria recommendations: Rivers and streams in nutrient Ecoregion III. EPA 822-B-00-015. Washington, DC. (http://www.epa.gov/waterscience/criteria/nutrient/ecoregions/rivers/)

(9) USEPA, Implementation Guidance for Ambient Water Quality Criteria for Bacteria, 2002, EPA-823-B-02-003, Washington DC

(10) Santa Barbara County Public Health Department

(11) Los Angeles Regional Water Quality Control Board Basin Plan

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