

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF March 6-7, 2014
Prepared February, 2014

ITEM NUMBER: 10

SUBJECT: Adopting Nitrate Total Maximum Daily Loads for Glenn Annie Canyon, Tecolotito Creek, and Carneros Creek in Santa Barbara County, California

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THIS ACTION: Adopt Resolution No. R3-2014-0011

SUMMARY

Staff recommends adoption of the proposed nitrate Total Maximum Daily Loads (TMDLs) for Glen Annie Canyon, Tecolotito Creek, and Carneros Creek.

Glen Annie Canyon and Carneros Creek are on the 2008-2010 Clean Water Act section 303(d) list of impaired waters due to excessive levels of nitrate. Tecolotito Creek, a lower segment of Glen Annie Canyon, is not listed for nitrate impairment; however, available data indicate this waterbody is impaired due to excessive levels of nitrate. The water quality objective protective of the municipal and domestic water supply beneficial use (MUN) is a nitrate concentration of 10 mg/L-N. Nitrate concentrations in these water bodies exceed this water quality objective.

The geographic scope of these TMDLs (project area) encompass approximately 4.5 square miles (3,517 acres) for the Glen Annie Canyon watershed, including Tecolotito Creek, and 4.2 square miles (2,725 acres) for the Carneros Creek watershed, located in southern Santa Barbara County. The watersheds are immediately adjacent to each other with Glen Annie Canyon to the west and Carneros Creek to the east. Both watersheds are south trending drainages that extend from the southern face of the Santa Ynez Mountains, through the City of Goleta and Goleta Slough, and into the Pacific Ocean.

The proposed TMDLs, numeric targets, and load allocations for nitrate will result in meeting narrative water quality objectives for Municipal and Domestic Supply. Central Coast Water Board staff has identified sources of nitrate that are causing or contributing to water quality impairment, has identified parties responsible for these sources, and has proposed load allocations necessary to achieve the TMDLs.

Staff has identified the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands in the Central Coast Region (Agricultural Order) as the existing regulatory mechanism to achieve the TMDLs. No new regulatory mechanism is being proposed to implement and achieve the TMDLs.

These TMDLs are being adopted not through a basin plan amendment, but through the Central Coast Water Board's approval of the resolution associated with this agenda item, which includes

findings that the Agricultural Order will implement the TMDLs. According to state policy, the Board is encouraged to take this approach of TMDL approval when the impairments can be addressed through a single action by the Board; the approach conserves valuable state resources and avoids regulatory redundancy.

For this agenda item, staff recommends the Central Coast Water Board approve the resolution (Attachment 1 to this Staff Report) that establishes nitrate Total Maximum Daily Loads (TMDLs) for Glen Annie Canyon, Tecolotito Creek, and Carneros Creek.

Staff developed the technical basis for the TMDL and associated allocations, which is provided in the Final Project Report (Attachment 2 to this staff report). The Project Report is provided at the Central Coast Water Board's website:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/glen_annie_loscarneros_nitrate/index.shtml

DISCUSSION

Project Development for the TMDL

Staff developed the TMDL using data and information from the Central Coast Ambient Monitoring Program (CCAMP), the Central Coast Cooperative Monitoring Program (CMP), and from the Santa Barbara Channelkeeper (SBCK). Staff also used land use data and conversations with staff from other agencies.

Numeric Targets

The Central Coast Region's Water Quality Control Plan (Basin Plan) contains specific water quality objectives that apply to all inland surface waters, enclosed bays and estuaries (CCRWQCB, 1994, pg. III-3). Relevant water quality objectives for this project include the Basin Plan water quality objective for municipal and domestic supply (MUN), which states:

Waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Article 4, Chapter 15, Section 64435, Tables 2 and 3 as listed in Table 3-2 (Region 3 Basin Plan, p III-3). In Table 3-2, the maximum contaminant level (MCL) for Nitrate (as NO₃) in Domestic or Municipal Supply is 45 milligrams per liter (mg/L).

The MUN water quality objective of 45 mg/L nitrate as nitrate (NO₃ as NO₃) is equivalent to 10 mg/L nitrate as nitrogen (NO₃ as N).

The Basin Plan contains general water quality objectives for all inland surface waters, enclosed bays, and estuaries. The narrative water quality objective for toxicity states, in part:

All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life.

Staff selected water column numeric target values for nitrate as a direct measure of water quality conditions for the protection of municipal and domestic supply (MUN) beneficial use. The Basin Plan numeric water quality objective for nitrate (as nitrogen) is 10 mg/L; therefore, the nitrate target is set at the Basin Plan water quality objective as follows:

- *Receiving water column nitrate must not exceed 10 mg/L-N.*

Source Analysis

Discharges from irrigated agriculture in the project area are the single controllable source causing impairment due to nitrate. Staff described sources of nitrate in the project area in Chapter 4 of the Final Project Report (which is Attachment 2 of this staff report).

TMDL and Allocations

The nitrate TMDLs for Glen Annie Canyon, Tecolotito Creek, and Carneros Creek are concentration-based TMDLs equal to the numeric target as described in the numeric targets section above. Concentration-based TMDLs are an appropriate expression of TMDLs and meet USEPA requirements for TMDL approval.

Owners and operators of agricultural lands using nitrate are assigned load allocations equal to the TMDLs and numeric targets. Note that the TMDLs and allocations are receiving water concentrations equal to the existing water quality objective in place to protect the municipal and domestic water supply beneficial use (MUN).

Implementation and Monitoring

Compliance with the Agricultural Order will implement the TMDLs. Implementing parties will comply with the Agricultural Order (Order R3-2012-0011) and the Monitoring and Reporting Programs in accordance with Orders R3-2012-0011-01, R3-2012-0011-02, and R3-2012-0011-03 to meet load allocations and achieve the TMDLs. Current requirements in the Agricultural Order that will result in achieving the load allocations include:

- Enroll in and comply with the Agricultural Order.
- Implement, and update as necessary, management practices to reduce nutrient loading.
- Maintain existing, naturally occurring, riparian vegetative cover in aquatic habitat areas.
- Develop, update, and implement Farm Plans.

The Agricultural Order includes monitoring and reporting requirements. Owners and operators of irrigated agricultural lands will perform monitoring and reporting in accordance with Monitoring and Reporting Program Orders R3-2012-0011-01, R3-2012-0011-02, and R3-2012-0011-03, as applicable to the operation. Current monitoring requirements include two CMP monitoring sites for Glen Annie Canyon (315GBR and 315GAN) which include nitrate monitoring. Staff recommends the addition of monitoring locations on Tecolotito and Carneros Creeks, in the future, to gauge progress and ultimate achievement of the TMDLs. Additionally, individual reporting requirements include a description of individual nitrate discharges. Information gathered from the Cooperative Monitoring Program, the Central Coast Ambient Monitoring Program, and Santa Barbara Channelkeeper will also inform progress toward achieving this TMDL.

Urban municipal separate storm sewer system (MS4) entities are in compliance with water quality objectives for nitrate. Therefore, TMDL waste load allocations for nitrate are not proposed for incorporation into the applicable NPDES MS4 storm water permits. To protect and maintain water quality, and to continue complying with water quality objectives for nitrate, these MS4 entities must continue to implement their Water Board-approved Storm Water Management Plans or approved substitute plans.

Determination of Compliance with Load Allocations for Irrigated Lands

Demonstration of compliance with the load allocations is consistent with compliance with the Agricultural Order. Load allocations will be achieved through a combination of implementation of management practices and strategies to reduce nitrogen compound loading, and water quality monitoring. Flexibility to allow owners/operators of irrigated lands to demonstrate compliance with load allocations is a consideration; additionally, staff is aware that not all implementing parties are necessarily contributing to or causing surface water impairment.

To allow for flexibility, Water Board staff will assess compliance with load allocations using one or a combination of the following:

- A. Attaining the load allocations in the receiving water.
- B. Demonstrating quantifiable receiving water mass load reductions.
- C. Implementing management practices that are capable of achieving load allocations identified in this TMDL.
- D. Providing sufficient evidence to demonstrate that they are and will continue to be in compliance with the load allocations; such evidence could include documentation submitted by the owner/operator to the Executive Officer that the owner/operator is not causing waste to be discharged to impaired waterbodies resulting or contributing to violations of the load allocations.

Time Schedule for Tracking Progress and Achieving the TMDL

The target date to achieve the allocations, numeric targets, and TMDLs in the impaired waterbodies is October 1, 2016. This date coincides with the time schedule of milestones described in Table 4 of the Agricultural Order. Additionally, staff concludes that the TMDLs are achievable by this date because the results of best management practices will be realized quickly. Best management practices will benefit water quality quickly because groundwater is not significantly contributing to surface water nitrate loading (2.2 mg/L nitrate as nitrogen). Also, available information suggests that a relatively small number of agricultural operations are contributing to the impairment.

Water Board staff will reevaluate impairments caused by nitrate when monitoring data is submitted and during renewals of the Agricultural Order. Water Board staff will modify the conditions of the Agricultural Order, if necessary, to address remaining impairments.

ANTI-DEGRADATION

The proposed TMDLs are consistent with the provisions of the State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" and 40 CFR 131.12. The adoption of the proposed TMDLs and the TMDL implementation strategy will not de-designate or limit beneficial use designations, will not relax any water quality standard, and will not result in lowering of water quality; therefore, state and federal anti-degradation analyses are not required.

PUBLIC INVOLVEMENT

Staff conducted stakeholder outreach efforts during TMDL development. Staff held a public workshop in September 2013 and engaged with stakeholders during the development of the TMDL. Staff provided a formal written comment period where comments were solicited from a range of stakeholders including local land owners and land operators, agricultural representatives, resource professionals, and public agencies.

The staff report, resolution, and technical project reports were made available for a 30-day public comment commencing on January 10, 2014. Water Board staff solicited public comment from a range of stakeholders including local land owners and land operators, agricultural representatives, environmental representatives, resource professionals, and public agencies.

Public comment letters were received from:

1. Ms. Janet Parrish, TMDL Liaison, U.S. Environmental Protection Agency (U.S. EPA) in an email attachment received January 21, 2014.

Ms. Parrish stated that the U.S. EPA recommends and supports Central Coast Water Board adoption of the proposed TMDLs..

RECOMMENDATION

Adopt Resolution No. R3-2014-0011

ATTACHMENTS:

The attachments are available at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/glen_annie_loscarneros_nitrate/index.shtml

1. Draft Resolution No. R3-2014-0011
2. Final Project Report: "Nitrate Total Maximum Daily Loads for Glen Annie Canyon, Tecolotito Creek, and Carneros Creek in Santa Barbara County, California"
3. Notice of Opportunity for Public Comment