

Central Coast Regional Water Quality Control Board

# FACT SHEET

## Development of Total Maximum Daily Loads for Nutrients in Streams of the Santa Ynez River Basin

### What is a Total Maximum Daily Load (TMDL)?

Simply put, [TMDLs](#) are plans to improve water quality and are required by the federal Clean Water Act. Section 303(d) of the Clean Water Act requires states to evaluate the water quality of their streams, lakes, and estuaries and to maintain a list of waterbodies that are considered “impaired” because the water does not meet water quality standards. For each waterbody on the central coast’s [“303\(d\) List of Impaired Waterbodies”](#) the Central Coast Regional Water Quality Control Board (Central Coast Water Board) must develop and implement a plan to reduce pollutants so that the waterbody is no longer impaired and can be “de-listed”.

“Total Maximum Daily Load” (TMDL) is a term used to describe the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. More broadly, a TMDL report can be described as an action plan to improve water quality. The TMDL report identifies the probable sources of pollution, establishes the maximum amount of pollution a waterbody can receive and still meet water quality standards, and identifies the regulatory and/or non-regulatory actions that must be taken to improve water quality.

### Location and Watershed Description

The Santa Ynez River basin is an east-west trending drainage encompassing 897 square miles of Santa Barbara County. The natural hydrology of the Santa Ynez River is modified by dams and reservoirs; major tributaries of the river are Salsipuedes, Cachuma, Santa Cruz, and Indian creeks. Urbanized lands, cultivated cropland, coastal scrub and coastal oak woodland characterize the landscapes of the lower reaches of the river basin. Middle and upper reaches of the river basin are typically characterized by annual grasslands, chamise-redshank chaparral, coastal oak woodland, and some areas of montane-hardwood conifer woodlands<sup>1</sup>. The river basin has a semi-arid Mediterranean-type climate with basin-wide rainfall averaging 26.2 inches per year<sup>2</sup>.

### Why Do We Need a Nutrients TMDL for the Santa Ynez River Basin?

TMDLs are required by federal law<sup>3</sup> to implement state water quality standards and rectify identified surface water quality impairments. [California's water quality standards](#) designate [beneficial uses](#) for each waterbody (e.g., drinking water supply, agricultural supply, aquatic life support, recreation, etc.) and the scientific criteria to support those uses.



Santa Ynez River Basin

[Nutrient pollution](#) refers to excessive amounts of nitrate and phosphorus in our water resources. Nutrient pollution of the lower reaches of the Santa Ynez River has long been recognized as a problem<sup>4</sup>. Nutrient pollution can degrade municipal and domestic water supply, and may degrade irrigation water quality for sensitive crops. Nutrient pollution can also result in a cascade of adverse environmental impacts in streams such as excessive [nuisance algae](#), disruption of the natural dissolved oxygen balance, and disruption of the aquatic food web.

Furthermore, from the water quality management perspective, it is not enough to improve impaired waters – protection of existing high quality waters and prevention of any further water quality degradation should be identified as a high priority goal. TMDLs are justified in considering improved protection of high quality waters and addressing anti-degradation concerns, as well as focusing on improving impaired stream reaches. Notable is that the Central Coast Water Board considers *preventing* impairment of waterbodies to be as important a priority as *correcting* impairments of waterbodies<sup>5</sup>.

<sup>1</sup> Department of Forestry and Fire Protection, CalVEG dataset.

<sup>2</sup> PRISM 1980-2010 precipitation dataset, Oregon State University.

<sup>3</sup> Clean Water Act Section 303(d).

<sup>4</sup> See: 1998 California Clean Water Act Section 303(d) List

<sup>5</sup> See staff report for agenda item 3, July 11, 2012 Central Coast Water Board meeting

Also worth noting, the U.S. Environmental Protection Agency recently reported that nitrogen and phosphorus pollution, and the associated degradation of drinking and environmental water quality, has the potential to become one of the costliest and most challenging environmental problems the nation faces<sup>6</sup>. Nitrate drinking water standard violations have doubled nationwide in eight years. Algal blooms, resulting from the biostimulatory effects of nutrients, are steadily on the rise nationwide and the related toxins have potentially serious health and ecological effects. Over the past 15 years, monitoring of streams and drainages in the lower Santa Ynez River basin have locally indicated high levels of nitrate. It should be noted that in recent years nitrate levels appear to be decreasing in the lowermost Santa Ynez River.

Central Coast Water Board staff anticipate developing a nutrients TMDL for the Santa Ynez River basin intended to address nutrient and nutrient-related water quality impairments beginning in late 2015 and continuing into 2016. This fact sheet is the first step in our public outreach to stakeholders. As we engage in TMDL development more intensively for the Santa Ynez River basin, we anticipate engaging with interested parties through public meetings, workshops, and other informal contacts.

### What are the Sources of Nutrient Pollution?

Source analysis is a key component of TMDL development. Treated municipal wastewater effluent has historically been a major source of nitrate in the lower Santa Ynez River downstream of Lompoc. There are also [many possible nutrient sources](#) within any given watershed; in general the following can potentially be significant sources of nutrient loads:

- Municipal wastewater
- Urban runoff
- Fertilizer application
- Stormwater runoff
- Manure from livestock and domestic animals
- Natural sources
- Atmospheric deposition
- Groundwater inputs to streams

### The TMDL Process & Public Participation

A TMDL is developed by Central Coast Water Board staff and must go through a hierarchy of approvals before it can go into effect. Most TMDLs must be approved by the Central Coast Water Board, the State Water Resources Control Board, and the California Office of Administrative Law.

Public participation is an element of TMDL development. Central Coast Water Board staff notify interested parties of opportunities for public participation through public meetings/workshops, we solicit public comments, and we encourage other forms of public participation through correspondence, email, and other informal contacts.

To be notified of updates and meetings regarding the Santa Ynez River basin nutrients TMDL project please subscribe to the Central Coast Water Board's [Santa Ynez River basin nutrient TMDL email subscription list](#).



Photo: Mary Hamilton

*Santa Ynez River downstream of Lake Cachuma, Oct. 2008.*

### For More Information

The Central Coast Water Board encourages interest and involvement in TMDL projects from stakeholders, interested parties, and the general public. Please refer to the Central Coast Water Board's [Santa Ynez River basin nutrients TMDL](#) webpage at:

[http://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/tmdl/docs/santa\\_ynez/nutrient/index.shtml](http://www.waterboards.ca.gov/centralcoast/water_issues/programs/tmdl/docs/santa_ynez/nutrient/index.shtml)

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<sup>6</sup> U.S. Environmental Protection Agency: Memorandum from Acting Assistant Administrator Nancy K. Stoner. March 16, 2011. Subject: "Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions".