

North Coast Region Total Maximum Daily Loads Fact Sheet

Staff of the North Coast Regional Water Quality Control Board (Regional Water Board) are working on the Total Maximum Daily Loads (TMDLs) for watersheds throughout the North Coast Region. This Fact Sheet answers frequently asked questions about TMDLs. Should you have additional questions, please contact us (see the end of this fact sheet for contact information).

What is a TMDL?

A TMDL is a framework for assessing the condition of an entire watershed, evaluating the sources that have contributed to the point source and nonpoint source water quality problems in the waterbody, and for developing a plan to restore healthy water quality conditions. TMDLs are prepared for waterbodies on the Clean Water Act Section 303(d) list of impaired waterbodies.

There are five general objectives of a TMDL:

1. To assess the health of a waterbody, and determine/confirm cause(s) / source(s) of stress to water quality.
2. To quantify the sources of the water quality pollutant or stressor.
3. To determine how much of a particular pollutant or stressor a waterbody can handle and still be healthy.
4. To identify source reductions needed to support a healthy waterbody.
5. To develop a plan which, when implemented, will restore waterbody health.

How is the TMDL Program organized at the North Coast Water Board?

The North Coast Water Board is charged with developing most TMDLs for the North Coast Region. There are several units within the Regional Water Board that are involved with TMDLs. The technical analysis for determining existing conditions within a watershed and identifying target conditions is conducted by the TMDL Development Unit, within the Watershed Management Division. The Planning Unit, also in the Watershed Management Division, is responsible for developing TMDL Implementation Plans and incorporating the TMDL (including the Implementation Plan) into the North Coast Water Quality Control Plan (Basin Plan). There are many units involved with implementing TMDLs, including those in the Watershed Protection Division (point source permitting and nonpoint source management) and Timber Harvest Division.

What is the relationship of the North Coast Watershed Assessment Program and the TMDL Program?

The North Coast Watershed Assessment Program (NCWAP) is an interagency effort between the California Resources Agency and CalEPA to provide a consistent scientific foundation for collaborative watershed restoration efforts and to better meet the State needs for protecting and restoring salmon species and their habitats under State and federal laws. The participating agencies are the Departments of Fish and Game, Forestry and Fire Protection, and Water Resources, California Geologic Survey, and the Regional Water Board. NCWAP is one of the North Coast Regional Water Quality Control Board

sources of data and information used by TMDL development staff in understanding existing conditions within a watershed.

Why are TMDLs being developed for the North Coast watersheds?

Section 303(d) of the federal Clean Water Act requires states to identify waterbodies that are impaired, to identify the particular pollutant(s) or stressor(s) that are causing impairment, and to develop a plan (the TMDL) to attain and maintain desired water quality conditions. An “impaired” waterbody is one that is not meeting water quality standards, which refers to the beneficial uses and water quality objectives of the waterbody, as stated in the North Coast Region Basin Plan. A “beneficial use” refers to the designated uses of a waterbody, including municipal drinking water, agricultural supply, recreation, and habitat for cold water fish, to name a few. A “water quality objective” is a number or narrative description of the desired condition associated with a particular water quality parameter.

Many waterbodies in the North Coast Region are on the California 303(d) List of Impaired Waterbodies. Most waterbodies have been added to the list from 1992 to the present. For example, the Shasta River was added to the 303(d) list in 1992 for dissolved oxygen and in 1996 for temperature. The Scott River was added to the 303(d) List in 1992 for sediment and in 1996 for temperature. The Regional Water Board is required to complete TMDLs in the region under the terms of a consent decree entered into by US EPA.

What are the schedules for completing the North Coast Region TMDLs?

Watershed	Pollutant	Year(s) Listed	Completion of Technical Analysis	Regional Board Adoption of TMDL Including Implementation Plan	EPA Approval of TMDL Including Implementation Plan	RWQCB Staff Begin Work with Stakeholders to Implement TMDL
Upper Lost River Lower Lost River	Temperature, Nutrients	1992	June 2003 June 2004	June 2004 June 2005	July 2005 July 2006	August 2005 August 2006
Klamath River	Temperature, Nutrients, Low Dissolved Oxygen	1992, 1996	December 2005	December 2006	December 2007	January 2008
Shasta River	Temperature, Low Dissolved Oxygen	1992 , 1996	December 2004	December 2005	January 2007	February 2007
Scott River	Temperature, Sediment	1992, 1996	September 2004	September 2005	October 2006	November 2006
Salmon River	Temperature, Nutrients	1992	June 2003	June 2004	July 2005	August 2006

What are the components of a TMDL?

There are four steps to developing a TMDL. The first step is developing a Technical TMDL. The second step is developing an Implementation Plan. The third step involves getting approval of the TMDL by the Regional Water Board, the State Water Resources Control Board, and the US EPA, and thus incorporating the TMDL into the Basin Plan. The fourth step is implementing the TMDL.

The Technical TMDL describes conditions in the watershed and includes a number of key elements. The **Problem Statement** characterizes the water quality problem(s). It identifies water quality indicators and associated numeric targets, which are quantitative or narrative measures of desired waterbody-specific conditions. Numeric targets can vary from place-to-place and from season-to-season. The **Source Analysis** quantifies the natural and human-related sources of the pollutant(s) or stressor(s) that are causing impairment. The **Linkage Analysis** draws links between land use conditions and water quality conditions. The **TMDL Loading Capacity** determines how much of the pollutant(s) or stressor(s) the waterbody can handle while still supporting the beneficial uses. Finally, the **Load Allocations** determine how much, if any, the identified sources need to be reduced in order to achieve the target conditions.

The Implementation Plan outlines a strategy and schedule to achieve pollutant load reductions. Implementation Plans are adaptive, meaning they have flexibility to change as more is known about conditions in a watershed and the practices that affect water quality. A key element of Implementation Plans completed in the North Coast to date is the Non Point Source Program's three-tiered approach to addressing non-point source pollution. Tier One of this approach relies on self-directed implementation of management practices where landowners develop and implement workable solutions to non-point source pollution. This affords them the opportunity to solve water quality problems, and is the preferred approach of the Regional Water Board. Tier Two incorporates regulatory-based encouragement of management practices where the Regional Water Board does not impose effluent requirements on dischargers who are implementing management practices in accordance with a waiver of waste discharge requirements, an approved Management Agency Agreement, or other formal Regional or State Water Board action. Tier Three imposes effluent limitations and enforcement where the Regional Board can enforce requirements on any proposed or existing waste discharge, including non-point source discharges.

How are TMDLs being developed for the North Coast Region waterbodies?

TMDL Development Unit staff are compiling available data and information and evaluating the condition of watersheds and waterbodies in the Klamath River watershed in California. At the same time, we are developing working hypotheses of the factors that affect existing water quality conditions. We conduct water quality monitoring studies to help answer the questions raised by the working hypotheses. Based on analyses of the monitoring studies and use of computer modeling tools, we determine existing pollutant loads and appropriate load allocations.

Regional Water Board and USEPA staff have completed technical TMDLs for a number of North Coast waterbodies. A complete list of technical TMDLs established by USEPA can be found at <http://www.epa.gov/region09/water/tmdl/final.html>. The status of TMDLs in the North Coast Region, including downloadable versions of Technical Support Documents (TSDs) completed by Regional Water Board staff can be found at http://www.swrcb.ca.gov/~rwqcb1/Program_Information/tmdl/Status.html.

How much flexibility is there in numeric targets and load allocations?

One product of a TMDL is an estimate of how much of a pollutant the waterbody can handle and still meet water quality standards; this is the "loading capacity". Then the TMDL identifies the amount of reduction of individual sources of the pollutant that is required to meet the loading capacity; this is the "load allocation". The loading capacity can be expressed in many ways. It may be a daily load, an annual load, or an average load over a number of years.

Numeric targets are quantitative or narrative measures of desired conditions. Numeric targets serve as a goal post to gauge changes in water quality conditions. Numeric targets can vary from place-to-place within a given watershed and can vary seasonally. While water quality objectives are enforceable, numeric targets for water quality indicators are not enforceable.

Where do we obtain data/information for developing TMDLs?

Our goal is to understand the water quality conditions specific to the individual rivers of the North Coast Region, and to develop targets that are appropriate for these individual rivers. Therefore, we conduct water quality monitoring in each watershed to meet as many of the TMDL data needs as possible. Where we are unable to collect new data in a watershed, we assess data collected in the watershed in the past. Finally, if necessary, we use relevant studies and data from other watersheds in developing the TMDL. We prefer to use current watershed-specific data in order to develop a meaningful, relevant, and realistic TMDL.

How are data that is collected on private property used?

We work with local groups, such as RCDs, to gain access to private property for water quality monitoring and assessment. We discuss issues of access and use of data with landowners on an individual basis or through organizations, as appropriate. Because we are a public agency funded by public resources, all of our work, including all monitoring data, becomes part of the public record. However, if requested, we can report data for a general area, as opposed to a specific site.

How do we collaborate with stakeholders?

There are numerous opportunities for stakeholder participation in TMDL development and implementation. In some watersheds, we are developing Technical Advisory Groups (TAG) to assist us in developing the TMDLs. We invite members of local irrigation districts, RCDs and CRMPs, agencies, tribes, county representatives, property owners and other interested parties to participate in the TAGs. Our intent is to have the groups assist us in understanding both existing and historic conditions in the watersheds, developing study plans, participate in monitoring and assessment efforts, and providing review of our work products. We also hold public informational meetings for each watershed. In addition, we work with other agencies to coordinate monitoring/assessment efforts.

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