NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

Bureau of Water Quality Planning

Fact Sheet: Total Maximum Daily Loads (TMDLs)

What is a TMDL?

A total maximum daily load (TMDL) is designed to help bring impaired waterbodies into compliance with water quality standards. It limits the maximum amount of a pollutant a waterbody can receive as needed to support designated uses such as irrigation, aquatic life, municipal or domestic supply, recreation, and other beneficial uses. TMDLs take into account pollution from all sources, including discharges from sewage treatment facilities and industry; runoff from farms, forests and urban areas; and natural sources of pollutants. TMDLs provide a way to integrate the management of both point and nonpoint sources of pollution by establishing waste-load allocations for point-source discharges and load allocations for nonpoint sources of pollution.

To determine which waterbodies are meeting (or not meeting) water quality standards, Nevada assesses all surface waters in the State by comparing monitoring data against the applicable water quality standards. Results of this biennial assessment are provided in a "***Water Quality Integrated Report***," which the Nevada Division of Environmental Protection (NDEP) prepares and submits to the U.S. Environmental Protection Agency (USEPA). Surface waters found to be impaired (i.e., not meeting) water quality standards are then prioritized, and certain pollutants causing the impairments are identified for TMDL development.

What is the TMDL Process?

The Clean Water Act, Section 303(d), established the TMDL process to guide application of state standards to individual waterbodies. The process has three steps:

- **Identify waterbodies that are not meeting standards**. States must identify and prepare a list of waters that do not meet water quality standards. This list of "impaired waters" is known as the "303(d) list."
- **Establish priority waterbodies and watersheds**. States must prioritize impaired waterbodies and watersheds for development of TMDLs, alternative plans, and watershed plans.
- **Develop TMDLs for listed waters**. States must develop TMDLs that will improve water quality and achieve water quality standards, allowing for seasonal variations and an appropriate margin of safety.

How are TMDLs Developed?

TMDLs are developed using readily available data and information in many cases, simple analytical efforts provide an adequate basis for assessment and load allocation. However in other cases, complex studies or models are needed to better understand how the waterbody is responding to pollutant loads. If adequate information is not readily available, TMDLs may be developed through a phased approach. This allows states to establish interim goals, begin to implement controls and restoration actions, monitor responses to actions, and plan for TMDL review and revision in the future.

Kings River, Black Rock Region

March, 2021

What are the Typical Components of a TMDL?

TMDLs are more than just load and waste load allocations. A typical TMDL report can contain the following:

- ***Problem Statement*** – Describes the waterbody, impairments, and pollutants causing the impairments.
- ***Numeric Targets*** – Provides measurable indicators and appropriate numeric targets needed to protect beneficial uses.
- ***Source Analysis*** – Assesses relative contributions of pollutant sources that have resulted in violation of water quality standards.
- ***Estimates of Loading Capacity*** – Estimates the amount of pollutant that can enter the waterbody while meeting numeric targets (typically, numeric water quality standards.
- ***Allocation of Loads*** – Distributes allowable loads of the pollutant from the significant sources.
- ***Monitoring Plan*** – Describes how the effectiveness of the TMDL will be monitored.
- ***Implementation Plan*** – Describes actions needed to reduce pollutant loading to the waterbody. Actions can include controls for point sources and best management practices for nonpoint sources.

Who Develops TMDLs and How are TMDLs Implemented?

State water quality agencies are usually responsible for executing the TMDL process. In Nevada, the Division of Environmental Protection (NDEP) – Bureau of Water Quality Planning is responsible for developing the 303(d) List, establishing priorities, and developing TMDLs as needed. When a TMDL report is first developed, a draft document is noticed for public comment. After making any appropriate modifications in response to public comment, the TMDL is sent to the USEPA for approval.

TMDLs are developed to provide an analytical basis for planning and implementing pollution controls, land management practices, and restoration projects needed to protect water quality. Once a TMDL is approved, it is implemented through existing National Pollutant Discharge Elimination System (NPDES) permits for point source discharges and voluntary nonpoint source control programs, to achieve the necessary pollutant reductions.

What is EPA's "Long-Term Vision for Assessment, Restoration, and Protection" under the CWA Section 303(d) Program?

In December 2013, EPA announced a new collaborative framework for implementing the CWA 303(d) Program with States — A Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program (Vision). One of the goals of the Vision is to prioritize impaired watersheds or waterbodies for the development of TMDLs and alternative plans to address these impairments. The Vision offers a way to apply watershed-based plans and other tools — such as stream restoration efforts — to address impairments due largely to nonpoint sources. Under the prioritization goal, NDEP identifies certain impairments in selected surface waters as a priority for TMDL Vision projects. Such projects can align with projects under the Nonpoint Source Program, and a watershed-based plan. As an example, in 2020, segments of the Walker River were prioritized for additional monitoring due to impairments for temperature and total phosphorus. In this example, the Walker River State Recreation Area had acquired more than 25 miles of riverfront property that is being converted from agricultural uses and back to natural vegetation. Collecting additional data for these impairments will help in development of TMDLs and establish a baseline to which future data can be compared. Removal of agricultural uses and an increase in native vegetation should help improve water quality impaired by nonpoint sources.

NDEP Contact Information for this Fact Sheet:
Nevada Division of Environmental Protection
Bureau of Water Quality Planning
901 South Stewart Street, Suite 3001
Carson City, NV 89701
(775) 687-9444

March, 2021