



Oak Creek Total Maximum Daily Load



What is a TMDL?

Total Maximum Daily Load (TMDL) is a term used to describe the amount of a pollutant a stream or lake can receive and still meet water quality standards. A TMDL report identifies sources of pollution and potential reductions needed to attain standards. Point sources (such as municipal or industrial discharges) and nonpoint sources (such as runoff from urban or agricultural lands, and natural background) are considered in calculating the TMDL. The study must also account for seasonal variation and include a margin of safety.

Why do we prepare a TMDL Report?

The objective of the federal Clean Water Act is to restore and maintain the chemical, physical and biological integrity of the nation's waters. To fulfill this objective, states assess their surface waters and identify which waters do not meet state surface water quality standards. A TMDL must be completed for each pollutant "impairing" (or not meeting surface water quality standards) these water bodies.

TMDL Report and Implementation

The TMDL report will examine the source and the extent of the water quality impairment, providing the appropriate information necessary for planning implementation actions designed to achieve surface water

quality standards. Whereas the TMDL report establishes a pollution budget for an impaired surface water, the accompanying TMDL implementation plan provides an action plan outlining the affordable, efficient and effective alternatives to restore water quality. During both the TMDL report and implementation planning processes, the Arizona Department of Environmental Quality (ADEQ) involves stakeholders by coordinating public meetings and encouraging comments and input. Additionally, ADEQ will help stakeholders identify funding sources (such as Water Quality Improvement Grants) that can help pay for water quality improvements.

Background for Oak Creek's TMDL

The Oak Creek watershed is located in central Arizona in an area to the south of Flagstaff. It includes Oak Creek from its headwaters to its confluence with the Verde River and the portions of Spring Creek between Coffee Creek to Oak Creek. The current surface water quality standards developed for Oak Creek are intended to protect the stream's designated use for Full Body Contact (FBC).

Assessment of data sampled in Oak Creek has concluded that loadings of *Escherichia coli* (E.coli) in six reaches of the watershed exceed surface water quality standards. E. coli is a bacterial

indicator of fecal contamination in a waterbody and is correlated with increased risk of adverse human health conditions. There are two USGS streamflow gauges within the watershed project, USGS 09504500 (Oak Creek Near Cornville, AZ) and USGS 09504420 (Oak Creek Near Sedona, AZ). ADEQ will be using data from these gauges in conjunction with recent and historic sampling data to calculate pollutant concentrations during the different periods of flow in the area.

The five reaches spanning from the Headwaters to Spring Creek first appeared on Arizona's 303(d) List of Impaired Waters in 2006 and were included in a previous TMDL report for E. coli in Oak Creek from 2010. The sixth reach spanning from Spring Creek to the Verde River appeared more recently in 2016.

If you would like to learn more about the Oak Creek TMDL, please contact us at tmdl@azdeq.gov. The draft TMDL report will be issued for public comment in late spring 2024.

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