

Parker Canyon Lake Total Maximum Daily Load

WHAT IS A TOTAL MAXIMUM DAILY LOAD?

Total Maximum Daily Load (TMDL) is a term used to describe the amount of a pollutant that a stream or lake can receive and still meet water quality standards. A TMDL study 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?

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 waterbodies.

TMDL STUDY AND IMPLEMENTATION

The TMDL study will examine the source(s) 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 study 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 study 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.

FOR MORE INFORMATION

ADEQ encourages interest and involvement in the Parker Canyon Lake TMDL study. For more information on TMDL studies, please refer to the ADEQ Web site: www.azdeq.gov/environ/water/assessment/tmdl.html

PARKER CANYON LAKE TMDL BACKGROUND

Parker Canyon Lake is located in the Coronado National Forest, 68 miles south of Sonoita west of State Route 83. Mercury is a naturally occurring metallic element. Mercury has many everyday uses and applications ranging from the manufacture of industrial chemicals and electronic applications to historic dental uses. Although a useful substance, mercury is highly toxic and lasts a long time in the environment.

The primary way that humans are exposed to mercury is by the consumption of fish that have elevated concentrations of mercury in their tissue. The accumulation of mercury in fish is a well-recognized and documented environmental problem throughout the United States.

Water quality standards have been established in Arizona and around the country to protect both human health and aquatic and wildlife communities. Most mercury exceedances are found not in water samples but in fish tissue samples, posing a threat to people who consume these fish. This means that these waters are safe to swim in, but consumption of fish must be restricted or limited to specific guidelines.

Mercury levels detected within sampled fish tissue at Parker Canyon Lake have been identified by the United States Environmental Protection Agency (EPA) as high enough to threaten human health, exceeding the methylmercury fish tissue criteria. Exceedances of the standard, designed to protect the Fish Consumption designated use, prompted the United States Environmental Protection Agency (EPA) to place Parker Canyon Lake on Arizona's 2004 303(d) list of impaired waters. In October 2002, ADEQ and the Arizona Game & Fish Department issued Mercury Fish Consumption Advisory for all fish species in Parker Canyon Lake. Please refer to Fish Consumption Advisories Fact Sheet via ADEQ's Web site: www.azdeq.gov/environ/water/assessment/download/fish0305.pdf for more information.

ADEQ is required to analyze the mercury impairments associated with the lake in a TMDL study. The TMDL study intends to link the mercury inputs to the chemistry in the lake in order to set mercury targets for achieving the methylmercury fish tissue criteria. Implementation measures will be aimed at lowering the methylation of mercury in the lake system while lowering the incoming loads from the watershed.

ADEQ CONTACTS:

TMDL Program: (602) 771-4468

Parker Canyon TMDL: (602) 771-4541

TMDL Implementation: (602) 771-4243

Clean Lakes Program: (602) 771-4541

Water Quality Improvement Grant Program: (602) 771- 4635