

Information Sheet

Conneaut Lake TMDL for Nutrients

What is being proposed?

A TMDL plan to improve the quality of water in Conneaut Lake.

Who is proposing the plan? To whom? Why?

The Pennsylvania Department of Environmental Protection (DEP) is proposing to submit the plan to the United States Environmental Protection Agency (EPA) for review and approval as required by the federal regulation.

In 1995, EPA was sued for not developing TMDLs when Pennsylvania did not do so. PADEP has entered into an agreement with EPA to develop TMDLs for certain specified waters over the next several years. DEP developed this TMDL in compliance with the state/EPA agreement.

What is a TMDL?

A Total Maximum Daily Load (TMDL) sets a ceiling on the pollutant loads that can enter a waterbody so that the waterbody will meet water quality standards. The Clean Water Act requires states to list all waters that do not meet their water quality standards even after pollution controls required by law are in place. For these waters, the state must calculate how much of a substance can be put in the water without violating the standard, and then distribute that quantity to all the sources of the pollutant on that waterbody. A TMDL plan includes waste load allocations for point sources, load allocations for nonpoint sources and a margin of safety.

The Clean Water Act requires states to submit their TMDLs to EPA for approval. Also, if a state does not develop the TMDL, the Clean Water Act states that EPA must do so.

What is a water quality standard?

The Clean Water Act sets a national minimum goal that all waters be "fishable" and "swimmable." To support this goal, states must adopt water quality standards.

Water quality standards are state regulations which have two components. The first component is a designated use, such as "warm water fishes" or "recreation." States must assign a use, or several uses to each of their waters. The second component relates to the instream conditions necessary to protect the use(s). These conditions or "criteria" are physical, chemical or biological characteristics such as temperature and the minimum concentration of dissolved oxygen, and the maximum concentrations of toxic pollutants.

It is the combination of the "designated use" and the "criteria" to support the use that make up a water quality standard. If any criteria are being exceeded, the use is not being protected, and the water is said to be violating water quality standards.

What is the purpose of the plan?

Conneaut Lake is suffering impairment due to excess nutrient (specifically phosphorus) contributions. Localized suspended solids (erosion) problems are also noted during wet weather events. The plan includes a calculation of the loading for total phosphorus that will meet our water quality objectives, and describes known localized erosion problems.

Why did we choose Conneaut Lake?

In 1996, DEP listed Conneaut Lake under Section 303(d) of the Clean Water Act as impaired due to excess nutrient and suspended solids loadings.

What pollutants does this TMDL Address?

The proposed plan provides calculations of the lake's total capacity to accept Phosphorus Loadings. A TMDL is not established for Total Suspended Solids (sediments); instead known localized erosion problems requiring abatement are described.

Where do the pollutants come from?

About half of the phosphorus “pollution” in the Conneaut Lake watershed comes from Non-point Sources (NPS). About 40% of the phosphorus is internally regenerated. The NPS comes primarily from overland runoff.

How was the TMDL Developed?

DEP used a water quality model developed by scientists to determine the current in-lake phosphorus concentration and loading. Using the same model, we predicted the water quality benefit Conneaut Lake would see from reducing the annual phosphorus loading by 40%. A 40% reduction was chosen to effect a 10% change in the overall lake trophic state.

Pennsylvania is not establishing a TMDL for Suspended Solids to Conneaut Lake, largely because it is a natural lake not designed with a particular “fill rate” similar to a man-made lake or impoundment. Instead, Suspended Solids objectives are to identify and reduce localized erosion problems. Some erosion problems noted by residents include the formation of sediment bars and turbidity plumes into the lake during wet weather runoff events.

How much Pollution is too much?

The allowable amount of pollution in a waterbody varies depending on several conditions. TMDLs are set to meet water quality standards at the defined critical flow condition. For lakes, however, we are expressing the TMDL as a yearly loading. This accounts for all flow conditions.

For Conneaut Lake, we are establishing the phosphorus water quality objective as achieving an annual load reduction of 40%. This would be accomplished by a combination of both external and internal load reductions. An internal load reduction is appropriate because studies have shown about 40% of the annual phosphorus loading to Conneaut Lake comes from recycled phosphorus within the lake.

How will these limits be met?

There is a Phase I Clean Lakes Study that identifies remediation activities that are expected to meet the water quality objectives for phosphorus.

How can I get more information on the TMDL?

To request a copy of the full report, contact David Balog at 814-332-6942 during business hours of 8:30 a.m. to 4:30 p.m. or by writing to him at the Department of Environmental Protection, Northwest Regional Office, Water Management Program, 230 Chestnut Street, Meadville, PA 16335 or e-mail at Balog.David@dep.state.pa.us.

The TMDL can be accessed through the DEP Website (<http://www.dep.state.pa.us>) by typing "TMDL" in the direct link field, and clicking GO. Please note that attachments and appendices must be requested through paper mail. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users) and request that the call be relayed.

How can I comment on the proposal?

Written and Email comments will be accepted at the above addresses and must be received by February 13, 2001. Comments will not be accepted by facsimile or voice mail. The Department will consider all comments in developing the final TMDL, which will be submitted to the Environmental Protection Agency (EPA) for approval.