

year.

Link Between Numeric Target(s) and Pollutant(s) of concern

An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety that do not exceed the load capacity.

The numeric target is a Carlson's Trophic State Index of 70. The link between the numeric target and the phosphorus loading is the Eutromod Lake Model, which was calibrated to in-lake data. Examination of annual average TSI's indicated that phosphorus was likely the limiting pollutant causing the hypereutrophication. Conservative assumptions contribute to the margin of safety.

Source Analysis

Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, non point and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered.

The watershed has no significant point sources of phosphorus. The non-point sources include inflow from Upper Pine Lake, runoff, and recycling of bottom deposits. Natural background was not separated from the total non-point source load. All significant sources of phosphorus were considered.

Allocation

Submittal identifies appropriate wasteload allocations for point, and load allocations for nonpoint sources. If no point sources are present the wasteload allocation is zero. If no nonpoint sources are present, the load allocation is zero.

The load is specifically allocated to three non-point sources.

WLA Comment

The WLA is established as zero.

LA Comment

The total phosphorus LA is 2000 pounds per year, distributed among three sources: 1000 pounds per year from Pine Creek and Upper Pine Lake, 700 pounds per year from direct watershed runoff, and 300 pounds per year from recycled bottom deposits.

Margin of Safety

Submittal describes explicit and/or implicit margin of safety for each pollutant. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided.

The margin of safety is implicit, using conservative assumptions in the modeling.

Seasonal Variation and Critical Conditions

Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s).

The "critical condition" is the entire year.

Public Participation

Submittal describes public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s).

Public meetings were held on January 14, 2002 and February 4, 2002. Public Notice was between December 3 and December 14, 2002. Draft versions were available on the Internet, and copies were distributed to stakeholders. Public comment was received and incorporated as appropriate.

Monitoring Plan for TMDL(s) Under Phased Approach

The TMDL identifies the monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used).

This is a phased TMDL. The monitoring plan has 4 parts: trophic state study by ISU from 2000 to 2005, a biological assessment, additional watershed modeling, and continuous flow measurement from Upper Pine Lake.

Reasonable assurance

Reasonable assurance only applies when reduction in nonpoint source loading is required to meet the prescribed waste load allocations.

Not applicable.
