

Kalamazoo River TMDL

Total Maximum Daily Load (TMDL) is a mandate of the Federal Clean Water Act for all bodies with water quality impairments. The Michigan Department of Environmental Quality (MDEQ) is charged with ensuring that TMDL's are developed and implemented. A TMDL is the amount of a particular substance or pollutant that a water body can assimilate and still remain healthy, and an allocation of that amount to the pollutant's sources.

The Kalamazoo River Watershed drains over 2000 square miles of land in eight counties in southern Michigan. One of the water quality problems in the Kalamazoo River Watershed is the nutrient enrichment of Lake Allegan. Lake Allegan is an impoundment of the Kalamazoo River, therefore most of the water and pollutants flowing through the river and its tributaries reach the lake. This enrichment has resulted in algal blooms, low oxygen levels, poor water clarity and a fish community dominated by carp. Although a variety of factors can affect the conditions noted above, scientists know that phosphorous is usually the primary cause of eutrophication, or nutrient enrichment in lakes. For this reason, beginning in 1997, the MDEQ began a study of the Kalamazoo River/Lake Allegan Watershed. Phosphorus loads from all major tributaries and all major permitted industrial and municipal discharges (point sources) have been estimated. Industrial and municipal point source discharges account for approximately 35% of the total load from April through September. The remaining 65% is from stormwater runoff from roads, parking lots, lawns, farms and industrial & commercial sites; from stream bank erosion, poorly functioning septic systems, livestock, pets and from illicit discharges.

Water quality goals, based on a healthy lake, have been developed for Lake Allegan. The Kalamazoo River/Lake Allegan phosphorous TMDL was derived using 1998 data as the baseline. Because the symptoms and effects of nutrient enrichment primarily manifest themselves in the summer, the TMDL for Lake Allegan is seasonal (April through September). The allocations set forth in the TMDL require a 23% reduction in phosphorous loads from municipal and industrial point sources throughout the watershed in the later half of the summer. Also a 50% reduction in phosphorous loadings from nonpoint sources is the target from April through September. Changes in water quality indicators and all increases and decreases in phosphorus loadings to the watershed will be tracked in relation to 1998 levels.

The TMDL for Lake Allegan was approved by the United States Environmental Protection Agency in 2001.

For further information on the Kalamazoo River/Lake Allegan TMDL see the kalamazooriver.net website.