

State of Illinois
Pat Quinn, Governor

Illinois Environmental Protection Agency
Douglas P. Scott, Director



TMDL Development for Upper Fox River/Chain O' Lakes Watershed

Background

Over the last 30 years, waters in Illinois have been monitored for chemical, biological and physical conditions. In some cases, the conditions of those rivers and lakes fall short of the need to support basic water quality use goals. These waters are deemed impaired since they cannot meet use expectations set for them under state and federal law. When this happens Total Maximum Daily Load (TMDL) reports are developed for impaired waters to determine the maximum amount of a pollutant a water body can receive and still meet water quality standards and support its designated uses. Designated uses include aquatic life, public water supply, swimming, recreation, fish consumption, and aesthetic quality.

TMDLs are done in stages to allow for public involvement and input. TMDL development in Illinois begins with the collection data—water quality, point source discharge, precipitation, soils, geology, topography, and land use—within the specific watershed. All impaired water body segments within the watershed are identified, along with potential pollutants causing the impairment. Illinois EPA determines the tools necessary to develop the TMDL. In most cases, computer models are used to simulate natural settings and calculate pollutant loads. Along with data analysis, model recommendations are made in the first stage of the TMDL. This information is presented at the first public meeting.

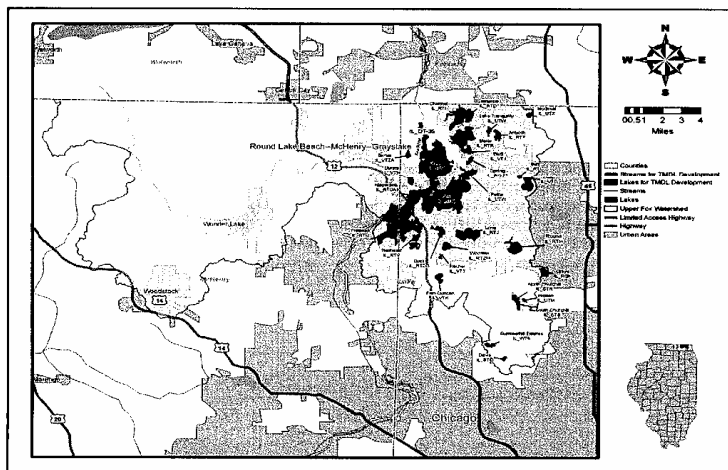
The appropriate model or models are selected based on the pollutants of concern, the amount of data available and the type of water body. In some cases, additional data needs to be collected before continuing. The model is used to determine how much a pollutant needs to be reduced in order for the water to be meeting its designated uses. An implementation plan is then developed for the watershed spelling out the actions necessary to achieve the goals. The plan can specify limits for point source dischargers and recommend best management practices (BMPs) for nonpoint sources. Another public meeting is held to discuss this plan and to involve the local community. Commitment to the implementation plan by the citizens who live and work in the watershed is essential to success in reducing the pollutant loads and improving water quality.

Waterbody Names and Impairments

Waterbody Name	Waterbody size (acres)	Impairment
Antioch Lake	88.0	Total Phosphorus
Bluff Lake	86.0	Total Phosphorus
Catherine Lake	164.7	Total Phosphorus
Channel Lake	337.0	Total Phosphorus
Davis Lake	36.0	Total Phosphorus
Deep Lake	225.5	Fecal Coliform
Dunns Lake	68.0	Total Phosphorus
Duck Lake	110.0	Total Phosphorus
Fish-Duncan Lake	96.0	Total Phosphorus
Fischer Lake	23.0	Total Phosphorus
Fox Lake	1881.1	Total Phosphorus
Fox River	4.9 (miles)	Fecal Coliform
Grass Lake	1,623.4	Total Phosphorus
Grays Lake	80.0	Total Phosphorus
Hidden Lake	19.0	pH, Dissolved Oxygen
Long Lake	393.0	Total Phosphorus
Marie Lake	516.0	Total Phosphorus

McGreal Lake	24.0	Total Phosphorus
Nippersink Lake	718.2	Total Phosphorus
North Churchill Lake	62.4	Total Phosphorus
Petite Lake	165.0	Total Phosphorus
Pistakee Lake	1,700.0	Total Phosphorus, Total Ammonia
Redhead Lake	50	Total Phosphorus
Round Lake	228.6	Total Phosphorus
South Churchill Lake	24.8	Total Phosphorus
Spring Lake	42.9	Total Phosphorus
Summerhill Lake	49.9	Total Phosphorus
Sun Lake	24.0	Total Phosphorus
Lake Tranquility	26.0	Total Phosphorus
Turner Lake	43.0	Total Phosphorus
Wooster Lake	98.5	Total Phosphorus

Watershed Map



Watershed Information

The Upper Fox River/Chain O' Lakes watershed drains 362 square miles in Lake and McHenry Counties.

Much of the Upper Fox River/Chain O' Lakes watershed was forested prior to 1840. These forests were clear cut and converted to row crop agriculture. The progression of land use changes from agriculture to residential and urban use has increased with time. Although agricultural areas still dominate the watershed (40 percent), urban use is a close second, occupying 35 percent of the total area. Much of the urban land is located near the Chain O' Lakes. Forested land accounts for 10 percent.

Surface water and wetlands comprise 8 percent and 7 percent of the watershed, respectively.

Potential Pollutant Sources

There are point source discharges (e.g. municipal or industrial wastewater treatment plant) in this watershed. Potential nonpoint sources include agriculture and crop-related sources, land disposal, on-site wastewater systems, bank or shoreline modification/destabilization, habitat modification, urban runoff, and waterfowl.

For more information on this specific TMDL or the TMDL program, visit the Illinois EPA website at <http://www.epa.state.il.us/water/tmdl/>.

For information on the assessment of Illinois waters, refer to the Integrated Report and 303(d) List at <http://www.epa.state.il.us/water/tmdl/303d-list.html>.

If you have any questions, please contact Amy Walkenbach by phone at 217/782-3362 or email at [Amy.Walkenbach@illinois.gov](mailto:Walkenbach@illinois.gov).

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