

LOOKING BEYOND THE LAKESHORE: WATERSHED MANAGEMENT

(fact sheet #16 of the Shoreland Management and Lake Classification Series)



Watershed management is critical for lake protection for several reasons:

- ❖ **Surface water runoff draining from the land surrounding the lake and groundwater flows are likely to enter the lake and affect water quality.**
- ❖ **A lake's water quality will ultimately reflect poor watershed development.**

THE WATERSHED

A watershed is the entire land area or basin that contributes runoff to a body of water. Consideration of the watershed is important for lake protection because the geology, size and slope of the drainage basin, types of land use and amount of impervious surface area within a lake's watershed strongly influences the water quality and ecology of the receiving lake system. All water is essentially linked. Land-based activity occurring in one part of the watershed will inevitably affect water quality downstream. Given that all water is connected within the boundaries of a watershed, it follows that effective watershed management entails recognizing the various sources of pollution within the watershed and addressing them. This means that a community may need to adopt a "multi-tiered" approach consisting of several management actions such as construction site erosion controls, a program of information and education, initiatives to reduce stormwater discharge, and best management practices for lakefront property owners. An effective program will also entail working cooperatively across political jurisdictions; watersheds follow natural boundaries, not political ones.

STATE INITIATIVES

That urban and rural land uses such as agriculture can adversely affect surface waters and groundwater in the watershed was recognized through Wisconsin's Priority Watershed Program. Based on how a given watershed is ranked given certain criteria (administrative rule NR 120), communities can be eligible to receive funding to install best management practices (BMP's) and to put into effect other measures designed to prevent additional pollutants from entering the waterways. Some of the goals of the Priority Watershed Program include: establishment of water quality objectives, identification of nonpoint pollution sources and best management practices (BMP's) for landowners and municipalities, and monitoring of water quality. Specific management practices can include shoreline buffer restoration, streambank stabilization and wetland restoration.

Many federal, state and local agencies have become involved in some aspect of watershed management over the years. Some of these organizations include the Coastal Zone Management Agency, the Wisconsin Department of Agriculture, Trade and Consumer Protection and county land and water conservation departments.

INDIVIDUAL AND COMMUNITY EFFORTS

Watershed management requires one to think beyond the immediate backyard or lake shore to consider a larger water dynamic consisting of stream flow, groundwater flow and surface water runoff. Effective watershed management, then, should include not only measures to control polluted runoff, but also shoreland zoning, pier and surface use management and protection of ecologically critical areas.

Some communities have taken an active role in lake protection and watershed management. The case study below illustrates how individuals and lake groups can work cooperatively with local units of government, state agencies and other entities to address lake and watershed issues at several different levels.

Case Study: Community Initiatives in Green Lake County

Several lake groups around Big Green Lake in Green Lake County (Green Lake Preservation Society, Green Lake Association, Big Green Lake Volunteers) have worked closely with the WDNR (Wisconsin Department of Natural Resources), USGS (United States Geological Survey), the Green Lake Sanitary District and other local units of government over the years to implement various lake and watershed protection projects. Below is a listing of some of the more recent initiatives in this region:

- ❖ The lake groups surrounding Big Green Lake pride themselves on their involvement in local planning issues. Members are familiar with county and local government planning procedure, lake and watershed issues and the mechanics of effective citizen participation. Members have been instrumental in passing shoreland zoning amendments and surface use ordinances and have been involved in the review of proposed shoreland developments and pier expansion projects. A county-wide comprehensive planning effort was spear-headed by Big Green Lake groups.
- ❖ Property owner's identification of problem areas for nonpoint source pollution led to the construction of detention basins and the revegetation of certain critical areas. The Green Lake Conservancy, a local land trust, in association with the Green Lake Sanitary District and State of Wisconsin have recently purchased several ecologically valuable shoreland-wetland parcels. Plans to acquire additional properties are being developed.
- ❖ Lake planning grants have funded comprehensive monitoring of Big Green Lake with strategic placement of automatic samplers and gauging stations. Data obtained on nutrient loading from the surrounding uplands will be critical in the development of a management plan for Big Green Lake and the surrounding watershed. This initiative is being driven by the Green Lake Watershed Alliance, a cooperative effort between the cities of Ripon and Green Lake, Fox-Wolf Basin 2000, the Green Lake Sanitary District and Green Lake and Fond du lac Counties.
- ❖ Regular public educational forums have been organized by the Green Lake Preservation Society on topics of watershed-scale significance. The Partners with Education Program engages four area high schools and Ripon College in conducting lake and watershed based research. A core team of trained individuals from the Green Lake Association and the Green Lake Sanitary District visit individual homeowners and provide information on lakefront stewardship.

Additional Sources of Assistance:

Nonpoint Source Water Pollution Abatement Program Implementation Handbook, 1996. Wisconsin Department of Natural Resources .

Dresen, M., Korth, R. 1994. Life on the Edge, Wisconsin Lakes Partnership, University of Wisconsin-Extension, Stevens Point.

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For more information, contact your regional Department of Natural Resources lake coordinator, the Wisconsin Association of Lakes [800/542-5253] or UWEX/UW-Stevens Point [715/346-4744].