



LAKE TIDES

A newsletter for people interested in Wisconsin lakes

Volume 16 No. 2

Spring 1991

Minocqua & Kawaguesaga: Priority Lakes

by Tom Blake, Rhinelander DNR

Minocqua and Kawaguesaga Lakes in Oneida county and Lake Tomah in Monroe County hold the distinction of being the first lakes designated as Priority Lake Projects. A change in terminology has added lakes to the list for the Wisconsin Non-point Source (NPS) Water Pollution Abatement Program.

The Minocqua and Kawaguesaga lakes cover about 2072 acres. The land use in the watershed is mainly forested lakeside homesites, urbanized residential, and commercial areas. The need to protect and preserve the water resources of the area was identified as a community goal in the Town of Minocqua's draft comprehensive development plan (1989).

The Department of Natural Resources will use land use data and water quality computer models to determine the magnitude of urban nonpoint sources of pollution entering these lakes, particularly stormwater. Urban stormwater can contain fertilizers, pesticides, or other harmful chemicals from lawns, construction sites, and lakeshore developments. These contaminants can alter a lake's water quality and aquatic community.

Construction sites will be visited to assess erosion. Adoption of a construction site erosion control ordinance may be considered by the town or county to implement the project and on beyond the planning phase.

Various other sources of NPS pollution will be evaluated. Landowner surveys will be used to assess road salt usage, waste oil disposal, car washing, leaf collection/disposal, lawn care management including commercial lawn care applicators, and street sweeping.

The DNR will increase its lake monitoring efforts to fully understand the water quality dynamics and use this information to set project objectives. Laboratory analysis of private well water from homes and cottages around the lake will be offered to those interested. These data will allow an evaluation of what impact NPS or septic system drain fields may have on the groundwater resource.

Local input will play an important role in the information and education facet of the program. Newsletters, demonstration projects, displays, and signs will target both residents and tourists. This education effort may continue until the year 2000.

Implementation of the project plan will begin in 1992. Voluntary cost-sharing opportunities will be eligible to landowners and local government within the project area. Techniques to reduce the flow of pollutants into the lake can include an increase in the frequency of street sweeping, lakeshore rip-rap, the development of grass infiltration areas for intercepting stormwater, and planting lakeshore buffer strips.

A local advisory committee was formed to advise the project team and governmental units in developing and promoting the priority lake plan. The foresight of those involved in this project will help guide a clean and healthy lake into the twentieth century.

What Are PRIORITY WATERSHEDS

The Wisconsin Non-point Source (NPS) Water Pollution Abatement Program was created in 1978 by the Wisconsin Legislature and Governor. They recognized the extensive water quality threats and problems in Wisconsin's lakes, streams, and groundwater that are not caused by point sources (direct discharge from pipes, etc). The program is administered by the Department of Natural Resources (DNR) with assistance from the Department of Agriculture, Trade, and Consumer Protection (DATCP).

Watersheds are like the skin of an onion, each layer covering a smaller one. You may live in a sub-watershed which is part of a watershed which is part of the Wisconsin River Basin which is part of the Mississippi Basin. There are about 330 watersheds in Wisconsin and, presently, 51 are part of the priority watershed program. The annual program budget is over \$6 million.

Projects are ranked by a complicated method that considers many factors. They can include the watershed's sensitivity to NPS pollution, the possibilities of controlling NPS, and the chances of protecting against NPS. An advisory committee made up of a broad spectrum of individuals from the project area who aid in ranking. The more

information available on a lake in a given watershed, the greater the chances of being selected. Therefore, the new Planning Grants provide an golden opportunity for lakes to gather that needed information.

Each project is divided into two phases. In the first phase--the project development phase--a priority watershed plan is developed jointly by DNR, DATCP, and local units of government. The purpose of this plan is to guide the implementation phase of the project toward achieving the water quality needs.

The implementation phase normally takes eight years. During the first three years, eligible landowners may sign cost-share agreements with local units of government; participation is voluntary. Municipalities are also eligible to enter into agreements. Agreements must contain the "best management practices" needed to control the nonpoint sources that have been identified as critical, and they must be maintained for 10 years. Cost-shared funds can range up to 90% and are available to assist landowners as well as local units of government. Assistance is also provided by the University of Wisconsin-Extension and the Soil Conservation Service.

New Faces

New Lake Management Staff

Laura Herman joins the North Central District DNR staff in Rhinelander as a Lakes Program Water Quality Biologist. Previously, Laura worked with the Lake Michigan DNR District as the non-point source coordinator.

New Lake Organizations

The Wisconsin Association of Lake Districts announces recently-formed districts at the following lakes:

Voltz, Hooker, North, Ripley, Trego, and Eagle Spring.

The Tainter-Menomin Lake Improvement Association was also formed in 1990.

Let Lake Tides know if you have a new district or association! We'll be pleased to publish the news.

Oops!

Corrections to the books listed in the Winter 1991 Eco-Notes:

Crayfishes and Shrimp of *Wisconsin* by H.H. Hobbs III and J. Jass.

An Illustrated Key to the Freshwater Mussels of *Wisconsin* by E.M. Stern.

LoonWatch: Loons, Lakes, and People

by Terry Daulton Dunn

One of the most striking characteristics of northern lakes in the winter is the enveloping silence that settles over the landscape as the ice thickens and snow piles deep. In contrast, the spring brings a crescendo of natural music. The prelude is the soft swish and crackle of spring ice swelling into the chorus of spring peepers, wood frogs, and Canada geese overhead. The virtuoso of spring music is undoubtedly the common loon, whose soulful wails, tremolos, and yodels form the melody of lake music. For many Wisconsin lake residents and visitors, the calls of the loon are an essential part of the Northwoods experience, and a part they are willing to invest extensive time and energy to protect.

The substantial commitment and concern for loons by lake residents forms the backbone of LoonWatch, a grassroots education and research program of the Sigurd Olson Environmental Institute of Northland College in Ashland. LoonWatch was established in 1971 at a time when there were strong concerns that loon populations in Wisconsin were declining. Currently, LoonWatch has a membership of about 1700 and an active corps of about 750 "loon rangers" who work to protect and preserve loons on lakes throughout Wisconsin and Minnesota.

Loon rangers perform a number of functions, from giving educational presentations for lake organizations, clubs, and school groups, to collecting data on loons and actually contacting lake users who are potentially threatening to loons. Loon rangers also participate in a long-term population monitoring program. The 1990 Wisconsin Loon Survey data shows the loon population for the state at about 2,838 compared to 2,829 in 1985. Loon rangers are assisting the Wisconsin DNR with a study examining the effects of high mercury levels in lakes on loon productivity.

As human activities on lakes increase, there is a growing need for education and management for sensitive species like the common loon. Loons are an excellent indicator species for aquatic health and have specific habitat needs. In particular, they need a healthy fish

population, clean water, and nesting areas protected from human disturbance. While loons and people can share the same lakes, lake users must be aware of how their behavior affects loons and other wildlife species. Wisconsin's lake management organizations can play an important role in this education process.

Very soon, loons will be migrating north to their nesting lakes in Wisconsin, and loon enthusiasts will be anticipating their arrival. If you or your lake organization would like to become involved in LoonWatch or if you would like to schedule an educational program, please contact Terry Dunn at the Sigurd Olson Environmental Institute (715/682-1223).

Sunken Treasure--A Theft of Time

by Robert Korth

The title got your attention, didn't it? The mere whisper of "sunken treasure" can raise many an eyebrow. Tales of heroes and fools, of lost fortunes; from ancient people to Al Capone, these stories capture our attention.

From the mists of Wisconsin's past to the realities of the present, our roots grew near the water. The unique properties of water have helped the shores of Wisconsin's lakes and rivers remain the unrivaled choice for residency. The campsites of ancient peoples have become today's cities. In days gone by, the canoe was the family car and rivers and lakes were the highways.

When most of us consider Wisconsin's lakes, we ponder where our lakes are going physically. We give little thought to where they have been culturally. However there is another group that looks at Wisconsin's lakes from the cultural perspective. Wisconsin's Underwater Archeology Program, headed by David Cooper, the state's underwater archeologist, is a group of professionals and volunteers who are interested in studying and preserving our Submerged Cultural Resources.

So far, the bulk of the program's attention has gone into surveys and mapping of wreck

sites on Lakes Superior and Michigan. The bottom of Wisconsin's Great Lakes has become the "final port of call" for thousands of ships and their hapless crews.

Not all the work has been on the Great Lakes; the inland lakes and rivers of Wisconsin also contain a rich history. Rock Lake in southern Wisconsin has long been rumored as a Aztec temple site. Recently, volunteer divers filmed and mapped the submerged rock formations there--they proved to be natural, not man-made.

Divers in Fence Lake, Vilas County, discovered a sunken 24-foot Chippewa canoe. It had been carrying clay for the manufacture of pottery. When the clay was removed, the canoe floated back to the surface. The canoe, made from white pine, had a turtle's head carved on the bow. The vessel contained tools, and was dated at about 220 years old. It has been preserved and is on display on the Lac Du Flambeau reservation.

Wisconsin's lakes and rivers are virtual storehouses of our historical past. Almost anything you can imagine can be found on Wisconsin's bottom lands: coins, arrowheads, clay pipes, 18th century trading goods, lumbering tools, crocks, and bottles. The cold water and sediments help to keep materials in remarkable condition. The vessel Alvin Clark rested on the bottom of Green Bay for 105 years. On board was a crock of pot cheese still edible after a century underwater.

These remnants of our past are under threat. The increasing popularity of SCUBA diving has become a two edged sword. SCUBA allows individuals to explore and study underwater sites, but increasingly sites are being looted and destroyed by SCUBA diving souvenir hunters and vandals. Those involved in the Underwater Archeology Program are trying to document sites before they disappear. They are working on plans to develop underwater preserves, educational programs, and state-wide volunteer groups interested in studying submerged cultural resources. If you know of any possible underwater sites on your lake or river or would like to become involved in archeological research please contact Robert Korth, UWEX, 715-346-2192; or David Cooper, State Historical Society, 608-262-0160.

Commissioners Corner

Lake district treasurers, like those of other units of government, must immediately deposit tax revenues, special charges, special assessments, and other receipts in a public depository. That depository must be named by resolution of the Board of Commissioners, with a copy sent to the Commissioner of Banking, 131 W. Wilson, Suite 800, Madison WI 53703. A sample resolution under Sec. 34.05 can be obtained from Lowell Klessig, c/o Lake Tides.

The depository may be a state bank, a saving and trust company, a mutual savings bank, or a national bank, but not be a saving and loan association. However, for investment purposes, certificates of deposit may be taken out at any bank, a saving and trust company, or a saving and loan association (Sec. 219.05(1)) or the state-run local government investment fund. This latter fund is operated under Chapter 25 by the State Investment Board, 121 E. Wilson St., Madison WI 53703.

As a general principal, funds should be invested until they are needed--usually within a year of receipt. If funds are held for a longer period, the purpose of those early collections should be clearly articulated in an annual meeting decision and reinforced with a board of commissioners resolution stating that the purpose of the fund is to repair the dam, dredge the channel, replace the weed harvester, or some other specific project.

A small allocation for contingency purposes is part of good management. However, it is illegal to collect large amounts of tax funds without a designated purpose.

WISCONSIN LAKES CONVENTION

APRIL 5-6, 1991

HOLIDAY INN, STEVENS POINT

Friday, April 5 Registration begins at 9:00 a.m. Don't miss the many professional exhibits and the second year of the citizen groups' poster display!

10 am Preconvention Seminars

- 1) Basic Limnology: The ABCs of Lake Ecology and Watershed Management
- 2) Current Legislative Initiatives
 - Non-point Pollution Control
 - Wetland Protection
 - Boating Regulations

1 pm Call to Order

Welcome by State Senator David Helbach

"Inland Lakes: The Federal Role" US Senator Herb Kohl

- 1:30 Keynote Address** "Role of Basic and Applied Science in Lake Management"
Garth Redfield, Editor, Lake and Reservoir Management

- 2:00 Impact of Agriculture on Lakes** (panel discussion)

- 3:30 Community Report** - "Roche a Cri"

- 3:50 Riled Waters:** Conflicts between Jet Skiing, Boating, Skiing, Fishing Contests, and Silent Water Sports (panel discussion)

Evening attractions include cocktails in the Exhibit Rooms, a special Slide Presentation by Robert Korth, and brief presentations on Lake Management Services by exhibitors. We'll wind up with an Open Forum of questions and discussion.



WISCONSIN LAKES CONVENTION

Saturday, April 6 Exhibits and Posters continue until noon. WALD and WFL will meet in the morning.

Concurrent Workshop Series will run at 8:30, 9:45, and 11, and cover a multitude of topics:

Low Technology Solutions to Near-shore Weeds
Zebra Mussel--A New Freshwater Exotic
Self-help Monitoring--results of pilot expansion
Lake Planning Grants
Leadership Training for Lake District Officers
Leadership Training for Lake Association Officers
Permits for Lakeside Activities and other
Natural Resource Information
Fish Printing (for the young at heart and
young of years) --bring T-shirt

Local Boating Ordinance Development
Non-point Source Pollution
Conducting Surveys of Lake Property
Owners
Fish Management--New Directions
LoonWatch--Get Involved
Influencing Local Officials
Natural Shoreland Protection and
Restoration
Wetlands: Choosing Management Tools

The **Saturday Luncheon** will feature noteworthy highlights:

Greetings from the North American Lake Management Society by Jon Simpson
Stewardship Awards for Groups and Individuals
Ecological Entertainment "Dr. Avian Guano" by Denny Olson

CLIP AND SEND REGISTRATION FORM by MARCH 22!!

Name _____

Address _____

Lake _____

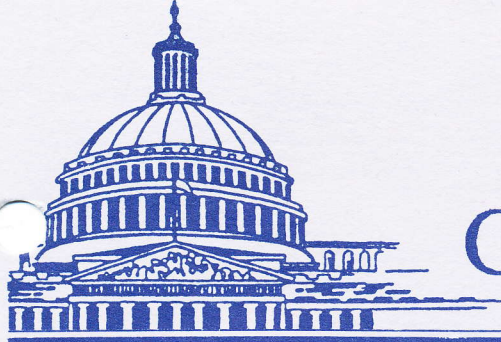
County _____

Registration fee of \$28 per person covers materials, breaks, and Saturday lunch.

Send check payable to UW-EXTENSION, to:

Diane Lueck, UWEX
College of Natural Resources
University of Wisconsin
Stevens Point WI 54481

The Holiday Inn is holding a block of rooms, but they're going fast! Call 715/341-1340 and ask for the Lakes Convention rates.



Capitol Report



● **President Bush** signed into law a new Farm Bill that strengthened the environmental aspects of the 1985 bill. Wisconsin's Senator Bob Kasten helped author provisions that will increase penalties for the illegal conversion of wetlands and will provide new incentives for the long-term protection of fragile resources. Landowners will now be eligible to preserve sensitive lands through the existing Conservation Reserve Program (CRP). New lands eligible include lands having potential to contaminate groundwater, endangered species habitat, marginal pasturelands converted to wetlands or established as wildlife habitat prior to enactment of the law, croplands that contribute to degradation of water quality, and permanent grass waterways established and maintained as part of an approved conservation plan. Keep in touch with your local county land conservationist who will be able to provide additional information as the law is implemented.

● **EPA** has completed rules for the management of stormwater runoff. The rules will require that Wisconsin industries and the Cities of Madison and Milwaukee monitor existing stormwater outfalls and develop plans for control. The rule did not provide specific guidance on the control of stormwater runoff from new developments to sensitive waterbodies such as lakes, although such controls are possible under the Clean Water Act.

● **The Natural Resources Board** directed DNR staff to consult with affected waterfront property owners and return a revised rule on boat shelters and shoreline structures to the Board for reconsideration. If approved by the Board and then by the Legislature, the rule could be effective in the summer of 1991. For copies of the proposed rule, contact the DNR Bureau of Water Regulation, PO Box 7921, Madison WI 53707 (608/266-8030).

● **Two Legislative Council** special committees are completing a series of proposals on surface water and nonpoint source pollution.

- Senator Chuck Chvala's nonpoint source committee is discussing the possibility of requiring the mandatory adoption by counties of certain in-lake restoration activities in watersheds where nonpoint source problems have been corrected.
- Rep. Spencer Black's committee is considering expansion of existing shoreland zoning rules to wetlands, new river management proposals for both rural and urban waterways, and a comprehensive set of new boating safety regulations.

● **The Attorney General** recently issued an opinion regarding the constitutionality of AB705, adopted in 1990. The opinion found that lake districts and municipalities may charge fees for the operation of boating safety patrols and use of public access facilities. It found that charging fees for other activities such as dredging, weed harvesting, and shoreline maintenance is not constitutional. Reasonable fees may also be charged for using launching and parking facilities.



Eco-Notes



Trim Your Water Body's Diet

by Sterling Strathe

Our lakes are similar to our bodies. The health and fitness of each is dependent on what we subject them to. Just as our bodies take in nourishment, lakes ingest materials from the areas around them. Each year, surface waters are inadvertently fed by farmers, construction workers, and lake property owners. Education and regulation of these aforementioned dieticians is the first step to keeping lakes fit. By reducing the levels of "carcinogens and cholesterol" in your lake's diet (pesticides and fertilizers), your lake will live a long, healthy life for all to enjoy.

Lawn Chemicals...Keeping Them Out of Your Lake's Diet

There is a lot of confusion, misinformation, and lack of education concerning lawn chemicals. Product labels are often hard to understand. As the applicator, you can tell how much chemical you will need for the area, but applying it at the appropriate rate can be a problem. Application accuracy can be virtually impossible with the methods and equipment available to the general home owner. A recent study showed that lawns and gardens received more than twice as much pesticide per acre and three times more fertilizer per acre than the average farm crop acreage. Some of these materials may find their way into your lake's next meal.

Most of the documented reports of contaminated lakes, streams, and groundwater have resulted from agricultural applications. But what about homeowner usage? A recent study at Penn State looked at surface and ground water contamination by fertilizers and pesticides. No surface or groundwater contamination occurred in the study as long as recommended rates and guidelines were followed. Unfortunately, applying at proper

rates can be a problem. But the homeowner does have choices.

First, the homeowner needs to justify the usage of the product. Does the property need fertilizer? A soil test should be taken to determine the actual fertility needs. Do you need a herbicide? A survey of lawn weeds is essential. Is an insecticide needed? Probably not, unless an infestation has been documented as reducing the quality of turf. Answering these questions may protect your lake by preventing unneeded components to its' diet.

If your lawn truly needs fertilizer or a chemical treatment, you must decide whether to apply these products yourself or hire a lawn care professional. The professional service has equipment that can be calibrated to insure accuracy and has qualified personnel to run them. However, the cost of such services may have some bearing on your decision. If you are a "do it yourselfer," and 80% of all home owners are, you should read materials available on pesticide and fertilizer application. Your county Extension office, local lawn and garden store, and your local library should have information on proper application. Buy or rent good equipment that allows for proper calibration and application of materials.

Some general rules for helping keep home pesticides out of your lake's diet include:

- promptly cleaning up any spilled materials and disposing of them properly,
- not applying fertilizer to frozen ground,
- leaving lawn clippings on the lawn,
- keep lawn clippings from blowing into the lake or onto driveway, and
- prevent fertilizers and chemicals from washing into the lake.

Lakeshore owners can help safeguard the lake by landscaping in a way that directs runoff water into the soil rather than into the lake. Constructing a small berm along the lakeshore will hold back runoff and allow

infiltration. Leaving a strip of natural grasses and plants along the lake will increase absorption of these products, thereby keeping them out of your lake's diet.

Construction Erosion...Another Source of Lake Indigestion

Developers and owners of shoreland property may be causing millions of dollars worth of damage to Wisconsin's streams and lakes. Construction activity can be a significant source of eroded soil material. Inadvertently, careless or thoughtless construction practices are adding to the diets of the state's waters and degrading their quality.

Sediments destroy spawning areas and diminish habitat for fish. Soil particles contain nutrients which stimulate undesirable algae growth. This growth adversely affects sport fishing, boating, and swimming. Eroded soil is seldom "clean dirt," but often a carrier of pesticides, toxic metals, fertilizers, and bacteria.

Fortunately, there are some effective means to control erosion caused by construction activity. The Wisconsin Construction Site Best Management Practice Handbook published by the Wisconsin DNR gives detailed information on erosion control measures. As a result of state legislative action in 1984, counties, cities, and villages were given specific but voluntary authority to enact construction erosion control and storm water management ordinances. In response to an interest in voluntary ordinance adoption by some local governments, a Model Ordinance for Construction Site Erosion Control was jointly prepared by the League of Wisconsin Municipalities and the Wisconsin DNR. The handbook, the model ordinance, and a slide show and video covering the content of each of these publications is available through County UWEX offices and district DNR offices.

Most of us are aware of the effects nutrition has on general health; similarly, we need to be cognizant of how we contribute to our lake's diet. The "fatty" fertilizers, "extra helpings" of sediments, and "narcotic" chemicals that may run off of your property can upset the balance of your water body. Weed

harvesting and dredging only treat ailing lake symptoms. Careful, common sense management of the areas around the lake can prevent unhealthy situations. As we enter the "wellness" decade of the '90s, remember how your lake's health compares to your own.

COMMON SENSE EROSION CONTROL RULES

Construction site erosion can be controlled by using a few common sense rules:

- Limit the amount of exposed land by staging construction activity or by leaving some area undisturbed.
- Limit the amount of time the soil will be unprotected, and revegetate the site immediately after construction.
- Do not disturb any area until work on that location is ready to begin.
- Divert sediment-free runoff water away from areas where the soil surface is bare.
- Reduce runoff velocities by controlling the length and steepness of slopes.
- Use basins to contain sediment-enriched runoff from disturbed areas; encourage settling of sediments in basins.
- Adapt the construction project to the natural topographic and drainage conditions--do not extensively modify the topography to suit the project.
- Install recommended erosion control practices during construction.

Sterling Strathe is a graduate student in natural resources at UW-Stevens Point.

Clean the Green

by Alice Clausing

Wisconsin's 1991 Legislative Session will be addressing an important environmental issue to limit point source phosphorus discharges. This is a beginning step in cleaning up those Wisconsin lakes that are experiencing some decline in water quality from point sources of pollution.

During the warm weather months, blue-green algae growth is stimulated by an over-abundance of phosphorus. The algae grows into a green slime that can give lakes a cesspool-like stench. Degraded water quality can make living in a lake community a liability.

Currently, DNR limits municipal wastewater effluent discharged to the Great Lakes and

the Fox/Illinois River. Wastewater treatment plants serving a population of 2,500 or having equivalent phosphorus loading must meet a one milligram per liter (1 mg/L) effluent limitation or remove 85 percent of incoming phosphorus. Industries and sewage treatment plants in the rest of the state have no limitations on phosphorus.

Wisconsin's present phosphorus-related programs include voluntary nonpoint source control efforts, and a ban on the sale (not use) of some types of phosphorus laundry detergents.

Rep. Al Baldus (D-Menomonie) and Sen. Bill Berndt (R-River Falls), at the urging of the Tainter/Menomine Lake Improvement Association, will introduce companion bills in the

State Assembly and Senate to limit phosphorus discharges from point sources into Wisconsin waterways. Last summer, the Assembly Tourism Committee Hearing in Menomonie gave unanimous support to phosphorus standards.

Residents and visitors to Wisconsin lakes and waterways should enjoy the same water quality protection that applies to other parts of the state.

For more information on the campaign to reduce phosphorus discharges, contact Alice Clausen, Tainter/Menomine Lake Improvement Association, Rt. 2 Box 212, Colfax WI 54730 (715-962-3663).

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