



LAKE TIDES

Winter 1987
Vol. 12, No. 1

Community Focus: Lac LaBelle

by Lisa Conley

Lac LaBelle is a natural lake — born in the meltwaters of the last glacier, and last in the chain of lakes along the Oconomowoc River. Its principal recreational use is sailing, and few scow regattas have been held in the Midwest that did not see members of the Lac LaBelle Yacht Club vying for the top positions.

Lac LaBelle is fairly large (1100 acres) and shallow (averaging 11 feet deep) and is located between Milwaukee and Madison. Its watershed of 55,000 acres includes both rich and rolling agricultural land and the City of Oconomowoc; we combine the pleasures of both rural and urban life, with their respective effects on water quality.

The last lake in a chain should be the cleanest, since the other lakes serve as upstream settling ponds. Lac LaBelle, however, has the worst water quality of the chain, indicating problems close to home. In 1983, the Lac LaBelle Management District was formed to improve the situation.

Gathering Information

The problems most apparent to district residents were the decline in water quality and the increase in the carp population. We learned that the biological imbalances in the lake could be as much a cause of the lake's woes as any outside pollution source.

We were very fortunate to have a water quality management plan already completed under the auspices of DNR and Southeastern Wisconsin Regional Planning Commission. We began a water quality monitoring program with the US Geological Survey. We commissioned an aquatic plant survey and a scuba survey to look for fish habitat. The County Health Department conducted a sanitary survey to look for septic problems. We sponsored the UW-Extension well water testing program. The DNR district fish manager conducted fish and zooplankton surveys.

Our watershed problems were detailed through the Oconomowoc River Priority Watershed Program, which we helped to establish here.

Carp Control

Efforts to control carp through commercial fishing resulted in frustration. The DNR then agreed to treat selected areas of the lake with rotenone when spawning carp concentrations were high. Last spring, we removed 67,000 lbs of carp and less than 5% of the lake was treated. Carp control plans include another treatment next spring, and an electric fish barrier downstream.

Keeping the carp numbers down is the next project. We hope a strong predator population of game and pan fish can accomplish this and restore balance to the lake. We have just completed building a walleye spawning reef and the DNR has plans to install several hundred half-log bass shelters next spring. We have established voluntary size limits for game fish and the DNR is stocking the lake.

Wrong Weeds

While the carp were taking over the fish population, Eurasian milfoil was taking over the aquatic plant community, crowding out a diversity of native plants and creating weedbeds thick enough to stop a sailboat cold. In hopes of further improving the lake habitat, we have agreed to cost-share a study of our plant community. During a two-year research period, a plan will be developed to restore some community diversity and provide better feeding and shelter opportunities for the game fish.

Watershed Protection

Project funding has started for the Oconomowoc River Priority Watershed. We have an agreement with a local farmer to establish a 100-foot buffer and a sediment fence along a creek that passes through his cornfield on its way to the lake. Some erodible land in the watershed has been put in the Conservation Reserve program.

The City of Oconomowoc has received funding for a detailed study of critical sub-basins. Hopefully this will result in some practical solutions to the stormwater problem, and better planning for future development.

We are delighted that two sanitary districts have formed and are making serious progress towards around-the-lake sewers.

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Lakes Management Deserves National Attention

by Bruce Baker

In early November, I was asked to respond to a paper presented at the North American Lake Management Society conference in Portland, Oregon, which proposed governmental standards as a means of protecting lakes nationwide. The gist of my remarks are paraphrased below.

As a state water resources manager, I'd be the first to say lake management hasn't received the attention it deserves.

Beginning in the early 70s, industries which discharged waste through pipes were a visible, obvious target. While there's no question in my mind that the point source programs we developed in the Clean Water Act back in 1972 did a necessary and successful job of controlling pipeline discharges, our cleanup efforts largely ignored the need for animal waste control, erosion control, stormwater control, and effective lake programs.

There's no point in fixing blame. Hindsight gives us the wisdom and energy to push lake management higher on today's environmental priorities.

I was asked to respond to a technical paper which proposed federal and statewide water quality standards as a basis for future lake management. The paper provided compelling arguments for setting lake water quality standards. I strongly agree that we need them.

Setting standards for lake quality poses technical difficulties, just as it did when we started our programs to protect streams and rivers. I firmly believe that technical problems largely solve themselves. We can usually get scientists to agree that certain physical measurements, like dissolved oxygen and lake clarity, are important to all lakes. That is the easy part of our task. Just like taking your kid's temperature is easy, deciding if he or she is sick is another matter.

Numerical standards, whether it be phosphorus concentrations, oxygen, or clarity, should be supplemented by narrative standards that address the social issues affecting lakes: zoning shoreline development to limit growth where resources can't accommodate more people, requiring adequate stormwater and sewage treatment near shorelines, and attaining consensus to maintain lake water quality.

We will need national leadership to establish these goals and provide technical expertise to set uniform lake standards nationwide. These criteria will then form the basis of state programs.

The paper I reviewed proposed several methods of setting lake standards:

1. Classifying lakes by type (from those solely used by wildlife, to those with one or two homes, to areas with extensive home and commercial development).



Photo by Mike Brisson

2. Developing computer models of lake characteristics.
3. Comparing water flow into and out of the lakes.
4. Reviewing innovative management techniques already underway in the lake.

A comprehensive lakes program might well combine all of these elements. It would certainly start from a philosophy that lakes protection is more than managing water quality. It begins with managing the lands that surround the water. It begins with instilling a sense of lake stewardship in the minds of lake users and shoreland property owners. It begins with people who appreciate that their time on a lake's shore is a very short time, indeed, compared to the "life" of the lake itself.

Setting standards will, clearly, have to start at the federal level. I would propose that the Environmental Protection Agency develop a national lake management strategy (with state and local assistance) to set a framework for meshing lake issues with other water, air, and waste management programs. That national perspective should also explore ways to fund lake improvements and should provide guidelines that states can use to tailor local lakes programs that match financial resources to natural resources needs.

Ultimately, even with standards, we will still have to make some tough choices about which lakes to manage. I'm trying to be realistic, and I know this statement won't be popular. We simply cannot manage all 15,000 lakes in Wisconsin at once. Some lakes with unique qualities and lakes which are heavily used by people will probably receive attention first.

At the same time, we should not write off **any** lake where users and property owners are willing to work to improve the quality of the lake experience. We must complement our lake standards and planning programs with lake monitoring, with information and education programs to remind people of the value of lakes, with new approaches to raise money for lakes, with research, and with pollution control programs to curb nonpoint pollution and erosion. These are the challenges we face jointly. Lakes need more federal attention, but federal strategies and money will not solve our lakes problems. They merely set the framework for the tough choices we need to make closer to home.

Bruce Baker is the Director of the DNR Bureau of Water Resources Management

Self-Help Lake Monitoring Program Completes First Year

by Carolyn Rumery

The "Self-Help Lake Monitoring Program" began last summer as one component of DNR's new Lake Management Program. Volunteers on lakes around the state tested the water quality by using a Secchi disc every week or two. A Secchi disc is an 8" diameter metal disc painted black and white in alternating quadrants. The disc is slowly lowered over the shady side of the boat into the water at the lake's deepest spot. The depth at which the disc disappears from view is recorded.

While the Secchi disc reading is only one of many tests that measure water quality, it does provide a fairly accurate sense of the general health of the lake. Generally, the deeper the disc can be submerged into the water before it disappears from view, the better the water quality of the lake (less algae or suspended material). However, wind, waves, percent cloud cover at the time the test was taken, natural water color, and eyesight of the observer can influence the reading. Nevertheless, the data are useful when collected over a period of years and help scientists evaluate whether the water quality of that lake is getting better, getting worse, or staying about the same.

Each volunteer was either trained at the lake site by a DNR lake management specialist or attended a group training session near their lake. In all, 116 lakes were sampled four or more times throughout the state. Many lakes had a team of volunteers taking turns. More than one sampling site were used on 12 lakes that are divided into two or more basins. A total of 1508 Secchi disc readings were taken on those 116 lakes, averaging over 13 readings per lake. Some observers took readings as many as 23 times!

After each sampling period, the volunteer filled out a pre-printed, post-paid card which was mailed to the DNR office in Madison. There the data were tabulated on the computer and summarized on a lake-by-lake basis. Each volunteer received a report about their own lake, interpreting the Secchi disc readings for the 1986 sampling season. Most of the reports also included other information about their lake (such as its susceptibility to acid rain) based on data the DNR had on file.

The program is regarded as a success, judging by the questionnaire results. Everyone who responded to the questionnaire stated that they enjoyed participating in the program and would like to participate again next summer. Most volunteers found it to be an educational experience and were surprised at how much the water clarity could change between May and October. Many people wrote how satisfying it was to feel that they were making a contribution to the understanding and protection of Wisconsin's valuable lake resources.

Carolyn Rumery is a DNR lake management specialist.

DNR Reassessing Chemical Lake Weed Controls

The Wisconsin Department of Natural Resources is starting a nine-month study to assess the risks of chemical and nonchemical weed controls.

The assessment will take a hard look at the risks of using chemical and other techniques to control algae, rooted plants, and swimmer's itch (carried by snails) in water. The advantages and disadvantages of different lake nuisance controls like chemicals, plant harvesting, plant cutting, and other techniques will be compared.

"The Department wants a broad spectrum of people to review the assessment since the document will be used to form state policies and regulations on controlling nuisance plants and snails in our lakes," said Ed Jepsen, Bureau of Environmental Analysis and Review.

Rooted lake plants provide shelter, food, and oxygen vital for thriving fish populations. However, human activities can overfertilize lake waters when rain carries lawn chemicals, barnyard wastes, and septic system wastes into the water. Water and sediments with excessive amounts of phosphorus and nitrogen stimulate algal blooms and thick shoreline weed growth. Chemical and mechanical weed controls are often used to keep boat launches, beaches and piers clear for summer recreation.

The environmental assessment will describe ecological and social tradeoffs of chemical controls; mechanical controls like cutting and raking; and biological techniques like fish stocking and intentionally planting more desirable lake vegetation.

The DNR has formed two panels to formally review the environmental assessment. The first consists of state and federal agency experts in lake management. The second citizen panel has members from local government, environmental groups, the aquatic nuisance control business, lake districts, and lake property owners.

"To accurately gauge public opinion about alternative weed controls, we'd like a variety of lakeshore residents, environmental groups, the aquatic chemical industry, anglers, and other people interested in lakes to take part in this discussion," Jepsen said.

People who want to receive a copy of the draft environmental assessment when it is available next summer, or want to be notified of meetings to discuss the assessment, should telephone Mary Ellen Vollbrecht, DNR Lakes Program (608/267-2453) or Ed Jepsen, Bureau of Environmental Analysis and Review (608/266-5386). You can also contact Vollbrecht and Jepsen by writing the Wis. Dept. of Natural Resources, P.O. Box 7921, Madison, WI 53707.

If you know of neighbors who would like to receive *Lake Tides*, please send us their name, address, lake, and county.

Wisconsin's Acid Rain Law

by Terry Daulton

At this time of year, the surfaces of Wisconsin's lakes are transformed to glistening white. Children frolic in deepening drifts and sled down steep hillsides. Ice fishermen trudge out onto lakes and bore holes through thick ice, hoping to lure a trout or walleye from the cold, blue waters. While this snow may seem benign and pristinely white, it can prove as damaging to a lake's chemistry as the summer cloud-burst because of acid content.

Acid rain or acid snow is formed when sulfur dioxide or nitrogen oxides gases in the atmosphere join with water vapor to form acids. The gases are by-products of the combustion of fossil fuels. For the most part, sulfur dioxide (SO₂) is produced when coal is burned to generate electricity, while a large percent of nitrogen oxides are produced by combustion from automobiles.

Acid rain is particularly damaging to lakes with a low buffering capacity. Spawning of certain species of fish is inhibited by increased acid levels. Acid rain also increases the solubility of toxic metals such as mercury and aluminum. While not all Wisconsin lakes are vulnerable to acid rain, a Department of Natural Resources study indicated that 3500, or 23%, of Wisconsin's lakes are sensitive to acid deposition.

In May 1986, Wisconsin passed the strongest acid rain legislation in the nation. It targeted a 50% reduction in SO₂ production by 1993 to attain a pH goal of 4.7 or higher. An annual target of 250,000 tons SO₂ per year will be attained by Wisconsin's five major utilities by 1993. In addition, a statewide target of 75,000 tons per year SO₂ will go into effect for existing large industrial and municipal utilities. A nitrogen oxide target of 235,000 tons will also be applied to the five major utilities.

The legislation has built-in flexibility to help utilities and industries meet these targets. Variances are allowed in the case of unforeseen or emergency situations and compliance time extensions can be granted if utilities are implementing innovative technology. Emissions will be assessed on a statewide basis rather than boiler-by-boiler; this will allow for emissions trading and offsetting between utilities. This flexibility will encourage utilities to work cooperatively to meet state targets.

The cost effectiveness of this plan lies in its implementation approach. No scrubbers are required; reduction depends almost entirely on a shift from high-sulfur to low-sulfur coal. The legislation will not inhibit new industrial growth in Wisconsin, as targets apply

only to existing facilities. A primary economic concern of the legislation is to protect Wisconsin's tourism, recreation, and forest industries. The law also funds research to insure that reduction efforts are producing desired results. Overall, it is estimated that this legislation will cause utility rate increases of 3.5% to 5.0% by 1993.

Terry Daulton is a graduate student in the College of Natural Resources, University of Wisconsin-Stevens Point.

Convention Time

Madison, March 13-14

The 1987 Wisconsin Lakes Convention will be held at the Concourse Hotel in downtown Madison. The Madison site will facilitate interaction with legislators. A special Legislative Seminar will be held by the Wisconsin Association of Lake Districts on Thursday afternoon, March 12. Contact Bill O'Connor (608/255-3000) for more information.

Convention Program

The format of the Friday and Saturday session is similar to previous years. Senator Robert Kasten has been invited to open the convention with a 1 p.m. keynote. The keynote will be followed by three community reports and a discussion of the role of watershed management.

The 15 Saturday workshops will cover a variety of topics. If you did not receive a convention brochure, please call or write Diane Lueck, College of Natural Resources, University of Wisconsin, Stevens Point, WI 54481 (715/346-3783).

Lake Stewardship Award: Nominations Open

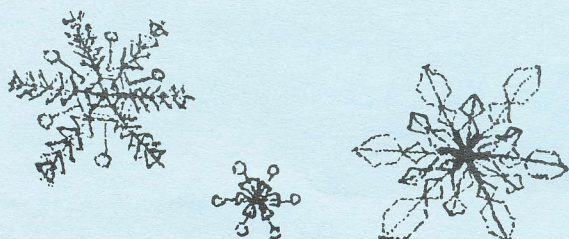
Hundreds of citizens across Wisconsin spend their evenings and weekends keeping our state's lakes clean. The sponsors of the Convention have joined together to recognize this dedication through two new awards.

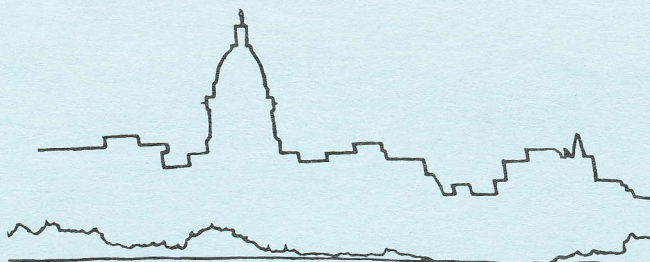
During the noon luncheon on Saturday, two Lake Stewardship Awards will be given. If you would like to nominate an individual or a local organization, please submit a typed description (no more than 100 words) of efforts and accomplishments during the past two years. The nominations should indicate innovation, statewide value, and long-term impact. The nominations may be accompanied by supporting documents such as letters from cooperators, flyers, newspaper articles, etc.

Nominations or questions can be sent to Mary Ellen Vollbrecht (DNR, P.O. Box 7921, Madison, 53707; 608/267-2453) or Marian Urich (Wis. Federation of Lakes; 608/222-8514) by February 27.

Newsletter Show-Off

If your lake produces a newsletter, please bring copies to be displayed at the Convention. We will have a special table for you to show off your newsletter.





Capitol Report: 1987-88 Legislative Issues

by Paul Heinen

The 1987-1988 Wisconsin Legislature is about to convene in Madison, and when it does, lakes and water quality issues will again be on its collective mind.

There will be new faces in both the Senate (two) and the Assembly (thirteen) and Tommy Thompson will be Governor. New people and a new session mean fresh opportunities and challenges. I, for one, am looking forward to them.

As usual, the first significant piece of legislation to be debated is the budget bill. For some time, the bill has been a "biennial budget;" one that covers taxing and spending for a two-year period. Governor Thompson has proposed annual budgets. It has not yet been decided whether the new annual system will be used, so I will highlight for you the key issues contained in the Department of Natural Resources Biennial Budget proposal for 1987-89, prior to the Governor's proposal to cut 5 percent.

Key Budget Issues

1. A Change in the Motorboat Fuel Tax Formula

The DNR will request a change in the motorboat fuel tax formula to fund public access aids, lakes and rivers management, and boating enforcement aids. The change the DNR is asking for would result in an increase of \$1,347,000 in the first year and \$1,522,600 in the second year.

These additional dollars would be used to continue funding the comprehensive lakes management program which provides technical assistance to lake communities, the 150 organized lake districts, and to property owners regarding lake protection, monitoring, and management of Wisconsin's 14,000 lakes.

In addition, funds would be used for a 50 percent state match of local funds for water safety patrol costs and to provide 75 percent state match for 15 to 25 new public access sites.

2. An Increase in Aquatic Nuisance Control

A \$14,000 adjustment to the DNR current budget will be requested to offset increased DNR weed control activities initiated by local lake groups and municipalities. This adjustment would bring the total to \$30,000 per year for aquatic nuisance control.

3. An Increase for Nonpoint Source Pollution Abatement Funds

In order to add three more watersheds per year to the Nonpoint Program, the DNR requests \$1,157,700 in the first year and \$1,217,100 in the second year. Since 1979, 29 projects in priority watersheds have been started. One hundred thirty critical watersheds throughout Wisconsin have been identified. There is a long way to go! It is hoped that the DNR can at least get enough funding to tackle three new projects per year.

4. An Increased Effort in Identifying and Managing Toxics

The DNR would like to begin a comprehensive toxics program. Part of this program would be biomonitoring and bioassay activities along with fish and wildlife contaminant monitoring. This comprehensive program is a key component of the state's overall water quality program. When combined with the air toxics program, the DNR total request is for \$1,216,800 in the first year and \$1,339,600 in the second year.

Other Bills

1. Purple Loosestrife: This bill would ban the sale, distribution, and propagation of this beautiful, but consuming, plant.
2. Construction Site Erosion: This bill would regulate construction activities so that erosion into lakes, rivers, and streams would be mitigated or reduced.
3. Litter Laws: This bill would consolidate all the litter regulations, simplifying enforcement of littering violators in any lakes. It is hoped that this simplification will provide a better deterrent to polluters.
4. Chapter 30 Update: Chapter 30 is that section of Wisconsin law that deals with navigable waters. It regulates bridges, boathouses, swimming rafts, and other structures on or in waters of the state. It is being updated, revised, and rewritten to bring the regulations into the 1980s.
5. DNR Restructuring: There is a proposal to restructure the DNR. It would split the agency's functions into fish and game, overseen by a board; and environmental protection, overseen by a secretary appointed by the governor.

Paul Heinen is legislative liaison for the Department of Natural Resources and welcomes your opinions or questions at Box 7921, Madison, WI 53707.

Calendar

Wisconsin Lakes Convention
March 12-14
Madison

The Clean Water Act: An Update at the National Level

by Richard Wedepohl

Clean water was at the brink in 1986. Both the U.S. Senate and House of Representatives reauthorized Public Law 92-500, the Clean Water Act, shortly before the November adjournment. Despite its unanimous passage by Congress, it was vetoed by President Reagan. Adjournment of Congress made override of the veto impossible.

Why should those concerned about lake water quality be interested? The many reasons are highlighted below:

- Cost sharing (50%) for lake rehabilitation would have been authorized — \$30 million for the Clean Lakes Program and an additional \$40 million for specific lake demonstration projects. In our state, a dozen lake projects have benefitted from this program in the past, to the tune of \$4.5 million. Given our state's active lake management efforts, we'd stand a good chance at receiving more of these funds in the future.
- Individual states would have been required to report the status of their lakes' water quality to the Environmental Protection Agency. The EPA was then to report to Congress. This was a new provision, supported by the North American Lake Management Society, designed to encourage states to take a more serious look at their lakes. Virtually all states have focused their attention on point source pollution problems in the past, ignoring the special problems of lakes.
- The reauthorization would have helped solve non-point source pollution — a major cause of lake pollution. An average of \$100 million per year was authorized with 60% cost-sharing available. Wisconsin could be a major beneficiary because it already has a non-point source program. Beginning in 1992, non-point source projects would become eligible for funding through a revolving loan program.
- An average of \$2 billion per year was authorized for construction of wastewater treatment facilities. States that still have significant sewage treatment plant discharge into lakes would benefit. Wisconsin's lakes would receive minimal benefit from this program, because we limited these discharges to lakes very early.
- Other new provisions would have helped control stormwater runoff and evaluated the effect dams have on water quality.

Wisconsin's congressional delegation has strongly supported the Clean Water Act in the past. Senator Proxmire has led the fight for the Clean Lakes Program. He was responsible for including \$4.5 million for projects this year.

The bill has been re-introduced and should be on the president's desk shortly. However, given the history of the bill in 1986, constant vigilance will be necessary.

Richard Wedepohl is the DNR's Lake Management Coordinator and President of the North American Lake Management Society.

Wisconsin Lake Managers Bring Home "Gold" from National Lake Management Meeting

by Mary Ellen Vollbrecht

People interested in lake management from across the continent and around the world gathered in Portland, Oregon, November 5-8, 1986, hosted by the North American Lake Management Society (NALMS). Wisconsin participants brought home new ideas, new techniques, and a recharge of enthusiasm for helping to manage Wisconsin's lakes.

Here are some of the Wisconsin highlights:

- The Lake Geneva Environmental Agency (Ted Peters and George Johnson) received one of two national awards for technical excellence. The Lake Geneva Environmental Agency is supported by five communities around Lake Geneva. The agency does monitoring, education, planning, and implementation of lake management.
- Dick Wedepohl, DNR Lake Management, took up the gavel as NALMS President for 1987. One of Dick's goals is to increase awareness of the need for lake protection. He appointed a special task force to work closely with the Environmental Protection Agency and Congress on this issue.
- Lowell Klessig, UW-Extension/UW-Stevens Point, received accolades for his ten years of dedicated service as he retired from the NALMS Board of Directors.
- Bruce Baker, Director of DNR's Bureau of Water Resources Management, introduced innovative ideas for lake water quality standards in the opening panel of state and federal officials (see page 2).
- DNR researcher Nancy Mesner presented preliminary results from her study of alternative weed control methods. The study is supported by the Lake Management Program. A fact sheet on the weed control experiment is available from DNR's Lake Management Program, Box 7921, Madison, WI 53707.
- Fish Manager Dale Brege, Horicon, shared lessons learned by the concerned citizens around Lake Puckaway in preparing and carrying out a lake management plan. When Puckaway citizens learned that Dale's budget could not cover the trip to Oregon, they chipped in to buy him a plane ticket. They wanted to recognize the special help Dale gave them and to help others by sharing their lake management experiences.

Mary Ellen Vollbrecht is a DNR lake management specialist.



Lac LaBelle continued
from page 1

Communication and Cooperation

Waterworks, our district newsletter, is an important link with our residents. The recently formed Lac LaBelle Fishing Club has provided manpower and expertise for district projects.

You Can Help

We hope everyone reading this will join the Wisconsin Association of Lake Districts in lobbying your state legislators and our new governor to allocate a fair share of motorboat gas tax revenue (\$3.9 million) for project grants useful to inland lakes: wetland and critical land management, shoreline stabilization, management organization assistance, lake watershed erosion control, boating safety and enforcement, aquatic plant management, and dam repair.

Looking Ahead

We have yet to solve most of our watershed problems, and the question remains whether voluntary cost-sharing through the Priority Watershed Program can make a difference. Construction erosion ordinances need to be adopted and enforced by our surrounding communities.

We'll be trying some underwater gardening with information provided by the UW-Milwaukee study. More spawning reefs and fish shelters can go into the lake if the first ones prove beneficial.

One problem we have yet to look at is the takeover of wetlands near our lake by purple loosestrife. We are watching for the results of DNR surveys and of experiments to control this latest exotic.

Lac LaBelle translates from French to "The Beautiful Lake." Our district hopes we can learn and do enough, fast enough and wisely enough, to keep it that way.

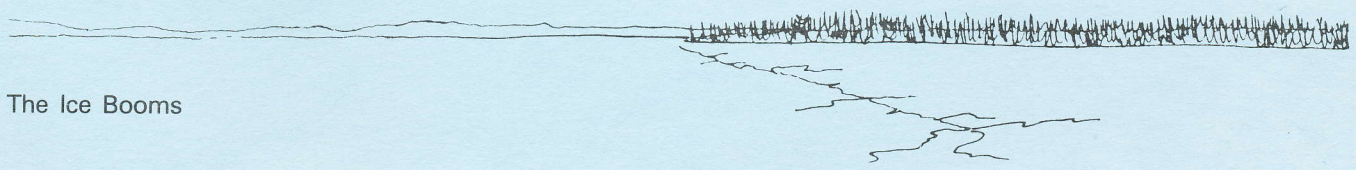
Lisa Conley is a commissioner of the Lac LaBelle Management District

Things to Do: Plan Now for 1987 Lakeshore Projects

If you or your lake organization plans to riprap for shore protection, place a sand blanket, install new buoys, or try using the new light screens to control plant growth in your lake this summer, begin planning now.

Because they are new, the light screens are getting special attention. Light screens are vinyl-covered fiberglass mesh that resemble a thick window screen. When rolled onto the lake bottom, the screens reduce sunlight on the bottom and prevent plant growth. Screens are meant for limited areas of high use, typically to keep shore or pier areas open for boating or swimming and to open boat lanes across dense plant beds. The screens are an alternative to herbicides, cutting, or raking. As with any of these plant-growth control methods, light screens have drawbacks. In our limited experiences with the screens in ordinary use in Wisconsin lakes (about 6 sites), the screening has floated up, creating a potential hazard for boaters and anglers. We also risk covering plant beds, gravel patches, or other bottom materials that are important for fish spawning. For these reasons, Wisconsin law requires a permit to use light screens.

For the best permit processing service, apply in February for the 1987 season. By applying early, you ensure that DNR staff will have adequate time to work with you on your proposal. The brochure "Water Regulations Work for You" explains why and how DNR reviews these water-related projects. Brochures and permit applications can be obtained from your Water Management Specialist in the nearest DNR office.



The Ice Booms

We think of wind as the voice of winter, the wind and the moan of the trees and the swish of sleet and snow. But the ultimate voice, the timeless voice of winter, is the boom of the ice, and it is one of the coldest voices there is.

There is the pond, or the lake, or the slow-flowing river. The cold comes and knits a film of ice, clear as glass. The cold deepens and the ice turns milky or black as it thickens. Since water expands as it turns to ice, it begins to press against its banks. More cold, and deeper ice, and more pressure; and suddenly the pressure is too great to be endured. There is a gigantic heave and a crack races across the ice; and the whole ice sheet booms like a giant drum.

Most often it happens in the night, when the cold is at its depth. The darkness seems to quiver and the very stars shiver and blink. Sometimes it happens in the daylight, and you can see the whole pond shake. The wind comes and goes. The trees ease their moans to sighs and whispers. The sleet ends, and the snow is a drifted blanket. But the ice is restless in its bed. Ice, which split the mountains, carved the valleys, leveled the hills, must proclaim its strength. The ice rends itself in a primal convulsion. The ice booms.

Reprinted from Hal Borland's Twelve Moons of the Year Alfred A. Knopf, New York, 1979.



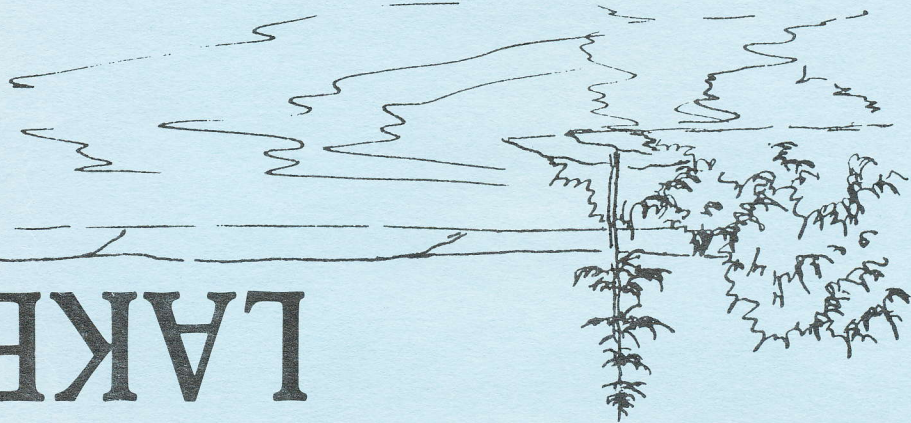
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A newsletter for people interested in Wisconsin lakes



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