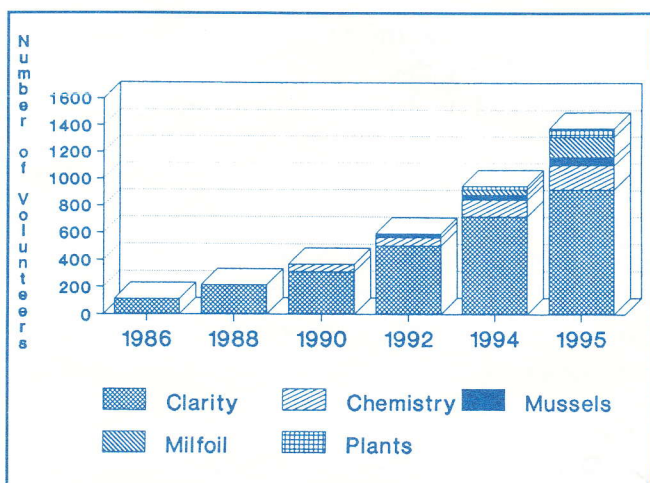


Free Time and Free Will

Volunteering has been a tradition throughout American history. In an age of abstract issues beyond our control, it feels good to take on a job that makes a difference. The volunteers of the Wisconsin Lakes Partnership work in all aspects of lake management. The Self-Help Lake Monitoring program of the Wisconsin Lakes Partnership is one of the most successful in the nation. In this issue, Lake Tides takes a look at volunteers.

The Black & White Disk

The Self-Help Lake Monitoring Program began in 1986 with 113 volunteers monitoring water clarity. Over the next nine years the success of the program went beyond anyone's wildest expectations. The number of volunteers has sky-rocketed to nearly 1,000 people participating in a wide variety of program activities.



Self-Help Lake Monitoring, 1986-1995.

The Self-Help Monitoring staff has decided to freeze volunteer training for the 1996 season.

This year a new phase in the expansion of volunteer monitoring began as Vilas County received a Lake Planning Grant to recruit and train volunteers. This county's long-term goal is to have a monitor on each and every lake in the county... that would be about 1200 monitors! As more and more lake-rich counties become involved in recruitment and training, the Self-Help Lake Monitoring program is being stretched to the limits. To assure that the program continues its tradition of high quality data and support to its volunteers the Self-Help Lake Monitoring staff has decided to freeze volunteer training for the 1996 season.

Over the next year Self-Help Staff will:

☺ Set up a computer system that will allow volunteers to dial their lake information into a 1-800 number...and directly into the Self-Help database.

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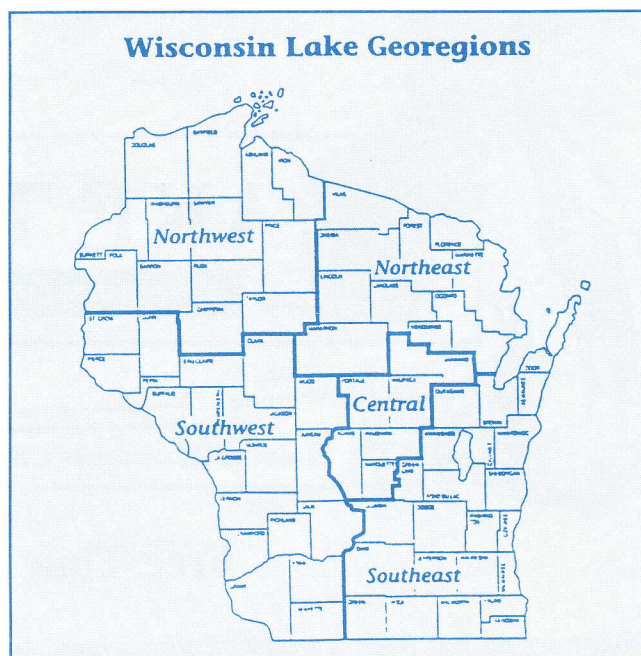
- ☺ Look for new ways to work more efficiently and effectively to meet volunteer needs.
- ☺ Schedule "refresher" workshops for existing volunteers.

Once this is accomplished the program will be ready to grow again! The program will also be better positioned to provide for the interests of lake organizations, counties and individual volunteers. Even if you can't begin collecting data next year, you can become actively involved in Self-Help Monitoring by offering your ideas and suggestions as our work continues. We'll be looking for your input and we apologize for any inconvenience.

Too Green or Not Too Green? That is the Question...

Since 1986, volunteers in the Self Help Lake Monitoring Program have been collecting water clarity data on Wisconsin's lakes, and at the same time, recording their opinions of how suitable each lake was for recreation and aesthetic enjoyment. Volunteers judged the aesthetics and recreational suitability on a scale of 1 to 5, with 1 being the best rating and 5 being the worst. The intent of this study was to examine the correlation between water clarity and lake users' perception of aesthetic and recreational quality for different lake types and georegions.

Volunteer-collected Secchi depth data files from 6 years were compiled using 12,500 records. Lake types such as seepage versus drainage and mixed versus stratified were added and county locations were converted to one of 5 areas called georegions. The georegions roughly reflect "Hydro-chemical lake regions" which are based on the state's bedrock geology, glacial geology and soil type, and more recently described "ecoregions" which are based on geological characteristics as well as dominant vegetation. The georegions were also grouped into north versus south to see if any overall pattern of perception was observable.



Notice that the boundaries are somewhat artificial, divided on county lines. The use of county lines is a practical matter—Wisconsin's lake data is organized by county!

The results were interesting. For every georegion the better perception ratings are generally coupled with clearer water, and poor perception ratings are correlated with more turbid conditions. An exception was noted where it seems the volunteers' judgement was biased by factors like floating mats of algae, heavy boat use, or poor weather conditions.

When lakes are grouped by georegion, correlations between Secchi depth and perception vary little between regions. Volunteers in the Northeast region of the state consistently rated aesthetics and recreation quality lower on lakes of the same clarity than volunteers in other georegions did. For instance, lakes ranked 2 in the Northeast region have similar clarity to lakes ranked as 1 in the Northwest, and better clarity than lakes ranked 2 or higher in every other georegion except in the Southwest, where the small number of records may be causing an anomaly. Lake waters are generally clearest in the northeast and central regions rather than being divided by north and south.

Information for these articles was provided by Jo Temte and Susan Graham of the Self-Help Monitoring program.

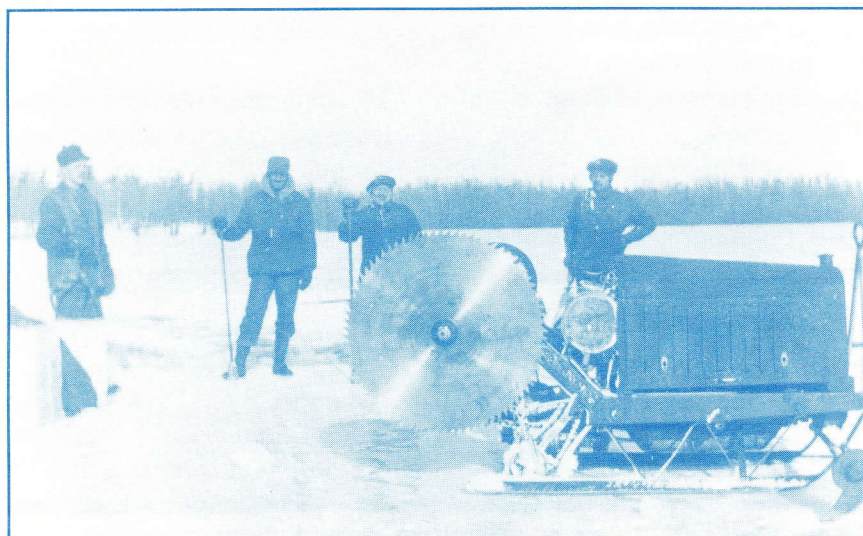
Place of the Spirit

This is a story about a lake and the history of people whose lives intertwined there. Bullhead Lake covers 70 acres and is tucked away in the glacial outwash plains of Manitowoc County. The word Manitowoc comes from the Native American language and translates roughly to "place of the spirit."

Major white settlement began here in the mid-1830s and Lilly Schmidt's grandfather, Gottfried Fischer, was among the first to settle on the lands near Bullhead. In the 1850s big lumber companies worked their way through the area. Huge pines were cut and floated down the Manitowoc River to waiting saw mills. If you look closely you can still find an ancient stump or two, one of the few reminders of a once great forest that stood here.

Lilly's father, Leonard, was born in 1880. Lilly was born in 1916. In 1938 she met Gordon Schmidt; after a two year romance they were married. Gordon moved to the "home farm" on the shores of Bullhead Lake and farmed with Lilly's father. According to Gordon, Lilly used to row her father around the lake while he fished. Lilly's favorite pastime was sitting by the lake playing her ukulele.

In pre-refrigerator days ice was cut with hand saws from clear, clean inland lakes and was stored in warehouses full of sawdust. During the hot summer months the iceman would deliver those remnants of winter to the family ice box. One fellow told Gordon that while cutting ice he had slipped and fallen into the icy water. As he walked the mile to his home to change, his pants turned as stiff as a board. August Enneper hit upon the idea of attaching a saw blade to a Model-T. The invention accelerated the process and August went from house to house cutting ice for folks.



August Enneper & friends with Model T ice cutter, 1930.

The Schmidt's farmed from 1939 to 1978 and raised four children in this peaceful setting. Gordon also ran a small boat rental business catering to anglers. In the 1960s the Schmidt's met Wilfred and Marge Gries. They found that they shared a lot in common. The Schmidt's conveyed their legacy of love for Bullhead Lake—its history, quiet places and secret fishing spots. They each loved the lake and were willing to work to preserve and protect it.

In the 1970s Bullhead Lake was showing the effects of nutrient overload and algae was becoming a problem. These people worked with others to convince the DNR to try an alum treatment on the lake. In 1977 the lake was experimentally treated at no cost. Another application of alum was applied in 1988. The Bullhead Lake Advancement Association raised \$10,000 for that treatment.

In 1986 Wilfred met Carolyn Rumery-Betz at the annual Lakes Convention. She asked Wilfred to be one of the 32 volunteers to join the new Self Help Lake Monitoring program. He started with Secchi disk readings and now gathers dissolved oxygen, phosphorous, chlorophyll and lake temperature.

One of the main goals of the Self-Help Lake Monitoring program is for people to discover the relationship between land use and lake ecology. Wilfred Gries learned much from his friends, the Schmidt's, and is passing on this history and his new knowledge to other people. It's true that a lake is a reflection of its watershed; but it is also a reflection of the people that have lived there and the measure of their stewardship. This is how we determine the true spirit of place.

This article was prepared from interviews conducted by Cynthia Hawken of the Wisconsin Department of Natural Resources.

Fox Lake Restoration Plan

***The Goal:** To restore and protect the fishery, wild-life and recreation values of Fox Lake by implementing a sustainable, ecologically-based management plan that promotes increased water clarity, aquatic plant diversity and lake stability.*

This may seem like a lofty goal, but a group of volunteers representing community leaders, property owners, hunters, anglers, boaters, business owners and resource management professionals have taken on this immense task for Fox Lake in Dodge County following a Lake Management Planning Workshop in January 1995.

Fox Lake had been known for its excellent fishery since the late 1800s. Increasing fertility caused winterkills in the late 1950s decimating the gamefish populations. Carp and bullheads took over. The entire fish population was removed and restocked with desired species in 1966. The fishery was reestablished in the 1970s.

The 1980s saw another decline in water quality. Clear water and abundant aquatic vegetation gave way to more algae blooms and infestations of carp and crappie. Something needed to be done to reverse the changes in Fox Lake.

The Fox Lake Protection and Rehabilitation District formed in 1981, and efforts were begun toward the restoration of Fox Lake. Long-Term Water Quality Monitoring and citizen volunteer Self-Help Monitoring have provided important background information. Research on biomanipulation, water levels and fish populations have added more information. DNR Planning and Protection grants have played an important role in funding these projects over the years.

Partnerships of state and local government agencies, lake users and landowners are the keys to lake restoration. More than 100 years of neglect and abuse will not be corrected easily, but with active management and cooperation, this dynamic shallow-water lake can once again provide quality recreation, natural beauty and abundant fish and wildlife.

1996 Lakes Convention — March 7, 8, 9 Through the Looking Glass: The Ecology of Lakes

Planning is underway for the 1996 Wisconsin Lakes Convention. It will be held March 7-9 at the Stevens Point Holiday Inn and Convention Center. The convention theme is "Ecology of Lakes." On Thursday, a pre-conference work day will uncover issues surrounding private septic systems. Suggestions from last year's evaluations asked for less plenary time and more workshops, so we're offering workshops on Friday afternoon as well as Saturday morning. Workshop streams will cover everything from Aquatic plants to Zoning.

Make your hotel reservations soon (Holiday Inn: 800/922-7880 or 715/341-1340 - *be sure to ask for the Wisconsin Lakes Convention rates*). Convention registration materials will be included in the next issue of Lake Tides.

Stewardship Nominations Requested

Many people around this state have dedicated a significant portion of their lives to preserving and

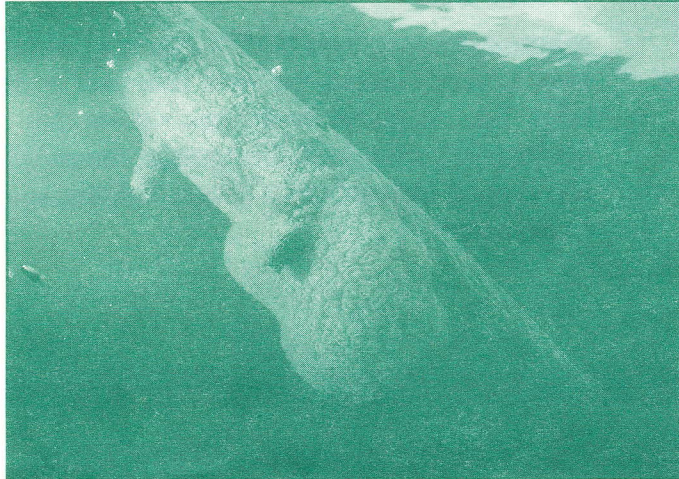
protecting Wisconsin's lakes. Most are not recognized for their efforts. **You can help change that!**

Now is the time to send in nominations for the 1996 Lake Stewardship Awards. Awards are presented in three categories—**Individual** (family or couple), **Group**, and **Professional** (public servant or elected official)—all nominees receive certificates and the winners receive engraved plaques.

To nominate someone for these awards, submit a letter of recommendation including the name of the individual or organization(s), lake and county in which located. Provide a factual description of the accomplishments of the nominee and any supporting evidence (reports, news items, etc.). Send to: Dorothy Snyder, College of Natural Resources, 2100 Main St., University of Wisconsin, Stevens Point WI 54481. Nominations should be received by February 1, 1996 for review by the Awards Committee.

Creature Feature: The Brain that Wouldn't Die

The phone rings and the district Wisconsin Lakes Partnership coordinator answers. The voice on the other end asks for the identification of a curious blob, looking something like a human brain. This strange mass was spotted attached to an old log two feet under the lake's surface. This peculiar find is not that uncommon to those who pay attention to the lake. This beast is actually a whole community of inoffensive creatures called *Bryozoans* [see LT vol. 15(2)].



This harmless jelly-like mass is a bryozoan. It consists of a colony of microscopic animals and may get as large as a basketball.

Bryozoans are found in ponds, lakes and slow streams. They live on the underside of logs and rock ledges, or attached to vegetation, where the light is dim. These colonies of animals cannot survive in polluted or muddy waters, so their presence usually indicates good water quality.

The minute-sized animals are filter feeders, dining on a variety of free-floating plants and animals that drift about in the water. Bryozoans are occasionally preyed upon by snails, insects and crayfish, but large colonies apparently do not have any major predators.

These strange creatures have developed a unique way of increasing their numbers. Growth of a colony is accomplished through a simple process called *asexual budding*. A portion of the body wall grows outward and eventually forms another identical organism.

In this way, starting with a single animal in the spring, a resulting colony may consist of thousands of living and dead individuals by fall. Colonies customarily die out by winter.

Bryozoans produce new colonies by two very different methods to ensure survival of the species. Sexual reproduction may occur for a short period of time between May and July. Individual animals are not classified as either male or female and can produce both eggs and sperm.

A resulting embryo develops into a free-swimming larva and is released. If the larva is able to attach to a suitable object, it will eventually give rise to a mature colony.

Colonies can also be formed by asexual internal budlike structures called statoblasts. When these small capsules are released from the colonies, they are distributed randomly by the currents and may either float or remain on the bottom.

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A protective outer layer gives statoblasts the capability to survive under dry, cold and other adverse conditions. When the environment is right it germinates and may produce a new bryozoan, much like seeds overwintering and beginning to grow in the spring.

Statoblasts can be considered environmental hitchhikers, enabling bryozoans to spread to other bodies of water. They may catch a ride in mud on the feet of aquatic mammals or waterfowl and are also able to germinate after passing through the digestive system. Statoblasts are produced in large numbers, but very few statoblasts survive to form new bryozoans.

Bryozoans may share their home with insect larvae that burrow into the protective coating that is secreted by the animals. This relation-

ship could be compared with that of fleas to a dog.

Small fish browse the surface of the colony, feeding on the insect larvae, algae and other tiny organisms attracted to the bryozoans. These aquatic janitors are actually beneficial to the bryozoans by helping to keep the surface of the colony clean. The bryozoans do not harm the fish and provide additional areas to forage for food.

If you keep your eyes peeled you may observe these unique animals the next time you're at the lake. The seclusive bryozoans are another fascinating member of the aquatic community and a good indicator of a clean, healthy aquatic environment.

Calendar

February 1, 1996 Planning Grant Application Deadline (contact District Lakes Coordinators).

February 29-March 1, 1996 American Water Resources Association-Wisconsin Section, 20th Annual Meeting, The Point Hotel-Minocqua. Bob Martini (715/362-7616).

March 5-7, 1996 Sixth Intl. Zebra Mussel Conference, Dearborn MI (800/868-8776).

March 7-9, 1996 Wisconsin Lakes Convention, Holiday Inn-Stevens Point. Dorothy Snyder (715/346-2116).

June 22, 1996 Northwoods Lake Fair, Rhinelander. John Czarnecki (715/369-6160).

August 17, 1996 Four Corners Lake Fair, Shell Lake. Beverly Stencil (715/635-3192).

Conley Becomes First Citizen President of NALMS

At the November 6-11 International Symposium of the North American Lake Management Society in Toronto, Lisa Conley will become that organization's first citizen president. Conley (Lac La Belle, Waukesha County) has been very active in the Wisconsin Lakes Partnership and served as the president of the Wisconsin Association of Lakes (WAL).

Mary Platner (Alma-Moon Lake, Vilas County and Hartford) has succeeded Conley as president of WAL. Platner has also been an active member of the Partnership, and served most recently as WAL Vice President.

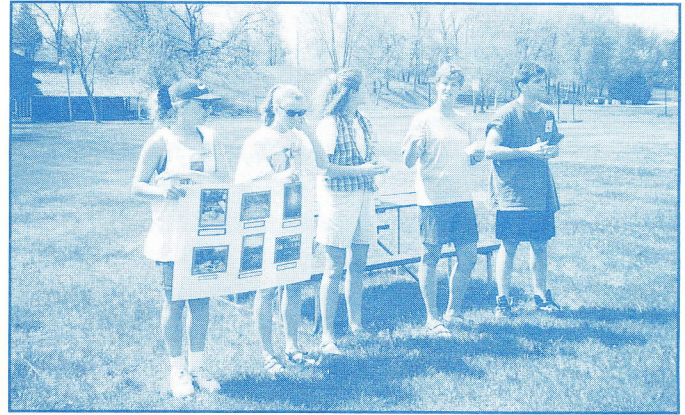
We congratulate these new leaders and wish them success in their endeavors!

The Lake List will soon be updated! Please send the names of your new officers to Dorothy Snyder, UWEX-CNR, UWSP, Stevens Point WI 54481 or call 715-346-2116.

Adopt-A-Lakers Rush Into Action!

In the tradition of Vince Lombardi and Elroy "Crazy Legs" Hirsch, Wisconsin teams are true winners at protecting lakes. As the fall season and new school year progress, we're hearing about some terrific lake projects that schools and youth groups are involved in around the state. Here's the half-time report:

Cambridge High School (Jefferson Co.) students continue to build yardage after hosting last Spring's successful Adopt-A-Lake Workshop, attended by over 40 teachers, lake group members and others interested in lakes. Cambridge students also gave a presentation at the UW-Stevens Point "Women in Science" program on October 13th. Their presentation on Adopt-A-Lake and "critter catching" was well received by conference attendees—over 500 high school students and teachers.



Adopt-A-Lake Workshop at Lake Ripley in Cambridge.

Lake Pewaukee sixth graders (Waukesha Co.) were shown the wonders of their local waterways with the help of the Lake Pewaukee Sanitary District. Students from **Pewaukee Middle School** paddled by canoe from Pewaukee Lake down the Pewaukee River to discover first-hand the water quality issues found within their watershed.

Rice Lake Middle School's (Barron Co.) Adopt-A-Lake project is forging ahead. Last year's successful lake monitoring and interdisciplinary study of Rice Lake will be complemented with an aquatic plant inventory and community awareness campaign on lawn chemicals.

North Lakeland Elementary (Vilas Co.) has intercepted the ball and scored big with their Mock Lake Association project. Teachers and students of all ages are involved in the school's lakes program with classes "adopting" one of four lakes this year: Carlin Lake, Little Star Lake, Van Vliet Lake and Rock Lake. Students have shown their MVP excellence as they monitored water quality using Secchi disks and water scopes they made in the classroom.



Wood River Beavers 4-H display at Lake Fair.

The **Wood River Beavers 4-H Club** (Burnett Co.) members are also off and running, having attended an Adopt-A-Lake workshop last spring and shared their knowledge about lakes at the Burnett County Northwestern Wisconsin Lake Fair this summer. Now the group is focusing on more long-term Adopt-A-Lake projects in the area. Nyssa Dahlberg was one of six middle school students chosen to present her speech on exotic species at the high school.

(continued)

Lake Sinissippi and Dodge County 4-H'ers are demonstrating that they are team players, learning from their neighbors at **Fox Lake** and Mary Danoski's Pontoon Classroom program. Youth, along with DNR staff and lake association members, shared information on lakes as they met during the summer and again this fall to do lake monitoring during their pontoon boat expeditions.

Lake Tomah School District (Monroe Co.) students are illustrating their ability to play "pro-ball" as the **Lake Tomah Team** implements its Adopt-A-Lake curriculum. Their Earth Day '95 lake awareness campaign was a winner and both teachers and students are rushing in to tackle this year's lake projects. Their most recent teacher in-service, "Lake Tomah Walk and Pontoon Ride," was a great success and students are gearing up to begin their varied lake activities.

A number of other schools and youth groups are planning projects in the near future, writing grants, and looking for other means of support for their lake projects. We look forward to hearing more about some of these projects through the youth presentations and posters at this year's Lakes Convention in Stevens Point, March 7-9th! Don't pass up your opportunity to get involved! Feel free to contact the Adopt-A-Lake office at 715/346-3366 for more information or to be highlighted in future Adopt-A-Lake articles in Lake Tides. Until next time, remember **defense is the best offense when it comes to protecting lakes!**



Adopt-A-Lake projects can involve water quality monitoring at all times of the year!

Lakes on the 'Net

For all you computer hounds out in cyberspace, here are some new discussion sites on the internet:

- **lakes-l** is a network on lakes for people who enjoy, live, work or are concerned about lakes and reservoirs. **lakes-l** is available by free subscription. Send an e-mail message to: **majordomo@badger.state.wi.us** In the body of the message, write the following: **subscribe lakes-l** or **help** You will receive a confirmation and welcome message that will give further details about this list. To distribute a message to all subscribers, send it to: **lakes-l@badger.state.wi.us**
- **lakes-student-l**, little brother to **lakes-l**, has been set up for students and youth to correspond. You can subscribe the same way: **majordomo@badger.state.wi.us** and **subscribe lakes-student-l** Owner for both is Jim Vennie <LAKEBB@DNR.STATE.WI.US>
- UW-Extension's Water Resource Program now has a home page on the World Wide Web. You can find descriptions of programs, newsletter articles, publications, factsheets and an on-line database of UW-Extension faculty and staff working on water-related topics. To find your way to this home page, use the URL address of: **<http://wisdom.uwex.edu/~waterres/>**

These are just a few of the many opportunities for computer users to stay in touch with other lake enthusiasts. Now is the time to test the waters and **surf the 'Net!**

Can We Change the Inevitable? Goby Found in Lake Superior

by Robert Korth

Exotic (ig zot'ik), adj.: *introduced from another country; not native to the place found (Webster's Dictionary).*

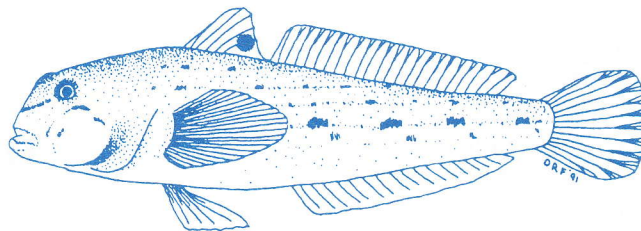
Another exotic can be added to the long list of "illegal alien" plants and creatures that have taken up residence in the good old U. S. of A. A National Biological Service fishery research crew discovered a 4 1/2 inch round goby (*neogobius melanostomus*) during a trawl for another exotic fish, Eurasian ruffe. This discovery in the Duluth harbor was the first find of the goby in Lake Superior. Other exotics first found in the Great Lakes have worked their way into Wisconsin's inland lakes—the zebra mussel in Elkhart Lake is a recent example.

Webster's definition of exotic fits a host of creatures thriving in North America. Eurasian water milfoil, Germans, Norwegians, Finns, dandelions, purple loosestrife, sea lampreys, English, French, potatoes. Webster's definition fits most of us well. Our lineage originated on other continents. Our ancestors came here on boats and outcompeted the native population.

Moving other creatures around is a deeply ingrained human habit. Throughout the millennia humans have been the greatest transporter of plants and animals, in fact the quest to find unknown species was a driving force behind human expansion across the globe. Explorers on the spice routes to China shipped home rare and exotic plants and animals, treasures for the pleasure and entertainment of kings and queens. Merchants rounded the horn of Africa trading for foreign creatures and plants worth potential fortunes in their home lands. Colonists, pioneers and settlers brought familiar and customary plants and animals to the new world. Cultural movement of plants and animals wreaked havoc in far-off corners of the globe; goats,

pigs and ship's rats made it to shore and out-competed native creatures.

Today the most remote corners of this world harbor exotic species. The proportion of alien plants in U.S. national parks ranges from 6-9 percent in Sequoia-Kings Canyon to 64 percent in Hawaii Volcanoes National Park. About 30 percent of the creatures on the official U.S. Endangered and Threatened Species List are there at least in part because of exotics. In the 1990's world insects, seeds, spores, plankton, plants and animals move with the speed allowed by our great transportation systems—ships, trains, autos, trailers and planes—whisking alien passengers to all parts of the planet.



Is an exotic species good for the native neighbors? In most cases the answer is a resounding no! We spend millions of dollars trying to remove unwanted creatures and plants; some are non-native, others have always been here.

Should we give up the effort to raise awareness of the impacts of non-native species on native ecosystems? Certainly not. Governments should adopt a general policy favoring the use of native species and native populations for landscaping, erosion control and fish or game stocking.

Can we remove exotic species? It may be a matter of cost vs. benefits. We need to weigh the level of infestation, the cost of removal, the designated status of the species and the harm to the native environment caused by the removal procedures. Sometimes the cure can be more painful than the ailment.

We often rule on the worth of an individual species based on its value to humans or the level to which it annoys us.

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Coming in January: a new look for Lake Tides, Convention registration materials, how other states deal with boating issues, grant success stories and much more!

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Season's Greetings from the Lake Tides Staff!



Published Quarterly

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Once there was a great society.

In the end, more than they wanted freedom they wanted security. They wanted a comfortable life and they lost it all...security, comfort and freedom.

When they finally wanted not to give to society but for society to give to them, when the freedom they wished for most was freedom from responsibility, then they ceased to be free.

Adapted from Edward Gibbons

From *Superior Vision*, newsletter of the Lake Superior Alliance.