From Shore to Shore

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Tackling Invasive Species—a Cooperative Approach

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Managing terrestrial invasive species such as common buckthorn, common tansy, garlic mustard, leafy spurge and spotted knapweed can be daunting to resource managers and private landowners. Many of the most problematic terrestrial species are prolific seed producers, allowing them to move across landscapes as seed is spread by birds and animals, wind, flowing water, or by human transport. These species decrease biodiversity, displace food and habitat sources for wildlife, and threaten the sustainability of conservation projects designed to protect and restore water and soil resources.

A new method of dealing with invasive species has been gaining momentum within Minnesota. Partnerships called "Cooperative Weed Management Areas" (CWMAs) are being formed to systematically identify problems associated with invasive species and to solve them by combining resources and working cooperatively. These partnerships often include nonprofits, state and local government agencies, tribes, businesses, and private landowners.

CWMAs practice an integrated pest management approach using multiple management techniques such as biological control, prescribed fire, herbicide treatment, and mechanical control. Minnesota efforts also focus on replanting with native vegetation after removal efforts to promote long-term sustainability, to further protect land and water resources. Treated sites are monitored over time to track results and to work toward finding the most effective and sustainable control methods.

The Becker County CWMA is one of 21 new CWMAs distributed across Minnesota. State funding has been available for CWMAs through the Minnesota Board of Water and Soil Resources (BWSR), and Minnesota now has more CWMAs than any other Midwestern state. The Becker County CWMA formed in 2006 with funding from the National Fish and Wildlife Foundation. The group has conducted a GIS inventory of weeds and developed a landowner cost-share program to focus on managing crown vetch, common tansy, spotted knapweed, leafy spurge and wild parsnip.

Common tansy, an invasive species of northern Minnesota

"The CWMA has been beneficial in bringing together landowners and managers to develop a plan so that we are using the right timing, treatment methods, and products for controlling invasive weed species throughout our county," said Marsha Watland, Becker County Agriculture Inspector.

In Washington County, a CWMA was established in 2008 to tackle buckthorn on private properties. Partners include the Washington Conservation District, Washington County Parks, watershed districts and multiple cities. These partners all had ongoing programs for addressing weeds, and they are now able to more effectively coordinate their efforts through the CWMA. They set up a cost-share program that provided technical assistance, funding, and equipment use. Their efforts have continued and also focus on Grecian foxglove, a species that has been spreading in the eastern part of the state and is highly toxic to humans and animals.

Another CWMA was formed in 2008 in Wright County to control wild parsnip, which is commonly found along road ditches and around wetlands. The sap of wild parsnip can cause a skin rash, blistering, or discoloration of skin (phytophotodermatitis). Approximately 11,000 acres of wild parsnip were treated through the partnership during the two-year grant period. Partners included the Wright Soil and Water Conservation District, Wright County Highway Department, several townships, and more than 100 landowners.

It is through these CWMA partnerships that many restoration professionals are sensing renewed hope in the battle with terrestrial invasive species and overall efforts to protect Minnesota land and water resources. The newly formed CWMAs have shown great effectiveness in their efforts and a willingness to share information and work together to accomplish significant results.

Information on the BWSR grant program can be found at: www.bwsr.state.mn.us/grantscostshare/CWMA.html. Lessons learned through CWMA and other grant efforts are being documented on a "What's Working" page on BWSR's website at: www.bwsr.state.mn.us/grants/WhatsWorking.html. ■

Aquatic Management Areas

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Have you ever climbed a stile over a farmer's fence in your waders to access your favorite trout stream? Fished a trout stream in southeastern Minnesota from a state-owned access? Paddled up to a lush stand of sedges, cattails, bulrushes, arrowhead, or water lilies, and bladderworts to get a closer look at a delicate floating flower? Have you ever motored up to a thick stand of sedges, cattails, and bulrushes to cast your line for bass or northern pike, and then noticed a Department of Natural Resources (DNR) sign?

If so, you've probably experienced the benefits of one of Minnesota's many Aquatic Management Areas, or AMAs. Since their establishment by the Legislature in 1992 as part of the Outdoor Recreation System, AMAs have rapidly become one of the most successful state programs providing public access to our state's lakes, rivers, streams, and wetlands while simultaneously providing protection for aquatic and shoreland habitats. Like wildlife management areas, parks, and forests, AMAs can be state-owned; or, in the case of coldwater trout streams, they are often linear conservation easements along a privately owned stream corridor, purchased mainly to provide access to anglers as well as limit land uses that would likely degrade the resource. Responsibility for managing and maintaining AMAs falls mainly to the DNR Section of Fisheries.

More Info about AMAs

AMA Fact Sheet
http://files.dnr.state.mn.us/aboutdnr/reports/conservationagenda/keymeasures/shoreline_protected_amas.pdf

A Wild Shore Saved
www.dnr.state.mn.us/volunteer/julaug07/wild_shore_saved.html

Accelerated Aquatic Management Area Acquisition
www.legacy.leg.mn/projects/accelerated-aquatic-management-area-acquisition

AMAs have an even more important role to play in the wake of a recent lakeshore development boom. Much discussion has been taking place in Minnesota over the last few years about the fact that we seem to be "loving our lakes to death, " including a series of articles that ran in the Minneapolis Star Tribune and the Brainerd Dispatch in summer 2010. The articles noted the trends and consequences from lakeshore development in recent decades. As the best home sites have been selected and developed, there is increasing development in the shallower bays, which are typically important fish and wildlife nursery habitats. At the same time, failing and poorly maintained septic systems contribute nutrients, phosphorus, and other household wastes.

These changes, we know, are cumulatively detrimental to our native fish and wildlife—northern pike, frogs, ducks, herons, and even our beloved loons. Natural shorelines help to stabilize shorelines, trap sediment, provide fish cover, filter nutrients and sediments from the water, and maintain water quality. They are the heart, lungs, kidneys, and wombs of our lakes and rivers.

In 2008, the Minnesota DNR convened a working group of citizens to develop a 25-year acquisition plan for Minnesota's Aquatic Management Areas. Composed of anglers, lakeshore owners and resort owners, citizens, nonprofit groups, and other stakeholders, the challenge was to make recommendations to the legislature and agency on acquisition goals, considering both the threats and the needs facing Minnesota's streams, rivers, and lakes. After meeting several times over a year, the committee recommended more than a 300% increase in AMAs. They recommended a long-term (25-year) goal of protecting at least 2% (1,316 miles) of the state's lake and warm-water stream shoreline and 38% (2,118 miles) of cold-water stream miles. These goals included specific acquisition targets from willing sellers over 25 years for each region of the state, totaling 1,500 miles of cold-water stream habitat and 1,100 miles of lake and warm-water stream habitat. For a copy of the 2008 AMA acquisition plan, see: http://files.dnr.state.mn.us/aboutdnr/reports/strategic-documents/ama-acquisition-report.pdf.

Shoreland habitat protection is an essential component in preserving the clean water legacy that Minnesota's citizens and visitors appreciate and value. Yet the needs continue to grow. Aquatic management area acquisitions continue to provide a critical foundation for shoreland protection and management while providing public access to Minnesotans who fish, boat, observe wildlife, and recreate on this state's waters. However, they are not the only tool in the toolbox, and acquisition alone will not achieve the goal of sustainable aquatic resource protection. As of 2007, about 11% (618 miles) of Minnesota's 5508 miles of coldwater designated trout streams had some level of protection within AMAs. The portion of lake and warmwater streams and rivers protected as AMAs is much less—only 0.3% (216 miles) in 2007, or less than 3 inches of shoreland per Minnesotan!

A comprehensive approach is needed using a suite of tools including best management practice guidelines, shoreland regulations and incentives, zoning ordinances, conservation development, etc. Most importantly, we need our citizens and lakeshore owners to understand, value, and manage for native shorelands!

Kristen Blann and Dave Thompson co-chaired the AMA Citizen Committee. ■

The Otter Tail County Natural Shoreland Buffer Incentives Program

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The Otter Tail County Natural Shoreland Buffer Incentives (NSBI) program was developed to identify and overcome local barriers to shoreland stewardship. To develop the most cost effective stewardship enhancement model, shoreland owners were first surveyed. The survey questions related to lot ownership, water quality, the particular value of lakes in Otter Tail County, and what would most help homeowners protect water quality. The survey was developed in a partnership between the University of Minnesota (UMN) Water Resource Center and Extension Shoreland Team, U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources, and East Otter Tail Soil and Water Conservation District (EOT SWCD). In the spring of 2009, the survey was mailed to 660 residential shoreline owners, and nearly 400 of these owners responded.

Responses in all areas reflected the value Minnesotans and our summer visitors place on water quality, with 76% indicating "Clean Water" makes Otter Tail County property "particularly valuable" to them. Knowledge of water quality processes was very high with 92% of responses indicating: "How the land around my lake is managed impacts the water quality in my lake." And nearly 25% of owners indicated they were interested in participating in a water quality project.

Shoreland owners' responses fell along a continuum of knowledge, project interest, and the type of assistance they requested. Further analysis of survey responses showed that a tiered outreach and education approach best matched the knowledge gaps and preferred learning methods of the respondents. Respondents who stated they were "Maybe" interested in a water quality project indicated a project guidebook or website would be the best way to educate them about their project. Common concerns among this group were shoreland appearance, retaining shoreline access, and possible cost of the project. Responses from this group also indicated that their lake association and neighbors were trusted sources of information concerning the lake. To address the concerns of this group and encourage installation of water quality projects, a project guidebook was developed by Steve Henry, the EOT SWCD County Shoreland Specialist, for distribution by lake associations and neighbors.

Shoreline owners who indicated that they were interested in a water quality project indicated other needs and delivery methods. These owners overwhelmingly requested a "visit from a trained professional" as the preferred method to answer remaining project questions. They also needed "assistance designing" and "finding materials" for their project. These respondents were more likely to trust state or local agencies for information concerning the lake and water quality. To respond to these requests for assistance in a cost-effective way, interested individuals were encouraged to recruit others, especially friends and neighbors. Once a group of interested individuals was identified, Henry met with the group to plan and design their projects. The group ordered plants and materials and cooperated to install the project, reducing time and cost. Henry noted, "With this approach, homeowners already have a good idea what they want to do, *where*, and *why*; they just need me to help with *how*."

The materials and methods developed through this NSBI program were tested on several Otter Tail County lakes over the summer of 2010. Using the project guidebook, a neighbor-to-neighbor outreach approach, and Steve's assistance for final project design and cost share funding, the Pickerel Lake Improvement Association installed five new shoreline buffers in 2010 and contracted with five others for 2011 installations. Outreach and education, project design, and project installation costs were all significantly reduced by focusing efforts into concentrated time frames and utilizing volunteers.

The Lake Seven Lake Association very effectively dovetailed the NSBI program with their participation in the Healthy Lakes and Rivers Partnership. Fifteen homeowners scheduled onsite meetings with the Steve to design potential water quality projects. These site visits were done over two days with homeowners traveling together from site to site to increase the community understanding of water quality issues and solutions. A total of 17 projects are planned for installation around Lake Seven in 2011. In one year, the Lake Seven Lake Association received requests from 10% of the landowners to install water quality improvements. Future events include neighborhood open houses planned during project installations, lake association mailings to lake residents, water quality workshops, and a lake wide tour of projects. "Neighbors invite, educate, and support each other, making my job much easier," remarked Steve.

Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR). ■

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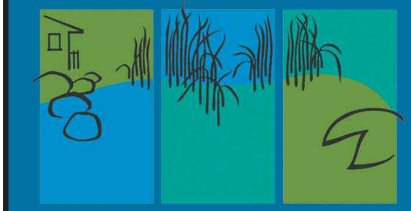

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Sea Grant Minnesota

University of Minnesota Extension

New Water Quality Lab – Making Waves in Itasca County

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This summer, there were two teams of student interns from Itasca Community College (ICC), whose duty was to collect water samples from over 100 lakes in the county at five different times. For lakes with boat launches, sampling was relatively easy with the truck, boat, trailer, and sampling equipment provided. For those lakes with carry-in access only, a hike through the woods with a canoe and sampling gear on their backs made the task a bit more challenging. And for those few remote lakes with no access? A helicopter ride turned water sampling into high adventure!

The hundreds of lake water samples collected by these students over the past two years have been analyzed at the new ICC Water Lab. (First-year samples were sent to other labs for analysis while the ICC lab was being equipped.) Funded by a Surface Water Assessment Grant from Minnesota Pollution Control Agency and the Itasca County Environmental Trust Fund, and with additional financial support, technical guidance and/or assistance from Iowa State University, University of Missouri, Itasca Community College, Itasca Soil and Water Conservation District, Minnesota Department of Natural Resources, University of Minnesota Extension, and Itasca Water Legacy Partnership; the certified Water Lab is the crux of a much larger initiative to establish baseline — and to subsequently monitor — water quality on Itasca County lakes while also providing educational opportunities and experience in water quality testing and analysis for students at ICC and other community colleges and universities.

But the Water Lab is not limited to lake water testing. In 2010, the lab processed rainwater run-off samples collected by volunteers for shoreland buffer research conducted by University of Minnesota Extension. The results will enable researchers to determine the levels of pollutants (nutrients and sediment) entering the lake from a wide variety of shoreland landscape practices, ultimately enabling them to fine-tune landscaping practices to better protect lakes. Starting in 2011, the lab will also be certified to test well-water samples, a service local homeowners and realtors have requested.


ICC Water Lab


ICC Water Lab

After three years of start-up challenges and successes, students, researchers, and community members are excited about the Water Lab. Of nearly 1,000 lakes in Itasca County, 448 have been sampled in the past three years. Also, the community is assisting scientists in a cutting-edge, intensive water quality study on two of Itasca County's largest lakes. Students have been trained to use state-of-the-art field and lab equipment as well as science methodology. The summer internships have been pivotal for these students in making career choices, according to Dr. Barbara McDonald, ICC Dean of Students. McDonald is developing a two-year Environmental Science (water emphasis) program at ICC and reports the recent hire of a Water Lab supervisor to guarantee consistency and longevity of the lab and new degree program. For more information on the ICC Water Lab and current water research in Itasca County, visit www.itascawaterlegacypartnership.org. ■