

From Shore to Shore

For Minnesota citizens promoting the health of our rivers & lakes

March-April 2006

#72

Calendar of Events

→ Rain Gardens

April 6, 2006: 6-9 p.m. – location to be determined
Contact: Mark Basiletti, 763-241-1170 ext. 132 or mark.basiletti@mn.nacdnet.net

→ Introduction to Shoreland Landscaping

April 8, 2006: 8:30 a.m.-4 p.m. – Onamia, MN
Contact: Mille Lacs SWCD, 320-983-2154

→ Invasive Species/Algae Workshop

June 23, 2006: 12:30-4:30 p.m. – Ideal Corners, MN
Contact: White Fish Area Property Owners Association, Gerry Leinfelder, 218-543-4882, llodge@uslink.net

→ Shoreland Maintenance

July 8, 2006: 9 a.m.-4 p.m. – Onamia, MN
Contact: Mille Lacs SWCD, 320-983-2154



New Shoreland Educator Joins Team

Karen Terry, Extension Educator, Fergus Falls, 218-998-3927, kterry@umn.edu

Karen is originally from Indiana and attended both Butler University and Indiana University/Purdue University at Indianapolis. She came to Minnesota in 1988 to attend the University of Minnesota in St. Paul where she earned a bachelor's degree in Fisheries and Wildlife. For over 14 years, Karen has worked with the Minnesota Department of Natural Resource's Stream Habitat Program as a river ecologist. In this position, she did research, field surveys, and environmental education. She joined Extension in January 2006, as a Regional Extension Educator in Water Resource Management and Policy at the Fergus Falls Regional Center, working with the Shoreland Education Team. ■



Lake Home and Cabin Show

Natural Resources and Environment educators will again be participating in the 2006 Lake Home and Cabin Show, Friday April 21 – Sunday April 23 at the Minneapolis Convention Center (www.lakehomeandcabinshow.com/main_general_info.php).

Shoreland Education, Septic Systems, Trees and Woodlands, and Housing Technology experts will be available to answer your questions as you check out our hands-on exhibits and displays. This year, we will have a kiosk set up where you can purchase our books, DVDs, and the revised 2006 Lake Home and Cabin Kit. Once again, the 2006 Lake Home and Cabin Show will be a great place to get all the latest information from the University of Minnesota Extension Service. ■

Outdoor Corps - Assessing Lakes, Engaging Students

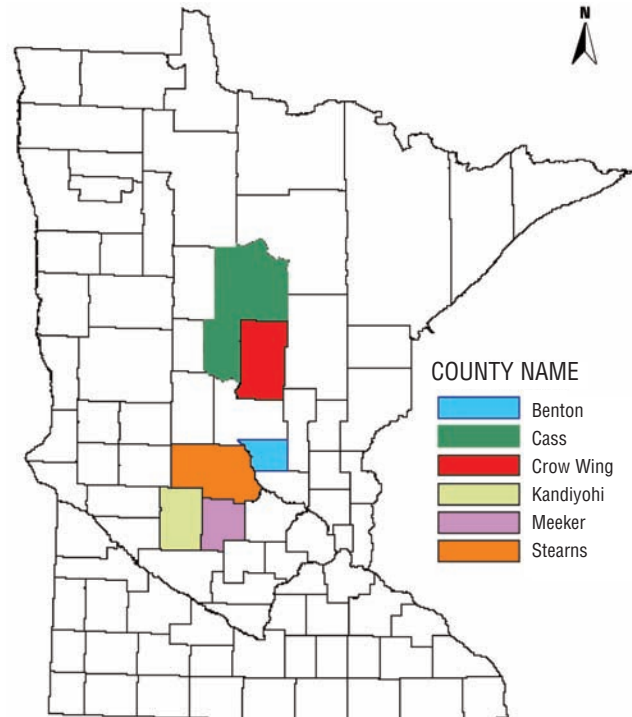
Val Were, Outdoor Corps Coordinator, 612-624-7430, were0005@umn.edu

Since 2003, Outdoor Corps, a University of Minnesota Extension Service program, has been empowering high school students to meet environmental stewardship needs in their communities. Under teacher supervision, students participating in the program sample lakes in their communities and apply the science and math skills they've learned in their classrooms to real-world situations. All students and teachers are compensated for their time.

Outdoor Corps services are provided to lake associations and communities for a fee. In 2005, two sampling packages were available. Clients could opt for a basic package including water transparency, dissolved oxygen, and pH profiles, or order a complete sampling package: profiles and chemical analysis of total phosphorous and chlorophyll-a.

Three adult supervisors and ten high-school students worked during the 2005 summer sampling season in Benton, Stearns, Cass, Crow Wing, Kandiyohi, and Meeker counties (Figure 1). Samples were collected at a total of 32 sampling sites on 29 lakes. In addition, water samples were collected at a majority of the lakes and sent for total phosphorous and chlorophyll-a analysis at A.W. Research Lab in Brainerd.

Outdoor Corps will continue in 2006. For more on the program and its activities, please visit www.outdoor-corps.net/. ■



One-Stop Shopping to Restore Your Yard and Shore

Dawn Dubats, Rice Creek Watershed District, 763-398-3078, ddubats@ricecreek.org

Native plants can improve water quality and help with drainage problems by reducing the “squishy” spots in your lawn. So why isn’t everyone planting natives? Part of the problem has been that native plants are harder to find in retail stores.

The Rice Creek Watershed District developed a program called “One-Stop Shopping to Restore Your Yard & Shore” to make it easy for watershed residents to find these beneficial native plants. A Web site has been developed (www.ricecreek.org) and displays were posted at area garden retailers to help people learn the how to's of rain gardens and lakeshore restoration. While all of the participating retailers are in the Twin Cities area, anyone can use the Web site, which includes a plant selector tool. You simply enter your parameters into the site -- for example, a flowering plant for a shady wet spot -- and it

will provide you with a list of native plants. The garden centers that provide space and support for the One-Stop displays are: Landscape Alternatives in Roseville, Lebens Floral at Old Town Market in Hugo, Linder’s Garden Center in St. Paul, and Rice Creek Gardens in Blaine.

Why are native plants so effective in improving water quality? The answer is largely due to their extensive roots, which sometimes extend 16 feet down. These roots anchor soil, decreasing erosion and suspended sediment that can make lakes and streams cloudy. If the plants are planted as a “buffer” between a yard and the lake, the roots act as a filter and absorb polluted run-off and excess nutrients before they enter the lake. When planted in the lake, native plants produce oxygen and provide habitat for fish and wildlife. ■

It's Rough to Have Ridges – Living with Ice Ridges on Your Shoreline

Cynthia Hagley, Minnesota Sea Grant, 218-726-8106, chagley@umn.edu

If you've ever heard the heart-stopping sound of lake ice cracking under your feet, then you have firsthand knowledge of the tremendous power contained in that sheet of ice. What you are hearing (and feeling) when the ice cracks and snaps on cold nights, is the ice contracting in response to cooling air temperatures. The opposite situation causes ice ridges to form – warmer air temperatures cause the whole ice sheet to expand with great force, pushing against the shoreline. Added to this are the impacts of wind moving ice around as lakes thaw. In some cases, such as along hard rocky shorelines, we get to enjoy beautiful pressure ridges in the ice, but quite often the result is a newly formed earth mound or ice ridge pushed up against the shore. Most ice ridge impacts usually occur in years with repeated temperature fluctuations and little insulation from snow.

Although property owners may be unhappy about this natural process, it is not something we can prevent. In fact, these natural ridges can be beneficial to the lake by collecting nutrients and sediments on the shoreward side of the ridge, preventing them from reaching the lake and harming water quality. In natural situations, plants thrive in these fertile ice ridge areas, helping stabilize the shoreline and creating habitat for birds and wildlife.

The easiest approach to avoiding ice ridge problems is to minimize disturbance of the natural vegetation along your shoreline and to keep your personal property out of harm's way. This is one reason why shoreland regulations include "setbacks" restricting development near the shore.

Unfortunately, many of us are living with already disturbed shoreline where ice ridge damage has caused significant problems. If your shoreline fits this description, what alternatives do you have? Note: As you consider alternatives remember that it is best to check with your local Minnesota Department of Natural Resources (MN DNR) Area Hydrologist and county Soil and Water Conservation District (go to www.shoreland-management.org/contact/index.html for contact information). They can give you advice, and provide information if permits are required for some activities.

Sometimes the solution is as simple as replanting shoreline vegetation or building a ramp over the ice ridge. More intensive (and expensive) solutions involve trying to over-power the force of the ice by installing rock rip-rap or an engineered retaining wall or similar structure. Both rip-rap and retaining walls are expensive alternatives that require ongoing repair and maintenance, and are most effective if professionally designed. Permits are required for many rip-rap projects and all retaining walls. Engineered solutions are discouraged by the MN DNR but allowed in extreme



cases. As with any big investment, it pays to do it right the first time, so take the time to check on permit requirements and consult with the experts. The fact sheets and Web pages listed in the boxed area will give you a place to start.

Remember – the cheapest, most natural and sustainable, and most effective solution is to accept ice ridges as part of a natural shoreline, retain or plant native vegetation, and enjoy those amazing winter nights of cracking ice. ■

A MN DNR printable fact sheet on ice ridges: http://files.dnr.state.mn.us/publications/waters/shoreline_alterations_ice_ridges.pdf.

More information on ice ridges and MN DNR permit requirements: http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/ice_ridges.html

A MN DNR printable fact sheet on rock rip-rap: http://files.dnr.state.mn.us/publications/waters/shoreline_alterations_riprap.pdf

Shoreland Plant Selection for Non-Botanists, Part 2 - Wet Transition Plants

Mary Blickenderfer, University of Minnesota Extension Service, 888-241-0885, blick002@umn.edu

Once again shoreland specialists share their “short list” of native species – plants that have performed the best in restorations statewide – this time for wet areas of your shoreline.

Wetland, wetland edge, wet transition, wet fringe and wet meadow are all names for ground that is at or near the water table and may experience seasonal flooding. This may include a narrow band along a lake or river shoreline, the low area behind an ice ridge, or a low area that captures rain and melt-water to form ephemeral shallow pools elsewhere on your property. Plants growing in these wet soils are adapted to having “wet feet” or roots in saturated or moist soil.

Most native plants along high-energy shorelines are also resistant to erosion due to their deep fibrous root systems

(e.g., grasses and sedges) or stout woody roots (e.g., trees and shrubs). Diverse shoreland plant communities made up of a variety of these plants minimize shoreland erosion caused by wave and ice action, river currents, or upland run-off. If a shoreline is disturbed, many shoreland plants will readily reestablish from root and stem fragments to revegetate and stabilize the exposed soil.

To create a plant list for your site, it is best to identify the plants growing on an undisturbed piece of shoreline with soil and water regime similar to your site (called a reference site). This may require the assistance of a botanist. Select plants from the reference list that are also on the “short list” below, or use the list below as a general guide. Additional plants can be added for diversity, if desired.

Short List of Wetland Plant Species*

Plant type	Plant name – Common Scientific, (and synonyms)	Comments
Shrubs	Red-osier dogwood <i>Cornus sericea</i> (<i>C. stolonifera</i>)	6-12 ft. tall; bright red stems; can be established from cut branches
	Sandbar willow <i>Salix exigua</i>	6-20 ft. tall; an aggressive colonizer; can be established from cut branches
	Meadowsweet <i>Spiraea alba</i>	3-6 ft. tall; showy white flowers
	Highbush-cranberry <i>Viburnum trilobum</i>	6-12 ft. tall; showy white flowers and bright red berries
Grasses and grass-like	Sedges <i>Carex retrorsa</i> , <i>C. comosa</i> , <i>C. vulpinoidea</i>	2-3 ft. tall; fibrous roots that resist erosion; interesting seed heads
	Canada blue-joint grass <i>Calamagrostis canadensis</i>	2-4 ft. tall; fibrous roots that resist erosion
	Bulrushes <i>Scirpus atrovirens</i> , <i>S. cyperinus</i>	3-5 ft. tall; good soil stabilizer
Flowers	Marsh milkweed <i>Asclepias incarnata</i>	3-4 ft. tall; showy pink flowers; attracts monarch butterflies
	Boneset <i>Eupatorium perfoliatum</i>	2-3 ft. tall; showy white flowers
	Joe-pye-weed <i>Eupatorium maculatum</i>	3-5 ft. tall; showy rose-pink flowers
	Blue vervain <i>Verbena hastata</i>	2-4 ft. tall; showy purple flowers; readily reseeds
	Asters <i>Aster puniceus</i> , <i>A. lucidulus</i>	1-5 ft. tall; showy lavender flowers; aggressive ground cover

Due to the likelihood of flooding, plants, rather than seeds, are usually used in these wet areas. For flowers and grasses, small containerized plants (plugs) spaced 1-2 feet apart work well. For shrubs, use bare-root or larger containerized plants spaced 3-6 feet apart. Dormant branches of willow and red-osier dogwood driven into the ground (live stakes) will also root to produce shrubs.

*Shoreland specialists who contributed to the “short list”:
Gregg Thompson - Asso. of Metropolitan Soil and Water Conservation Dist.
Bonnie Hiniker - Sunshine Gardens
Eleanor Burkett and Mary Blickenderfer - U of MN Extension

If your restoration site is along a **lake or river**, consult with the Minnesota DNR. It is likely that the area you will be planting is below the ordinary high water level and will require a no-fee permit to plant (application for this permit is available at: www.dnr.state.mn.us/shorelandmgmt/apg/permits.html). If restoring a **wetland** area, consult with your local Soil and Water Conservation District.

References:
Shaw, D. and R. Schmidt. 2003. Plants for Stormwater Design – Species Selection for the Upper Midwest. Minnesota Pollution Control Agency.
Eggers, S. and D. Reed. 1997. Wetland Plant Communities of Minnesota and Wisconsin. US Army Corps of Engineers.

wrc.coafes.umn.edu

www.seagrants.umn.edu

www.extension.umn.edu

www.shorelandmanagement.org



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