From Shore to Shore

"For Minnesota citizens promoting the health of our rivers and lakes"

on the Web at www.shorelandmanagement.org/citizen/index.html

Newsletter 56
Mar-Apr 2004

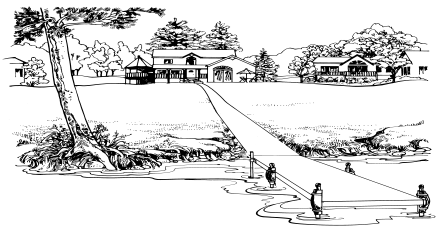
Calendar of Events

Shoreland Revegetation Series
April 16, 2004 — Thief River Falls
Planting dates TBA for the above series.

Intro to Shoreland Revegetation
April 23, 2004 — Grand Rapids

Shoreland Volunteer Training
April 23 & 24, 2004 — Brainerd

For more details of these and other shoreland workshops, including registration options and fees, visit: www.extension.umn.edu/water/shore



Hubbard County Shoreland Volunteer Group
April 8, 2004 — Hubbard County Extension Conference Room
For information, contact Will Yliniemi at 218-732-3391 or ylini003@umn.edu

2004 Lakes and Rivers Conference
April 29 - May 1, 2004 — Deerwood
For information, contact MLA at 218-824-5565 or visit www.mnlakes.org

New phosphorus lawn fertilizer legislation introduced

Bills have been introduced in the Minnesota legislature to expand restrictions imposed by the Minnesota Phosphorus Lawn Fertilizer Law, which went into full effect this January. Introduced as HF 2005 by Rep. McNamara, and SF 1999 by Sen. Sparks, the bills would expand the requirement for zero percent phosphate lawn fertilizer use from the Twin Cities metro area to statewide. The current law allows use of up to three percent phosphate lawn fertilizer outside of the seven county Twin Cities metro area.

The bill has gained committee approval in the House and has moved back to the House floor for a vote. A Senate committee hearing has not been scheduled as of March 12, but Rep. McNamara sees strong support in both the House and Senate, and anticipates the bill passing this legislative session. If passed, the requirement for statewide zero percent phosphate lawn fertilizer use is anticipated to become effective January 2006.

While anticipating the results of this legislation, it is good to be familiar with the current Minnesota Lawn Fertilizer Law. There is confusion! Key points to be aware of are:

- Metro and non-metro areas are under different restrictions (the above bills would move to uniform restrictions state-wide).
- It is a restriction, not a ban! Lawn fertilizer higher than zero percent phosphate in the metro, and three percent phosphate in non-metro, can be used when need is indicated.
- It is a restriction on use, not on sale. Stores are free to sell phosphorus lawn fertilizer, or not to sell phosphorus-free lawn fertilizer. It is up to the user to purchase the correct product.
- More information is available at the Minnesota Department of Agriculture's Web site, www.mda.state.mn.us, under "Water and Land" > "Environment" > "Lawn Care and Water Quality," or by calling (800) 967-2474.

Enforcement of the law is the responsibility of local municipalities - cities, counties, and townships. Few, however, see enforcement as being practicable; most see that the law's real value is raising people's awareness and making phosphorus-free lawn fertilizer widely available. In that regard, the law is successful. People are more aware of the connection between phosphorus runoff and green lakes, and phosphorus-free lawn fertilizer is more easily found in the metro area since the law was created in 2002.

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Eurasian watermilfoil and fluridone herbicide (Part II) Minnesota's continuing evaluation

Eurasian watermilfoil, or simply, milfoil, is a non-native, submersed aquatic plant that may cause problems in lakes when it becomes abundant. In the January-February 2004 issue of this newsletter, I provided some background on the use of herbicides to control milfoil. This issue will focus on the use of fluridone for milfoil control.

The principal difference between fluridone and other herbicides is that fluridone cannot be used effectively for spot-treatments, but must be applied to whole bays or lakes. The DNR has been making whole-lake treatments with fluridone since the early 1990s and monitoring their effects. The purpose of these studies was to determine whether this herbicide can be used to selectively control milfoil. Treatment in 1994 at a target rate of 10 ppb

Fluridone is the active ingredient in Sonar™ or Avast!™ herbicides.

fluridone reduced native vegetation lake-wide, and was followed by a decrease in clarity of the water in one of two treated lakes in the Twin Cites area. This damage was considered to be significant. As a result, the DNR decided to allow use of fluridone only in lakes that have high potential to become a source of spread of milfoil in an area of Minnesota without milfoil.

Such a situation arose in 1999 when milfoil was discovered in McKinney and Ice Lakes in Grand Rapids. At the time, no other lakes in the area were known to have the exotic. Consequently, the DNR treated both lakes with fluridone in an attempt to limit further spread in this part of Minnesota.

In 2000, new information from Michigan suggested that application of fluridone at low rates of about five ppb might provide more selective control than had previously been observed in Minnesota. In an attempt to reproduce the Michigan results, the DNR treated three Minnesota lakes at about five ppb in 2002. Treatment reduced the frequency of Eurasian watermilfoil to zero, but, unfortunately, also reduced the biomass of native submersed plants by an average of 94 percent. Following treatment with fluridone, water clarity decreased in two of the three treated lakes. Unfortunately, this damage appears to outweigh the benefits of controlling milfoil.

The lakes treated in 2002 had low water clarities of 2.5 to 5.5 feet. Two of the lakes had communities of submersed plants dominated by milfoil and coontail with few native species. By comparison, some of the treated Michigan lakes as well as one other lake in the Twin Cities, Lac Lavon, had higher water clarity and more native plants before treatment.

Following treatment of Lac Lavon, the distribution of milfoil decreased dramatically, and native submersed species increased. Four years after treatment, the milfoil had returned to pre-treatment levels of abundance and the native species had decreased. After another treatment, the milfoil decreased again and the native plants began to increase. **This result means that long-term control of milfoil will require repeated whole-lake treatments with fluridone**, as is already the practice in Michigan.

As the DNR's evaluation of fluridone continues, we expect to further investigate the relationship between lake condition, specifically water clarity and composition of the vegetation, versus the effects of whole-lake treatment with fluridone.

Article submitted by: Chip Welling; Coordinator, Eurasian Watermilfoil Program; Minnesota Department of Natural Resources; 500 Lafayette Road; Saint Paul, MN 55155-4025; 651-297-8021; chip.welling@MnDNR.state.mn.us.

Plant topic of issue: What the heck is an invasive plant?

What is a Native Species? All organisms are native to planet Earth (until further notice) and each species of bacteria, fungi, plant, and animal has a home somewhere on this planet where it has existed and evolved for thousands of years. A native or indigenous species is one that occurs in a particular place without the help of humans. Species native to North America are generally recognized as those occurring on the continent prior to European settlement.

An organism's home, or native range, is determined by a host of influences such as climate, geology, soils, hydrology, biological interactions, and natural dispersal. Creatures are dispersed within their natural ranges by various means including air, water, on animals, and during animal migrations.

What's an Exotic Species? An organism is considered exotic (alien, foreign, non-indigenous, non-native) when it has been introduced by humans to a location(s) outside its native or natural range. This designation applies to a species introduced from another continent, another ecosystem, and even another habitat within an ecosystem.

For example, black locust (*Robinia pseudoacacia*), a tree that is native to the southern Appalachian region and portions of Indiana, Illinois and Missouri, was planted throughout the U.S. for living fences, erosion control, and other uses for many years. Black locust is considered exotic outside its natural native range because it got there by human introduction rather than by natural dispersal. Another example is saltmarsh cordgrass (*Spartina alterniflora*), a wetland plant that is native to eastern North American estuaries. Saltmarsh cordgrass was introduced to western North American shoreline habitats, where it did not occur previously. It has established and become a serious invasive species, displacing native species and adversely impacting wetland communities.

European settlers brought hundreds of plants to North America from their homelands for use as food and medicine, and for ornamental, sentimental, and other purposes. Introductions of exotic plants continue today and are greatly increasing due to a large and ever-expanding human population, increased international travel and trade, and other factors.

Once an Exotic, Always an Exotic! An estimated 3,500 species of exotic plants have escaped cultivation in the U.S., are able to reproduce in the wild, and have become established, or "naturalized." These plants, how ever much a part of our current landscapes and ecosystems, are nonetheless exotic, since they were moved here by people. For centuries, horticulturists have imported and disseminated interesting new exotic plants. Unfortunately, many of these have become invasive pests that are having serious impacts to native species and ecosystems.

What Makes an Exotic Species Invasive? (When is a Guest a Pest?) Many non-native species exist in apparent harmony in environments where they were introduced. For example, a relatively small number of exotic plants (e.g., corn, wheat, rice, oats) form the basis of our agricultural industry and pose little to no known threat to our natural ecosystems. The most important aspect of an alien plant is how it responds to a new environment. An invasive species is one that displays rapid growth and spread, establishes over large areas, and persists. Invasiveness is characterized by robust vegetative growth, high reproductive rate, abundant seed production, high seed germination rate, and longevity. Some native plants exhibit invasive tendencies in certain situations.

How Many Plants are Invasive? According to the Plant Conservation Alliance's Alien Plant Working Group, about 1,100 plant species have been reported as being invasive in natural areas in the United States (see link below). This number represents an astonishing one-third or so of the exotic plant species established and self-reproducing in the wild. Some invasive species were planted intentionally for erosion control, livestock grazing, wildlife habitat enhancement, and ornamental purposes. Others have escaped from arboretums, botanical gardens, and our own backyards. Free from the complex array of natural controls present in their native lands, including herbivores, parasites, and diseases, exotic plants may experience rapid and unrestricted growth in novel environments.

(Invasive plant continued)

How Bad Are Invasive Species? Invasive species impact native plants, animals, and natural ecosystems by:

- Reducing biodiversity
- Altering hydrologic conditions
- Altering soil characteristics
- Altering fire intensity and frequency
- Interfering with natural succession
- Competing for pollinators
- Poisoning or repelling native insects
- Displacing rare plant species
- Increasing predation on nesting birds
- Serving as reservoirs of plant pathogens
- Replacing complex communities with single species monocultures
- Diluting the genetic composition of native species through hybridization

Article submitted by: Jil M. Swearingen, National Park Service, National Capital Region, Center for Urban Ecology. March 23, 2004.

For additional information, please go to:

Alien Plant Working Group "Weeds Gone Wild":
http://www.nps.gov/plants/alien
Aquatic Nuisance Species Task Force:
http://www.anstaskforce.gov
Ecological Society of America:
http://esa.sdsc.edu/invas3.htm
Lady Bird Johnson Wildflower Center:
http://www.wildflower.org/
Mid-Atlantic Exotic Pest Plant Council:
http://www.ma-eppc.org
National Audubon Society:
http://www.stopinvasives.org/
National Invasive Species Council:
http://www.invasivespecies.gov/council/main.html
National Park Service EPMT:
http://www.nature.nps.gov/epmt/
TNC Wildland Invasive Species Team:
http://tncweeds.ucdavis.edu
US Geological Survey:
http://www.nbii.gov/search/sitemap.html

From Shore to Shore is a short newsletter produced ten times per year by the University of Minnesota Extension Service Shoreland Education Program. Current and archived issues of the newsletter can be downloaded from the Minnesota Shoreland Management Resource Guide Web site (www.shorelandmanagement.org). For direct access to the newsletters go to http://www.shorelandmanagement.org/citizen/index.html. Each month, when the newsletter becomes available, an e-mail notice is sent to our subscribers. For your free e-mail subscription, just send a request to Teri Anderson at ande7530@umn.edu.

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1. Open the newsletter you are interested in.
2. Go to the page that contains the article you want to copy.
3. Right click on the "T" tool so that three icons appear –
   a. Selection of text
   b. Selection of text in columns
   c. Selection of graphics.
4. Choose "1" or "2", depending on whether you want the whole page of text or just one column.
5. Select your text, copy it, open a word-processing application, such as WORD, and paste it.
6. Use the "□" tool to select the graphic, copy it, and paste it into a word-processing application.

The Shoreland Education Program offers a selection of workshops for shoreland property owners related to shoreland management (Shoreland Volunteers), shoreland revegetation, and shoreland plant identification. To learn more about these courses, go to http://www.extension.umn.edu/water/shore/workshops.htm.