

# From Shore to Shore

For Minnesota citizens promoting the health of our rivers & lakes

May-June 2005

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## Calendar of Events

### → Shoreland Planting Workshops (UM Extension)

July 9, 2005 – 8:30-4:00, Onamia, MN  
Contact Susan Shaw, Mille Lacs SWCD at 320-983-2160 x1

July 16, 2005 – 9:00-3:00, Sherburne County, MN  
Contact Mark Basiletti at 763-241-1170 x132

### → Aquatic Plant Identification Workshops

July 22, 2005 – 6:00-9:00 pm, Menahga, MN  
July 23, 2005 – 8:30-4:00 pm, Menahga, MN  
Contact Kari Tomperi, Wadena SWCD: 218-631-3195 x3

### → Shoreland Landscaping

July 30, 2005 – 9:00-3:00, Onamia, MN  
Contact Susan Shaw, Mille Lacs SWCD: 320-983-2160 x1

### → Leadership Training

The Initiative Foundation is again partnering with Government Training Services (GTS) to offer training opportunities on the legal, civic, and cultural skills needed to serve on Planning Boards, Boards of Adjustment, and elected office. Full day workshops are \$125 (including lunch); half-day workshops are \$50. Full-day workshops will be held at the Initiative Foundation's offices in Little Falls: Environmental Planning will be held on June 23. Visit [www.mngts.org](http://www.mngts.org) or call 651-222-7409 x205

## Plant Identification CD Available for PC

A new interactive plant identification CD-ROM for all Minnesota plants is available. Bruce Barnes, who developed the Expert Identification System (XID) for Minnesota sedges, has now completed the XID for all Minnesota plants. This is an ingenious key that allows the user to identify a plant using almost any plant characteristic. It includes color photos of 99.5 percent of the plants of Minnesota, including native, introduced, and naturalized species. Detailed descriptions, geographic range, and line drawings for each species are included. A description and demo can be found on the Web at <http://www.xidservices.com/FID>. This product (PC format only) is available for purchase through the Minnesota Native Plant Society (MNNPS) for \$70, a substantial discount (regularly \$100). A portion of the proceeds will support MNNPS. For purchase information, contact Jason Husveth at [president@mnnps.org](mailto:president@mnnps.org).

## Lake Home and Cabin Kit

This portable, boxed kit of quick, easy answers to common lake home and cabin questions contains 50 cards of information on home and septic systems; trees and woodlands; waterways and shorelands; and wildlife and insects. To order, go to [www.extension.umn.edu/cabin](http://www.extension.umn.edu/cabin) or call 800-876-8636.

## Minnesota Tree Handbook

The MN Forestry Association of SWCDs has prepared the "Minnesota Tree Handbook," available on the MASWCD Web site. Visit [www.maswcd.org](http://www.maswcd.org) and click on "partner links." The 52-page document explains how to plant and care for tree seedlings. It also provides information on the general characteristics and requirements of the tree and shrub species commonly planted for conservation.



# Rain Gardens and Rain Barrels

Eleanor Burkett, REE University of Minnesota Extension Service, (888) 241-0720, burke044@umn.edu

Even if you don't live in suburbia, managing storm water runoff is something to consider in your landscape. Preventing erosion and keeping nutrients out of lakes or rivers doesn't start at the shoreline. Roof tops, roads, driveways and sidewalks are impervious surfaces\* (surfaces that do not absorb water). When water is not absorbed, it tends to run off the land in greater volumes and with greater force after a storm, causing erosion and allowing nutrients and sediments to drain into lakes and rivers. While it is a good idea to include a vegetative buffer strip in your shoreland landscape, adding a rain garden and/or capturing rooftop runoff using a rain barrel are two practices that can help to slow the pace at which storm water enters our natural waterways.

## Rain Gardens

Simply put, rain gardens are shallow depressions filled with plants designed to allow rain to infiltrate the soil, filtering out pollutants as the water seeps into the water table. Rain gardens allow plants to absorb nutrients and sediments to settle. Rain may be channeled away from structures into a rain garden preventing seepage.

Rain gardens filled with small shrubs, flowering plants and ornamental grasses add beauty to the landscape and may attract butterflies and birds. Well-placed rain gardens can be interesting and enjoyable to see from indoors and out.

Like any garden design, rain gardens can be simple or elaborate. To insure satisfaction, sketch out the desired design before you start.

When designing a rain garden, consider desired size, soil type and plant species. Rain gardens can be designed in any shape. Crescent or kidney shapes are attractive, but a long and narrow rain garden may be better suited to fitting between structures or between house and sidewalk.

Often several rain gardens are designed into the home landscape. For rooftop runoff, generally one rain garden is placed at each down spout at low points in the lawn. Each rain garden should be about one-third the size of the area that is being drained. For example, at a 3000 square foot home with four down spouts, each rain garden would be approximately 250 square feet. In sandy soil the size can be smaller, but for heavy clay a larger area may be required. Rain gardens may be built applying these same concepts to control runoff from other impervious surfaces, such as driveways and sidewalks.



*Rain Garden. Credit: Anoka County Soil and Water Conservation District*



*Rain Garden under construction. Credit: Anoka County Soil and Water Conservation District*

The rain garden depression should be placed 10 feet or more away from foundations, so seepage doesn't occur. Remember to always call the Digger's Hotline (800-242-8511) before digging to prevent cutting into an electrical line or cable.

Once the size, shape and location of the rain garden have been decided, construction can begin. Lay out a rope or garden hose in the shape desired as a guide for digging. The depth of the depression may vary from 4 to 8", in most cases. For best infiltration, the bottom of the rain garden should be level. On a slope, the soil from digging may

be used to create a berm on the downhill side of the rain garden. For clay soils add organic matter before planting.

Many native plant species are well suited for rain gardens. Plants must be chosen to accommodate the soil type and tolerate standing water for 12 to 48 hours. For recommendations on plant species and more information on rain gardens visit [clean-water.uwex.edu/pubs/raingarden/rgmanual.pdf](http://clean-water.uwex.edu/pubs/raingarden/rgmanual.pdf).

### Rain Barrels

Rain barrels are ideal for collecting rain as it runs off roofs. They can supply ample water for gardens and houseplants that is free from chlorine, calcium and lime. Rainwater can also be used for automobile and window washing. They can save money, conserve water and prevent runoff into storm water systems, lakes and rivers. Rain barrels also help to reduce moisture levels around the foundations of homes and other structures.

One inch of rain that falls in a 1000 ft<sup>2</sup> catchment can generate 623 gallons of water; that's over half a gallon per square foot. Consider a 3000 ft<sup>2</sup> rooftop with four downspouts. To calculate how many gallons of water would flow through each downspout in a one-inch rainfall, divide 3000 by 4; each downspout serves 750 ft<sup>2</sup>. If a square foot of rooftop repels 0.632 gallons in this rain, over 467 gallons of water will flow through one spout!

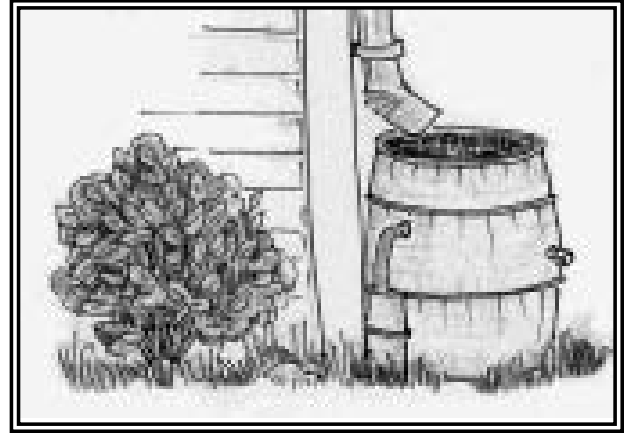
Ideally one 40 - 60 gallon rain barrel should be placed at each downspout of a home; more elaborate systems can be built utilizing multiple rain barrels at each downspout. Correctly constructed rain barrels include overflow spouts so water can be directed away from the structure with a hose.

Keep in mind that disease carrying mosquitoes can be found throughout the state. Precautions should be undertaken to minimize infestation. Mesh screens over the top opening will act as a barrier to insects. Non-toxic water treatment containing the bacterium, *Bacillus thuringiensis*, or "Bt", can be found at garden centers and hardware stores. It prevents mosquito larvae from hatching and will not harm plants.

It is important to keep the mesh screen free from leaf debris. Installing leaf guards on gutters will help. While the water from your rooftop is relatively clean, it is not recommended for human consumption.

For instructions on rain barrel construction go to: <http://shorelandmanagement.org/quick/index.html>

\*For more information on impervious surfaces see From Shore to Shore, October 2004.



*Credit: City of Superior*



*Credit: City of Superior*

# Rush Lake Island Project

Scott Lucas, Crow Wing SWCD, (218) 828-6197, [scott.lucas@mn.nacdn.net](mailto:scott.lucas@mn.nacdn.net)

The Rush Lake Island shoreline restoration project took a huge jump toward completion. The project, begun in earnest in September of 2004, still had a long way to go until late February, when Rob Abear of Pequot Sand and Gravel became involved. Abear met the challenges of getting the materials in place before the ice softened.

A grant from the Minnesota Department of Natural Resources required that most of the stabilization of the shoreline be achieved through bioengineering techniques, such as careful placement of tree stumps, logs, and vegetation, and that rock riprap be held to a bare minimum. Project leaders Mary Blickenderfer and Eleanor Burkett of the University of Minnesota Extension Service previously determined that bioengineering techniques such as those listed above are preferred over hard armor techniques (rock riprap); and are critical to the educational aspect of this project. Not only is rock riprap unnatural looking, but it also doesn't provide habitat for birds and other wildlife.

Time was a factor though as stumps, logs, and riprap needed to be hauled to the islands while the ice was able to withstand large equipment. Most of the logs were provided by Professional Lake Management and delivered to the island by Lakeside Lawn and Landscape Company. Abear and his crew hauled the stumps and rocks out to the island and began the process of reshaping the slope. The slope reshaping was extremely difficult, especially given the frozen ground conditions on the site. Abear, who had put new teeth on the bucket of his backhoe prior to beginning the project, had worn all of the teeth off again by the end of the day.

Once the bank had been properly shaped, the placement of the logs, rocks and stumps began. Abear and his crew carefully placed the materials along the bank in a manner consistent with the plans drawn up by North Central Joint Powers Board Engineer Chad Severts. Severts oversaw the project, with Wayne Mueller of DNR Fisheries dropping by to offer perspective and insight. By the time Abear had finished, roughly 600 feet of County Island had stabilization materials in place.



*Logs for shoreline stabilization*

The remainder of the toe stabilization (base of the slope) on the island will occur later as the logs and stumps are anchored and slope stabilization begins. This will require several weeks of work and involve the efforts of agency personnel, as well as assistance from many lake association volunteers.

All issues of *From Shore to Shore* are available online at [www.shorelandmanagement.org/shore\\_shore/](http://www.shorelandmanagement.org/shore_shore/)  
[wrc.coafes.umn.edu](http://wrc.coafes.umn.edu)    [www.seagrant.umn.edu](http://www.seagrant.umn.edu)    [www.extension.umn.edu](http://www.extension.umn.edu)    [www.shorelandmanagement.org](http://www.shorelandmanagement.org)



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