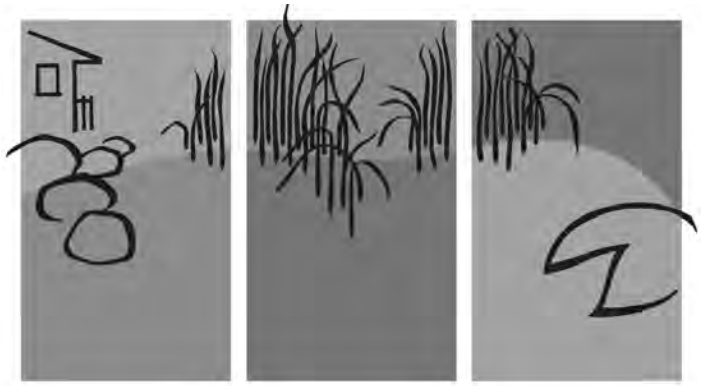

From Shore to Shore

For Minnesota citizens promoting the health of our rivers & lakes

January-February 2007

#77

Calendar of Events

→ Stearns County Contractor Workshop
January 25, 2007: 8 a.m.-4 p.m. – St. Joseph, MN
Contact: Greg Berg, 320-251-7800 Ext. 143 or greg.berg@mn.nacdnet.net

→ 17th Annual Erosion Control and Storm-water Management Conference
March 8-9, 2007 – Minneapolis, MN
For registration and agenda, visit: www.mnerosion.org

→ Lake Home and Cabin Show
April 27-29, 2007 – Minneapolis Convention Center
For more info, visit: www.lakehomeandcabinshow.com/minn/index.php

Asking Your Opinions . . .

Barb Liukkonen, Water Resources Center and Minnesota Sea Grant Program, 612-625-9256, liukk001@umn.edu

Please take a few moments and respond to the reader survey in this issue of *From Shore to Shore*. If you're reading this in hard copy, there is an extra page inside - just fill it out, fold and mail. If you prefer to take the survey online instead of mailing the paper copy, go to www.shorelandmanagement.org and click on "shore to shore news" on the front page. If you're reading this issue of the newsletter online, just click HERE, and you'll be directed to an easy-to-complete online version of the survey.

We want to know what you think about *From Shore to Shore* and how we can improve it. If the bimonthly newsletter serves a purpose, we certainly want to continue and perhaps expand it. If people don't find the information useful and timely, then maybe we don't need to keep producing it. We will use your anonymous responses to evaluate the cost-effectiveness and educational value of the newsletter, so please help with your honest answers.

Thank you.

Central Minnesota Celebrates Lake-Friendly Development

Philip Hunsicker, 1000 Friends of Minnesota, 218-824-5095, phunsicker@1000fom.org

Not all development is bad. When development is good, it is worth recognizing. The Lake-Friendly Development Awards recognize homeowners, contractors and local units of government that have developed or redeveloped lakeshore or riverfront properties in full compliance with shoreland zoning ordinances and ecologically sustainable principles. The hope is that these awards will encourage ecologically sensitive development trends along lakeshore and rivers.

Lake-friendly landscape award winners include Laurel Mezner who put down her beach rake and installed a 25-foot buffer on her property, and Todd and Tonya Person who restored approximately 135 by 35 feet of lakeshore on Gilbert Lake in Brainerd by installing a buffer of native plants. Also the Whitefish Area Property Owners Association and Rush Lake Association together with the Department of Natural Resources (DNR), University of Minnesota Extension Service, Crow Wing County Soil and Water Conservation District, Crow Wing County Parks Department and many volunteers installed a 1,635 foot erosion control research and demonstration project on two public islands on Rush Lake of the Whitefish Chain.

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Central Minnesota Celebrates Lake-Friendly Development *con't*

The lake-friendly home construction award went to ETOC Development, Inc., for a conservation design residential development called Fawn Ridge, located in Nisswa. With 16 clustered home sites on 42 acres, Fawn Ridge incorporated conservation design principles such as shared septic systems, common areas, community docks and a nature trail system. Streets were designed to allow natural runoff and minimize ground erosion. The clustered home sites allow acres of open space and to preserve natural surroundings. Buffers are maintained along the shoreline and next to wetlands. Conservation design neighborhoods like Fawn Ridge allow communities to achieve both their development and conservation objectives at the same time.

Two projects received awards for the category of "lake-friendly protection strategy." The award recipients include the DNR Alternative Shoreland Management Standards for the 5-County North Central Region, led by Russ Schultz and Paul Radomski of the DNR, along with a citizen's advisory committee. Also honored were the Kathio Garrison Mille Lacs Sanitary Sewer District and the Mille Lacs Regional Wastewater Treatment Plant for their lake-friendly protection strategy to preserve Mille Lacs Lake. The Mille Lacs Band of Ojibwe Indians' tribal government partnered with the City of Garrison and Kathio and Garrison Townships to preserve the water quality through a sanitary sewer district and a regional wastewater treatment plant. This partnership will ensure that wastewater does not pollute the general water supply or degrade the water quality of Lake Mille Lacs.

These awards are co-sponsored by 1000 Friends of Minnesota, the Brainerd Lakes Area Audubon Society, Minnesota Waters, the Crow Wing County Lakes and Rivers Alliance, the DNR, the Minnesota Chapter of the American Fisheries Society, The Nature Conservancy and A.W. Research Laboratories. ■

Shoreland Maintenance Workshop

Seventeen participants attended the Shoreland Maintenance workshop held in Sauk Centre on August 16. Participants compared various treatments at four sites, with discussions led by Eleanor Burkett and Mary Blickenderfer (U of M Extension Service) on maintenance issues and potential solutions, management techniques, and plant identification of "weed" and desirable species. This workshop was co-sponsored by the Sauk River Watershed District and the Stearns Soil and Water Conservation District. ■

Greg Berg, Stearns County SWCD, discusses successful erosion control application on a steep bank.

Shoreland Planting

The Shirt Lake Association (Aitkin County) hosted a workshop on Shoreland Planting and an Introduction to Shoreland Landscaping this summer in Deerwood. Participants received both classroom design instruction and hands-on planting experience including aquatic, wetland and upland plants. A rain garden was planted at one site to capture and prevent storm-water from entering the lake. ■

Shoreland buffer planting on Shirt Lake.

Installing a rain garden.

Healthy Rivers: What's That Mean? *Part 3 of 3*

Karen Terry, University of Minnesota Extension Service, 888-241-0843, kterry@umn.edu

The last of the five components of a river ecosystem is connectivity. This relates to how 'connected' the river is through its system. There are four dimensions of connectivity: lateral, longitudinal, vertical, and temporal. Geomorphological processes carve floodplains of the appropriate size and shape, and rivers need to be connected laterally to those floodplains. At high flows, water spreads out into the shallows of the floodplain, which slows the water down. Slower water has less power, and so rivers with properly functioning floodplains do less damage during floods. Floodplains are also important spawning habitats for some fish species and provide unique habitat for many land animals.

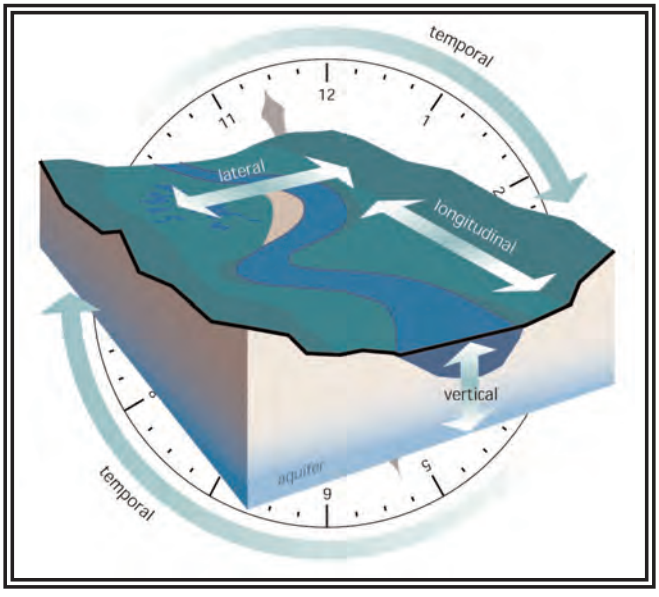
Longitudinal connectivity relates to the upstream reaches of a stream being connected to the lower reaches. Barriers such as manmade dams interrupt not only fish migration but also the movement of sediment. Dams slow the water and sediment settles out of the water column, filling in the reservoir behind the dam and making the water "sediment hungry," or capable of causing erosion, downstream of the dam.

The vertical pathway between the stream channel and the tiny openings in the sediment beneath the stream, called interstitial spaces, are important for many species of invertebrates as well as some fish species. There is still a lot to be learned about this buried part of streams, but it is thought that a large percentage of living organisms inhabit this part of the river.

The last of the four dimensions of connectivity is temporal, meaning that rivers need to be connected through time. One example of this is the seasonal flow of water through a river. In general, Minnesota's rivers have high flows in the spring due to snow melt, and low flows in late summer. Human alterations to this flow pattern affect the temporal connectivity, which in turn affects the species that depend on certain patterns in time.

The five components of river ecosystems all play a part in determining system health. Consider northern pike, which depend on floodplain habitat for spring spawning. If the hydrology is altered so that there is no high water in the spring to reach the floodplain, or if the channel is reshaped (geomorphology) so that the floodplain no longer exists, then the pike cannot spawn.

Similarly, if the channel is blocked by a dam so that the fish cannot migrate upstream to the appropriate habitat (connectivity) or if the water quality is simply too poor to support the fish (biology), then the overall system becomes poorer. All five components need to be taken into account when assessing a river's condition, or when a project is being done, in order to maintain a healthy, well-functioning river ecosystem. ■



The four dimensions of stream connectivity. Credit: In Stream Corridor Restoration: Principles, Processes, and Practices, 10/98. Interagency Stream Restoration Working Group.

Living with Wildlife – Geese Got You Down?

Cindy Hagley, Minnesota Sea Grant, 218-726-8713, chagley@umn.edu

People who work in natural resources or water quality disciplines and interact with the public get a lot of questions every year related to geese problems. Knowing a little bit about Canada geese can help make it easier for us to live with each other.

Those of us who grew up in the 1960s and 70s got very excited by the rare sound of Canada geese migrating overhead in spring and fall. Nowadays the much more routine sight of geese is just as likely to trigger very different emotions because they have become a nuisance in many areas. What has changed? The geese that migrate through the state are actually a different subspecies of Canada goose than the ones that have adopted our urban lakes and lawns and often remain throughout the winter. Populations of the pesky giant Canada goose, nearly eliminated from the region by the 1930s through wetland drainage and uncontrolled hunting and egg collection, have recovered and found everything they need to survive right in our backyards, including public parks, golf courses, beaches, playgrounds, and lawns.

The problem is that too many geese can result in significant concerns** including:

- fecal contamination;
- water quality problems, including nutrient and bacteria additions;
- aggressive bird behavior, especially during breeding seasons;
- interference with human activities like picnics and swimming;
- aircraft collisions and airport approach safety;
- disease transmission among birds;
- erosion and grazing damage where waterfowl congregate.

(**D.L. Sperling, *Wisconsin Natural Resources* magazine, December 1998.)

So what can you do if geese have moved in with you? Probably the simplest solution is to try and see the world from a goose's viewpoint. Geese are often nuisances because they are looking for the same real estate as humans – nearby water, lots of grass (their preferred food source), and few places where predators can hide. As our shorelines become more developed and urbanized, we create more and more habitat for geese, but there is good news – some simple solutions not only reduce goose problems but also help protect the water quality of our lakes and streams. Reducing the size of your lawn and increasing the native shrubs and perennials near the water's edge will make your property less attractive to geese, especially if there is dense, native vegetation along the shoreline. Doing this removes the feeding habitat and eliminates their "escape route" from predators. Shorelines that are allowed to grow over with tall grasses and shrubs are not only less attractive to geese but also help to reduce water quality impacts from erosion, sedimentation, and nutrients that can come from urban lawns. Not only that, but less lawn means less of your time at the lake is spent on lawn care!

Adult geese and goslings can cause problems for lawns.

Many more suggestions for goose control can be found at: www.wnrmag.com/stories/1998/dec98/geese.htm.

From Shore to Shore is made possible by Minnesota Sea Grant, in cooperation with the University of Minnesota Water Resources Center and University of Minnesota Extension Service.