



Wisconsin Natural Resources magazine

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Volunteers in Eagle River, Vilas County, replanted vegetation at the T-docks, a popular launch site and public dock. A local greenhouse helped organize the project and supplied the native plants. © DNR Photo

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Current Issue

Less work, more beauty, better protection

Owners who restore manicured shorelands to a more natural state spend less time mowing the lawn and more time enjoying their lakes.

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A little lawn here, bits of sand beach there, a pier here, a boathouse there -- and soon enough the natural habitat around a lake or river shoreland disappears. Fifty years ago, most Wisconsin lakeshores were virtually undeveloped. Today, many lakes are ringed with year-round 2-, 3- or 4-bedroom homes on small lots with lawns, driveways and two-car garages. The growth hasn't been benign: Water quality often declines to the detriment of fish and other aquatic species; wildlife dwindles with the loss of habitat; once-wild scenery becomes tame. As we simplify the environment and remove protective elements like trees and aquatic plants, the very things that drew us to the water vanish.

What happens on the shore is reflected in the water. The slow but insidious influence of many small actions can devastate the ecological health of our shores and waters. Fortunately, the inverse is also true: The cumulative impact of many small individual improvements can restore and preserve our waters for generations to come.

By establishing a buffer zone of native trees, shrubs, grasses and wetland species that extend inland from the ordinary high water mark, a project to restore shoreline habitat can bring back the

natural functions provided by the original vegetation.

Landowners at water's edge have an investment in -- and a responsibility for -- a healthy future for Wisconsin's lakes and rivers. Across the state people are gathering data on lake waters and shore areas, attending workshops on restoring native vegetation, and building homes that *suit* rather than *assault* the environment. You'll meet some of them here, and learn about the programs available to assist property owners seeking to return their shores to a more natural state.

Restoring the shores of Green Lake

On Green Lake, the namesake and aquatic gem of Green Lake County, Nancy Hill, president of the Green Lake Association and project leader, advises new property owners to be patient. "I ask them to not remove near-shore vegetation immediately after moving in," she says. "I encourage them to live on the property for a couple years, to pause and reflect before they cut anything."

Her important message gets a lot more mileage thanks to RSVP -- The Revitalization of Shoreland Vegetation Project, a group of area citizens, businesses, local and state government officials. The organization aims to preserve or restore native plants along Green Lake's shores by educating property owners, nurseries, landscapers, lawn services, contractors and realtors. Businesses following sound environmental practices can obtain RSVP certification.

The group receives technical assistance from Sarah Mandleco, a DNR wetland and shoreland restoration specialist. Mandleco spends three or four days a week meeting with shoreline property owners and making site evaluations. "What I tell people is that it's okay to start small, " she says. "Really, the first step is to realize that you can do something to help your lake. Then, make a decision to do it.

"Usually, I start by asking people to quit mowing so close to the

Natives or nuisances?
<p>Many communities have weed control ordinances to ensure landowners maintain their lawns and other properties in an "acceptable" condition. In most cases, these ordinances were originally adopted to regulate plants perceived as harmful to agriculture.</p> <p>Unfortunately, many such ordinances were put on the books at a time when the benefits of a natural shoreline were not well known. As more property owners are deciding to go with natural shorelines, these same property owners are facing enforcement action by local communities.</p> <p>What's a waterfront property owner to do?</p> <p>According to Linda Meyer, Wisconsin DNR attorney, Wisconsin courts have established that a local ordinance is invalid if it has the effect of frustrating a regulatory policy established by the State Legislature. Under section 59.692(7), Wis. Stats., a local unit of government cannot legally enforce a local ordinance that conflicts with the state shoreland zoning ordinance (NR 115). This applies if the property is located in an unincorporated area, in an area incorporated after April 30, 1994, or in an area annexed to a city or village after May 7, 1982.</p>

shore," she says. Mandleco also suggests "editing the view" by selective pruning, or removing a few branches instead of a whole tree.

What if your property lies in an area not subject to shoreland zoning under state statute? It might be possible to educate your city or village leaders. Visit your local DNR or County Extension office for brochures on the benefits of shoreline vegetation -- and share that information with your local officials. -- **John Hagengruber**, DNR Shoreland Management Specialist

Mandleco marveled at the enthusiasm of one homeowner: "He came to us with some concerns about shore erosion due to ice," she says. "Soon he was off experimenting with bush wattles and buckthorn control measures on his shoreland, and sharing his thoughts with others during a recent workshop."

"That's the contagious nature of this project," notes Hill. "The benefits of shoreland revegetation are obvious: less work, more beauty, better protection. We've seen a real domino effect of interest."

Astute landscapers, realtors and others in property-related businesses see opportunity in the trend toward restoration. Bloch's Greenhouses has followed Lakeway Property Management to become the second area business certified by RSVP. Owner Sue Ellen Bloch and three employees attended an RSVP workshop, where they discovered they already were employing many proper shoreland management techniques, such as creating large group plantings and using native grasses. "We just didn't know the terminology!" says Bloch.

Bloch's greenhouse inventory, which includes 900 varieties of Wisconsin-grown perennials, overlapped nicely with the list of native plants recommended by RSVP. "I find the growing concern about the health of this superb body of water to be exciting," Bloch says. "RSVP is a major force behind this enthusiasm. I love knowing that we are making a difference. We're listening to the water."

A new view for Vilas County

What does a revegetated shoreline really look like? And how does a person start to replant a shoreline that's all grass?

The City of Eagle River tried to answer these questions through a cooperative demonstration project with the Vilas County Lakes Association, DNR, and the Vilas County Land and Water Conservation Department. For the demo, the group selected a popular public park and boat landing on the Eagle River Chain of Lakes known as the "T-docks" (appropriately named for its T-shaped dock) because, like so many shorelines, it had been maintained as a lawn for many years.

"We wanted to show

people what a restored shoreline looks like, explain why it's so important to water quality and wildlife habitat, and demonstrate the use of various plants species and restoration techniques," says Tiffany Lyden, Vilas County lake conservation specialist.

Brent Hanson from Hanson's Rhinelander Floral and Garden, a local nursery that grows native lakeshore plants, developed a plan for the site and supplied all the plants, shrubs and trees for the project. "Brent did a lot of research into what to plant, including some inventories of nearby natural shorelines," says Lyden. "He wrestled with the 'native' issue -- is a plant native to the Midwest, to Wisconsin, to northern Wisconsin, to Vilas County?"

Lakefront property owners, master gardeners, Wisconsin Conservation Corps youth, parks commission members, and interested citizens all volunteered time and effort to properly place the plants. Three employees from the Lac du Flambeau Tribal Natural Resources Department came to help and to learn more about shoreland restoration so they could recover a site on the reservation.

"Local leadership is key," says Lyden. "Eagle River native Jessica Eibner kick-started the project. She spoke to the Lions Club and the city council to get their approval. She had the local ties in the community that really helped." Joe Tomlonovich, public works director for the City of Eagle River, helped complete the paperwork for bids and located topsoil, wooden posts and hoses for watering the newly established plants.

In walking through the site, you'll see a "no-mow" area, various perennial plantings using different site preparation methods, a number of shrub and tree plantings, wildflower seeding and a bio-log demonstrating an alternative to rip-rap for erosion control.

A year later, the park has become quite a different place. It's still used just as heavily by boaters, anglers and picnickers, but much of the shore has been transformed from sterile lawn into lively shoreline habitat. Colorful Joe Pye weed and marsh milkweed, attractive red osier dogwood and highbush cranberry shrubs as well as new white pines and red maples provide food and shelter for birds, butterflies and other species. Now, the shore does a better

Let dead trees lie

Trees that fall into the water create vital fish habitat. Small fish gather to feed on invertebrates in the wood, and use the cover to hide from predators. Very large fish like musky haunt fallen trees, hoping to ambush reckless prey. And musky anglers flock to tree-falls.

Scientists from University of Wisconsin Center for Limnology studied shoreline fish habitat on 16 northern lakes. They estimated the density of woody cover along undeveloped lakeshores at about 1,100 logs per mile -- about one log every five feet. Their results show that as homes become denser, the number of fallen trees dwindle. Although some tree-falls are very persistent (submerged white pine trees can provide habitat for centuries), they don't last forever, and future "habitat recruits" must come from the shore. Dead trees standing along our shore provide wildlife habitat today, and are the future source for tomorrow's fish habitat.

job of protecting water quality.

Replanting St. Croix County shores

In the fall of 1996, DNR and the St. Croix County Lakes Priority Watershed made area shoreland property owners a tempting offer: The landowners would be reimbursed for up to 70 percent of the cost of plants, seed and mulch if they agreed to dedicate a 35-foot-deep strip above the lake edge as restored natural vegetation. Karen Voss, DNR watershed coordinator, and Pete Kling, project manager of the St. Croix County Lakes Priority Watershed, pioneered the effort.

Kling recalls how it all got started: "Four Squaw Lake landowners, together owning over 500 feet of adjoining shoreline, expressed an interest in restoring portions of their property. It was the perfect site -- all of them used to mow right down to the water, leaving no buffer at all. When the soil got too wet for a mower, out came the weed whip to finish off any aquatic plants."

Despite their interest, the landowners still had doubts about how the restoration would look when it was completed. And all of them had reservations about entering into an agreement they had to honor for 10 years.

"We began meeting as a group, which was a good forum to test the question, 'what will my neighbor think of my shoreland restoration idea?'" says Kling. "But soon I began to recognize divisions within the group. Surprisingly, they were not between individual landowners, but within single households. Landowners generally accepted, even respected what their neighbors wanted to do with their land. But differences of opinion between husband and wife about how the yard should look nearly dealt the entire restoration project a killer blow. I will never underestimate the power of a green lawn!"

Buffers for frogs, birds and plants

DNR researchers Mike Meyer and Martin Jennings have been studying how shoreland development affects fish and wildlife. Their research shows just how vital undisturbed shoreland and near-shore habitats are to lake ecosystems:

Green frogs are an excellent indicator of healthy near-shore habitat. Male green frogs establish breeding territories within two feet of a lake's edge and defend it against other breeding males. During the breeding season (early June-late July) researchers survey green frogs on 24 developed and undeveloped lakes in Vilas and Oneida counties. Results indicate that as lakeshore development becomes denser, green frogs decline in abundance.

During the summer of 1997, biologists measured the **native vegetation** at 146 lake sites to compare the physical structure of vegetation along undeveloped shorelines with those along developed shorelines. Understory trees and shrubs were reduced to very low levels along developed shorelines.

Songbirds may also be affected by shoreland development. Meyer's results show that although the total number of birds has not changed, the species have changed. Less common neotropical migrant species like warblers and vireos have declined, while abundant suburban-style birds like bluejays and grackles have increased.

Ultimately, only one couple, Bob and Martha Houck, signed on to the project. They agreed to try two things on their property: 1) kill the existing lawn and replace it with native prairie species, and 2) quit mowing a section of lawn near a patch of existing natural vegetation to see what might grow in. Ron Bursik of Dragonfly Nursery in Amery helped the Houcks select various plant species appropriate to an area that was historically prairie or oak savannah.

To begin the process of restoring a shore, the grass must go. Black plastic does the job quickly and safely. © Peter Kling



"The Houcks did 90 percent of the installation," says Kling. "We used black plastic to kill the existing grass. They hated it...thought it made their cottage look like a dump. Besides, people were talking! So they removed the plastic before the grass was completely killed. I thought future competition from grass would be a problem, but it wasn't." Altogether, the Houcks planted 1,000 native grass and flower plugs.

"Later that summer, the grass started competing with the plugs, but it was no match for Martha's weeding skills," Kling recalls. "At first I thought they were doing too much work -- after all, one of the selling points was how much time they would save by not having a lawn to mow. They were turning the project into a flower garden! But during this time, they were taking ownership. It wasn't my project anymore; it was theirs."

By the summer of 1999 the restoration was looking great. Pioneering cattails, sedges and arrowhead along the shoreline helped give the site a more natural look, and the Houcks are especially delighted with the purple coneflower, lupine, liatris and black-eyed susan.

"They took a risk, and today they're proud of the project," says Kling. "They're always willing to host a tour to promote shoreline restoration."

Since the initial effort in 1996, response from area landowners has been enthusiastic: Twenty-nine new sites were completed in 1997-1998, 10 additional sites in 1999. The restored sites host a greater diversity of insect species, while manicured lawns

Plant a packet

DNR nurseries offer two planting packets for shoreland areas in northern Wisconsin -- one for sandy soils and one for moist soils. The packets contain 100 tree seedlings and 200 shrubs, with different combinations of species: northern red oak, red pine, white spruce, white pine, hemlock, sugar maple, hazelnut, and red osier dogwood. Each packet costs \$102 plus sales tax. Packets should be ordered in fall or winter and usually are available from DNR nurseries for planting in

remain havens only for ants. As the sites mature and develop further habitat,

April or May.

St. Croix watershed staff will complete surveys of other wildlife such as amphibians, songbirds and small mammals.

The margins of our lakes and rivers bridge the two worlds of land and water. With fallen trees, overhanging cover, emergent and submerged plants, and a diversity of depths and bottom types, a natural shore shelters a uniquely rich and diverse habitat. Shoreland property owners who protect and restore this valuable resource do a great service to us all.

More about the shore

The DNR and the University of Wisconsin-Cooperative Extension Service (UWEX) offer a variety of resources and materials to help lakefront and stream bank property owners plan restoration projects and improve habitat.

DNR web: www.dnr.state.wi.us/org/water/wm/dsfm/shore/develop.htm

UWEX web: clean-water.uwex.edu/

Lakescaping for Wildlife and Water Quality -- A detailed guide for shoreland restoration in Wisconsin (180 pages, \$19.95, available from the Minnesota Bookstore at 1-800-675-3757). Highly recommended by DNR staff.

"The Living Shore" -- A 17-minute video produced by UWEX and University of Minnesota Extension. Call the Wisconsin Association of Lakes (1-800-542-LAKE) to order a copy for \$15 plus \$2 in shipping, or check your local library for a copy.

"The Water's Edge" -- A 12-page brochure about improving lakeshore habitat. Available from your local DNR Service Center.

"Life on the Edge: Owning Waterfront Property" -- Produced by UWEX. Send \$3 per copy plus \$1.50 for shipping and handling for a total of \$4.50 (make checks payable to UW-Extension) to: UWEX-Lakes Program, College of Natural Resources, UW-Stevens Point, 1900 Franklin St., Stevens Point, WI 54481.

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