

Restoring a shoreline

Just stop mowing, or plant wildflowers, shrubs

The concept of “shoreland restoration” has captured local interest in many places around Wisconsin. Lake organizations and local agencies like the Land and Water Conservation departments are successfully developing innovative projects to promote water quality protection and prevent erosion along shorelines.

Often restoring a shoreland area or buffer strip becomes a goal for landowners adjacent to lakes or streams.

“Restoring a shoreline can be as simple as putting the mower away and seeing what comes up ‘no-mow scenario,’” said Patrick Goggin, county conservationist for Vilas County Land and Water Conservation Department.

“Native wildflowers, grasses, shrubs, and trees will creep back into an unmowed area along the shore over time,” said Goggin. “Landowners can augment this process by adding native seeds or plant material to the area. Once native plants are re-established in an area, they can typically take care of themselves, since they are uniquely adapted to our region's soil and climate conditions.”

Goggin helps the Three Lakes Waterfront Association get the word out on individualized lake stewardship methods.

Another scenario described by Goggin is to develop a planting plan to revegetate bare soil and or lawn areas.

“Take a closer look at your shoreland property. Inventory your site for existing native vegetation as it relates to the aquatic, transitional, and upland zones of your shoreland buffer strip,” he said.

Goggin encourages shoreland property owners to observe natural areas around their lake or stream for suitable vegetation.

“You can consult a resource professional if you need help identifying the plants that you see, while creating a list of the plant that will work best for your restoration.

He said property owners should select native plants that you like based on the sunlight available, soil conditions on their property. The next step is to determine what the pH is in the soil and whether the plants will be located in wet or dry areas.

Other considerations include addressing erosion control needs of the site or trying to attract specific kinds of wildlife to the shoreland.

“Native plants are those species evolved in a particular region long before the arrival of the first European settlers,” said Goggin. “It is easier to work with nature than against it; these native plants are adapted to our local soils and climate.”

He said several nurseries in northern Wisconsin offer native plants. A list of nurseries that carry native plants and seed suitable for shoreland areas is available on the Wisconsin Department of Natural Resources (DNR) web site at www.dnr.state.wi.us/org/water/wm/dsfm/shore/documents/nativeplants.pdf.

Before planting, your site needs to be properly prepared. Remove non-native, competing vegetation through smothering your site with black plastic or by applying herbicide. Be careful with herbicides next to water.

Goggin said a glyphosate herbicide like Roundup[®] is safe and works well if the directions are followed properly.

When planting, avoid soil erosion by leaving dead vegetation in place to serve as a mulch to capture moisture, reduce weed growth, and hold the soil in place.

The following are some steps to keep in mind when planting trees and shrubs.

- Keep bare-root stock or other material moist and cool before planting. The best time to transplant trees and shrubs is in the spring before they leaf out.
- When planting, dig the hole deep enough so that the roots do not curl or bunch up. Pack the soil firmly around the roots up to the base of the plant.
- Water the plants regularly and mulch with a 2-foot diameter around each plant at a depth of 2 to 3 inches deep with wood chips.

Native trees and shrubs suitable for wet areas include: balsam fir (*Abies balsamea*); chokeberry (*Aronia melanocarpa*); elderberry (*Sambucus canadensis*); grey dogwood (*Cornus racemosa*); meadowsweet (*Spiraea* spp.); nannyberry (*Viburnum lentago*); sweet gale (*Myrica gale*); tamarack (*Larix laricina*); and white cedar (*Thuja occidentalis*).

Native trees and shrubs suitable for dryer sites, transitional and upland areas, include blueberries (*Vaccinium* spp.); bearberry (*Arctostaphylos uva-ursi*); bunchberry (*Cornus canadensis*); downy arrowwood (*Viburnum rafinesquianum*); jack pine (*Pinus banksiana*); hazelnuts (*Corylus* spp.); New Jersey tea (*Ceanothus americanus*); northern red oak (*Quercus rubra*); pin cherry (*Prunus pensylvanica*); red maple (*Acer rubrum*); red pine (*Pinus resinosa*); serviceberries (*Amelanchier* spp.); and sweet fern (*Comptonia peregrina*).

General guidelines to follow when planting wildflowers, grasses, sedges, and rushes includes grouping plants in clumps of three to five to get a more natural pattern and effect vs. planting single species all in one row or in regular intervals along rows.

Again, paying close attention to color patterns and spatial arrangements of species in native communities can provide a model for planting patterns on your shoreline.

Note that costs for plants can vary zone by zone, such as planting small plugs in transition zone, seeding in upland zone, or planting larger potted plants by a path. Lakefront owners can always combine the different planting options: live plants in pots, plugs, flats, containers or bare-root seedlings, with seeds, and live stakes or wattles.

Plant your seedlings from June 1 until September 15. To determine how many plants are needed, you'll need to know how far apart to space the plants. For trees and shrubs, allow adequate room for them at maturity. Some overlap is good.

A rule of thumb for most shoreline plants is to estimate a spacing of about 1.5 to 2 feet. A planting density of 75 to 100 plants per 100 square feet is a general recommendation for wildflowers, grasses, sedges, and rushes. "Water your new seedlings regularly after transplanting to ensure their survival. Over time, monitor the planted area for invasive species and eradicate them immediately if detected," said Goggin

Examples of native wildflowers suitable for wet sites include blue vervain (*Verbena hastata*); cardinal flower (*Lobelia cardinalis*); flat-top aster (*Aster umbellatus*); marsh marigold (*Caltha palustris*); meadow rues (*Thalictrum* spp.); New England aster (*Aster novae-angliae*); northern blue flag iris (*Iris versicolor*); swamp milkweed (*Asclepias incarnata*); sweet flag (*Acorus calamus*); and turtlehead (*Chelone glabra*).

Examples of native wildflowers suitable for dryer sites include: bergamont (*Monarda fistulosa*); big-leaf aster (*Aster macrophyllus*); black-eyed Susan (*Rudbeckia hirta*); columbine (*Aquilegia canadensis*); fireweed (*Epilobium angustifolium*); stiff goldenrod (*Solidago rigida*); and wintergreen (*Gaultheria procumbens*).

Experts advise the planting of at least 30 % native grasses, sedges, and rushes as a backdrop to wildflowers in bloom. These deep-rooted native plants will also stabilize banks and help minimize erosion.

Examples of these native species suitable for wet sites include: blue-joint grass (*Calamagrostis canadensis*); bottlebrush sedge (*Carex comosa*); Canada wild rye (*Elymus canadensis*); caterpillar sedge (*Carex crinita*); lake sedge (*Carex lacustris*); manna grasses (*Glyceria* spp.); wool grass (*Scirpus cyperinus*).

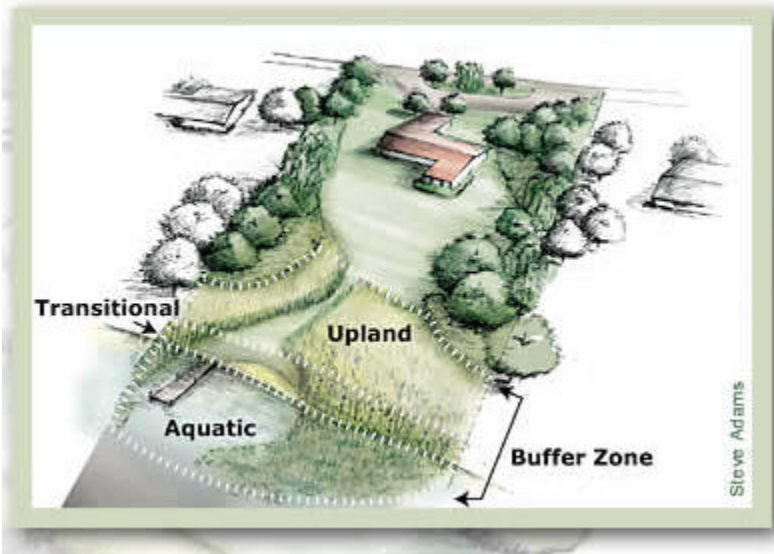
Examples of these native species suitable for dryer sites include: June grass (*Koeleria macrantha*); path rush (*Juncus effusus*); Pennsylvania sedge (*Carex pensylvanica*); poverty-oats grass (*Danthonia spicata*); rice grass (*Oryzopsis asperfolia*); switch grass (*Panicum virgatum*); wild rye (*Elymus virginicus*).

Goggin said some shoreland restoration activities require local and state permits. Consult your local Land and Water resources specialist for assistance.

For more information about shoreland restoration, check out these websites:

< DNR Shoreland Program www.dnr.state.wi.us/org/water/wm/dsfm/shore/youdo.htm and

< UW-Extension's Shoreland Restoration www.uwex.edu/ces/shoreland/.



A mosaic of native shoreland plants: starting with bottom center and moving clockwise-blueberry (*Vaccinium angustifolium*); cardinal flower (*Lobelia cardinalis*); bergamont (*Monarda fistulosa*); lake sedge (*Carex lacustris*); stiff goldenrod (*Solidago rigida*); and tamarack (*Larix laricina*).

