Vegetation Buffers: Protecting Our Shorelands and Waters

What is a Vegetation Buffer?
A vegetation buffer is an un-mowed area of land that separates a lawn from a lake or river. It might be planted with vegetation, or it can simply be an untouched area left to grow naturally.

In addition to vegetation buffers that separate lawns from lakes and rivers, there are also agriculture buffers and urban buffers. An agriculture buffer is a vegetated buffer that separates a lake, pond, creek or river from an area that is grazed or planted with crops. An urban buffer is a vegetation buffer that exists between impermeable urban infrastructure such as a parking lot or road and a river.

What are the Benefits of Vegetation Buffers?
Vegetation buffers help protect water quality by reducing erosion, stormwater runoff, and nutrients that enter the water. In particular, vegetation buffers:

stabilize the shoreline and reduce erosion. Roots of native plants run deep, helping to stabilize the shoreline by holding the soil together. A vegetation buffer of native plants is an effective, attractive alternative to rip rap (a collection of stones used as an embankment) or retaining walls.

reduce runoff. Unlike the shallow, compacted roots of turf grass, which allow little water to penetrate the soil and instead cause water to run off into lakes and rivers, the deep roots of native plants and grasses allow water to filter down into the ground. These plants also help remove nutrients and pollutants from the ground by taking them up through their roots and absorbing them, thereby reducing the amount that reaches lakes, rivers and streams.

provide habitat. Vegetation buffers planted with native plants provide a diverse habitat for butterflies, birds and other wildlife. On the flip side, buffers can also act as a deterrent for unwanted wildlife such as geese, which prefer the open areas of lawns.

are easy to maintain. One of the best things strategies to maintain a vegetated buffer is to just leave it alone. Native plants have adapted to the conditions around them, so they require little maintenance such as watering, weeding, fertilizing or mowing.

Fun Facts about Runoff Rates
On an undisturbed natural landscape, only about 10 percent of water runs-off and the majority is infiltrated on-site, which is the optimal scenario for maintaining healthy lakes and streams. According to the Wisconsin Department of Natural Resources, properties that have a manicured lawn planted all the way down to the lakeshore have runoff volumes 5 times more than that of a vegetative shoreline. Phosphorous volumes increase 6 times and there is 18 times more sediment entering the water body from a manicured lawn compared to a vegetated shoreline.

How Can I Create a Vegetation Buffer?
The easiest way to create a vegetation buffer is to select an area along the shoreline, stop mowing, raking or weeding and just let the vegetation grow naturally. This is called a *no-mow buffer*. Shoreland buffers should at least be 15 feet deep to effectively reduce runoff from reaching the water body.

Before and After Photos of a Shoreline Buffer

Photos courtesy of the MN DNR, Heather Baird

In some areas you might choose to restore the shoreline back to a natural habitat by planting native vegetation. Native plants enhance a vegetation buffer in ways that non-native plants do not, for example: they better endure changes in temperature and precipitation levels; they often spread more rapidly and consistently, forming a denser mass of roots with which to filter runoff; and they tend to require little or no fertilization and other maintenance.

Before starting a landscaping project, research local ordinances and permitting processes to make sure you follow them. Call your local soil and water conservation district, county, city, or township office with questions about rules and regulations

What Are Some Minnesota Native Plants and How Can I Find Them?

Below is a list of some of the wide variety of trees, shrubs, grasses, and flowers considered native to Minnesota. You may even find some of your favorite plants here!

Common Name

American hazelnut
American highbush cranberry
big bluestem
black eyed Susan
blazing star
blue false Indigo
bur oak
gray goldenrod
interrupted fern
lake sedge
little bluestem
mountain ash
prairie smoke
red osier dogwood
showy goldenrod
showy sunflower
sky blue aster
switchgrass
Virginia bluebells
wild columbine
wild prairie clover
wild geranium
white oak
wild plum
wild rose
white waterlily
yarrow

For a full list of Minnesota native plants, please visit the University of Minnesota Extension Service website at www.extension.umn.edu/distribution/horticulture/components/7447z.pdf

Many local greenhouses and nurseries carry some native plants. Visit the MN Department of Natural Resources website for a list of native plant nurseries. www.epa.gov/greenacres/nativeplants/factsht.html#Native%20Plant

Want to Know More?

Minnesota Shoreland Resource Guide, "Naturalizing Your Shoreline"
612-625-9256
www.shorelandmanagement.org/quick/faqpdf/nsfaq.pdf

Minnesota Department of Natural Resources, "Natural Buffers and Lakescaping"
651-259-5700
http://files.dnr.state.mn.us/publications/waters/shoreline_alterations_lakescaping.pdf

For more information on agriculture buffers visit:
Natural Resource Conservation Service, "Buffer Strips: Common Sense Conservation"
www.nrcs.usda.gov/feature/buffers/

For more information on urban conservation and buffers, visit:
Minnesota Pollution Control Agency, "Low Impact Development"
www.pca.state.mn.us/water/stormwater/stormwater-lid.html