East Otter Tail
Soil & Water Conservation District

# Otter Tail County Lakeshore Landscaping Manual


A guide to protecting water quality with perennial plantings.

Personal design assistance is available.

We are fortunate in Otter Tail County to enjoy lakes with good water quality and scenic views. Growing up with bountiful resources of water, fish, and wildlife is a blessing many of us enjoyed and hope to preserve for future generations.

This guidebook is intended to help you design and install native wildflower plantings to protect and improve water quality in your lake, stream, and/or neighborhood.

Deep-rooted native vegetation absorbs and purifies both surface runoff and shallow groundwater, reducing the amount of runoff and pollutants reaching the lake or stream.

**Benefits of Native Plantings:**

* Increased privacy
* Reduced lawn maintenance
* Improved water quality for fishing and swimming
* Provides better erosion control than common alternative methods such as rip rap, concrete, or retaining walls
* Provides habitat for native wildlife, especially pollinators

## Getting Started on Native Plant Shoreline Buffers and Rain Gardens

**Analyze the Site:**

Identify everything that is on the site: note sunlight patterns, wind patterns, slopes, climate, rain runoff areas, shoreline, existing plant material, type of soil, structures, walkways, and driveway.

1. Try to preserve any natural features
2. Figure out how water flows across your yard, noting areas that pool or receive a large flow

**Choose the Right Spot:**

1. Plantings that catch downspout discharge or surface runoff have a direct impact on water quality
2. These plantings can be located in road ditches, between buildings, or on slopes
3. The deep roots of native plants capture, purify and utilize large amounts of water so correct placement is important in landscape
4. Planting on slopes near the lake combine both benefits and eliminate hard to manage areas

## Planning a shoreland buffer or rain garden? Some questions to ask before you begin.

**Is your main goal to provide habitat for birds, butterflies, pollinating insects and other wildlife?** Choose plants that are higher in wildlife value.

**Are you looking for a showy splash of color in your landscape?** Include more forbs and use fewer grasses and make sure your design includes plants with interest year-round.

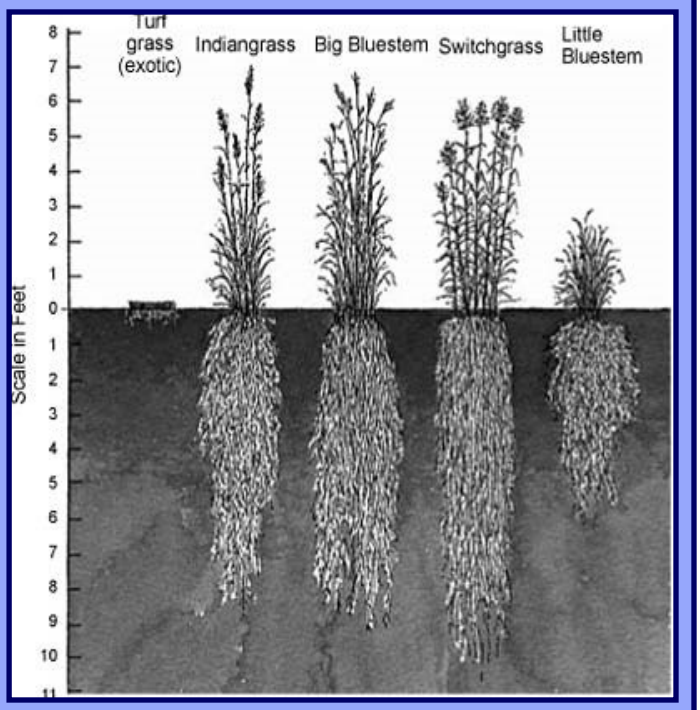
**Is your goal to have a more functional planting, such as erosion control, stormwater runoff and water filtering?** You will want to consider fast-growing rhizomatous plants to hold the soil. Once established these become low maintenance.


### What is a rain garden?

A rain garden is a planted shallow depression designed to catch and filter rainfall runoff. They provide attractive landscaping that can turn drainage or erosion problems into beauty for your yard. The garden is designed to slow stormwater runoff, help prevent erosion , and remove pollutants.

### What is a native shoreland buffer?

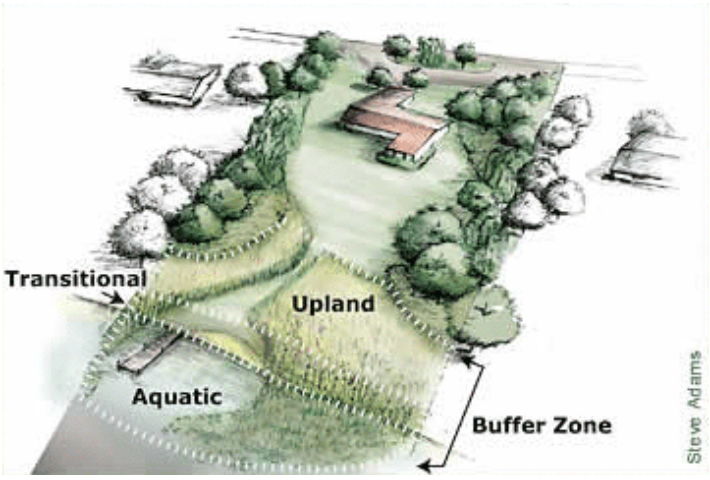
A native shoreland buffer is a natural or restored shoreline carpeted by native plants which enhance the quality of lakes and streams as well as recreational activities. Native shorelines help improve water quality by slowing runoff and filtering nutrients, reducing erosion, and providing habitat for wildlife. They also add beauty and color to shorelines as well as providing privacy.




### Why plant natives?

Native plants have much deeper roots than common introduced turf grasses and hold soil better. They are also more tolerant to drought and require much less maintenance in the form of mowing or fertilizing. By choosing natives, you'll preserve a more natural appearance and probably have better plant survival than with imported cultivars.

**Choose a Landscape Style:** The style of rain garden or shoreline planting you prefer has a large influence on your planting. Plant choices, height layouts, site preparation, and annual maintenance vary based on garden type. Height profile is also a personal preference that can be built into a planting.




**Pick Your Plant Heights:**
Knee-2 feet
Thigh-3 feet
Navel-4 feet
Shoulder-5 feet

If you have room, taller plants as well as trees and shrubs add structure to your planting and attract more wildlife. Many taller plants are vigorous bloomers and don't reach full height until after mid-summer. Shrubs often have early blossoms, berries, and excellent fall colors.

## Permits:

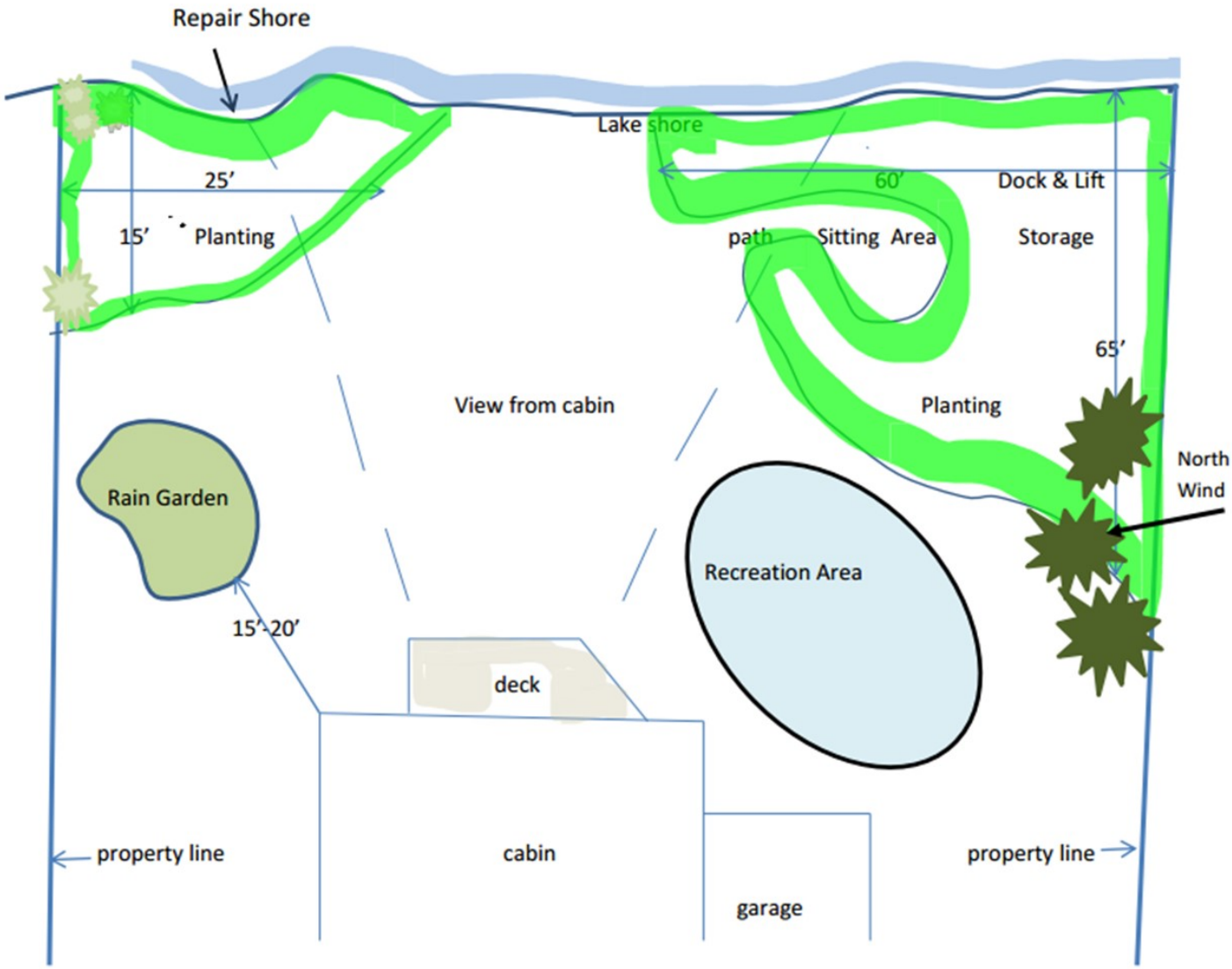
**Your project may require them.**

**Otter Tail County Land & Resource** permits are required if any soil will be moved within 100' of the lake. Contact (218)-998-8095

**MN DNR** permits are required to plant aquatic vegetation or spray herbicides on aquatic vegetation Contact DNR Aquatic Plant Management at (218)-755-3959 for more information.

Other permitting agencies include but are not limited to **City**, **Township**, or **Watershed District**.

Vegetation conversion alone usually does not require a permit but always check before beginning any projects.
Contact the Shoreland Specialist at (218)-346-4260 ext.3




## Planning your Project

**Start with a Sketch:**

Sketching will allow you to visualize your project, especially things like plant placement or height and different elements of your yard.

Start by defining your landscape areas. Include things like pathways, outdoor living areas such as patios, benches, and decks, and service areas for docks, boat accesses, etc.

Mark areas of excessive shade or full sun, wet or dry soils, steep slopes, viewing lines, and prevailing winds on your sketch. This will help simplify plant selection for your projection (see illustration above).

**With your sketch you can now…**

* Select your plants and materials
* Contact the EOT SWCD shoreland specialist to create a plan
* For more information, visit eotswcd.fatcow.com/EOT or call (218)346-4260 ext. 3

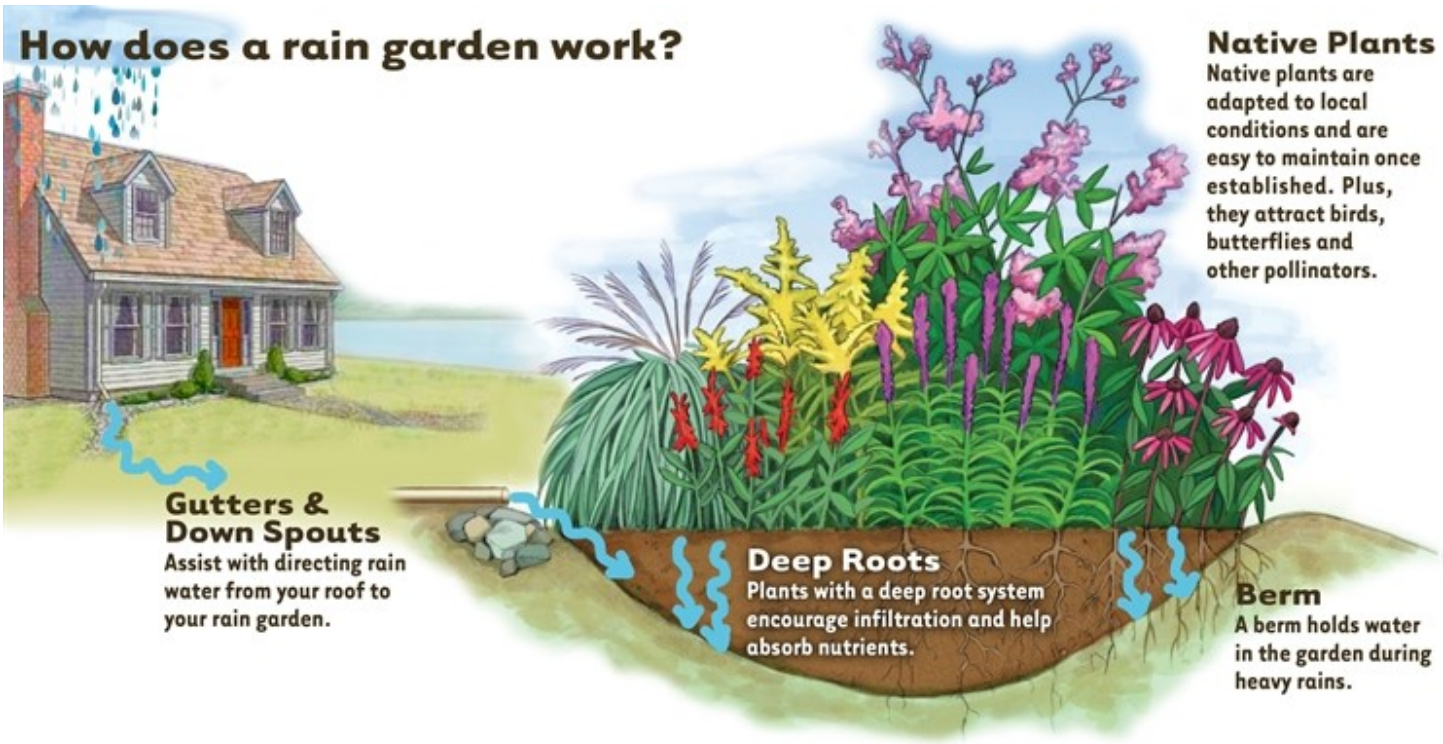
# Site Preparation

***Preparing your site is similar to preparing any perennial bed. In general, all existing vegetation must be killed before re-establishing native flowers and grasses.***

1. Apply a lake-friendly Roundup formulation (Eraser AQ, Killz All Aquatic, Rodeo) to kill existing vegetation. These won't harm water quality if label directions are followed.
2. Apply 2 applications 10 days apart. Apply the last treatment 10 days minimum before planting. Rake the ground between applications to get rid of dead vegetation as well as to promote weed germination before the second application.
3. Rake up dead vegetation and expose the bare soil.
4. If planting next to a lawn, establish some sort of edging to keep lawn grasses from invading the project site.

## Planting Tips:

* Include a variety of grasses, forbs, shrubs, and trees, as well as plants of different heights. These will provide year-round landscape interest in your project.
* Select plants that match conditions on your site. Pick species that do well in shade for shady areas or that will grow in sand if you have sandy soil.
* Label a few of each species so you have a reference as they grow. It will also help you identify and remove weeds.




laurensgardenservice.com

## Maintenance, Years 1 and 2

1. Water immediately following seeding and planting. The first year will be high maintenance until root systems develop and plants get established.
2. Plan to water a half-inch daily, preferably in the morning, for the first few days or until plants are germinated (5-21 days) and growing well. Reduce watering to promote strong, deep roots.
3. For the first year, water 1-2 inches per week if there is no rain. Once plants are established, water as needed if prolonged dry periods occur.
    - **Be patient! 80% of the first years growth will be root growth!**
    - **Perennial weeds may appear to take over the first year. Repeatedly trim weedy vegetation at 6-8 inches with a weed whip every few weeks or when weeds reach 10-12 inches and remove clippings so they don't cover native seedlings. Once their roots are established, natives will outcompete weeds!**
    - **Weed thoroughly every few weeks in the first few years, hand-pulling or carefully spot-treating weeds.**

## Year 3 and Beyond

- No weeding or watering should be necessary once plants are established and growing well. Water in extreme drought and continue to pull invasive weeds.
- Consider a prescribed burn every 3-5 years to stimulate native growth.
- Consider expanding your project to other sections of your yard!

## Disclaimer:

These instructions are for plantings in areas with gentle slopes and no active erosion. Projects that include work on steep slopes, eroding areas, rain gardens or shoreline plantings require professional assistance. Design assistance is available from a variety of sources including East Otter Tail SWCD.

East Otter Tail Soil & Water Conservation District

**Contact our office!**

**801 Jenny Ave SW, Perham, MN 56573**

**218-346-4260 ext. 3**

# Otter Tail County Plant Favorites

## All of the flowers and grasses listed tolerate dry soils except those labeled wet.

| | Bloom time and color | | | | | |
|---|---|---|---|---|---|---|
| **Short (1-2 feet)** | May | June | July | Aug. | Sept. | Oct. |
| Pasque Flower | X | | | | | |
| Prairie Onion | | | X | X | | |
| Dotted Blazingstar | | | X | X | X | |
| Prairie Pussytoes | X | X | | | | |
| Thimbleweed | | X | X | | | |
| Prairie Blue-eyed Grass | X | X | | | | |
| Harebell | | X | X | X | X | |
| Prairie Smoke | X | X | | | | |
| Prairie Alumroot | X | X | X | | | |
| Hoary Puccoon | X | X | | | | |
| | | | | | | |
| **Short Spreading** | | | | | | |
| Prairie Spiderwort | X | X | X | | | |
| Canada Anemone | X | X | X | | | |
| Upland White Aster | | X | X | X | X | |
| Golden Aster | | X | X | X | | |
| | | | | | | |
| **Medium (2-3 feet)** | | | | | | |
| Lg. Flower Beardstongue | X | X | | | | |
| Larkspur | | X | X | | | |
| Lead Plant | | X | X | X | | |
| Button Blazing Star | | | X | X | X | X |
| N.-leaved Coneflower | | X | X | | | |
| Purple Prairie Clover | | X | X | X | | |
| Butterfly Milkweed | | X | X | X | | |
| White Prairie Clover | | X | X | X | X | |
| Whorled Milkweed | | | X | X | X | |
| Heart-leav. Golden Alex. | X | X | | | | |
| Long-head. Coneflower | | X | X | X | | |
| Showy Goldenrod | | | | X | X | X |
| | | | | | | |
| **Medium Spreading** | | | | | | |
| Prairie Phlox | X | X | X | | | |
| Hoary Vervain | | X | X | X | X | |
| Silky Aster | | | | | X | X |
| Bedstraw | | X | X | | | |
| Prairie Sage | | | X | X | X | |
| Prairie Coreopsis | | X | X | X | | |
| Old Field Goldenrod | | | | X | X | X |



# Plant Favorites Continued




| | Bloom time and color | | | | | |
|---|---|---|---|---|---|---|
| | May | June | July | Aug. | Sept. | Oct. |
| **Tall Clumps (4-5 feet)** | | | | | | |
| P. Purple Coneflower | X | X | X | | | |
| Prairie Blazing Star | | | X | X | X | |
| Showy Trick Trefoil | | | X | X | X | |
| Bergamot | | X | X | X | | |
| Yellow Coneflower | | X | X | X | | |
| | | | | | | |
| **Tall Spreading** | | | | | | |
| Smooth Blue Aster | | | | X | X | X |
| Sky Blue Aster | | | | X | X | X |
| Mountain Mint | | | X | X | X | |
| Heath Aster | | | | X | X | X |
| Stiff Goldenrod | | | | X | X | |
| | | | | | | |
| **Wet Short** | | | | | | |
| Blue Flag Iris | X | X | X | X | | |
| Monkey Flower | | X | X | X | X | |
| Bottle Gentian | | | | X | X | |
| Canada Anemone | X | X | X | | | |
| Wild Mint | | | X | X | X | |
| Marsh Marigold | X | X | | | | |
| Fringed Loosestrife | | X | X | X | | |
| | | | | | | |
| **Wet Tall** | | | | | | |
| Joe-Pye Weed | | | X | X | X | |
| Common Ironweed | | | X | X | X | |
| Meadow Blazing Star | | | | X | X | |
| New England Aster | | | | X | X | X |
| Blue Vervain | | X | X | X | X | |
| Culvers Root | | X | X | X | | |
| Common Boneset | | | X | X | X | X |
| Swamp Milkweed | | X | X | X | X | |
| Obedient Plant | | | | X | X | X |
| Sneezeweed | | | | X | X | X |

*All plant photos from minnesotawildflowers.info*

# Plant Favorites Continued

| **Grasses** | **Height** | **Characteristics** |
|---|---|---|
| Blue Gramma | 1' | Lawn alternative, can form a sod, very short. General base grass. |
| June Grass | 1.5' | Comes up early, forms a nice seed head display. Good for edging. |
| Side-oats Gramma | 1.5' | Comes up quickly, short loose bunches. General base grass. |
| Little Bluestem | 2' | Very good stabilizer for dry soils. Excellent summer and fall color. Good for edging. |
| Green Needle | 2' | Greens up early. Common in our area, especially on bluffs with side-oats gramma. |
| Northern drop-seed | 2.5' | Beautiful flowing mounds. Greens up early. Great for edging. |
| Switch Grass | 4' | Very strong root system. Interesting seed heads. |
| Indian Grass | 4' | Forms a loose sod. Generally a co-dominant grass. |
| Big Bluestem | 4' | Very good stabilizer for semi-moist soils, a bunch grass. |
| Canada Wild Rye | 1-5' | Commonly found in sandy soils along streams and lakes. Tolerates shade. |
| | | |
| **Shrubs** | | |
| Red Osier Dogwood | 6' | Very strong stabilizer in sandy to dark soils. Stems stay red through winter. |
| Gray Dogwood | 4'+ | White to reddish-pink berries, can tolerate wet soils. |
| Meadow Sweet | 4'+ | Full sun, wet to moist conditions. |
| New Jersey Tea | 3' | Good for shadier sites, it is very adaptable and can withstand inhospitable conditions. |
| Ninebark | 6'+ | Drought tolerant, adaptable to many soil conditions. |
| False Indigo | 4' | Excellent stabilizer for gravelly, sandy banks. Good for sunny sites. |
| High Bush Cranberry | 6'+ | Nice winter berries, great bird shrub. Early bloomer with variegated leaves. |
| Black Chokeberry | 5' | Produces many edible berries. |
| Sandbar Willow | 6-15' | Common on river sandbars and on sandy lake beaches. |


For information on shoreline plantings and rain gardens or how to get cost-share for your project, contact:

East Otter Tail Soil and Water Conservation District

801 Jenny Ave SW

Perham, MN 56573

218-346-4260 ext. 3

www.eotswcd.com

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