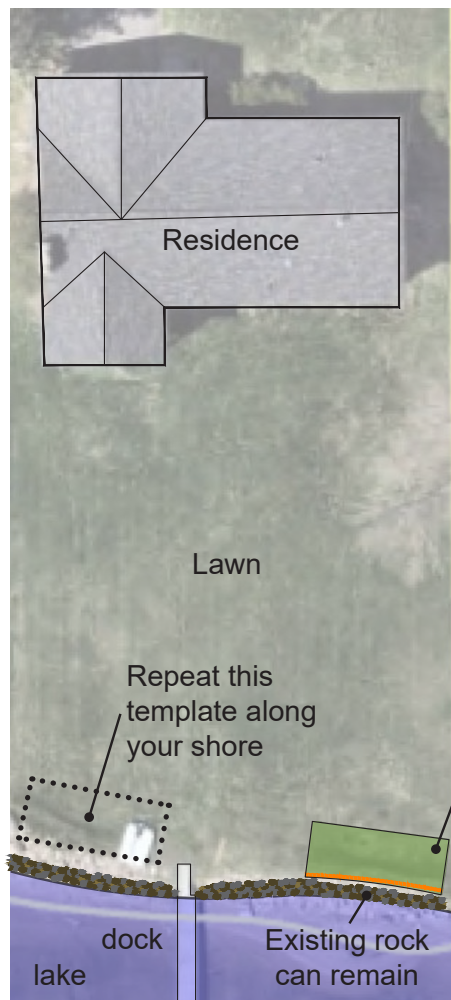


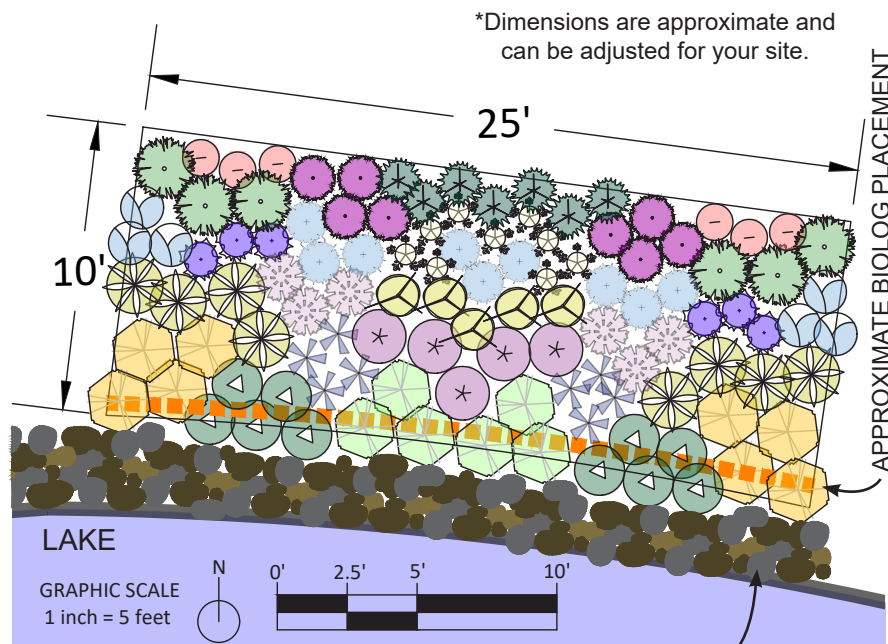
PLANTING NATIVE SHORELINES

SAMPLE SHORELINE PROPERTY



LEGEND:

- New planted area
- Biolog placement
- Additional planting options
- Existing Shoreline

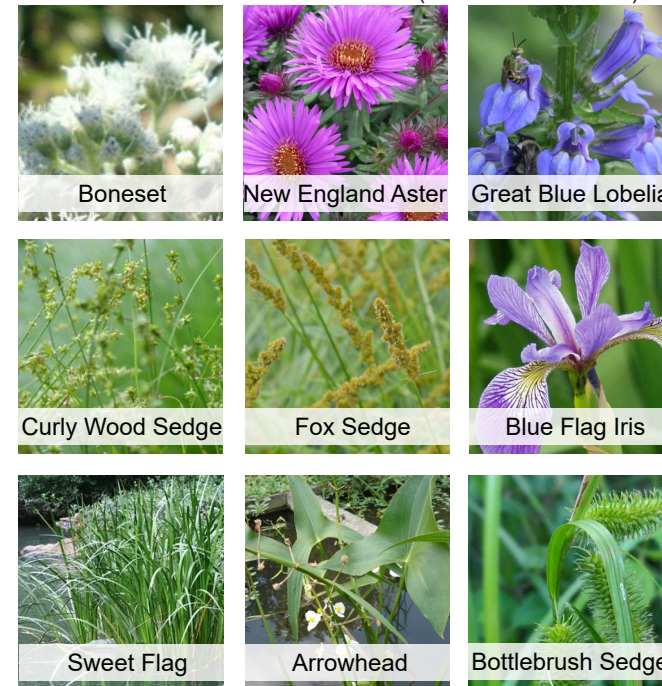


NEW SHORELINE PLANTING

KEY NOTES:

- Always call to mark for utilities before installing your new project! Private irrigation and electrical wires are common along residential shorelines. Gopher One (811) will not know where private utilities are so try to determine what might be in place such as lamps or spigot heads in your landscape.
- Add a fully biodegradable biolog along the shoreline before you dig and leave in place while new plants establish to keep loose soil from eroding into the waterbody during rain events.
- Consider repeating this planting on the opposite side of your dock or copy and paste this along longer shorelines. The plants in this list are 5' or shorter to preserve the view of your lake or water body.

SAMPLE PLANT PALETTE (MORE ON PAGE 3)



SHORELINE PLANT LIST

QTY.	COMMON NAME	SCIENTIFIC NAME	CONT. SIZE	SPACING	BLOOM
PERENNIALS					
9	Little Bluestem	Schizachyrium scoparium	4"/PLUG	15"	July-Oct
5	Showy Goldenrod	Solidago speciosa	4"/PLUG	15"	Aug-Oct
6	Smooth Penstemon	Penstemon digitalis	4"/PLUG	15"	June July
6	Columbine	Aquilegia canadensis	4"/PLUG	15"	May-July
5	Rose Milkweed	Asclepias incarnata	4"/PLUG	15"	July-Aug
9	Boneset	Eupatorium perfoliatum	4"/PLUG	15"	Aug-Sept
8	New England Aster	Aster novae-angliae	4"/PLUG	15"	Aug-Oct
6	Great Blue Lobelia	Lobelia siphilitica	4"/PLUG	15"	July-Sept
6	Marsh Blazing Star	Liatis spicata	4"/PLUG	15"	July-Aug
7	Curly Styled Wood Sedge	Carex rosea	4"/PLUG	15"	May
6	Fox Sedge	Carex vulpinoidea	4"/PLUG	15"	June-July
8	Blue Flag Iris	Iris versicolor	4"/PLUG	15"	May-June
6	Common Rush	Juncus effusus	4"/PLUG	15"	July-Sept
8	Sweet Flag	Acorus americanus	4"/PLUG	15"	May-July
10	Arrowhead	Sagittaria latifolia	4"/PLUG	15"	July-Sept
8	Bottlebrush Sedge	Carex comosa	4"/PLUG	15"	May-June

PLANTING NATIVE SHORELINES

INSTALLING TIPS:

To prevent erosion along a shoreline, **erosion control blankets** and **biologs** help control what will or will not flow into the lake or waterbody. Have your new plants, biologs and erosion control blanket ready for immediate installation whenever vegetation is removed near your shoreline.

1. First, clear the area you will be planting - erosion control blankets and biologs need smooth level surfaces with no gaps to perform effectively. Use erosion control blankets that have natural biodegradable materials like the jute product pictured below. These can be found at your local hardware stores or online.
2. Next, lay the erosion control blankets over the planting area, just above the shoreline or existing rock that will not be removed. Anchor erosion control blankets in place with metal lawn staples.
3. Then, install biologs just above existing rock that will not be removed and over the edge of your erosion control blanket(s). (See diagram to the right.)
4. Using wood stakes, placed every two feet, hammer through the biolog in an X to anchor the biolog(s) in place. Coconut coir biologs are best for shorelines and can be found at your local hardware stores. Later, you can plant into the biologs if you'd like! If you need more than one biolog, make sure the biologs overlap at least 6 - 12 inches. Stake both ends in place.

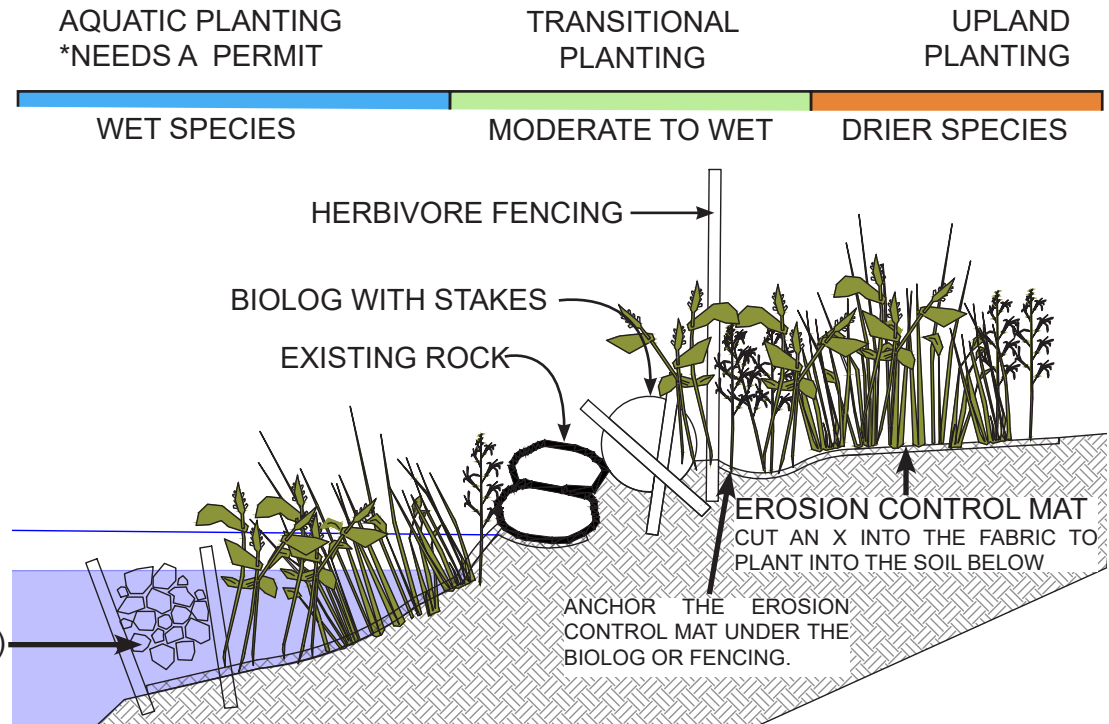


EROSION CONTROL BLANKET
COCONUT OR JUTE FIBER



BIOLOGS
COCONUT OR JUTE FIBER

ORDINARY HIGH WATER LEVEL
EXISTING WATER LEVEL
WAVE BREAK (IF NEEDED)



WORKING BELOW THE ORDINARY HIGH WATER LEVEL (OHWL):

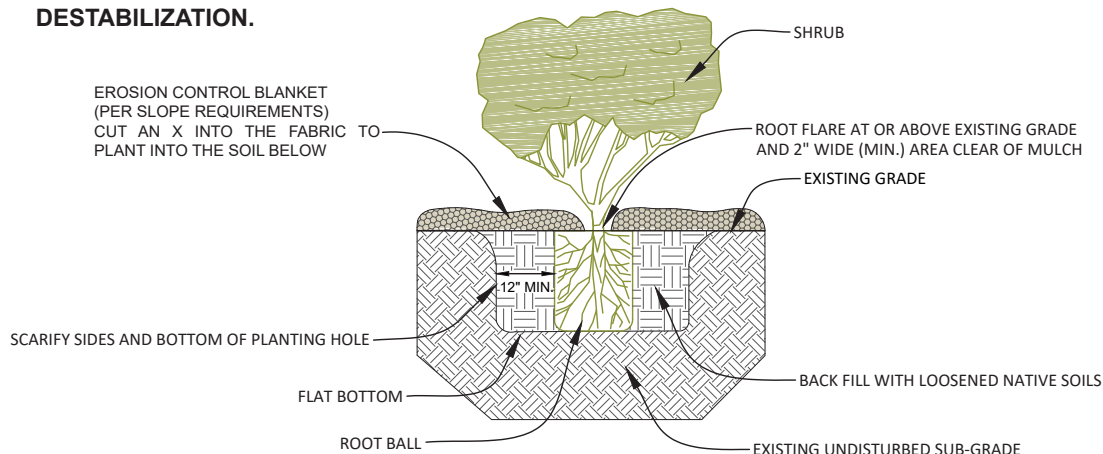
- The Ordinary High Water Level of a waterbody is a legal term and is defined by specific characteristics. The Ordinary High Water Level is the boundary where your property overlaps with the shared maintenance area along a lake or stream. Think of this area like the shared right of way in front of your house that runs along the street, just for the lake.
- Lakes, creeks and other waterbodies in Minnesota are protected by the Minnesota Department of Natural Resources. They share the border area of each lake with property owners to make sure your lake is safe and healthy - both for you and local fish and wildlife. It is best to contact your local watershed district or county soil and water conservation district before a project to ensure it complies with state and local requirements. Find your local representative by visiting your local watershed district, soil and water conservation district or county website.
- NOTE: Work below the Ordinary High Water Level, including planting new aquatic plants, must be permitted and approved. The MnDNR sets waterbody regulations but does not have representatives for each area. Find the representative that would support your project by visiting your local governmental unit's website (watershed district, soil and water conservation district or county office).

PLANTING NATIVE SHORELINES

PLANTING TIPS:

- When planting along a shoreline, get your slope evaluated. If you have a moderate to steep slope, **do not use mulch** around your new plants. Instead, have an erosion control blanket ready to put down whenever vegetation is removed near your shoreline. Mulch can be used if the slope is mild to flat and mulch will not wash into waterbody.
- Install the erosion control blanket immediately after you remove existing lawn or undesired vegetation to keep soil in place and weeds out of your new garden while plants establish. Place the erosion control blanket across your entire planting area and anchor the blanket with landscape staples one foot apart.
- Add chicken wire or other fencing to protect your plants from wildlife while they establish for the first two growing seasons.
- Consider adding shrubs and trees to your shoreline. Species to consider: pussywillow, nannyberry, aronia, dogwood, false indigo, etc. While native perennials have superior roots for holding soils in place, shrubs and trees have even more roots for stabilization!

***DO NOT TILL OR LOOSEN SOILS AT THE SHORELINE OR UPLAND SLOPE TO PREVENT DESTABILIZATION.**



SUBSTITUTIONS FOR SHORELINE PLANTS

When seeking species to plant for a successful Minnesota natural shoreline, plants are most sensitive to drought or flood so first select your plants for the amount water inundation that location will experience over time. Then select species for sun and shade conditions and last, select for size and appearance. The options below provide substitution options for species list on page 1.

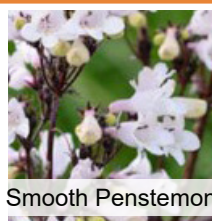
DRIER SPECIES



Little Bluestem



Showy Goldenrod



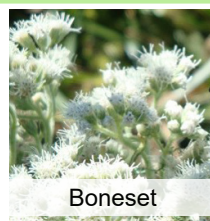
Smooth Penstemon



Columbine



Marsh Milkweed



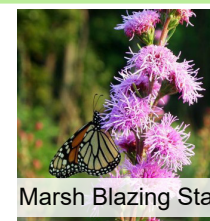
Boneset



New England Aster



Great Blue Lobelia



Marsh Blazing Star

Big Bluestem
Side Oats Grama
Prairie Dropseed
Bottlebrush grass*

Sneezeweed
Zig-Zag Goldenrod*
Stiff Goldenrod

Golden Alexander
White Turtlehead*

Canada Anemone*
Tall Thimbleweed*
Prairie Phlox

Poke Milkweed*
Turtlehead*
Giant Hyssop*

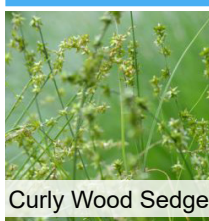
Wild Bergamot
Sweet Joe Pye
Weed*

Smooth Blue Aster
Virginia Mountain
Mint*

Cardinal Flower
Turtlehead*
Bradbury's Monarda*

Ironweed
Blue Vervain

WET SPECIES



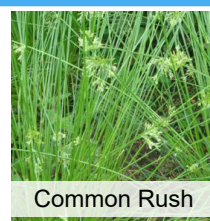
Curly Wood Sedge



Fox Sedge



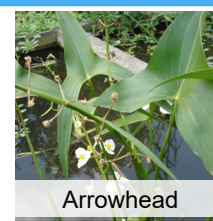
Blue Flag Iris



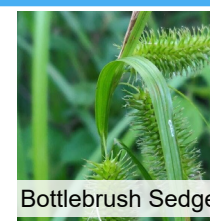
Common Rush



Sweet Flag



Arrowhead



Bottlebrush Sedge

Tussock Sedge*
Sprengel's Sedge
Palm Sedge

Green Bulrush
Wood Sedge
Tussock Sedge*

Common Iris
Sweet Flag

River bulrush

Common Iris
Hop Sedge*

Water Plantain

Woolgrass

Note: These wet species need to be close to or in water. If you have rock before the water, use these between the rocks and the moderate to wet species directly above your rock line.

* Tolerant of
Part-Shade or
Shade