Natural Shoreland Landscaping

Cook County Extension 2019

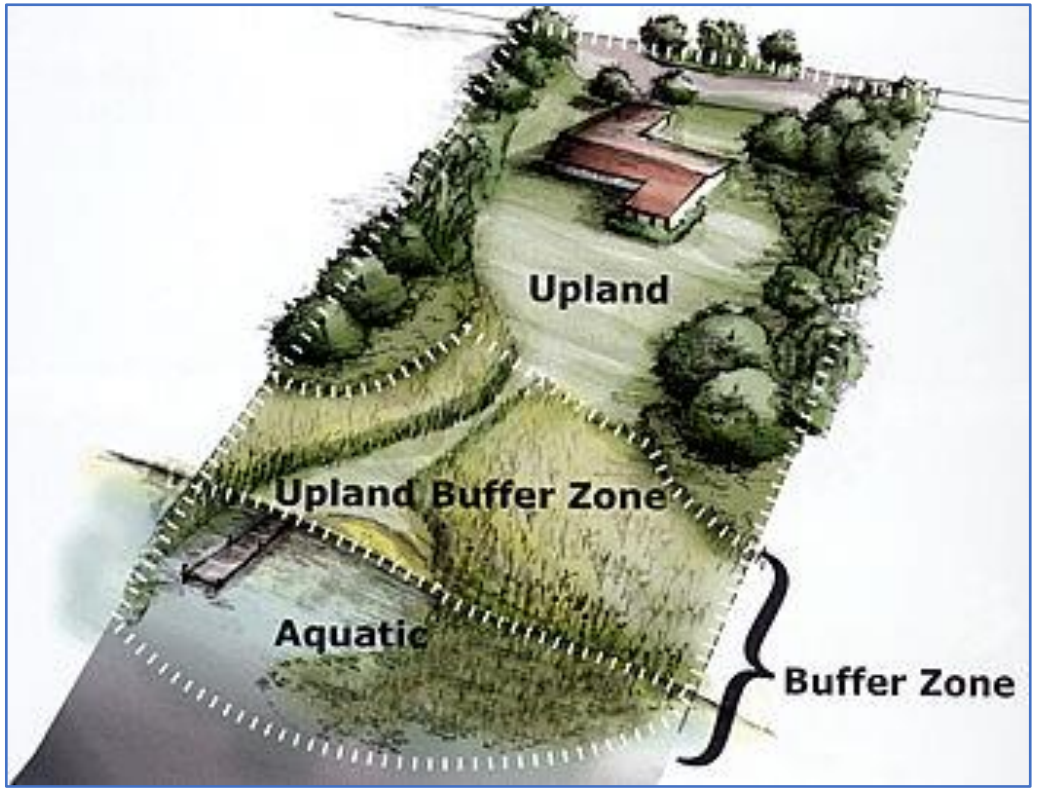
Working with nature

- Keep your shorelines undeveloped as much as possible
- ‘Edit’ your shoreline or remove what you don’t want. Remove one piece at a time
- Look at plants that are fast growing or unhealthy to remove
- Improve lake views by removing very little


FOR RENT
WAVE BREAKER

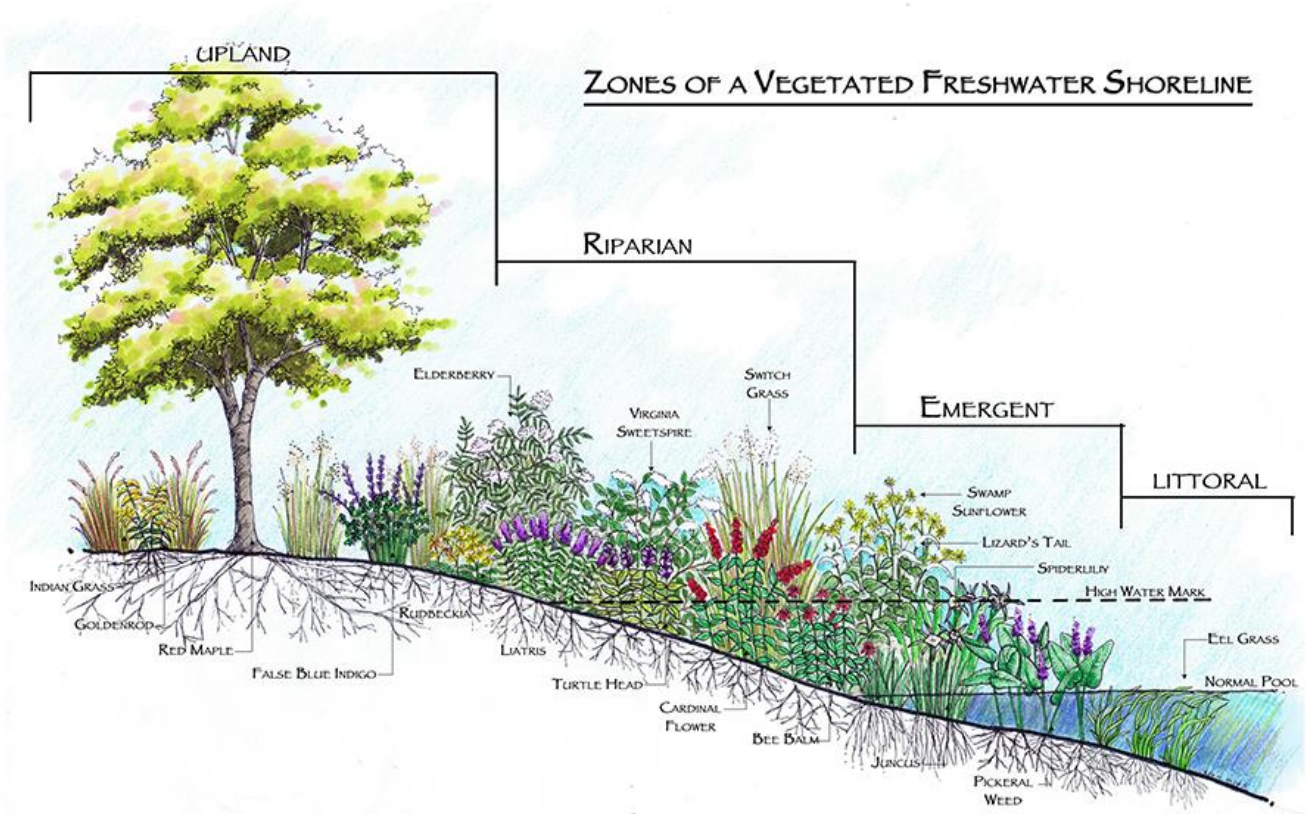
Create a base map

- Draw to scale the features of your property
- Property lines
- Building dimensions
- Existing stands of native trees & shrubs
- Existing stands of native perennials (include aquatic, wetland edge and upland plants)



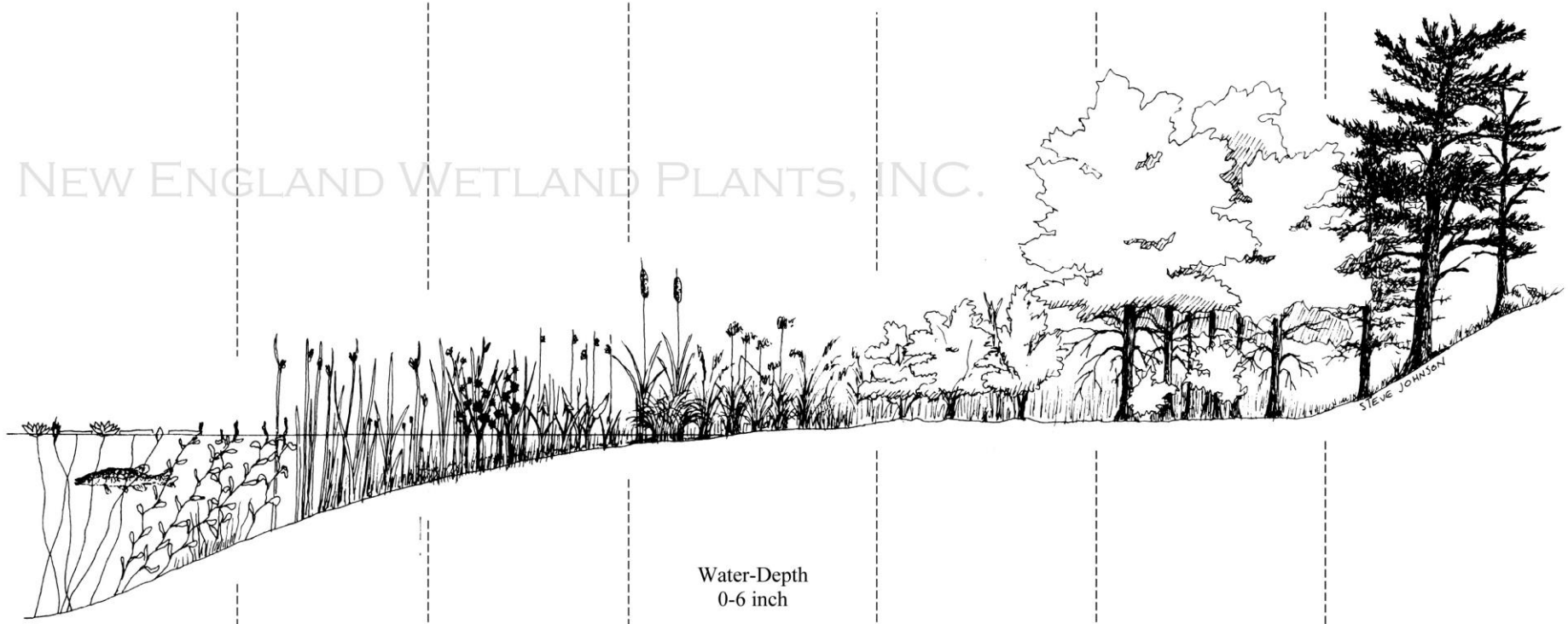
Choosing Plants for Shoreland Revegetation

- **Aquatic Zone** – below the normal water line. Includes wave break plants, emergent aquatic plants. Grow in 6” to 7 ft. water. (open water, deep marsh, shallow marsh, emergent plants)
- **Wet Meadow Zone** – 0 – 6” water (riparian)
- **Upland Zone** – above the high water line.



New England Wetland Cross-Section

(with typical plant species for each zone)



Open Water (Aquatic Bench)	Deep Marsh (Emergent Wetland)	Shallow Marsh (Emergent Wetland)	Wet Meadow	Scrub/Shrub Wetland	Forested Wetland	Upland Buffer
Water-Depth 3-7 ft	Water-Depth 18-36 inch	Water-Depth 6-18 inch	Water-Depth 0-6 inch	Hydric soil characteristics	Hydric soil characteristics	Non-hydric soil characteristics
White Water Lily	Soft-Stem Bulrush	Burreed	Hydric Soil characteristics	Silky Dogwood	Swamp White Oak	White Pine
Yellow Water Lily	Hard-stem Bulrush	Northern Arrowhead	Sedges & Rushes	Red-osier Dogwood	Red Maple	Eastern Hemlock
Pond Weeds	Pickerelweed	Three-square Bulrush	Sweetflag	Highbush Blueberry	Green Ash	Yellow & Gray Birch
Wild Celery		Soft-stem Bulrush	Woolgrass	Northern Arrowwood	Black Gum	Red Oak
		Arrow Arum	Blue Flag Iris	Speckled Alder	Witchhazel	Shadblow/Serviceberry
			Joe-Pye Weed	Willows	Sweet Pepperbush	Gray Dogwood
			Blue Vervain	Winterberry	Spicebush	Sweet Fern
			New England Aster	Sensitive Fern		

Illustration courtesy of New England Wetland Plants, Inc. 820 West St. Amherst, MA. Ph 413-548-8000 Fax 413-549-4000 www.newp.com

Possible Plants for Open Water Zone

Small white water-lily

American white water lily

- Nymphaea spp. – Flowers are white with yellow centers and float on top of the water at the end of a long stem. Leaves have a slit to the stem. They close up at night and may be open only a few hours a day.

Possible Plants for Open Water Zone

Yellow pond-lily

N. variegata

Intermediate pond lily N. x rubrodisca

- Nuphar spp. – Flowers are yellow and emerge just above the water. Leaves are large and oval and have an indent where the stem is located. Sometimes called spatterdock, cow lily or yellow pond-lily.

Possible Plants for Open Water Zone

Water-shield

- Brasenia spp. - B. schreberi or water-shield is a smaller aquatic surface species often found interspersed with yellow and white water lilies in coniferous forest areas. Leaves don’t have slit or indent.

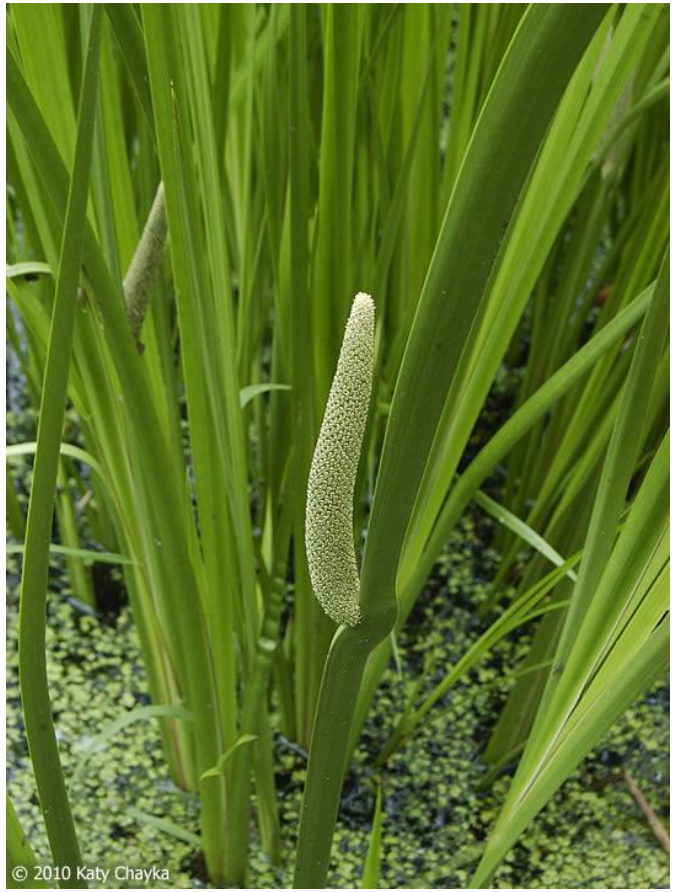
Possible Plants for Emergent Wetlands or Deep Marsh Zone

- Persicaria spp. – Swamp smartweed is a variable species with both terrestrial and aquatic forms. The aquatic form has bright pink flowers and can float on the water's surface. It is found in the BWCA in Cook County as well as other places. P.amphibia

Possible Plants for Emergent Wetlands or Deep Marsh Zone

- Zizania palustris – There are four species of grasses forming the genus for wild rice. It can be difficult to propagate as the seed needs to remain moist and it may take up to 3 years of seeding in order to establish. Grows well by the mouth of a slow moving river/stream naturally. “Manoomin or good berry."

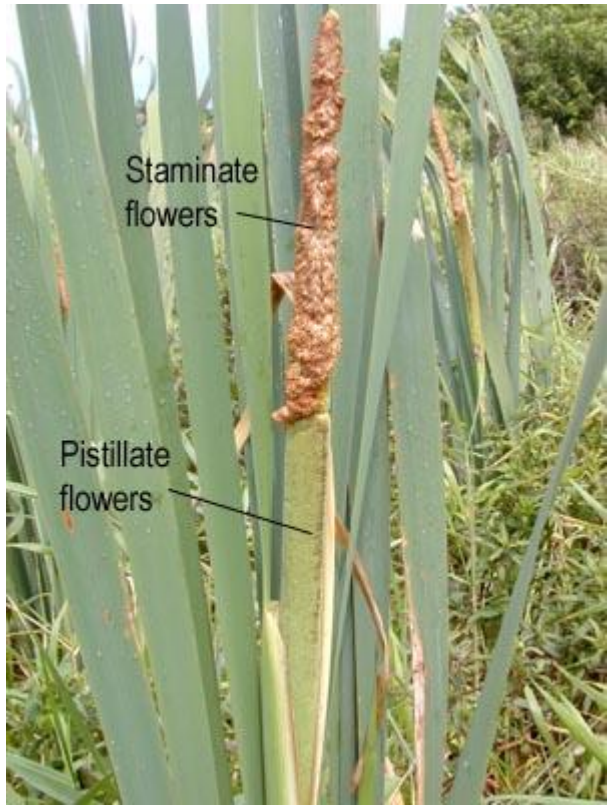
Possible Plants for Emergent Wetlands or Deep Marsh Zone



- Acorus spp. – There are two sweet flags in Minnesota. One is the introduced one from Europe & Asia (A. calamus) and the other one is native. A. americanus has extra raised veins on the leaves. It grows about 2’ tall.

Possible Plants for Emergent Wetlands or Deep Marsh Zone

Narrow-leaved cattail
T. angustifolia



Broad-leaved cattail
T. latifolia

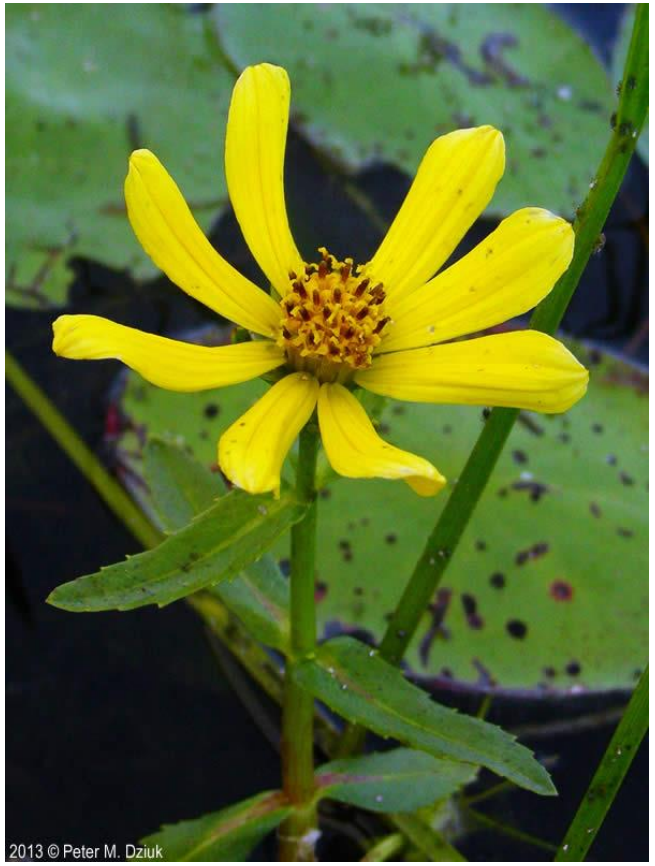
- Typha spp. – There are basically two species, narrow-leaved cattail and broad-leaved cattail. They also hybridize and show a blend of features.

Possible Plants for Emergent Wetlands or Deep Marsh Zone

Vallisneria americana

- Vallisneria spp. – Wild celery or American eelgrass has separate male & female plants. It is an important species for wildlife providing food and shelter for waterfowl, shore birds, fish and muskrats.

Possible Plants for Emergent Wetlands or Deep Marsh Zone



Bidens beckii
Water Marigold

- Bidens spp. – Water marigold is the only aquatic member of the Aster family in Minnesota. Often can be found unnoticed amongst the lily pads.

Possible Plants for Emergent Wetlands or Deep Marsh Zone

Ranunculus gmelinii

Small Yellow Water Crowfoot

- Ranunculus spp. – Small yellow water crowfoot is not common but can be found in northern Minnesota. Stems are minutely hairy compared to large yellow water crowfoot that is not listed as found in Cook County.

Possible Plants for Emergent Wetlands or Deep Marsh Zone

Ranunculus aquatilis
White Water Crowfoot

- Ranunculus spp. – White water crowfoot or sometimes called long-beak buttercup- may look like white ‘fluff’ in the water when blooming profusely.

What is the difference between grasses, rushes, bulrushes and sedges?

- **Grasses** typically thrive in dry, open habitats.
- **Sedges** prefer colder, wetter regions than most grasses.
- **Rushes** thrive in colder, wetter regions and are typically found only in northern climates.
- **Bulrushes** are sedges of the genus *Scirpus* with stout stems.

- **Grass stems** – most are hollow, most have nodes.
- **Sedge stems** – usually triangular in cross-section with a solid stem. (There are some that have round stems however.)
- **Rush stem** – usually cylindrical, without prominent nodes and pithy on the inside.
- “Rushes are round, sedges have edges”.

Possible Plants for Emergent Wetland Zone

Calamagrostis canadensis
Bluejoint grass

Anthoxanthum hirtum
Sweet grass

- **Grasses** – There are several grasses that can be used in wetter areas from wet meadows to the emergent wetland zone.

Possible Plants for Emergent Wetland Zone

Black girdled woolgrass

Woolgrass

Softstem bulrush

Dark green bulrush

- **Scirpus spp**. – aquatic grass-like species considered to be a sedge- many of whom have common names like bulrush or club rush.

Possible Plants for Emergent Wetland Zone

Water sedge C. aquatilis

Lake sedge C. lacustris

- **Carex spp**. – are 74+ different types of sedges found in Cook County, with135 different species are found in Minnesota alone.

Possible Plants for Emergent Wetland Zone

Tawny cottongrass
Eriphorum virginicum

- **Eriophorum spp**. – This is a sedge that most of us never think about until we see the seed heads. It is called Tawny cottongrass.

Possible Plants for Emergent Wetland Zone

Soft rush or J. effusus

Narrow-panicled rush
J. brevicaudatus

- **Juncus spp**. – are different types of rushes found along lake edges or wetland areas in Minnesota. There are 10+ species in Cook County.

Possible Plants for Emergent Wetland Zone

Marsh marigold C. palustris

- **Caltha spp**. – Marsh marigold is a common sight in Cook County in May.

Possible Plants for Emergent Wetland Zone

Water lobelia
L. dortmanna

Lobelia spp. – There are several species of lobelia found in the Arrowhead region. L. dortmanna (Water lobelia) is the only emergent lobelia documented in Cook County.

Possible Plants for Emergent Wetlands or Shallow Marsh Zone

Crested Arrowhead S. cristata

Broad leafed Arrowhead S. latifolia

Arum leafed Arrowhead S. cuneata

Sessile-fruited Arrowhead S. rigida

Sagittaria spp. – Arrowhead-shaped leaves with showy white flowers. It can grow up to 3’ tall and has extensive rhizomes.

Possible Plants for Wet Meadows

Canada anemone A. canadensis

Anemone spp. – This plant can form sizable colonies spreading vie rhizomes. It can be aggressive so place where it can be happy.

Possible Plants for Wet Meadows

Swamp milkweed A. incarnata

Asclepias spp. – Swamp milkweed is not native here according to some records but it is found in Lake County and St. Louis County. People who want to help out pollinators often want to plant something – this is one that won't be too aggressive.

Possible Plants for Wet Meadows

White tutlehead
C. glabra

Chelone spp. – White turtleheads can grow 3- 4’ tall and are a preferred food for the Baltimore checkerspot butterfly larvae.

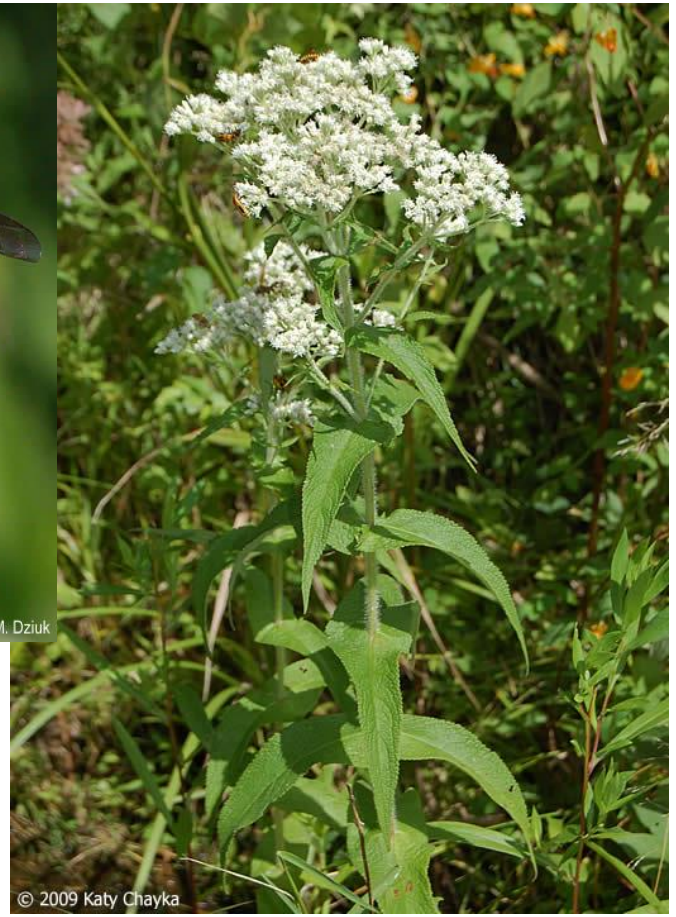
Possible Plants for Wet Meadows

Spotted Joe-pye weed
E. maculatum

Eutrochium spp. – Spotted Joe-pye weed is the one in Cook County while sweet scented Joe-pye weed is found both in neighboring counties and SE MN. Up to 3 different varieties are found here.

Possible Plants for Wet Meadows

Common Boneset
E. perfoliatum



Eupatorium spp. – This can always be determined by opposing leaves that join around the stem so it appears the stem grows through one large leaf.

Possible Plants for Wet Meadows

Grass leafed goldenrod
E. graminifolia

Euthamia spp. – Grass-leaved goldenrod has narrow leaves, bushier tops and typically smaller and more numerous flower clusters.

Possible Plants for Wet Meadows

Spotted Touch-me-not
I. capensis

Impatiens spp. – Flower size (not the spots) is what tells the difference between spotted touch-me-not and pale touch-me-not. Pale touch-me-not has much larger flowers that are yellow with a shorter spur

Possible Plants for Wet Meadows

Harlequin Blue Flag
I. versicolor

Iris spp. – There are 2 native irises in Minnesota, appropriately named ‘northern’ and ‘southern’ Blueflag. Which one do you think we have?

Possible Plants for Wet Meadows

Bog goldenrod
S. uliginosa

Solidago spp. – There are 9 documented goldenrod species in Cook County. One of those, the Bog goldenrod is found in wet meadows or boggy areas.

Possible Plants for Wet Meadows

Blue vervain
V. hastata

Verbena spp. – Blue vervain is the only verbena species recorded in Cook County.

Possible Shrubs for Wet Shorelines

Green alder
Alnus viridis

Speckled alder
Alnus incana

Alnus spp. – A. incana (Speckled Alder) is a common, multi-stemmed wetland shrub, often forming dense thickets from root suckering. A. Viridis (Green Alder) is also found here in Cook County.

Possible Shrubs for Wet Shorelines

Bog Laboraador Tea
Rhododendron groenlandicum

Rhododendron spp. – R. groenlandicum or Labrador Tea is an evergreen wetland shrub that is found in Cook County. It does best in sphagnum bogs but is also quite common along many lakeshores or roadside roads.

Possible Shrubs for Wet Shorelines

Bebb;s willow
Salix bebbiana

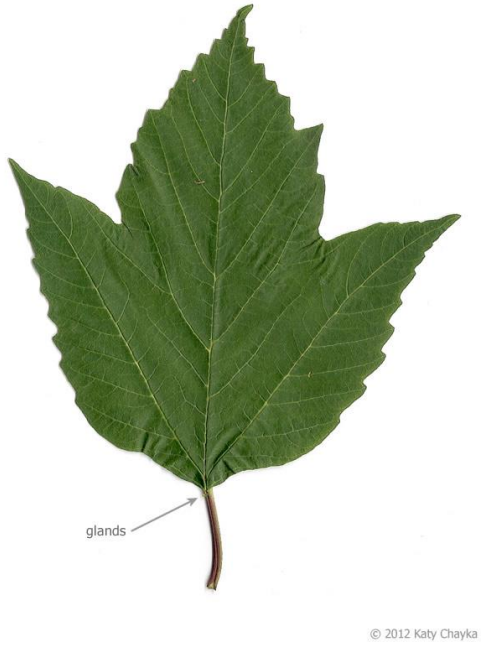
Salix spp. – There are more than 20 species of willow in Minnesota and 12 or more found in Cook County. Male & female flowers are on separate plants.

Possible Shrubs for Wet Shorelines

Red-berried Elder
Sambucus racemosa

Sambucus spp. – There are two species in Minnesota and the one most prevalent in Cook County is S. racemose (Red-berried elder).

Possible Shrubs for Wet Shorelines



American highbush cranberry
Viburnum opulus var. americanur

Viburnum spp. – There are 4 species in Cook County. The American highbush cranberry is a favorite of moist soils in Minnesota.

Possible Shrubs for Wet Shorelines

Sweet gale
Myrica gale

Myrica spp. – M. gale or Sweet-gale is a common shoreline shrub of acidic lakes, streams and bogs in NE Minnesota. It spreads to form thickets that often extend over the water's edge. Leaves are very fragrant and leaves have glands

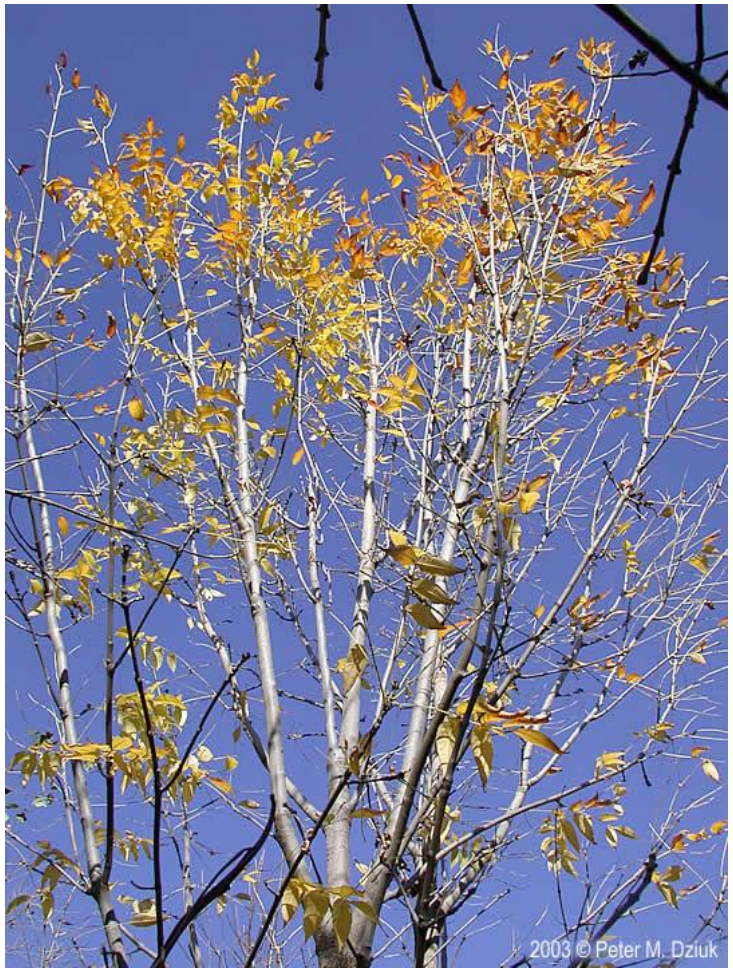
Possible Trees for Wet Shorelines

Red maple
Acer rubrum

Acer spp. – A. rubrum, the red maple, also known as swamp, water or soft maple is found in moist habitats throughout Cook County and Minnesota's central forests.

Possible Trees for Wet Shorelines

Black ash
Fraxinus nigra



Fraxinus spp. – Ash trees found in Cook County include the more common black ash but also some green ash.

Possible Trees for Wet Shorelines

White cedar
Thuja occidentalis

Thuja spp. – White cedar is a mid-sized, conical shaped evergreen found throughout Cook County where deer have not browsed them to death.

Possible Trees for Wet Shorelines

Tamarack
Larix larcinia

Larix spp. – Tamarack is a common forest species throughout northern and central Minnesota. It is more frequently found in swamp lands but can also be found in upland situations. It is our only native deciduous conifer.

Possible Trees for Wet Shorelines

Black spruce
Picea mariana

Picea spp. – Black spruce and white spruce can be found together. Blacks spruce can survive in nutrient poor bogs where white spruce can’t live.

Thank you!