



Common Plants of Saint John's Wet Areas

Introduction:

The many lakes, marshes, and wet meadows at Saint John's provide habitat for a rich flora of aquatic plants or hydrophytic plants. Aquatic ecosystem names are loosely based on their hydrologic properties. Lakes are typically large, open bodies of water with at least some windswept shoreline. Wetlands vary widely in their hydrology and have unique plant communities as a result. Open marshes are highly productive and are dominated by emergent species which are rooted in the soil and send shoots into the air above the water.

Common plants in these areas include cattails (*Typha* sp.), bur reed (*Sparganium* sp.), arrowhead (*Sagittaria* sp.) and an assortment of sedges (*Carex* sp. and *Cyperus* sp.) and rushes (*Scirpus* sp.). An excellent example of an open marsh wetland can be seen in the large habitat restoration area near the I-94 entrance to the campus. Shallower marshes and ephemeral ponds are often dominated by reed canary grass (*Phalaris arundinacea*), a circumglobal species that has both native and highly invasive European strains. The later was imported for forage because it has fewer toxic alkaloids and tastes better to livestock. This strain has out-competed other plants, forming large monocultures. Prairie cord grass (*Spartina pectinata*) is another common native grass at the edge of wetlands at St. John's.

Not all wetlands have standing water. In fact, many wetland communities have constantly saturated soil, but little, or no, obvious surface water. Often, these areas are dominated with moisture-loving shrubs such as red osier dogwood (*Cornus sericia*), speckled alder (*Alnus rugosa*), and a variety of willows (*Salix* sp.). These so called "shrub carrs" are often found in the zone between upland forests and open water marshes.

Plants of open water, like lakes and ponds, can exhibit a variety of growth forms. For example, some species: (1) float on the surface of the water and are not rooted in the substrate (e.g., *Spirodela*, *Lemna minor*, *Wolffia*); (2) float submerged under the water and are not rooted in the substrate (e.g., *Lemna trisulca*, *Utricularia*, *Ceratophyllum*); (3) have leaves that float on the surface but are rooted in the substrate (e.g., *Brasenia schreiberi*, *Nuphar variegatum*, *Nymphaea odorata*); (4) are completely submerged (except for the flowering shoot) and are rooted (e.g., *Elodea*, *Potamogeton*, *Myriophyllum*, *Vallisneria*, *Ranunculus flabellaris*); and (5) dimorphic plants with both submerged and floating leaves and are rooted (e.g., *Potamogeton*).

Some common adaptations exhibited by species of open water include: (1) thin, highly-dissected leaves; (2) no cuticle; (3) no roots; (4) stomata on the upper sides of leaves; (5) reproduction by fragmentation; (f) flowers produced above or on the water surface for pollination (e.g., *Utricularia*). In a few species (e.g., *Vallisneria*) the male flowers are produced underwater but the flowers and/or pollen floats to the surface for pollination; (g) aerenchyma tissue to provide a route for air to diffuse to roots;

Plants of marshes are typically emergent (rooted in the substrate and emerge above the surface of the water). These plants must be adapted to having their roots permanently or seasonally flooded. Marshes are among the most productive and provide floodwater retention, habitat for wildlife, and protect shorelines from erosion. Some common plants in these areas include cattails (*Typha* sp.) and bulrush (*Scirpus* sp.).

Of the wetland plants that occur at St. John's, some are 'obligate' wetland species such as *Potamogeton*, *Typha*) that only grow in wet

areas, while others are 'facultative' wetland species such as *Fraxinus nigra*, *Eupatorium*

perfoliatum, *Vitis riparia*) that usually grow in wet, though can occur in drier areas.

Checklist of Some Common Species

ALISMATACEAE – Water-plantain Family

- Alisma subcordatum* – Water plantain
- Sagittaria* sp. – Arrowhead

AQUIFOLIACEAE – Holly Family

- Ilex verticillata* – Winterberry

ARACEAE – Arum family

- Calla palustris* – Water-arum
- Lemna minor* – Lesser duckweed
- Lemna trisulca* – Star duckweed
- Lemna turionifera* – Turion duckweed
- Spirodela polyrhiza* – Greater Duckweed
- Wolffia columbiana* – Water meal

APOCYNACEAE – Dogbane Family

- Asclepias incarnata* – Swamp milkweed

ASTERACEAE – Sunflower Family

- Bidens cernua* – Nodding beggar-ticks; bur-marigold
- Eutrochium* (= *Eupatorium*) *perfoliatum* – boneset
- Eutrochium* (*Eupatorium*) *maculatum* – Joe Pye weed

BALSAMINACEAE – Touch-Me-Not Family

- Impatiens capensis* – Spotted touch-me-not, jewelweed

BETULACEAE – Birch Family

- Alnus incana* ssp. *rugosa* – Speckled alder
- Betula pumila* – Bog birch

BRASSICACEAE (Cruciferae) – Mustard Family

- Nasturtium officinale* – Small-leaved watercress

CABOMBACEAE – Cabomba Family

- Brasenia schreberi* – Watershield

CAMPANULACEAE – Lobelia Family

- Lobelia siphilitica* – Great blue lobelia

CERATOPHYLLACEAE – Hornwort Family

- Ceratophyllum demersum* – Coontail, hornwort

CORNACEAE – Dogwood Family

- Cornus alba* (= *sericea*, *stolonifera*) – Red osier dogwood

CUCURBITACEAE – Gourd Family

- Echinocystis lobata* – Wild cucumber

CYPERACEAE – Sedge Family

- Carex* sp. – sedge
- Cyperus* sp. – Nut grass, umbrella sedge
- Scirpus* sp. – Bulrush

EQUISETACEAE – Horsetail Family

- Equisetum* sp. – Horsetail

HALORAGACEAE – Water-Milfoil Family

- Myriophyllum sibiricum* – Northern watermilfoil

HYDROCHARITACEAE

- Elodea canadensis* – Canada waterweed

IRIDACEAE – Iris family

- Iris versicolor* – Blue flag

LAMIACEAE – Mint Family

- Lycopus americanus* – American water-horehound

LENTIBULARIACEAE

- Utricularia* sp. – Bladderwort

NYMPHAEACEAE – Water lily Family

- Nuphar variegata* – Yellow pondlily
- Nymphaea odorata* – White waterlily

OLEACEAE – Olive family

- *Fraxinus nigra* – Black ash

PINACEAE – Pine family

- *Larix laricina* – Tamarack

POACEAE – Grass Family

- *Phalaris arundinacea* – Reed canarygrass

POLYGONACEAE – Smartweed Family

- *Persicaria* (= *Polygonum*) *amphibia* – water smartweed

POTAMOGETONACEAE – Pond Weed Family

- *Potamogeton* sp. – Pondweed

SALICACEAE – Willow Family

- *Salix* sp. – willow

SAPINDACEAE (ACERACEAE) – Sapindus family

- *Acer negundo* – Box elder
- *Acer saccharinum* – Silver maple

TYPHACEAE – Cattail Family

- *Sparganium eurycarpum* – Bur-reed
- *Typha angustifolia* – Narrow-leaved cattail
- *Typha latifolia* – Broad-leaved cattail
- *Typha x glauca* – hybrid between the two species above

URTICACEAE – Nettle Family

- *Urtica dioica* – Stinging nettle

VITACEAE – Grape Family

- *Vitis riparia* – Wild or riverbank grape

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- *Wetland Plants and Plant Communities of Minnesota and Wisconsin*. – An outstanding web site by USGS Northern Prairie Wildlife Research Center based on the Eggers & Reed book. Contains images, descriptions and a wealth of other information. (<http://www.npwrc.usgs.gov/resource/plants/mnplant/index.htm>)



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