# Wetland

# Plants

#### Why Are Wetland Plants Important?

- Provides shelter and Oxygen
- Main food for waterfowl, amphibians, and mammals such as muskrats and deer
- Erosion control
- Breeding location for many animals
- Some used by people for food, tools, and medicine

#### **Types of Wetland Plants**

- Grasses and Sedges
- Pondweeds
- Cattails
- Carnivorous Plants

#### **Types of Wetland Plants**

- Duckweeds
- Invasive Wetland Plants
- Miscellaneous Wetland Plants

Common reed Phragmites australis Photo by A. Murray Copyright 2002 Univ. Florida



#### Grasses

• COMMON REED GRASS (Phragmites australis (Cav.)Trin.)

 Found in marshes, meadows, fens, and lakes, sometimes in 6 ft. of water

Can form large, monotypic stands

 Good winter habitat for white-tailed deer, ring-necked pheasant, and eastern cottontail

#### Grasses

- WILD RICE
  - (Zizania aquatica L.)
    - Leaves go through floating stage before emerging
    - Found in marshes, lakes, ponds, and streams from 1.5 – 3.0 ft.
  - Fruit an important food for waterfowl and commercial agriculture





#### Grasses

- WILD MILLET
  (*Echinochloa crusgalli* (L.) Beauv.)
  Naturalized here from Europe
  Grows in moist, poorly drained areas
  - Widespread in all warmer regions of the world
  - Nutlets important food for waterfowl



#### Sedges • LAKE SEDGE (Carex lacustris Willd.) - Common and found in shallow water of swamps, marshes, lakes, and streams



Forms scattered clones or beds
Achenes eaten by waterfowl

## • SLOUGH SEDGE

(Carex atherodes Sprengel)

- Found in bogs, marshes, meadows, ditches, and river and lake edges
- Most common sedge of prairie potholes
- Birds use for food and nesting, muskrats eat roots, moose need for sodium when calving







 HUMMOCK SEDGE (Carex stricta Lam.) - Forms large tufts or hummocks Great nesting site for many species of bird - Achenes eaten by Mallard, Wood Duck, Wild Turkey, etc. - Also called Tussock Sedge or **Upright Sedge** 





• HARDSTEM BULRUSH (Scirpus acutus Muhl.)

- Found in marshes and shorelines to
  5 ft. deep
- Tolerates brackish water
- Native Americans used for food and household items
- Provides food, cover, and nesting habitat for waterfowl





- THREE-SQUARE BULRUSH
  - (Scirpus pungens Vahl.)
    - Grows in marshes, fens, and lake and stream borders in up to 2.5 ft. of water
    - Entire plant eaten by geese and muskrats
  - Stands are primary wintering ground for snow geese
  - Many uses for people

• **BLUNT SPIKE-RUSH** (Eleocharis obtusa (Willd.) Schult.) - Colonizes mudflats, shorelines, and marshes - Commonly found in disturbed, saturated soils like farmed wetlands, created wetlands, or restoration sites - Can use C3 or C4 pathways depending on stem submergence



#### Pondweeds

- **SAGO PONDWEED** (*Potamogeton pectinatus* L.)
  - Found in marshes, lakes and streams usually at depths to 5 ft.
  - Diving ducks rely on tubers as food source
  - Dabbling ducks eat foliage and seeds
  - Good fish habitat









#### Cattails

- BROAD-LEAVED CATTAIL
  - (Typha latifolia L.)
  - Grows in almost every wetland community
  - Spreads extensively by rhizome
  - Important food source for wildlife
  - Also edible for people

![](_page_15_Figure_7.jpeg)

#### Cattails

NARROW-LEAVED
 CATTAIL (Typha angustifolia L.)
 Similar to T. latifolia except that
 staminate and pistillate portions of
 spike are separated by 2 cm

- Broad-leaved and narrow-leaved cattail freely hybridize to form *Typha x glauca*
  - Tolerates severe degradation of wetlands

 May be invasive and displace other plant species

![](_page_16_Figure_5.jpeg)

#### Carnivorous Plants

- BLADDERWORT
  - (Utricularia macrorhiza Le Conte)
  - Found in quiet waters of lakes, rivers, and marshes
  - Bladders have "trigger hairs" which, when brushed, cause the bladder
    - to inflate and draw in the tiny invertebrate
  - No known direct food value for waterfowl

![](_page_17_Picture_7.jpeg)

![](_page_17_Figure_8.jpeg)

#### Carnivorous Plants • PURPLE PITCHER PLANT (Sarracenia purpurea L.)

- Found in bogs and some fens
  Catches prey using lure of red lip
  Inside pitcher has hairs facing down to prevent escape
- Contains rain, dew, and a digestive enzyme
- Meat not essential for survival

![](_page_18_Figure_4.jpeg)

#### Duckweeds

![](_page_19_Picture_1.jpeg)

- Consists of floating plants, without leaves
- Instead they have a flattened or globose frond
- Most reproduction is vegetative by budding
- Provides shelter and protection for aquatic animals, such as frogs, snakes, fish, insects, etc.

## Duckweeds

- World's smallest flowering plants
- Used for bioremediation of wastewater
- Can be bioengineered to produce therapeutic proteins
- Food source for many birds and fish, especially ducks
- Some species are Common Duckweed (Lemna minor L.), Star Duckweed (L. trisulca L.), Big Duckweed (Spirodela polyrhiza (L.) Schleiden ), and Watermeal (Wolffia columbiana Karsten)

#### Invasive Plants • WATER MILFOIL

![](_page_21_Picture_1.jpeg)

![](_page_21_Figure_2.jpeg)

(Myriophyllum verticillatum L.)
– Found in quiet waters of lakes, rivers, marshes, or muddy shores
– From Europe, Asia, and northern Africa

Has less nutrient value than the native plant species it replaces
Manage by mechanical removal or manipulation of water level

**Invasive Plants** • PURPLE LOOSESTRIFE (Lythrum salicaria L.)

- Found in marshes, meadows, and shores of lakes and streams
- Introduced from Eurasia for honey
- Reduces waterfowl food and nesting
- No appreciable wildlife food or cover value
- Mechanical removal or glyphosate herbicide (Rodeo or Roundup)

![](_page_22_Figure_6.jpeg)

#### Invasive Plants • WATER HYACINTH

![](_page_23_Picture_1.jpeg)

(*Eichhornia crassipes* (Mart.) Solms)

- Grows in ponds, canals, marshes, lakes, and along rivers
- Native to Amazon basin

![](_page_23_Figure_5.jpeg)

- Dense mats reduce light to submerged plants, depleting O<sub>2</sub>
- Management includes mechanical removal, insect biocontrol (weevil), and aquatic herbicides (temporary)

#### **Invasive Plants**

#### • HYDRILLA

(Hydrilla verticillata (L.f.) Royle)

- Found in lakes, rivers, reservoirs, ponds, and ditches
- Native to Asia, Africa, and Australia
- Tends to form monospecific stands that can cover hundreds of acres
- Eaten by waterfowl and considered important food source by some biologists
- Manage by grass carp or dry hydrasoil

![](_page_24_Figure_8.jpeg)

![](_page_24_Picture_9.jpeg)

- ELODEA (*Elodea canadensis* Michaux)
  - Found in marshes, lakes, rivers and Mississippi River backwaters
  - Waterfowl, especially ducks, as well as beaver and muskrat eat this plant
- MUSKGRASS (Chara vulgaris L.)
  - Found in mineral-rich water
  - Important food for ducks
  - Common name comes from the strong, musk-like odor

![](_page_25_Picture_8.jpeg)

![](_page_25_Picture_9.jpeg)

- WILD CELERY (Vallisneria americana Michaux)
  - Found in lakes, streams and Mississippi River backwaters
  - Diving ducks rely on wild celery for food during migration and in their wintering habitats
- EELGRASS (Zostera marina L.)
  - Grow in shallow bays and coves, tidal creeks, and estuaries
  - Provides refuges for many species of fish and nursery areas for some

![](_page_26_Picture_7.jpeg)

- GIANT BUR-REED (Sparganium eurycarpum Engelm.)
  - Shallow water in streams and lake margins
  - Excellent food and habitat for waterfowl
  - Muskrats and deer eat the entire plant
- BROAD-LEAVED ARROWHEAD

(Sagittaria latifolia Willd.)

- Habitats include ponds, swamps, lakes, and the shores of rivers
- Nicknamed "duck potato" for edible tuberous root

![](_page_27_Picture_9.jpeg)

- MARSH MILKWEED (Asclepias incarnata L.)
  - Common in several wetland communities
  - Roots are eaten by muskrats
  - Host plant for Monarch butterflies
- BLUE FLAG IRIS
  - (Iris versicolor L.)
    - Common in meadows, marshes, and along streambanks and shores
    - Rootstock fed upon by aquatic rodents
    - Used in gardens for brightly colored flowers

#### • PINKWEED

(Polygonum pensylvanicum L.)

- Found in shallow marshes and disturbed areas
- Nutlets are important waterfowl and songbird food
- Widgeon Grass
  - (Ruppia maritima L.)
    - Grows in shallow brackish water and in alkaline lakes, ponds, and streams
    - Valuable waterfowl food sources
      - Entire plant has excellent nutritional value

![](_page_29_Picture_10.jpeg)

#### Summary

- Can be beneficial to the environment
  - Animals rely on them for food, shelter, and Oxygen
  - Control bank erosion
  - Used as breeding grounds for waterfowl and fishes
    Useful for humans as food, tools, and medicines
- Can also have negative impacts
  - Monoclonal stands reduce plant species diversity
  - Invasives choke out Oxygen for aquatic animals
  - Reduce habitat and food (sometimes) for waterfowl