Newfoundland and Labrador's Freshwater Wetlands
Wildlife guide

SAM is a network of municipalities that have formally committed to the practice of environmental stewardship in Newfoundland and Labrador. This NL wildlife guide is meant to support our members in their stewardship practice and for guided interpretative walks in their conservation areas. This wildlife guide can be used in conjunction with the "**Newfoundland and Labrador Wetlands" factsheet** and the "**SAM Wildlife ID Cards**".

Why are wetlands important?

Ecological services

Conserved lands, such as SAM conservation areas, provide ecological services.
Ecological services are any beneficial natural processes arising from healthy ecosystems, such as purification of water and air, pollination of plants and decomposition of waste. These services are natural and help your municipality save money on various anthropogenic structures and provide tourist opportunities.

Water moves through wetlands as part of the **hydrological cycle**. The vegetation and soils in wetlands act like huge sponges, absorbing and slowing the flow of the water through them which prevents flooding and soil erosion in surrounding areas. They also act like filters, reducing the flow of sediment, nutrients, and pollution into waterways and groundwater.

Some Wetland Ecological Services
Flood control
Groundwater replenishment
Shoreline stabilization & storm protection
Sediment & nutrient retention and export
Water purification
Biodiversity
Cultural values
Recreation & tourism
Climate change mitigation and adaptation

Biodiversity

Wetlands are very productive areas from an **ecological** point of view and many species are not found anywhere else. They are very productive areas for plant growth and are home for many

specialized plants such as pitcher plants. In addition to plants, they provide habitat for many different types of wildlife. Some animals live there year-round like beavers**,** muskrats and trout. Others come to wetlands in their search for water and food, to raise their young, rest, and fuel up during migration.

Cultural and economic benefits

People value wetland areas for **recreation**. They provide opportunities such as bird watching, hunting, fishing, berry-picking, and canoeing. Wetlands in their natural state provide renewable resources including wild berries, and species such as moose and mink. Their ecosystem services provide economic benefits that are not always associated with an obvious dollar amount. Peat has been harvested from Newfoundland's bogs for domestic fuel and cranberries are grown commercially in Newfoundland wetlands.

Climate change mitigation and adaptation

Climate change scientists have stated that peatlands are very important when it comes to carbon sequestration. In Newfoundland and Labrador, a common type of peatland is a sphagnum bog, made up of mostly sphagnum moss. Sphagnum is very good at "bog building" or creating peat because underneath the surface leaves are a long trail of dead and decomposing leaves.

Peatlands, as a function of their state of partial decomposition, naturally expel carbon dioxide and methane, both of which are greenhouse gases, but because the rate of decomposition is so slow, they can store much more carbon and then they release, becoming a carbon sink rather than a carbon source. It has been estimated that globally peatlands contain at least 550Gt of carbon which is double the amount stored in the world's forests. When peatlands are disturbed they go from being a carbon sink to a carbon source.

What are the different types of wetlands?

Different wetland types have all different species of plants, animals, and other life and support ecological processes. Wetlands obtain water from numerous sources such as rainfall, groundwater, runoff from upper slopes, and potentially from oceans. Some wetlands are only wet temporarily while some contain water throughout the year. The water source, vegetation, and the duration of water saturation help determine wetland type.

BOGS

Typically formed in low depressions and high-water table areas and characterized by their accumulation of sphagnum moss.

- Bogs provide habitat for a variety plant species that have adapted to varying nutrient conditions such as sundew, pitcher plants, black spruce, tamarack, and Labrador tea.
- Most water and nutrients in bogs comes from rain, creating a nutrient poor environment.
- Bogs store an abundance of carbon within the peat and plants.

FENS

Similar to bogs; however, they are predominantly formed on peaty organic soils dominated with sedges. This habitat is less acidic and receives groundwater from upper slopes, so fens have more nutrients than bogs.

- Fens contain a variety of unique plants due to the chemistry of the habitat from the changing levels of water. Fens can contain wildflowers, orchids, tamarack, and a huge variety of plants.

SHALLOW WATER WETLANDS (ponds)

Productive ecosystems containing standing or flowing water usually 1-3 metres deep.

- Dead woody shallow water wetlands are usually created by beaver activity, old sawmill sites or dammed waterways.

FRESHWATER MARSHES

Very productive and have water zones up to two metres in depth with emergent vegetation in and along the perimeter on mineral soils.

- Marshes provide feeding and spawning grounds for fish, crustaceans, shell fish, muskrats, minks, frogs, and waterfowl (ducks).
- Marshes contain an abundant and a variety of plants that use energy from the sun to create biomass for the food chain such as cattails, bulrushes, and water lilies.
- Marshes filter silt, toxins, heavy metals, and other pollutants from the water.

SEASONALLY FLOODED FLATS/VERNAL POOLS

Temporary pools of shallow water that usually exist from winter to spring and are dry in the summer.

- This ecosystem is a crucial breeding spot for salamanders (Labrador), frogs, insects, and provide food for other wildlife.
- Alders often grow in and around vernal pools.

MEADOWS

Productive ecosystems that occur as open water basins with fluctuating water levels from rainfall or runoff

- Meadows usually contain sedges, rushes, and/or grasses.
- Often forms from flowing and draining of a pond from beaver activity, or people.
- Meadows can turn into swamps if deciduous plants are left to establish for example if grazing, ice scour does not continuously remove the early succession species.

SWAMPS

Productive wetlands that are dominated by water tolerant shrubs or trees growing in muck soil.

- Swamps provide habitat for hawks, owls, hares, coyotes, black bears, song birds, and wood ducks.
- Newfoundland swamps are often dominated by Alder shrubs
- Swamps are important water storage areas by acting as a natural reservoir to prevent flooding but also releasing the water slowing during dry periods.

FORESTED WETLANDS

Occur from flooding in dense forest areas without permanent standing water.

Mammal species common to Newfoundland & Labrador's Wetlands

On the island portion of the province there are 14 native mammals and there are 37 in Labrador. Listed in the table below are all the native mammals of both the island portion and Labrador. The mammals that are described in detail are common mammals present in NL wetlands This section can be used with the SAM Wildlife ID card – Native Mammals of Newfoundland.

Key to species abbreviations

Beaver, *Castor canadensis* (N, L) (Native) approximate track length cm

Common Name, Scientific Name (N = Newfoundland, L = Labrador) (Native or non-native)

Native Mammal list of Newfoundland

Caribou
Newfoundland Black Bear
Canadian Lynx
Arctic Hare
Ermine
Newfoundland Marten
River Otter
Muskrat
American Beaver
Meadow Vole
Red/Silver/Cross Fox
Newfoundland Wolf (Extinct)
Little Brown Bat
Northern Long-eared Bat
Hoary Bat

Native Mammal list of Labrador

Caribou
Muskoxen
Polar Bear
Arctic Fox
Fisher
River Otter
Ermine
Wolf
Muskrat
Bank Vole
Northern Bog Lemming
Woodchuck
Woodland Jumping Mouse
Red Squirrel
Meadow Jumping Mouse
Arctic Hare
Little Brown Bat
Pygmy Shrew
Deer Mouse
Moose
Black Bear
Red/Silver/Cross Fox
American Marten
Mink
Canadian Lynx
Wolverine
American Beaver
Meadow Vole
Heather Vole
Flying Squirrel
Norway Rat
Rock Vole
Ungava Lemming
Porcupine
Snowshoe Hare
Water Shrew
Starnosed Mole

Caribou, *Rangifer tarandus* (N, L) (Native) all 10 cm

Male and female caribou have antlers. Male caribou shed their antlers every year in the late fall or early winter. Caribou furs are shades of gray, white, and brown. Their hooves are sharply edged for ice travel and are wide to serve as paddles when swimming. Their diet includes grasses, mosses, lichens, and the leaves of willow and

Moose, *Alces alces* (L) (Native) all 15 cm

Moose are native to Labrador but were brought to the Island of Newfoundland in 1904. Male (bull) moose have large antlers that they lose after mating, while female (cow) moose do not have antlers at all. Their fur is black to light brown. Moose do not have upper front teeth and they are herbivores, eating mainly young trees such as balsam fir and grasses.

Black Bear, *Ursus americanus* (N, L) (Native) rear 15 cm

Has a large head with a narrow muzzle; black claws; small rounded ears, and dark brown fur. Black bears will eat almost anything, but close to 75% of their diet are plants and berries. Females can weigh up to 150 kg while cubs weigh as little as ¼ kg at birth.

Eastern Coyote, *Canis latrans* (Non-Native) rear 5 cm

Varies from gray to brown; long fluffy tail with black tip. Ears are large, and feet are small. A scavenger who feeds on anything it finds such as mice, rabbits, squirrels, garbage, and farm animal. Travels in groups; active at night.

Little Brown Bat, *Myotis lucifugus* (N) (Native)

Most common bat species in the province. The little brown bat has dark and shiny fur; lighter belly and large sharp teeth. Found in trees, buildings, or caves. Bats are insectivores, feeding on moths, beetles, and wasps.

Red/Silver/Cross Fox, *Vulpes vulpes* (N, L) (Native) rear 5 cm

Red, brown, or black in color; ears have black tips; black legs; bushy tail with black tip. Eats mainly mammals, and small animals, and plants. Hunts alone.

Snowshoe Hare, *Lepus americanus* (L) (Native) rear 15 cm

Large hind feet, brown fur in summer and white in winter; black tipped ears. Active during night. In the summer eats mainly grasses, ferns and leaves and the winter it eats, twigs, bark, and buds

Arctic Hare, *Lepus arcticus* (N, L) (Native) rear 38 cm

Thick white fur in winter, gray fur in the summer, relatively longer ears. It feeds on woody plants, berries, buds, leaves and grasses.

Eastern Chipmunk, *Tamias striatus* (non-Native) 2 cm

Feeds on nuts, seeds, fruits, and insects. Five black stripes down its back. Colours vary from white to rusty brown. Introduced to Newfoundland in 1963.

Red Squirrel, *Tamiasciurus hudsonicus* (L) (Native) rear 2.5 cm

Diet includes seeds, leaves, buds, flowers, and berries. Gathers mushrooms and places them on branches to dry. Red with a white belly, long bushy tail. Introduced to Newfoundland in 1962.

Meadow Vole, *Microtus pennsylvanicus* (L) (Native) rear 2 cm

Rounded noes and ears; short legs and tail; black or brown body. Feeds on plants and grasses, nuts and seeds, Found in open fields. Females can have 100 offspring in less than a year.

Ermine/Weasel, *Mustela ermine* (N, L) (Native) 2.5 cm

Fur is reddish-brown in the summer and white in the winter with a black tip on tail all year long. Feeds on mice and voles at night.

Masked Shrew, *Sorex cinereus* (L) (Native) rear 2.5 cm

Grey to brown body, with a long tail; pointy nose. Very small, adults weight between 3 – 6 grams. This shrew eats snails, worms and small animals. It was introduced in 1958 to control spruce sawflies.

American Mink, *Mustela vison* (L) (Native) front 4.5 cm

Mink have a long, slender body with short, sturdy legs and a long neck and pointed face, bushy tail and small ears. The fur is soft and shiny (brown under fur and long, shiny guard hairs) and varies in color from rich brown to almost black. They are native to Labrador and were introduced into the island in the 1930s for farming.

River Otter, *Lontra Canadensis* (NL) (Native) rear 8 cm

Black and tail fur is black; belly fur is white; short legs and muscular neck; slender body; tiny rounded ears; webbed feet. Diet includes fish, and frogs. Builds homes along edges of rivers and lakes, with underwater and above water openings.

Amphibian Species of Newfoundland & Labrador's Wetlands

Eight amphibian species are present in the Province of Newfoundland and Labrador.

- Four species, including American Toad, Mink Frog, Green Frog and Wood Frog, are found in Newfoundland.
- Seven species, including Two-lined Salamander, Blue-spotted Salamander, American Toad, Mink Frog, Wood Frog, Northern Leopard Frog, and Spring Peeper are native to Labrador.
- All amphibian species in Newfoundland are exotic.
- Green Frogs are only found in Newfoundland.

During the 1960s, several amphibian species were introduced to the Island of Newfoundland, including American Toads, Wood Frogs, Striped Chorus Frogs, and the Northern Leopard Frog. The Striped Chorus Frog and the Northern Leopard Frog were unable to establish on the island.

American Toads have been successful on the west coast and have been transplanted on the Avalon Peninsula and in Central Newfoundland. Wood Frogs are now well established in the Corner Brook area (Maunder, 1997). Mink Frogs have also been found on the island.

Key to species abbreviations

Green Frog, *Rana clamitans* (N) (Introduced)

Common Name, Scientific Name, Newfoundland and/or Labrador, native/introduced

Green Frog, *Rana clamitans* (N) (Introduced)

Large, distinct tympanum and prominent dorsolateral ridges. It may be green, bronze or brown, or a combination but is typically green on the upper lip. Aquatic frog commonly found in or near shallow, permanent water such as springs, swamps, brooks and pond and lake edges.

American Toad, *Bufo americanus* (N,L) (Introduced)

Brown, reddish, or olive skin. Two prominent glands on the back of its head. Typically found on terrestrial habitats except during breeding season (May-June) when then reproduce in warm, shallow ponds, shallow streams and river margins and even large puddles and roadside ditches.

Mink Frog, *Rana septentrionalis* (N,L) (Introduced, Native)
Named for their scent, which some say smells like mink or rotting onions. Green in colour with darker green and brown blotching and the belly is cream to white.

Wood Frog, *Rana sylvantica* (N,L) (Introduced, Native)
Has gained some interest because of its freeze tolerance. Usually brown, tan, or rust-coloured, and usually have a dark eye mask. They are forest dwelling frogs that breed in freshwater wetlands and vernal pools.

Northern Leopard Frog, *Rana pipiens* (L) (Native)
A large species reaching about 11 cm. It varies from green to brown with large, dark, circular spots on its back, sides and legs. Each spot is bordered by a lighter ring.

Spring Peeper, *Pseudacris crucifer* (L) (Native)
A chorus frog. They are called a peeper because of their chirping call that marks the beginning of spring. Tan or brown with a dark cross that roughly forms an X on their dorsa.

Two-lined Salamander, *Eurycea bislineata* (L) (Native)
A small salamander ranging from 6.5 to 12 cm in length. Yellow to brown with two black stripes running down the back. Flanks are mottled grayish or brown and the belly is pale yellow.

Blue-spotted Salamander, *Ambystoma laterale* (L) (Native)
Between 10 – 14 cm in length, of which the tail makes up 40%. Skin is blueish-black with blue and white flecks on back and spots on sides of the body and tail.

Common Bird Species of Newfoundland & Labrador's Wetlands

There are over 200 bird species in Newfoundland and Labrador, and 3 million landbirds, waterbirds, and shorebirds breed in the boreal forest. Another 3 million migrate through. Below is a list of common bird species found in Newfoundland and Labrador's wetlands. For bird species in your area check e-Bird hotspots at ebird.org**/hotspots.org .** Bird images are taken from audubon.com Illustration © David Allen Sibley. (Bird images are not to scale)

Key to species abbreviations

Mallard, *Anas platyrhynchos* *Male utters soft, reedy notes; female, a loud quack*

Common Name, Scientific Name, song/call

Canada Goose, *Branta canadensis* *Ka-ronk*

Diet includes mainly grasses and sedges sometimes seeds, insects, crustaceans, snails, and small fish. They have the same mate for life. Geese fly in a V formation during migration. They usually mate for life.

Common Loon, *Gavia immer* *ha-OO-oo*

Appears on $1 coins. ID: adults/summer- black upperparts; green gloss on head/neck; white rectangle marks; white and black vertical stripes on neck.

American Bittern, *Botarurus lentiginosus* *Pump-er-lunk*

Camouflages well in wetland grasses. ID: long neck; brown upper parts with dark and light streaks; brown crown; white throat; black stripes on neck; relatively shore yellow green-legs.

Great Blue Heron, *Ardea Herodias* *roh-roh-rohs* *go-go-gos* *frawnk*

Found on the west coast of Newfoundland. ID: about 1.2 m tall, white face; black line of feathers above eye; slate blue-grey body; grayish wings; long neck and green-brown legs.

Common Grackle, *Quiscalus quiscula* *readle-eak*

Found in open settings usually near urban areas or pastures. Their diet includes grains, insects, and berries. ID: black body with green, blue, or purple sheen on head, neck, and upper breast.

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Red-winged Blackbird, *Agelaius phoeniceus* *conk-la-ree!*

ID: Adults/male – black body with red and yellow patch on shoulder of the wing. Adult/females – mottled brown.

Common Yellowthroat, *Geothlypis trichas* *wichity-wichity-wichity*

Diet often includes insects and spiders. Nests on the ground or in vegetation. ID: adults- olive upperparts; yellow chin throat; breast; black face (female faint or absent); white/grey stripe above eye; underparts grey or white.

Northern Harrier, *Circus cyaneus* *kee-kee-kee-kee*

ID: adults/male- slate grey; pale/white under parts with brown spots. Adult/female – red/brown upperparts; white. Northern Harriers are the most owl-like of hawks (though they're not related to owls). They rely on hearing as well as vision to capture prey. The disk-shaped face looks and functions much like an owl's, with stiff facial feathers helping to direct sound to the ears.

Tree Swallow, *Tachycineta bicolor* Cheerful series of liquid twitters

Can catch insects in the air and also feeds on berries and seeds. Nests in cavities of trees or boxes. Bicolour refers to the contrast colour between its upperparts and underparts. ID: adult/male – blue-green sheen upperparts; white underparts; notched tail. Young adults females have dull brown and green upperparts.

Ring-necked Duck, *Aythya collaris* Soft purring notes, but usually silent.

ID: Adults/male – (summer) – black upperparts; purple green or blue sheen on head; white patch on chin; grey bill with white or blue stripe. Adult/female – grey-brown upper parts; thin white eye ring; pale grey upper belly.

Common Goldeneye, *Bucephala clangula* *jeee-ep*! Females low quack.

Diving duck. Often referred to as *Whistlers* from the loud whistling sound their wings make in flight. ID: adults/male(summer) – black dome shaped head; white on face, neck, breast, wings; gold eye; black upperparts. Adults/male (eclipse) and female, and immatures – brown head, grey breast, back tail and sides.

American Wigeon, *Anas americana* *whew-whee-whew*; also quacks

ID: male/adults (summer)- white crown and forehead; sides of head and speculum green; cheeks and neck cream with black streaks; brown upper parts; pink brown breast; white underparts; blue-grey bill with dark tip. Male/adults (eclipse) and females- brown-black head, grey-brown upper parts. Speculum mainly black, underparts reddish tint.

Northern Pintail, *Anas acuta* 2-tone whistle; females quack

Dabbling duck; ID: adults/male (summer) – brown head, white lower parts, grey and black upper parts legs with blue bill; long tail feathers. Adults/male (eclipse) – paler and shorter tail feathers. Adults/females and immature – like female's mallards except for blue bill, red-brown crown; white flash marks on edge of wing.

Mallard, *Anas platyrhychos* Male soft, reedy notes; female, quack.

Most abundant duck in North America. ID: adutls/males (summer) – glossy green head; thin white neck ring; red-brown breast; body and wings brownish to light grey; violet – blue speculum. Adults/male (eclipse) and female and immatures – similar to American black; paler colour speculum blue purple with white outline orange bill with dark patches rather than a green colour.

American Black Duck, *Anas rubripes* Typical duck quack.

Associates, cross breeds with Mallards and is more abundant in Newfoundland. Found in freshwater ponds with breeding and salt-water site in the winter. Dabbling ducks that fees on surface water matter, berries, invertebrates, fish, and grains. ID: Adults/male- generally black-brown; pale grey neck; red orange legs and feet; blue purple speculum. Adults/female – paler then males and is bill greener.

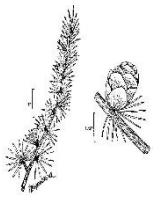
Common Plants of Newfoundland & Labrador's Boreal Forest

There are many species of vascular plants in Newfoundland and Labrador's Wetlands. Plants in wetlands need to be adapted to the aquatic process including poorly drained soils, hydrophytic vegetation, and biological activity that are associated with a wet environment. Wetlands are home to many species of carnivorous plants, including our provincial flower, the purple pitcher plant. Bogs and fens are peatlands. Peat is composed to decomposing organic matter that accumulates over time. The most common peatland in NL is the sphagnum bog. Plant drawings are taken from Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions,* and can be found at the USDA plants data base https://plants.sc.egov.usda.gov/java/ (images are not to scale). For more information on NL plants http://www.digitalnaturalhistory.com/flora.htm .

Key to species abbreviations

Black Spruce, *Picea mariana*
Common Name, Scientific name

Black Spruce, *Picea mariana*
Coniferous evergreen tree with 4 sided-needles that are dark blueish green on the upper sides. Cones are the smallest of the spruce species, 1.5 – 4 cm. Small hairs on bark of young branch tips, with reddish-brown bark. Prefers wetter lowland areas.



Tamarack/Eastern Larch, *Larix laricina*
The tops of these trees usually lean northeast. Needles are 1 -2.5 cm long and grow in clusters and fall off in the fall. (One of the very few coniferous trees that do). Tamarack can be found in forest, wetland, and barren ecosystems, generally on poorly drained soils.

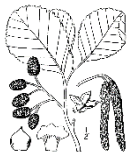
Common Labrador Tea, *Rhododendron groenlandicum*
Deciduous evergreen shrub that grows up to 1 m in height. Leaves are alternates in arrangement, with a shiny green top and brown, hairy underside. Flowers are in clusters from mid-June to July with five white petals. Leaves can be steeped to make a tea but boiling them can release a poisonous toxin.

Bog laurel, *Kalmia polifolia*

Bog laurel produces pink saucer shaped flowers in June. The upper surface of its leaves is shiny green with a white lower surface.

Pitcher Plant, *Sarracenia purpurea*

Provincial flower of Newfoundland and Labrador. Leaves are specialized to trap insects for food for a source of nitrogen. Very common in bogs which is a nitrogen poor environment. Flower is a deep red colour and leaves are tubular. Grows solitary or in groups.



Alder, *Alnus spp.*

Deciduous shrub with alternate simple leaf arrangement. Two species in province. *Alnus viridis subsp. crispa* most common shrub in regenerating areas. *Alnus incana subsp. rugosa* is less common. These species do grow on drier sites as well.

Marsh Marigold, *Caltha palustris*

Part of the buttercup family. Flower with five bright sepals. Roots are adapted to wet habitats via small root hairs to increase the surface of the roots to increase water and nutrient uptake.

Creeping Buttercup, *Ranunculus repens*

Yellow flowers with the leaves growing near the base of the stem deeply lobed three times with ragged edges.

Tall Meadowrue, *Thalictrum pubescens*

The flowering stalks contain cluster of white flowers that are up to 2m in height. Some of the leaves have three lobes.

Violets, *Viola sp.*

Low growing plants with a round-to heart shaped long-stalked leaves. These plants have 5 petals where the lower petal is usually the longest.

Bakeapple Cloudberry, *Rubus chamaemorus*

Individual plants have 1 – 3 leaves and have one white flower that turns into an edible orange berry in August.

Marshberry, Bog Cranberry, *Vaccinium oxycoccos*

Creeping plant with tiny leaves and nodding pink flowers arising from the end. The flowers produce edible bright-red berries that are ripe in October.

Canadian burnet, **Bottlebrush**, *Sanguisorba canadensis*

Canada burnet produces a spike that contains very small flowers. Compound leaves similar to Dogberry.

Sundew, *Drosera sp.*

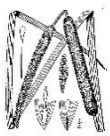
Small and insectivorous with white flowers on top of deep-red stem. Bottom of stem is deep-red thin leaves that end with a roundish lobe covered in glandular hairs to attract and digest insects.

Bladderworts, *Utricularia sp.*

Carnivorous plant lacking roots but has modified leaves and flowers called bladders. Bladderworts have yellow flowers and grow in wetlands across the province.

Yellow Bullhead Lily, *Nuphar variegata*

Yellow flowering plant that grows in water. Leaves are the typical lily pad shape. Rootstocks are eaten by moose and the seeds by waterfowl.



Cattails, *Typha latifolia*

Tall plants that can reach 2m in height. The top of the stem looks like a fuzzy tail but actually is the plant's flower. The top part is the male part and the bottom sections are the female flowers. Muskrats feed off the rootstalk and use the stem and leaves as materials for their houses.

Sedges, *Carex spp.*

Grass-like plants that form dense beds and provide food for many ducks. Sedges stem has edge shaped stems rather than round stems such as rushes or flat stems like grasses.

Cotton Grass, *Eriophorum spp.*

Flower is white and “fluffy”. This aids in seed dispersal in the wind. Belongs to the same family as the Sedges, Cyperaceae. Grows in acidic bog habitats.

Blue Flag Iris, *Iris versicolor*

Light to deep purple flowers, with various yellow and white markings on the inside. Flowers grow in sets of three for every stem. Leaves are narrow and sword shaped.

Bulrush, *Scirpus spp.*

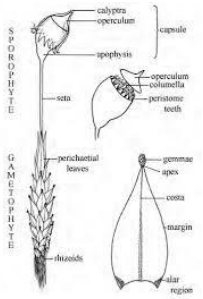
There are two varieties: a round-stem and three-square (triangular) stem. Round-stems can reach 2.5 m high and the triangular stem variety can reach 60 cm. The seeds of both are eaten by waterfowl.

Sensitive Fern, *Onoclea sensiblilis*

The fertile frond is beadlike, while the sterile frond has a netted vein. Relatively simple fronds in that the pinnules have less noticeable lobes.

Cinnamon Fern, *Osmundastrum cinnamomeum*

The fertile frond is beadlike, while the sterile frond has a netted vein. Relatively simple fronds in that the pinnules have less noticeable lobes.



Peatmoss, *Sphagnum spp.*

Dominant in bog wetlands. Can hold up to 25 times its dry weight in water. Very easy to sink in a bog a few feet because this moss accumulates in layers.