

SECTION 3
BOGS

IV. Bogs

Bogs are a specialized wetland community found on saturated, acidic, peat soils that have low concentrations of minerals (e.g., calcium, magnesium) and essential nutrients (phosphorus, nitrogen). They support a unique assemblage of trees, low shrubs, sedges and forbs growing on a mat of *Sphagnum* mosses (Curtis 1971). In Minnesota and Wisconsin, most bogs are found north of the vegetation tension zone.

Bogs are one stage in succession from open water lake to climax mesic hardwood forest (Curtis 1971). The bog originates on a floating mat of sedges that becomes colonized by *Sphagnum* mosses. As the mat gradually thickens and becomes more stable it is invaded by the evergreen shrubs of the heath family (Ericaceae). Eventually, tamarack and black spruce can be supported by the mat. The final stage of succession is, theoretically, climax mesic hardwood forest. Note that succession is rarely without interruption. It is typically a series of advancements and setbacks primarily due to fire and/or changes in water levels. These changes may be a cyclic, rather than a linear, type of vegetation development (Niering 1994). Also note that there are similar successional patterns for other wetland plant communities.

In addition to providing habitat for a unique assemblage of flora, including many orchid species, bogs are an important habitat for northern wildlife species such as gray wolf, moose, shrews, voles, snowshoe hare, red squirrel, amphibians, reptiles, spruce grouse, great gray owl, northern goshawk and numerous species of songbirds. Uses of bogs include harvesting of *Sphagnum* moss and commercial production of cranberries and wild rice.

IV.A. Open Bogs

Open bogs are composed of a carpet of living *Sphagnum* moss growing over a layer of acidic peat. Sedges, forbs and/or the low shrubs of the heath family (Ericaceae) colonize the *Sphagnum* moss mat. Scattered, usually stunted trees of black spruce and/or tamarack may be present. Lack of forest is probably due to: conditions too wet for the tree species; *Sphagnum* moss mat too thin to support trees; recurrent fires; summer frosts; and/or lack of a seed source for the tree species.

OPEN BOGS



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VEGETATION: This floating bog mat supports a carpet of sphagnum mosses (*Sphagnum magellanicum* and *Sphagnum* spp.), bog sedge (*Carex oligosperma*), poor sedge (*Carex magellanica* ssp. *irrigua*), tawny cottongrass (*Eriophorum virginicum*), three-way sedge (*Dulichium arundinaceum*), steeplebush (*Spiraea tomentosa*), leatherleaf (*Chamaedaphne calyculata*), bog rosemary (*Andromeda glaucophylla*), labrador tea (*Ledum groenlandicum*), small cranberry (*Vaccinium oxycoccos*), large cranberry (*Vaccinium macrocarpon*), bog buckbean (*Menyanthes trifoliata*), poison sumac (*Toxicodendron vernix*), broad-leaved cattail (*Typha latifolia*) and scattered tamarack (*Larix laricina*). Three species of insectivorous plants occur in this bog community: flat-leaved bladderwort (*Utricularia intermedia*), pitcher plant (*Sarracenia purpurea*) and sundew (*Drosera rotundifolia*).

SOILS: Fibric peat (Histosols), acid. Along the perimeter of the lake basin, the peat mat is thick enough to support tree-size tamarack and black spruce. The mat becomes progressively thinner moving out towards the center of the lake basin until it only consists of a thin mat of sedge roots/rhizomes and layer of *Sphagnum* moss.

HYDROLOGY: A floating mat covering part of Beckman Lake. Fibric peat soils are saturated to the surface.

LOCATION: Beckman Lake Bog, Cedar Creek Ecosystem Science Reserve, Isanti County, Minnesota.

OPEN BOGS

SPHAGNUM MOSSES

(*Sphagnum* spp.)

SPHAGNUM MOSS FAMILY (Sphagnaceae)

Sphagnum mosses are the characteristic species of bogs. They play an important role in keeping the bog environment acidic by their production of organic acids. Sphagnum mosses are commonly known as peat moss. No indicator status or C of C values have been assigned to the *Sphagnum* mosses that occur in Minnesota and Wisconsin. It is presumed that the five species shown herein are OBL.

Sphagnum moss has been used for many purposes including fuel, mulch, packing, bedding and insulation. In the First World War, it was used for surgical dressings in lieu of cotton. Commercial peat mining is done in both Minnesota and Wisconsin. Harvested peat moss is primarily used for horticultural purposes.



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Sphagnum magellanicum is a robust, hummock-forming moss that is usually reddish or purplish in color, but may be pale green in the shade. It is one of the most frequent species in our bogs and prefers the most acidic and nutrient-poor habitats.

OPEN BOGS



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Sphagnum squarrosum is a less common and more minerotrophic species compared to *S. magellanicum*.

Sphagnum fuscum is a common species of open and coniferous bogs.



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Sphagnum Mosses

(*Sphagnum* spp.)

OPEN BOGS

Sphagnum teres is a frequent species preferring slightly more minerotrophic habitats than *Sphagnum magellanicum*.



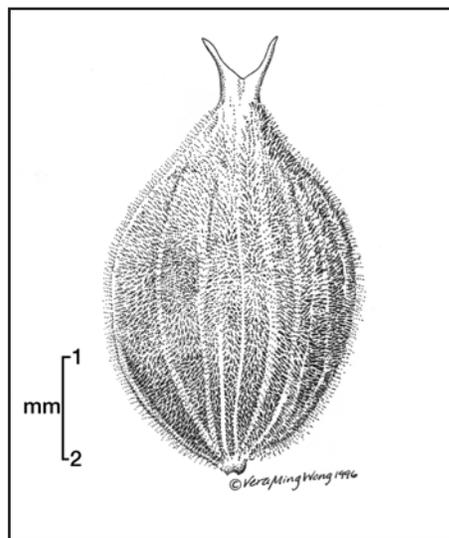
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Sphagnum capillifolium is one of the most common moss species of open and coniferous bogs in our area.

Sphagnum Mosses (*Sphagnum* spp.)



Perigynium



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WIREGRASS SEDGE

(*Carex lasiocarpa* Ehrh.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (7)

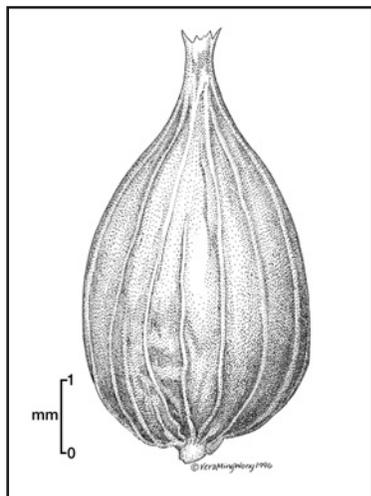
IND. STATUS: OBL

FIELD CHARACTERISTICS: A clone-forming, smooth, perennial sedge with triangular stems growing to 1 m. in height. The very slender (not over 2 mm. wide), wiry leaves are characteristically C-shaped in cross section or inrolled, and taper to very slender tips. The 1-3 pistillate spikelets are sessile or nearly so and 1-3 cm. long. The 1-3 staminate spikelets are 2-6 cm. long. Perigynia are 3-4.5 mm. long and densely fuzzy with an oblong-oval shape and sharp teeth not over 0.5(0.7) mm. long.

ECOLOGICAL NOTES: Wiregrass sedge is a common sedge of bogs, calcareous fens, shrub-carrs, sedge meadows and shallow marshes; frequently in shallow water. The well developed, air-filled root and rhizome system produced by this sedge makes it one of the floating mat-forming species that create the first stage in bog succession.

SOURCE: Fernaid (1970); Gleason and Cronquist (1991); and Voss (1972).

OPEN BOGS



Perigynium



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BOG SEDGE

(*Carex oligosperma* Michx.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (8)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A perennial sedge forming rhizomatous mats (may form a turf) with stems 40-100 cm. tall. The pale green, wiry leaf blades are inrolled (involute) and are less than 3 mm. wide. Stems are glabrous and purplish at the base. Usually only a solitary staminate spikelet is present while pistillate spikelets number 1-3. The ascending perigynia number 3-15 (less than 18), are ovoid, and over 2 mm. wide with a 1-2 mm. beak.

ECOLOGICAL NOTES: Sterile plants of this sedge may be confused with woolly sedge (*Carex pellita*) whose leaf blades are revolute. This sedge is characteristic in open bogs and conifer bogs.

SOURCE: Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1972).

OPEN BOGS



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POOR SEDGE

(*Carex magellanica* ssp. *irrigua* Lam.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (8)

IND. STATUS: OBL

SYNONYM: *Carex paupercula* Michx.

FIELD CHARACTERISTICS: A perennial sedge with loosely clustered stems growing to 20-70 cm. in height, the remains of last year's leaves commonly persisting at the base. Leaves are flat and 1-3 mm. wide. The terminal spikelet is staminate and 0.7-1.5 cm. in length. Pistillate spikelets number 1-4, nodding on long peduncles, often with a few staminate flowers at the base. Pistillate scales are light to dark brown, generally longer and narrower than the perigynia, and have a green midstripe. Perigynia are elliptic to ovate, 2-ribbed, beakless or with a minute beak, and 2.3-4.2 mm. in length. The achene is 3-sided.

ECOLOGICAL NOTES: Poor sedge is a common species of open and coniferous bogs preferring the acidic, low nutrient and low mineral (poor) conditions of these habitats.

SOURCE: Gleason and Cronquist (1991).

OPEN BOGS



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FEW-FLOWERED BOG SEDGE

(*Carex pauciflora* Lightf.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (9 MN) (10 WI)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A perennial sedge with a single to few stems occurring in loose tufts. Each stem has 1-2(3) leaves that are 1-2 mm. wide. The stems are up to 40 cm. tall and typically longer than the leaves. There is only one spikelet per stem. The slender spikelets are few-flowered. The very distinctive linear-lance shaped perigynia are slender, 7-9 mm. long, 1-6 per spikelet, divergent to reflexed along the stems, and nearly rounded in cross section. They are initially light green, becoming straw to pale brown in color. The nutlets are bluntly three-angled.

ECOLOGICAL NOTES: Few-flowered bog sedge is essentially restricted to the acidic, low nutrient conditions of *Sphagnum* bogs, usually on the open mat.

SOURCE: Fassett (1976); Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1972).

OPEN BOGS



THREE-SEEDED SEDGE

(*Carex trisperma* Dewey)

SEDGE FAMILY (Cyperaceae)

C of C: Native (7)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A loosely clumped perennial sedge with weak, slender, arching stems to 20-70 cm. in height. Leaves are 1-2 mm. wide. Bracts are threadlike and typically as long as the inflorescence. The widely separated spikelets are arranged in a zigzag pattern along the stem, sessile, number 2-3(4), and support fewer than 5 perigynia, usually 3. The staminate spikelets are basally located in the inflorescence. The ovoid perigynia are 2.7-3.8(4) mm. long and slightly beaked. The ovate scales are shorter than the perigynia and hyaline with green centers. Nutlets are flat on one side and convex on the other.

This sedge can be confused with *Carex disperma* whose nutlets tend to be round in cross section.

ECOLOGICAL NOTES: Three-seeded sedge is characteristic of the shaded portion of *Sphagnum* bogs under spruce and tamaracks.

SOURCE: Fassett (1976); Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1972).

OPEN BOGS



TAWNY COTTONGRASS

(*Eriophorum virginicum* L.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (10 WI)(8 MN)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A colonial, perennial sedge with stems growing to a height of 1 m. Stem leaf blades are flat and up to 4 mm. or more wide. The two or three involucre bracts are leaf-like and often exceed the inflorescence. The summit of the leaf sheaths are not tinged with a dark red color, as seen in *Eriophorum angustifolium*. The thick scales are brownish to reddish and the mid-nerve is inconspicuous. Spikelets are several and form a dense cluster. Nutlets are 3-3.5 mm. long, and are surrounded by brown to coppery (tawny) silky bristles. In flower, and thus conspicuous, in mid-July through August.

ECOLOGICAL NOTES: Tawny cottongrass occurs in coniferous swamps and bogs as well as open bogs.

SOURCE: Crow and Hellquist (2000); Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1972).



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TUSSOCK COTTONGRASS

(*Eriophorum vaginatum* L.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (9)

IND. STATUS: OBL

SYNONYM: *Eriophorum spissum* Fern.

FIELD CHARACTERISTICS: A clump-forming, perennial sedge with stems to a height of 20-70 cm. Leaves are thread-like and 1 mm. wide. The spikelet is solitary with several sterile, basal scales. Nutlets are 2.5-3.5 mm. long and are surrounded by long, silky, bright white bristles. In flower, and thus conspicuous, in May and June. *E. vaginatum* is the only cottongrass in Minnesota and Wisconsin that is both densely cespitose (clump-forming) and has a single spikelet on the stem.

ECOLOGICAL NOTES: Tussock cottongrass is generally restricted to bogs. Its name is derived from the fact that the flowering head resembles a ball of cotton.

SOURCE: Gleason and Cronquist (1991); and Voss (1972).

OPEN BOGS



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DARK-SCALE COTTONGRASS

(*Eriophorum viridicarinatum* (Engelm.) Fern.)

SEDGE FAMILY (Cyperaceae)

C of C: Native (9 MN)(10 WI)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A colonial, perennial sedge from spreading rhizomes. Stems are more or less round in cross section and grow to 30-70 cm. in height. Uppermost leaves are 10-15 cm. long with green sheaths that lack a dark band at the tip (differentiates this species from *E. angustifolium*). Spikelets are terminal on the stem, typically number 20-30, with short to long pedicels. Involucral bracts number 2-4. Scales are narrowly ovate and blackish-green with a pale midrib that extends to the very tip of the scale. Nutlets are brown, 3-4 mm. long, and surrounded by bright white, silky bristles. In flower May-June.

ECOLOGICAL NOTES: Dark-scale cottongrass is generally restricted to open bogs and openings in coniferous bogs.

SOURCE: Gleason and Cronquist (1991); and Chadde (2002).

OPEN BOGS



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LEATHERLEAF

(*Chamaedaphne calyculata* (L.) Wench)

HEATH FAMILY (Ericaceae)

C of C: Native (8)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A low, evergreen shrub usually 30-40 cm. tall occasionally growing to 1.5 m. in height. The leaves are alternate, oblong to elliptic, 1.5-5 cm. long, leathery, and minutely scaled beneath. The leaves assume a characteristic russet color in winter (inset photo). Flowers are white, tubular, 6-7 mm. long and arranged in 1-sided, leafy racemes. In flower April-June.

ECOLOGICAL NOTES: Leatherleaf is restricted to bogs. It often forms monotypes covering many acres.

SOURCE: Fernald (1970); and Gleason and Cronquist (1991).



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Fruit is a linear capsule 5-6 mm. long.

LABRADOR-TEA

(*Ledum groenlandicum* Oeder)

HEATH FAMILY (Ericaceae)

C of C: Native (8)

IND. STATUS: OBL

SYNONYM: *Rhododendron groenlandicum* (Oeder) Kron & Judd

FIELD CHARACTERISTICS: A low, evergreen shrub growing to a height of 1 m. The leaves are alternate, lanceolate to elliptic, 2-5 cm. long and entire. Leaves have strongly enrolled margins and are dark green above and orange-woolly beneath (younger leaves may be white-woolly beneath). Flowers are white, 1 cm. wide, composed of 5 petals, and are arranged in terminal clusters. Fruit is a lance-shaped capsule 5-6 mm. long. In flower May-June.

ECOLOGICAL NOTES: Labrador-tea is restricted to bogs north of the vegetation tension zone.

SOURCE: Courtenay and Zimmerman (1972); Fernald (1970); Gleason and Cronquist (1991) and Chadde (2011).

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BOG ROSEMARY (*Andromeda glaucophylla* Link)

HEATH FAMILY (Ericaceae)

C of C: Native (9)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A low, evergreen shrub growing to 50 cm. in height. The leaves are alternate, narrowly linear, 2-5 cm. long, sessile, entire, leathery and strongly inrolled. Leaves are blue-green above and whitened below. The corolla is urn-shaped, pink (sometimes white), 5-6 mm. long and arranged on terminal, drooping, umbel-like racemes with stalks to 8 mm. Fruit is a rounded capsule to 5 mm. wide that becomes erect when mature (upper left photograph). In flower May-June.

ECOLOGICAL NOTES: Bog rosemary is restricted to bogs.

SOURCE: Gleason and Cronquist (1991); and Chadde (2011).

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SMALL CRANBERRY

(*Vaccinium oxycoccos* L.)

HEATH FAMILY (Ericaceae)

C of C: Native (8)

IND. STATUS: OBL

SYNONYM: *Oxycoccus quadripetalus* Gilib.

FIELD CHARACTERISTICS: A very small, weak, creeping, evergreen, vine-like shrub 50 cm. or more long. Leaves are alternate, ovate to elliptical, pointed, 7-10 mm. long and 2.5-5 mm. wide, leathery, and have flat to strongly inrolled margins. Flowers are pink, 1 cm. wide and 5-6 mm. long. Flowers are solitary on stalks with 2 red bracts. Flowers are shaped like those of a shooting star with petals turned back, away from the stigmas and stamens. Fruit is a red berry 7-12 mm. in diameter. In flower from early June to mid-July.

ECOLOGICAL NOTES: Small cranberry is restricted to bogs where it is abundantly common on the *Sphagnum* mat.

SOURCE: Gleason and Cronquist (1991); Smith (2008); and Chadde (2002).



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LARGE CRANBERRY
(*Vaccinium macrocarpon* Ait.)

HEATH FAMILY (Ericaceae)

C of C: Native (9)

IND. STATUS: OBL

SYNONYM: *Oxycoccus macrocarpus* (Ait.) Pers.

FIELD CHARACTERISTICS: A very small, weak, creeping, evergreen, vine-like shrub to 1.5 m. in length. Leaves are alternate, elliptical to obovate, rounded to blunt at the apex, 9-16 mm. long by 3-7 mm. wide, leathery, and have flat to strongly inrolled margins. Flowers are pink in color and 6-9 mm. long. Flowers are solitary on stalks with 2 ovate, green, leaf-like bracts. Flowers are shaped like those of a shooting star with petals turned back, away from the stigmas and stamens. Fruit is a red berry 10-16 mm. in diameter. In flower from mid-June to July.

ECOLOGICAL NOTES: Large cranberry is restricted to bogs. Cranberries are an important commercial crop in Wisconsin. Commercial varieties of cranberries were developed using cuttings taken directly from the native or “wild” strain of *V. macrocarpon*.

SOURCE: Gleason and Cronquist (1991); Smith (2008); and Chadde (2002).

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PITCHER PLANT

(*Sarracenia purpurea* L.)

PITCHER PLANT FAMILY (Sarraceniaceae)

C of C: Native (9)

IND. STATUS: OBL

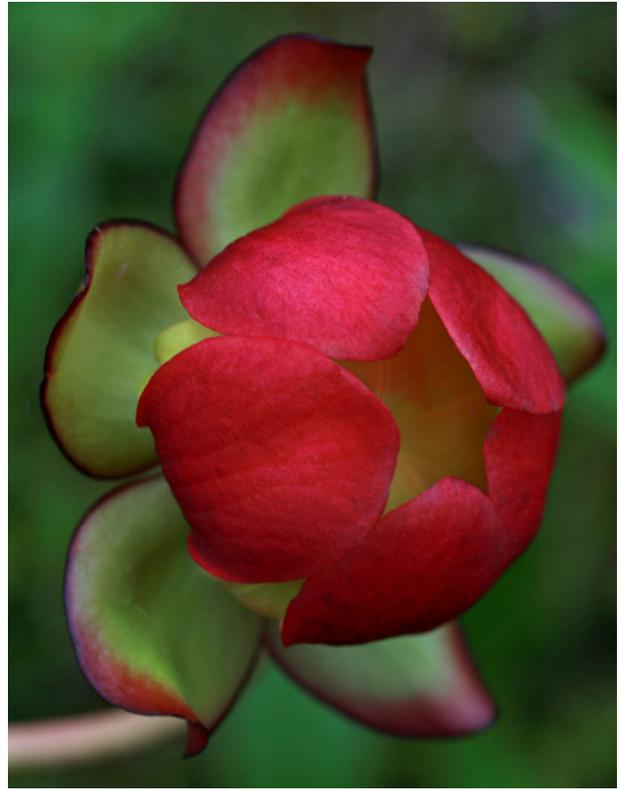
FIELD CHARACTERISTICS: A perennial herb that usually grows in a clump-like fashion. The leaves are hollow, pitcher-shaped, broadly winged, growing to a height of 10–20 cm. and a width of 1–5 cm. Leaves are green to red to yellowish and heavily veined. The interior lips of the leaves have stiff, downfacing hairs that trap insects and other organisms. The flowers are borne on a long, leafless stalk (30–50 cm. tall) and are mostly dark red to purple. In flower May–August.

ECOLOGICAL NOTES: Pitcher plant is found in bogs and some calcareous fens. It prefers sunny habitats, but does survive more shaded conditions as succession advances. The pitcher-shaped leaves of this insectivorous species collect water, and the stiff, downfacing hairs make it easier for an insect or other organism to travel downward rather than upward. The hairs abruptly stop at the “pitcher” where the plant tissue becomes very slippery. Once inside, the organism may not be able to crawl back up the “pitcher” wall and slips into the water. “Digestion” of the organism provides needed nutrients for the plant.

SOURCE: Gleason and Cronquist (1991); and Voss (1985).

OPEN BOGS

Pitcher Plant
(*Sarracenia purpurea*)



© Photos by Steve D. Eggers

Flower



An assortment of insects trapped within the pitcher.

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SUNDEW

(*Drosera rotundifolia* L.)

SUNDEW FAMILY (Droseraceae)

C of C: Native (8)

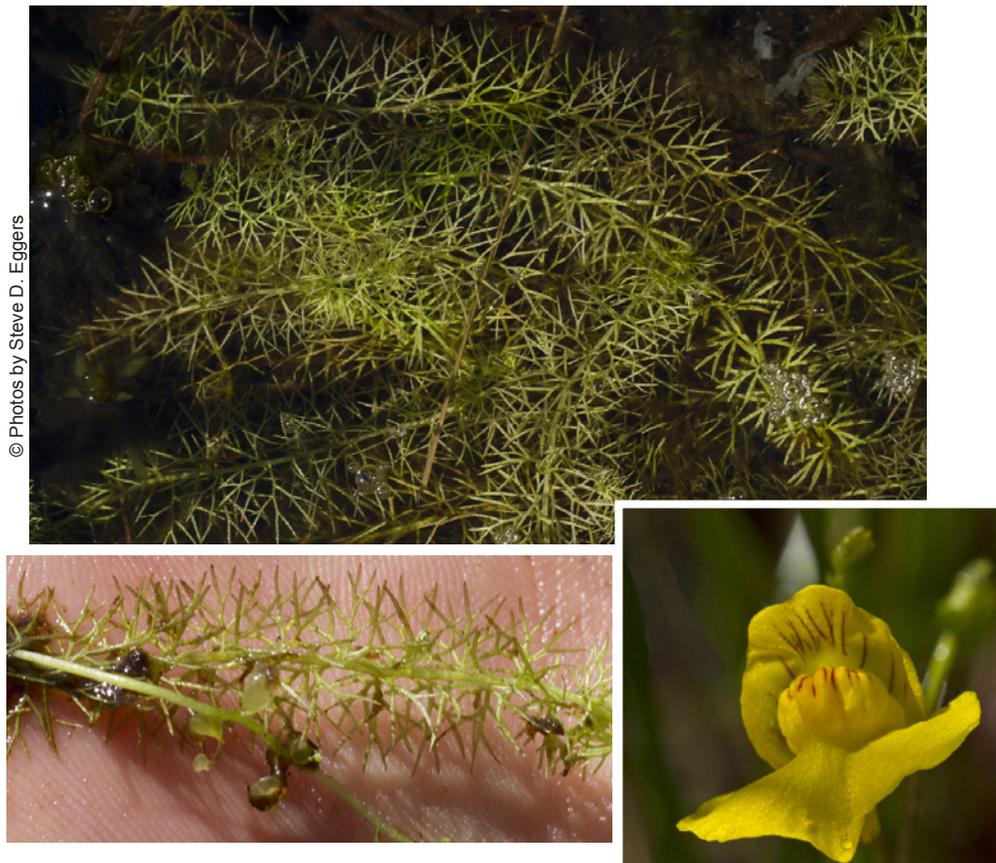
IND. STATUS: OBL

FIELD CHARACTERISTICS: A tiny, perennial herb forming a small rosette (half dollar size or smaller) near the ground. The leaf blades are round and covered with reddish, glandular hairs. Flowers are white (rarely pink) and 4-7 mm. wide. The leafless stalk is 7-30 cm. high with 3-15 flowers. In flower July-August. Other species of sundew (*Drosera* spp.) are found in Minnesota and Wisconsin, but have narrower leaves.

ECOLOGICAL NOTES: Sundew is found in bogs, coniferous swamps, and wet, sunny, sandy habitats. This insectivorous species has reddish, glandular hairs that secrete dew-like drops of a sticky fluid that traps minute animal life. The captured prey is then “digested” thereby providing needed nutrients to the plant.

SOURCE: Courtenay and Zimmerman (1972); Gleason and Cronquist (1991); and Voss (1985).

OPEN BOGS



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FLAT-LEAVED BLADDERWORT

(*Utricularia intermedia* Hayne)

BLADDERWORT FAMILY (Lentibulariaceae)

IND. STATUS: OBL

C of C: Native (8 MN)(9 WI)

FIELD CHARACTERISTICS: An annual, aquatic, herb free-floating or with creeping stems along the substrate in shallow water. Stems are weak and 7.5-25 cm. long. Leaves are numerous, 0.5-2 cm. long, primarily 3-parted near the base, then again divided 1-3 times, the segments flat and linear. Bladders are 2-4 mm. wide on branches separate from the leaves. Yellow flowers number 2-4 on an emergent stalk 5-20 cm. long. The lower lip of the flower is 8-12 mm. long, twice the length of the upper lip. The spur is nearly as long as the lower lip. In flower July-August. See Appendix C for a key to bladderworts.

ECOLOGICAL NOTES: Flat-leaved bladderwort is found in open bogs, marshes, fens, interdunal swales, ponds and rivers. Swink and Wilhelm (1994) note that this bladderwort occurs in acidic habitats (e.g., *Carex lasiocarpa* mats) as well as calcareous habitats.

SOURCE: Courtenay and Zimmerman (1972); Gleason and Cronquist (1991); Swink and Wilhelm (1994); and Voss (1972).



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WATER ARUM

(*Calla palustris* L.)

ARUM FAMILY (Araceae)

C of C: Native (8)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A perennial herb from rhizomes creeping in peat, mud, or floating. The spathe is broad, white, and 3-5 cm. long with a tip 5-10 mm. long. The spadix is golden, ovate to elliptic, fleshy, 1.5-2.5 cm. long and packed with flowers. The leaves are ovate to subrotund, heart-shaped at the base and 5-10 cm. long on petioles 10-20 cm. long. Fruit is a cluster of red berries. In flower during June.

ECOLOGICAL NOTES: Water arum is found in bogs and shallow, acidic waters.

SOURCE: Courtenay and Zimmerman (1972); Gleason and Cronquist (1991); and Voss (1972).



SHOWY LADY'S-SLIPPER
(*Cypripedium reginae* Walter)

ORCHID FAMILY (Orchidaceae)

IND. STATUS: FACW

C of C: Native (8), listed as a species of special concern in Wisconsin

FIELD CHARACTERISTICS: A hairy, perennial herb with flowers composed of white sepals and petals, and a large inflated lip (pouch) 3-5.5 cm. long. The lip is white with purple to rose to pink streaks. There may be 1-2 (rarely 3 or 4) flowers per stem. Stems are leafy, hairy and 20-100 cm. in height. Leaves are elliptic-oval to ovate, 1-2 dm. long, strongly ribbed, hairy and clasp the stem. In flower during June.

ECOLOGICAL NOTES: Showy lady's-slipper, Minnesota's state flower, is found in bogs, wooded swamps, calcareous fens, and along calcareous ridges and dunes in both shaded and open (sunny) habitats. It is occasional to common in its preferred habitats in Minnesota, but is much less common in Wisconsin. The hairs on the stem and leaves are irritating to some people producing a rash similar to that caused by poison ivy.

SOURCE: Fernald (1970); Gleason and Cronquist (1991); Voss (1972); and Smith (1993).

OPEN BOGS



ROSE POGONIA

(*Pogonia ophioglossoides* (L.) Juss.)

ORCHID FAMILY (Orchidaceae)

C of C: Native (9)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A perennial herb with a stem 15-45 cm. in height. Usually a single leaf is produced about midway up on the stem. The leaf is elliptical, sessile and veiny, 3-12 cm. long and 0.6-2 cm. wide. One pink to purple flower is produced per stem, typically. Sepals are elliptical and 1.3-2.4 cm. long and 2-6 mm. wide. Petals are broadly elliptical and 1.3-2.3 cm. long by 0.7-1.2 cm. wide. The lip is pinkish with purple veins, 1.4-2.1 cm. long by 5-10 mm. wide, conspicuously bearded with a crest of bristles. In bloom mid-June to late July.

ECOLOGICAL NOTES: Rose pogonia occurs in open bogs, coniferous bogs and coniferous swamps particularly on *Sphagnum* mosses under a partial canopy of northern white cedar, tamarack or spruce. It also occurs on floating mats and in sedge meadows with acidic peat soils.

SOURCE: Gleason and Cronquist (1991); and Smith (1993).

OPEN BOGS



GRASS PINK

(*Calopogon tuberosus* (L.) BSP.)

ORCHID FAMILY (Orchidaceae)

C of C: Native (9 MN)(8 WI)

IND. STATUS: OBL

FIELD CHARACTERISTICS: A perennial herb with a glabrous stem 19-55 cm. in height. A single, essentially basal leaf is linear and grasslike, 10-35 cm. long by 0.2-1.6 cm. wide. The inflorescence is a terminal raceme with 2-12 pink to purple (or rarely white) flowers. Sepals are ovate to elliptical and 1.2-2.4 cm. long by 5-11 mm. wide. Petals are oblong or oblong-elliptical 1.3-2.4 cm. long by 5-8.5 mm. wide. Lip is the uppermost part of the flower, broadly winged and 1.1-2 cm. wide by 6.5-14 mm. wide. The ventral surface of the lip is bearded with yellow-tipped bristles. In flower mid-June to early August.

ECOLOGICAL NOTES: Grass pink occurs in coniferous swamps and bogs, usually under a sparse canopy of northern white cedar, tamarack or spruce. It also occurs on floating mats dominated by sedges or *Sphagnum* mosses.

SOURCE: Gleason and Cronquist (1991); and Smith (1993).

OPEN BOGS



Photos by Steve D. Eggers



MARSH CINQUEFOIL

(*Comarum palustre* L.)

ROSE FAMILY (Rosaceae)

C of C: Native (7 MN)(8 WI)

IND. STATUS: OBL

SYNONYM: *Potentilla palustris* (L.) Scop.

FIELD CHARACTERISTICS: A perennial herb with somewhat woody, reddish-brown stems that are trailing or erect to 20-60 cm. in length. Leaves are long-petioled and pinnately compound. Leaflets number 5-7 and are narrowly oblong to elliptic, 5-10 cm. by 1-3 cm., sharply toothed and glaucous beneath. The inflorescence consists of several red-purple flowers that are 2 cm. wide. Achenes are smooth and attached to the enlarged, spongy receptacle. In flower June-August.

ECOLOGICAL NOTES: Marsh cinquefoil is a common forb of bogs, especially in the “lagg” around the border of the bog and uplands.

SOURCE: Gleason and Cronquist (1991); and (Fernald 1970).

OPEN BOGS



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BOG ARROW-GRASS

(*Scheuchzeria palustris* L.)

SCHEUCHZERIA FAMILY (Scheuchzeriaceae)

IND. STATUS: OBL

C of C: Native (9 MN)(10 WI)

FIELD CHARACTERISTICS: A perennial herb with 1-several stems that are 10-40 cm. long. The wiry leaves are alternate, several arising from the base as well as along the erect stem. Leaves are 10-30 cm. long and only 1-3 mm. wide. Flowers consist of 6 tepals 2-3 mm. long that are green-white and arranged into several-flowered racemes 3-10 cm. long. Fruit consists of follicles 5-10 mm. long each with 2 seeds that are 4-5 mm. long. In flower May-June.

ECOLOGICAL NOTES: Bog arrow-grass, or Scheuchzeria, prefers the acidic habitat of bogs, typically growing on *Sphagnum* mosses or floating mats.

SOURCE: Gleason and Cronquist (1991); and (Chadde 2002).