Little Traverse Bay Bands of Odawa Indians

Native Plants Initiative

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Purpose

This document is intended to aid resource managers of Little Traverse Bay Bands of Odawa Indians (LTBB) and Conservation Resource Alliance (CRA) in incorporating culturally significant plants into their management plans. In addition, LTBB Citizens and local land- and home-owners that are interested in protecting, preserving, or managing for culturally significant plants can also learn to incorporate them into their management plans, while at the same time contributing to biodiversity and promoting healthy habitats for both wildlife and people on areas within and adjacent to the LTBB Historical Reservation boundary.

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Introduction

To date, there are 2,729 plants recorded in the State of Michigan, of which approximately one third are non-native. High quality areas that provide habitat for pre-settlement communities represent an increasingly smaller fraction of the landscape and are under threat from development, poor management practices, invasive species, and more recently, climate change. As a result, much of the native biota is restricted to small remnants of pre-settlement communities. This fact does not bode well for wildlife, which rely on these habitats for food, shelter, breeding and rearing young, and as corridors for movement.

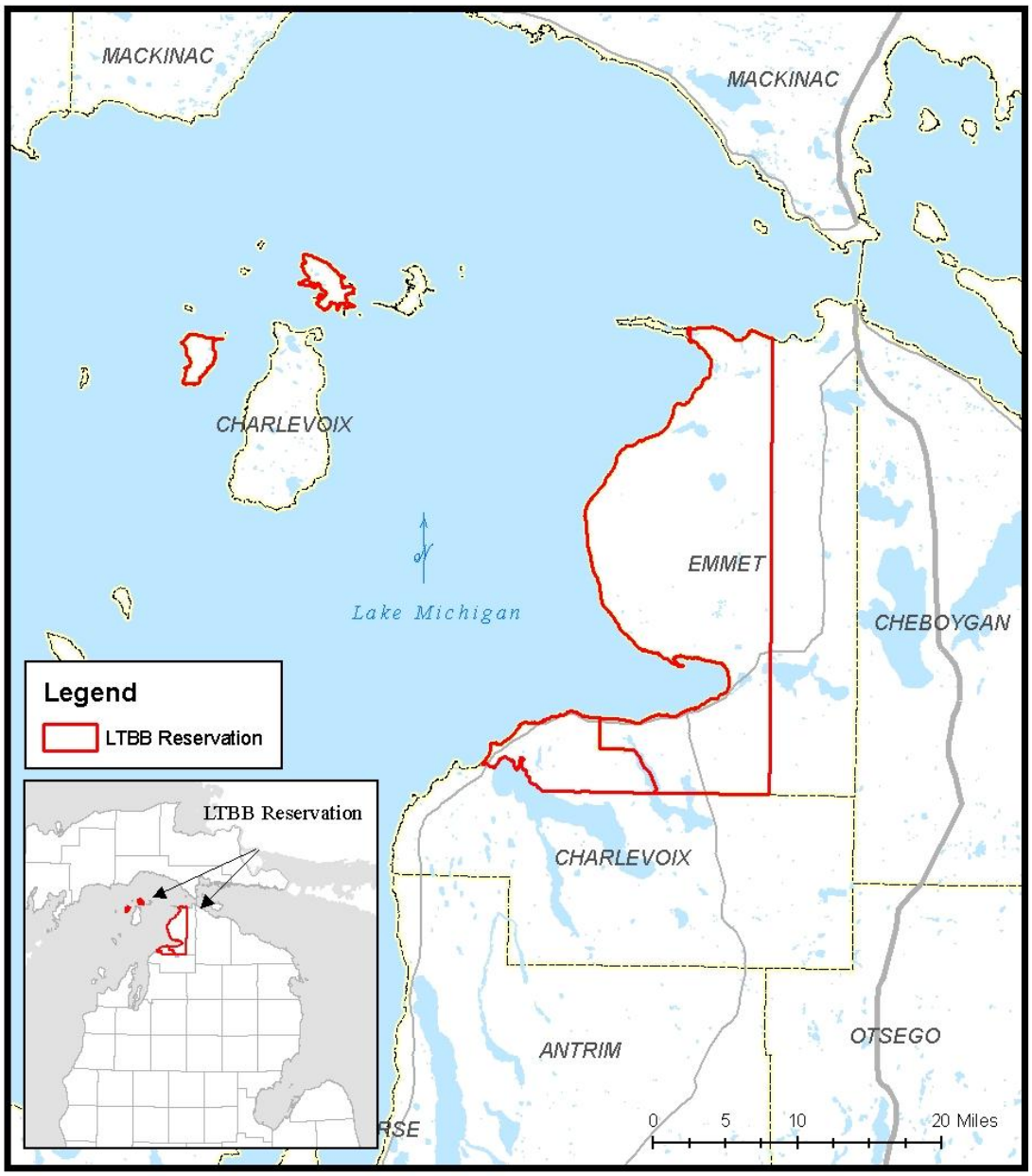
On April 13, 2006, the Conservation Resource Alliance and The Little Traverse Bay Bands of Odawa Indians entered into an agreement to complete conservation projects for a USDA Conservation Innovation Grant. As part of its responsibility as a partner in this grant, LTBB has completed a Native Plants Initiative that details habitat types, management recommendations, and protection opportunities for plants of significance to the LTBB.

About LTBB

The Little Traverse Bay Bands of Odawa Indians was federally reaffirmed with the signing of Public Law 103-324 on Sept. 21, 1994. The Tribe has over 4,300 members and is governed by a nine member Tribal Council who serves staggered terms. The historically delineated reservation area is located in the north-western part of Michigan's Lower Peninsula, encompassing approximately 336 square miles of land within the two counties.

The way of life for the LTBB relies upon environmental protection for cultural perpetuation. This is rooted in the traditional reliance on Great Lakes fishing, hunting and gathering of plants that have cultural, medicinal and spiritual significance to the Tribe. In order to preserve these important traditions for the next Seven Generations, LTBB is committed to promoting and protecting healthy wildlife corridors which provide important habitat and space for culturally significant plants and wildlife.

The following map shows the geographic extent of the LTBB Historical Reservation Boundary:



Little Traverse Bay Bands of Odawa Indians
Reservation Boundary

Source: LTBB GIS, State of Michigan CGI

This map is intended for general informational purposes only, and is subject to change. October 20th, 2009

How this guide is organized:

The plant guide is divided into two main sections – uplands and wetlands. For each plant, the following information is given when available:

1. Common and scientific names.
2. Anishnaabemowin name(s):
   The native language of the Odawa is Anishnaabemowin, which means 'language of the Anishnaabe,' or first people. The Anishnaabe are the three tribes of the Great Lakes, also known as the Three Fires – the Odawa, the Ojibwe, and the Pottawatami. The dialects of the different tribes are reflected in this document, as each source had contact with different Anishnaabe tribes. Names are included with information sources and translations when possible.
3. Historical and/or current cultural significance to the LTBB.
4. Habitat types and ranges of shade tolerance.
5. Threats.
6. Notes:
   In this section, occasional references are made to the Michigan Floristic Quality Assessment, which is a document that was created to evaluate the relative significance of tracts of land in terms of their native floristic compositions. The FQA assigns each plant a Coefficient of Conservatism (C) which is based on the plant's fidelity to a particular habitat type. Plants with a C of 0 may be found anywhere, whereas plants with a C of 10 are considered high quality plants that are restricted to a particular pre-settlement community, or high quality community. Rare or unique plants, as well as their affinities for high quality habitats (C) are noted when possible.

<u>Uplands</u>
Uplands dominate the majority of the landscape. They are influenced by varying geographic locations, soil compositions, moisture, light, and nutrient regimes, as well as human activities. Uplands are under attack from invasive pests and diseases, development, and lack of the use of fire as a management tool.

<u>Wetlands</u>
Wetlands may be found in low areas around lakes, rivers and streams, seeps, areas with high water tables, and in depressions and other lowlands on the landscape such as bogs. They are important components of the landscape that provide many functions that include water storage, groundwater recharge, flood control, biogeochemical cycling, and habitat for plants and wildlife. They intercept water and slow it down, trapping and removing sediments before they can reach surface water bodies. The ability of a wetland to perform these functions depends on the surrounding land use, which influences the quality, the amount, and the rate of water entering a wetland. Wetlands are negatively affected by development, invasive species, hydrological alterations such as water diversions, excessive nutrient loading from local farm operations and the improper use of fertilizers, as well as from road salts and other pollutants that accumulate in soils from runoff. These kinds of disturbances negatively affect wetlands by altering water chemistry, changing the pH of the system, and allowing non-native or aggressive species to out-compete

native plants. Sadly, over 70% of Michigan's original wetlands have been drained or filled, and many of the remaining wetlands are not representative of the original landscape types. Though wetlands presently cover less than 6% of the total land area in Michigan, as well as within the LTBB Historic Reservation Boundary, they are still being degraded or lost as a result of permitted and unpermitted activities.

Green tips for healthier habitats:

Tip 1: Plant local native genotypes of plants whenever possible. Don't be afraid to ask where the nursery gets their plants. Local plant genotypes are likely to be better adapted to your area or region than plants that have come hundreds of miles away. Plus, by using local native plants, the risk of spreading unwanted invasive insects and diseases may be reduced. Contact your local county conservation district for information on spring or fall native plant sales.

Tip 2: To help reduce soil erosion, plant trees as wind breaks along driveways, farm edges, and roads. These wind breaks can also help reduce blowing snow on roads in the winter.

Tip 3: Composting is easy, fun, and natural. Natural fertilizers are better than commercial fertilizers because they are released into the soil slower and do not kill beneficial microbes present in the soil. If commercial fertilizers are necessary, look for phosphorus-free fertilizers.

List of Culturally Significant Plants:

Upland Plants

Wetland Plants

Culturally Significant Plants Found in Uplands

American beech – *Fagus grandifolia*

Anishnaabemowin name: Gawe'mic, or Sewe'mins (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Aw-shaw-way-nish (Otto, 1996)

Cultural significance: Food – nut; medicine; wood; important hard-mast food for wildlife.

Habitat: Rich, mesic forests, often found with sugar maple. Very shade-tolerant.

Threats:

- Beech bark disease was introduced to North America in 1890 on an ornamental beech tree imported from Europe. The disease is the result of a fungus that is transported by small, sap-feeding, non-native scale insects (*Cryptococcus fagisuga*). In the early stages of scale infestation, the bark becomes covered in white, woolly spots, which is the white wax that covers and protects the insects. The scale damages trees, creating a pathway for fungi to enter, which usually results in mortality of the trees. The scale infestation has spread south and west from its place of introduction in Nova Scotia across the eastern part of the US, and it was first discovered in Michigan in 2000.

  Treatment options for beech bark disease are limited in number and effectiveness but may include:
  1. Physically remove the scale by scrubbing or power washing the tree, which may not be practical or effective in crowns or upper parts of trunks of tall trees.
  2. Treating the tree with horticultural oils in to smother the insect.
  3. Treating the tree with insecticides. With this option, continued applications are necessary.

Beech trunk covered with woolly, white spots and fungi – evidence of beech bark disease.

Notes:

- Some beech trees may have a resistance to beech bark disease. Only remove dead or dying trees that may pose a risk to human life or property and leave the rest as habitat for wildlife. Researchers are looking into developing or finding disease-resistant varieties.
- Do not transport firewood, as you may be transporting a whole host of non-native or invasive fungi and insects.
- Healthy beech trees are very slow-growing and long-lived.
- A native, parasitic, herbaceous plant called 'beechdrops' (*Epifagus virginiana*) is found in high quality beech forests and lives off of beech tree roots. The Michigan FQA Coefficient of Conservatism ranks it as a 10, which means that it is restricted to a particular pre-settlement remnant community, or high quality natural area.

Beechdrops

- Thin bark and shallow roots makes beech highly susceptible to fire. Sprouts from stumps when cut or if the stem is killed by fire.

Basswood/Linden – *Tilia americana*

Anishnaabemowin name: Wiigub, -atig (Non-Medicinal Uses of Plants by the Great Lakes Ojibwe, GLIFWC CD).
Cultural significance: Utility – the inner bark is used for cordage; wood; medicine.
Habitat: These large, deciduous trees are mostly found in rich, upland deciduous forests, but they are also sometimes found in swamps, along borders of streams and lakes, and other bottomlands. May be used for landscaping as an ornamental or shade tree. Moderately shade-tolerant.
Threats:

- Currently free of serious insect and disease pests.

Notes:

- Sprouts profusely from the bases of living trees or stumps after fire, cutting, or browsing.
- Moderately slow-growing and long-lived.
- The French called basswood "bois blanc," meaning "white wood."

Beaked hazelnut – *Corylus cornuta*

Anishnaabemowin name: Bagaaniminzh, -iig (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food – nut; important wildlife food; utility – coppaced for drumsticks.
Habitat: Shrub found in upland borders and clearings in northern hardwood forests, dune thickets, and margins of river banks; may be used for landscaping.

Bearberry – *Arctostaphylos uva-ursi*

Anishnaabemowin name: Saga'komin'agunj (Densmore, 1974), Mukwamiskomin (Keewaydinoquay, 1977), Kinnickinick – 'much mixed,' or Apaakozigan (Herron 2002)
Cultural significance: The leaves are an ingredient in 'kinnickinick,' a traditional smoking mixture; berries are used for food, flavoring meat dishes; medicine; utility; charm.
Habitat: Low, creeping, evergreen shrub forming large mats on open sand

dunes, jack pine and oak plains, limestone pavements, sandy or rocky areas, and alkaline substrates.

Bigtooth aspen – *Populus grandidentata*

Anishnaabemowin name: Asadi (Densmore, 1974; Herron, 2002), Azaadii (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Zaad (Osawamik/Trudeau, 2008)
Cultural significance: Medicine; food and cover for wildlife; ceremonial use; starvation food (inner bark).
Habitat: Bigtooth aspen are medium to tall trees found in mesic to dry forests, dry, cut-over and burned areas, and sandy soils; not tolerant wet or poorly-drained soils. Shade intolerant.
Threats:

- Natural succession. Periodic disturbances are required to maintain aspen forests.

Notes:

- Fast-growing and short-lived.
- Aspen cannot be propagated from woody stem cuttings.
- Bigtooth aspen leaves have ~10 teeth per side whereas trembling aspen have ~ 30 teeth per side.
- Wildfire suppression is allowing other species to replace aspen in northern forests.
- Aspen cannot be propagated from woody stem-cuttings.
- The inner bark photosynthesizes and contains chlorophyll, often giving the bark a tinge of green color. This inner bark is the preferred food of beaver.

Blue cohosh – *Caulophyllum thalictroides*

Anishnaabemowin name: Be'cigodji'biguk – 'one root' (Densmore, 1974), Oci'gimic, or Zheegimaewibug (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Found in rich, moist, deciduous woods.

Bracken fern – *Pteridium aquilinum*

Left: Young bracken fern frond
Right: Bracken fern in summer

Anishnaabemowin name: Waagaag, -ans (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Makate waanaganuck (Herron, 2002)
Cultural significance: Food – young fronds; hunting aid; utility.
Habitat: Found commonly in many habitats.

Cherry spp. – *Prunus spp.*

Anishnaabemowin names:

1. Black cherry (*Prunus serotina*): Ikwe'mik (Densmore, 1974), Ookwemizh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Okwemin (Herron, 2002), Ookweminagaawanzh, -iig (Non-Medicinal Uses of Plants by the Great Lakes Ojibwe, GLIFWC CD)
2. Choke cherry (*Prunus virginiana*): Asa/isaweminagaawanzh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Sawemin (Herron, 2002)
3. Pin/Fire cherry (*Prunus pensylvanicum*): Bawa iminaan – 'berry tree' (Herron, 2002; Non-Medicinal Uses of Plants by the Great Lakes Ojibwe, GLIFWC CD)
4. Sand cherry (*Prunus pumila*): Sewa'komin (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance:

1. Black cherry: Food; medicine; utility.
2. Choke cherry: Food; medicine; utility.
3. Fire/Pin cherry: Food; medicine; utility; used for smoking foods such as fish and game; cash crop.
4. Sand cherry: Food – eaten fresh or dried it is very desirable food; medicine.

Habitat:

1. Black cherries are medium-sized trees that may be found in disturbed areas such as openings and clearings in dry and mesic forests, fencerows, abandoned fields, and woodlots; common understory plant in many forest communities; stump sprouts. Shade-tolerant when young becoming intolerant over time.
2. Choke cherries are large shrubs to small trees that are found in a variety of habitats including rocky hills, dunes, and borders of swamps. More shade-tolerant then other cherries.
3. Pin/Fire cherries are small trees often growing in clumps that are found in open, often disturbed upland areas such as roadsides and recently burned or cut-over areas. Shade-intolerant.
4. Sand cherries are low shrubs found in wet or dry habitats, open sandy beaches and dunes, in rock crevices, and on sedge mats. Prefers sandy soils and full sunlight.

Threats:

- The eastern tent caterpillar (*Malacosoma americanum*) is a pest that forms webbed tents between branches and severely defoliates cherry trees. Various methods of control include manual removal and disposal of tents and larvae, biological controls such as Bt (a bacterium), and chemical controls such as pesticides.
- A fungal disease called "black knot" (*Dibotryon morbosum*) commonly infects branches and stems of cherry trees. Treatment options include pruning infected branches and/or spraying infected trees during the dormant season with a copper fungicide.

Notes:

- The sweet cherry (*Prunus avium*), is the species of cherry that is cultivated for commercial cherries and is originally from Eurasia.
- Seeds are often bird-dispersed.

Black knot disease

Cherry infested with eastern tent caterpillars

Common low-bush blueberry – *Vaccinium angustifolium*

Anishnaabemowin name: Min'aga'wunj (Densmore, 1974), Miinagaawanzh, Miin –an, – 'berry', Minan, Minun (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Minun (Herron, 2002)

Cultural significance: Food; medicine; utility – dye; important food for wildlife.

Habitat: This low shrub gets loaded down with light blue to black-colored berries in July-August and is found in large colonies or patches in dry, acidic, sandy or gravelly soils, clearcuts, open woods, and in sphagnum bogs. May be used for landscaping as an ornamental shrub. Moderately shade-tolerant.

Notes:

- Blueberries are well adapted to fire and patches were historically burned by the Odawa. Controlled burns help to reduce encroachment of surrounding shrubs and trees, reduce and control invasions of unwanted pests and diseases, reduce the accumulated debris on the forest floor, and replenish essential nutrients to the soil. If opening up a closed canopy to improve blueberry productivity, allow plants to grow for a few years after the cut before burning it. The best time to burn for blueberries is in the fall, after plants have completed storage of photosynthate in their root systems.
- Thinning can successfully increase blueberry patch sizes and productivity since the plant can spread by rhizomes. Pruning plants can help increase stem density.
- Propagates easily from cuttings of the plant or rhizomes, or by seed.
- Several other species of edible blueberries found in various habitats in our area are:
    - *Vaccinium corymbosum* – 'High-bush blueberry' - found in swamps and bogs, sometimes upland woods and old fields.

- ❖ *Vaccinium membranaceum* – 'Bilberry' - found in moist woods.
- ❖ *Vaccinium myrtilloides* – 'Velvetleaf-blueberry' - found in moist or dry soils and bogs.
- ❖ *Vaccinium ovalifolium* – 'Tall bilberry' - found in moist woods.

Common milkweed – *Asclepias syriaca*

Anishnaabemowin name: Ini'niwunj (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993, Herron 2002), Cabo sikun (Herron, 2002)

Cultural significance: Food – young flower buds are edible and may be eaten as greens; medicine; utility – latex, fiber, crafting, pillow stuffing, and life-preservers.

Habitat: Found in open, dry areas, often in disturbed ground such as farms.

Threats:

- The loss of overwintering habitat in Central Mexico due to illegal logging as well as bark beetle infestation of oyamel fir trees.
- Habitat destruction, development, and urban sprawl.
- Pesticides, insecticides and herbicides.

Notes:

- Monarch butterflies rely on milkweeds for food and protection. Milkweeds are the only plants that monarchs will lay their eggs on. Once hatched, the larvae eat the leaves, incorporating the plants' toxins into their bodies, making them unpalatable to predators.
- The seed floss from milkweed pods was collected during WWII to stuff into life-preservers. In 1943, over 200 tons of milkweed were harvested from Emmet County alone.

Common trillium/Wake-robin – *Trillium grandiflorum*

Anishnaabemowin name: Ininiwin dibigegun (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Medicine.

Habitat: Found in all sorts of woods including dry, deciduous forests, rich beech-maple woods, swampy woods and thickets, mixed conifer-hardwood and conifer swamps.

Threats:

- Wildflower picking. All trillium species are protected from picking under Michigan conservation laws, and some species are very rare.
- Habitat destruction – development, urban sprawl, some methods of commercial lumbering.

Notes:

- Trilliums do not reach reproductive age for several years and can live for 25 years or longer.

Eastern hemlock – *Tsuga canadensis*

Anishnaabemowin name: Gaga'gimic (Densmore, 1974), Gagagiwik – 'raven tree' (Herron, 2002)

Cultural significance: Utility – bark was used for a natural dye as well as for tanning; medicine; tea; excellent wildlife habitat.

Habitat: This tall evergreen is characteristic of cool, moist, acidic sites, sometimes occurring in northern hardwood forests, lakeshores, streams, ravines, wooded dunes, and edges of conifer swamps; often associated with yellow birch. Hemlocks create their own microenvironments that exclude other seedlings from establishing underneath them as their needles, which decay slowly, release strong acids onto the forest floor that cause leaching of minerals, humus, clay particles, and nutrients from the soil.

Threats:

- The hemlock woolly adelgid (*Adelgis tsugae*; HWA) is an aphid-like non-native insect from Asia that is invading forests in the eastern United States, attacking hemlocks and causing mortality of trees within 4-10 years. Presently, the HWA is not yet in Michigan. Two species of beetles from Asia have been tested as HWA biological control agents are the Lari beetle (*Laricobius nigrinus*) and a tiny lady beetle (*Sasajiscymnus tsugae*, formerly *Pseudocymnus tsugae*).
- Lack of regeneration in forests. Hemlocks naturally create conditions that suppress regeneration. As a result, some disturbance is necessary in order for hemlocks to successfully regenerate. Some methods that mimic small natural disturbances include selecting a small number of trees to cut over time to gradually release the stand, and using horse-drawn skidders to drag the logs out and expose the forest floor as opposed to heavy machinery.
- Heavy browsing by deer also severely reduces regeneration. Intensified management of deer should occur around high quality habitats and other sensitive areas to preserve plant diversity. Areas that prohibit deer hunting have been shown to have up to a 50% decrease in species diversity in less than 50 years. Deer exclosures can be effective at keeping deer out, and have been shown to increase oak, maple, aspen, and hemlock regeneration.

Notes:

- Very shade tolerant, slow growing, and very long-lived (600+ years).
- Mature trees are very sensitive to openings in the forest (roads).
- May be used as an ornamental in shaded areas.
- Do not move firewood in order to reduce the risk of spreading harmful invasive species such as the hemlock woolly adelgid.

Eastern white pine – *Pinus strobus*

Anishnaabemowin name: Jingwak – for red and white pine (Densmore, 1974) Zhiingwaak, or Muskay chingwa (Herron, 2002), Shin-gwawk (Otto, 1996)

Cultural significance: Medicine; smudge; traditional stories; ceremonial use; traditionally regarded as a great tree of peace and prayer; wood; sap was used for pitch; utility; food - young staminate catkins were reportedly gathered and boiled for food by Ojibwe from Wisconsin.

Habitat: This large pine grows well on a variety of acid or basic sites including moraines with moderately-well drained soils, well-drained, dry, sandy soils and dunes, shorelines, ridges and mounds in poorly-drained sites, floodplains, rock ridges and rock outcrops. Moderately shade-tolerant.

Threats:

- The white pine blister rust (*Cronartium ribicola*) is a fungus that causes white pine leaves to turn to yellow and die off, an abundance of sap to ooze from the bark, and eventual mortality of the tree. There are no fungicides that may be used to prevent this disease, but regular inspections and pruning of trees may help reduce the opportunities for it to spread.
- The white pine weevil (*Pissoides strobi*) also attacks white pine trees, which often starts with die-back from the terminal leader shoot, which is usually attacked first. Weevils are attracted to open-growing trees with terminal leader shoots in open sunlight.

Notes:

- White pine is the State tree of Michigan and once dominated the forests of northern Michigan. It was heavily logged between 1850-1900. After the logging, destructive slash fires raged across the landscape, that created conditions more suitable for pioneer species such as aspen and birch, which currently dominate much of the landscape. The lack of major disturbance such as fire has created conditions that have allowed white pine and red maple to thrive in the forest understory. Over time, given the continued absence of disturbance, white pine and red maple will replace the relatively short-lived aspen and birch as the dominant trees in northern Michigan forests.
- Hartwick Pines State Forest, located just outside of Grayling, Michigan, contains an impressive old-growth white pine stand dating back to the 1600's. Interspersed

with mature eastern hemlocks and red pine, the stand is characterized by large trees, an abundance of dead and down wood, moss-covered logs, pit-and-mound topography, deep shade, and an open understory.

- Mature white pines are a preferred tree species for eagle nesting.

Fringed polygala/Gay-wings/Flowering-wintergreen – *Polygala paucifolia*

Anishnaabemowin name: Tikizidgeebikohnse – 'little root that cools' (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: This little plant is usually found somewhat shaded in all sorts of mixed and coniferous woods except the wettest and driest, old shoreline ridges, and sandy beach meadows.

Hairy/Yellow pucoon – *Lithospermum caroliniense*

Anishnaabemowin name: Odji'biknamun (Densmore, 1974)
Cultural significance: Dye (blue and reddish-purple).
Habitat: Dry sandy open areas such as dunes and shores, oak and pine woodlands, sandy barrens and ridges, prairie remnants; often found with juniper.
Threats:

- Mechanical disturbance of sandy soil; soil compaction.
- Overgrowth by woody plants (succession).
- Digging by wildflower gatherers.
- The Michigan FQA Coefficient of Conservatism ranks it as a 10, which means that it is restricted to a particular pre-settlement remnant community, or high quality natural area.

Hawthorns/Thornapples – *Crataegus* spp.

Anishnaabemowin name: Mine'saga'wunj – 'having fruit and also spikes' (Densmore, 1974)
Cultural significance: Medicine – especially used for heart medicine; utility – the thorns were used for sewing and the berries were dried for beads; wildlife food for birds and mammals.
Habitat: Hawthorns are low shrubs to small trees usually found in

open, disturbed sites such as old fields, pastures, forest edges, open second-growth woods and thickets, cut-overs, roadsides, and along streams, sometimes forming dense thickets.

Threats:

- Susceptible to hawthorn leaf blight, caused by a fungus called *Diplocarpon mespili*.

Notes:

- The common name 'hawthorn' refers to many species of hawthorn which often hybridize.

Highbush-cranberry - *Viburnum opulus var. americanum*

Anishnaabemowin name: Aniibimin, -an (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Aniib (Herron, 2002)

Cultural significance: Medicine; food – the fruit is used to make jelly.

Habitat: This shrub is found in various open, damp places including coniferous and deciduous swamps, borders of woods and shores, wet roadsides and thickets, along rivers and streams, and fens.

Notes:

- Not actually a cranberry (which are species in the genus *Vaccinium, not Viburnum*), but is used as a substitute for cranberry in making jelly.
- Also known as *Viburnum trilobum*, or *V. opulus* ssp. *trilobum*.

Hop-hornbeam/Ironwood – *Ostrya virginiana*

Anishnaabemowin name: Maananoons, -ag (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance: Utility – the wood is very tough and hard, and had many uses; medicine.

Habitat: Small to medium-sized tree often found in the understory of rich, upland woods with neutral to basic soils; not found in poorly-drained sites. Shade-tolerant.

Notes:

- Slow-growing and moderately long-lived.
- The common name 'hop-hornbeam' is due to the resemblance of the fruit sacs to the hops plant.

Left: Hop-hornbeam with fruit
Right: Mature hop-hornbeam tree

Huckleberry/Crackleberry – *Gaylussacia baccata*

Anishnaabemowin name: Minnan (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002).

Cultural significance: Food – the fruit is reddish-purple to black in color, and is edible but seedy.

Habitat: Dry, acidic, sandy or gravelly sites, present but less common in low, acid, moist to wet sites. Moderately shade-tolerant.

Huckleberries growing under a red pine in fall.

Notes:

- Huckleberry plants look somewhat similar and are often found in the same conditions as blueberries. Huckleberry twigs are a grayish-brown color with white streaks, unlike blueberry twigs which are green. Another difference is that unlike blueberry leaves, the leaves of huckleberry release a yellow resin when rubbed.

Indian cucumber root – *Medeola virginiana*

Anishnaabemowin name: Minopugodjeebik (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Medicine; utility.

Habitat: Moist, rich woods and forests, beech-maple forests, especially along edges of pools or depressions, hemlock knolls, cedar bogs, and less commonly found in oak or pine woods.

Notes:

- Indian cucumber root is a relatively uncommon plant that should not be collected unless local populations are very secure. The Michigan FQA Coefficient of Conservatism ranks it as a 10, which means that it is restricted to a particular pre-settlement remnant community, or high quality natural area.
- This plant looks similar to *Trientalis borealis*, or starflower. However, the flowers/fruits of Indian cucumber root are stalked above two sets of leaves with parallel veins whereas the flowers on a starflower are on a shorter stalk and are located above just one set of 7 leaves with branching veins.

Maidenhair fern – *Adiantum pedatum*

Anishnaabemowin name: Makade cawdak – 'Black-legged fern' (Herron, 2002)

Cultural significance: Medicine; utility – hygiene.

Habitat: Moist woods and streamsides, circumneutral soils.

Northern red oak – *Quercus rubra*

Anishnaabemowin name: Mashkode-miizhimizh, Mitigomizh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993 Mtigmish (Osawamik/Trudeau, 2008), Mitigomik (Herron, 2002), Wi'sugi'mtigomic – 'bitter oak' (Densmore, 1974)

Cultural significance: Firewood; medicine; natural dye; utility; lumber; food – the acorns were used as starch/flour after the tannins were removed; important food for wildlife.

Habitat: Medium to large deciduous tree that is commonly found in mesic forests, on moist, cool, well-drained soils, sandy well-drained soils, along Great Lakes shores, dunes and rock outcrops. May be planted as an ornamental shade tree.

Threats:

- Gypsy moths (*Porthetria dispar*) cause defoliation and multiple-year outbreaks may cause weakening of the trees or mortality.
- Oak wilt disease (*Ceratocystis fagacarum*) is a fungal disease spread by root grafts and beetles which carry the fungus.
- Oak decline is generally referred to as a disease that is caused from various combinations of environmental stresses and pests.

Notes:

- Red oak is well adapted to periodic fires. Forest management strategies that have suppressed fire have contributed to the decline of oak forests, which are being replaced with species such as sugar maple.
- Produces fruit at about 25 years of age, but usually does not produce large crops until about 50 years of age.
- Does not regenerate well after timber harvests.

Partridge berry – *Mitchella repens*

Anishnaabemowin name: Binewimin – 'grouse berry' (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance: Medicine; food – tea; ceremonial use.

Habitat: Low, creeping, evergreen shrub found in dry to moist woods; can form mats; often associated with cedar and hemlock or pine, including hummocks in cedar swamps.

Pearly everlasting – *Anaphalis margaritacea*

Anishnaabemowin name: Wa'bigwan – 'flowers' (also used for other plants) (Densmore, 1974), Basibaguk – 'small leaf' (Smith, 1932)
Cultural significance: Medicine; smoking mixture; smudge.
Habitat: Found in a variety of sites including moist to dry, sandy or rocky, open places such as shores, dunes, fields, roadsides and railroads, dry, aspen, mixed conifer, and hardwoods, borders and clearings following logging or fire, along trails, and in other somewhat disturbed areas.
Notes:

- Spreads fairly well by rhizome.

Pipsissewa/Prince's pine– *Chimaphila umbellata*

Anishnaabemowin name: Ga'gige'bug – 'everlasting leaf' (Densmore, 1974), Yaskopteg (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Pipsissewa is an evergreen half-shrub of the boreal forest that spreads by rhizomes and is found in dry woods, especially with sandy soils; indicator of a fairly high quality natural community.

Princess-pine/Ground-pine – *Lycopodium obscurum*

Anishnaabemowin name: Cinonagan (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002), Gagige bag (Non-Medicinal Uses of Plants by the Great Lakes Ojibwe, GLIFWC CD)
Cultural significance: Medicine; the flammable spores from *Lycopodium* species were collected and used historically for the flash for taking pictures.
Habitat: Boreal forest plant found in moist woods and bog margins with acid soil.
Notes:

- The GLIFWC CD called this plant Gagigebug meaning 'everlasting life', but referenced Densmore 1974, which called pipsissewa 'Gagigebug'. Perhaps both *Chimaphila* and *Lycopodium* plants had this name since they both are evergreen, or perhaps there was an error on the GLIFWC CD. Both plants were cited by Densmore as being used for medicinal purposes. Unfortunately, no Anishnaabemowin name was listed for *Lycopodium obscurum* by Densmore.

Red maple – *Acer rubrum*

A red maple tree turning brilliant red early in the fall.

Anishnaabemowin name: Zhiishiigimewanzh, -iig (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance: Food (syrup, less preferred than sugar maple, which has a higher sugar content); medicine; firewood; utility (e.g. lodge frames); artwork.

Habitat: Restricted to swamps and other poorly-drained sites in pre-settlement times, it is now an aggressive upland colonizer that has thrived on human-caused disturbances to forests including fragmentation and exclusion of fire, which previously helped to keep it in check. It grows in a wide range of conditions and in the Northern Lower Peninsula it is often found in mesic and moderately well-drained beech-sugar maple forests, as well as lowlands such as conifer and conifer-hardwood swamps. Seedlings are shade-tolerant, becoming somewhat less tolerant with age.

Notes:

- Red maple sprouts vigorously after damage from fire, cutting, or browsing, and can sprout spontaneously if stressed by drought or shade.
- Moderately long-lived.

Seneca snakeroot – *Polygala senega*

Anishnaabemowin name: Bi'jikiwuk' (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Wiinizikens (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: This root was used medicinally to treat a wide variety of disorders, including snakebites; charm.

Habitat: In northern Michigan, found on calcareous rocks and gravel openings as well as along borders of coniferous woods. More common in southern but found in Cheboygan, Charlevoix and Presque Isle counties.

Striped maple/Moosewood – *Acer pensylvanicum*

Anishnaabemowin name: Moozomish (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Utilitarian; medicine.

Habitat: Small tree to large understory shrub found in mesic woods, mixed conifer stands, cedar swamps, and sometimes mesic to dry-mesic disturbed sites. It

requires cool, moist conditions for establishment but has fairly low nutrient requirements. May be used as an ornamental tree or shrub in cool, moist, shady places. Shade-tolerant.

Notes:

- Slow-growing and relatively short-lived, though some can live to 100 years in forest openings.

Sugar maple – *Acer saccharum*

Anishnaabemowin name: I'nina'tig (Densmore, 1974), Ninaatig (Herron, 2002; Ottawa/Anishnaabemowin-English, Bilingual Multimedia CDrom Dictionary, Burt Lake Bands of Ottawa and Chippewa Indians, 2007)

Cultural significance: Food (maple syrup); utility; wood; firewood. The Anishnaabemowin name for maple syrup is 'ziinsiibaakwad' and the month of March is known as the Maple Syrup Gathering Moon, or 'Ziisiibaakade Giizis.' The leaves turn brilliant shades of yellow, orange, or red in the fall and draw many people to the forests of northern Michigan to see the colors.

Habitat: Characteristic of mesic deciduous forests with moist, well to moderately-drained to well-drained soils. Frequently planted as an ornamental tree. Very shade-tolerant.

Threats:

- Some stands are adversely affected by a disease called 'sapstreak disease' which is caused by a fungus. Avoid damaging trunks and roots during logging, which can provide pathways for the disease to enter. Remove diseased trees to avoid spreading the disease.
- Maple decline is thought to be caused from a combination of stresses that include diseases, invasive species or other harmful pests, soil compaction, nutrient imbalances, herbicide damage, and pollution from road salts.
- Tapping trees can be done without major stress to the tree, but tapping also can provide an avenue for insects and pathogens to enter the tree. Over-tapping trees for sap can weaken a tree or cause detrimental effects to the new wood growth of the tree.
- Susceptible to insect defoliation by insects such as the forest tent caterpillar (*Malacosoma disstria*).

Notes:

- Slow-growing and long lived (200-400 years).



Left: Sugar maple bark
Middle: Fall colors
Right: Sugarbush in early spring

Staghorn sumac – *Rhus typhina*

Anishnaabemowin name: Baakwaanaatig, Baakwaanimizh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food – tea; utility; dye; crafting; medicine.
Habitat: Staghorn sumac is a clonal shrub to small tree found in open, disturbed areas such as roadsides, hillsides, clearings, and forest edges.
Notes:

- The common name of this species, 'staghorn sumac,' comes from the fuzzy, antler-like branches.
- Staghorn sumac's close relative, smooth sumac (*Rhus glabra*), is also clonal and found in similar habitats, but has glabrous, or smooth branches.

Sweet fern – *Comptonia peregrina*

Anishnaabemowin name: Kba'agne-mins, or Gibaime'nuna'gwus, (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Smudge; ceremonies; medicine.
Habitat: Low-growing woody shrub with fragrant, crenate/wavy leaves found in dry, often barren, sandy and gravelly soils in open areas.
Notes:

- The roots can fix atmospheric nitrogen, which is an adaptation that allows it to colonize dry, poor, waste places.

Trembling aspen – *Populus tremuloides*

Anishnaabemowin name: Zaad (Osawamik/Trudeau), Asadi (Densmore, 1974; Herron, 2002), Azaadii, or Azaadiins (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; food (sap); important food and cover for wildlife.

Habitat: In pre-settlement sites it was generally found in open, lowland sites such as along the edges of streams and swamps, wet-mesic, fertile sites, and less commonly on dry, sandy soils. It is the most widely-distributed tree species in North America – found in a diversity of sites, often colonizing after wildfires and other human disturbances. Clones may be perpetuated indefinitely by fire. Very shade-intolerant.

Threats:

- Unlike big-tooth aspen, it is susceptible to the Hypoxylon canker (*Hypoxylon mammatum*), a major disease of trembling aspen.
- Attacked by many insects including the forest tent caterpillar (*Malacosoma disstria*).
- Natural succession. Periodic disturbances are required to maintain aspen forests.

Notes:

- Sprouts from root suckers following fire, cutting, or browsing.
- Fast-growing; fairly short-lived.
- Wildfire suppression is allowing other species to replace aspen in northern forests.
- One of the largest organisms in the world is a clonal stand of trembling aspen in Colorado that covers over 40 hectares.
- Unlike other willows and cottonwoods, it does not propagate from woody stem-cuttings.
- More light-, moisture-, and nutrient-demanding than bigtooth aspen.
- The inner bark photosynthesizes and contains chlorophyll. Beaver eat this inner bark and use the leftovers to build their lodges.
- Trembling aspen gets its common name from the fact that the leaves tremble or quake in the wind due to its flattened petiole, which connects the leaf to the twig.

Trout lily/Adder's tongue – *Erythronium americanum*

Anishnaabemowin name: Numaegbugoneen (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: No use specified; neighboring tribes used it for medicine.

Habitat: Rich, deciduous woods and moist thickets.

Notes:

- Spring ephemeral that carpets the forest with mottled green leaves and yellow flowers April-May, after which the leaves wither away and are gone until the following spring.

White ash – *Fraxinus americana*

Anishnaabemowin name: Aagimak, or Baapaagimaak – ‘snowshoe wood’ (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: The strong wood was traditionally used to make snowshoes, toboggans, and sleds; utility; crafting; medicine. Modern uses include baseball bats.

- **Habitat:** Mature white ashes usually have straight trunks and often reach 80 feet in height and are found in upland sites.

Threats:

- The emerald ash borer (EAB), *Agrilus planipennis*, is decimating ashes across much of the eastern half of the United States, including Michigan. Researchers are studying various methods of control including the introduction of a wasp species from Asia as well as various chemical controls. However, no solution is currently deemed effective at controlling the spread of this invasive insect.

White birch – *Betula papyrifera*

Anishnaabemowin name: Wiigwaas, -an/ -ag, wiigwaasaatig, wiigwaasi-matig – ‘birch bark tree’ (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Wig-wasi (Otto, 1996)

Cultural significance: LTBB historians have identified over 21 different traditional uses for birch including birch bark canoes, baskets, porcupine quill boxes and other storage containers, coverings for lodges and shelters, crafting and artwork; wood; firewood and fire starting material; medicine; food - sap for syrup; traditional stories; food and cover for wildlife.

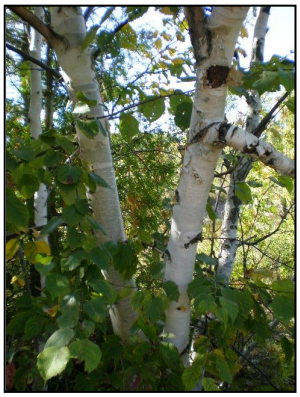
Habitat: White birch is a medium-sized tree found in a variety of soils, pH levels, and water regimes. It is a fire-dependant, pioneer species often found in pure stands in burned, cut-over, and disturbed areas; commonly associated with aspen. Shade intolerant.

Threats:

- Susceptible to attack and mortality from the bronze birch borer (*Agrilus anxius*).
- Improper harvesting.
- Fire suppression.

Notes:

- After fire, white birch will sucker profusely; also reproduces well from seed.
- Traditional harvesting of bark can be done on live trees without killing the tree as long as the bark is harvested properly and at the right time. If done correctly, harvested areas will begin to heal, turning darker in color and becoming rougher in texture than the original bark.
- The white birch is also the host of a fungus used by the Odawa called ‘shkitaugin’ in Anishnaabemowin, and in Latin, *Inotonus obliquus*.
- Without occasional disturbances this tree only lasts for about one generation before it is replaced by other species.



Left: A pair of birches in summer
Middle: Birch tree harvested for bark
Right: Birches in winter showing flaking bark

Wild bergamot – *Monarda fistulosa*

Anishnaabemowin name: Bibi'gwunukuk, Wabino'wuck, Sasap-kwanins, Moshkos'wahnowinhs, Weca'wuswackwi'nek (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Found in dry, open, sandy, gravelly or rocky ground, oak and jack pine woodlands, prairies, fields, roadsides, edges of woods and thickets, open stream and lake banks and stabilized dunes, occasionally in sedge meadows or other damp places. Can be used for butterfly gardens.

Wild leek/Ramps – *Allium tricoccum*

Anishnaabemowin name: Siga'gawunj (Densmore, 1974)
Cultural significance: Food – bulbs, similar to an onion or scallion); medicine.
Habitat: Rich deciduous woods, especially in moist beech-maple woods, in upland and lowland sites.
Notes:

- Leeks are one of the first signs of spring. Once the flower stalk shoots up, the ephemeral leaves die back, leaving the fruiting structure to develop seeds.

Wild strawberry – *Fragaria virginiana*

Anishnaabemowin name: Ode'iminidji'bik – 'heart-berry root'

(Densmore, 1974), Ode'imin, -an (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Odehmin – 'Heart berry' (Ottawa/Anishnaabemowin-English, Bilingual Multimedia CDrom Dictionary Burt Lake Bands of Ottawa and Chippewa Indians, 2007)

Cultural significance: Food; medicine. The month of June is known as the Strawberry Moon, or 'Ode'min Giizis' in Anishnaabwmowin.

Habitat: Open, disturbed areas.

Notes:

- Wild strawberries are edible and delicious.
- Avoid picking in areas that could be polluted such as along roadsides, under power lines, and other places that may be sprayed or otherwise contaminated.

Witchhazel – *Hamamelis virginiana*

Anishnaabemowin name: Nsakemizins (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Medicine.

Habitat: Shrub to small tree, often with several crooked trunks in a clump, only growing to 25 ft or less in height found in dry, to dry-mesic woods, especially underneath red oak, aspen, or pine trees; less common in mesic forests. It can be planted as an ornamental shrub as it produces abundant flowers late in the fall after the leaves have dropped. Shade-tolerant.

Notes:

- Slow-growing and short-lived.
- The forked twigs of witchhazel and willows are used by "water-witchers" to seek water.

Wintergreen – *Gaultheria procumbens*

Anishnaabemowin name: Winisibugons – 'dirty leaf' (Densmore, 1974), Winiisiibag, Winiisiibugad, or Winiisiibugoons (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance: Medicine; tonic, teas/beverages, food, and flavoring for cooking. Wintergreen was the original source for aspirin, and all parts of the plant contain methyl salicylate, and which was the original active ingredient in aspirin.

Habitat: Thrives in dry, usually somewhat sandy woods with oak, pine, paper birch, bracken fern, etc.; sometimes found in mesic or low woods and conifer swamps. It is generally thought to be successful after fire.

Wormwood/Field sagewort – *Artemisia campestris*

Anishnaabemowin name: Moosewijiibik (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; smudge (though not as aromatic as the western sage).
Habitat: Wormwood is found in open, dry places such as on beaches and sandy lakeshore dunes.

Culturally Significant Plants Found in Wetlands

American elm – *Ulmus americana*

Image from http://planetthoughts.org

Anishnaabemowin name: Aniib (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993; Non-Medicinal Uses of Plants by the Great Lakes Ojibwe, GLIFWC CD Herron, 2002), Aw-nib (Otto, 1996)

Cultural significance: The thick bark was used for toboggans and lodge coverings; medicine.

Habitat: In northern Michigan, it is found in mesic northern hardwood-hemlock forests, wet-mesic floodplains and swamp edges, and disturbed areas such as pastures, hillsides, old fields, roadsides, and cut-over forests. Disease-resistant clones and hybrids are available for landscape planting.

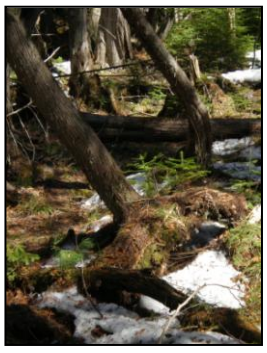
Threats:

- Susceptible to Dutch elm disease that has killed off many large American elms in the 1970's and causes trees to rarely attain commercial size.
- Also susceptible to phloem necrosis disease.

Notes:

- Not presently in danger of extinction.

Balsam fir – *Abies balsamea*



Anishnaabemowin name: A'niinaandak' (Densmore, 1974) Aniinaandag, -oog, Ininaandag – 'fir tree, spruce', Bigiwaandag, Zhingob, -iig, Zhingobaandag, -oog, Zhingob bigiwaandag (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Medicine; crafting; utility – aromatic balsam pillows made from the leaves, Christmas trees.

Habitat: Balsam fir is a medium-sized, slender, symmetrical tree with a pyrimidal-shaped crown that is characteristic of cold, wet, boreal forests – from cold, poorly-drained, cedar swamps and bogs to well-drained uplands, coniferous, and mixed forests. Very shade-tolerant.

Threats:

- Periodic outbreaks of the spruce budworm (*Choristoneura fumiferana*) cause mortality in mature trees.
- Susceptible to heart rot disease.

Notes:

- May be planted ornamentally or for use as a wind break.
- Slow-growing and short-lived.

Black ash – *Fraxinus nigra*

Anishnaabemowin name: A'gimak' (Densmore, 1974), Agiimaak (Herron, 2002), Aagimaak, or Wiisagaak (Plants Used By the Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Black ash baskets are highly utilized for a variety of purposes and are made by pounding the wood into long, thin strips that are made into splints and woven together. Also used for dye, medicine, and utility.

Habitat: Black ashes are small to medium-sized trees that are moisture- and nutrient-dependant. They are found in fertile, wet-mesic to wet deciduous-conifer swamps, backwaters, wet depressions, and other low, poorly-drained areas. Moderately shade-tolerant, though requiring gaps in the swamp to provide full sunlight in order to establish.

Threats:

Black ash basket (Image courtesy of Renee Dillard)

- Emerald ash borer (*Agrilus planipennis*; aka EAB) is a non-native invasive insect that kills all species of ash trees. Adults lay their eggs in the bark, which become larvae that eat the cambium (or inner bark), which girdles the trees and causes them to starve. Currently there is no method to treat ashes for EAB once infected. However, researchers are studying the use of an Asian wasp as a possible biocontrol as well as various chemical controls for use in urban settings.
- Other invasive species such as non-native buckthorns and honeysuckles.

Notes:

Flooded black ash swamp

- Relatively slow-growing and long-lived.
- Black ashes produce mast fruits only once every 5-7 years and the majority of the fruits produced are not viable, resulting in a very low germination rate.
- Consider collecting seeds for an ash seed savers program, or donate trees before they become infested with EAB to the LTBB Natural Resources Department (NRD) for dissemination to tribal basket makers (contact LTBB NRD for more information).
- One method of EAB control in urban settings includes the use of insecticides, which may not be practical and is not recommended for use in non-urban settings. Removal of dead trees is not recommended unless they pose a hazard to humans or property, since they provide important habitat for wildlife.
- Do not to transport firewood in order to reduce the spread of harmful invasive species such as EAB.

Black spruce – *Picea mariana*

Anishnaabemowin name: Gaagaagiwanzh, Zesegaandag, Zhingob, Zhingob gaawaandag (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993), Zhingob (Herron, 2002)
Cultural significance: Utility – roots are used for cordage and crafting, and resin is used for pitch (binding); medicine.
Habitat: Small to medium-sized tree found in cold, acidic bogs and poorly-drained swamps, often appearing stunted or as a tall vegetation-free pole with a narrow, conical crown.
Notes:

- Moderately shade-tolerant, very slow growing, and long-lived.
- Regenerates naturally after fire, which benefits seedling germination as it opens the cones so that seeds may be dispersed, clears the ground so that seedlings can germinate, and releases a pulse of nutrients for the new trees.
- Often regenerates by layering, where branches that are pressed into the ground under the weight of heavy snows take root, forming new trees.

Bog-/Swamp-rosemary – *Andromeda glaucophylla*

Anishnaabemowin name: Bine' mickci (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Small evergreen shrub with incurved, waxy, light-green leaves with downy white hairs on the underside that is primarily found in acidic places such as bogs and spruce-tamarack swamps.
Notes:

- The Michigan FQA Coefficient of Conservatism ranks it as a 10, which means that it is restricted to a particular pre-settlement remnant community, or high quality natural area.

Boneset – *Eupatorium perfoliatum*

Anishnaabemowin name: Niya'wibukuk (Densmore, 1974; Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993), Siabuksing, Sasabwaksing, Piskagamisag (Plants Used By the Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; hunting aid.
Habitat: Boneset is generally found in open, wet areas including marshes, swales, wet fields, along the shores of rivers and lakes, swamps and thickets.

Notes:

- It has villous-hairy, clasping, leaves and blooms in the late summer along with joe-pye weed, swamp milkweed, and cardinal flower - a colorful mix of pink, purple and white flowers.
- May be used for landscaping if watered regularly.

Cardinal flower – *Lobelia cardinalis*

Anishnaabemowin name: Shkotaebugonee (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Found in swamps, floodplain forests, along river and stream banks, sedge meadows.

Common cat-tail – *Typha latifolia*

Anishnaabemowin name: Apuk'we (Densmore, 1974), Apakway, Apakwesh, Apakweshkway, Nabagashk (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food – rhizome/root, new shoots; utility – leaves weaved for thatching, coverings, and floor mats.
Habitat: Found in shallow water in swamps, roadside ditches, ponds, lakeshores.
Notes:

- A non-native, invasive cattail called narrow-leaved cat-tail, or *Typha angustifolia*, is invading wetlands in N. America, perhaps because of a higher degree of salt tolerance. The native cat-tail has a flower spike with no space in between male and female flowers, whereas the non-native cat-tail has a flower spike where the male and female flowers are separated by a one or more inch space on the spike. Hybridization between native and non-native species occurs in the wild; the hybrid is called *Typha x glauca*.

Image on Left: Native *Typha latifolia*
Image on Right: Non-native *Typha angustifolia*
Note: No gap in between make and female flowers on the native plant; gap present on the non-native plant.

Common or Field horsetail/Scouring rush – *Equisetum arvense*

Anishnaabemowin name: Jasibonskok, Aiankosing, Gezibnusk, Giji' binusk (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; utility – fine sanding.
Habitat: Found in moist to somewhat dry places, often in disturbed areas such as roadsides.
Notes:

- Field horsetail is dimorphic, meaning is has two forms – one form has fertile, black-capped stems and the other has sterile, often branched stems.

Common reed – *Phragmites australis (P. communis*)

Anishnaabemowin name: Abo-djigun – 'something turned out or over' (Densmore, 1974), Aaboojigun (Plants Used By the Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Utility – many uses including weaving, woven frames were used for drying berries. Old world uses of *Phragmites* include thatching for roofs, biomass, and a substitute for bamboo.
Habitat: Wet shores, ditches, swamps, bogs edges.
Notes:

- *Phragmites australis* has been a part of the flora of North America for at least 40,000 years, where it has provided high quality food and habitat for wildlife. In the late 1800's, a non-native, invasive form of *Phragmites* was introduced in the United States from Eurasia and has been spreading across the country causing major problems in some places as it creates large monocultures. These stands are very dense and crowd out native plants, which negatively impacts wildlife, and causes increased fire hazard. The native Phragmites has been named a distinct subspecies called *Phragmites australis* subsp. *americanus*.
- The non-native, invasive *Phragmites* is becoming more common in Northern Michigan, especially along Great Lakes coasts, roadside ditches, and even in some undisturbed habitats. As a result, a coalition consisting of state, Tribal, and local agencies and resource managers have begun an inventory of locations and sizes of native and non-native *Phragmites* stands and targeting non-native populations for eradication. This project is on-going as new invasive stands are located and because stands will require multiple-year herbicide treatments.
- Much of the biomass in a *Phragmites* stand is located below-ground, therefore, treatment non-native, invasive *Phragmites* stand should be done in the fall before the first freeze so that the plants will translocate the pesticide into its rhizomes, or roots. Cutting plants will not remove plants as the root systems are still left intact. Do not try to dig out the roots as loose fragments of the roots can sprout new plants.

- Before any treatment of stands occurs, it is important to verify that it is not a native stand and is in fact a non-native, invasive stand. For information on identification and eradication efforts contact your county conservation district, Michigan Department of Natural Resources (as of Jan. 17, 2010 the MDNR and the Michigan Department of Environmental Quality, or MDEQ, will be combined and become the Michigan Department of Natural Resources and Environment, or DNRE). If treatment is necessary, contact the MDNR/MDEQ (DNRE) for information on any permits that are required.

Image on left: dense stand of non-native, invasive *Phragmites australis*.
Image on right: a stand of native *Phragmites australis* showing red stems.

Cranberry – *Vaccinium macrocarpon*

Anishnaabemowin name: Anibimin (Densmore, 1974), Aniibimin (Plants Used By the Great Lakes Ojibwa, GLIFWC, 1993), Mshiig-min, -minan (pl.) (Ottawa/Anishnaabemowin-English, Bilingual Multimedia CDrom Dictionary, Burt Lake Bands of Ottawa and Chippewa Indians, 2007)

Cultural significance: Food – this species of cranberry is farmed and harvested for commercial cranberries; medicine – cranberries are well-known for their medicinal properties in treating urinary tract infections and as an internal cleanser.

Habitat: Swamps, open bogs, and on wet shores.

Threats:

- Peat mining and hydrological alterations including surface water drainage.

Notes:

- Another cranberry, called small cranberry, or *Vaccinium oxycoccos*, may be found in bogs and wet, acidic, peaty soils, and also has an edible, sour fruit. To tell the difference, for *Vaccinium macrocarpon*, look for leaves with rounded tips and the fruit to be located around in the middle of the stem, whereas on *V. oxycoccos*, the leaves are pointed and the fruit is always terminal on the stem. The Anishnaabemowin name for the small cranberry is: Mashkiigiminagaawanzh, or Mashkiigimin, -an (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993)
- *Vaccinium macrocarpon* is the species that is harvested commercially.

Creeping snowberry – *Gaultheria hispidula*

Anishnaabemowin name: Wabos'obugons (Densmore, 1974), Waaboosobagoons, Waaboozobanzh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food – berries, leaves for tea; medicine.
Habitat: This evergreen, plant forms thick mats in mossy wet forests and bogs, on moss-covered rocks, and decaying logs and stumps.
Notes:

- The leaves and fruit taste like wintergreen.

Eastern tamarack – *Larix laricina*

Anishnaabemowin name: Mu'ckigwa'tig (Densmore, 1974), Mashkiigwaatig (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Aw-ke-kaw-daw (Otto, 1996)
Cultural significance: Strong wood used for ricing push poles and lodges; roots for weaving; utility; medicine; traditional stories.
Habitat: Under the right conditions, tamarack can grow to be a large tree up to 70 feet in height, except in poorly-drained sites, where it grows rather slowly. Shade-intolerant.
Notes:

- The tamarack is Michigan's only deciduous pine tree - losing its leaves in the fall and growing new ones each spring.

Goldthread – *Coptis trifolia*

Anishnaabemowin name: Oza'widji'bik – 'yellow root' (Densmore, 1974), Ozaawaajiibik (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Utility – dye; medicine.
Habitat: This small plant of the boreal forest has three, evergreen leaves and golden-colored root runners and is found in cool woods, bogs, and cedar swamps.
Notes:

- *Ozawaa* means 'yellow' and *djibik* means 'root' in Anishnaabemowin.

Jack-in-the-pulpit – *Arisaema triphyllum*

Anishnaabemowin name: Zhaashaagomin (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Often found in seepy spots and depressions in rich maple woods and moist or wet areas along small streams; often in association with Canada mayflower, wild sarsaparilla, ferns, and cedar or hemlock.
Notes:

- This plant has a tubular green and purple flower that when pollinated, turns into a bright cluster of red fruits later in the season.
- May be used ornamentally in moist, shaded areas.


Image on left: Jack-in-the-pulpit flower
Image on right: Jack-in-the-pulpit with fruit

Labrador tea – *Ledum groenlandicum*

Anishnaabemowin name: Muckig'obug – 'swamp leaf' (Densmore, 1974), Maskiigobag, Mashkiikaang niibiish, Waabashkikibag, or Waboskiki'bug – ('rabbit leaf') (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food – tea; medicine.
Habitat: Low, evergreen shrub found in bogs, swamps, wet woods and shores, and occasionally on rocky, alpine slopes.
Notes:

- The Anishnaabemowin name 'Waabashkikibag' means 'rabbit leaf,' which refers to the leaves, which are green and leathery on top with fuzzy, whitish to yellow or copper-colored woolly hairs underneath.

Lady fern – *Athyrium filix-femina*

Anishnaabemowin name: A'sawan (Densmore, 1974), Ana'ganuck, Nokomi'skinun

(Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Found in moist woods, meadows, streambanks and open boggy areas.

Marsh marigold – *Caltha palustris*

Anishnaabemowin name: O'gite'bug (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; food (requires careful preparation to remove toxins).
Habitat: Found in swamps, wet meadows, marshes, streambanks, and roadside ditches.
Notes:

- Marsh marigold has chordate (heart-shaped) leaves and produces showy, bright-yellow flowers during the springtime.

Mountain-holly – *Nemopanthus mucronatus*

Anishnaabemowin name: Mickiminu' nimic (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: This shrub is found in the taller shrub zone around the outer margins of bogs.

Northern white-cedar - *Thuja occidentalis*

Anishnaabemowin name: Giizhik – cedar' (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002), Ke-zhek (Otto, 1996), Giizhik andug – 'Cedar tree' (Herron, 2002)
Cultural significance: Medicine; spiritual and ceremonial use; utility; hygiene; firewood; wood for many uses including building dugout canoes, flat bottom ricing boats, frames for birch bark canoes, baskets and basket frames, burned as kindling, and to smoke hides. Cedar, known as 'giizhik' in Anishnaabemowin, is one of the four sacred medicines associated with the medicine wheel, where it is usually represented in the southern direction.
Habitat: Small to medium-sized tree with evergreen leaves characteristic of cold, poorly-drained swamps, especially with moving water and neutral to alkaline substrates (pH 7 and above); often in dark, rich, mucky, organic soils; dry, upland soils over limestone bedrock; shorelines; forested wetlands; hedgerows. Cultivars are often used for landscaping.
Threats:

- Destruction of habitat, including soils from dredging and/or filling for development.
- Draining or other significant hydrological alteration.
- Deer browse: Cedar is an important food for deer, which are called ‘waawaashkesh’ in Anishnaabemowin. The deer population has more than doubled since pre-settlement times, which has important ramifications for cedar swamps, which are susceptible to heavy deer browse. Extended periods of browsing may permanently stunt and prevent maturation and successful seed propagation, drastically reducing the numbers of cedar trees that regenerate or reach maturity.

Heavily-browsed cedars

Notes:

- Slow-growing.
- Shallowly-rooted and susceptible to windfall.
- Seeds are borne in cones when the plant reaches maturity, usually after about 30 years.
- Cedar is a calciphile, meaning that it tolerates high levels of calcium, and it is also often an indicator of groundwater.
- Cedar is also known as *Arborvitae,* which translates into ‘tree of life’ in French. A group of early French voyageurs traveled to America and became sick with scurvy after spending months at sea with little to no citrus. Luckily for the voyageurs, local Mohawks came to their rescue by showing them how to make a Vitamin-C rich tea using cedar leaves, saving their lives.
- Building deer exclosures may help to keep deer out of sensitive or heavily-browsed areas.

High quality cedar swamp

Northern wild rice – *Zizania palustris*

Anishnaabemowin name: Maanomin (Densmore, 1974), Manoomin (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)

Cultural significance: Wild rice, known as ‘maahnoomin’ in Anishnaabemowin, is avery important staple food for Great Lakes tribes. It is harvested in September during the ‘Maahnoomin Giizis,’ or ‘wild rice moon.’ Important food for wildlife.

Habitat: This large, annual, aquatic, grass is found on rich, mud, muck, or silt substrates in rivers, streams, sloughs, lakes, and ponds, usually growing from 1-3 feet of water, though sometimes found in water up to 6 feet deep.

Wild rice - Floating-leaf stage

Threats:

- Sensitive to severe changes in water levels.
- Boat traffic – motors can pull up roots and damage plants.
- Water pollution.

Notes:

- Nutrient demanding.

Pink or Stemless lady-slipper/Moccasin flower - *Cypripedium acaule*

Anishnaabemowin name: Makasin (Herron, 2002)
Cultural significance: Traditional stories; charm.
Habitat: This lady-slipper is often found in coniferous swamps and bogs with cedar, tamarack, or spruce, on hummocks in sphagnum bogs; in sandy, acidic, and sometimes dry soils in woodlands and sand dunes.
Threats:

- Wildflower gathering.

Notes:

- Protected from picking under conservation laws.

Red-osier dogwood – *Cornus sericea* (*C. stolonifera)*

Anishnaabemowin name: Mis'kwabi'mic (Densmore, 1974), Miskoobimizh, Miskwaabiimizh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Crafting; utility; medicine; an ingredient in traditional kinnickinick (bark).
Habitat: Small shrub with bright red bark found in low, wet areas such as streambanks, lakeshores, floodplains,

- roadside ditches, sometimes forming thickets. Used for landscaping for its showy white flowers and fruits, and bright red bark.

Notes:

- Red-osier dogwood is often commonly called 'red willow' although it is actually a dogwood and not a willow.
- Reproduces from stolons, or root fragments. The berries are bird-dispersed.

River-bank grape – *Vitis riparia*

Anishnaabemowin name: Jo'minaga'wunj (Densmore, 1974), Zhoominagaawanzh, Zhoomin, Zha/iwimagaawanzh (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Zhomindak (Herron, 2002)

Cultural significance: Food; utility - crafting; medicine.
Habitat: High-climbing or trailing vine found along riverbanks, shorelines, edges of woods, moist woods, and thickets.

Scouring rush – *Equisetum hyemale*

Anishnaabemowin name: Gijib'inuskon' (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Utility – scouring pad; medicine.
Habitat: This evergreen plant is found in low, wet areas in woods, streamsides, sandy shores, disturbed soils, and other wet or moist places.

Sensitive fern – *Onoclea sensibilis*

Anishnaabemowin name: A'nana'ganuck (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993; Herron, 2002)
Cultural significance: Medicine
Habitat: Sensitive fern is common in a variety of wetlands including swamps, along stream banks, and other lowlands. May be found in sunny or shady areas.

Slippery elm/Red elm – *Ulmus rubra*

Anishnaabemowin name: Gawa'komic (Densmore, 1974)
Cultural significance: Medicine; utility.
Habitat: Small to medium-sized tree found growing in moist, rich or poorly-drained soils, streambanks and other lowlands, as well as dry, mesic uplands and mixed forests.
Threats:

- Susceptible to Dutch elm disease that has killed off many large American elms in the 1970's and causes trees to rarely attain commercial size.
- Also susceptible to phloem necrosis diseases.

Notes:

- Not presently in danger of extinction. Some sources say that red elm may have more resistance to Dutch elm disease than other elms.

Speckled alder – *Alnus rugosa (A. incana)*

Anishnaabemowin name: Wadub (Densmore, 1974), Wadoop, -iin, Wadop – 'alder

tree' (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Wadobin – 'root to sew a canoe' (Herron, 2002)

Cultural significance: Medicine.

Habitat: Small tree that is often shrubby in habit that is found in swamps, along riverbanks, streambanks, and lakeshores.

Notes:

- Fixes atmospheric nitrogen.

Sphagnum moss – *Sphagnum spp.*

Sphagnum moss growing with creeping snowberry

Anishnaabemowin name: Asagumig (Herron, 2002)

Cultural significance: Sphagnum moss was widely used for padding for wounds, diapers, and padding for women because of its super absorbent nature and natural antiseptic qualities. It was also used for insulation for houses or shelters. Sphagnum is the plant that created the vast bogs that are still today mined for peat and sold commercially.

Habitat: Sphagnum can be found on dead logs and rises in swamps, creating hummocks in bogs and in low, wet areas of the boreal forest.

Notes:

- Sphagnum moss is an interesting plant that helps to create and maintain its environment. It works to acidify the surrounding water by pumping excess hydrogen ions back into the water, helping to maintain its ideal habitat.

Spotted joe-pye weed – *Eupatorium maculatum*

Anishnaabemowin name: Me'skwana'kuk bu'giso'win (Densmore, 1974; Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Medicine; utility.

Habitat: Joe-pye weed grows in open, wetlands along rivers and lakeshores, and is often found growing with boneset and swamp milkweed.

Spotted touch-me-not/Jewelweed – *Impatiens capensis*

Anishnaabemowin name: Ozhaawashkojiibik (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: These plants have fragile leaves and stems with beautiful spotted orange flowers and are found growing in open areas in wet woods and along stream banks.

Swamp milkweed – *Asclepias incarnata*

Anishnaabemowin name: Bagizowin (Densmore, 1974; Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993), Zasab (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine; utility.
Habitat: This plant has pink to lavender-colored flowers and is found growing in open wetlands along the edges of rivers and swamps, often growing with joe-pye weed and boneset.

Sweetflag – *Acorus americanus*

Anishnaabemowin name: Wiikenh (Densmore, 1974 – 'wiken'; Plants Used by Great Lakes Ojibwa,GLIFWC, 1993; Herron, 2002; Osawamik, 2008), Nabagashk, -oon (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Na'buguck' – 'something flat' or Muckosija'bosigun – 'hay purgative' (Densmore, 1974)
Cultural significance: Medicine; ceremonial use; charm.
Habitat: Sweetflag is an iris-like monocot with slightly-lemon-scented leaves that is found in open wet areas such as sedge meadows, marshes, stream banks, pond edges, and in shallow water with growing with sedges and cattails. Populations are local.
Threats:

- Over-harvesting.

Notes:

- *Acorus calamus* is a sterile, non-native species originally from Europe that has escaped in some areas.

Sweet gale/Bayberry – *Myrica gale*

Anishnaabemowin name: Wa'sawasni'mike (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993), Wasawasnimike – 'yellow catkins' (Herron, 2002)
Cultural significance: Food – tea, meat flavoring; medicine.

Habitat: Low, many-branched, aromatic shrub of wet places such as swamps and shores.
Notes: Nitrogen-fixer.

Sweetgrass – *Hierochloe odorata*

Anishnaabemowin name: Wiingashk, or Wiishkobi-mashkosi (Plants Used by the Great Lakes Ojibwa, GLIFWC, 1993), Wicko'bimucko'si (Densmore, 1974)

Cultural significance: Ceremonial plant; smudge; medicine; utility; crafting. Sweetgrass is one of four medicines associated with the medicine wheel, where it is represented in the north. Harvesting is done during the summer after the seeds have dropped, and is done by cutting the stems above the base of the plant (not pulling). After it is cut, it is bundled and woven into long braids. Sweetgrass is considered a sacred plant that is said to be the hair of mother earth by Anishnaabe people.

Habitat: Wet openings such as wet meadows, swales, shorelines, and the edges of wet woods.

Threats:

- Improper harvesting or over-harvesting.
- Encroachment from non-native or invasive plants.
- Development in wetlands, especially wet meadows and shorelines.
- Non-native and/or invasive species that out-compete and crowd out native plants such as sweetgrass.

Notes:

- Never harvest sweetgrass by pulling up the plant by its roots, since this kills the plant. Instead, a clean cut can be made several inches above the base of the plant, leaving the base and roots intact. It is also said that you should never take more than you need, and never take all the plants in an area.
- Sweetgrass can be successfully grown in a garden setting as long as it has sufficient moisture. Sweetgrass grows best by rhizome, and may be transplanted during the spring or fall.
- The sweet, vanilla-like scent that gives this plant its common name is from the chemical coumarin.
- Sweetgrass is circumpolar species, meaning it is found all over the world in cold, northern climates.

White water-lily – *Nymphaea odorata*

Anishnaabemowin name: Akandamoo – 'a kind of big root growing in the water' (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Food; medicine.
Habitat: This aquatic plant has a large, white, fragrant flower that floats atop the water among large, chordate-shaped, floating leaves in ponds, shallow bays and other calm waters.

Winterberry/Michigan holly – *Ilex verticillata*

Anishnaabemowin name: Animoshi-min, -an (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: Medicine.
Habitat: Winterberry is a shrub found on lake shores and the borders of swamps and bogs.
Notes:

- This plant makes and abundance of beautiful red berries that are persistent on the twigs until early winter.

Yellow birch – *Betula allegheniensis*

Anishnaabemowin name: Wiiniizik (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)
Cultural significance: The close-grained wood is used for furniture and veneer; utility; medicine.
Habitat: Yellow birch is found in various sites, with basic to acid soils, in mesic, northern, mixed hardwood forests, poorly-drained northern swamps and lowlands.
Notes:

- The twigs have the smell and taste of wintergreen.
- Moderately fast growing and long-lived. Intermediate shade-tolerance.

Yellow lady-slipper – *Cypripedium calceolus*

Anishnaabemowin name: Makazin (Plants Used by Great Lakes Ojibwa, GLIFWC, 1993)

Cultural significance: Traditional medicine for women.

Habitat: This orchid of the boreal forest is found in a variety of moist habitats, including damp woods, bogs, meadows, borders of woods and clearings, often under cedar. Not found in extremely dry sites.

Threats:

- Wildflower picking.

Notes:

- Protected from picking under wildflower conservation laws.

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