

USGS-NPS Vegetation Mapping Program

Isle Royale National Park

Populus tremuloides - Betula papyrifera - (Acer rubrum, Populus grandidentata) Forest

COMMON NAME	Trembling Aspen - Paper Birch - (Red Maple, Bigtooth Aspen) Forest
SYNONYM	Aspen - Birch - Red Maple Forest
PHYSIOGNOMIC CLASS	Forest (I)
PHYSIOGNOMIC SUBCLASS	Deciduous forest (I.B)
PHYSIOGNOMIC GROUP	Cold-deciduous forest (I.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (I.B.2.N)
FORMATION	Montane or boreal cold-deciduous forest (I.B.2.N.b)
ALLIANCE	POPULUS TREMULOIDES - BETULA PAPYRIFERA FOREST ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM TERRESTRIAL

RANGE

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This community is uncommon, and occurs primarily in the central portions of the park.

Globally

This community is found in Ontario, northern Minnesota, northern Wisconsin, and Michigan.

ENVIRONMENTAL DESCRIPTION

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This community occupies gentle to somewhat steep slopes of ridges at elevations ranging from 720 to 1110 feet. Soils are usually well drained loams or sandy loams.

Globally

This community is mostly found on level to rolling topography. It can occur on upper slopes or plateaus or in valley bottoms (Ohmann and Ream 1971). The soil is typically deep, sandy loam or loamy sand (Alban *et al.* 1991). The sites are on glacial outwash, lacustrine deposits, or moraines (Ohmann and Ream 1971, Sims *et al.* 1989). Most are well drained; however, this community can be found on somewhat poorly drained sites.

MOST ABUNDANT SPECIES

Isle Royale National Park

Stratum

Tree canopy

Tall shrub

Forb

Fern

Species

Populus tremuloides, *Betula papyrifera*, *Acer rubrum*

Corylus cornuta

Aster macrophyllus, *Aralia nudicaulis*

Pteridium aquilinum

Globally

Stratum

Tree canopy

Tall shrub

Forb

Species

Populus tremuloides, *Betula papyrifera*, *Acer rubrum*

Corylus cornuta

Aster macrophyllus, *Aralia nudicaulis*

CHARACTERISTIC SPECIES

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Populus tremuloides, *Betula papyrifera*, *Acer rubrum*, *Corylus cornuta*

Globally

Populus tremuloides, *Betula papyrifera*, *Acer rubrum*, *Corylus cornuta*

VEGETATION DESCRIPTION

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Aspen - birch - red maple forest is a deciduous forest with a variable physiognomy ranging from open canopy woodlands to closed canopy forests. Canopy cover varies from 40 to 90% cover; one or more of *Populus tremuloides*, *Betula papyrifera*, or *Acer rubrum* are the most abundant canopy trees. Cover of tall and short shrubs varies from 5 to 70%; *Corylus cornuta* is usually the most abundant shrub. Cover of herbs varies from 10 to 80%; the most abundant herbs are *Aster macrophyllus*, *Aralia nudicaulis*, and *Pteridium aquilinum*.

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Globally

This deciduous forest community has a moderately closed canopy usually dominated by *Populus tremuloides* and *Betula papyrifera*. *Acer rubrum* and *Populus grandidentata* may be absent to dominant. Other minor components of the overstory may include *Abies balsamea*, *Pinus resinosa*, *Pinus strobus*, *Picea glauca*, and *Quercus rubra*. The shrub layer is approximately 2 meters tall and often well developed (MN NHP 1993). The most abundant species are *Acer spicatum*, *Amelanchier* spp., *Corylus cornuta*, *Diervilla lonicera*, and *Rosa acicularis*. Other shrubs present include *Lonicera canadensis*, *Rubus pubescens*, *Vaccinium angustifolium*, and *Vaccinium myrtilloides*. The herbaceous layer tends to contain many species. Common species include *Aralia nudicaulis*, *Aster macrophyllus*, *Clintonia borealis*, *Maianthemum canadense*, *Trientalis borealis*, and *Viola* spp.

OTHER NOTEWORTHY SPECIES

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Information not available.

CONSERVATION RANK G5.

DATABASE CODE CEG002467

MAP UNITS 08

COMMENTS

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The successional status of these stands is not clear; the understory usually includes some saplings and seedlings of the canopy species, and has few or no seedlings or saplings of boreal conifers or late successional hardwoods such as sugar maple, yellow birch, or red oak. This may be a fairly stable community type, or it may be an early successional type where later successional species haven't yet become established.

REFERENCES

- Alban, D. H., D. A. Perala, M. F. Jurgensen, M. E. Ostry, and J. R. Probst. 1991. Aspen ecosystem properties in the Upper Great Lakes. Res. Pap. NC-300. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 47 p.
- Minnesota Natural Heritage Program. 1993. Minnesota's native vegetation: A key to natural communities. Ver. 1.5. Minn. Dep. Nat. Resour., Nat. Heritage Prog. St. Paul, Minn. 110 p.
- Ohmann, L. F., and R. R. Ream. 1971. Wilderness ecology: virgin plant communities of the Boundary Waters Canoe Area. Res. Pap. NC-63. St. Paul, MN.: U. S. Dept. of Agr., For. Service, North Central Exper. Sta. 55 pp.
- Sims, R. A., W. D. Towill, K. A. Baldwin, and G. M. Wickware. 1989. Field guide to the forest ecosystem classification for northwestern Ontario. Ontario Ministry of Natural Resources.