

6.7 Rock Barrens

Pinus banksiana - (*Picea mariana*, *Pinus strobus*) / *Vaccinium* spp. Rocky Woodland (Boreal Pine Rocky Woodland)

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|-----------------------|---|
| COMMON NAME | Jack Pine - (Black Spruce, White Pine) / Blueberry species Rocky Woodland |
| SYNONYM | Boreal Pine Rocky Woodland |
| PHYSIOGNOMIC CLASS | Woodland (II) |
| PHYSIOGNOMIC SUBCLASS | Evergreen woodland (II.A) |
| PHYSIOGNOMIC GROUP | Temperate or subpolar needle-leaved evergreen woodland (II.A.4) |
| PHYSIOGNOMIC SUBGROUP | Natural/Semi-natural (II.A.4.N) |
| FORMATION | Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a) |
| ALLIANCE | PINUS (BANKSIANA, RESINOSA) WOODLAND ALLIANCE |

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM TERRESTRIAL

RANGE

Voyageurs National Park

This type occurs throughout the park.

Globally

This association is found in northern Minnesota and Manitoba and possible in Ontario and northern Michigan.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

This community occurs on ridge tops and slopes with 5-50% exposed bedrock. Slopes are highly variable and range from flat to very steep with variable aspects. Vegetation usually occurs on patches where soil has collected over bedrock. The soil in these patches are typically shallow (1-4 cm deep) sandy loams with surficial rocks. These sites are rapidly drained.

Globally

Stands typically occur on shallow, sandy or rocky sites. Soils vary from talus slopes and bare bedrock to deep mineral soils of coarse to fine sand (Sims *et al.* 1989, McCarthy *et al.* 1994).

MOST ABUNDANT SPECIES

Voyageurs National Park

| <u>Stratum</u> | <u>Species</u> |
|----------------|---|
| Tree canopy | <i>Pinus banksiana</i> |
| Tall shrub | <i>Abies balsamea</i> , <i>Pinus strobus</i> , <i>Quercus ellipsoidalis</i> |
| Short shrub | <i>Vaccinium angustifolium</i> , <i>Juniperus communis</i> |
| Forb | <i>Aster macrophyllus</i> |
| Graminoid | <i>Danthonia spicata</i> , <i>Agrostis scabra</i> |
| Nonvascular | <i>Pleurozium schreberi</i> , <i>Cladina</i> spp. |

Globally

| <u>Stratum</u> | <u>Species</u> |
|----------------|---|
| Tree canopy | <i>Pinus banksiana</i> , <i>Pinus strobus</i> , <i>Pinus resinosa</i> |
| Short shrub | <i>Juniperus communis</i> , <i>Quercus ellipsoidalis</i> , <i>Vaccinium angustifolium</i> |
| Nonvascular | <i>Cladina</i> spp. |

CHARACTERISTIC SPECIES

Voyageurs National Park

Pinus banksiana, *Pinus strobus*, *Pinus resinosa*, *Quercus ellipsoidalis*, *Juniperus communis*, *Vaccinium angustifolium*, *Cladina* spp.

Globally

Pinus banksiana, *Pinus strobus*, *Pinus resinosa*, *Juniperus communis*, *Vaccinium angustifolium*, *Cladina* spp.

VEGETATION DESCRIPTION

Voyageurs National Park

The tree canopy is variable, typically open, with stands often being dominated by a single pine species, typically *Pinus banksiana*, but also either *Pinus resinosa* or *Pinus strobus*, or all three. Occasionally, *Picea mariana* is present. Canopy cover ranges from 30-60% with exposed bedrock preventing the complete closure of the canopy. *Abies balsamea*, *Pinus strobus*, and *Quercus ellipsoidalis* constitute the shrub layer which, when present, comprises 20-30% cover. Dwarf-shrubs are commonly present at 10-50% cover. In addition to *Vaccinium angustifolium* and *Juniperus communis*, lesser amounts of *Diervilla lonicera*, *Amelanchier* spp., *Rubus* spp., and *Arctostaphylos uva-ursi* may also be present. The herb layer may be virtually absent or may reach 30% cover and consist of *Aster macrophyllus*, *Danthonia spicata*, and *Agrostis scabra*. Moss and lichen cover is highly variable, ranging from 20-90%, though most commonly is around 30%. The most abundant moss is *Pleurozium schreberi* while the most abundant lichens are *Cladina rangiferina*, *Cladina mitis* and *Cladina stellaris*.

Globally

The tree canopy is variable, typically open, with stands often being dominated by a single pine species, but the pines could be *Pinus banksiana*, *Pinus resinosa*, or *Pinus strobus*. Occasionally *Picea mariana* is present. The understory is quite open, with scattered clumps of shrubby *Picea mariana*. *Abies balsamea*, *Pinus strobus*, and *Quercus ellipsoidalis* constitute the shrub layer which, when present, comprises 20-30% cover. The dwarf-shrub layer contains *Vaccinium angustifolium* and *Vaccinium myrtilloides* with occasional *Juniperus communis*, *Cornus canadensis*, *Diervilla lonicera*, *Amelanchier* spp., *Rubus* spp., and *Arctostaphylos uva-ursi*. The herbaceous layer is sparse, containing *Agrostis scabra*, *Danthonia spicata*, *Maianthemum canadense*, and *Melampyrum lineare*. Moss and lichen cover is highly variable, ranging from 20-90%, though most commonly around 30%. Moss species include *Dicranum polysetum* and *Pleurozium schreberi*. Lichens include *Cladina rangiferina*, *Cladina mitis*, and *Cladina stellaris* (Sims *et al.* 1989, McCarthy *et al.* 1994, M. Smith personal communication 1999).

CONSERVATION RANK G4?

DATABASE CODE C EGL002483

COMMENTS

Voyageurs National Park

Diagnostic features of the type are canopy of *Pinus banksiana*, *Pinus resinosa*, *Pinus strobus*, in pure or mixed combinations, with less than 60% cover and canopy closure prevented by the presence of bedrock. Stands on Dryweed Island (on greenstone bedrock) are distinct from the stands that occur in the rest of the park, presumably because of the differences in underlying bedrock, but a wider survey is needed to verify these patterns. This type is similar to Jack Pine/Lichen Rocky Barrens Community but with greater than 25% cover of trees, especially *Pinus banksiana*. When deciduous trees, especially *Quercus ellipsoidalis*, are co-dominant with *Pinus banksiana*, the community grades into the Northern Pin Oak - Bur Oak - (Jack Pine) Rocky Woodland (CEGL005246).

REFERENCES

- McCarthy, T.G., R.W. Arnup, J. Nieppola, B.G. Merchant, K.C. Taylor, and W.J. Parton. 1994. Field Guide to Forest Ecosystems of Northeastern Ontario. NEST Field Guide FG-001, Ontario Ministry of Natural Resources, Northeast Science and Technology, Timmins ON.
- 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.

Note:

This association is found in two different map classes:

- 1) [Boreal Pine Rocky Woodland \(jack pine phase\)](#)
- 2) [Boreal Pine Rocky Woodland \(mixed phase\)](#)