

Picea mariana / *Pleurozium schreberi* Forest (Black Spruce / Feathermoss Forest)

COMMON NAME Black Spruce / Feathermoss Forest
SYNONYM Black Spruce / Feathermoss Forest
PHYSIOGNOMIC CLASS Forest (I)
PHYSIOGNOMIC SUBCLASS Evergreen forest (I.A)
PHYSIOGNOMIC GROUP Temperate or subpolar needle-leaved evergreen forest (I.A.8)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (I.A.8.N)
FORMATION Conical-crowned temperate or subpolar needle-leaved evergreen forest (I.A.8.N.c)
ALLIANCE PICEA MARIANA FOREST ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM TERRESTRIAL

RANGE

Voyageurs National Park

This type is relatively restricted in the park, commonly occurring on moist, north-facing slopes.

Globally

This community is found in northeastern Minnesota, northwestern Ontario, and southeastern Manitoba. It may be found in other parts of Manitoba.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

The Black Spruce/Feathermoss community occurs on flat to very steep (35% slope) terrain often with a northerly aspect. It can also occur on ridge tops where shallow soils have developed down slope from open bedrock. The terrain is usually very rocky, the rocks often covered by feathermoss. Patches of exposed bedrock are common. The soils are shallow sandy or silt loams averaging 2-10 cm deep over bedrock or loose rock. An undecomposed "O" horizon 2-5 cm thick is nearly always present and in shallow soils may constitute the only soil. In more well developed soils, "A", "B" and "E" horizons may also be present with varying degrees of thickness.

Globally

This community is found on level to gently sloping ground. Soils are typically moderately well drained, coarse loams, sands, and silts (Sims *et al.* 1989).

MOST ABUNDANT SPECIES

Voyageurs National Park

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Picea mariana</i>
Tree sub-canopy	<i>Abies balsamea</i>
Tall shrub	<i>Picea mariana</i> , <i>Abies balsamea</i>
Short shrub	<i>Vaccinium angustifolium</i>
Forb	<i>Aster macrophyllus</i> , <i>Cornus canadensis</i> , <i>Clintonia borealis</i>
Fern	<i>Lycopodium</i> spp.
Nonvascular	<i>Pleurozium schreberi</i>

Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Picea mariana</i>
Nonvascular	<i>Pleurozium schreberi</i>

CHARACTERISTIC SPECIES

Voyageurs National Park

Picea mariana, *Pleurozium schreberi*

Globally

Picea mariana, *Pleurozium schreberi*

VEGETATION DESCRIPTION

Voyageurs National Park

Canopy cover of *Picea mariana* in this community ranges from 40-100% but is commonly in the 80-90% range. *Betula papyrifera* and *Populus tremuloides* can also occur in the canopy at low cover. The sub-canopy is non-existent or consists of a low cover of *Abies balsamea*. Shrub layers are typically absent or present with low cover and consist of *Picea mariana* and *Abies balsamea*. In the stands that have a more open canopy, the herbaceous strata can reach 80% and is dominated by *Aster macrophyllus*, *Lycopodium clavatum*, *Lycopodium dendroideum*, *Cornus canadensis*, *Clintonia borealis*, and *Maianthemum canadense*. In the stands with a more closed canopy, the herbaceous strata can be as low as 5%. The dwarf-shrub *Vaccinium angustifolium* may be absent or present up to 20% cover. Feathermoss, mainly *Pleurozium schreberi*, usually covers 80-100% of the forest floor, though in closed canopy situations may be virtually absent.

Globally

The canopy of this community is closed and strongly dominated by *Picea mariana* with small amounts of *Abies balsamea*, *Betula papyrifera*, *Picea glauca*, *Pinus banksiana*, and *Populus tremuloides*. The shrub and herb layer are poorly developed (Grigal and Ohmann 1975). Species that are most abundant in these layers include the shrubs *Corylus cornuta*, *Gaultheria procumbens*, *Ledum groenlandicum*, *Rosa acicularis*, *Vaccinium angustifolium*, and *Vaccinium myrtilloides*, and the herbs *Aster macrophyllus*, *Cornus canadensis*, *Equisetum arvense*, and *Maianthemum canadense*. Feathermosses, particularly *Pleurozium schreberi*, are very abundant. Mosses may cover from 23 % (Grigal and Ohmann 1975) to over 85% (Sims *et al.* 1989) of the forest floor.

CONSERVATION RANK G5.

DATABASE CODE C EGL002447

COMMENTS

Voyageurs National Park

Diagnostic features of the type include the *Picea mariana* canopy with *Pleurozium schreberi*, *Ptilium crista-castrensis*, and *Hylocomnium splendens* feathermosses. Sphagnum moss is generally absent, but may be present on lower slopes adjacent to swamps, where this community can occur mixed with the Black Spruce/Labrador Tea Poor Swamp. When *Populus* spp. becomes more dominant in the canopy, this type can grade into the Black Spruce-Aspen Forest. *Pinus banksiana* can occur mixed in the canopy.

REFERENCES

- Grigal, D. F. and L. F. Ohmann. 1975. Classification, description, and dynamics of upland plant communities within a Minnesota wilderness area. *Ecological Monographs*. 45:389-407.
- 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.