

Chamaedaphne calyculata - *Ledum groenlandicum* - *Kalmia polifolia* Bog Dwarf-shrubland (Leatherleaf Bog)

COMMON NAME Leatherleaf - Labrador-tea - Bog Laurel Bog Dwarf-shrubland
SYNONYM Leatherleaf Bog
PHYSIOGNOMIC CLASS Dwarf-shrubland (IV)
PHYSIOGNOMIC SUBCLASS Evergreen dwarf-shrubland (IV.A)
PHYSIOGNOMIC GROUP Needle-leaved or microphyllous evergreen dwarf-shrubland (IV.A.1)
PHYSIOGNOMIC SUBGROUP Natural/Semi-natural (IV.A.1.N)
FORMATION Saturated needle-leaved or microphyllous evergreen dwarf-shrubland (IV.A.1.N.g)
ALLIANCE CHAMAEDAPHNE CALYCVLATA SATURATED DWARF-SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Voyageurs National Park

This type occurs throughout the park.

Globally

This association is found in Michigan, Minnesota, Wisconsin, Manitoba, and Ontario.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

This type occurs in confined basins, as part of large peatlands, and as part of shoreline complexes. In the later case, the Leatherleaf bog can occur right up to the water's edge or spatially removed from the influence of the water. Stands that occur right up to the water's edge do so only because the lakes are oligotrophic (with granite bedrock basins). The substrate is deep fibric Sphagnum peat which is mineral poor. High hummocks are often well developed while hollows are poorly developed. The water regime is saturated.

Globally

Sites are found on raised bog landforms in large peatland complexes, basin bogs, and occasionally on shores (but still isolated from groundwater influence). Stands have a saturated hydrology with a fibric *Sphagnum* spp. peat soil and a pH usually < 4.3 (Harris *et al.* 1996, Minnesota NHP 1993).

MOST ABUNDANT SPECIES

Voyageurs National Park

<u>Stratum</u>	<u>Species</u>
Tall shrub	<i>Picea mariana</i> , <i>Larix laricina</i>
Short shrub	<i>Chamaedaphne calyculata</i>
Forb	<i>Maianthemum trifolium</i> , <i>Sarracenia purpurea</i>
Graminoid	<i>Eriophorum vaginatum</i>
Nonvascular	<i>Sphagnum magellanicum</i> , <i>Sphagnum fuscum</i> , <i>Sphagnum angustifolium</i>

Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Picea mariana</i> , <i>Larix laricina</i>
Short shrub	<i>Chamaedaphne calyculata</i> , <i>Ledum groenlandicum</i>
Graminoid	<i>Carex oligosperma</i>
Nonvascular	<i>Sphagnum</i> spp.

CHARACTERISTIC SPECIES

Voyageurs National Park

Chamaedaphne calyculata, *Maianthemum trifolium*, *Sarracenia purpurea*, *Eriophorum vaginatum*, *Sphagnum* spp.

Globally

Chamaedaphne calyculata, *Ledum groenlandicum*, *Carex oligosperma*, *Sphagnum* spp.

VEGETATION DESCRIPTION

Voyageurs National Park

This community is dominated by an ericaceous dwarf-shrub layer consisting mainly of *Chamaedaphne calyculata*. Other dwarf ericaceous shrubs such as *Andromeda polifolia*, *Kalmia polifolia*, *Vaccinium oxycoccos*, and *Ledum groenlandicum* are often present but rarely make up a significant cover. Total cover of the dwarf-shrubs is usually 90-100%. A scattered tall shrub layer of *Picea mariana*, *Larix laricina* or, rarely, *Pinus strobus* can exist at <10% cover. The herbaceous strata is poorly developed with low species diversity and very sparse cover, typically less than 10%. The most abundant species are *Maianthemum trifolium*, *Eriophorum vaginatum*, *Sarracenia purpurea*, *Carex oligosperma*, and *Drosera rotundifolia*. *Sphagnum magellanicum*, *Sphagnum fuscum*, and *Sphagnum angustifolium* form a continuous carpet of peat moss. Typically, *Sphagnum fuscum* dominates the high hummocks, *Sphagnum magellanicum* dominates the lower and developing hummocks and *Sphagnum angustifolium* colonizes the hollows. Other mosses, such as *Aulacomnium palustre*, *Polytrichum strictum*, and *Sphagnum recurvum sensu stricta* may also be present.

Minerotrophic indicator species are nearly always absent in this type, though in a few circumstances may be present at low cover. These circumstances include (but are not limited to) a stand that has experienced the impacts of recent beaver flooding or a stand that is adjacent to a lake shore. The most common minerotrophic species found in these situations are *Carex lacustris*, *Carex lasiocarpa*, *Eriophorum viridi-carinatum*, and *Betula pumila*.

Globally

Vegetation is dominated by an open dwarf-shrub/scrub conifer layer with very scattered trees (<10% cover). Microtopography is high hummocks with weakly developing hollows. Ericaceous dwarf-shrubs are dominant, including *Andromeda polifolia*, *Chamaedaphne calyculata*, *Kalmia polifolia*, and *Ledum groenlandicum*, and the creeping dwarf-shrub *Vaccinium oxycoccos*. Scrub conifers include *Larix laricina* and *Picea mariana*. They also occur as scattered trees (> 3m). The herb layer is species poor, containing *Carex oligosperma*, *Carex pauciflora*, *Eriophorum vaginatum*, and *Sarracenia purpurea*. The moss layer forms a continuous hummocky mat dominated by *Sphagnum angustifolium*, *Sphagnum fuscum*, and *Sphagnum magellanicum* (Minnesota 1993, Harris *et al.* 1996). Diagnostic features of this type include the dominance of a dwarf-shrub ericaceous layer, absence of a tree layer (<10%), species-poor herbaceous layer, and almost complete lack of minerotrophic indicators, such as *Betula pumila*, *Carex aquatilis*, and *Carex stricta*. A possible subtype may occur in which pools form near the bogs crests, and contain maritime species such as *Scheuchzeria palustris*, *Rhynchospora alba*, *Sphagnum cuspidatum*, and *Utricularia cornata*.

CONSERVATION RANK G5.

DATABASE CODE C EGL002498

COMMENTS

Voyageurs National Park

Diagnostic features of the type include the dwarf-shrub layer dominated by *Chamaedaphne calyculata* with <10% cover of conifers. This type differs from the Black Spruce/Leatherleaf Semi-Treed Bog (CEGL005218) in the density of conifers, which for that type contain 10-25% cover. This type is analogous to Ontario's W24 (Harris *et al.* 1996). In cases with minerotrophic species present, stands are more analogous to W21, a Leatherleaf poor fen type. When scattered minerotrophic species are present, the Leatherleaf Bog can also grade into the Leatherleaf-Sweet Gale Shore Fen (CEGL005228). That type, however, has a greater consistent coverage of minerotrophic indicators (see VEGETATION DESCRIPTION) and is typically located near the lakeshore.

REFERENCES

- Harris, A. G., S. C. McMurray, P. W. C. Uhlig, J. K. Jeglum, R. F. Foster, and G. D. Racey. 1996. Field guide to the wetland ecosystem classification for northwestern Ontario. Ontario Ministry of Natural Resources, Northwest Science and Technology, Thunder Bay, Ontario. Field guide FG-01. 74 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.

Note:

This association is found in two different map classes:

- 1) [Leatherleaf Bog](#)
- 2) [Beaver Basin Break-up Mosaic](#)