Larix laricina / Alnus incana Forest (Northern Tamarack Rich Swamp)

COMMON NAME	Tamarack / Speckled Alder Forest
SYNONYM	Northern Tamarack Rich Swamp
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	Saturated cold-deciduous forest (I.B.2.N.g)
ALLIANCE	LARIX LARICINA SATURATED FOREST ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM TERRESTRIAL

RANGE

Voyageurs National Park

This type occurs as part of large peatlands, in confined basins and along the upland margins of less minerotrophic peatlands throughout the park.

Globally

This community is found in the United States in northern and central parts of Minnesota, Wisconsin, and Michigan; and in Canada in Ontario, Manitoba, and probably elsewhere.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

This type occurs as part of large peatlands, in confined basins and along the upland margins of less minerotrophic peatlands. The substrate is deep, fibric Sphagnum peat or shallow peat over clay. Hummock and hollow microtopography is moderately to well developed, with standing water occasionally occurring in the hollows. The water regime is saturated.

Globally

Stands are found on the shores of lakes and rivers above the flooding level, as well as margins of flowage areas of peatland complexes. The substrate is primarily a well-decomposed woody peat in wet, saturated soils, but can also be a moist mineral soil. Hummock and hollow microtopography is moderately to well developed, with standing water occasionally occurring in the hollows. (Sims *et al.* 1989, MN NHP 1993, Harris *et al.* 1996).

MOST ABUNDANT SPECIES

Voyageurs National Park

Stratum	Species
Tree canopy	*Larix laricina*
Tall shrub	*Alnus incana*
Short shrub	*Ledum groenlandicum, Chamaedaphne calyculata*
Forb	*Maianthemum trifolium, Sarracenea purpurea*
Graminoid	*Calamagrostis canadensis, Carex lacustris*
Nonvascular	*Sphagnum* spp.(*Sphagnum magellanicum, Sphagnum recurvum sensu lato, Sphagnum russowii*)

Globally

Stratum	Species
Tree canopy	*Larix laricina*
Tall shrub	*Alnus incana, Betula pumila, Thuja occidentalis*
Short shrub	*Ledum groenlandicum, Chamaedaphne calyculata, Gaultheria hispidula*
Nonvascular	*Sphagnum* spp.

CHARACTERISTIC SPECIES

Voyageurs National Park

Larix laricina, Alnus incana, Chamaedaphne calyculata, Betula pumila, Sphagnum spp.

Globally
Larix laricina,Chamaedaphne calyculata, Betula pumila, Sphagnum spp.

VEGETATION DESCRIPTION
Voyageurs National Park
The canopy of *Larix laricina* in this community is typically uneven-aged and fairly open, ranging from 20-50%. *Thuja occidentalis* and *Picea mariana* may also occur in the canopy at low densities (<25% relative cover). A shrub layer of *Alnus incana* is typically present at 40-90% cover. The shrub layer may also include *Betula pumila* and *Salix* spp. (typically *Salix pyrifolia, Salix discolor,* and/or *Salix pedicellaris*). A dwarf-shrub layer of *Ledum groenlandicum* and *Chamaedaphne calyculata* is typically present at 70-90% cover, though it may be as low as 10% cover in some stands. The herbaceous layer is moderately species rich and highly variable in cover, ranging from very low to continuous. The most abundant species are *Calamagrostis canadensis, Maianthemum trifolium*, and *Carex lacustris*. *Equisetum sylvaticum, Rubus pubescens, Carex trisperma,* and *Potentilla palustris* are also commonly present. Sphagnum moss typically occupies 90-100% of the forest floor. The most abundant species are *Sphagnum magellanicum, Sphagnum recurvum sensu lato,* and *Sphagnum russowii. Calliergon cordifolium* and/or *Calliergon giganteum* infrequently colonize the wet hollows.

Globally
The canopy layer varies from closed (60-100% cover) to open (25-60% cover), and may also range from 3-10 m in height. *Larix laricina* is the dominant tree species, with associates of *Picea mariana* and *Thuja occidentalis.* The shrub, herb, and moss layers can be very rich. The shrub layer typically contains *Alnus incana,* along with *Abies balsamea, Cornus sericea, Salix* spp., and *Picea mariana*. The dwarf-shrub layer is strongly ericaceous, including *Ledum groenlandicum* and *Gaultheria hispidula*. Other dwarf-shrubs include *Chamaedaphne calyculata, Linnaea borealis, Lonicera villosa, Ribes triste, Rosa acicularis*, and *Rubus pubescens*. Herbaceous cover is variable; species include *Carex disperma, Carex lacustris, Carex trisperma, Coptis trifolia, Cornus canadensis, Equisetum sylvaticum, Galium triflorum, Maianthemum canadense, Maianthemum trifolium, Mitella nuda, Trientalis borealis*, and *Viola renifolia*. The moss layer, which is sometimes patchy, includes *Dicranum polysetum, Hylocomnium spendens, Pleurozium schreberi, Ptilium crista-castrensis, Rhytidiadelphus triquestrus, Sphagnum capillifolium, Spaghnum girgensohnii*, and *Sphagnum nemoreum*. (Sims *et al.* 1989, Minnesota NHP 1993, Harris *et al.* 1996).

CONSERVATION RANK G4.

DATABASE CODE CEGL002471

COMMENTS
Voyageurs National Park
Diagnostic features of the type include the canopy consisting solely of *Larix laricina*, with *Alnus incana* in the shrub layer. This type, Northern Tamarack Rich Swamp, is usually wetter than the Black Spruce/Alder Rich Swamp (CEGL002452) or the Black Spruce/Labrador Tea Poor Swamp (CEGL002454), but the *Sphagnum* spp. layer can range from patchy to more continuous. The type differs from those communities by having a canopy consisting solely of *Larix laricina. Picea mariana* and/or *Thuja occidentalis* may be present in the canopy at less than 25% relative cover. The type is also very similar to the Speckled Alder Swamp (CEGL002381) but has a canopy of *Larix laricina* with at least 20% cover over the alder shrub layer. This type is somewhat analogous to Ontario's W31 (Harris *et al.* 1996).

Globally
Fires may move through this community in dry years.

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.

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.