

6.6 Northern Shrub Swamps

Cornus spp. - Salix discolor - (Rosa palustris) Shrubland (Dogwood - Pussy Willow Swamp)

COMMON NAME	Red-osier Dogwood - Willow species - (Swamp Rose) Shrubland
SYNONYM	<i>Dogwood - Pussy Willow Swamp</i>
PHYSIOGNOMIC CLASS	Shrubland (III)
PHYSIOGNOMIC SUBCLASS	Deciduous shrubland (III.B)
PHYSIOGNOMIC GROUP	Cold-deciduous shrubland (III.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (III.B.2.N)
FORMATION	Seasonally flooded cold-deciduous shrubland (III.B.2.N.e)
ALLIANCE	CORNUS SERICEA - SALIX SPP. SEASONALLY FLOODED SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Voyageurs National Park

This community type commonly occupies beaver meadows and the shorelines of the large lakes in sheltered bays throughout the park.

Globally

This dogwood-willow shrub swamp community type is found in the upper Midwestern region of the United States in New York, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, and southern Ontario.

ENVIRONMENTAL DESCRIPTION

Voyageurs National Park

The Dogwood-Pussy Willow Swamp commonly occupies beaver meadows and the shorelines of the large lakes in sheltered bays. It infrequently occurs up to the waters edge but is often found between the upland and a shallow marsh such as the Midwest Cattail Marsh, Wiregrass Sedge Shore Fen, or the Northern Sedge Wet Meadow. A thick (2-5 cm) thatch layer of undecomposed organic matter is common. Soils are either deep peats or shallow peats over dense lacustrine clay. Hummock and hollow microtopography may be present. The water regime is temporarily to seasonally flooded or saturated.

Globally

Stands are found along streams and lakes, or in upland depressions. Hydrology is variable, but is typically seasonally flooded. Soils are wet, organic, and minerotrophic, with either highly decomposed peat or fine mineral soils (Curtis 1959, Harris *et al.* 1996).

MOST ABUNDANT SPECIES

Voyageurs National Park

<u>Stratum</u>	<u>Species</u>
Tall shrub	<i>Salix discolor</i> , <i>Salix petiolaris</i>
Graminoid	<i>Calamagrostis canadensis</i> , <i>Carex lacustris</i> , <i>Typha latifolia</i>
Nonvascular	<i>Aulacomnium palustre</i> , <i>Campylium stellatum</i> , <i>Hypnum lindbergii</i> , <i>Sphagnum</i> spp., <i>Drepanocladus</i> spp., <i>Calliergon</i> spp.

Globally

Tall shrub	<i>Cornus sericea</i> , <i>Salix discolor</i> , <i>Salix petiolaris</i>
Graminoid	<i>Calamagrostis canadensis</i> , <i>Carex lacustris</i> , <i>Typha latifolia</i>

CHARACTERISTIC SPECIES

Voyageurs National Park

Salix discolor, *Salix petiolaris*, *Salix planifolia*, *Salix serissima*, *Salix pedicellaris*, *Salix candida*, *Salix humilis*.

Globally

Salix discolor, *Salix petiolaris*, *Cornus sericea*, *Rosa palustris*

VEGETATION DESCRIPTION

Voyageurs National Park

The Dogwood-Pussy Willow Swamp contains a shrub layer mainly of willows 1-5 meters tall and usually 40-70% cover. The most abundant willow species are *Salix discolor* and *Salix petiolaris*. The following willow species are also common though usually present at low cover: *Salix planifolia*, *Salix serissima*, *Salix pedicellaris*, *Salix candida*, and *Salix humilis*. Shrubs typically absent include *Cornus* spp., *Spiraea alba*, and *Alnus incana*, though they may be present at low cover. Herbaceous cover is typically high (90-100%) and is made up primarily of graminoids, especially *Calamagrostis canadensis* and *Carex lacustris*. *Typha latifolia*, *Scirpus cyperinus*, *Potentilla palustris*, *Equisetum fluviatile*, *Iris versicolor*, *Carex stricta*, and *Acorus calamus* are also common in the herbaceous layer. Mosses may be absent or present around 10-30% cover. Most common species include: *Aulacomnium palustre*, *Campylium stellatum*, *Hypnum lindbergii*, *Sphagnum* spp., *Drepanocladus* spp., *Calliergon cordifolium*, *Calliergon giganteum*, and *Climacium dendroides*. In some cases, *Sphagnum* spp. may have nearly 100% cover and form a continuous carpet. This occurs primarily when the Dogwood-Pussy Willow Swamp is adjacent to a peatland.

Globally

The vegetation is dominated by tall shrubs between 1 and 3 m tall, with at least 25% cover, and often very dense. More open stands may have high graminoid cover. Trees may be scattered, but cover less than 25%. Composition of the shrub layer is quite diverse, primarily due to the diversity of willow or *Salix* spp., which collectively share dominance with *Cornus sericea*. Willow species include *Salix bebbiana*, *Salix discolor*, *Salix eriocephala*, *Salix exigua* (=interior), *Salix fragilis*, and *Salix petiolaris*. Other shrubs associates include *Cephalanthus occidentalis* (southeastward), *Cornus amomum*, *Ribes americanum*, *Rosa palustris* (more common eastward), *Rubus pubescens* (northward), *Rubus strigosus*, *Sambucus canadensis*, *Spiraea alba*, and *Viburnum lentago*. Woody vines present include *Clematis virginiana*, *Parthenocissus quinquefolia*, and *Toxicodendron radicans*. Characteristic herbs include *Asclepias incarnata*, *Aster simplex*, *Calamagrostis canadensis*, *Eupatorium maculatum*, *Glyceria nervata*, *Impatiens biflora*, *Impatiens capensis*, *Lycopus americanus*, *Lycopus uniflorus*, *Phalaris arundinacea*, *Solidago gigantea*, and *Thalictrum dasycarpum*. A variety of sedges may dominate more open stands, including *Carex lacustris* and *Carex stricta*. Tree species include *Acer rubrum*, *Fraxinus pennsylvanica*, and *Ulmus americana* (Curtis 1959, White and Madany 1978, Chapman *et al.* 1989, Reschke 1990, Minnesota NHP 1993, Harris *et al.* 1996).

CONSERVATION RANK G5.

DATABASE CODE CEG002186

COMMENTS

Voyageurs National Park

Diagnostic features of the type are *Salix discolor*, *Salix petiolaris*, *Salix planifolia*, *Salix serissima*, *Salix pedicellaris*, *Salix candida*, and *Salix humilis*. The Dogwood-Pussy Willow Swamp is closely related to the Bluejoint Eastern Meadow, the Northern Sedge Wet Meadow, and the Speckled Alder Swamp. Analogous to Ontario's W36 (Harris *et al.* 1996). The willow in the Dogwood-Pussy Willow Swamp can occasionally be mixed with equal amounts of *Alnus incana* or *Betula pumila*. When this occurs, the community grades into the Speckled Alder Swamp or Bog Birch-Leatherleaf Poor Fen. Willows can occasionally invade a Bluejoint Eastern Meadow or a Northern Sedge Wet Meadow. In these circumstances, a shrub layer of < 25% cover distinguish these herbaceous communities from the Dogwood-Pussy Willow Swamp.

Globally

Shrub swamps may naturally succeed herbaceous wet meadows as part of successional series in lakes and ponds. They may also originate from clearing of forested swamps (Curtis 1959), or draining of wet meadows (Minnesota NHP 1993). Infrequent fires may have maintained shrub swamps in the western part of the range, preventing tree canopy closure (Minnesota NHP 1993).

REFERENCES

- Anderson, D.A. 1996. The vegetation of Ohio: two centuries of change. Draft. Ohio Biological Survey.
Bakowsky, W.D. and H.T. Lee. 1996. Vegetation communities of southern Ontario (draft). Ontario Natural Heritage Information Centre and Southern Region STTU, Ontario Ministry of Natural Resources, Peterborough, Ontario. 87 p.

USGS-NPS Vegetation Mapping Program
Voyageurs National Park

- Chapman, K.A., D.A. Albert, and G.A. Reese. 1989. Draft descriptions of Michigan's natural community types. Michigan Department of Natural Resources, Lansing, MI. 35 p.
- Curtis, J.T. 1959. The vegetation of Wisconsin: An ordination of plant communities. Univ. of Wisconsin Press, Madison. 657 p.
- 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. Ont. Minist. Nat. Resour., Northwest Sci. Tech. Field Guide FG-01. Thunder Bay, Ont. 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.
- Reschke, C. 1990. Ecological communities of New York state. New York Natural Heritage Program, NY State Department of Environmental Conservation, Latham, NY.
- White, J. and M. Madany. 1978. Classification of natural communities in Illinois. In Natural Areas Inventory technical report: Vol. I, survey methods and results, p.311-405. Ill. Nat. Areas Invent., Urbana, IL.