

USGS-NPS Vegetation Mapping Program

Isle Royale National Park

Typha spp. - Scirpus acutus - Mixed Herbs Midwest Herbaceous Vegetation

COMMON NAME	Cattail species - Hardstem Bulrush - Mixed Herbs Midwest Herbaceous Vegetation
SYNONYM	Midwest Mixed Emergent Deep Marsh
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland (V.A.5)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (V.A.5.N)
FORMATION	Semipermanently flooded temperate or subpolar grassland (V.A.5.N.I)
ALLIANCE	TYPHA (ANGUSTIFOLIA, LATIFOLIA) - (SCIRPUS SPP.) SEMPERMANENTLY FLOODED HERBACEOUS ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM PALUSTRINE

RANGE

Isle Royale National Park

This community is uncommon, and scattered mainly on interior lakes; it may also occur on very protected, quiet bays of Lake Superior.

Globally

This community was once widespread in depressions or swales of riverine systems and shallow water zones in swamps, ponds, lakes, and streams throughout the midwestern United States. It is currently found in Minnesota, Iowa, Wisconsin, Ontario, Michigan, Ohio, Indiana, Illinois, Missouri, and probably Kentucky. Many of the presettlement occurrences of this community has been drained and converted to cropland or destroyed by siltation. Siltation greatly accelerates the natural transition of this habitat type as it succeeds from shallow inundation to moist soil.

ENVIRONMENTAL DESCRIPTION

Isle Royale National Park

This community occupies a narrow fringe zone in shallow water of lake beds, on flat to gentle slopes, at elevations ranging from 605 to 700 feet. Soils are usually permanently flooded sands or mucks; occasionally soils may be only seasonally flooded.

Globally

These highly productive wetlands are found in glacial potholes, river valleys, ponds, and on lake plains. They are characterized by continuous inundation and are considered a deep marsh. Water depth averages 0.3 - 0.6 m, ranging from several centimeters to more than one meter for a significant part of the growing season. Seasonal flooding during winter and spring or flooding during heavy rains help maintain these marshes by causing water exchange which replenishes freshwater and circulates nutrients and organic debris. Soils can be mineral or organic but are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part. Vegetative diversity and density is highly variable in response to water depth, water chemistry, and natural forces. Periods of excessive flooding can occur in the winter and spring.

MOST ABUNDANT SPECIES

Isle Royale National Park

<u>Stratum</u>	<u>Species</u>
Forb	<i>Nelumbo lutea</i>
Graminoid	<i>Scirpus acutus</i> , <i>Carex hyalinopsis</i> , <i>Phragmites australis</i> , <i>Typha latifolia</i>
Floating-leaved	<i>Lemna minor</i>

Globally

Graminoid	<i>Scirpus acutus</i> , <i>Typha latifolia</i>
Floating-leaved	<i>Lemna minor</i>

CHARACTERISTIC SPECIES

Isle Royale National Park

Scirpus acutus, *Eleocharis smallii*

Globally

Scirpus acutus, *Typha latifolia*

USGS-NPS Vegetation Mapping Program

Isle Royale National Park

VEGETATION DESCRIPTION

Isle Royale National Park

This emergent marsh wetland community is dominated by bulrushes and spikerushes. *Scirpus acutus* is the most abundant emergent aquatic plant (average 22% cover); *Eleocharis smallii* is a common associate with a low cover (average < 2% cover); *Typha* spp. are very rare or absent from this community on Isle Royale, probably an effect of moose browsing.

Globally

This deepwater emergent marsh community is dominated by perennial herbaceous vegetation with graminoid leaves. A typical example of this marsh contains a mosaic of emergents, submergents, and floating plants interspersed with areas of open water (Harris *et al.* 1996). Various kinds of emergents may dominate a marsh depending on the water depth. Quite often the vegetation arranges itself in belts (wetland zonation), with a particular species or range of species occupying specific depths from the shoreline to deep open water. Marshes may display areas of open water, but vegetation dominates (>30 percent cover). *Typha latifolia*, *Typha angustifolia*, *Scirpus fluviatilis* and *Scirpus acutus* dominate this dynamic ecosystem. Sedges are also common (*Carex lupuliformis*, *Carex hyalinolepis*). A diverse assemblage of grasses, floating leaved aquatics, and submerged aquatics are present.

OTHER NOTEWORTHY SPECIES

Isle Royale National Park

Information not available.

Globally

Lythrum salicaria, *Scirpus californicus*

CONSERVATION RANK G5.

DATABASE CODE CEGL002229

MAP UNITS 46

COMMENTS

Globally

Emergent marshes exhibit differences in vegetative composition and physiognomy in response to water depth and substrate aggradation. In Ohio, *Scirpus validus* is most common and *Scirpus acutus* is rare (it is more common in OH fens). Seasonal flooding and heavy rains influence vegetative growth, aquatic animals, and nutrient cycling in marsh ecosystems.

REFERENCES

- Eggers, S. D., and D. M. Reed. 1987. Wetland plants and plant communities of Minnesota and Wisconsin. U. S. Army Corps of Engineers, St. Paul District, St. Paul, Minn. 201 p.
- Faircloth, W. 1971. The vascular flora of central south Georgia. University Microfilms. Ph.D. Thesis, University of Georgia.
- 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.
- Illinois Nature Preserve Commission. 1973. Comprehensive plan for the Illinois nature preserves system, part 2: The natural divisions of Illinois, J. E. Schwegman, principal author. 32 p.
- Mitsch, W. J. and J. G. Gosselink. 1993. Wetlands. 2nd ed. Van Nostrand Reinhold Company, New York. 722 p.
- Mohlenbrock, R. H. 1959. A floristic study of a southern Illinois swampy area. Oh. J. Sci. 59:89-100.
- Nelson, P. W. 1985. The terrestrial natural communities of Missouri. Missouri Natural Areas Committee, Jefferson City. 197 p.
- Niering, N. A. 1985. Wetlands. The Audubon Society Nature Guides. Chanticleer Press, Inc. 638 p.
- Wharton, C. H. 1978. The natural environments of Georgia. Ga. Dep. Nat. Resour. Atlanta. 227 p.
- Wharton, C. H. 1989. The natural environments of Georgia. Georgia Dept. of Natural Resources. Bulletin 114. pp. 75-80.
- 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.
- Whitley, J. R., B. Bassett, J. G. Dillard, and R. A. Haefner. 1990. Water plants for Missouri ponds. Missouri Department of Conservation. 151 p.