

ESTUARIES & COASTAL WETLANDS OF LAKE SUPERIOR

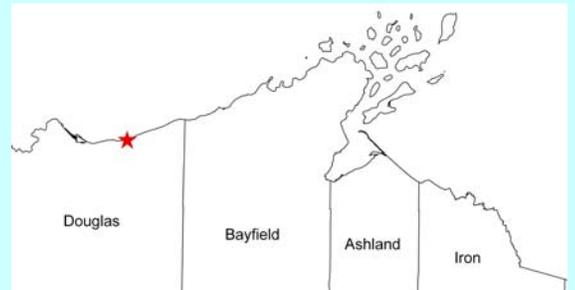
Poplar River Estuary

Approximate Size: 45 acres*

Ownership: Private

Year Last Surveyed by WDNR/NHI: 2012

GLCWC Classification: Barred Drowned River Mouth



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Site Description

The Poplar River lies 10 miles east of Wisconsin Point in Douglas County, and features a barred drowned river mouth with a sizeable lagoon and wetland complex behind a wide sandbar. Abandoned channels harbor submerged aquatic plants, while moderately diverse open wetlands occupy river margins and islands as far as 0.75 mile upstream. Steep banks rise above the stream, supporting Boreal Forest of varying ages and harvest histories. Level areas beyond the steep banks have been heavily logged on many adjoining private properties.

The river-mouth sandbar is 40 feet wide in places, with dune grass (*Ammophila breviligulata*) dominating the foredune and crest, sandbar willow (*Salix exigua*) dominating the backdune. Submergent Marsh species such as coon's-tail (*Ceratophyllum demersum*), Canadian waterweed (*Elodea canadensis*), slender naiad (*Najas flexilis*), and Richardson's pondweed (*Potamogeton richardsonii*) occur in calm water areas, while typical emergent species include Soft-stem bulrush (*Schoenoplectus tabernaemontani*), wool-grass (*Scirpus cyperinus*), common bur-reed (*Sparganium eurycarpum*), and broad-leaved cat-tail (*Typha latifolia*). Areas of Northern Sedge Meadow are dominated by Canada bluejoint grass (*Calamagrostis canadensis*), tussock sedge (*Carex stricta*), bottlebrush sedge (*C. hystericina*), lake sedge (*C. lacustris*), and swamp milkweed (*Asclepias incarnata*). Narrow bands of low-diversity Alder Thicket occupy wetland edges.

One-quarter mile upstream from the river mouth, fair-quality Boreal Forest lies west of the river. The lower slopes are dominated by large white spruce (*Picea glauca*) and balsam fir (*Abies balsamea*). Elsewhere, the canopy is dominated by black ash (*Fraxinus nigra*), northern white-cedar (*Thuja occidentalis*), and paper birch (*Betula papyrifera*). A variable canopy averages 50-60% cover. Typical understory species include thimbleberry (*Rubus parviflora*), balsam poplar (*Populus balsamifera*), and northern fly honeysuckle (*Diervilla lonicera*), while a moderately diverse ground layer includes big-leaf aster (*Aster macrophyllus*), many fern species, nodding wake-robin (*Trillium flexipes*), bunchberry (*Cornus canadensis*), and lichens such as cavern beard lichen (*Usnea cavernosa*).

*Area includes river mouth, first 0.75 mile of river, associated wetlands, and immediately adjacent uplands.

Threats

Non-native invasive plants noted here include Canada thistle (*Cirsium arvense*), hemp-nettle (*Galeopsis tetrahit*), and reed canary grass (*Phalaris arundinacea*). Invasive plants can out-compete native plants by monopolizing light, water, and nutrients, and can have negative impacts on soils and nutrient cycling. This river has a past history of turbid conditions, large areas of bank slumpage, and reduced water quality. Aggressive upland forest harvests can degrade aquatic and wetland resources by increasing the rate of snow-melt and runoff. Across the Lake Superior clay plain, water quality and wetland function are known to be adversely affected by open lands (e.g., developed land, agriculture, young forest) and positively affected by older forests and conifers. Land use analysis of the watershed and associated water quality monitoring could facilitate better understanding of this site's aquatic and wetland resources.

Additional Comments

The Poplar River estuary was identified by the Lake Superior Binational Program as important to the integrity of the Lake Superior ecosystem for its coastal wetlands and fish spawning and nursery grounds.

Abbreviations and Helpful References

GLCWC - Great Lakes Coastal Wetland Classification.- http://glc.org/wetlands/pdf/wetlands-class_rev1.pdf

Lake Superior Binational Program - <http://www.epa.gov/glnpo/lakesuperior/>

WDNR Coastal Wetlands webpages - <http://dnr.wi.gov>, Keyword: "coastal wetlands"

WDNR/NHI - Wisconsin Department of Natural Resources, Natural Heritage Inventory Program.
<http://dnr.wi.gov>, Keyword: "natural heritage"

"Managing Woodlands on Lake Superior's Red Clay Plain" - WDNR publication #PUB-FR-385 2007.
<http://dnr.wi.gov>, Keyword: "bmp landowner guides"



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A narrow side channel of the river harbors abundant emergent and submergent plants, including stiff arrowhead (*Sagittaria rigida*) and long-leaf pondweed (*Potamogeton natans*) (left). A sand formation bars the river at Lake Superior, creating a deep, calm lagoon (above).

Suggested Citation



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