

St. Croix (Gordon) Flowage **Critical Habitat Designation Report**

Douglas County, WI



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Critical Habitat Designation Program – Introduction

Wisconsinites are concerned about the growing number of threats to sustainable healthy lakes in the state. Increases in shoreline development are changing lake ecosystems, and the conversion of natural lakeshore to residential development has greatly accelerated over the past 30 years. While many positive measures have been initiated within Wisconsin over the past few decades, habitat and water quality continue to be impacted.

Critical Habitat Designation is a program that includes formal designations of areas considered important to fish and wildlife. Critical Habitat is classified into three categories: sensitive areas, public rights features, and resource protection areas (uplands within the shoreline zone). These three elements combine to provide regulatory and management advice to the State of Wisconsin, counties, local units of governments, and others who are interested in protecting and preserving these unique habitats for future generations. Designation of Critical Habitat aims to serve four primary purposes:

- 1) Resource protection through science based regulatory review.
- 2) Community-based resource protection through community education, planning and zoning.
- 3) As a guide to land-trusts and others acquiring land and conservation easements.
- 4) A mechanism to track long-term changes in these habitats.

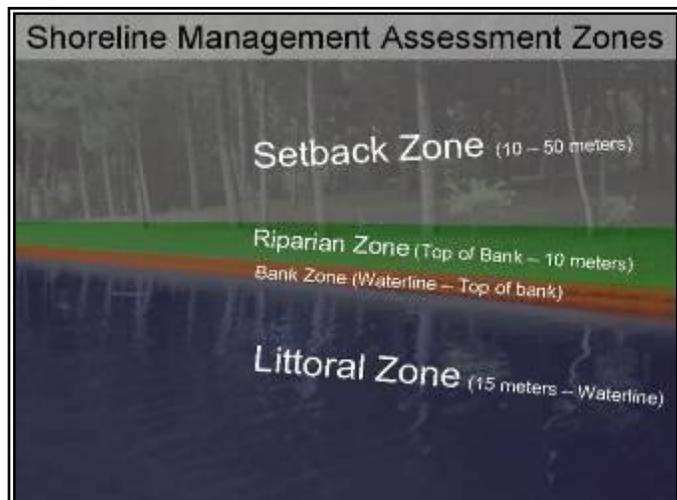
Methods

Critical Habitat Designation occurred on the St. Croix (Gordon) Flowage in Douglas County on 6/25/2008. St. Croix Flowage, which is 1913 acres in size with a max depth of 28 feet, is located in Gordon and is a flowage on the St. Croix River. Access to the St. Croix Flowage is via two public boat launches located on the lake.

Designations were conducted by a team consisting of the county fisheries biologist, water resources specialist, wildlife biologist, and critical habitat coordinator. Initially, DNR staff compiled and reviewed existing natural resource data that helped identify areas of focus related to fish, wildlife, endangered resources, and their habitats before going into the field. In the field, staff used existing natural resource data, delineation guidance, and professional judgment to establish the boundaries of the sites containing critical habitat. Critical Habitat Designation boundaries were recorded in the field using map grade Trimble Geo XM GPS Units. For each site, staff inventoried current shoreline management practices occurring along littoral, bank, riparian, and setback zones following standardized methods. Depending on the features of each area being delineated, standardized sampling of emergent and submergent aquatic vegetation, substrate, and woody habitat was also conducted.

Note: A detailed description of the Critical Habitat Designation program, associated methods, and the values of Critical Habitat can be found at <http://dnr.wi.gov/lakes/criticalhabitat/>. Detailed assessments of each Critical Habitat area including raw sampling data and GIS shape files are available by contacting your local DNR office.

Figure 1. Shoreline Management Zones



General Lakewide Recommendations. Most of these actions will be good for the lake or river regardless if the site is within a designated Critical Habitat area or not. Emphasis of or exceptions to these general recommendations are discussed in more detail in the specific lakewide and site management recommendations. For example, planting native vegetation along shorelines will generally be beneficial to the lake and property owner. Shorelines that are dominated by established lawn, however, may be out of compliance with current zoning standards and higher priority for restoration since those areas tend to pollute the resource more while simultaneously being devoid of natural fish and wildlife habitat.

Permanent Land Protection

Permanently protect designated Critical Habitat areas. Permanent land protection tools include: land acquisition, conservation easements, and mutual covenants. Competitive funding opportunities exist for parcels that are large and of particular conservation value. Voluntary protection or private funding sources may be the primary protection methods for smaller parcels. Fortunately, much of the lake is in public ownership (County); see map below. Promote efforts to ensure the land remains in public ownership into the future.



Shoreland Restoration

Leave natural shorelines undisturbed in accordance with local shoreland zoning rules. If the shoreline buffer does not exist or is disturbed, it should be replanted with native vegetation. The Douglas County Land & Water Conservation Department may provide shoreline restoration technical and funding assistance. Additionally, the Wisconsin Department of Natural Resources offers competitive shoreline restoration grants. Some local landscaping businesses may be able to assist landowners with site planning, including native plant selection.

Runoff Control

Implement lake and river water quality protection tools like rainwater gardens, rain barrels, infiltration pits and trenches, grass swales, etc. that divert and/or infiltrate water before it enters the lake or river. Similar to shoreland restoration, the Douglas County Land & Water Conservation Department may provide technical and funding assistance for these practices. Additionally, the Wisconsin Department of Natural Resources offers

competitive lake protection grants. Some local landscaping businesses may be able to assist landowners with site planning, including plant selection.

Septic Systems

Inspect and maintain septic systems to prevent excess nutrient addition while protecting present water quality conditions. Ideally, a public sanitary sewer system should be constructed. Septic systems are not designed to remove the nutrients (i.e., phosphorous and nitrogen) that pollute water resources. Furthermore, septic water quickly moves through the local sandy soils and speeds delivery of potentially polluted water to the lake or river.

In-Lake Habitat Protection

Consider local recreational boating ordinances (i.e., slow-no-wake) within designated critical habitat areas. Specific lakewide and site recommendations emphasize priority areas for these ordinances. The Flowage already contains many areas where boat traffic is directed to protect safety and habitat.

In general, native aquatic plants should not be actively managed (i.e., no raking, herbicide use, or mechanized removal) and, if within a designated critical habitat site, will require a permit for manual removal as well as chemical control. Lakewide and site specific recommendations describe exceptions to this general recommendation.

Near shore trees that fall into the water should be left in the water.

Specific Lakewide Recommendations. These management actions are recommended for all of the St. Croix (Gordon) Flowage and are recommended based on lake type, geographic location, data collection results, and lakewide management opportunities and threats.

Ceratophyllum echinatum (Spiny hornwort) is a rare aquatic plant species of special concern that has been found throughout the St. Croix (Gordon) Flowage and also in the large Critical Habitat Area. Strong efforts should be made to protect this rare plant in all APM planning and treatment processes.

Continue to aggressively manage the isolated *Myriophyllum spicatum* (Eurasian watermilfoil) population and monitor for other aquatic invasive species.

Specific Site Recommendations. These management actions are specific to the given site and only supersede general and specific lakewide recommendations if explicitly stated.

Sites

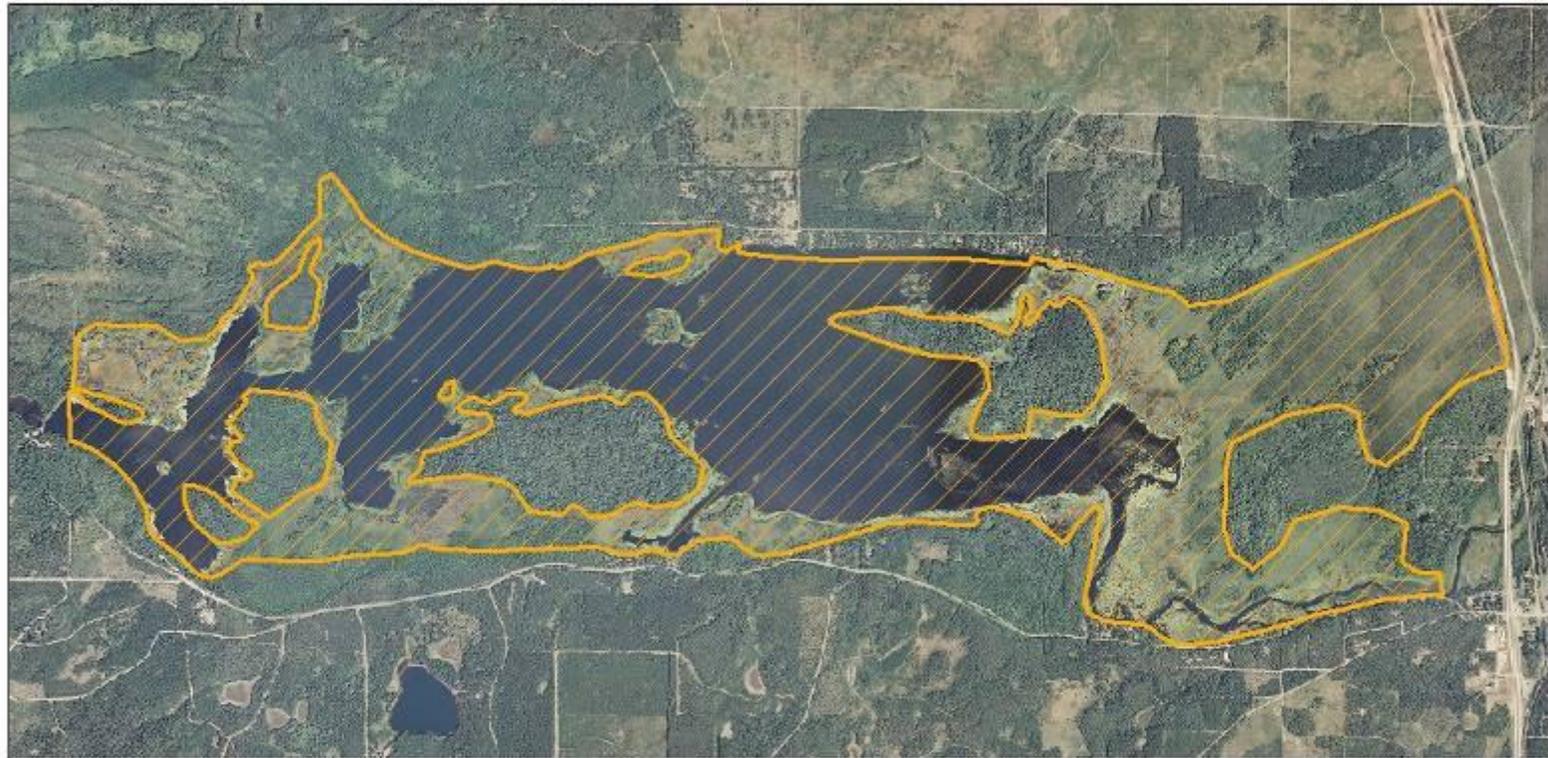
One area is designated as Critical Habitat on the St. Croix (Gordon) Flowage for a total of 3596 acres (Figure 2; Tables 1 and 2). It is classified as a Sensitive Area for submerged aquatic plants, rushes, emergent and floating leaf aquatic plants, and extensive riparian wetlands.

Critical Habitat Polygon ID	Acres	Justification	Justification	Justification	Justification	Classification
SCF 1	3596	2	3	4	6	Sensitive Area

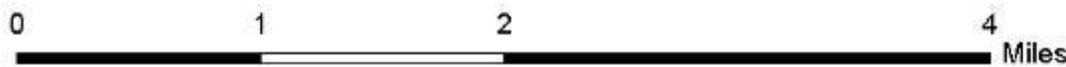
Justifications	Justification Feature	Classification
1	Bio-diverse Submerged Aquatic Vegetation (SAV)	Sensitive Area
2	SAV Important to Fish and Wildlife Habitat	Sensitive Area
3	Emergent and Floating Leaf Vegetation	Sensitive Area
4	Rush Beds	Sensitive Area
5	Wild Rice Bed	Sensitive Area
6	Extensive Riparian Wetland	Sensitive Area
7	Woody Habitat	Public Rights Feature
8	Spawning Substrate	Public Rights Feature
9	Water Quality (springs, etc)	Public Rights Feature
10	Natural Scenic Beauty	Public Rights Feature
11	Extensive Public Use	Public Rights Feature

St. Croix (Gordon) Flowage Critical Habitat Area

Douglas County, Wisconsin



 St. Croix (Gordon) Flowage Critical Habitat Area



St. Croix (Gordon) Flowage Critical Habitat Area 1

The St. Croix (Gordon) Flowage Critical Habitat Area is designated a Sensitive Area because of its Submerged Aquatic Vegetation Important to Fish and Wildlife Habitat, Emergent and Floating Leaf Vegetation, Bulrush Beds, and Extensive Riparian Wetland. It is 3596 acres in size which includes most of the flowage and the extensive riparian wetland areas that adjoin the flowage.

Management Recommendations

Do not actively manage aquatic plants with the exception of the continued control of Eurasian watermilfoil. Future *Potamogeton crispus* (curly-leaf pondweed) management will depend on ongoing monitoring and planning efforts. Continue watercraft inspection projects at public landings to ensure AIS are not transferred into or from the Flowage.

Buffers and overhanging vegetation, bog fringe and floating, emergent and submersed aquatic plants should be left alone.

Do not remove rush beds. Place piers outside of rushes, or if that's not possible extend the piers beyond the rushes for boat mooring.

Extensive wild rice beds are located in this area and should be left undisturbed due to their importance as wildlife habitat and seasonal use by several fish species. Any activities, including aquatic plant removal, water level manipulation, and shoreline erosion control, that may impact wild rice populations must be considered by tribal partners within the Voigt Task Force. Contact the local DNR Water Management Specialist or Aquatic Plant Management Coordinator for more information.

Table 3. St. Croix Flowage Critical Habitat Area Aquatic Plants

Scientific Name	Common Name	Plant Type
<i>Asclepias incarnata</i>	Swamp milkweed	Emergent
<i>Calla palustris</i>	Water arum	Emergent
<i>Cicuta bulbifera</i>	Bulblet water hemlock	Emergent
<i>Dulichium arundinaceum</i>	Three-way sedge	Emergent
<i>Eleocharis palustris</i>	Creeping spikerush	Emergent
<i>Equisetum fluviatile</i>	Water horsetail	Emergent
<i>Polygonum amphibium</i>	Water smartweed	Emergent
<i>Sagittaria graminea</i>	Grass-leaved arrowhead	Emergent
<i>Sagittaria rigida</i>	Stiff arrowhead	Emergent
<i>Sagittaria spp.</i>	Arrowheads	Emergent
<i>Schoenoplectus validus</i>	Softstem bulrush	Emergent
<i>Sparganium emersum</i>	Narrow-leaf bur-reed	Emergent
<i>Sparganium eurycarpum</i>	Common bur-reed	Emergent
<i>Typha latifolia</i>	Broad-leaved cattail	Emergent
<i>Zizania palustris</i>	Wild-rice	Emergent
<i>Brasenia schreberi</i>	Watersheild	Floating Leaf
<i>Nuphar variegata</i>	Spatterdock	Floating Leaf
<i>Nymphaea odorata</i>	White water lily	Floating Leaf
<i>Filamentous algae</i>	Filamentous algae	Free Floating
<i>Lemna trisulca</i>	Forked duckweed	Free Floating
<i>Lemna turionifera</i>	Turion duckweed	Free Floating
<i>Spirodela polyrhiza</i>	Great duckweed	Free Floating
<i>Utricularia vulgaris</i>	Common bladderwort	Free Floating
<i>Utricularia minor</i>	Small bladderwort	Free Floating
<i>Ceratophyllum demersum</i>	Coontail	Submergent
<i>Ceratophyllum echinatum</i>	Spiny hornwort	Submergent
<i>Chara</i>	Muskgrasses	Submergent
<i>Eleocharis acicularis</i>	Needle spikerush	Submergent
<i>Elodea canadensis</i>	Common waterweed	Submergent
<i>Elodea nuttallii</i>	Slender waterweed	Submergent
<i>Heteranthera dubia</i>	Water star-grass	Submergent
<i>Megalodonta beckii</i>	Water marigold	Submergent
<i>Myriophyllum sibiricum</i>	Northern water milfoil	Submergent
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	Submergent
<i>Najas flexilis</i>	Slender naiad	Submergent
<i>Najas gracillima</i>	Northern naiad	Submergent
<i>Potamogeton amplifolius</i>	Large leaf pondweed	Submergent
<i>Potamogeton crispus</i>	Curly-leaf pondweed	Submergent
<i>Potamogeton gramineus</i>	Variable-leaf pondweed	Submergent
<i>Potamogeton illinoensis</i>	Illinois pondweed	Submergent
<i>Potamogeton natans</i>	Floating-leaf pondweed	Submergent
<i>Potamogeton pectinataus</i>	Sago pondweed	Submergent
<i>Potamogeton praelongus</i>	White-stem pondweed	Submergent
<i>Potamogeton pusillus</i>	Small pondweed	Submergent
<i>Potamogeton richardsonii</i>	Clasping leaf pondweed	Submergent
<i>Potamogeton robbinsii</i>	Fern leaf pondweed	Submergent
<i>Potamogeton zosteriformes</i>	Flat stem pondweed	Submergent
<i>Ranunculus longirostris</i>	Stiff water crowfoot	Submergent
<i>Schoenoplectus subterminalis</i>	Water bulrush	Submergent
<i>Vallisneria americana</i>	Wild celery	Submergent

Table 4. Shoreline Assessment of St. Croix (Gordon) Flowage Critical Habitat Area

Feature	Number	Density (per mile)	Shoreline Length (feet)	% of Shoreline
Setback Zone				
Homes	30	1.2		
Accessory Structures	14	0.6		
Commercial Buildings	0	0		
Riparian Zone				
Homes	15	0.6		
Accessory Structures	32	1.3		
Commercial Buildings	0	0		
Natural vegetation			128117	97.7
Shrub Layer Removed			230	0.2
Shrub & Ground Cover Removed			426	0.3
Established Lawn			2427	1.8
Pastureland			0	0
Row Crop			0	0
Beach			0	0
Impervious Surface (road, parking lots, etc.)			0	0
Other			0	0
Not Visible			0	0
Total Shoreline			131200	100
Bank Zone				
Natural Bank			130380	99.4
Soft bioengineering			0	0
Hard bioengineering			0	0
Riprap			0	0
Pea Gravel Blanket			0	0
Established Lawn			820	0.6
Artificial Beach			0	0
Seawalls			0	0
Total Shoreline			131200	100
Boat Ramp	0	0		
Stormwater Outflow	0	0		
Littoral Zone				
Piers	50	2.0		
Boat Lifts	0	0		
Swims Rafts/ Trampolines	0	0		
Boathouses	0	0		
Mooring Buoys	0	0		
Dredge channels	0	0		
Commercial Marinas	0	0		
Bridges	0	0		
Plant removal devices	0	0		
Recreational/Public Beaches	0	0		

Appendix 1. Personnel and dates of Critical Habitat Designation, St. Croix (Gordon) Flowage, Douglas County

Critical Habitat Designations occurred on 8/21/2008 by Scott Toshner, Pamela Toshner, and Alex Smith.

Shoreline management inventories occurred on 8/21/2008 by Alex Smith, Pamela Toshner, and Scott Toshner.

Aquatic plant sampling occurred using a standardized point intercept method on a lake wide scale from 7/30/2008 – 8/7/2008 by UWSP.

Appendix 2: Notice of Public Information Meeting for Proposed Critical Habitat Designation

The Department of Natural Resources has located areas that meet the criteria for Critical Habitat Designation on the following water bodies in Douglas County: Beauregard Lake, Upper St. Croix Lake, St. Croix (Gordon) Flowage, and the St. Croix River between Upper St. Croix Lake and Gordon Flowage.

Because the Critical Habitat Designations are in waters held in trust by the state for all citizens and may be adjacent to private lands, state law provides an opportunity for public input to the Department's decision.

A public informational meeting is scheduled for Saturday, October 23rd, 2010 from 9:00 am – 11:00 am at the Solon Springs Community Center in Solon Springs, WI. The informational meeting will be an open house format that will allow time to talk with DNR staff, ask questions, and provide written comments regarding the designations.

The designation of Critical Habitat is of vital importance to water quality, hunting, fishing, and natural beauty of Wisconsin's lakes and streams. The Department has made a determination that the Critical Habitat Areas on said water bodies contain:

- Fish and wildlife habitat, including specific sites necessary for breeding, nesting, nursery, and feeding.
- Physical features that ensure protection of water quality.
- Reaches of bank, shore, or bed that are predominately natural in appearance (not man-made or artificial) or that screen man-made or artificial features.
- Navigation thoroughfares or areas traditionally used for navigation during recreational boating, angling, hunting, or enjoyment of natural scenic beauty.
- Areas of aquatic vegetation offering critical or unique fish and wildlife habitat, including seasonal or lifestage requirements, or offering water quality or erosion control benefits to the body of water.

The purpose of identifying Critical Habitat Areas is to protect and/or restore their conservation values and thus promote healthy lakes and rivers. Special permit conditions may apply to landowners who wish to alter Critical Habitat Areas through activities such as dredging, installing or repairing riprap, grading, irrigation, building dams, or establishing culverts or large pier complexes. Furthermore, in Critical Habitat Areas, manual removal of native aquatic plants may require a permit, and the chemical treatment or mechanical removal of native aquatic plants is unlikely to be approved.

Draft reports, maps, and more information on Critical Habitat Designations are all available at <http://dnr.wi.gov/lakes/criticalhabitat/> or by contacting Alex Smith at (715) 635-4124.