

St. Croix River Critical Habitat Designation Report

Douglas County, WI



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Northern Region Critical Habitat Coordinator

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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.

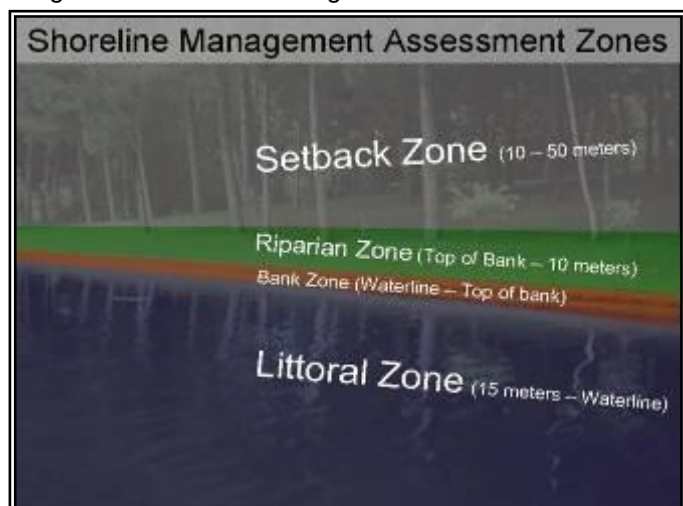
Methods

Critical Habitat Designation occurred on the St. Croix River in Douglas County on 6/25/2008. The portion of the St. Croix River that has been designated is located between Solon Springs and Gordon and flows from Upper St. Croix Lake into the St. Croix (Gordon) Flowage. Access to the St. Croix River is via Upper St. Croix Lake, the St. Croix (Gordon) Flowage, the Old Highway 53 Bridge, and the Eau Claire River.

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 Riverwide 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 riverwide and site management recommendations. For example, planting native vegetation along shorelines will generally be beneficial to the river 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. Specific riverwide and site recommendations emphasize priority areas for permanent land protection.

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-River Habitat Protection

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. Riverwide and site specific recommendations describe exceptions to this general recommendation.

Near shore trees that fall into the water should be left in the water. Site specific recommendations discuss ideal locations for replacing lost woody habitat. There are

opportunities with the DNR and Douglas County Land & Water Conservation Departments to implement a Fish Sticks project that replaces this valuable habitat.

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

Sites

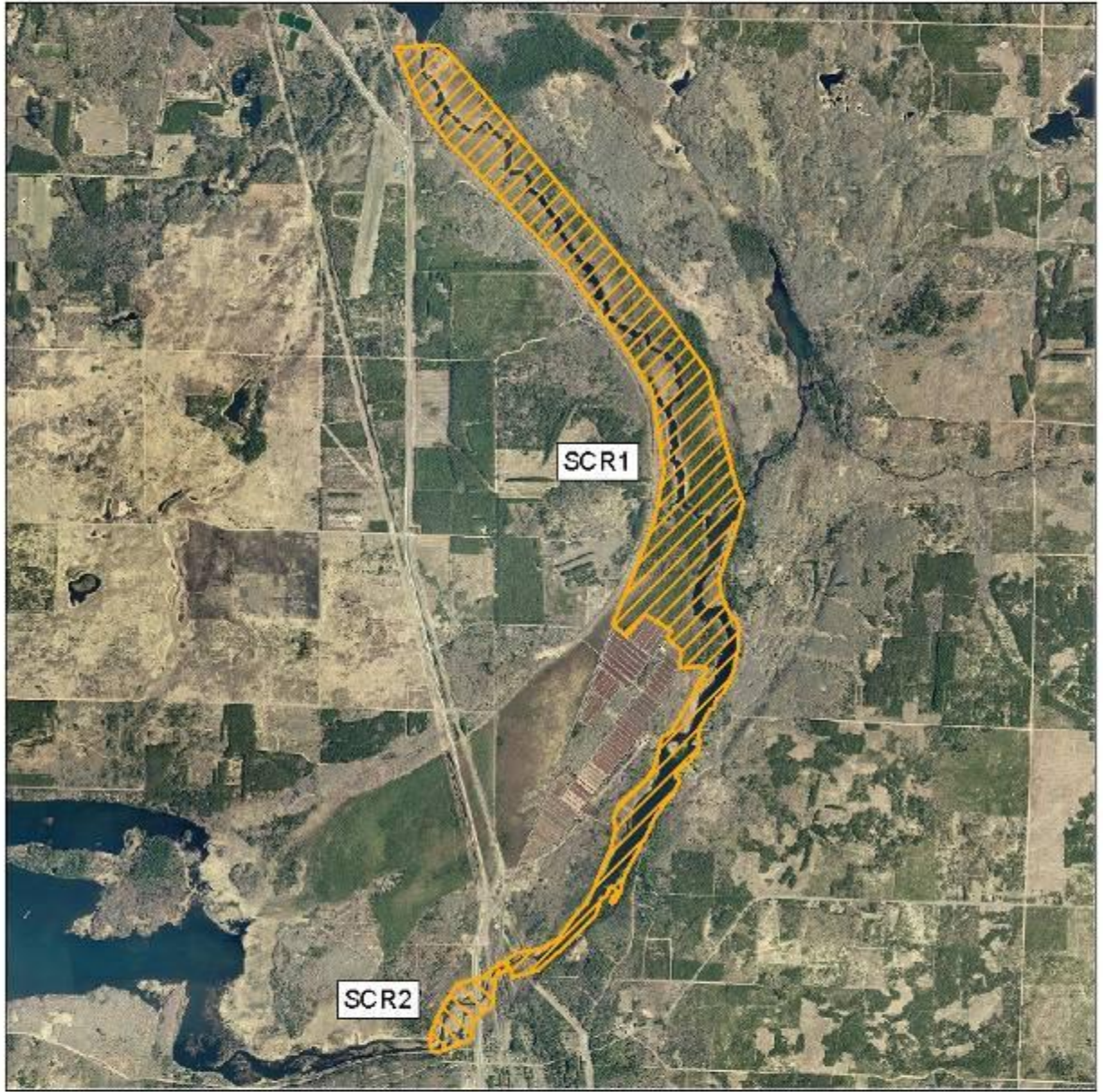
Two areas are designated as Critical Habitat on the St. Croix River for a total of 1161.1 acres (Figure 2; Tables 1 and 2). Both areas are classified as Sensitive Areas for rushes, emergent and floating leaf aquatic plants, submerged aquatic plants, and extensive riparian wetlands.

Critical Habitat Polygon ID	Acres	Justification	Justification	Justification	Classification
SCR1	1100	3	2	6	Sensitive Area
SCR2	61.3	6	3	4	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 River Critical Habitat

Douglas County, Wisconsin



- SCR1 Critical Habitat Area
- SCR2 Critical Habitat Area



SCR1 Critical Habitat Area

St. Croix River



 SCR1 Critical Habitat Area



SCR1 Critical Habitat Area

SCR1 Critical Habitat Area is designated a Sensitive Area because of its Emergent and Floating Leaf Vegetation, Submerged Aquatic Vegetation Important to Fish and Wildlife Habitat, Wild Rice Beds, Extensive Public Use (navigation thoroughfare) and Extensive Riparian Wetland. It is 1100 acres in size which includes the river and the extensive riparian wetland areas from Upper St. Croix Lake down to the Railroad Bride in Gordon.

Management Recommendations

Do not actively manage aquatic plants unless an aquatic invasive species should establish. The DNR did not find *Potamogeton crispus* (curly-leaf pondweed) at this site as previously reported by independent contractors.

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

Leave fallen trees in the water unless they are impeding navigation.

Dredging should not be allowed in this area.

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.

Established lawn within 35 feet of the water's edge should be replanted with native vegetation to comply with Douglas County shoreland zoning ordinance, minimize erosion and pollution, and improve fish and wildlife habitat.

Continue efforts to partner with the local cranberry marsh owners and operators to understand the effect of the marsh on the river and to promote practices that protect/restore it.

Table 3. SCR1 Aquatic Plants		
Scientific Name	Common Name	Type
<i>Calla palustris</i>	Water arum	Emergent
<i>Carex comosa</i>	Bottle brush sedge	Emergent
<i>Carex pseudocyperus</i>	False bristly sedge	Emergent
<i>Carex utriculata</i>	Common yellow lake sedge	Emergent
<i>Cicuta bulbifera</i>	Bulb-bearing water hemlock	Emergent
<i>Comarum palustre</i>	Marsh cinquefoil	Emergent
<i>Decodon verticillatus</i>	Swamp loosestrife	Emergent
<i>Dulichium arundinaceum</i>	3-way sedge	Emergent
<i>Eleocharis erythropoda</i>	Bald spikerush	Emergent
<i>Eleocharis robbinsii</i>	Robbins spikerush	Emergent
<i>Equisetum fluviatile</i>	Water horsetail	Emergent
<i>Glyceria borealis</i>	Northern manna grass	Emergent
<i>Iris versicolor</i>	Northern blue flag	Emergent
<i>Juncus sp.</i>	Rush	Emergent
<i>Leersia oryzoides</i>	Rice cut grass	Emergent
<i>Lythrum salicaria</i>	Purple loosestrife	Emergent
<i>Phalaris arundinacea</i>	Reed canary grass	Emergent
<i>Sagittaria latifolia</i>	Common arrowhead	Emergent
<i>Sagittaria rigida</i>	Sessile-fruited arrowhead	Emergent
<i>Schoenoplectus tabernaemontani</i>	Softstem bulrush	Emergent
<i>Sparganium emersum</i>	Narrow-leaved bur-reed	Emergent
<i>Sparganium eurycarpum</i>	Common bur-reed	Emergent
<i>Sparganium fluctuans</i>	Floating-leaved bur-reed	Emergent
<i>Typha angustifolia</i>	Narrow-leaved cattail	Emergent
<i>Typha latifolia</i>	Broad-leaved cattail	Emergent
<i>Zizania palustris</i>	Northern wild rice	Emergent
<i>Brasenia schreberi</i>	Watershield	Floating Leaf
<i>Nuphar variegata</i>	Spatterdock	Floating Leaf
<i>Nymphaea odorata</i>	White water lily	Floating Leaf
<i>Potamogeton natans</i>	Floating-leaf pondweed	Floating Leaf
<i>Lemna minor</i>	Small duckweed	Free Floating
<i>Lemna trisulca</i>	Forked duckweed	Free Floating
<i>Riccia fluitans</i>	Slender riccia	Free Floating
<i>Ricciocarpus natans</i>	Purple-fringed liverwort	Free Floating
<i>Spirodela polyrhiza</i>	Large duckweed	Free Floating
<i>Utricularia gibba</i>	Creeping bladderwort	Free Floating
<i>Utricularia intermedia</i>	Flat-leaf bladderwort	Free Floating
<i>Utricularia minor</i>	Small bladderwort	Free Floating
<i>Utricularia vulgaris</i>	Common bladderwort	Free Floating
	Filamentous algae	Free Floating
	Aquatic moss	Free Floating
<i>Callitriche hermaphroditica</i>	Autumnal starwort	Submergent
<i>Ceratophyllum demersum</i>	Coontail	Submergent
<i>Chara</i>	Muskgrasses	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 verticillatum</i>	Whorled water milfoil	Submergent
<i>Najas flexilis</i>	Bushy pondweed	Submergent
<i>Nitella sp.</i>	Nitella	Submergent
<i>Potamogeton alpinus</i>	Alpine pondweed	Submergent
<i>Potamogeton amplifolius</i>	Large-leaf pondweed	Submergent
<i>Potamogeton epihydrus</i>	Ribbon-leaf pondweed	Submergent
<i>Potamogeton foliosus</i>	Leafy pondweed	Submergent
<i>Potamogeton friesii</i>	Fries' pondweed	Submergent
<i>Potamogeton gramineus</i>	Variable pondweed	Submergent
<i>Potamogeton obtusifolius</i>	Blunt-leaf 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>	Robbins pondweed	Submergent
<i>Potamogeton spirillus</i>	Spiral-fruited pondweed	Submergent
<i>Potamogeton vaseyi</i>	Vasey's pondweed	Submergent
<i>Potamogeton zosteriformis</i>	Flat-stem pondweed	Submergent
<i>Ranunculus aquatilis</i>	Stiff water crowfoot	Submergent
<i>Stuckenia pectinata</i>	Sago pondweed	Submergent
<i>Vallisneria americana</i>	Wild celery	Submergent

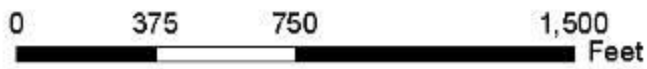
Table 4. Shoreline Assessment of SCR1 Critical Habitat Area				
Feature	Number	Density (per mile)	Shoreline Length (feet)	% of Shoreline
Setback Zone				
Homes	12	0.5		
Accessory Structures	6	0.2		
Commercial Buildings	0	0		
Riparian Zone				
Homes	7	0.3		
Accessory Structures	19	0.8		
Commercial Buildings	0	0		
Natural vegetation			129054	98.4
Shrub Layer Removed			197	0.15
Shrub & Ground Cover Removed			230	0.2
Established Lawn			1378	1.0
Pastureland			0	0
Row Crop			0	0
Beach			0	0
Impervious Surface (road, parking lots, etc.)			13	0.0
Other: Erosion control matting			328	0.25
Not Visible			0	0
Total Shoreline			131200	100
Bank Zone				
Natural Bank			130905	99.8
Soft bioengineering			0	0
Hard bioengineering			0	0
Riprap			0	0
Pea Gravel Blanket			0	0
Established Lawn			295	0.2
Artificial Beach			0	0
Seawalls			0	0
Total Shoreline			131200	100
Boat Ramp	1	.04		
Stormwater Outflow	0	0		
Littoral Zone				
Piers	27	1.1		
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	5	0.2		
Plant removal devices	0	0		
Recreational/Public Beaches	0	0		

SCR2 Critical Habitat Area

St. Croix River



 SCR2 Critical Habitat Area



SCR2 Critical Habitat Area

SCR2 Critical Habitat Area is designated a Sensitive Area because of its Extensive Riparian Wetland, Emergent and Floating Leaf Vegetation, Extensive Public Use (navigation thoroughfare) and Rush beds. It is 61.3 acres in size which includes the river and the extensive riparian wetland areas from the Railroad Bridge in Gordon down to approximately the start of the Gordon Flowage.

Management Recommendations

Do not actively manage aquatic plants unless an aquatic invasive species should establish.

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

Leave fallen trees in the water unless they are impeding navigation.

Dredging should not be allowed in this area.

Established lawn within 35 feet of the water's edge should be replanted with native vegetation to comply with Douglas County shoreland zoning ordinance, minimize erosion and pollution, and improve fish and wildlife habitat.

Table 5.SCR2 Aquatic Plants		
Scientific Name	Common Name	Type
<i>Dulichium arundinaceum</i>	3-way sedge	Emergent
<i>Equisetum fluviatile</i>	Water horsetail	Emergent
<i>Sagittaria rigida</i>	Sessile-fruited arrowhead	Emergent
<i>Sparganium eurycarpum</i>	Common bur-reed	Emergent
<i>Typha latifolia</i>	Broad-leaved cattail	Emergent
<i>Nymphaea odorata</i>	White water lily	Floating Leaf
<i>Lemna minor</i>	Small duckweed	Free Floating
<i>Lemna trisulca</i>	Forked duckweed	Free Floating
<i>Ricciocarpus natans</i>	Purple-fringed liverwort	Free Floating
<i>Spirodela polyrhiza</i>	Large duckweed	Free Floating
<i>Utricularia minor</i>	Small bladderwort	Free Floating
	Filamentous algae	Free Floating
<i>Callitriche hermaphroditica</i>	Autumnal starwort	Submergent
<i>Ceratophyllum demersum</i>	Coontail	Submergent
<i>Elodea canadensis</i>	Common waterweed	Submergent
<i>Megalodonta beckii</i>	Water marigold	Submergent
<i>Myriophyllum sibiricum</i>	Northern water milfoil	Submergent
<i>Najas flexilis</i>	Bushy pondweed	Submergent
<i>Nitella sp.</i>	Nitella	Submergent
<i>Potamogeton amplifolius</i>	Large-leaf pondweed	Submergent
<i>Potamogeton friesii</i>	Fries' pondweed	Submergent
<i>Potamogeton illinoensis</i>	Illinois 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>	Robbins pondweed	Submergent
<i>Potamogeton zosteriformis</i>	Flat-stem pondweed	Submergent
<i>Stuckenia pectinata</i>	Sago pondweed	Submergent
<i>Vallisneria americana</i>	Wild celery	Submergent

Table 6. Shoreline Assessment of SCR2 Critical Habitat Area				
Feature	Number	Density (per mile)	Shoreline Length (feet)	% of Shoreline
Setback Zone				
Homes	2	1.3		
Accessory Structures	0	0		
Commercial Buildings	0	0		
Riparian Zone				
Homes	0	0		
Accessory Structures	2	1.3		
Commercial Buildings	0	0		
Natural vegetation			7703	97.5
Shrub Layer Removed			0	0
Shrub & Ground Cover Removed			0	0
Established Lawn			197	2.5
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			7900	100
Bank Zone				
Natural Bank			7867	99.6
Soft bioengineering			0	0
Hard bioengineering			0	0
Riprap			0	0
Pea Gravel Blanket			0	0
Established Lawn			33	0.4
Artificial Beach			0	0
Seawalls			0	0
Total Shoreline			7900	100
Boat Ramp	0	0		
Stormwater Outflow	0	0		
Littoral Zone				
Piers	3	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	5	3.3		
Plant removal devices	0	0		
Recreational/Public Beaches	0	0		

Appendix 1. Personnel and dates of Critical Habitat Designation, St. Croix River, 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 river wide scale on 8-12-2009 by Endangered Resources LLC.

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 Nancy Lake in Washburn County and the Minong Flowage in Washburn and Douglas Counties. A public informational meeting has been scheduled to discuss the proposed Critical Habitat Areas.

The public informational meeting will be held Saturday, October 9th, from 9:00 am to 11:00 am at the Minong Town Hall, in Washburn County. 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.

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.

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 tentative determination that specific locations on Nancy Lake and the Minong Flowage 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.