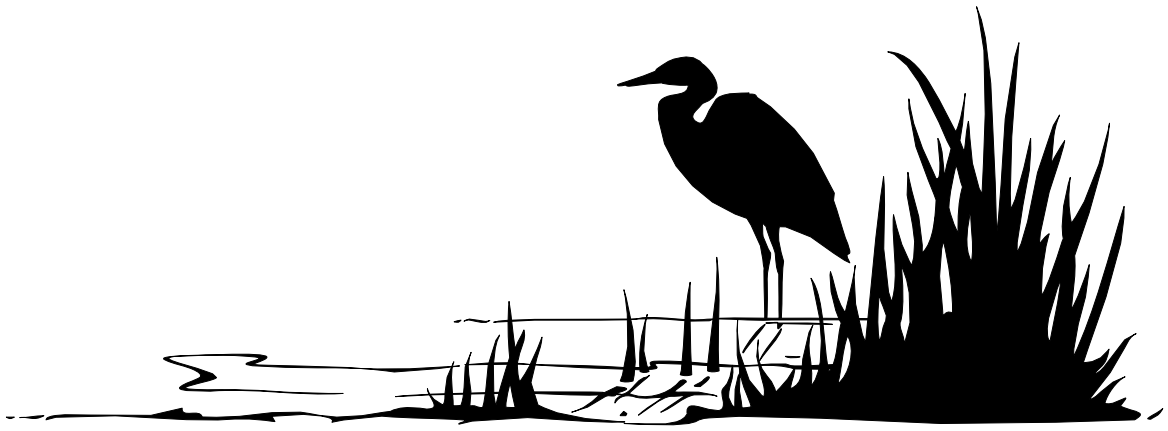
BIG TRADE AND LITTLE TRADE LAKES SENSITIVE AREA SURVEY REPORT AND MANAGEMENT GUIDELINES



This document is to be used with its companion document "Guidelines for protecting, maintaining, and understanding lake sensitive areas"

Big Trade & Little Trade Lakes (Burnett Co)
Integrated Sensitive Area Survey Report

Date of Survey: 28 August 2000 Number of Sensitive Areas: 9

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Lake Sensitive Area Survey results identified 9 areas that merit special protection of the aquatic habitat.

The reader should consider that any buffer that does not extend back from the waters edge at least 35' is not providing adequate protection for water quality and should be expanded to at least 35'. Local zoning ordinances and lakes classification systems have tried to provide better guidelines pertaining to buffer widths and set backs based on lake type. Landowners are encouraged to go beyond the minimum requirements laid out by zoning and consider extending buffer widths to beyond 35' and integrating other innovative ways to capture and reduce the runoff flowing off from their property while improving critical shoreline habitat. Berms and low head retention areas can greatly increase the effective capture rate from developed portions in addition to that portion captured within the buffer.

Site conditions may dictate that a buffer has to be much wider than 35' to be effective at capturing the sediments and nutrients running off the developed portions of the shoreline. If the shoreline is steeply sloped (>7%slope) greater widths should definitely be used.

No mowing should take place within the buffer area (with the exception of a narrow access trail and small picnic area), and trees and shrubs should not be cut down even when they become old and die; because they provide important woody debris habitat within the buffer zone as well as aquatic habitat when they fall into the lake.

The following is a brief summary of the BigTrade and Little Trade Lakes sensitive area sites and the management guidelines. Also, the "Guidelines for Protecting, Maintaining, and Understanding Sensitive Areas" provides

management guidelines and considerations for different lake sensitive areas (Attached).

I. Aquatic Plant Sensitive Areas

The following sensitive areas contain aquatic plant communities, which provide important fish and wildlife habitat as well as important shoreline stabilization functional values. Sensitive areas provide enough important habitat for the Trade and Little Trade Lake ecosystem that conservation easements, deed restrictions, or zoning should be used to protect it. Management guidelines for aquatic plant sensitive areas are (unless otherwise specifically stated):

1. Limit aquatic vegetation removal to navigational channels no greater than 25 feet wide where necessary, the narrower the better. These channels should be kept as short in length as possible and it is recommended that people do not completely eliminate aquatic vegetation within the navigation channel; but instead only remove what is necessary to prevent fouling of propellers to provide access to open water areas. Chemical treatments should be discouraged and if a navigational channel must be cleared, pulling by hand is preferable over mechanical harvesters where practical.
2. Prohibit littoral zone alterations covered by Wisconsin Statutes Chapter 30, unless there is clear evidence that such alterations would benefit the lake's ecosystem. Rock riprap permits should not be approved for areas that already have a healthy native plant community stabilizing the shoreline and property owners should not view riprap as an acceptable alternative in these situations.
3. Leave large woody debris, logs, trees, and stumps, in the littoral zone to provide habitat for fish, wildlife, and other aquatic organisms.
4. Leave an adequate shoreline buffer of un-mowed natural vegetative cover and keep access corridors as narrow as possible (preferable less than 30 feet or 30% of any developed lot which ever is less).
5. Prevent erosion, especially at construction sites. Support the development of effective county erosion control ordinances. The proper use of Best Management Practices (BMP's) will greatly

reduce the potential of foreign materials entering the waterway (i.e. silt, nutrients).

6. Strictly enforce zoning ordinances and support development of new zoning regulations where needed.
7. Eliminate nutrient inputs to the lake caused by lawn fertilizers, failing septic systems, and other sources.
8. Control exotic species such as purple loosestrife. Exotic species are marked with an *.

Resource Value of Site A

Sensitive area A is located in a small bay on the Northwestern shore of Big Trade Lake and covers approximately 400 feet of shoreline extending out as far as 100' to 150' in shallower shoreline areas.

This area provides important habitat for centrarchid (bass and panfish) spawning and nursery for young. Esocid (northern pike) will also use this area for spawning and as a nursery. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area A includes: **Emergents;** common bur-reed (*Sparganium eurycarpum*). **Floating leafed**; yellow pond lily (*Nuphar advena*). **Submergents;** coontail (*Ceratophyllum demersum*), northern milfoil (*Myriophyllum sibiricum*), elodea and fern leaf pondweed (*Potamogeton robbinsii*).

Chemical treatments should be strongly discouraged. Minimal hand pulling or mechanical removal should be sufficient for any necessary control.

Resource Value of Site B

Sensitive area B is located in the Northcentral portion of BigTrade Lake. Specifically this sensitive area surrounds the two State owned islands. Most of this length is dominated by a deep marsh of soft stem bulrush.

This area provides important spawning and nursery habitat for northern pike (esocid) and spawning habitat for centrarchid (bass and panfish). This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area B includes: **Emergents;** soft stem bulrush (*Scirpus validus*), common bur-reed (*Sparganium eurycarpum*), jewel weed (*Impatiens capensis*), reed canary grass (*Phalaris arudinacea*) and giant reed grass (Phragmites australis). **Floating leafed**; yellow pond lily (*Nuphar advena*) and white water lily (*Nymphaea odorata*). **Submergents;** sago pondweed (*Potamogeton pectinatus*), northern milfoil (*Myriophyllum sibiricum*) and coontail (*Ceratophyllum demersum*).

No chemical treatments or mechanical harvesting should be allowed in this area.

Resource Value of Site C

Sensitive area C is located at the Northeastern end of Big Trade Lake and covers approximately 3,000 feet of shoreline extending out 150 feet. Most of this length is dominated by a deep marsh and shallow or open water wetland with large amounts of submersed woody debris.

This area provides important spawning and nursery habitat for northern pike (esocid) and centrarchid (bass and panfish). This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

Sensitive area C has a diverse community structure of emergent and submergent aquatic plants including: **Emergents;** common bur-reed (*Sparganium eurycarpum*) and soft stem bulrush (*Scirpus validus*) **Floating leafed**; yellow pond lily (*Nuphar advena*) and white water lily (*Nymphaea odorata*). **Submergents;** elodea, flat stem pondweed (*Potamogeton*

zosteriformis), fern leaf pondweed (*P. robbinsii*), sago *pondweed (P. pectinatus*), coontail (*Ceratophyllum demersum*), eel grass (*Vallisneria americana*) and northern milfoil (*Myriophyllum sibiricum*).

Chemical treatments and mechanical removal efforts should only be allowed for navigation channels in this area. All other removal efforts should be strongly discouraged.

Resource Value of Site D

Sensitive area D is located at the channel connecting Big Trade Lake and Little Trade Lake and extends into the southern portion of Little Trade Lake, surrounding the large island. Most of the length is dominated by a deep marsh and shallow or open water wetland. Development near the channel has created unsuitable buffers of mowed lawn to within 10 feet of the waters edge. Property owners should consider extending their buffers to 35 feet in width. The southern bay of Little Trade Lake is considered a "wild shoreline" with high scenic beauty.

This area provides important spawning and nursery habitat for northern pike (esocid) and spawning habitat for centrarchid (bass and panfish). This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area D includes: **Emergents;** soft stem bulrush (*Scirpus validus*), common bur-reed (*Sparganium eurycarpum*) and speckled alder (*Alnus sp.*). **Floating leafed**; yellow pond lily (*Nuphar advena*). **Submergents;** elodea, coontail (*Ceratophyllum demersum*), northern milfoil *(Myriophyllum sibiricum*), sago pondweed (*Potamogeton pectinatus*), *curly leaf pondweed (*P. crispus*) and narrow leaf pondweed (*P. zosteriformis*).

No chemical treatments should be allowed in this area and all mechanical removal efforts should be strongly discouraged.

Resource Value of Site E

Sensitive area E is located in the Northern bay of Little Trade Lake and covers approximately 2,500 feet of shoreline extending out to 150 feet. Most of this length is dominated by a shallow and deep marsh wetland, which have helped protect it from the negative impacts that can be associated with improperly developed shorelines.

This area provides important habitat for centrarchid (bass and panfish) spawning and nursery areas and as an esocid (northern pike) nursery area. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area E includes: **Emergents;** soft stem bulrush (*Scirpus validus*), *reed canary grass (*Phalaris arudinacea*), common bur-reed (*Sparganium eurycarpum*) and cattails (*Typha sp.*). **Floating leafed;** yellow pond lily (*Nuphar advena*) and white water lily (*Nymphaea odorata*). **Submergents;** narrow leaf pondweed (*Potamogeton zosteriformis*), floating leaf pondweed (*P. natans*), *curly leaf pondweed (*P. crispus*), coontail (*Ceratophyllum demersum*) and northern milfoil (*Myriophyllum sibiricum*).

Chemical treatments and/or mechanical harvesting are strongly discouraged. Historical chemical treatments and mechanical harvesting should be limited to navigational channels only. All other interests in chemical treatments and mechanical harvesting should be scrutinized.

Resource Value of Site F

Sensitive area F is located near the Eastern end of Big Trade Lake and covers approximately 400 feet of shoreline extending out to 150 feet. Most of this length is dominated by a shallow and deep marsh wetland. Shoreline buffers along this sensitive area are less than 5 feet in width from the

waters edge. Riparian owners should consider widening their buffers to 35 feet.

This area provides important habitat for esocid (muskellunge and northern pike) as a nursery for the young and spawning habitat. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area F includes: **Emergents;** soft stem bulrush (*Scirpus validus*). **Floating leaf;** yellow water lily (*Nuphar advena*) and yellow pond lily (*Nymphaea odorata*). **Submergents;** narrow leaf pondweed (*Potamogeton zosteriformis*), coontail (*Ceratophyllum demersum*) and pipewort (*Eriocaulon aquaticum*).

Chemical treatments and/or mechanical harvesting are strongly discouraged. Historical chemical treatments and mechanical harvesting should be limited to navigational channels only. All other interests in chemical treatments and mechanical harvesting should be scrutinized.

Resource Value of Site G

Sensitive area G is located on the Eastern shore of Big Trade Lake at the confluence of a small tributary entering the lake and a larger wetland complex to the east. This are covers approximately 600 feet of shoreline. Most of this length is dominated by a deep marsh and shallow or open water wetland, which have helped protect it from the negative impacts that can be associated with improperly developed shorelines.

This area provides important habitat for centrarchid (bass and panfish) and esocid (northern pike and muskellunge) spawning and nursery for the young. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians also benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area G includes: **Emergents;** cattails (*Typha sp.*), common bur-reed (*Sparganium eurycarpum)* and soft stem bulrush (*Scirpus validus*). **Floating leafed**; yellow pond lily (*Nuphar advena*) and white water lily (*Nymphaea odorata*). **Submergents;** elodea, coontail (*Ceratophyllum demersum*), northern milfoil (*Myriophyllum sibiricum*) and eelgrass (*Vallisneria americana*).

Chemical treatments or mechanical harvesting should be limited to navigation channels only.

Resource Value of Site H

Sensitive area H is located on the Southern shoreline of Big Trade Lake and covers approximately 3,200 feet of shoreline extending out 100 to 300 feet. Most of this length is dominated by a deep marsh and shallow or open water wetland. Portion of this shoreline are developed with vegetative buffers less 10 feet wide. Property owners should consider extending their buffers to 35 feet in width.

This area provides important habitat for centrarchid (bass and panfish) and esocid (northern pike and muskellunge) spawning and nursery for the young. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians also benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area H includes: **Emergents;** reed canary grass (*Phalaris arudinacea*), jewel weed (*Impatiens capensis*), giant reed grass (*Phragmites sp.*), cattails (*Typha sp.*), common bur-reed (*Sparganium eurycarpum*) and soft stem bulrush (*Scirpus validus*). **Floating leafed**; yellow pond lily (*Nuphar advena*) and white water lily (*Nymphaea odorata*). **Submergents;** coontail (*Ceratophyllum demersum*), northern milfoil (*Myriophyllum sibiricum*) and eelgrass (*Vallisneria americana*), slender naiad (*Najas flexilis*), musk grass (*Chara sp.*), narrow leafed pondweed (*Potamogeton zosteriformis*), sago

pondweed (*P. pectinatus*), *curly leaf pondweed (*P. crispus*), ribbon leaf pondweed (*P. epihydrus*) and fern pondweed (*P. robbinsii*),

Chemical treatments or mechanical harvesting should be limited to navigation channels only.

Resource Value of Site I

Sensitive area I is located on the Western shore of Big Trade Lake covering approximately 1,400 feet of shoreline. Most of this length is dominated by a deep marsh and shallow or open water wetland, which have helped protect it from the negative impacts that can be associated with improperly developed shorelines.

This area provides important habitat for centrarchid (bass and panfish) and esocid (northern pike) spawning and nursery for the young. This area also provides important habitat for forage species. Wildlife are reliant upon this area for habitat. Eagles, loons, herons, waterfowl, songbirds, furbearers, turtles, and amphibians also benefit from this valuable habitat.

The emergent, floating and submergent plant community structure of Sensitive area I includes: **Emergents;** cattails (*Typha sp.*), common bur-reed (*Sparganium eurycarpum*), soft stem bulrush (*Scirpus validus*), reed canary grass (*Phalaris arudinacea*), arrowhead (*Saggitaria sp.*) and jewelweed (*Impatiens capensis*). **Floating leafed**; yellow pond lily (*Nuphar advena*), white water lily (*Nymphaea odorata*), duckweed (*Lemna sp.*) and watermeal (*Wolffia sp.*). **Submergents;** elodea, coontail (*Ceratophyllum demersum*), northern milfoil (*Myriophyllum sibiricum*), eelgrass (*Vallisneria americana*), sago pondweed (*Potamogeton pectinatus*) and flat stem pondweed (*P. zosteriformis*).

Chemical treatments or mechanical harvesting should be limited to navigation channels only.