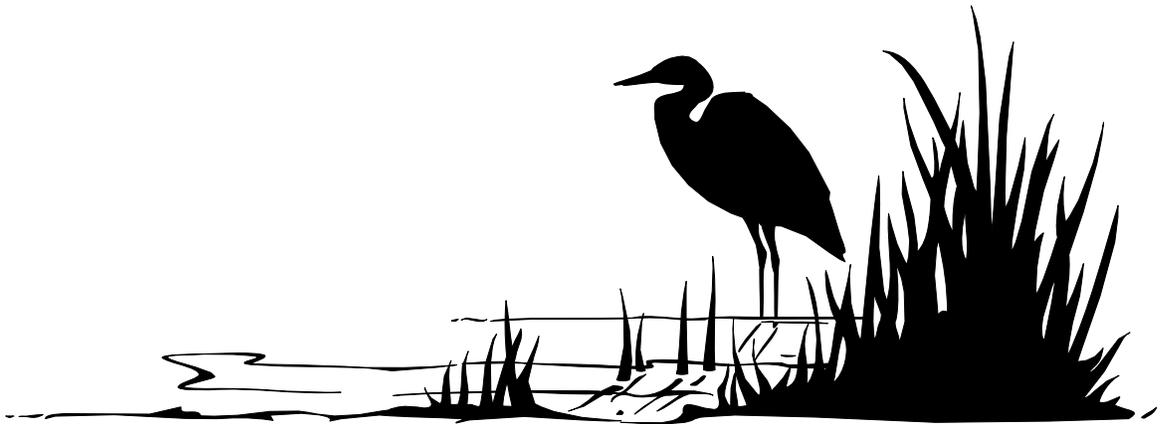


# **BIG BUTTERNUT LAKE SENSITIVE AREA SURVEY REPORT AND MANAGEMENT GUIDELINES**

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

# Big Butternut Lake (Polk Co) Integrated Sensitive Area Survey Report

Date of Survey: 17 August 2000

Number of Sensitive Areas: 8

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**Lake Sensitive Area Survey** results identified eight areas that merit special protection of the aquatic habitat. Overall Big Butternut Lake has very few developed shoreline areas which have proper vegetative buffers.

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.

It should be noted that **Purple Loosestrife** was documented in Sensitive area "B". Purple loosestrife is an exotic plant with capable means of spreading when not controlled. These plants should be removed immediately before they are allowed to spread to others parts of the lake. The population is very small in this area, therefore allowing hand pulling to be the best means of removal. An alternative to hand pulling is to cut the flower head and spray the remaining stalk with an approved herbicide. A permit is necessary for any type of herbicide treatment near surface water.

The following is a brief summary of the Big Butternut 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 F and H are not considered aquatic plant sensitive areas, but are prime spawning habitat for walleyes. Sensitive area D is considered wild shoreline, providing enough important habitat for the Big Butternut 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 rip-rap permits should not be approved for areas that already have a healthy native plant community stabilizing the shoreline and property owners should not view rip-rap 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, marked with an \*.

### **Resource Value of Site A**

Sensitive area A is located at the Southwestern end of Big Butternut Lake and covers approximately 1,600 feet of shoreline extending out as far as 150' to 200' in shallower shoreline areas. This area encompasses the boat launch and the headwaters of Butternut Creek. Submersed aquatic plants dominate most of the length with little or no upland buffer due to the impacts of the launching facilities.

This area provides important habitat for centrarchid (bass and panfish) spawning and nursery for young. Esocid (northern pike) spawning and nursery areas are located in Butternut Creek and the adjacent lake portions of this sensitive 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 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 \*curly leaf pondweed (*Potamogeton crispus*).

Chemical treatments and mechanical removal efforts should be located only for the boat ramp and the outlet channel of Butternut Creek. All other chemical treatments or mechanical removal should be strongly discouraged.

### Resource Value of Site B

Sensitive area B is located at the Southwestern end of Big Butternut Lake and covers approximately 400 feet of shoreline extending out to 100 feet. Most of this length is dominated by a 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) spawning and nursery areas. 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 B includes: **Emergents;** \*purple loosestrife (*Lythrum salicaria*). **Floating leafed;** yellow pond lily (*Nuphar advena*). **Submergents;** narrow leaf pondweed (*Potamogeton zosteriformis*), eelgrass (*Vallisneria americana*) and \*curly leaf pondweed (*Potamogeton crispus*).

No chemical treatments should be allowed in this area and all mechanical removal efforts should be strongly discouraged. Purple Loosestrife was noted as occurring on the shoreline of this sensitive area and should be removed before it is allowed to spread. Because the population of purple

loosestrife is very small in this area, hand pulling should be the most effective means of eradication.

### Resource Value of Site C

Sensitive area C is located at the Northeastern end of Big Butternut Lake and covers approximately 500 feet of shoreline extending out 150 feet. 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 areas. 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.

Sensitive area C has a diverse community structure of emergent and submergent aquatic plants including: **Emergents;** arrowhead (*Sagittaria sp.*) **Floating leafed;** yellow pond lily (*Nuphar advena*) **Submergents;** elodea, \*curly leaf pondweed (*Potamogeton crispus*), narrow leaf pondweed (*P. zosteriformis*), 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 Northeastern end of Big Butternut Lake and covers approximately 700 feet of shoreline extending out 200 to 350 feet. This area encompasses the mouth of the feeder stream entering Big Butternut Lake. Most of this length is dominated by a deep marsh and

shallow or open water wetland. This shoreline is still considered "wild", with little or no development and high scenic beauty.

This area provides important habitat for centrarchid (bass and panfish) and esocid (northern pike) spawning and nursery areas. 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 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*).

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. Keeping this area in its natural state will aid in filtering out nutrients and silt entering from the feeder stream.

### Resource Value of Site E

Sensitive area E is located at the Northeastern end of Big Butternut Lake and covers approximately 350 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) and esocid (northern pike) spawning and nursery areas. 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 E includes: **Emergents;** soft stem bulrush (*Scirpus validus*) and \*reed canary grass (*Phalaris arudinacea*). **Submergents;** narrow leaf pondweed (*Potamogeton zosteriformis*) and coontail (*Ceratophyllum demersum*).

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 at the Eastern end of Big Butternut Lake and covers approximately 700 feet of shoreline extending out to 200 feet. This area is considered high quality walleye spawning habitat. Consisting of rock and cobble substrate will little or no fine sediment.

No dredging, structures or deposits should occur in this area to retain the high quality spawning habitat characteristics.

### **Resource Value of Site G**

Sensitive area G is located on the Eastern shore of Big Butternut Lake and covers approximately 600 feet of shoreline extending out 200 feet. This area encompasses the mouth of the feeder stream entering Big Butternut Lake on the eastern shore. 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). Esocid (northern pike) spawning and nursery areas are located in this area extending into the feeder stream. 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 D includes: **Emergents;** arrowhead (*Sagittarius sp.*), common bur-reed (*Sparganium eurycarpum*) and speckled alder (*Alnus sp.*). **Floating leafed;** yellow pond lily (*Nuphar advena*). **Submergents;** elodea, coontail (*Ceratophyllum demersum*), \*curly leaf pondweed (*Potamogeton crispus*), northern milfoil (*Myriophyllum sibiricum*), sago pondweed (*P. pectinatus*), narrow leaf pondweed (*P. zosteriformis*), slender naiad (*Najas flexilis*) and eelgrass (*Vallisneria americana*).

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 H

Sensitive area H is located at the Eastern end of Big Butternut Lake and covers approximately 4,000 feet of shoreline extending out 100 to 150 feet. This area is considered high quality walleye spawning habitat. Consisting of rock and cobble substrate with little or no fine sediment.

No dredging, structures or deposits should occur in this area to retain the high quality spawning habitat characteristics.