Designation of Sensitive Areas
Long Lake, Chippewa County

Wisconsin Department of Natural Resources
Eau Claire, WI

Sensitive Area Designation
Long Lake, Chippewa County

I. INTRODUCTION
Designation of sensitive areas within lakes provide a holistic approach to the protection of those sites within a lake that are most important for preserving the very character and qualities of the lake that initially attracted developments on the lake. These sites are those sensitive and fragile areas that support the wildlife and fish habitat, provide the mechanisms that protect the water quality in the lake, harbor quality plant communities and preserve the places of serenity and aesthetic beauty for the enjoyment of lake residents and visitors. The sensitive area designation will provide a framework for management decisions that impact the ecosystem of the lake.

A Sensitive Area Study was conducted September 14, 2001 on Long Lake, Chippewa County.
The study team included:
Joe Kurz, DNR Fish Biologist
John Dunn, DNR Wildlife Biologist
Greg Breese, DNR Aquatic Habitat Expert
Deborah Konkel, DNR, Aquatic Plant Specialist
Buzz Sorge, DNR Lakes Manager

Long Lake is a 1052-acre lake with a maximum depth of 101 ft.

II. THE SENSITIVE AREAS
It is important to preserve an adequate number of sensitive areas to insure that there is sufficient water quality protection and habitat for wildlife and fish to serve a lake of this size.

All of the sensitive areas that were selected have the potential to be used for educational purposes. The YMCA Camp on Long Lake is currently designing and implementing educational programs on Long Lake focused on water quality and lake ecology.

Preserving the native plant communities in their undisturbed condition at all of the proposed sensitive areas is important for many reasons, as explained in more detail in this document. However, one important reason is true for all sites. Protecting the native plant communities will help prevent the invasion of non-native species, such as Eurasian watermilofil, curly-leaf pondweed and purple loosestrife. Nature loves a vacuum, so if the native plant communities are removed, something will take their place. The species that recolonize will likely be more aggressive, causing more conflicts with the current recreational use and habitat values of the sites.

Sensitive Area LL1 – Northwest Wetland

This sensitive area extends along 2500 feet of shoreline, averaging 3 feet in depth and supports important near-shore terrestrial habitat, shoreline habitat and shallow water habitat. The sediment is peat.

The area provides visual and sound buffers and a unique area of outstanding beauty for lake residents and visitors.

This area was selected because of
1) the high quality aquatic and terrestrial plant community it supports;
2) its value for fish and wildlife habitat;
3) its importance for maintaining water quality;
4) its natural scenic beauty.

The entire shoreline is an undeveloped tamarack bog. The wetland bog contains emergent herbaceous wetlands, shrub wetlands, tamarack bogs and shallow open water wetlands. Fallen woody material is present in the shallow zone for habitat.

The Plant Community:

Marsh fern, Canada bluejoint grass, sedges, marsh milkweed, swamp loosestrife, tag alder and dogwood colonize the shoreline.

Bulrush, pickerelweed, sedges, swamp loosestrife and cattails emerge from the shallow water.

Yellow pond lily, white water lily and greater duckweed float on the surface.

Coontail, common waterweed, arrowhead rosettes, large-leaf pondweed, variable-leaf pondweed, ribbon-leaf pondweed and flat-stem pondweed colonize the underwater habitat up to a depth of 4 feet.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.
1) The submerged and floating-leaf vegetation in this area ties up nutrients in their tissues that would otherwise be available for algae growth.
2) The wetlands are filtering water that enters the lake and preventing shoreline erosion.
3) The submergent vegetation is protecting the lake bottom from resuspension of the peat sediments by boat traffic and wind action, thus maintaining clarity.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material along the shore and the mosaic of emergent, submergent and floating-leaf vegetation with open areas provides a diversity of habitat and feeding opportunities for the fish community.

This area provides
1) spawning sites, nursery areas, feeding and cover for northern pike, musky, and perch;
2) feeding sites and cover for walleye and large-mouth bass;

3) nursery areas, feeding and cover for centrarchid panfish.

Wildlife Habitat

The variety of emergent vegetation, floating-leaf vegetation, shrubs and snag trees provide

1) cover, nesting and feeding areas for upland wildlife, beaver, loons, ducks, geese, songbirds, amphibians turtles and snakes;
2) feeding areas for eagles, osprey, otter and mink.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer.
3) Maintain the bog in an undisturbed condition.
4) Do not remove fallen trees along shoreline.
5) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
6) Minimize removal of any shoreline or aquatic vegetation.
7) No permit approval for pea gravel beds, dredging diversions or filling.
8) Restrict bank stabilization to biological methods
9) Restrict and limit pier placement

Sensitive Area LL2 – Large North Island

This sensitive area extends for 8500 feet, around the shoreline of the island, averaging 7 feet in depth and supports important near-shore terrestrial habitat, shoreline habitat and shallow water habitat. The sediment is comprised of gravel, sand and peat.

The area provides visual and sound buffers and a unique area of outstanding beauty for lake residents and visitors.

This area was selected because of
1) the aquatic and terrestrial plant community it supports;
2) value for fish and wildlife habitat;
3) natural scenic beauty.

The shoreline has a small amount of development on the south side, but is largely wetland with some upland wooded areas. The wetlands contain emergent herbaceous wetlands, shrub wetlands, tamarack bogs and shallow open water wetlands. Fallen woody material is present in the shallow zone for habitat

The Plant Community:

Marsh fern, Canada bluejoint grass, sedges, spike rush, pines, blueberries, tag alder and dogwood colonize the shoreline.

Bulrush, sedges, bur-reed, arrowhead, pickerelweed, water horsetail, sedges, spike rush and cattails emerge from the shallow water.

Yellow pond lilies and white water lilies float on the surface.

Coontail, common waterweed, wild celery, arrowhead rosettes, large-leaf pondweed, ribbon-leaf pondweed, leafy pondweed, small pondweed, Vasey's pondweed and flat-stem pondweed colonize the underwater habitat up to a depth of 4.5 feet. Vasey's pondweed is a Wisconsin Species of Special Concern

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.
1) The submergent and floating-leaf vegetation in this area tie up nutrients in their tissues that would otherwise be available for algae growth.
2) The wetlands and wooded shoreline are filtering water that enters the lake and protecting the shoreline from erosion.
3) The submergent vegetation is protecting the lake bottom from resuspension of the sand and peat sediments by boat traffic and wind action, thus maintaining clarity.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material along the shore, the gravel and rubble substrate, and the mosaic of emergent, submergent and floating-leaf vegetation with open areas provides a diversity of habitat and feeding opportunities for the fish community.

This area provides
1) spawning sites, nursery areas, feeding and cover for northern pike and perch,

2) nursery areas, feeding and cover for large-mouth bass and centrarchid panfish,
3) spawning sites, feeding areas and cover for walleye, musky and small-mouth bass.

Wildlife Habitat

The variety of emergent vegetation, floating-leaf vegetation, shrubs and snag trees provide

1) cover, nesting and feeding areas for upland wildlife, beaver, otter, mink, loons, ducks, geese, songbirds, eagles, amphibians turtles and snakes;
2) a feeding area for osprey.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer.
3) Do not remove fallen trees along shoreline.
4) Create fish cover by placing tree drops.
5) Provide seasonal protection for fish spawning.
6) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
7) Post “Loon Alert” signs.
8) Minimize removal of any shoreline or aquatic vegetation.
9) Provide special protection for bulrush beds.
10) No permit approval for pea gravel beds, dredging diversions or filling.
11) Restrict bank stabilization to biological methods
12) Restrict and limit pier placement

Sensitive Area LL3 – Northeast Wetland

This sensitive area extends along 1000 feet of shoreline, averaging 3 feet in depth and supports important shoreline habitat and shallow water habitat. The sediment is rubble and gravel.

The area provides visual and sound buffers and an area of beauty for lake residents and visitors.

This area was selected because of
1) the high quality aquatic and terrestrial plant community it supports;
2) its value for fish habitat
3) its importance for maintaining water quality.

The shoreline is 50% developed and 50% emergent wetland. Woody material is present in the shallow zone for habitat.

The Plant Community:

Marsh fern, manna grass, Canada bluejoint grass, sedges and tag alder colonize the shoreline.

Bulrush, sedges, mannagrass and cattails emerge from the shallow water.

White water lily and greater duckweed floats on the surface.

Common waterweed, ribbon-leaf pondweed, small pondweed and flat-stem pondweed colonize the underwater habitat up to a depth of 2 feet.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.
1) The submerged and floating-leaf vegetation in this area ties up nutrients in their tissues that would otherwise be available for algae growth.
2) The emergent wetland vegetation is filtering water that enters the lake and preventing shoreline erosion.
3) The submergent vegetation is protecting the lake bottom.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material and overhanging vegetation along the shore and the mosaic of submergent and floating-leaf vegetation with open areas provides a diversity of habitat and feeding opportunities for the fish community.

This area provides
1) spawning sites, nursery areas, feeding and cover for musky, perch and centrarchid panfish;
2) feeding sites and cover for walleye and northern pike;
3) nursery areas, feeding and cover for large-mouth bass and northern pike.

Wildlife Habitat

The variety of emergent vegetation and shrubs provide

1) cover, nesting and feeding areas for upland wildlife, beaver, mink, geese, songbirds, amphibians turtles and snakes;
2) a feeding areas for otter, ducks and loons.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer
3) Do not remove fallen trees along shoreline.
4) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
5) Minimize removal of any emergent shoreline or aquatic vegetation
6) No permit approval for pea gravel beds, dredging diversions or filling.
7) Restrict bank stabilization to biological methods
8) Restrict and limit pier placement

Sensitive Area LL4 – East Wetlands

This sensitive area consists of two sites: one extends for 1000 feet and the other for 500 feet along the shoreline, averaging 3 feet in depth and supporting important shoreline habitat and shallow water habitat. The sediment is comprised of gravel and sand.

The area provides visual and sound buffers and beauty for lake residents and visitors.

This area was selected because of
1) the high quality aquatic and terrestrial plant community it supports ;
2) its value for fish habitat.

The shoreline is about 20% development with the balance native woodland and emergent herbaceous wetlands. Woody material is present in the shallow zone for habitat.

The Plant Community:

Canada bluejoint grass, tag alder and dogwood colonize the shoreline.
Bulrush, bur-reed, swamp loosestrife and cattails emerge from the shallow water.
Yellow pond lilies float on the surface.
Coontail, common waterweed, large-leaf pondweed, ribbon-leaf pondweed, small pondweed and flat-stem pondweed colonize the underwater habitat up to a depth of 1.5 feet.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.
1) The floating-leaf and submergent vegetation in this area tie up nutrients in their tissues that would otherwise be available for algae growth.
2) The shoreline vegetation is filtering water that enters the lake and protecting the shoreline from erosion.
3) The submergent vegetation is protecting the lake bottom from resuspension of the sand sediments by boat traffic and wind action, thus maintaining clarity.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material along the shore and the mosaic of emergent, submergent and floating-leaf vegetation with open area provides a diversity of habitat and feeding opportunities for the fish community.

This area provides
1) spawning sites, nursery areas, feeding and cover for perch;
2) nursery areas, feeding and cover for centrarchid panfish;
3) feeding areas and cover for walleye, large-mouth bass;
4) feeding areas for small-mouth bass;
5) spawning, feeding and cover for northern pike.

Wildlife Habitat

The variety of emergent vegetation, floating-leaf vegetation, shrubs and snag trees provide

1) cover, nesting and feeding areas for upland wildlife, beaver, loons, geese, songbirds, amphibians turtles and snakes;
2) feeding areas for ducks, mink and otter.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer.
3) Do not remove fallen trees along shoreline.
4) Create fish cover by placing tree drops.
5) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
6) Minimize removal of any shoreline or aquatic vegetation.
7) No permit approval for pea gravel beds, dredging diversions or filling.
8) Restrict bank stabilization to biological methods
9) Restrict and limit pier placement

Sensitive Area LL5 – Walleye Spawning Site

This sensitive area extends along 2000 feet of shoreline, averaging 3 feet in depth and supports a thin band of near-shore terrestrial habitat and shoreline habitat. The sediment is rubble.

This area was selected because of its
1) value as a fish spawning site;
2) importance for maintaining water quality.

The shoreline is 50% developed and 50% wooded. Woody material is present in the shallow zone for habitat.

Water Quality

Maintaining any vegetation that has not already been destroyed is important for protecting the water quality in Long Lake.

Fish Habitat

Maintaining the shoreline in this area is very important to the fish community. This is the primary walleye spawning area in the lake. The fallen woody material, rubble and gravel provides
1) spawning sites and feeding areas for walleye;
2) feeding sites and cover for small-mouth bass;
3) feeding areas for musky.

Wildlife Habitat

The shrubs at this site provide
1) cover, nesting and feeding areas for upland wildlife, beaver, songbirds, amphibians, turtles and snakes;
2) a feeding area for otter and mink.

Recommendations

1) Restore natural shoreline by creating a buffer of shoreline vegetation.
2) Use no pesticide or fertilizer yard care products in and around the natural buffer zone
3) Do not remove fallen trees along the shoreline.
4) Maintain the vegetation that still exists for fish habitat.
5) Leave snag trees for wildlife habitat
6) Minimize removal of any shoreline or aquatic vegetation

Sensitive Area LL6 – Herde Lake Wetlands

This sensitive area consist of three shoreline wetland sites in Herde Lake, extending for 1100 feet, 500 feet and 300 feet along the shoreline, averaging 5 feet in depth and supporting important near-shore terrestrial habitat and shoreline habitat. The sediment is comprised of gravel, sand and silt.

The area provides visual and sound buffers and an area of natural beauty.

This area was selected because of
1) the high quality aquatic plant community it supports
2) its value for fish habitat
3) natural scenic beauty.

The shoreline has a small amount of development, but is largely wooded with some wetland. The wetlands contain emergent herbaceous wetlands and shrub wetlands. Woody material is present in the shallow zone for habitat

The Plant Community:

Marsh fern, Canada bluejoint grass, sedges, spike rush, tag alder and dogwood colonize the shoreline.

Bulrush, swamp loosestrife, spike rush, pickerelweed and cattails emerge from the shallow water.

Yellow pond lilies float on the surface.

Wild celery, arrowhead rosettes, large-leaf pondweed and ribbon-leaf pondweed colonize the underwater habitat up to a depth of 1 foot.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.
1) The floating-leaf and submergent vegetation in this area tie up nutrients in their tissues that would otherwise be available for algae growth.
2) The shoreline vegetation is filtering water that enters the lake and protecting the shoreline from erosion.
3) The submergent vegetation is protecting the lake bottom from resuspension of the silt sediments by boat traffic and wind action, thus maintaining clarity.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material along the shore and the mosaic of emergent, submergent and floating-leaf vegetation with open areas provides a diversity of habitat and feeding opportunities for the fish community.

This area provides

1) spawning sites, nursery areas, feeding and cover for perch and northern pike;
2) nursery areas, feeding and cover for centrarchid panfish;
3) feeding and cover for musky, walleye and large-mouth bass;
4) feeding areas for small-mouth bass.

Wildlife Habitat

The variety of emergent vegetation, shrubs and snag trees provides

1) cover, nesting and feeding areas for upland wildlife, beaver, loons, geese, songbirds, amphibians turtles and snakes;
2) a feeding area for otter, mink and ducks.

Recommendation

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer.
3) Do not remove fallen trees along shoreline.
4) Create fish cover by placing cribs and tree drops.
5) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
6) Minimize removal of any shoreline or aquatic vegetation.
7) No permit approval for pea gravel beds, dredging diversions or filling.
8) Restrict bank stabilization to biological methods
9) Restrict and limit pier placement

Sensitive Area LL7 – Dark Lake

This sensitive area is 29 acres, including the entire lake and its shoreline. The lake averages 35 feet in depth and supports important near-shore terrestrial habitat, shoreline habitat and shallow water habitat. The substrate is comprised of silt, organic muck and peat.

The area provides visual and sound buffers and an area of supreme natural beauty for lake residents and visitors.

This area was selected because of

1) the unique, high quality aquatic and terrestrial plant community it supports;
2) its value for fish and wildlife habitat;
3) its importance for maintaining water quality in Long Lake;
4) the unequaled natural beauty.

The shore is entirely undeveloped except for one small structure. 90% of the shoreline is an extensive tamarack bog mat and the remainder is native woodland. Abundant fallen woody material is available in the shallow zone for habitat.

The Plant Community:

Marsh fern, sensitive fern, manna grass, sedges, spike rush, beggar-ticks, meadowsweet, orchids, cranberries, blueberries, pitcher plants, leatherleaf and tag alder colonize the shoreline.

Sedges, spike rush and cattails emerge from the shallow water.

White water lily, yellow pond lily and floating-leaf burreed floats on the surface. This site has the greatest density of floating-leaf and submerged vegetation in the Long Lake system.

Large-leaf pondweed, coontail, common waterweed and bushy pondweed grow under the water surface.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake.

1) The submerged and floating-leaf vegetation in this area ties up nutrients in their tissues that would otherwise be available for algae growth.
2) The bog wetlands are filtering water that enters the lake and preventing shoreline erosion.
3) The submergent vegetation is protecting the lake bottom from resuspension of the peat, silt and muck sediments by boat traffic and wind action, thus maintaining clarity.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material along the shore and the mosaic of submergent and floating-leaf vegetation with open area provides a diversity of habitat and feeding opportunities for the fish community.

This area provides
1) nursery areas, feeding and cover for northern pike, musky, large-mouth bass, perch and centrarchid panfish;
2) feeding sites and cover for walleye;
3) protective cover for small-mouth bass.

Wildlife Habitat

The variety of emergent vegetation, floating-leaf vegetation, snag trees and shrubs provides
1) cover, nesting and feeding areas for upland wildlife, fox, coyote, weasel, bear, beaver, otter, mink, ducks, loons, songbirds, amphibians, turtles and snakes;
2) a feeding area for geese, eagles and osprey.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer
3) Do not remove fallen trees along shoreline.
4) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
5) Post "Loon Alert" signs
6) Install nest boxes
7) Minimize removal of any shoreline or aquatic vegetation
8) Because of the size of Dark Lake (29 acres), because state statutes require all watercraft to operate at a no-wake speed on lakes less than 50 acres, Dark Lake is a "No-Wake Zone" (Wis. Stats.30.635).
9) No permit approval for pea gravel beds, dredging diversions or filling.
10) Restrict bank stabilization to biological methods
11) Restrict and limit pier placement

Sensitive Area LL8 – Larrabee Lake Wetland

This sensitive area extends for 300 feet along the shoreline, averaging 7 feet in depth, and supports important terrestrial habitat, shoreline habitat and emergent wetlands. The sediment is peat.

The area provides visual and sound buffers and unique area of outstanding beauty for lake residents and visitors.

This area was selected because of
1) the high quality aquatic and terrestrial plant community it supports;
2) its value for fish habitat;
3) its importance for maintaining water quality;
4) the natural scenic beauty.

The shoreline is about 20% wooded and 80% wetland. The wetlands contain emergent herbaceous wetlands and shrub wetlands.

The Plant Community:

Marsh ferns, Canada bluejoint grass, sedges, spike rush, tag alder, leatherleaf, tamarack, pines and dogwood colonize the shoreline.

Sedges, spike rush and cattails emerge from the shallow water and colonize the underwater habitat up to a depth of 2 feet.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake. The wetland are filtering water that enters the lake and protecting the shoreline from erosion.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The emergent vegetation, fallen woody material and over-hanging vegetation provides habitat and feeding opportunities for the fish community.

This area provides spawning sites and nursery areas for northen pike.
It also provides feeding areas and cover for musky, walleye and small-mouth bass.

Wildlife Habitat

The wetland vegetation provides habitat for amphibians turtles and snakes;
the white pines provide nesting sites for eagle and osprey with the wetlands and shallow water habitat providing their shelter, cover and feeding areas.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer.
3) Do not remove fallen trees along shoreline.
4) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
5) Minimize removal of any shoreline or aquatic vegetation.
6) No permit approval for pea gravel beds, dredging diversions or filling.
7) Restrict bank stabilization to biological methods
8) Restrict and limit pier placement

Sensitive Area LL9 – Bay

This sensitive area includes the entire bay, with 2800 feet of shoreline. The bay averages 8 feet in depth and supports important near-shore terrestrial habitat and shoreline habitat. The sediment consists of rubble, gravel, sand and peat.

The area provides visual and sound buffers and a unique area of outstanding beauty for lake residents and visitors.

This area was selected because of
1) the high quality terrestrial plant community it supports;
2) its value for fish habitat;
3) its importance for maintaining water quality;
4) the natural scenic beauty.

The shoreline is undeveloped, 75 % woodland and 25% wetland with bog mat fringes. The wetland contains shrub wetlands and tamarack bog. Abundant woody material is found in the shallow zone for habitat.

The Plant Community:

Marsh fern, Canada bluejoint grass, bulrush, sedges, tag alder and dogwood colonize the shoreline.

Bulrush and sedges emerge from the shallow water

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake. The wetlands are filtering water that enter the lake and preventing shoreline erosion.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The fallen woody material and over-hanging vegetation along the shore provides habitat and feeding opportunities for the fish community.

This area provides
1) spawning sites and nursery areas for northern pike;
2) feeding sites and cover for walleye, small-mouth bass and musky;
3) spawning sites for perch.

Wildlife Habitat

The variety of emergent vegetation, shrubs and snag trees provide
1) cover, nesting and feeding areas for upland wildlife, beaver, otter, mink, loons, ducks, songbirds, eagles, osprey, amphibians turtles and snakes;
2) a feeding areas for geese.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation as an erosion buffer
3) Do not remove fallen trees along shoreline.
4) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
5) Minimize removal of any shoreline or aquatic vegetation
6) Designate as a "No-wake zone"
7) No permit approval for pea gravel beds, dredging diversions or filling.
8) Restrict bank stabilization to biological methods
10) Restrict and limit pier placement

Sensitive Area LL10 – Chippewa Bay

This sensitive area extends for 1100 feet along the shoreline, averaging 3 feet in depth and supports important near-shore terrestrial habitat and shoreline habitat. The sediment is comprised of rubble and sand.

The area provides visual and sound buffers and a unique area of outstanding beauty for lake residents and visitors.

This area was selected because of
1) the high quality terrestrial plant community it supports;
2) its value for fish habitat;
3) its importance for maintaining water quality;
4) the natural scenic beauty.

The shoreline is 50% wetland and 50% wooded. The wetlands contain herbaceous emergent wetlands, shrub wetlands and tamarack bogs. Abundant amounts of fallen woody material are present in the shallow zone for habitat.

The Plant Community:

Marsh fern, sedges, tag alder and meadowsweet colonize the shoreline.
Sedges emerge from the shallow water.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality of Long Lake. The shoreline vegetation is filtering water that enters the lake and protecting the shoreline from erosion.

Fish Habitat

Maintaining the aquatic vegetation in this area is very important to the fish community. The combination of fallen woody material in the shallow water and emergent and over-hanging vegetation along the shore provides:
1) spawning sites and nursery areas for northern pike;
2) feeding areas and cover for smallmouth bass.

Wildlife Habitat

The variety of emergent vegetation, shrubs and snag trees provide
1) cover, nesting and feeding areas for upland wildlife, beaver, loons, geese, songbirds, amphibians turtles and snakes;
2) a feeding area for otter, mink and ducks.

Recommendations

1) Maintain the aquatic vegetation in an undisturbed condition for wildlife habitat, fish cover and as a nutrient buffer for water quality protection.
2) Protect the emergent vegetation and erosion buffer.
3) Do not remove fallen trees along shoreline.
4) Create fish cover by placing cribs and tree drops.
5) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
6) Post "Loon Alert" signs.
7) Minimize removal of any shoreline or aquatic vegetation.
8) No permit approval for pea gravel beds, dredging diversions or filling.
9) Restrict bank stabilization to biological methods
10) Restrict and limit pier placement

Sensitive Area LL11 – Small South Island

This sensitive area is about 1.5-acres: including the island, its shoreline and the shallow water around the island. It supports important near-shore terrestrial habitat. The sediment consists of rubble and gravel.

The area provides visual and sound buffers and an area of unique outstanding beauty for lake residents and visitors.

This area was selected because of
1) the natural scenic beauty;
2) its value for wildlife habitat.

The island is entirely undeveloped and retains its natural wooded vegetation. Fallen woody material is common in the shallow zone for habitat.

Water Quality

Maintaining the integrity of this sensitive area is important for protecting the water quality in Long Lake. The shoreline vegetation is preventing shoreline erosion.

Fish Habitat

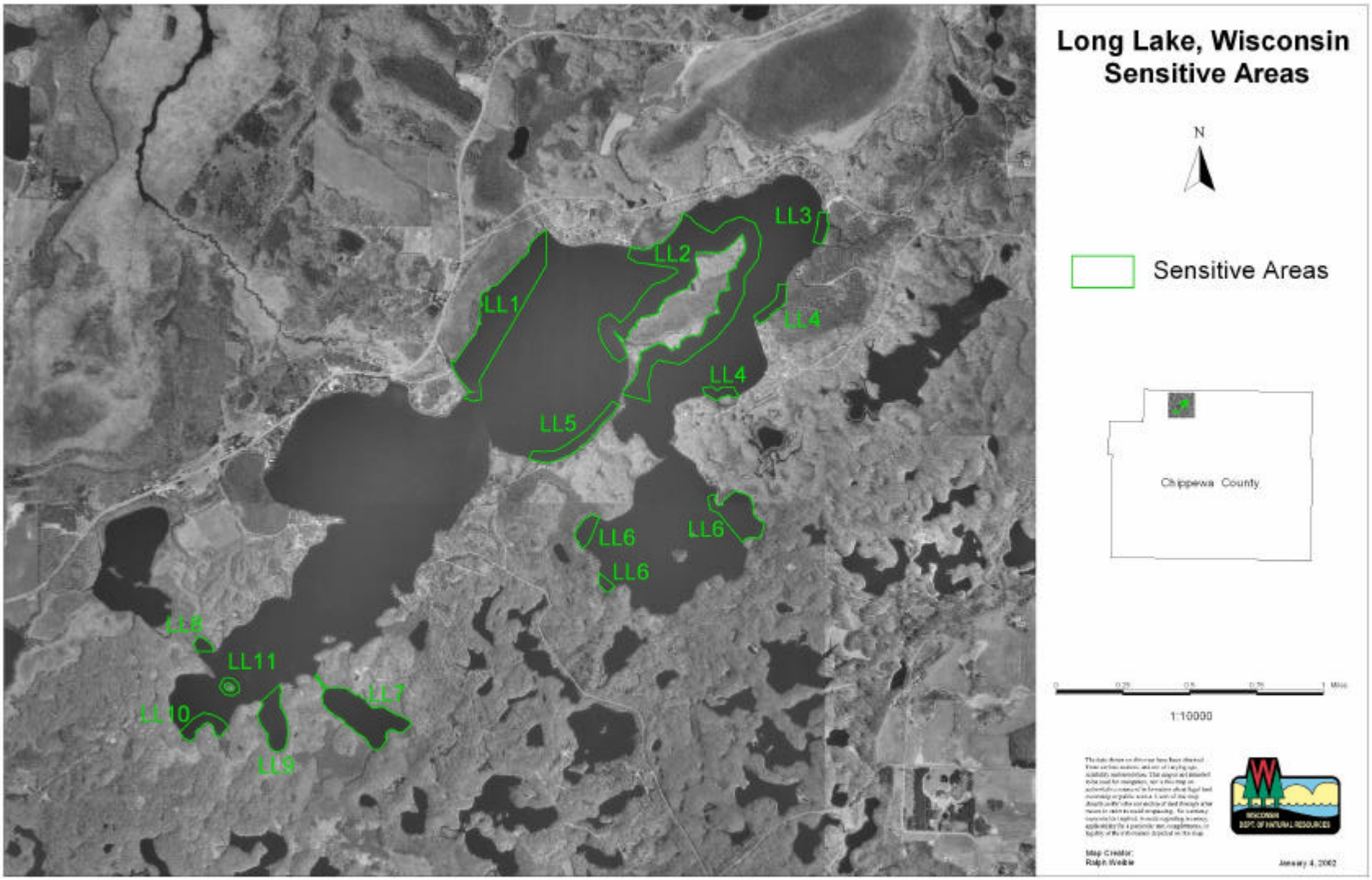
Maintaining this area is very important to the fish community. The rubble substrate around the island provides feeding areas for centrarchid panfish and small-mouth bass.

Wildlife Habitat

The natural vegetation provides
1) cover, nesting and feeding areas for upland wildlife, beaver, mink, eagle, osprey, amphibians turtles and snakes;
2) shelter and feeding areas for otter;
3) The large trees on the protected island are potential nesting sites for eagle and osprey.

Recommendations

1) Maintain the island vegetation in an undisturbed condition for wildlife habitat and water quality protection.
2) Do not remove fallen trees along shoreline.
3) Maintain shoreline vegetation, shrubs and snag trees to provide wildlife habitat, prevent erosion and protect water quality.
4) Minimize removal of any shoreline or aquatic vegetation
5) No permit approval for pea gravel beds, dredging diversions or filling.
6) Restrict bank stabilization to biological methods
7) Restrict and limit pier placement


Long Lake, Wisconsin
Sensitive Areas
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Map Creator:
Ralph Weible
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