MCGINNIS LAKE MANAGEMENT PLAN
Revised 2012
Revised 2017
Revised 2023

MCGINNIS LAKE MANAGEMENT PLAN

Chapter 92 of the Wisconsin Statutes established the Adams County Land & Water Conservation Committee (LWCC) and the Adams County Land & Water Conservation Department (LWCD). The LWCC and LWCD have the responsibility of conserving long-term soil productivity, protecting the quality of related natural resources, enhancing water quality, and focusing on several soil erosion problems.

The McGinnis Lake Association was formed in 1982 to monitor lake water quality and implement best management practices to maintain and improve the lake water quality and quantity on McGinnis Lake. The McGinnis Lake District was formed in 2010 after a majority of landowners signed a petition asking the Town of New Chester to authorize the formation of the Lake District.

Changes in the plan, will be completed every 5 years or sooner as required. The McGinnis Lake District will then gather formal public input on the plan via presentation at a scheduled meeting. It will publicly notify all members of the district meeting and the planned review. The McGinnis Lake District will accept written comments from those who cannot attend in person. Any proposed changes will be considered by the Lake District board and their recommendations published in the updated lake plan. Revisions will also be filed with the Wisconsin Department of Natural Resources.

Copies of the McGinnis Lake Management Plan have been distributed and are available at the following locations: McGinnis Lake District; WDNR Service Center in Wisconsin Rapids; various web sites supported by the Adams County Land & Water Conservation Department.(contact them for current URL location)

SUMMARY OF LAKE STATUS

McGinnis Lake is a 33-acre, hard water lake in the Town of New Chester, Adams County, Wisconsin. A study of the lake and its surroundings were conducted by the University of Wisconsin-Stevens Point in 2000 to 2002. Further studies have been conducted by the Adams County Land &Water Conservation Department and the Wisconsin Department of Natural Resources since that time. Results of those studies have been incorporated in the lake management plan.

The lake shows symptoms of nutrient enrichment, scoring as moderately eutrophic. The die-back of Curly-Leaf Pondweed (*Potamogeton crispus*), one of the dominant aquatic plants in McGinnis Lake, is thought to add to the nutrient level of the lake when it dies off in early to mid-July The south lobe of the lake (shallowest lobe) is mixed or partially stratified for short time periods, but the deep~~er~~ north end stratifies with a pronounced thermocline and cooler hypolimnion (bottom). By the end of the summer, dissolved oxygen tends to be very low near the bottom of the north lobe.

Like many lakes in Wisconsin, McGinnis Lake is a phosphorus-limited lake, meaning that contributions of phosphorus to the system may increase algae and/or aquatic plant growth. While the upper layer in the north lobe averaged 23 micrograms/liter in the study done by UWSP, the level near the bottom was much higher. The study also found an average total phosphorus in the shallower south lobe was 29 micrograms/liter.

Increasing levels of nutrients are generally measured as the growing season progresses. First sampling of the lake was done in 1992, when the growing season average for water clarity was 8.8 feet. The average growing season total phosphorus level was 35 micrograms/liter, over the recommended limit of 30 micrograms/liter to avoid algal blooms. Average growing season chlorophyll-a level was 7.1 micrograms/liter, a relatively low average for a man-made lake like McGinnis Lake.

During the UWSP study, the average water clarity reading was 3.6 feet in the north lobe and 5.2 feet in the south lobe. Water clarity in the south lobe tended to decrease as the summer advanced, at least partly due to the nutrient flush from the curly-leaf pondweed die-off. Chlorophyll-a also increased as the summer went on in the south lobe.

Regular testing started in 2004 by staff of the Adams County Land & Water Conservation Department. Since that time, testing has been done for water clarity, total phosphorus averages, and chlorophyll a averages during the growing season by staff of the Adams LWCD and volunteers from the McGinnis Lake District. For the most part, the water clarity averages were lower than those recorded in 1992, while the total phosphorus average was higher. The chlorophyll-a levels remained in the same category, not decreasing or increasing substantially.

From 2004 to 2011, the average growing season water clarity reading was 6.3 feet, lower than the average in 1992. The average growing season total phosphorus

reading was 33.0 micrograms/liter, only slightly less than the 1992 average. The chlorophyll-a growing season average was actually lower than the 1992 average, coming in at 4.2 micrograms/liter.

As part of a prior study, the groundwater entering McGinnis Lake was evaluated. Both calcium and carbonate come into the lake in groundwater. McGinnis Lake, like most lakes in Adams County, is a hard water lake with average total hardness in the epilimnion of 125 mg/l as CaCOw. Solid calcium carbonate (marl) forms in the lake, evident in the reduction of calcium and carbonate concentrations as the growing season progresses in the north lobe. Many plants in the lake are coated in calcium carbonate.

The calcium carbonate acts differently in the lobes of the lake. In the deeper portion of the lake, total hardness and alkalinity concentrations were 231 and 242 mg/l of CaCO2 respectively, but the shallower lobe had averages of only 112 mg/l of total hardness and 111 mg/l as alkalinity.

Usually, water in marl-forming lakes is low in phosphorus since it binds with calcium carbonate. However, in McGinnis Lake, where the marl-forming occurs mostly in the deeper northern lobe, but the phosphorus-releasing curly-leaf pondweed die-off occurs mostly in the shallower southern lobe, the lake water still scores high in phosphorus. In the early summer, curly-leaf pondweed is the dominant aquatic plant in the southern lobe, in the channel, and in the littoral zone of the northern lobe. A survey of curly-leaf pondweed in June of one year, just prior to its die-back, resulted in an estimated biomass of 1800 kg (3970 pounds), with about 4 kg (8.8 pounds) being phosphorus. Estimated nitrogen in the curly-leaf pondweed tissue was 40 kg (88 pounds).

Testing for phosphorus and chlorophyll-a in the southern lobe after the curly-leaf pondweed die-off showed that both total phosphorus and chlorophyll-a levels increased, while water clarity and dissolved oxygen levels decreased.

In the study of the groundwater flow in and out of McGinnis Lake, it was revealed that nitrate entering at the strongest inflow sites was highest in the northwest corner of the north lobe, probably coming from the watershed. Ammonium was only sporadically present, but its highest concentrations occurred along the southern edge of the southern lobe.

SOILS IN THE WATERSHED

The primary soil type in both the surface and ground watersheds is sand. The other soil type with significant presence in both watersheds is loamy sand. There are also pockets of muck, sandy loam, and silt loam.

Sandy soil tends to be excessively drained, no matter what the slope. Water, air and nutrients move through sandy soils at a rapid rate, so that little runoff occurs unless the soil becomes saturated. Although water erosion can be a problem, wind erosion may be more of a hazard with sandy soils, especially since these soils dry out so quickly. There are also drought hazards with sandy soils. Getting vegetation started in sandy soils is often difficult due to the low available water capacity, as well as low natural fertility and organic material. Onsite waste disposal in sandy soils is also a problem because of slope and seepage; mound systems are usually required.

Loamy sands tend to be well-drained, with water, air and nutrients moving through them at a rapid rate. Runoff, when it occurs, tends to be slow. Loamy sands have little water-holding capacity and low natural fertility, although they usually have more organic matter present than do sandy soils. Both wind and water erosion are potential hazards with loamy sands, as is drought.

SHORELANDS

McGinnis Lake has a total shoreline of 1.4 miles (7392 feet). The entire shore of the lakeshore is in residential use. Some of the areas at the northwest of the lake (deep lobe) are steeply sloped; the land is flatter on most of the lake. Several buildings on the east lobe of the lake are located fairly closely to the lake; buildings on the north lobe tend to be further back from the shore.

Less than half (46.4%) of McGinnis Lake's shoreline is vegetated with native vegetation. A 2004 shore survey showed that a small portion of the shore had an "adequate buffer." An "adequate buffer" is a native vegetation strip at least 35 feet landward from the shore. Most of the "inadequate" buffer areas were those with mowed lawns, rock or hard structures and /or insufficient native vegetation at the shoreline to cover 35 feet landward from the water line.

Adequate buffers on McGinnis Lake in some places could be easily installed on the inadequate areas by either letting the first 35 feet landward from the water grow

without mowing it, or by planting native seedlings sufficient to fill in the first 35 feet. Where areas are deeply eroded, shaping, revegetating and protecting the shores will be necessary to prevent further erosion.

LAND USE

The surface watershed for McGinnis Lake is smaller than the ground watershed. The ground watershed land use has a much higher portion of agriculture than the surface watershed. In the surface watershed, the residential land use dominates. The two largest land uses in the ground watershed are woodlands and non-irrigated agriculture.

The ground watershed for McGinnis Lake is substantially larger than the surface watershed. The surface watershed is quite small and located just around the lake itself. Residential properties make up 80.9% of the land use there, with water the second at 13.8%. There is a small amount of open land (1.5%) and a few wooded areas (3.8%). Outside of the surface watershed, residential areas are scattered, making up only 10.6% of the land use in the ground watershed. The dominant land use in the ground watershed is woodlands (72.5%), although there is a substantial amount of agriculture (12.4%) as well. A couple of small governmental area make up 0.2% of the land use. There are more open areas in the ground watershed, up to 2.4%. The remaining land use in that watershed is water (1.9%).

WATER QUALITY

Between 2004 and 2006, Adams County Land & Water Conservation Department gathered water chemistry and other water quality information McGinnis Lake. Part of the information was gained from periodic water sampling done by Adams County LWCD. Historic information about water testing on the lake from the WDNR in a series of tests in 1992, from a lake study report published in 2003, and from Self-Help Monitoring records from 2002-2003. Water quality testing through the Citizen Lake Monitoring Program, using volunteers, has been ongoing in McGinnis Lake for the past few years. A regular record of water quality testing starting in 2003 and is continuing.

Water clarity is a critical factor for plants. If plants don't get more than 2% of the surface illumination, they won't survive. Water clarity can be reduced by turbidity (suspended materials such as algae and silt) and dissolved organic chemicals that

color or cloud the water. Water clarity is measured with a Secchi disk. The average water clarity since 2003 through 2016 is 6.54 feet (good).

Figure 1: Land Use in McGinnis Watersheds (2020)

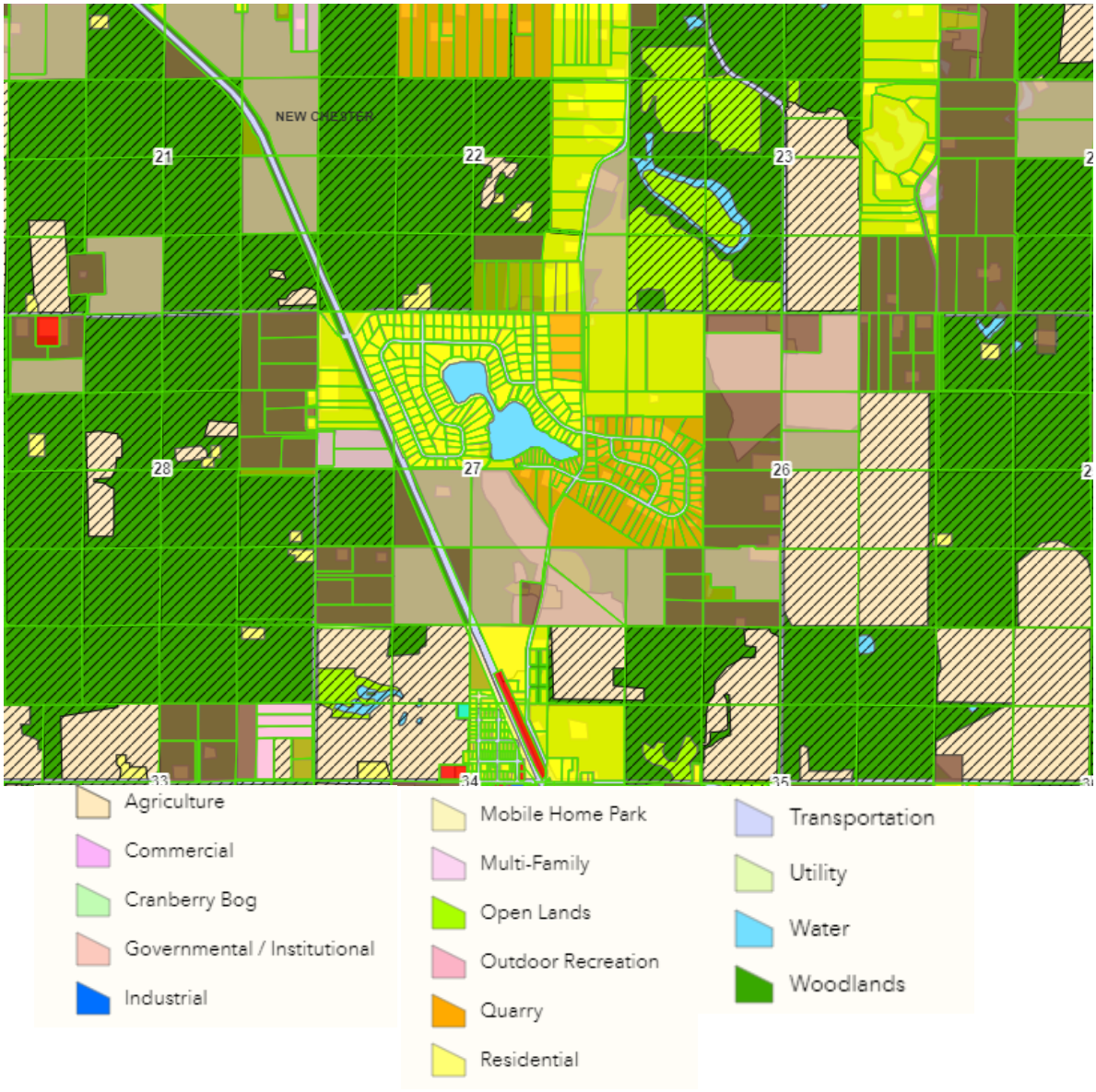
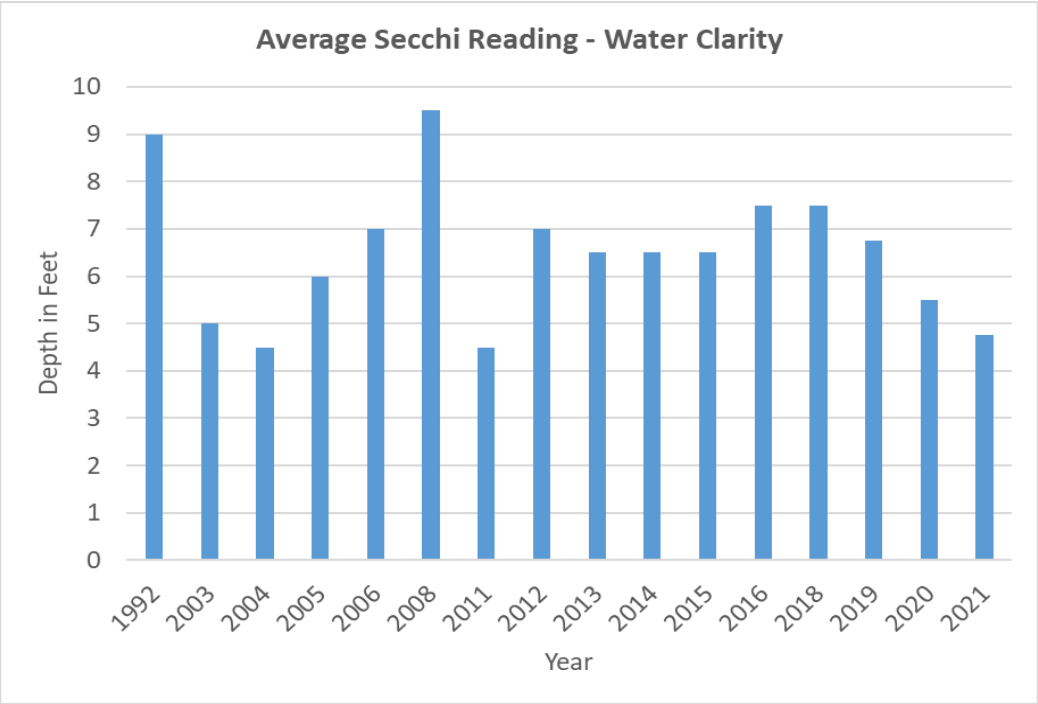


Figure 2: Water Clarity Graph



Most lakes in Wisconsin, including McGinnis Lake, are phosphorus-limited lakes: of the pollutants that end up in the lake, the one that most affects the overall quality of the lake water is phosphorus. The amount of phosphorus especially affects the frequency and density of aquatic vegetation and the frequency and density of various kinds of algae, as well as water clarity and other quality aspects. One pound of phosphorus can produce as much as 500 pounds of algae.

Phosphorus is not an element that occurs in high concentration naturally, so any lake that has significant phosphorus readings must have gotten that phosphorus from outside the lake or from internal loading. Some phosphorus is deposited onto the lake from atmospheric deposition, especially from soil or other particles in the air carrying phosphorus. A lake that includes a flooded wetland area may have a significant amount of phosphorus being released during the flushing of the wetland area. Phosphorus may accumulate in sediments from dying animals, dying aquatic plants and dying algae. If the bottom of the lake becomes anoxic (oxygen-depleted), chemical reactions may cause phosphorus to be released to the water column.

Since phosphorus is usually the limited factor, measuring the phosphorus in a lake system thus provides an indication of the nutrient level in a lake. Increased

phosphorus in a lake will feed algal blooms and ~~also~~ may cause excess plant growth. The summer average phosphorus concentration in McGinnis Lake places McGinnis Lake in the "fair" category at 35.6 micrograms/liter.

Figure 3: Total Phosphorus Graph

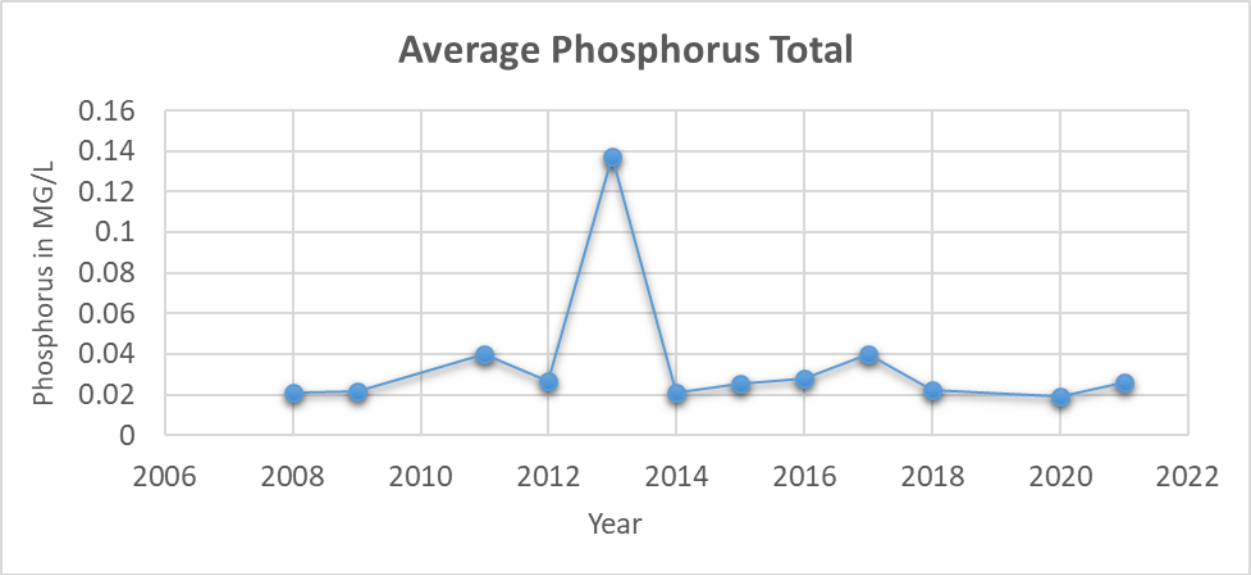
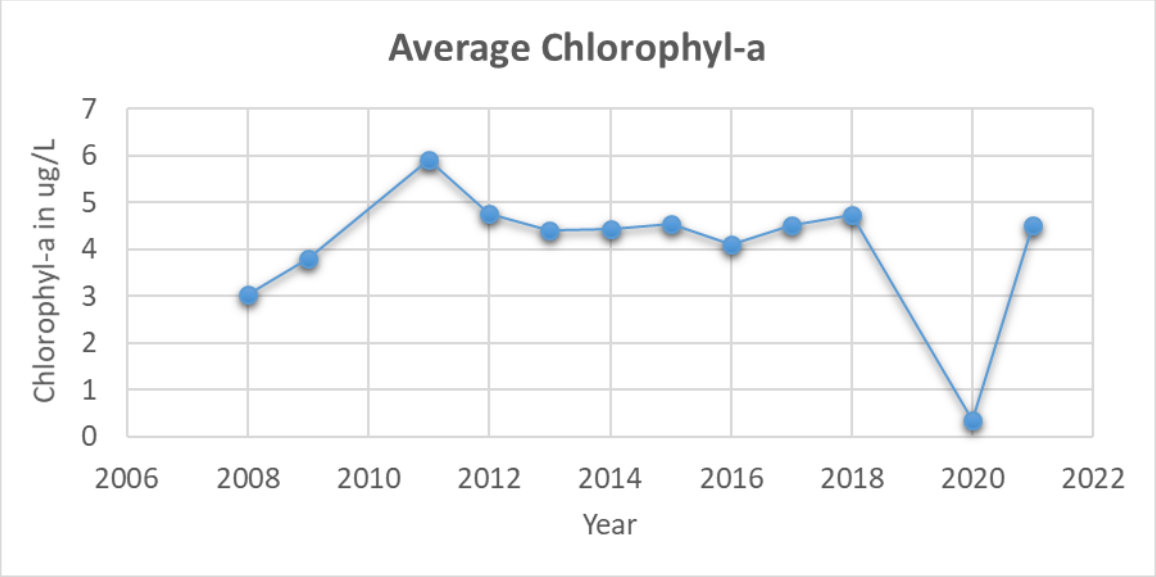


Figure 4: Chlorophyll-a Graph



Chlorophyll-a concentrations provide a measurement of the amount of algae in a lake's water. Algae are natural and essential in lakes, but high algal populations

can increase water turbidity and reduce light available for plant growth, as well as result in unpleasing odor and appearance. Studies have shown that the amount of chlorophyll-a in lake water depends greatly on the amount of algae present; therefore, chlorophyll-a levels are commonly used as a water quality indicator. The 2003-2021 growing season (June-September) average chlorophyll concentration in McGinnis Lake was 4.3 micrograms/liter. Such an algae concentration places McGinnis Lake at the "good" level for chlorophyll a results.

CRITICAL HABITAT AREAS

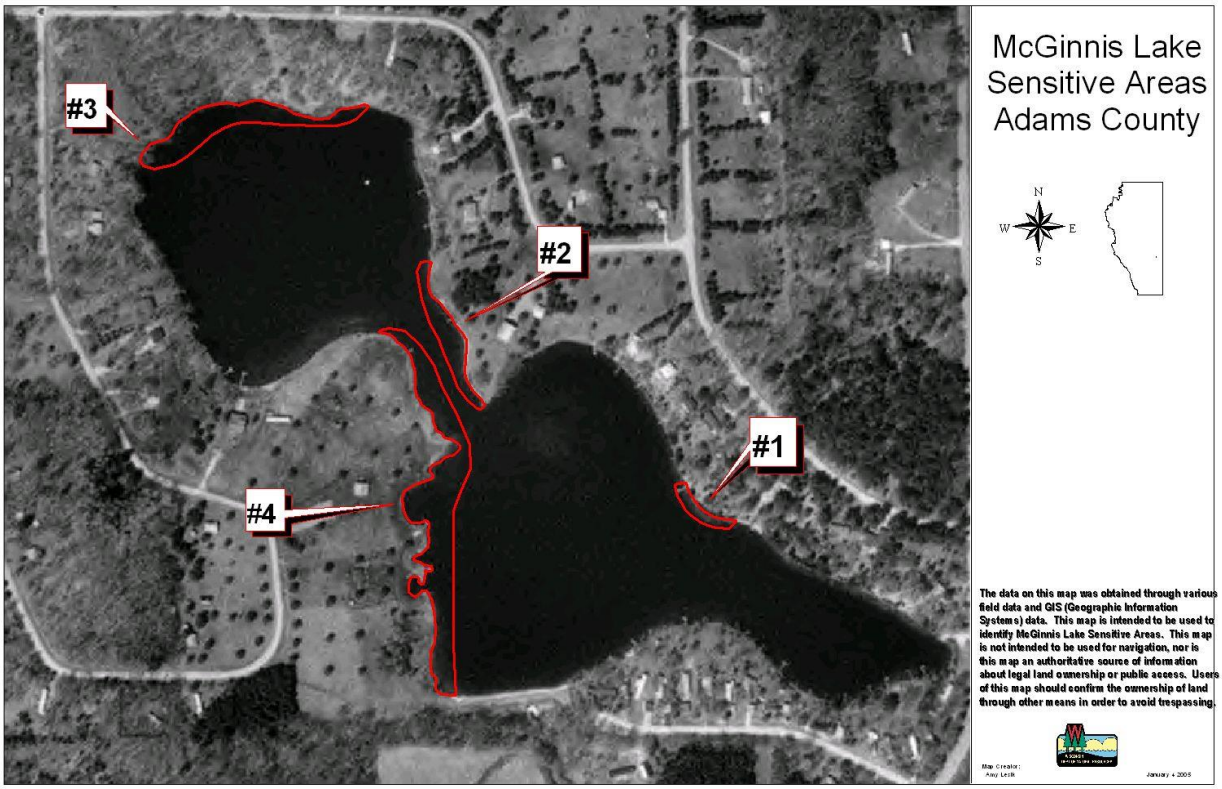
A study conducted in July 2004 resulted in four areas on McGinnis Lake being designated as "sensitive areas" or "critical habitat**".** Designation of critical habitat areas within lakes provides a holistic approach for assessing the ecosystem and for protecting those areas in and near a lake that are important for preserving the qualities of the lake. Wisconsin Rule 107.05(3)(i)(I) defines a "sensitive areas" as: "areas of aquatic vegetation identified by the department as offering critical or unique fish & wildlife habitat or offering water quality or erosion control benefits to the body of water. Thus, these sites are essential to support the wildlife and fish communities. They also provide mechanisms for protecting water quality within the lake, often containing high-quality plant beds. Finally, sensitive areas often can provide the peace, serenity and beauty that draw many people to lakes in the first place.

Protection of critical habitat areas must include protecting the shore area plant community, often by buffers of native vegetation that absorb or filter nutrient & storm water runoff, prevent shore erosion, maintain water temperature and provide important native habitat. Buffers can serve not only as habitats themselves, but may also provide corridors for species moving along the shore.

Besides protecting the landward shore areas, preserving the littoral (shallow) zone and its plant communities not only provides essential habitat for fish, wildlife, and the invertebrates that feed on them, but also provides further erosion protection and water quality protection.

Critical habitat area designations provide information that can be used in developing a management plan for the lake that protects the lake's ecosystem by identifying areas in need of special protection. These areas usually contain several types of aquatic plants: emergent; free-floating; rooted floating-leaf; and submergent.

Figure 5: Critical Habitat Map for McGinnis Lake



Sensitive Area MG1

This sensitive area extends along approximately 200 feet of shoreline and supports important near-shore terrestrial habitat composed of mature pines, shoreline habitat and shallow water habitat. The sediment is sand. The natural scenic beauty at this site also figured into the selection of this site. The area provides visual and sound buffers and an area of beauty for lake residents and visitors. The shoreline is 75% pine woods and 25% herbaceous growth.

The near-shore land plants are mostly pine trees. Marsh fern grew along the wet edges. Common submerged plants were Illinois pondweed *(Potamogeton illinoensis)*, Sago Pondweed *(Stuckenia pectinata)*, Clasping-Leaf Pondweed *(Potamogeton richardsonii)*, and Coontail *(Ceratophyllum demersum)*. The plant-like algae, Muskgrass (*Chara spp)*, was also present, as was the invasive Curly-Leaf Pondweed *(Potamogeton crispus*.

Sensitive Area MG2

This site is part of the old stream channel before the dam was built. The sediment is sand and silt. This sensitive area extends along 500 feet of shoreline and supports near-shore terrestrial habitat and shallow water aquatic vegetation. The shoreline is mostly shrub growth. An additional reason this site was selected was its natural beauty.

The shore and submerging vegetation provides a diversity of habitat and feeding opportunities for wildlife and the fish community. Willow growth lines the shoreline. Blue-Joint and Reed-Canary grasses colonize the wet edge with dock mixed in. Blue-Flag Iris dominates the shallow water. In addition, Soft stem Bulrushes, Bulb-Bearing Water Hemlock, Cattails and Marsh Milkweed also emerge from the shallow water. Bushy Pondweed is common and Northern Watermilfoil, White Water Crowfoot and Coontail are present in the littoral zone. Clasping-Leaf Pondweed is dominant; Illinois Pondweed is common; Sago-Mondweed is present in the littoral zone. Muskgrass was present. Exotic Curly-Leaf Pondweed is present.

This area provides spawning, nursery, feeding and protective cover sites for northern pike, large-mouth bass, bluegill and pumpkinseed. Eliminating the habitat at this site would reduce the amount habitat, resulting in a reduction in the size and diversity of the fish community that McGinnis Lake could support.

The shore and shallow water emergent vegetation at this site are critical for wildlife habitat. This site provides important nesting and brood-rearing cover. This same vegetation also provides cover during the spring and fall migrations and as travel and flight corridors during all seasons. The shoreline, emergent vegetation and floating-leaf plant species must be retained in the sensitive areas.

Sensitive Area MG3

This sensitive area extends along 750 feet of steep shoreline and supports important near-shore terrestrial vegetation, shoreline habitat and shallow water habitat. The sediment is sand and silt. The shoreline at this sensitive area is mostly wooded with about 10% developed. Large woody cover from fallen trees is present in the shallow water, providing important habitat in fish cover and wildlife resting areas. The natural scenic beauty and springs that provide a water source for the lake at this site are also important to the selection of this site.

The large woody cover along the shore and the mosaic of emergent, submergent and floating-leaf vegetation provides a diversity of habitat and feeding opportunities for the fish community. Mature hardwood trees and Angelica colonize the shoreline. Sedges, Blue-Flag Iris and Cattails are common emergents in the shallow water. Blue-Joint Grass is also present. Several colonies of Floating-Leaf Smartweed beautify the surface. Coontatil and Northern Watermifoil colonize the littoral zone. The pondweeds, Sago Pondweed and cCasping-Leaf Pondweed are common, and Illinois Pondweed is present in the underwater habitat. Muskgrass is abundant.

Maintaining the integrity of this sensitive area is especially important for protecting the water quality of McGinnis Lake as this site contains springs that provide water flow to the lake. This area provides spawning, nursery, feeding and protective cover sites for northern pike, large-mouth bass, bluegill and pumpkinseed. Eliminating the habitat at this site would reduce the amount habitat, resulting in a reduction in the size and diversity of the fish community that McGinnis Lake could support.

The shoreline vegetation, emergent-standing water vegetation and floating-leaf vegetation are important habitat for wildlife. The shoreline vegetation on the land and in standing water is critically important for nesting and brood-rearing. This same vegetation provides cover during the spring and fall migrations and as travel and flight corridors during all seasons. The shoreline, emergent vegetation and floating-leaf plant species must be retained in the sensitive areas

Sensitive Area MG4

A portion of this site is also part of the old stream channel before the dam was built. This sensitive area is approximately 1000 feet along the shore, approximately half in the channel. This area supports important shoreline habitat and shallow water habitat (Figure 2). The shoreline is protected by shrub buffer along 60%, a wetland along 10% and pockets of sedge meadow within the remainder which is developed with cottages. The area provides an area of beauty for lake residents and visitors.

The mosaic of emergent and submergent vegetation provides a diversity of habitat and feeding opportunities for the fish community. Willow is the dominant shrub along the shoreline. Blue-Flag Iris and sedges commonly emerge from the shallow water with Marsh Milkweed also present and Cattails emerging in some areas. Coontail colonizes the littoral zone along with the pondweeds: Sago Pondweed is

abundant; Clasping-Leaf and Illinois Pondweed are common, and Small Pondweed is present. Curly-leaf Pondweed was not found here after treatment.

This site is across the old channel from site MG2 and provides a contiguous wildlife habitat with that site. Adding to this size of site MG2 increases the value of these sites, resulting in more valuable as one unit together each would be separately. The shoreline vegetation, emergent-standing water vegetation and floating-leaf vegetation are important habitat for wildlife. The shoreline vegetation on the land and in standing water is critically important for nesting and brood-rearing. This same vegetation provides cover during the spring and fall migrations and as travel and flight corridors during all seasons. The shoreline, emergent vegetation and floating-leaf plant species must be retained in the sensitive areas.

AQUATIC PLANT COMMUNITY

Aquatic plant surveys were conducted on McGinnis Lake in 2006, 2011, and 2015. 37 species were found in 2006, including the invasive Curly-Leaf Pondweed (*Potamogeton crispus*) and Reed Canarygrass (*Phalaris arundinacea*). 23 emergent species, 3 free-floating species, 1 rooted floating-leaf plant, and 13 submergent species made up the native portion of this survey. The dominant species in 2006 was Curly-Leaf Pondweed, with Coontail (*Ceratophyllum demersum*), Northern Milfoil (*Myriophyllum sibiricum*), and Sago Pondweed (*Stuckenia pectinate*) also common. The overall diversity of the aquatic plant community in 2006 was fair, but was dominated by aquatic plants tolerant of disturbances.

The 2011 was similar. Of the 43 species found, the same two invasive showed up. Of the native species, 33 were emergent, 3 were free-floating, 2 were rooted free-floating, and 6 were submergent. Curly-Leaf Pondweed was subdominant, while Northern Milfoil was dominant. Also common were Common Waterweed (*Elodea canadensis*), Coontail, and Muskgrass (*Chara spp*). Again, while the diversity was good, the aquatic plant community was dominated by plants tolerant of disturbances.

A follow-up survey occurred in 2015. 51 species were found in that survey. These included 33 emergents, 4 free-floating species, 2 rooted floating-leaf species, and 12 submergents. Northern Milfoil was the dominant species in 2015, making up 26.5% of the aquatic community on its own. Muskgrass was also abundant. Curly-Leaf Pondweed continued to be present, even though the lake had been

chemically treated for it earlier in the same month. It was only found in 6 spots after that treatment. The lake was 92.26% vegetated in 2015.

The WDNR and ACLW conducted a Point-Intercept Survey on 07/08/2022. A list of the aquatic plants that they found are listed below. These are ones found previously and much to their surprise Eurasian Watermilfoil was a new one identified and is an evasive plant. Numerous areas of the lake had this plant growing. Curley Leaf Pondweed another evasive plant was not identified at the testing locations and had been treated for in the spring of 2022. Further detail such as a map of surveyed areas were not produced by WDNR/ACLW due to them not having time to complete.

Common name - *scientific name*

- Eurasian watermilfoil - *Myriophyllum spicatum*
- Coontail - *Ceratophyllum demersum*
- Muskgrasses - *Chara sp*
- Common Waterweed - *Elodea canadensis*
- Northern watermilfoil - *Myriophyllum sibiricum*
- White water lily - *Nymphaea odorata*
- Water smartweed - *Polygonum amphibium*
- Clasping-leaf pondweed - *Potamogeton richardsonii*
- Fine-leaved pondweed - *Stuckenia filiformis*
- Sago pondweed - *Stuckenia pectinata*
- Filamentous algae

FISHERY

FISHERY/WILDLIFE/ENDANGERED RESOURCES

WDNR stocking records go back to 1969, when McGinnis Lake was stocked with black crappies, bluegills and largemouth bass. Stocking continued into the 1990s, consisting of bluegills, largemouth bass and northern pike. In 2010-2018 yellow perch, crappies and largemouth bass were added to the lake in the fall season. Fish inventories go back to 1963, when the WDNR made the following findings: bluegill and largemouth bass abundant; blackchin shiner, brassy minnow and sunfish common; mud minnow, perch and sucker scarce. A 1980 inventory recommended the installation of an aeration system because of the history of low

oxygen and fish kills. Other inventories through the years also found bullheads and pumpkinseed. The most recent inventory revealed that bluegills were the most abundant fish, largemouth bass were common and pumpkinseeds were scarce.

Muskrat are also known to use McGinnis Lake shores for cover, reproduction and feeding. Seen during the field survey were various types of waterfowl and songbirds. Frogs and salamanders are known, using the lake shores for shelter/cover, nesting and feeding. Turtles and snakes also use this area for cover or shelter in this area, as well as nested and fed in this area. Upland wildlife feed and nest here as well. One endangered species, Cincindela patruela (tiger beetle), is reported in the McGinnis Lake watersheds.

In 2019 the WDNR did a Fish Survey to determine fishery health and identify opportunities for improvement. The Summary is:

• 273 fish were caught during the electrofishing survey, seven fish species, pumpkinseeds were the most caught fish species.
• Pumpkinseed and bluegills are both in the *Lepomis* family, while related they are different. Pumpkinseeds have a unique configuration of colored spots and stripes that make them stand out from bluegills and other species in this sunfish family. Both pumpkinseeds and bluegills have black opercle flaps but the pump-kinseed has a distinctive, crimson spot in a half-moon shape on the rear edge. Pumpkinseed are the dominant sunfish in McGinnis Lake, this could be due to pumpkinseeds preferring cool to moderately-warm waters (75-89°F) while bluegills like it hotter (85-88°F). McGinnis Lake is relatively deep and may provide a thermal preference for pumpkinseeds to thrive over the bluegills. The relative abundance of sunfish in McGinnis Lake was greater than the 75th compared to bluegill populations in similar lakes. Growth is very slow for bluegills, body condition fair-poor, and size structure poor (15% are 6” and greater). Pumpkinseeds have better growth, but still grow slow, and are in excellent body condition and decent size structure (66% are 6” and greater). Slow growth is likely due to the abundant population reducing the amount of food available for each fish.
• Largemouth bass are very abundant, greater than the 90th percentile compared to lakes similar to McGinnis Lake. Growth is average compared to the average largemouth bass in Wisconsin and they are in good body condition. Size structure is good, 74% of the fish were 12” and larger and 26% were 15” or larger. The percentage of fish 14” and greater was 44%, which is very high compared to lakes like McGinnis Lake.

• For balanced bass-pan fish populations, PSD ranges from 40-70 for largemouth bass and 20-60 for bluegills. Largemouth bass are in the upper end of the range 74±6, and the same for *Lepomis* (both bluegill and pumpkinseed) PSD is 62±6 . PSD-P in balanced populations ranges from 10-40 for largemouth bass and 5-20 for bluegills where largemouth bass was 26±6 and Lepomis was 9±4 both within the ranges.

• McGinnis Lake should be managed as a bass-sunfish lake. Anglers may occasionally catch a yellow perch and black crappie. The survey did not target northern pike

Additional information is posted on the McGinnis Lake District web page under Fish Survey Tab. Currently additional fish stocking has not been done since 2018.

	MCGINNIS LAKE MANAGEMENT PLAN		
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Aquatic	**A. Develop a secure funding source for managing aquatic species.**		
Species			
Management	**1. Form a lake district.**	**McGinnis LD**	**Completed 2009**
	B. Work with WDNR & Adams LWCD to determine if machine harvesting	***McGinnis LD***	**Completed 2017**
	would be appropriate addition to aquatic plant management. Developed		
	harvesting map and was approved by WDNR that will remove plants (and		
	thus phosphorus), provide safe boating navigation areas, help control		

	invasive species & improve aquatic habitat.		
	1. Harvest map was created and approved by DNR to maintain sensitive	***McGinnis LD***	***2017***
	areas and edge for fish habitat. (Map on Tab)	***Adams LWCD***	
		WDNR	
	2. No harvesting in areas less than 5 feet deep, except a 30 foot wide area	**MLD**	**ongoing**
	may be hand-harvested in front of a property which must include any dock.	**WDNR**	
	Machine harvest of nuisance level plants will occure in June and August.		
	No critical habitat areas will be harvested. A map showing areas to be		
	machine harvested will be utilized and updated annually.		
	***C.* Monitor the harvesting of aquatic plants.**		
	1. WDNR Representative & representative of McGinnis Lake District will	**McGinnis**	**ongoing**
	together annually inspect harvesting operations.	**Lake District**	
		WDNR	
	2. Pounds of aquatic plants mechanically harvested will be determined by		
	taking the average weight of a trailer-full of harvested plants and multiplying	**McGinnis**	**ongoing**
	this by the number of trailer loads.	**Lake**	

	This will be documented and reported to	**District**	
	the WDNR Aquatic Plant Specialist by 12/31 of each year.		
	3. Wet tissue asmaples will be randomly taken from harvested plants & sent	**McGinnis**	**ongoing**
	to a certified lab to measure the phosphorus content. This is done to determine	**Lake District**	
	the amount of phosphorus being removed by the lakes by harvesting plants.		
	***D.* Control invasive species using education, monitoring, identification and**		
	chemical treatments.		
	1. Develop group of volunteers to monitor lake for invasive species.	**McGinnis**	**2010**
		Lake District	**& ongoing**
	2. Educate volunteer monitor group on *aquatic* invasive species *and*	**Adams LWCD**	**2010 & ongoing**
	identifying native aquatic species.		
	3. Visually monitor lake for invasive species and plot the locations on a lake	**MLD**	**annually**
	map. Areas of Curly-Leaf Pondweed will gbe identified and mapped in *spring*	**Adams LWCD**	
	of year to determine appropriateness of chemical treatment for that year.		
	4. Develop criteria for determining	***MLD*,**	**annually**

	whether to go forward with chemical	***WDNR***	
	treatment annually.	***Adams LWCD***	
Aquatic			
Species	***5.*** **Treat Curly-Leaf Pondweed with chemicals specific for the species. Areas**	**MLD**	**ongoing**
Management	**of the lake containing CLP will be sprayed soon after ice out and during**	**Private Contractor**	
continued	**optimal water temperature.**		
	6 Conduct post treatment survey each year that chemicals are use for	***MLD, WDNR***	**whenever chemical**
	CLP to determine effricacy of treatment.	***Adams LWCD***	**treatment occurs**
	7 Maintain or install educational signs about exotic species at boat landing.	**MLD**	***ongoing***
		WDNR	
	8. Develop & implement a Clean Boats, Clean Waters program.	**MLD**	***ongoing***
		Adams LWCD	
	9. Develop contigency plan and fund to manage new invasions and/or re-	***MLD***	***ongoing***
	invasions of non-native species.	***Adams LWCD***	

	MANAGEMENT OPTIONS CONSIDERED		
Native Plant	*advantages: provides habitat; may slow invasion or reinvasion*	*good diverse plant*	*success likelihood*
Community	*disadvantages: expensive; successful techniques being researched*	*community present*	*weighs against*
Restoration		*already*	*expense*
Complexed Copper	*advantages: inexpensive; rapid action; doesn't affect drinking water*	*not specific for*	*could affect*
	disadvantages: stays in sediment; may hurt young fish	*Curly-Leaf Pondweed*	*fish survival*
2.4-D	*advantages: inexpensive; systemic*	*not specific for*	
	disadvantages: not specific for CLP; less effective in flowing systems	*Curly-Leaf Pondweed*	
Diquat, Endothal	*advantages: rapid action; limited drift*	*not specific for*	*wouldn't affect*
	disadvantages: not specific for CLP; doesn't affect deeper areas	*Curly-Leaf Pondweed*	*deep plants*
Fluridone	*advantages: low dosage needed; not many restrictions; systemic*	*not specific for*	*long contact*
	disadvantages: needs very long contact period, up to 60 days	*Curly-Leaf Pondweed*	*period needed*

hand cutting or	*advantages: requires only hand tools; selective*	*lack of enough*	
pulling	*disadvantages: very labor intensive; lack of volunteers*	*volunteers*	
cutting	*advantage: requires cheap tools; selective*	*lack of enough*	*don't need more*
	disadvantages: labor intensive; fragments may add nutrients	*volunteers*	*nutrients*
harvesting	*advantages: remove plants; clear navigation channels, provide fish edge*	*can't use in*	*frragments may*
(cut & remove)	*disadvantages: very expensive; requires heavy equipment; disposal need*	*shallow water*	*add nutrients*
grinder/juicer	*advantages: immediate result; no disposal needs*	*don't need more*	*short-term benefit*
(cut & grind)	*disadvantages: adds to nutrient load; short-term cosmetic results only*	*nutrients*	*is a negative*
driver-operated	*advantages: reduce disturbance of sediments; selective*	*cost/labor intensive*	*possible use*
suction harvesting	*disadvantages: slow & cost intensive; disposal need*		*with more info*
dredging/sediment	*advantages: likely to remove some CLP turions; creates deeper water*	*cost intensive*	*may fill in again*
removal	*disadvamtages: very expensive to conduct & to dispose of removed sediments*		*quickly, losing effect*
drawdown	*advantages: relatively easy; not expensive*	*not useful for*	*may negatively*
	disadvantages: not effective for CLP control; may hurt other species	*CLP*	*affect other uses*

benthic barrier	***advantages; direct & effective; may last a while***	***not useful for***	***may negatively***
	disadvantages: not selective for CLP; may hurt other desirable species	***CLP***	***affect other uses***
nutrient inactivation	***disadvantages: not practical for rooted plants; may affect all plants***	***not selective***	

ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Critical Habitat	**Protect critical habitat areas within the lake.**		
	1. Educate lake residents about critical habitat areas within the lake by	**Adams LWCD**	**ongoing**
	presenting information at an annual meeting.	**WDNR**	
	2. Continue to work with the Town of New Chester to enforce the no gas motors	**MLD**	***ordinance passed***
	designation on the lake.	**Town of New**	
		Chester	
	3. Avoid mechanical harvesting in critical habitat areas and only use chemicals	**McGinnis Lake**	**ongoing**
	in critical habitat areas to control invasive species.	**District**	
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**

Dam	**Maintain and operate McGinnis Dam to insure public safety, proper dam**		
	function and a stable lake level.		
	1. Conduct annual inspections and record findings as specificed in WDNR	**cert. eng. Of**	**annually**
	standards.	**Natl Assoc of**	
		Prof Eng.	
		Adams LWCD	
	2. Operate, inspect, & repair dam to meet Wisconsin statutes in Chapter 31	**Adams LWCD**	**ongoing**
	and NR 330.		
	3. Develop an Emergency Action Plan.	**Adams LWCD**	**2010**
	4. Investigate feasibility of generating sufficient electricity at dam to operate	**Adams LWCD**	**completed**
	lake aerators.		
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Recreational Uses	**A. Maintain bluegill, black crappie, yellow perch, northern pike, and**		
	largemouth bass fisheries.		
	1. Stock fish as funding allows based on recommendations from	**MLD**	**when**

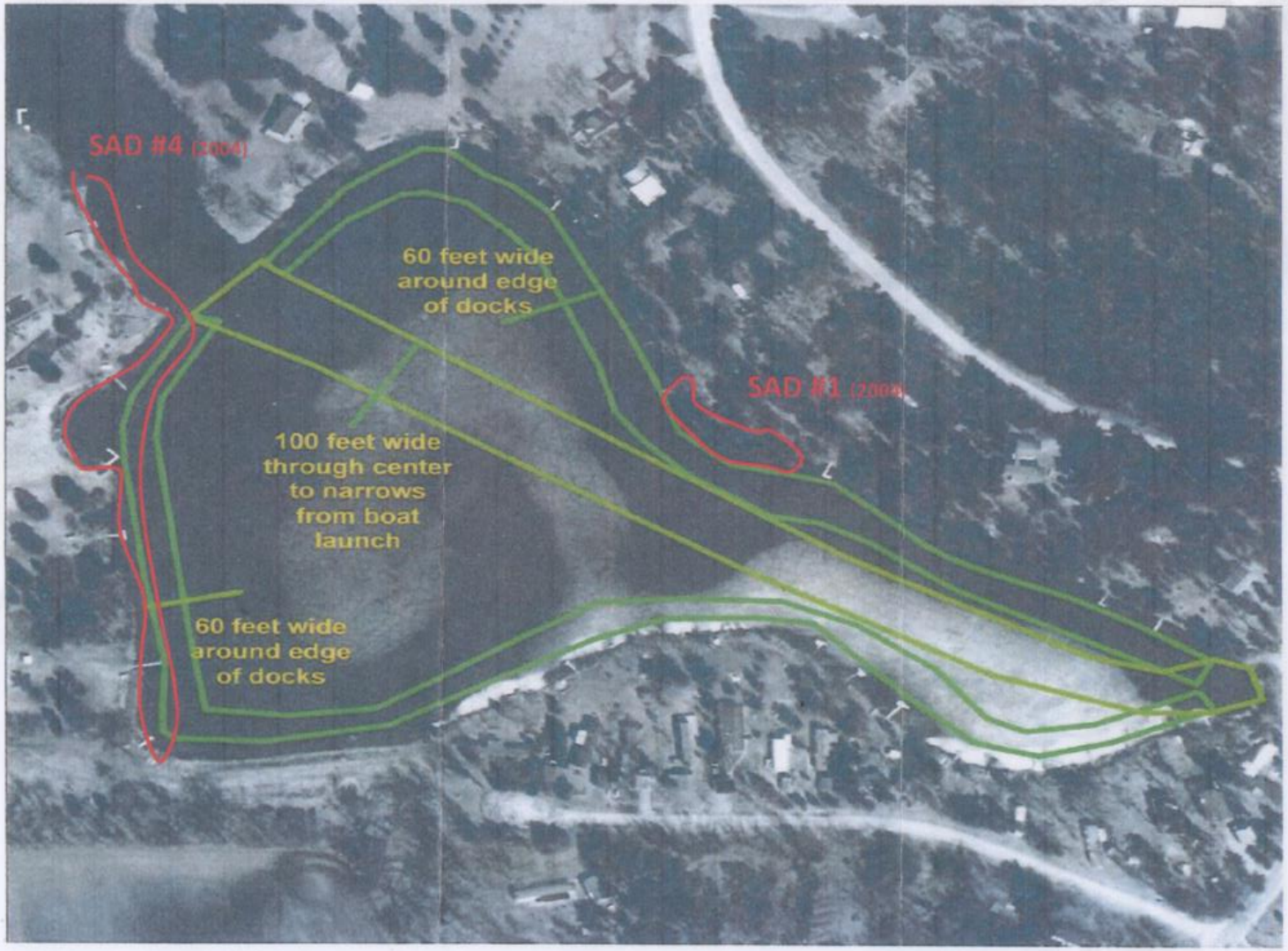
	fisheries		
	biologist.	**WDNR**	**recommend ed**
	2. Explore & make recommendations to WDNR to establish new regulation	**McGinnis Lake**	**when**
	to increase bass size limit to 18 inches.	**District**	**recommend ed**
	3. Develop a plan with WDNR Fisheries Biologist to increase fish habitat.	**McGinnis Lake**	**when**
		District	**recommend ed**
	4. Conduct a fish survey to evaluate fishery health *and habitat.*	**WDNR**	***2017***
	5. Operate & maintain aerators to prevent winter fish kill.	**MLD**	**ongoing**
	***B.* Incorporate the goals of the general public into the lake management**		
	plan.		
	1. Conduct public users survey to identify important management issues.	**McGinnis Lake**	**completed**
	Surveys and dropboxes will be located at boat launches for one year.	**District**	**2010**
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Shorelands --	**Reduce nutrients entering the lake from residential and transporation**		
within	**activities near the lake.**		

1000 feet			
of the lake shore			
	1.Require property owners with inadequate buffers, erosion, and/or runoff	**Adams LWCD**	**ongoing**
	to install practices to reduce inputs into the lake.		
	2. Pursue WDNR Lake Protection Grant to assist with costs for installing	**Adams LWCD**	**ongoing**
	shoreline protection, riparian buffers, storm water runoff & demonstration	**McGinnis Lake**	
	buffer site(sw).	**District**	
	3. Develop an informational packet regarding lake laws & best management	**Adams LWCD**	**conmpleted**
	practices and provide 100 copies to the McGinnis Lake District.		
	4. Distribute informational packets to area realtors, existing & new property	**McGinnis Lake**	**ongoing**
	owners.	**District**	
	5. Continue to enforce Adams County Shoreline Protection Ordinance.	**Adams P & Z**	**ongoing**
	6. Distribute letter to all lake residents asking them to comply with COMM 83	**Adams P & Z**	**ongoing**
	(inspect/pump septic systems every 3 years). Letter to be included in annual		

	meeting notice.		
	7. Restore/maintain riparian buffer at public park by boat launch.	**Adams LWCD**	***2016-2017***
		Adams Parks Dept	
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Water Quality	***A.*** **Maintain present water quality & prevent algal blooms.**		
	1. ***Continue to m*****onitor water quality to measure clarity, chlorophyll-a, and total**	**Adams LWCD**	**ongoing**
	phosphorus and compare to ***prior*** **water quality data.**	**MLD**	
		Dist	
	2. Encourage hand-pulling of aquatic plant to prevent plant decay & release	**McGininis Lake**	**ongoing**
	of nutrients from dead plants.	**Dist**	
	B. **Educate community & public about ways to improve water quality.**		
	1. Maintain informatonal signs regarding best management practices at	**McGininis Lake**	**ongoing**
	public boat launch site to educate lake users.	**Dist**	

Water Quantity	***A.* Maintain lake levels that enhance water quality & meet the requirements**		
	of Wisconsin Statute Chapter 31.		
	1. Operate dam to maintain lake levels and outflows as required by WDNR.	**Adams LWCD**	**ongoing**
	2. Install visible lake level gauge.	**Adams LWCD**	**2010**
	***B.* Maintain stable stream flow out of McGinnis Lake.**		
	1. Operate dam in a proactive manner so large quantities of water are not	**Adams LWCD**	**ongoing**
	released at once, causing downstream flooding & streambank erosion. Lake		
	levels will be lowered in a slow consistent manner to accommodate		
	anticipated heavy rains and/or snowmelt runoff.		
ITEM	**GOALS & ACTION ITEMS**	**WHO**	**WHEN**
Watershed --land	**Reduce watershed impacts on groundwater.**		
outside shoreland			
area	**1. Implement State Agricultural Performance Standards by inventorying**	**Adams LWCD**	**ongoing**
	watershed & documenting: runoff from livestock confinement opoerations	**NRCS**	
	entering surface waters; livestock direct access sites; uncontained	**WDNR**	

	livestock		
	manure storage facilities; soil erosion sites; and producers not implementing	**Agr. Producers**	
	nutrient management plans and irrigation water management plans. Offer	**Private Organizatio ns**	
	county, state, federal cost share assistance and plan/design assistance to		
	landowners identified in inventory so best management practices are		
	installed for compliance with the state agricultural performance standards.		


SAD #4 (2004)
60 feet wide
around edge
of docks
SAD #1 (2004)
100 feet wide
through center
to narrows
from boat
launch
60 feet wide
around edge
of docks