AMENDMENT 2
Aquatic Plant Management Plan, Lake Kegonsa and Lower Mud Lake, Lower Rock River Basin, Dane County Wisconsin

Approved by the Dane County Lakes and Watershed Commission on December 21, 2017 and by the Wisconsin Department of Natural Resources on April 13, 2018

Prepared by Dane County Land and Water Resources Department (LWRD) staff Sue Jones, Pete Jopke, Andrew Karleigh, John Reimer, and Michelle Richardson, with assistance from Susan Sandford.

Plant surveys were conducted by Dane County staff Pete Jopke and Andrew Karleigh in 2017. The Wisconsin Department of Natural Resources provided funding to LWRD to support this plan amendment.

Introduction

This is a second amendment to the Aquatic Plant Management Plan, Lake Kegonsa and Lower Mud Lake, Lower Rock River Basin, Dane County Wisconsin, published in January 2007 by the Dane County Office of Lakes and Watersheds. The 2007 plan was approved by the Wisconsin Department of Natural Resources on March 17, 2007 and by the Dane County Lakes and Watershed Commission on April 12, 2007. The first amendment to the 2007 plan was approved by the Wisconsin Department of Natural Resources on March 27, 2014 and by the Dane County Lakes and Watershed Commission on April 10, 2014. Aquatic Plant Management Plans are required under NR 109.04(d), Wisconsin Administrative Code, to guide mechanical harvesting activities and the effective management of aquatic plants in water bodies.

Please note that the Yahara River between Monona and Upper Mud Lake, Waubesa to Lower Mud Lake, and Lower Mud Lake to Lake Kegonsa is addressed in the 2017 Yahara River and Upper Mud Lake Aquatic Plant Management Plan amendment.

This plan is prepared in support of Dane County's permit for its mechanical aquatic plant harvesting program, operated in accordance with NR 109 Wisconsin Administrative Code. Individuals and groups that propose herbicide treatments of aquatic plants in Dane County waters would need to go through a separate planning and permitting process with the Wisconsin Department of Natural Resources.

Recent Plant Survey Methods and Results

Dane County LWRD staff conducted surveys of the aquatic plant community of Lake Kegonsa on August 16-17 and August 21, 2017, using current Wisconsin DNR approved protocols and the point intercept method. Refer to the point intercept maps in the 2007 plan for the sampling locations for both the Kegonsa and Lower Mud surveys.

Table 1 below indicates species present in Lake Kegonsa during the 2017 survey, and Figure 1. indicates species richness from 1990-2017. Table 2 and Figure 2 indicate species present during the 2017 survey of Lower Mud Lake, and species richness in Lower Mud Lake from 2006 to 2017.

Table 1. Species present during 2017 aquatic plant survey – Lake Kegonsa

Genus	Species	Common Name	Category
Algae	*sp.*	Filamentous algae	Submersed
Ceratophyllum	*demersum*	Coontail	Submersed
Chara	*sp.*	Muskgrass	Submersed
Elodea	*canadensis*	Common waterweed	Submersed
Herteranthera	*dubia*	Water star-grass	Submersed
Myriophyllum	*spicatum*	Eurasian water-milfoil	Submersed - Invasive
Potamogeton	*foliosus*	Leafy pondweed	Submersed
Potamogeton	*richardsonii*	Clasping-leaf pondweed	Submersed
Stuckenia	*pectinata*	Sago pondweed	Submersed
Vallisneria	*americana*	Wild celery	Submersed

Figure 1. Species Richness Lake Kegonsa 1990 – 2017

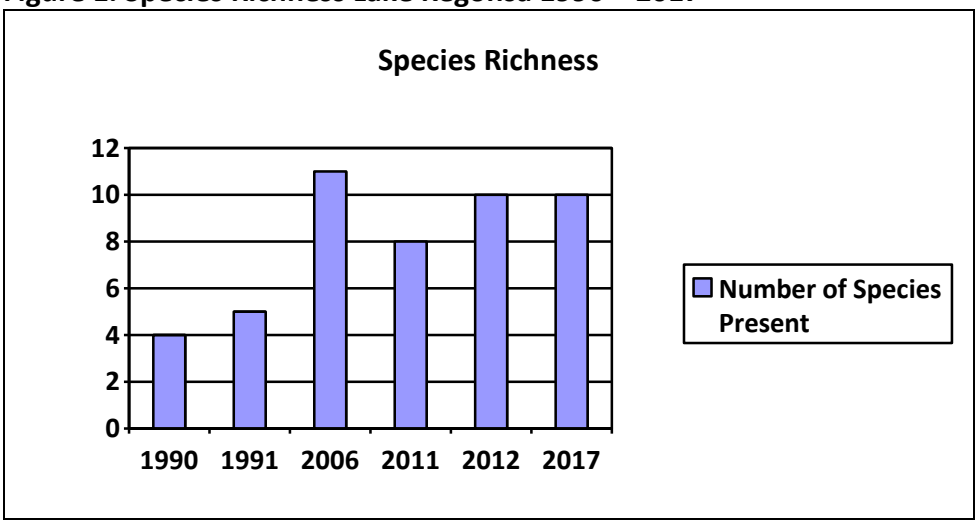
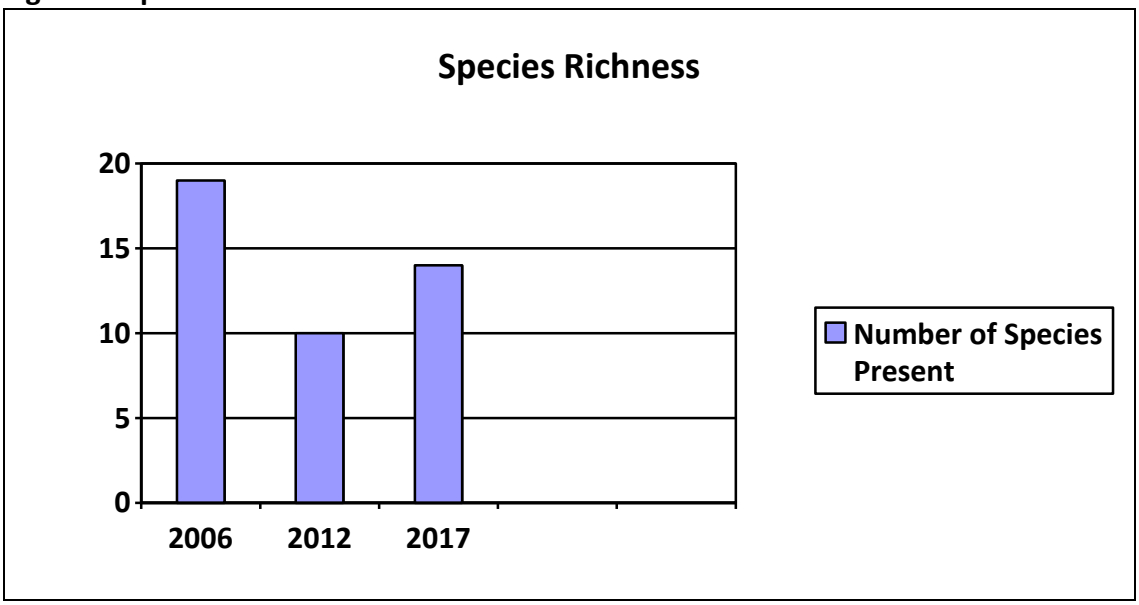


Table 2. Species present during 2017 aquatic plant survey – Lower Mud Lake

Genus	Species	Common Name	Category
Algae	*sp.*	Filamentous algae	Submersed
Ceratophyllum	*demersum*	Coontail	Submersed
Chara	*sp.*	Muskgrass	Submersed
Elodea	*canadensis*	Common waterweed	Submersed
Heteranthera	*dubia*	Water star-grass	Submersed
Lemna	*minor*	Small duckweed	Free-floating
Myriophyllum	*spicatum*	Eurasian water-milfoil	Submersed - Invasive
Potamogeton	*richardsonii*	Clasping-leaf pondweed	Submersed

Vallisneria	*americana*	Wild celery	Submersed
Wolffia	*columbiana*	Common watermeal	Free-floating

Figure 2. Species richness – Lower Mud Lake 2006 – 2017



Species richness is a count of the total number of different plant species found in a lake. Generally, the better the water quality the higher the species richness count.

Appendix A includes Lake Kegonsa plant statistics from the 2017 point intercept survey.
Appendix B includes Lower Mud Lake plant statistics from the 2017 point intercept survey.
Appendix D includes mapped plant distributions for Lake Kegonsa.
Appendix E includes mapped plant distributions for Lower Mud Lake.

Discussion of historical plant community changes

Definition of terms used in this section

Maximum depth of plant growth is the deepest depth at which plants were found in the lake. This is a function of water clarity. The clearer the water, the better the light penetration and presumably the deeper plants are able to grow. Not all plants grow in deep water some may prefer the shallower parts of the lake, but with clearer water the opportunity to grow deeper is available. Oligotrophic lakes (very clear water lakes) will have some plants growing in waters deeper than 20 feet. Hypereutrophic lakes (the opposite of oligotrophic) are characterized by excessive algal blooms and turbid poor water quality and clarity. Rooted plants are few, and restricted to either unusual weather conditions or very shallow water where light can penetrate. Plant diversity is usually restricted to species that can tolerate poor water clarities.

Frequency of occurrence is calculated by taking the total number of times a species is sampled divided by the total number of points at which depth was less than or equal to the maximum depth of plant growth.

The photic zone is the area where light penetrates enough to support plant growth.

The Floristic Quality Index (FQI) is a metric that evaluates the closeness of the flora in a lake to that of an undisturbed condition. The higher a FQI value, the closer that plant community is to an undisturbed ecosystem. Just for reference, compare a lake's numbers to the statewide average (24) or ecoregion average (20)(lakes also within the Southeast Glacial Plans ecoregion - see map here http://dnr.wi.gov/topic/landscapes/documents/StateMaps/Map_S1_ELs.pdf), calculated from a subset of approximately 250 lakes across Wisconsin.

Coefficients of conservatism (C) range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from what is believed to be a pre-settlement condition (see the end of Table 4 in Appendix A). The lower numbers indicate more of a disturbed ecosystem, while the higher numbers indicate a community more like one that would have been found before human settlement.

Lake Kegonsa

2011 survey results

The aquatic plant community of Lake Kegonsa was re-surveyed on July 26-27, 2011. In 2006 the species abundance was 11. Coontail and EWM the two most abundant species during this survey. In 2011, species diversity decreased to eight, Horned pondweed was the most prevalent species found with EWM and coontail following.

Over the 2006 and 2011 sampling periods, the Floristic Quality Index (FQI) decreased while the average coefficient of conservatism (C) increased. FQI evaluates the closeness of the flora to an undisturbed ecosystem. The higher the FQI the closer that plant community composition is to an undisturbed ecosystem. C values range from 0 to 10 and represent an estimated probability that a plant is likely to occur in a landscape relatively unaltered from a pre-settlement condition. Lower numbers indicate more of a disturbed ecosystem while higher values indicate a community more likely to have been found pre-settlement. The FQI and average C were in 2006 were 14.33 and 4.78. However, the FQI fell during the 2011 survey to 12.66 and average C rose to 5.17. These values can be used to gauge the health of the lake. Though the FQI fell during 2011, the increased average C shows a stable plant community with limited diversity.

During the 2006 and 2011 surveys, 11.0 and 8.0 species were identified, respectively. The higher the species richness the better, and generally the better water quality results in higher species numbers. When WDNR sampled the lake in 2012, it documented that species richness went back up to 10. Though maximum depth of plant growth decreased from 9.0 feet to 8.0 feet, the amount of photic zone inhabited by plants decreased from 45.48% to 58.87% in 2011.

Horned pondweed saw the biggest increase in abundance from 4.2% relative frequency to 35.1% while EWM decreased slightly. Flat-stem pondweed is a new species found during the 2011 survey while curly-leaf pondweed, which was not found in 2006, was again present. Filamentous algae, small duckweed, leafy pondweed, clasping-leaf pondweed, and sago pondweed were not identified in 2011 but were found in 2006. While these species were likely present during each survey, due to the relatively low frequency of occurrence and the dynamic nature of aquatic ecosystems their abundance may have changed slightly between the two surveys. The presence or absence of these species should continue to be monitored on future surveys.

2017 survey results

In the August 2017 survey, species diversity was again 10 species, with wild celery and coontail the most prevalent species. The maximum depth to plants increased to 12 feet. The FQI increased to 13.79 and the mean C fell to 4.88; still indicating a stable plant community.

In the 2017 survey, filamentous algae, clasping-leaf pondweed, leafy pondweed, and sago pondweed were all found. Horned pondweed was not found during the survey but this could be due to the delicate nature of the plant as well as the timing of the survey as it was seen by the Plant Scout and Wisconsin DNR staff earlier in the growing season.

Lower Mud Lake

2012 survey results

Lower Mud Lake was first sampled in 2006. Since then, the aquatic plant community has seen minor changes. During both the 2006 and 2012 surveys, 19 and 10 species were found, respectively, with coontail and filamentous algae being the two most prevalent species during each survey. There are a few, minor changes evident in the community as a whole and single species abundance.

The aquatic plant community of Lower Mud Lake was surveyed on July 13, 2012 with low water (nearby Lake Kegonsa was 8.8 inches below target summer maximum levels that day), heavy aquatic plant growth, and algae mats limiting navigation and access to some locations of the lake. For the 2012 plant community survey, maximum depth of plants decreased to 3.0 feet from 5.0 feet found during the 2006 survey; a direct correlation to the drop in water level from 2006 when water levels in nearby Lake Kegonsa were 1.2 inches above target summer maximum levels.

Aquatic plant community data remained relatively stable from 2006 to 2012. Over these sampling periods, frequency of occurrence within the littoral zone (the shallowest part of the lake where most of the aquatic plants grow) decreased slightly from 97.15% to 94.17%, species richness fell from 19 to 10, and FQI decreased. However, diversity per sample location increased in 2012 from 2.91 to 3.34 at vegetated sites while their distribution remained nearly

constant with a Simpson Diversity Index of 0.85 and 0.84. During 2006, the FQI and average C were 20.25 and 5.06, respectively. In 2012, the FQI and average C fell to 13.79 and 4.88 respectively. However, heavy aquatic plant growth and shallow water limited navigational access to some sample points and data collection.

Similar aquatic plant communities were present during each survey. Coontail and filamentous algae were present in both surveys along with high numbers of free-floating species. Nine species present during the 2006 survey were absent in 2012. However, because of limited navigational access due to low water conditions and constant overall plant community data, there is little overall change between years. The presence or absence of these species should not be a cause for concern and a healthy, albeit dense, aquatic plant community remains in Lower Mud Lake.

2017 survey results

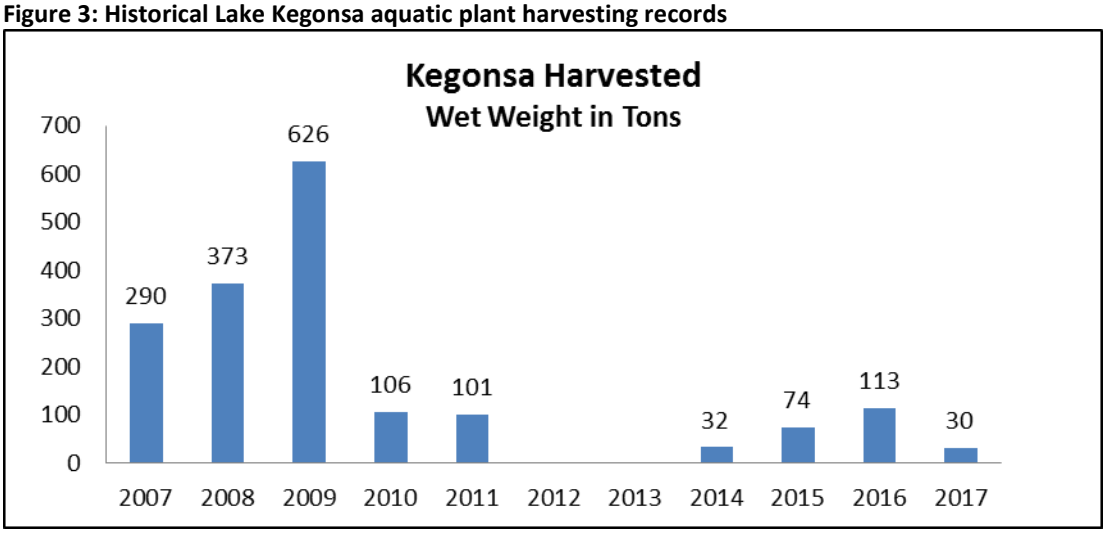
The aquatic plant community of Lower Mud Lake was surveyed on August 8, 2017 with high water (nearby Lake Kegonsa was 10.8 inches above target summer maximum levels that day). As a result, the maximum depth to plants was 6 feet. The frequency of occurrence within the littoral zone decreased to 89.5%, also the number of species per site decreased to 1.41. The FQI increased to 17.32 and the average C increased to 5.

The plant species present during the 2017 survey were consistent with the species found during the 2012 survey. Though some species were still absent that had been found in the 2006 survey, this is not cause for concern.

Harvesting Aquatic Plant Management Records

Figure 3 summarizes Dane County's mechanical harvesting operations in Lake Kegonsa since 2007. Aquatic plants were harvested in Lower Mud Lake during the 2017 harvesting season to increase water flow. Chemical treatments have never been conducted in Lower Mud Lake. According to Wisconsin DNR, the last permit granted for herbicide use on Lake Kegonsa was in 2003.

Figure 3: Historical Lake Kegonsa aquatic plant harvesting records



Public input opportunities

Dane County Land and Water Resources Department (LWRD) staff developed an aquatic plant management online survey hosted on the Office of Lakes and Watersheds web page from May through August 2017. Staff promoted the survey via email, press release, social media, and through business –card-sized prompts handed out by harvester operators, Clean Boats Clean Waters staff, and other LWRD staff over the summer.

There were 165 responses to the online survey, and almost 80% of the respondents did not recommend any changes to the harvesting program priority goals and maps for each waterbody. More than 50% of the respondents reported areas that are difficult to navigate through related to aquatic plant growth, and identified specific locations where these difficulties have occurred from time to time.

Dane County Land and Water Resources Department staff held two public information meetings on October 2 (held at Dane County offices in southeast Madison) and 9 (held in Middleton), 2017. Although these meetings were well publicized through press releases, email, and social media, and were promoted by one television station, only a few people attended.

The complete draft plans were posted on the Office of Lakes and Watersheds web page in mid-November, with public comment solicited until December 8. A representative of the Friends of Lake Kegonsa Society reviewed the plan amendment and supported the content. LWRD staff have made several clarifications to plan text based on DNR comments.

Dane County staff do not recommend any changes to the current harvesting priority maps as a result of the online survey responses, public information meeting comments, and draft plan content period. Dane County staff have noted the areas identified by survey respondents as

difficult to navigate through, and the Plant Scout will monitor those locations during upcoming seasons, and will evaluated whether additional harvesting in those locations is appropriate.

Aquatic Plant Management in Dane County

The overall goal of Dane County's mechanical harvesting program is to cut and harvest Eurasian water-milfoil and other nuisance vegetation to help provide for reasonable use of the lakes for boating, fishing and swimming, while preserving the health and balance of the lake ecosystem. During periods of high water, harvesting of plants in the Yahara River between lakes Waubesa and Kegonsa becomes the highest priority to reduce the extent and duration of flooding.

Aquatic plant growth varies from lake to lake and year to year. Dane County employs a Plant Scout to evaluate plant growth conditions and recommend appropriate harvesting in response, within the limits of the plan harvesting priority areas and DNR permit. In times of heavy plant growth, local residents often advocate for additional harvesting in their areas, harvesting longer into the season (into the fall), or dedicating a harvester for a particular waterbody. County managers balance staff and harvesting equipment resources and priorities with needs and ecological conditions countywide. Local groups or individuals have the option of contracting with the county for additional harvesting and special event harvesting, within the boundaries of the permit and pending staff and equipment availability. Additional information about contract harvesting is available here: https://wred-lwrd.countyofdane.com/documents/APM/Dane%20County%20Aquatic%20Plant%20Harvest%20Contract%20.pdf

Dane County holds annual training sessions for new and returning harvester operators before the harvesting season begins. In that training, permanent and seasonal staff receive instruction on many topics including aquatic invasive species prevention protocols, plant identification, and communications. The Lakes Management Supervisor directs the day-to-day operations of the staff, guided by the Stormwater Engineer who is informed of plant conditions and harvesting needs by the Plant Scout. Particular concerns with a water body; deep versus shallow harvesting; collection of plant fragments from harvesters, plant self -fragmentation, and boat propellers etc. are all addressed in the supervision.

Working closely with the Wisconsin Department of Natural Resources, the Dane County Land and Water Resources Department has developed harvesting priority maps that are included in many of the aquatic plant management plans and referred to in DNR harvesting permits issued to Dane County. Not every area that is identified for potential harvesting on the map will be harvested in any given harvesting season if there is little to no plant growth, because attention to higher priority areas does not permit it, or due to budget constraints. Harvester operators are instructed not to cut and remove plants outside of harvesting priority areas identified on these maps, unless authorized by their Supervisor in consultation with the Wisconsin Department of Natural Resources.

Harvesting machines are designed to cut, collect and remove plant fragments. Machine operators do not cut and harvest aquatic plants in water less than three feet in depth except where it's permitted by the Wisconsin Department of Natural Resources in the Yahara River.

Limits of the equipment, staff, and budget mean that plant harvesting for aesthetics, collection of wind-blown plant fragments due to boat propeller action, and the removal of plants that release from the sediment and float free in the fall cannot generally be accomplished. However, Dane County helps clean up plant materials at beaches and other public access points, even when the plant material is not associated with harvesting operations. Program managers also do their best to accommodate special requests for collection of naturally-occurring windblown and boat motor chopped plant fragments near private shorelines, as time and budget permit, and in consultation with Wisconsin DNR. Occasionally this collection of plant fragments occurs in waters less than three feet deep. The Dane County Lake Management Operations Manual provides instructions to harvesting machine operators about plant fragment collection.

There is a common misperception that excessive external nutrients carried into lakes in runoff from the watershed causes macrophyte (large aquatic plant) problems. In fact, external nutrient loading usually produces algal blooms that shade and reduce macrophyte biomass. Attempts to control biomass by controlling nutrients in the water column are unproductive, according to G. Dennis Cooke and others in the third edition of Restoration and Management of Lakes and Reservoirs (2005). This is because rooted macrophytes, such as the nuisance Eurasian water-milfoil, usually get their phosphorus and nitrogen directly from sediments. In the short-term, reduced phosphorus in the water column resulting from watershed controls may actually result in more macrophyte growth, because clearer water permits more light penetration that fosters plant growth.

It could take many years to reduce the historical nutrient additions to lake sediments, especially in agricultural areas. Much important work is underway in the Yahara River watershed to reduce watershed phosphorus loadings. in the long-term, scientists and managers hope that community efforts can reduce sediment phosphorus, thereby more directly affecting plant growth.

Fisheries

Anglers sometimes raise concerns over harvesting vegetation in late spring and early summer during the fish spawning period. Harvesting aquatic vegetation during this critical time impacts a small fraction of the available spawning habitat for any given species and we continue to monitor the fish populations closely for any impacts aquatic plant harvesting may have. Dane County works closely with WDNR Fisheries and there appears to be no negative impact on the fishery as a whole. The Yahara Chain of Lakes continue to provide excellent fishing opportunities of all sorts including panfish, walleye, northern pike, largemouth bass, and musky.

Invasive Species

Much of the focus of Dane County's mechanical harvesting program is to cut and harvest Eurasian water-milfoil and other invasive and nuisance plants to help provide for reasonable use of the lakes for boating, fishing and swimming.

Dane County staff will continue to take steps to ensure that its plant harvesting equipment is cleaned and disinfected before moving it to other waterbodies, and follow all other Wisconsin invasive species laws (see Appendix C) to prevent transport of invasive plants to other waterbodies.

The invasive species below are more recent arrivals to the Yahara chain of lakes. Dane County staff, along with recreational users, following cleaning and disinfecting protocols will help prevent the spread of these and other invasive plants and animals.

Spiny Waterfleas

In 2009 populations of spiny waterfleas (SWF) were verified by the Wisconsin DNR to be present in the Yahara chain of lakes. Spiny waterfleas are zooplankton that are native to Europe and Asia. Introduction of SWF into the Great Lakes by ballast water discharged from ocean going ships most likely occurred in the 1980's, and since then the spread to inland waters has continued.

The most likely method of introduction of SWF into the Yahara chain of lakes was by a boat, bilge water, or live well that had not be decontaminated. Research suggests that the SPF were introduced into Lake Mendota in the mid 1990's based upon sediment core samples where spines are present. By 2009 SWF were found in Lake Mendota at densities that are higher than any other waterbody in its native or invaded range. (Walsh 2016)

The SWF are carnivorous predators eating native herbivorous zooplankton. This loss of native zooplankton can have negative impacts on the lake ecology, impacting the zooplankton structure and distribution. This loss of native zooplankton can also affect fish populations that rely on the zooplankton as a food source. Small fish try to prey upon SWF but their spines make them difficult to swallow. The loss of zooplankton can also increase the amount of phytoplankton, leading to greater turbidity, degraded plant health and reduced maximum depth where plants grow. As a result we see greater algal blooms and more impacts on people using the water.

One of the impacts to anglers is that SWF clog fishing rod eyelets and accumulate on fishing lines.

Zebra Mussels

In 2015 in Lake Mendota a population of zebra mussels was found by the UW Center for Limnology and verified by the Wisconsin DNR. Additionally in 2016 a population of zebra mussels was verified by the Wisconsin DNR in Lake Monona. Zebra mussels are native to Europe and Asia. The zebra mussel is a small bottom dwelling clam that spread through microscopic larvae called veligers. The zebra mussels were introduced into the Great Lakes in the 1980's most likely through the ballast water from ocean going ships, and since then zebra mussels have been spread to other inland waters.

The most likely method of introduction of zebra mussels into the Yahara chain of lakes was by a boat, bilge water, or live well that had not been decontaminated. The first observation of zebra mussels in the Yahara was in Lake Monona in 2001 when a few adult specimens were found.

The zebra mussels are the only freshwater mollusk that can attach themselves to solid objects. They become prolific in many lakes altering the food web. There may be increased plant abundance, as well as bluegreen algae blooms. Zebra mussels affect shoreline residents, boat owners and swimmers when their shells accumulate on hard surfaces making them a hazard to grab or stand on. They also encrust piers and boats, potentially damaging boat motors unless people take preventative steps. Adult females can produce one million eggs per year.

Chinese Mystery Snails

In 2012 these invasive snails were found in Lake Waubesa. In 2015 they were found in Stewart Lake, and in 2017 they were found in Lake Monona. These snails are native to eastern Asia and have been transported to the area for aquarium trade and possibly by in mud on boats or trailers. With a hard operculum (trap door that seals the shell) these snails can survive out of water for four weeks *(Unstad, K.M. and others. Management of Biological Invasions (2013) Volume 4, Issue 2: 123–127)*, making their transport to a new waterbody likely. The impacts of these snails are not very well-studied.

Recommended management

Based on staff review of the plant survey data and public input, Dane County recommends the management elements found in this section, which are largely unchanged from 2013.

Lake Kegonsa Goals

Recognizing that Eurasian water-milfoil has dominated the littoral zone for several decades, the goals for managing Lake Kegonsa aquatic plants are to: (1) sustain favorable recreational access in areas where exotic plant densities become a nuisance, (2) identify opportunities for establishing floating-leaf plants, and (3) designate undeveloped public shorelines as Critical Habitat Areas. Floating-leaf plants that could be established include yellow water lily (*Nuphar variegatum*), white water lily (*Nymphaea odorata*), and American lotus (*Nelumbo lutea*). Favorable nearshore habitat is generally lacking in Lake Kegonsa, however publicly owned

shorelines and wetlands may provide opportunities for improving nearshore submersed and floating-leaf habitat.

These overarching aquatic plant management goals are coupled with the more specific goals of Dane County's mechanical harvesting program: to cut and harvest Eurasian water-milfoil and other nuisance vegetation to help provide for reasonable use of the lakes for boating, fishing and swimming, while preserving the health and balance of the lake ecosystem.

Lake Kegonsa Recommendations

1. Conduct mechanical harvesting only when Eurasian water-milfoil and other nuisance plants significantly impair recreational use, as determined by the Dane County Plant Scout. Avoid designated or proposed Critical Habitat Areas under Wisconsin Administrative Codes.
2. Critical Habitat Areas should include undeveloped portions of the lake including Fish Camp, Lake Kegonsa State Park and the Door Creek wetlands. (Designation of Critical Habitat Areas is a Wisconsin Department of Natural Resources decision.)
3. The Dane County Plant Scout should document occurrences of high value native plants in regular scouting reports, including shoreline reference and GPS location. Dane County staff should make an annual summary report of these occurrences available to the public.
4. Dane County mechanical harvesting crews should continue to take steps to prevent the spread of exotic invaders across Dane County lakes and streams. These steps include removing any visible plants, mud, debris, water, fish or animals from the machinery and thoroughly washing the equipment (see Appendix C).

Lower Mud Lake Recommendations

1. As conditions warrant (e.g. during emergency high water and flood conditions), conduct large-scale mechanical harvesting of aquatic plants in Lower Mud Lake and in the river between Lower Mud Lake and Lake Kegonsa to increase flow. Harvesting is not recommended at all other times, because the wetland and aquatic plants in Lower Mud Lake provide water quality benefits to Lake Kegonsa. When cutting is performed it should avoid mechanical hazard zones and proposed Critical Habitat Areas.
2. Chemical treatments should not be conducted in the lake given the general lack of riparian development. Uses within the natural shoreline eliminate the need for treatments typically used to clear swimming areas and piers.
3. The Critical Habitat Areas designation should include the entire shoreline given the relatively undeveloped condition. The habitat functions in Lower Mud Lake may benefit Lake Kegonsa where critical aquatic plant habitats were scarce. (Designation of Critical Habitat Areas is a Wisconsin Department of Natural Resources decision.)
4. The Dane County Plant Scout should document occurrences of high value native plants in regular scouting reports, including shoreline reference and GPS location. Dane

County staff should make an annual summary report of these occurrences available to the public.

5. Dane County mechanical harvesting crews should continue to take steps to prevent the spread of exotic invaders across Dane County lakes and streams. These steps include removing any visible plants, mud, debris, water, fish or animals from the machinery and thoroughly washing the equipment.

Proposed Critical Habitat Areas

Wisconsin DNR's website describes the importance of the DNR's designation of Critical Habitat Areas as follows: "Every waterbody has critical habitat - those areas that are most important to the overall health of the aquatic plants and animals. Remarkably, eighty percent of the plants and animals on the state's endangered and threatened species list spend all or part of their life cycle within the near shore zone. …….. Wisconsin law mandates special protections for these critical habitats. Critical Habitat Designation is a program that recognizes those areas and maps them so that everyone knows which areas are most vulnerable to impacts from human activity. A critical habitat designation assists waterfront owners by identifying these areas up front, so they can design their waterfront projects to protect habitat and ensure the long-term health of the lake they where they live."

Lake Kegonsa

No changes are proposed for the recommendations Dane County previously made for the Critical Habitat Area map below (Figure 4) from 2013.

Lower Mud

No changes are recommended to the Critical Habitat (formerly called "Sensitive") Areas proposed in the 2007 aquatic plant management plan, and unchanged in the 2013 amendment. The east and west shores are undeveloped and with emergent and floating-leaf plant communities creating excellent fisheries habitat. This will still allow for mechanical harvesting of the main lake channel for recreational access.

Figure 4. Proposed Lake Kegonsa Critical Habitat Areas

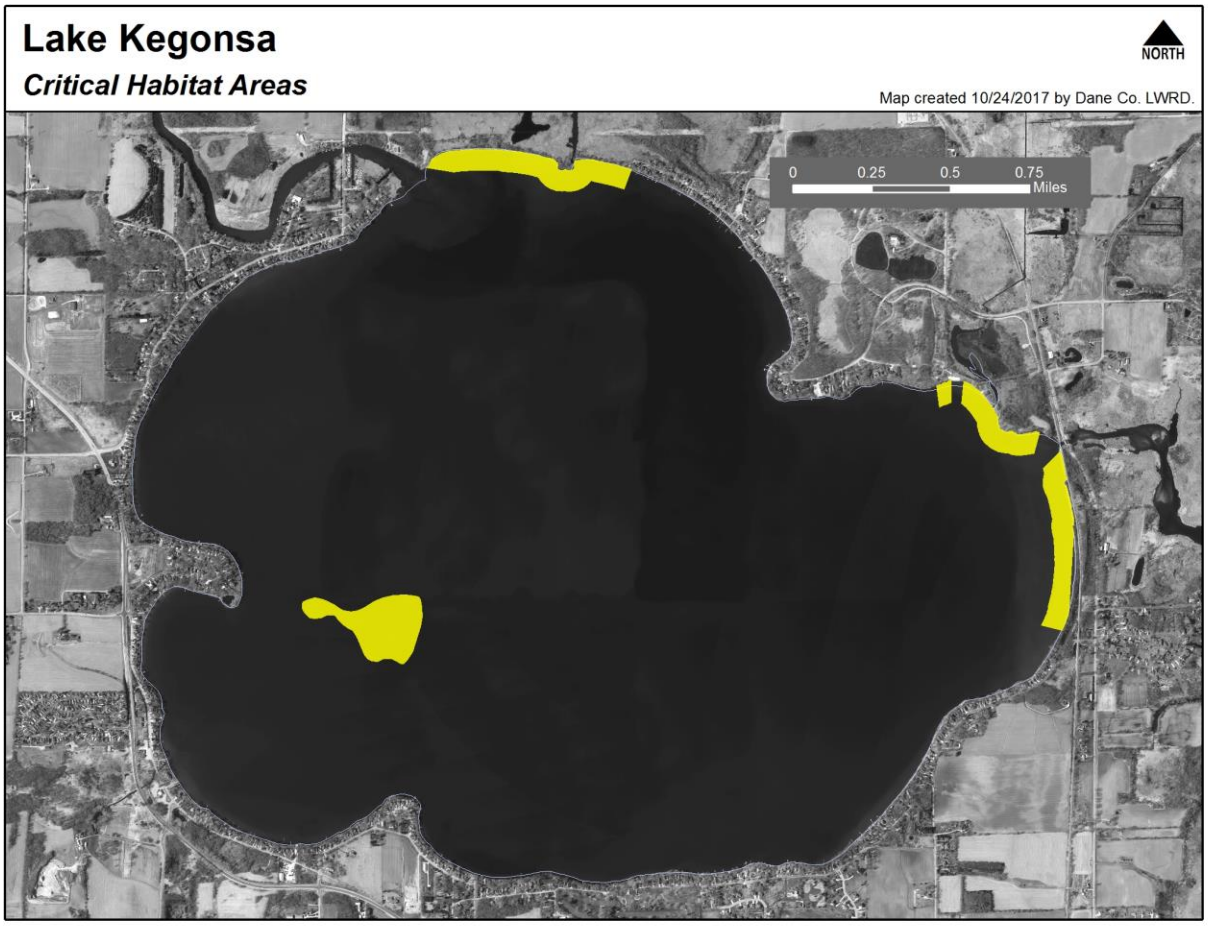
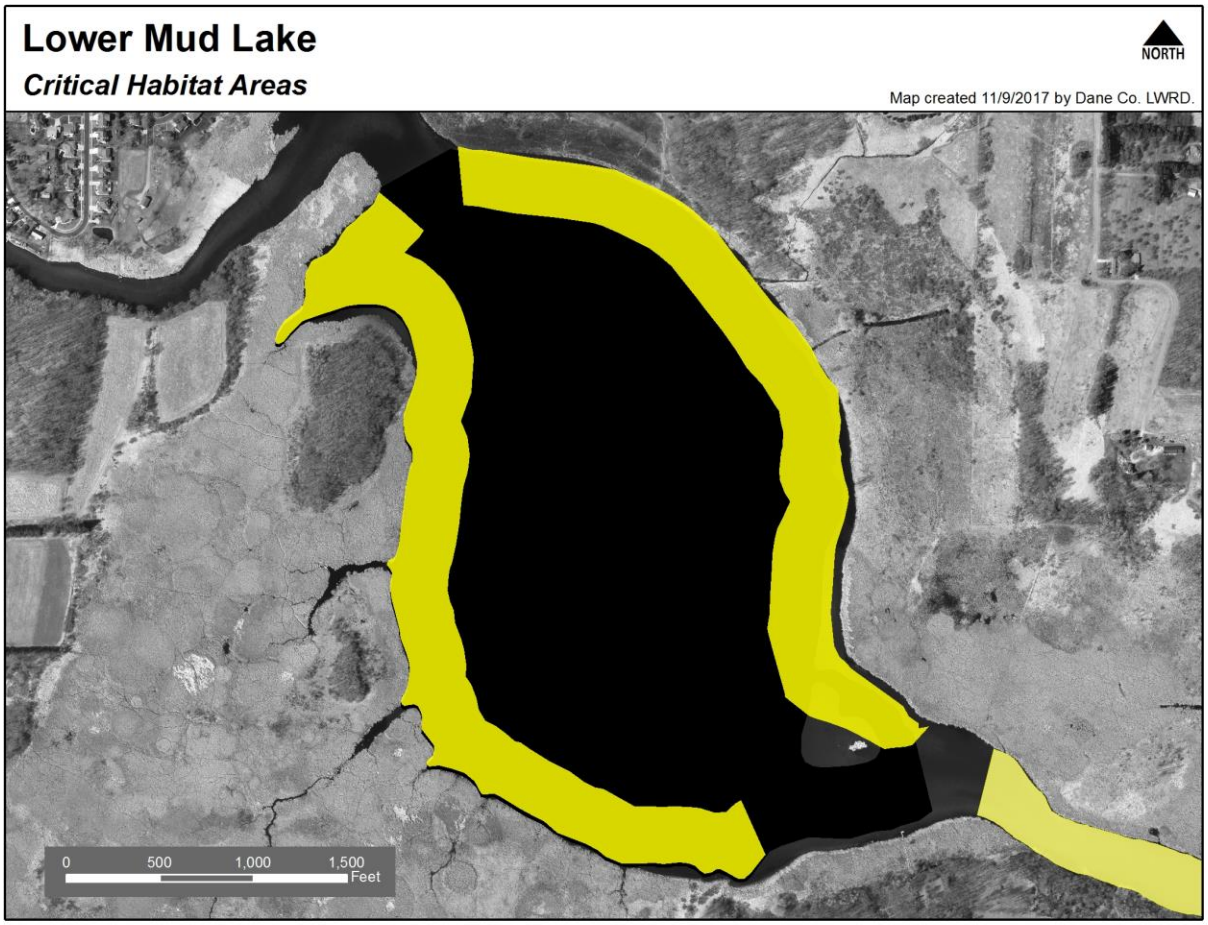


Figure 5. Proposed Lower Mud Lake Critical Habitat Areas



Harvesting Priorities

The harvesting priorities map for Lake Kegonsa (Figure 6) shows areas that may be harvested. There are no changes to harvesting priorities from the 2013 amendment. Figure 7 is the harvesting priorities map for Lower Mud Lake. Additional background on harvesting priorities is found in the Lake Management Operations Manual and posted on the LWRD website (https://wred-lwrd.countyofdane.com/Aquatic-Plant-Management/Aquatic-Plant-Harvesting-Program). Annual training and daily supervision of harvester operators reinforce that plants should be harvested only from these planned areas, unless a variance from the plan has been approved by Wisconsin DNR. Actual effort is dictated based on plant conditions, as evaluated and reported by Dane County's Plant Scout.

Figure 6. Lake Kegonsa harvesting priorities

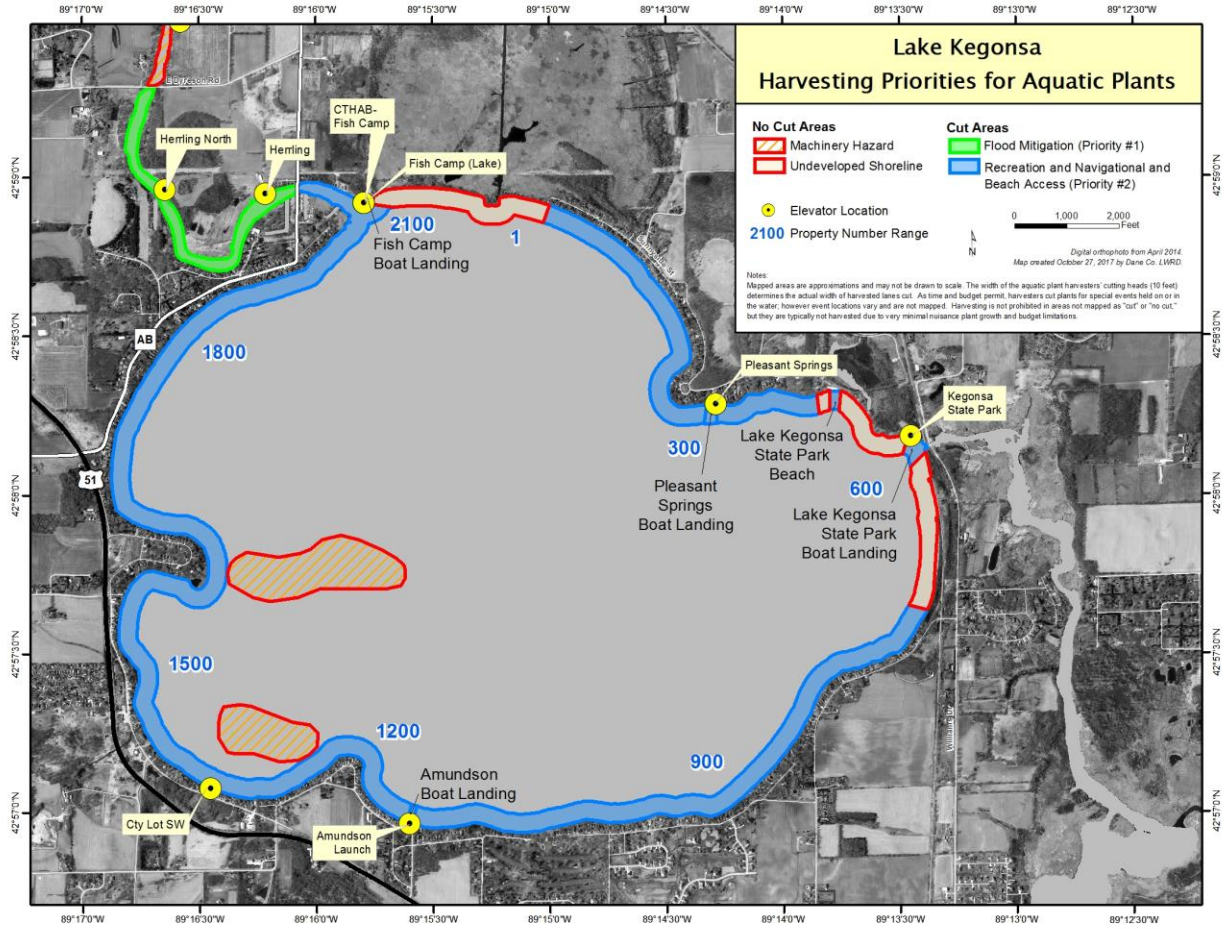


Figure 7. Lower Mud Lake Harvesting Priorities