

12.0 Aquatic Plant Management Goal, Objectives, and Actions

Amnicon Lake contains an exceptionally diverse aquatic plant community. Dowling Lake has a diverse aquatic plant community, but very low density of plants and low water quality. The overall goal of aquatic plant management in Amnicon and Dowling Lakes is to protect the existing native aquatic plant resource from degradation by maximizing prevention of new invasions and through the containment and control of existing aquatic invasive species.

The objectives for this plan are to:

- **Preservation and Restoration.** Protect existing wild rice beds. Protect the native plant species community in and around the lakes to decrease susceptibility to the introduction of new aquatic invasive species and to improve water quality.
- **Prevention.** Prevent the introduction and establishment of new aquatic invasive species through early detection and rapid response.
- **Management.** Provide open water access and navigation relief to property owners impacted by dense growth aquatic vegetation. Reduce existing curly-leaf pondweed density and distribution in Amnicon Lake through containment and control. Improve water quality in Dowling Lake by protecting and enhancing native plant growth. Continue physical removal and biological control of purple loosestrife around both lakes.
- **Education and Awareness.** Continue public outreach and education programs on aquatic invasive species.
- **Research and Monitoring.** Develop a better understanding of the lakes and the factors affecting lake water quality through continued and expanded monitoring efforts.
- **Adaptive Management.** Follow an adaptive management approach that measures and analyzes the effectiveness of control activities and modify the management plan as necessary to meet goals and objectives.

12.1 Preservation and Restoration

Eighty percent of the plants and animals on the Wisconsin Endangered and Threatened Species List spend all or part of their life cycle within the near-shore zone and as many as ninety percent of the living things in lakes and rivers are found along the shallow margins and shores. Activities along a lakeshore and in the immediate shoreland area can have major impacts on overall lake quality.

Preserving and restoring native shoreland plant communities is undertaken on many lakes to reduce erosion, increase and improve native habitat, reduce shoreland runoff, improve water quality, and compliment the lake aesthetic. The restoration or re-establishment of aquatic plants in the shallow waters adjacent to the shore, which focuses on emergent plant species like rushes, sedges, pickerel weed, wild rice, and other plants that make up the wetland fringe, is less frequently completed. These species anchor sediments, fend off the invasion of non-native species, buffer against shoreland erosion, and improve fish and wildlife habitat. Allowing the re-growth of native plants in cleared areas can prevent curly-leaf pondweed and other non-native invasive plant species from establishing in those sites.

Shoreland buffers also provide non-point source nutrient control by slowing runoff and utilizing nutrients (and contaminants) before they reach the lake. Curly-leaf pondweed can grow in more turbid waters than many native plants, so improving the water clarity of Amnicon Lake helps native plants compete more effectively with curly-leaf. Improving water clarity of Dowling Lake should allow the native plant densities to increase naturally thereby decreasing the likelihood that CLP would thrive if ever introduced. As the native plant densities in Dowling Lake increase, water clarity should also improve.

To maintain or improve the lake ecosystem, the Amnicon-Dowling Lake Management District (District) will provide riparian owners with educational materials on shoreland improvement and sponsor shoreland restoration training events. Often, the main barrier preventing lake residents from implementing shoreland restoration is not knowing where to begin. General information on shoreland restoration will be provided to all members in a newsletter, on a webpage, and during public events.

Recent research has revealed that riparian property owners evaluate their own shorelines significantly more natural than biologists' evaluations (32). It is recommended that a shoreline evaluation be performed by resource professionals or trained volunteers. The information collected will provide baseline data on the status of the shoreline along Amnicon and Dowling Lakes and will allow for focused education and outreach efforts.

The District should further encourage riparian property owners to diversify the shoreland environment by recognizing riparian owners who implement shoreland restoration and habitat improvement projects. Recognition can be in a number of ways, for example, by displaying a special sign on the shoreline or posting a notice on the webpage.

The District may also want to consider establishing "Slow, No Wake" buoys near the wild rice beds to prevent them from being uprooted during their vulnerable floating-leaf stage. If navigation channels are established through the thick submergent vegetation, buoys could also serve to mark these channels for boaters. Annual monitoring of wild rice beds in August will help determine whether wild rice density and distribution are increasing.

12.2 Prevention

Early detection and rapid response efforts increase the likelihood that a new aquatic invasive species will be addressed successfully while the population is still localized and levels are not beyond that which can be contained and eradicated. Once an aquatic invasive species becomes widely established in a lake, all that might be possible is the partial control of negative impacts. The costs of early detection and rapid response efforts are typically far less than those of long-term invasive species management programs.

The District will continue to implement and further develop a proactive and consistent aquatic invasive species monitoring program that includes both casual observers and trained monitors. At least three times during the open water season, trained volunteers will patrol the shoreline and littoral zone looking for curly-leaf pondweed, Eurasian water-milfoil, purple loosestrife, Chinese mystery snails, zebra mussels, and other invasive species..

Monitoring will be completed as a part of the UW-Extension Lakes/WDNR Citizen Lake Monitoring Network Aquatic Invasive Species Monitoring Program. Training is available through the Wisconsin Citizen Lake Monitoring Network (different from Clean Boat Clean Waters monitoring) and the WDNR provides an excellent guide for monitoring called *Aquatic Invasive Species, A Guide for Proactive & Reactive Management* which can be found online at <http://dnr.wi.gov/Aid/documents/AIS/AISguide06.pdf> (last accessed November, 2013). Volunteers can select AIS of interest; learn when, how and where to monitor; and find out how to report a new find. Many new Eurasian water-milfoil and other invasive species finds have been from volunteers who know their lake. All monitoring data will be recorded annually and submitted to the WDNR SWIMS database.

Property owners will be encouraged to monitor their shoreline and open water areas for new growths of aquatic invasive species. These casual observers can undergo more simplified training than the trained monitors via meeting presentations or from more technically trained monitors. If a suspect aquatic invasive species is found, it will be reported to the District, County, and the WDNR. Note: the contacts found in the Rapid Response Plan (Appendix F) pertain to all aquatic invasive species.

Aquatic invasive species can be transported via a number of vectors, but most invasions are associated with human activity. Monitoring of the boat launches on Amnicon and Dowling Lakes by paid and volunteer inspectors will continue following WDNR/UW-Extension Clean Boats, Clean Waters guidelines. All watercraft inspection data collected should be submitted to the WDNR SWIMS database. The District will participate in the Fourth of July Landing Blitz, an outreach effort to warn boaters of the dangers of transporting invasive species that takes place on the Fourth of July, a high-boat traffic day. The District will also continue to maintain and update signage at the boat launches as necessary.

Preventing the introduction of invasive species is the first line of defense against invasions, but even the best prevention efforts may not stop all invasive species introductions. A Eurasian Water-milfoil Rapid Response Plan has been created for the Amnicon and Dowling Lakes and is included as Appendix F of this plan. The Rapid Response Plan contains information on what to do if a potential aquatic invasive species is found including contacts for authoritative verification and what should be done if a positive identification is made.

The ADLMD will continue to support the efforts made by Douglas County to monitor and control the spread of AIS in the county.

12.3 Management

Aquatic plant management in Amnicon Lake will follow an integrated management approach that relies on a combination of methods and techniques. Manual, mechanical, and biological control methods are included. Chemical herbicides are not recommended for use in Amnicon Lake due to the close proximity of northern wild rice to possible management areas. Aquatic plant management in Dowling will focus on maintaining or enhancing the existing native plant community and implementing shoreland management actions that will improve water quality.

Native plant removal on both lakes should be limited to the amount needed to access open water areas. Coarse woody habitat (tree falls, logs, etc.) should be left in the water. Coarse woody habitat is a critical feature of lakes influencing fish behavior, spawning, predator-prey interactions, growth, and species diversity. Research has shown that the growth of largemouth bass and bluegill are positively correlated with coarse woody habitat in lakes and a whole lake removal of coarse woody habitat led to the collapse of a yellow perch population (33).

Manual harvesting will be done to control both nuisance native and non-native plant growth around docks, in navigation channels, and in beds of curly-leaf pondweed. Manual removal of aquatic plants may be completed at any time following the guidelines and regulations set forth in NR 109, which can be found in Appendix E. Mechanical harvesting will be implemented in areas where dense aquatic plant growth (CLP or native plants) impedes navigation and/or property owner access to open water and cannot reasonably be controlled by physical removal. Larger scale harvesting of CLP beds will be completed once the ADLMD has obtained their own aquatic plant harvesting equipment or contracted harvesting services. Physical removal of CLP will not be limited, and the goal of harvesting is to reduce the size of existing CLP beds by at least 50%.

12.3.1 Shoreland Management Practices to Protect Water Quality

Management practices that protect water quality should be implemented by property owners. For example, property owners should avoid mowing down to the lakeshore and reduce grass clippings runoff, fertilizer applications, pet waste, ash from fire pits, and other sources of nutrients near the lakeshore. Improved water quality is important for promoting a healthier native aquatic plant community, especially in Dowling Lake. Property owners on both lakes should also be encouraged to have regular septic system inspections to protect water quality.

12.3.2 Curly-leaf Pondweed

The goal of CLP management is to reduce the distribution and density of CLP in Amnicon Lake by at least 50% based on levels found during the May 2012 curly-leaf pondweed survey. Curly-leaf pondweed was first officially documented in Amnicon Lake in 2008. The May 2012 CLP survey found that individual plants were uncommon and very widely scattered throughout the lake north and east of Tomahawk Island. However, south and west of the island CLP was relatively common. Three beds of monotypic CLP were surveyed totaling 5.36 acres (1.4% of the lake's 360 acres). Another potential bed occurred due south of Tomahawk Island in 5ft of water.

Physical (manual) and mechanical controls are recommended for CLP management. Chemical control (herbicide) is not recommended because the largest areas of curly-leaf pondweed are established near beds of wild rice, which could be negatively impacted by the use of chemical herbicides.

12.3.2.1 Physical Removal

The densest CLP growth in Amnicon Lake is found in 6-8 feet of water, an area not generally supportive of abundant native aquatic vegetation. In waters less than 5 feet, the sparse occurrence of CLP north and east of Tomahawk Island and near docks should be manually harvested (hand, rake, or diver removed) from the lake and monitored for expansion into monotypic beds. Physical removal of CLP will not be restricted. In both lakes, pioneer populations of CLP less than 0.25 acres with a rake fullness rating of 3 should also be manually controlled. The District will coordinate physical removal education and larger scale removal efforts, either by assigning these responsibilities to a committee or by forming a new committee. Members of the District will be taught to remove individual plants and small clusters of curly-leaf in shallow, easily accessible areas of the lakes. Instructional materials and training will be provided to aid riparian owners in the identification and removal of curly-leaf. The District will also sponsor an annual Curly-leaf Removal Day in early to mid-summer during which volunteers will employ a vigorous removal program.

12.3.2.2 Mechanical Harvesting

Mechanical harvesting is recommended for long term management of CLP in 5-9 feet of water southwest of Tomahawk Island near the outlet. Specifically, mechanical harvesting is recommended for curly-leaf beds 1, 2, and 3 in Amnicon Lake (Figure 21). These areas of dense CLP growth prevent native plants from establishing early in the season. Later in the season, when CLP dies back it increases the amount of organic material building up in the sediment in this already fertile area of the lake. Removal of CLP in these areas may increase the amount of desirable vegetation in an area that currently does not support abundant native aquatic vegetation in the summer due to water clarity issues.

Harvesting of CLP will occur before it begins setting turions (generally prior to June 15th) and only in areas where wild rice is not present. No mechanical harvesting will occur in water <3-ft deep and cutting depth cannot exceed 2/3 of the water depth. All harvested areas will be pre-determined. One spring harvesting of CLP is recommended, although this cutting may take place over several days or weeks. Harvested material will be disposed of away from the lake. CLP harvesting will be based on prior year monitoring and mapping in an area identified in the annual aquatic plant harvesting permit application required by the WDNR (Appendix H).

12.3.2.3 CLP Bed Mapping and Density

The ADLMD will hire a resource professional to complete bed mapping and density monitoring in Amnicon Lake annually to account for management success and to identify areas that are candidates for future control activities. Monitoring should be completed in mid-June when curly-leaf is near its peak growth before senescence. Density will be measured using rake sampling following current WDNR aquatic plant monitoring guidelines (e.g., the 0 to 3 rake fullness density measurement). New growth areas and beds with a rake density rating of 3 will be priority control areas. A bed is defined as an area where CLP comprises greater than 50% of the plant biomass in the area with clearly defined borders.

12.3.3 Native Plant Management

Management of native aquatic plants should only be implemented when plant density reaches nuisance levels, or impedes property owner access to open water. Physical removal will be implemented by individual property owners following guidelines in NR109, and mechanical harvesting to maintain navigation and open water access channels will be implemented by the

ADLMD. Navigation and open water access channels will be identified and approved by the WDNR through a mechanical harvesting permit completed annually by the ADLMD.

12.3.3.1 Physical Removal

Manual or physical removal is the most appropriate management method to control aquatic plant growth around docks and in areas where the water depth is shallower than 3 feet. To aid in physical removal of aquatic plants in small, shallow areas adjacent to shore, at least one plant removal rake and/or razor will be purchased by the ADLMD and made available for property owners to use. As mentioned in a previous section, physical removal of aquatic plants is allowable without a permit within an area up to 30 feet wide near a dock or along a shoreline used for recreational activities, provided the parts of the plant cut or pulled are removed completely from the water and disposed of properly. By its very nature, physical removal is often a difficult and daunting task, thus minimizing how much plant material is actually removed. Native plant removal will be limited only to the amount needed to access open water areas or provide navigation and access lanes.

12.3.3.2 Mechanical Harvesting

In deeper water and in larger areas where relief from nuisance aquatic plant growth for navigation purposes is needed, a harvesting plan will be created annually and will be included in the aquatic plant harvesting permit application required by the WDNR. Harvesting plans will be designed to enhance both the ecological balance and recreational uses of the lake by establishing common use navigation channels and individual riparian access lanes. A common use navigation channel is a common navigation route for the general lake user. It is off shore and connects areas that boaters commonly would navigate to or across, and is for public benefit. An individual riparian access lane is an access lane to shore that normally is used by an individual riparian shore owner. Navigation channels will be limited to 40-ft wide and individual riparian access lanes will be limited to 20-ft wide and both must be in water at a depth of 3-ft or greater. Once harvested, these areas should be kept open through regular use of watercraft. If the navigation channels or access lanes fill in again, they can be re-cut under the same harvesting permit that allowed their initial cutting.

Mechanical harvesting of aquatic plants can only be completed in water 3-ft or greater in depth. Harvesting in waters shallower than this can greatly disturb bottom sediments causing them to be re-suspended in the water column decreasing water quality. Bottom dwelling biota critical to the health of the lake can also be negatively impacted. Damage to the harvester may also occur. In waters at or deeper than 3-ft, aquatic plants can be cut to two-thirds of the water column or to the maximum depth of the harvester, whichever is less. At off-loading sites, the operator will attempt to return game fish, turtles, and other wildlife back to the water.

It is recommended that GPS units capable of tracking the movements of the harvester be installed on or, at a minimum, carried with the operator whenever harvesting is occurring and must be turned on. At the end of each day, a tracking log should be downloaded from the GPS unit and stored in digital form either on a computer or data disk. Regardless of GPS tracking, daily log sheets that include the following harvesting information: estimated total daily tonnage, number of loads, surface acres covered, plant ID list, percentage of each plant species removed, and plant bed density information, will be kept of all harvesting actions.

Clear-cutting of aquatic vegetation adjacent to riparian shoreline for the purpose of creating weed free areas for swimming or other recreational purposes is not an acceptable use of the

mechanical harvester and is not recommended action in this plan. Landowners, however, are not prohibited from physically removing aquatic vegetation in these areas and will be encouraged to do so provided guidelines presented in NR 109 are followed.

The harvesting plan will be assessed annually to determine if changes should be made. Areas designated for harvesting in a given year, can be repeatedly harvested as needed in that year to maintain their function without the need for additional WDNR permitting or fees. An example harvesting plan for the first year of active management is included in Appendix I. Changes in the harvesting plan can be requested by property owners, and will be evaluated on an individual case basis as they come up. Larger changes in the harvesting plan may be necessary due to variability in water levels, changes in lake use patterns, or with the introduction of a new aquatic invasive species.

12.3.3.3 Acquisition of the Mechanical Harvester

It is recommended that the ADLMD purchase and operate their own small aquatic plant harvester, as this would give them the greatest flexibility in managing aquatic vegetation in the lake. A new harvester able to cut a 4-6 foot swath of vegetation has an expected price range of \$45,000 to \$65,000 depending on the type, construction, and features. Several companies in WI build small harvesters specifically for the type of aquatic plant management being recommended in this APM Plan. The Recreational Boating Facilities grant program supported by the WDNR can be used to help offset up to 50% of the costs of purchasing an aquatic plant harvester. There is no official grant deadline for application, but it should be done early in the year as it typically takes 6-9 months for the approval process.

In the interim, or as an alternative to purchase of a large-scale mechanical harvester, the ADLMD could purchase a smaller, boat mounted aquatic plant cutter to start harvesting in 2014. The cost of a device of this nature is in the \$3,000 - \$5,000 range. Use of a bow mounted cutter also requires removal of cut vegetation from the water. A bow mounted cutter would not remove this material, so arrangements would need to be made to have other watercraft following the cutter, using rakes and nets to remove the material that is cut.

Contracted harvesting is a viable option, with costs per acre averaging between \$400 and \$700. Contracted harvesting has several issues. Availability of contracted services is limited, with only a small handful of companies offering such services. Transportation of the equipment, keeping it clean so as not to infest a new lake with cuttings from a previous water body, arranging for off-loading and transportation of harvested materials, licensing requirements from state to state, and timing are all critical issues that must be addressed. Owning and operating a harvester also has issues including maintenance, storage, and possibly transportation. Insurance coverage may be necessary. Finding, training, and paying an operator will be necessary. Initial investments to purchase the equipment can be expensive, but it can be expected that the machinery used will be functional for a decade or more if properly maintained.

Unloading, hauling, and disposal of harvested aquatic vegetation adds to the cost of a harvesting program, particularly if additional equipment like a conveyor system and/or trailer are needed to move harvested material around, and if additional transport is needed to dispose of harvested material. The ADLMD will identify an off-loading site and a dumping site for harvested plant material.

Based on harvesting reports from Rice Lake in Barron County (Trigg, 2011 & 12), opening and maintaining 60 acres of navigation channels in Rice Lake from July – September produced about 5 tons of wet plant biomass per acre. Almost 95% of aquatic plant biomass when first harvested is water. It is expected that 4-8 acres of dense growth CLP and navigation and access corridors will be harvested annually from Amnicon Lake, producing 20-40 tons of wet plant biomass annually. Once draining and drying has occurred only 1-2 tons of plant material will remain.

12.3.4 Purple Loosestrife

Purple loosestrife control will be continued to prevent it from becoming monotypic stands along the shoreline and in adjacent wetlands. Success will be measured by keeping this plant at levels equal to or below current levels. Appropriate management alternatives for purple loosestrife control include hand-pulling and digging and biological control (*Galerucella* beetles). Monitoring Amnicon and Dowling Lakes for new purple loosestrife plants will be completed by volunteers in July and August. The District will identify and offer training and support materials to the volunteers. Physical removal will be used to control individual plants or isolated pioneering sites.

12.4 Education and Awareness

Providing education and outreach opportunities and materials to the lake community will improve the general knowledge base and likely increase participation in lake protection and restoration activities. To allow for greater and easier distribution, the District will condense the Executive Summary, Implementation Plan, Aquatic Plant Management Goals, Objectives and Actions, and the Rapid Response Plan (Appendix F) and any other portions of this report deemed necessary into a summary report available to the membership.

The Amnicon-Dowling Lake Management District will continue to cultivate a lake community that is aware of aquatic invasive species and has enough knowledge to aid in detection, planning, and implementation of management alternatives. The District should also foster a greater understanding and appreciation of the entire aquatic ecosystem and the important role plants, animals and people play in that system.

It is important for the lake community and lake users to know how their activities impact the aquatic plants and water quality of the lakes. The District will distribute educational materials and provide educational opportunities on aquatic invasive species and other factors that impact Amnicon and Dowling Lakes. At least one annual activity (Lake Fair, public workshop, guest speakers, etc.) will be sponsored and promoted by the District that focuses on aquatic invasive species. Maintaining signs and continuing active inspections of watercraft at public launches will educate boaters about what they can do to prevent the spread of aquatic invasive species. Results of water quality monitoring should be shared with the lake community at the annual meeting or another event to promote a greater understanding of the lake ecosystem which may increase participation in planning and management.

The District will also provide education and informational materials related to wildlife and wildlife monitoring programs during public events, in newsletters, on the webpage, and during public meetings. Volunteers are currently participating in the Loon Watch program sponsored by the Sigurd Olson Institute. Other programs sponsored by the Citizen-based Monitoring Network of Wisconsin (<http://wiatri.net/cbm/>) will be promoted by the District and member participation encouraged. The District will help make arrangements for training opportunities for these and other wildlife monitoring and appreciation events.

12.5 Research and Monitoring

The purpose of this recommendation is to develop a better understanding of the lakes and the factors affecting lake water quality through continued and expanded monitoring efforts.

12.5.1 Water Quality

Volunteers will continue to participate in the Citizen Lake Monitoring Network (CLMN) Water Quality Monitoring Program. Water clarity (Secchi), temperature, total phosphorus, and chlorophyll-*a* should be completed at monitoring station 163120 (Deep Hole) in Amnicon Lake and station 163091 (Deep Hole) in Dowling Lake. Since Amnicon is a *Long Term Trend Lake*, the WDNR may already conduct phosphorus and chlorophyll-*a* monitoring at station 163120, so efforts need not be duplicated. This level of monitoring will continue so long as no major aquatic plant management activities or changes to the watershed (for example, large scale development) occur. If large-scale management (≥ 10 acres) of CLP or any other aquatic plant species is completed in either lake, the water quality monitoring efforts will be re-evaluated and potentially expanded.

12.5.1.1 Dissolved Oxygen

The District will evaluate the purchase of a digital dissolved oxygen meter to support their water quality monitoring efforts. Grant funding is available from the WDNR to offset the cost of a water quality meter. Monthly temperature and dissolved oxygen profiles (readings taken at intervals of 3 feet or less from the lake surface to very near the bottom) should be taken at the Deep Hole sites in each lake for at least one year. Determining if stratification occurs in each lake, at what depths, and at what levels will provide valuable information for determining internal nutrient loading and identifying fishery habitat conditions.

Continuing to collect temperature and dissolved oxygen profiles can be used to identify the factors leading to changes to water quality such as aquatic plant management activities, changes in the watershed land use, and the response of the lakes to environmental changes. The background information and trends provided by these data can prove invaluable for comprehensive lake management planning.

12.5.2 Water Quantity

Water quantity monitoring will also be completed. This information can be used for comprehensive planning when determining hydrologic and nutrient budgets. Long-term lake level monitoring can provide information on how much water levels vary in a normal year (or longer time period) which can in turn be used to identify processes that drive lake hydrology and identify processes behind anomalies so management or adaptation can begin. Lake levels can be recorded by reading a staff gauge that is installed on a permanent structure in the lake or placed in reference to a permanent and unchanging structure on the shore. To facilitate daily readings, the staff gauge should be installed at the property of a volunteer who is a permanent resident on the lake.

12.5.3 Comprehensive Lake Management Planning

To further understand those factors affecting the Amnicon and Dowling Lakes and where to focus lake protection and management efforts, the District will develop a Comprehensive Lake Management Plan within the next five years. Comprehensive Lake Management Plans typically address five key components: water quality, aquatic plants, fisheries, the watershed, and public involvement. A Comprehensive Plan will help the District work towards long-term

lake goals such as sustained water quality, a better understanding of the complex lake ecosystem, and increased lake protection.

12.6 Adaptive Management

This Aquatic Plant Management Plan is a working document guiding management actions on Amnicon and Dowling Lakes over the next five years (2014-2018). This plan will follow an adaptive management approach by evaluating results and adjusting actions on the basis of what has been learned. This plan is therefore a living document, successively evolving and improving to meet environmental, social, and economic goals, to increase scientific knowledge, and to reduce tensions among stakeholders. Annual and end of project assessment reports are necessary to monitor progress and justify changes to the management strategy. Project reporting will meet the requirements of all stakeholders, gain proper approval, allow for timely reimbursement of expenses, and provide the appropriate data for continued management success. Success will be measured by the efficiency and ease in which these actions are completed

The District will compile, analyze, and summarize management operations, public education efforts, and other pertinent data into an annual report each year. The information will be presented to members of the District, Douglas County and the WDNR and made available in hardcopy and digital format on a website that has yet to be developed by the District. These reports will serve as a vehicle to propose future management recommendations and will therefore be completed prior to implementing following year management actions (approximately March 31st annually). At the end of this five year project, all management efforts (including successes and failures) and related activities will be summarized in a report to be used for revising the Aquatic Plant Management Plan.

Whole-lake point intercept aquatic plant surveys will be completed at three- to five-year intervals. At a minimum, a survey will be completed in 2017 and the results compared to the 2012 survey to determine the impacts of management activities on both target and non-target aquatic plants.

13.0 Implementation Plan and Funding Sources

Appendix G is an Implementation Matrix to accompany the actions included in this APM Plan. The matrix lists the actions associated with each management objective included in this plan. It indicates in what year or years an action is to take place; who is to complete the action; and what possible funding source there may be for the action. Funding for all eligible management activities including but not limited to shoreline restoration training, AIS monitoring and control, and education and outreach programs will be sought through the WDNR Lake Grant program. Funding for other activities such as maintaining a webpage and developing the newsletter will be generated through lake district funds, donations, and volunteer efforts. Funding for a mechanical harvester will be sought through the WDNR Recreational Boating Facilities Grant.