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## Executive Summary

The last Aquatic Plant Management (APM) Plan for Lake Redstone was prepared by the Chairman of the Lake Redstone Protection District (LRPD) in 2006. The main goal of the 2006 Plan was “*to control all exotic invasive aquatic plants and any others including native ones that reach nuisance levels and restrict navigation and reasonable recreational use of the lake.*” More specifically, “*to chemically control all aquatic plants, exotic and native, in a 50 foot wide area extending outward from shore on each property where nuisance conditions exist*”; and to “*open a channel in the middle of each bay where needed for navigation if serious nuisance conditions exist.*”

The plan supported property owners’ efforts to physically remove all Eurasian watermilfoil (EWM) and curly-leaf pondweed (CLP) or other exotic aquatic plants from this 50-ft section of their shorelines and physical removal of nuisance level native aquatic plants in the 30-ft corridor allowed by the Wisconsin Department of Natural Resources (WDNR) under Wisconsin Administrative Rule NR109. Because environmental conditions such as the amount of snow blocking light penetration through the ice, spring rains and resulting flushing, water temperature and turbidity all affect the rate and timely emergence of aquatic plants, it was also a goal of the 2006 APM Plan to react to these varying cycles when proposing annual treatments to be approved by the WDNR.

The 2006 APM Plan also recognized that native aquatic plants, such as sago pondweed, water lily, and coontail are desirable and contribute to the health of the lake by balancing its chemistry and providing needed habitat for fish and macro-invertebrates upon which fish and wildlife feed. It did not however, outline a strategy for protecting these and other desirable species. When LRPD aquatic plant management proposals started reaching large-scale levels (>10 acres), a more complete APM Plan based on point-intercept plant survey data and approved by the WDNR was needed.

In 2011, the LRPD requested proposals from several consulting agencies in Wisconsin to help guide them through the process of redoing their APM Plan. A Consultant was chosen in late 2011 and the process of developing a new APM Plan was started. Under the guidance of their Consultant and through consultation with the WDNR, the LRPD applied for a small-scale lake management planning grant to fund initial actions including completing a warm-water, point-intercept (PI) aquatic plant survey of the entire lake and hold several meetings with LRPD Board Members and Constituents to discuss more details about the aquatic plant management planning process. During these meetings, the Consultant answered questions and addressed concerns that were expressed by the LRPD during the initial stages of planning. Finally, the LRPD applied for additional funding through the Aquatic Invasive Species Education, Prevention, and Planning (AEPP) grant program to support the completion of an APM Plan for Lake Redstone. This grant was awarded by the state and a new APM Plan was completed.

Lake Redstone has a very limited aquatic plant community with few native plant species, low total acreage, and little biomass when considering the lake’s entire surface area. Because of steep slopes under water and the resulting narrow littoral (plant growing) zone, aquatic vegetation in the lake is sparse except in the shallower inlet bays that are subject to a great deal of sedimentation, where aquatic vegetation can be dense. These shallower bay areas are a major concern to residents because heavy aquatic plant growth often restricts boat access to open water and limits recreational uses.

Aquatic plant management in Lake Redstone has been on-going since the early 1980’s when the use of aquatic herbicides was first employed. In the years between the 1980s and 2002, EWM was chemically treated in small localized populations by LRPD volunteers who had obtained Category 5 commercial applicator certification. Large-scale algae treatments were completed in the 1980’s. By 2002, the level of nuisance aquatic vegetation (EWM and certain native plants) in Lake Redstone reached a point where

professional applicator services were required. Since the early 2000s, plant management permits applied for by the LRPD have included 25-33 acres of possible treatment. In 2009, the WDNR presented results from a critical habitat study that was completed on Lake Redstone. This study identified areas of the lake sensitive to human development and use, and areas where the presence of valuable, native aquatic vegetation should have greater protection from nuisance aquatic plant management actions completed by the LRPD. Lake Redstone property owners have many differing views related to the management of aquatic plants, or what many recognize only as weeds. Many have expressed dissatisfaction with the aquatic plant management actions implemented by the LRPD.

Many lake residents and users want improved water clarity in the lake and, at the same time, fewer plants, without realizing that these two statements are mutually exclusive. Aquatic plants in Lake Redstone are the basis of the ecosystem. Preserving them is critical to maintaining a healthy lake. As the basis of the food pyramid, they provide habitat for other aquatic organisms, are important food sources for waterfowl and other wildlife, stabilize the shoreline, and work to improve water clarity by absorbing excess nutrients from the water. A balance must be struck between management with the goal of protecting a healthy lake and management with the goal of protecting the rights of property owners to enjoy the lake.

This APM Plan seeks that balance by building on past management efforts and introducing some new management actions that will help accomplish the following ten aquatic plant management and lake protection goals.

- 1) Protect, preserve and enhance native aquatic plant communities in Lake Redstone
- 2) Complete annual monitoring and mapping of aquatic plants most affected by plant management actions
- 3) Implement physical/manual removal actions to control aquatic invasive species and nuisance growth of native aquatic plants
- 4) Implement herbicide application to control aquatic invasive species and nuisance growth of native aquatic plants
- 5) Monitor and manage non-native, invasive plant species other than CLP and EWM identified in Lake Redstone
- 6) Educate the lake populace so that they become well-acquainted with aquatic invasive species identification, prevention techniques, planning processes, and management actions
- 7) Promote greater understanding in the lake populace of how their actions impact the aquatic plant and lake community
- 8) Continue compilation and collection of lake related data to enhance and support current and future lake management planning and implementation
- 9) Complete APM Plan implementation and maintenance for a period of five years following adaptive management practices
- 10) Evaluate and summarize the results of the management actions implemented during the 5-year timeframe of this plan and repeat the whole-lake point-intercept aquatic plant survey implemented in 2012

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## **Executive Summary (Continued)**

Each goal has several objectives to be met and identifies management actions to help meet the objectives. All of the management goals, objectives, and actions are listed in Appendix G. Appendix H is an implementation matrix that provides a timeline to consider when implementing the actions in this APM Plan.

This APM Plan is intended to be a tool for use by the LRPD to move forward with aquatic plant management actions that will improve issues of concern as they pertain to Lake Redstone. This plan is not intended to be a static document, but rather it is a living document that will be evaluated on an annual basis and updated as necessary to ensure goals and community expectations are being met. This plan is also not intended to be put up on a shelf and ignored. Implementation of the actions in this plan is highly recommended.