MANAGEMENT RECOMMENDATIONS AND PLAN IMPLEMENTATION 3

Whitewater and Rice Lakes are very different aquatic ecosystems. This situation warrants differences in the aquatic plant management plans employed within each Lake. Rice Lake is shallow with sparse aquatic vegetation, limited to very few species and suffers from persistent algae blooms throughout recreational months. Whitewater Lake, as a deeper lake with more open water, has a healthier aquatic plant community, including a few more sensitive aquatic plant species as discussed in Chapter 2. Invasive aquatic plants, particularly EWM, are present in both Lakes. However, the presence of EWM has been greatly reduced in Whitewater Lake. Aquatic plant management continues to be an important issue of concern to the communities and visitors of both Lakes.

Holistic management alternatives and recommended refinements to the existing aquatic plant management plan are presented in this chapter. These measures focus upon in-lake actions (e.g., active aquatic plant management, stakeholder education, riparian outreach), activities that are primarily (and oftentimes solely) District responsibilities. Given the scope of this study, little emphasis is given to measures whose scope and location are more suitably taken up by other governmental agencies. For example, agencies with jurisdiction over areas tributary to the Lakes (e.g., Town or County government) may be better suited to address measures to reduce nutrient inputs to the Lakes. Reduced nutrient input can passively reduce aquatic plant abundance and thereby tangibly influence aquatic plant management. Nevertheless, to most effectively manage aquatic plants, the District should actively seek out and collaborate with such agencies.

3.1 RECOMMENDED AQUATIC PLANT MANAGEMENT PLAN

The most effective plans to manage nuisance and invasive aquatic plant growth generally rely on a combination of methods and techniques. A single-minded "silver bullet" strategy rarely produces the most efficient, most reliable, or best overall result. Therefore, to enhance lake access, recreational use, and lake health, this plan recommends a combination of six aquatic plant management techniques. For the reader's convenience, the various elements of the recommended aquatic plant management plan are identified and briefly summarized in the following paragraphs.

1. **Mechanically harvest invasive and nuisance aquatic plants.** Mechanical harvesting should remain a method to manage invasive and nuisance aquatic plants on both Whitewater and Rice Lakes. Harvesting must avoid, or must be substantially restricted, in certain areas of both Lakes. This includes areas of particular ecological value, areas that provide unique habitat, areas that are difficult to harvest due to lake morphology (e.g., excessively shallow water depth), and where boat access is not desired or necessary (e.g., marshland areas).

2. **Manually remove nearshore invasive and nuisance plant growth.** Manual removal involves controlling aquatic plants by hand or using hand-held non-powered tools. Riparian landowners should consider manual removal of undesirable plants an integral and vital part of the Lakes' overall plant management plan. Manual removal is often the plan element that yields the transitional interface between landowner uses, desires, concerns, and public management of the overall waterbody. Manual removal does not require a permit if riparian landowners remove only invasive plants without injuring native plants or remove nuisance native aquatic plants along 30 or less feet of shoreline (inclusive of dock, pier, and other lake access areas) and generally not more than 100 feet into the lake.

3. **Use diver assisted suction harvesting (DASH) in high-use, congested, nearshore areas.** Riparian landowners could supplement or supplant manual harvesting by using DASH. If an individual landowner chooses to implement DASH, the activity is typically confined to the same area undergoing manual aquatic plant control – it is not a method to increase the amount of lakefront undergoing active management. DASH requires a Chapter NR 109 permit.

4. **Chemically treat navigational shorelines in early spring to control Eurasian water milfoil, hybrid water milfoil, and curly-leaf pondweed in areas where these plants begin displacing the native community**. Chemical treatment, along with mechanical harvesting, have been the primary methods of aquatic plant management employed in both Whitewater and Rice Lakes, and have been an effective short-term management technique for navigation and access. If chemical treatments continue to be applied along developed shoreline and critical boating areas that cannot be mechanically harvested, treatment should only occur in the early spring when human contact and risks to native plants are most limited. A WDNR permit and WDNR staff supervision are required to implement this alternative. Lakeshore property owners need to be informed of the chemical treatment and permit conditions well before chemicals are applied.

5. **Monitor established and novel chemical treatments**. Chemical treatment for aquatic plant control has a number of drawbacks (e.g., water quality, comparatively nonselective, chemical side effects, and more) that should be considered. Since the District is now utilizing the novel herbicide ProcellaCOR™, regular monitoring is recommended to evaluate the efficacy and long-term effects of this chemical and other chemicals being utilized. Staggering of treatment of various areas of the Lakes is recommended. Sub-Point Intercept surveys could be considered to monitor areas that have been chemically treated in order to assess effectiveness and biodiversity.

6. **Consider participation in the Clean Boats Clean Waters program** to proactively encourage Lake users to clean boats and equipment before launching and using them in both Lakes in order to reduce the probability of invasive species entering the Lakes and traveling to other Lakes.

Mechanical Harvesting

The District operates several vehicles for their harvesting program. These include:

- 7 Foot Harvester (HM-420)
- 10 Foot Harvester (HM-620 equivalent)
- 12 Foot Harvester (HM-820)
- Small Transport Barge (TR-34)
- Large Transport Barge (TR-45)

These full-size harvesters are well suited to open water areas where water is generally greater than 36-inches deep. Additionally, the District could consider acquiring a mini harvester such as an Aquarius Systems Model FB-120 to allow it to efficiently harvest plants in shallow and/or congested nearshore areas. The Model FB-120 can be operated in as little as 18 inches of water and, due to its smaller size, is very maneuverable. In shallow waters, slow speed operation and extreme diligence must be taken to avoid contacting the lake bottom with the cutter head. In all areas, at least one foot of living plant material must remain attached to the lake bottom after cutting.

1. **Maintain at least 12 inches of living plant material after harvesting**. The District's current aquatic plant harvesters can cut aquatic plants up to 66 inches below the water surface. Harvesting equipment operators must not intentionally denude the lakebed. Instead, the goal of harvesting is to maintain and promote healthy native aquatic plant growth. Harvesting invasive aquatic plants can promote native plant regrowth since many invasive aquatic plants grow very early in the season depriving later emerging native plants of light and growing room. At least one foot of living plant material must be retained after harvesting to reduce resuspension of lake-bottom sediments and to maintain desirable plant communities. When water depths are shallow (e.g., less than four or five feet deep), slow speed and extreme care must be employed while harvesting aquatic plants to avoid contacting the harvester's cutter head with the lake bottom.

2. **Collect and properly dispose harvested plants and collected plant fragments**. Plant cuttings and fragments must be immediately collected upon cutting to the extent practicable. Plant fragments accumulating along shorelines should be collected by riparian landowners. Fragments collected by the landowners can be used as garden mulch or compost or may be picked up by harvester operators. All plant debris collected from harvesting and riparian landowner plant pickup must be properly disposed. Harvested/collected plant material will be offloaded at one of four disposal sites located around Whitewater Lake and one location in Rice Lake (Map 3.1). A conveyor will transfer plant material to a dump truck which will in turn transport harvested plants to a disposal site. The locations of the currently approved disposal sites are shown in Map 3.1. Detailed maps of each disposal site are found in Maps 3.2, 3.3, 3.4, and 3.5. Disposing any aquatic plant material within identified floodplain and wetland areas is prohibited. Plant material will be collected and disposed daily to reduce undesirable odors and pests, to avoid leaching nutrients back into waterbodies, and to minimize visual impairment of lakeshore areas. Operators will stringently police the off-loading to assure efficient, neat operation.

3. **Adapt harvester cutting patterns and depths to support lake use and promote ecological health**. Aquatic plant harvesting techniques should vary in accordance with the type and intensity of human recreational use, lake characteristics, the distribution and composition of aquatic plants, and other biological considerations. For example, in sensitive areas, relatively wide transit lanes connect boat launches, highly populated shorelines, and open-water areas. Narrower access lanes connect less trafficked areas and sparsely populated shorelines to open-water areas and transit lanes. The approaches to employ in differing management areas are summarized below and illustrated in Map 3.6.

    a. Navigation Lanes: Channels about 50 feet wide are intended to provide travel thoroughfares for recreational watercraft. These channels generally parallel the shoreline or cross a Lake. Plant cutting depth will be no more than five feet deep below the water's surface. At least one foot of plant material must remain on the Lake bottoms to minimize resuspension of lake-bottom sediment and maintain desirable plant communities.

    b. Access Lanes: Channels about 20 feet wide are intended to provide access to the main water body. These channels are generally perpendicular to the shoreline. Plant cutting depth will be no more than three to four feet deep below the water's surface. At least one foot of plant material must remain on the Lake bottoms to minimize resuspension of lake-bottom sediment and maintain desirable plant communities.

    c. Sensitive Areas: As described previously, Whitewater Lake has five WDNR-designated sensitive areas that have restrictions for chemical treatment and harvesting. Navigation lanes may be cut 50 feet wide and no more than three feet deep in Sensitive Areas one, two, and five if aquatic plants become a nuisance and impede navigation. At least one foot of plant material must remain on the Lake bottoms to minimize resuspension of lake-bottom sediment and maintain desirable plant communities.

    d. Top-Cut Areas: These areas are found only in open water portions of Whitewater Lake outside of sensitive areas where water depth is anticipated to support rooted aquatic plant growth. Aquatic plants should be monitored for the presence of invasive species, and mechanical harvesting work should focus on areas dominated by invasive species or areas needed to promote reasonable recreational use of the Lake. Top-cutting may be cut between three to five feet below the water's surface. At least one foot of plant material must remain on the Lake bottoms to minimize resuspension of lake-bottom sediment and maintain desirable plant communities.

    e. Open Water Areas: Deep-water areas of Whitewater Lake where water depth precludes growth of vascular rooted aquatic plants. No control should be necessary in these areas.