

MEMORANDUM

Comfort Lake-Forest Lake Watershed District

To: Board of Managers
From: Mike Kinney
Subject: April AIS Update

Date: April 9, 2019

Background

The 2019 Aquatic Invasive Species (AIS) Prevention and Management Plan was distributed at the March 28, 2019 regular board meeting. Since that time, there haven't been any substantial updates within the program. The usual AIS Update will be provided at the May 23rd regular board meeting. For the April 18th meeting, instead of providing the usual update, staff proposes to provide some educational information regarding invasive plant treatments.

At the April 8th special board meeting, there was some discussion regarding AIS and invasive plant treatment regulations. This topic has been discussed several times in the past. However, the subject matter can be complex and oftentimes confusing. The purpose of this memo is to ensure the Board and staff all have a clear understanding of applicable regulations.

Invasive Plant Treatment Regulations Summary

Types of Permits

The Department of Natural Resources (DNR) regulates many forms of aquatic plant management (e.g. both invasive and native plant management, chemical and some mechanical treatments). The DNR offers two types of permits for managing aquatic vegetation:

1. The **aquatic plant management (APM) permit** can be used to manage all aquatic plants, whether they are native or invasive. This permit is generally issued to lake homeowners or groups of lake homeowners who want to maintain a clear area near their property for recreation. This permit has an associated fee (typically \$35.00 per landowner) and no grant funds are available. According to the DNR's website: "The purpose of the DNR's aquatic plant management program is to balance native plant conservation with the desires of lakeshore residents to recreate and access their property," (www.dnr.state.mn.us/apm/index.html, accessed 4/9/19). To staff's knowledge, the CLFLWD has never obtained an APM permit. The District does help the City of Forest Lake apply for its APM permit for the mechanical harvester.
2. The **invasive aquatic plant management (IAPM) permit** is designed for targeted treatment of invasive plants. Impacts to native plants are to be avoided when doing work under an IAPM permit. This is the permit that the District obtains for herbicide treatments (e.g. curly-leaf pondweed and flowering rush treatments). The DNR only issues one IAPM permit per lake, per species, per season. In the past the DNR offered a grant program for invasive plant treatments but has not had funding to offer the program in 2018 or 2019. According to the DNR's website: "The DNR's goal of invasive plant management is to minimize harmful effects caused by invasive plants while also protecting the natural resources and their use in the State. Once an invasive species is established in a waterbody, eradication is an unrealistic goal," (www.dnr.state.mn.us/invasives/iapm.html, accessed 4/9/19).

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150-foot Shoreline Area

Under the IAPM permit, if treatment within 150 feet of the shoreline is proposed, the permittee must either:

1. Obtain signatures from all landowners within 150 feet of the treatment area, or
2. Obtain a signature waiver from the DNR.

In the earlier years of the AIS program, the District obtained signatures for several of its invasive plant treatments which was a time-consuming process that threatened to delay treating within the optimal time window. In more recent years, the District has obtained signature waivers on Forest Lake, Bone Lake, and Comfort Lake. In order to do this, staff submitted a written request to DNR which explained why obtaining signatures is an undue burden (i.e. timing delays lowering treatment efficacy). The request must be approved by DNR. Then the District was required to ensure an approved form of alternative notice was provided prior to treatment (e.g. news media release, public notices in a local newspaper, public meeting, or mailing to all affected landowners). The CLFLWD has provided a combination of all of these methods in the past. Note that landowners may still “opt out” of having treatment done within 150 feet of their shoreline if they submit a request to the District. Staff have not received many of these in the past, but there have been a couple opt out requests related to flowering rush treatment, which were relayed to the herbicide application contractor.

Mitigating Impacts (15% Littoral Area Limit and Water Lilies)

The DNR aims to preserve the natural ecology of waterbodies and avoid significant impacts to native plant species. As such, it enforces certain limitations on plant management. One of which is reserving the right to deny proposed treatments that are within approximately 50 feet of native plants such as water lilies. It is common for DNR staff members to perform a field survey of the proposed treatment area prior to issuing the permit. It is during this survey that they may identify the need for such limitations. Additionally, DNR sets limits on the cumulative acreage of management in a given waterbody in a given year. DNR’s website explains:

The littoral area is the surface area of a body of water where the depth is 15 feet or less and where most aquatic plants will grow. The littoral area is used to calculate the cumulative area in which aquatic plant management may occur. The following permit restrictions are intended to reduce risk of damage to native plants and impacts to water quality. Additional information is available on the [value of aquatic plants and water quality](#).

- **Mechanical Removal:** cannot exceed 50% of the littoral area
- **Herbicide:** cannot exceed 15% of the littoral area
- **Mechanical and Herbicide Combined:** cannot exceed 50% of the littoral area

In some instances, the DNR may allow treatment of more than 15% of the littoral area with herbicides or more than 50% with mechanical removal under a variance and a permit.

Note that the littoral area and 150-foot distance from the shoreline are not always one in the same, though there will always be some amount of overlap. In past years, the District began drafting lake vegetation management plans (LVMPs) for some lakes in preparation for applying for a variance, as described above. However, the draft LVMPs were never finalized due to the need for variances being low at that time.

Resources (hyperlinks)

CLFLWD Materials

- [September 30, 2015 memo – Lake Vegetation Management Plans](#)
- [Shoreline Homeowner Tools and Rules Handbook](#) (invasive species summary on pg. 3)

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DNR Materials

- [Invasive Aquatic Plant Management webpage](#)
- [Aquatic Plant Management webpage](#)
- [References on management of aquatic plants](#)
- [Wisconsin DNR and USACE - Small-scale herbicide treatments](#)
- [Herbicide treatments in Wisconsin lakes](#)
- DNR Best Management Practices
 - [Eurasian watermilfoil](#)
- [Invasive Species Specialist Contacts](#)

Blue Water Science

- [Curly-leaf pondweed growth characteristics fact sheet](#)

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Comfort Lake-Forest Lake Watershed District

To: Board of Managers **Date:** August 24, 2017
From: Mike Kinney
Subject: Eurasian Watermilfoil Management Considerations

Introduction

The purpose of this memo is to assist the Board in discussing the benefits and drawbacks of the District managing Eurasian watermilfoil (EWM) on its lakes; specifically Bone, Forest, and Comfort lakes.

The new Watershed Management Plan activity, per the current amendment, for Aquatic Invasive Species (AIS) Management reads as follows:

G. (District-Wide) Aquatic Invasive Species Management: Holistically manage aquatic invasive species in District lakes with a view toward the overall health of the water body. Policies and goals in the CLFLWD Watershed Management Plan are designed around the ecological integrity of water resources within the District. Accordingly, the District's involvement in the long-term management of AIS present will be based on the benefit to ecological systems. Specific procedures and priorities for implementing this complex and multi-faceted activity will be detailed under activity 3011-20A Comprehensive Plan and Policy Development.

This language can be used as a starting point for which the board may prioritize objectives for invasive species management. Factors when considering the District's role in managing EWM:

1. Known life cycle of EWM
2. Benefit to the health of the waterbody via water quality improvement
3. Benefit to the health of the waterbody via native flora/fauna protection (i.e. benefit to ecological systems)
4. Prevention of spread to other waterbodies that do not currently have EWM
5. Benefit to public recreation users (and subsequently local economy via tourism)
6. Benefit to private recreation users (i.e. shoreline homeowners)
7. Precedence for watershed district management of EWM

District staff corresponded with Steve McComas, owner of Blue Water Science, regarding several of the above considerations. Quotes from Mr. McComas are provided below.

Consideration #1: Known life cycle of EWM

EWM growth is mainly limited by lake sediment nitrogen availability. Long-term life cycles of EWM have been observed in other lakes suggesting a predictable initial stem density boom, but then a noticeable decline once sediment nitrogen has been used up. This eventual decline in density is something to consider when weighing long-term management options.

Consideration #2: Benefit to waterbody health via water quality improvement

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It is widely known that, unlike curly-leaf pondweed, EWM does not experience mid-summer die back and subsequent phosphorus release, resulting in water quality degradation. In fact, Mr. McComas has indicated that with the additional leaflet surface from EWM growth, water column total phosphorus could be lowered.

Consideration #3: Benefit to waterbody health via native flora/fauna protection

According to Mr. McComas: “the biggest impact of untreated EWM is recreational and navigational impacts. There are few ecological impacts of not treating EWM. Any EWM treatment should be considered as a treatment for seasonal control. We do not have any good long term control options.” This is to say that EWM treatments do not result in long-term density reduction; they simply reduce density for the current year.

One option the Board may wish to consider is budgeting for annual delineation surveys by Blue Water Science in order to assess whether stem densities may have an ecological impact in any given year. Treatment could be funded from the District’s reserve if the delineation survey predicts significant ecological impacts.

Consideration #4: Prevention of spread to other waterbodies that do not currently have EWM

Theoretically, reducing the abundance of EWM may reduce the instance of boaters traveling through beds, picking up stems on their watercraft, and threatening to spread EWM to other waterbodies if not properly cleaned off before travel and re-launch.

According to Mr. McComas: “treating heavy EWM growth could reduce the potential for the spread of EWM to other lakes. However, there is a potential to spread EWM from boating activities whether EWM is treated or not. Typically not all the EWM is treated anyway. We still rely on boaters to inspect and remove plants from their boat trailers.”

Consideration #5: Benefit to public recreation users (and subsequently local economy via tourism)

Mr. McComas has advised that: “the EWM condition in the nearshore area is primarily a recreational issue along with aesthetic concerns.” While the District’s main focus is water quality improvement via capital improvement projects (as indicated by makeup of the WMP and agreement by multiple board members on a variety of occasions) secondary public benefits may be attained by the management of EWM. Some of these include public recreation benefits (all three lakes with EWM have public boat launches), and subsequently, promotion of local tourism. As we’ve seen through our watercraft inspection survey data, boaters come from all over the state to launch at Forest/Bone/Comfort lakes. Reducing abundance of EWM may improve recreational quality, especially for those boaters that prefer to boat in the shallows, such as carp fishermen. Improving these nearshore areas for public users could result in higher public use, and in theory more local economic stimulation from outside visitors.

Consideration #6: Benefit to private recreation users (i.e. shoreline homeowners)

Within this memo, shoreline homeowners are categorized separately from public users due to 1) their focus on the nearshore area (most boaters other than fishermen generally recreate in deeper waters where plants do not grow) and 2) their less-direct impact on local tourism since they tend to be local residents

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themselves. Due to shoreline owners' direct relationship to the nearshore (littoral) area, they tend to benefit most from aquatic plant management efforts.

Anecdotally, many shoreline residents seem to be in favor of the District treating EWM. At the same time, some residents seem to be dissatisfied with the District's methods/limitations for treating EWM. District staff has had significant correspondence with a variety of shoreline homeowners that have expressed frustration regarding treatment area delineation methods (e.g. some shoreline owners would prefer all EWM stems are treated, not just the nuisance growth areas as delineated by Blue Water Science), and treatment area limitations (e.g. the DNR permit limits on treating near water lilies). This year, the District did not treat EWM on Bone Lake due to observed low densities during the delineation survey. It appeared that treatment of EWM had already occurred; presumably by shoreline homeowners. Additionally, many shoreline homeowners seem to desire general control of aquatic plants, invasive or otherwise. This type of treatment is the focus of the DNR's Aquatic Plant Management permit, which is specifically targeted for private shoreline homeowners for recreational benefits/watercraft access to open water.

If benefiting shoreline homeowners is a goal for the District, the Board may want to consider whether the District's methods and governmental limitations make it a suitable candidate for meeting that goal. It might be possible that the lake associations are better suited for this goal. If the Board wanted the District to subsidize treatments by lake associations, they might consider the program that the Chisago Lake Improvement District (LID) currently has wherein the lake associations are in control of the treatments; they do the surveying and contracting. The LID reimburses the lake associations for most of the cost. More details on this program are available upon request.

Consideration #7: Precedence for watershed district management of EWM

Currently, neither District staff nor Mr. McComas are aware of any other watershed districts that treat EWM. This is largely due to the lack of water quality impact.

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To: Board of Managers

Date: June 20, 2019

From: Mike Kinney

Subject: Eurasian Watermilfoil Treatment Methodology

Background/Discussion

During the 2019 budgeting process, it was decided that the District would not budget for Eurasian watermilfoil (EWM) treatments in 2019. There was discussion among the managers that the District could provide guidance to local lake associations and residents regarding best practices for treating EWM. Staff researched this topic and recommends the following points.

First, the District staff are always available to assist lake associations, their members and citizens in general in understanding the ecology and regulations regarding EWM in any District lake. As a part of that service, District staff rely in general on the MN Department of Natural Resources (DNR) for most guidance on aquatic plant management (invasive or otherwise). As such, staff readily shares that same information with residents and helps in explaining various elements as needed. The DNR has regulated such activities for many years and utilizes full time professional staff to review proposed treatments (oftentimes performing field reviews) and issue permits. As such, the District may want to continue to reach out to local lake residents and lake associations to increase knowledge and awareness of the various regulations associated with managing aquatic plants. For example, any time chemicals are used to treat aquatic plants (invasive or otherwise), a permit is required.

Staff recommends that the first step in properly treating EWM is to ensure the necessary permits are obtained if appropriate. By working with the DNR's regulatory program, staff predict that many improper treatment techniques will be avoided, because the DNR will review and decide whether they are appropriate. For example, if a group or organization is proposing something that would cause too much damage to native plants, DNR would make the call to stop that activity. DNR has our lakes' ecological integrity and native plant populations' best interests in mind.

Beyond conforming to regulations, homeowners may wish to use some other best practices to ensure optimal long-term management of EWM. One such best practice is alternating the type of herbicide being used every 3-4 years in order to prevent developing resistant strains. There are many types of herbicide available to treat EWM. Two common types, as identified by their active ingredient, include 2,4-D and triclopyr. There are a variety of brand names that utilize each active ingredient. Some, such as Navigate and Alligare for example, only use 2,4-D. Some, such as Renovate for example, only use triclopyr. If treated for many years in a row with the same active ingredient, EWM may develop a resistance to the herbicide. Many herbicide applicators recommend alternating between 2,3-D and triclopyr roughly every 3-4 years to prevent developing resistance. For more details on this, residents are encouraged to reach out to the DNR and herbicide application professionals.

If organizations are considering mechanical removal methods, as opposed to chemical control, staff recommends that they make certain to carefully collect as many EWM fragments as possible. EWM in particular tends to propagate from fragments and spread throughout the lake. If using mechanical control methods, such as hand pulling or using a harvesting machine, extra care should be taken to collect and dispose of any severed EWM fragments.

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Finally, staff recommends that, in cases of large-scale management strategies, homeowners are encouraged to work with licensed professionals. Some herbicide applicator professionals recommend that homeowners are perfectly capable of performing do-it-yourself treatments for small-scale situations (e.g. treating aquatic plants along 50% of their own shoreline area). In these cases, homeowners still need to get a permit and follow the herbicide product label instructions. As treatments start to increase in size and scope, utilizing a trained and licensed professional may become more and more necessary. For larger treatments, licensed applicators may be better equipped to properly identify the target plant and use proper dosing methods.

In summary, staff recommends that the following best practices when it comes to EWM management:

1. **Know the rules and get a permit.** DNR's professional staff are charged with protecting our lakes, while keeping in mind that there is a reasonable level of plant management that can occur.
2. **Consider methods to prevent developing herbicide-resistant strains when using chemical control techniques.** Alternative type of herbicide every 3-4 years or so and consult with DNR and herbicide applicator professionals on the matter.
3. **Take care to prevent spread of fragments when using mechanical control techniques.**
4. **Consider hiring a professional to implement your treatment.** Small-scale applications, such as single shorelines, may oftentimes be appropriate for a do-it-yourself treatment, but larger scale operations may be better suited for a licensed professional.

Aquatic plant management is a complex topic with many details to consider. The District can be a resource for local residents and homeowner organizations to turn to. While District staff may not be able to answer every question there is on the matter, we can usually direct people to the right sources of information. District staff will continue to maintain relationships with local lake associations and provide resources to help residents protect and improve their lakes.

No action is recommended for this agenda item, unless the Board wishes to give staff some specific direction on this matter.