

**Submersed Aquatic Vegetation (SAV) Management Policy**

xxxxxxxxxxxxxx, 2018

DRAFT

The Shingle Creek Watershed Management Commission works in partnership with its member cities, Hennepin County, MnDOT, and other parties to protect and improve lakes, wetlands, and streams in the watershed. The Commission's goal is to meet State of Minnesota water quality standards and to promote a healthy and diverse community of native aquatic organisms and vegetation. To achieve that goal the Commission may periodically partner with one or more member cities to undertake lake internal load management projects for water quality, such as alum treatments or rough fish management. As lake water clarity improves in response to that project, native and non-native submersed aquatic vegetation (SAV), including aquatic invasive species (AIS) such as curly-leaf pondweed or Eurasian water milfoil, may become more abundant and negatively impact water quality. This policy sets forth the standards and actions the Commission will take to assist in managing AIS.

1. Prior to undertaking any internal load improvement projects, the Commission will obtain spring and late summer SAV surveys, and compile all known information about SAV and SAV management for the previous five years.
2. Commission staff will review SAV data with the DNR to determine likely SAV response to internal load reductions and SAV management options.
3. On lakes with an existing infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission will undertake chemical or mechanical treatment for three growing seasons following the internal load project or as necessary to address the non-native AIS infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, vegetation management plans, and permits and variances.
4. On lakes with no or minimal infestation of non-native invasive SAV such as curly-leaf pond weed and/or Eurasian water milfoil, the Commission may provide spot treatment to prevent spread of the invasive species for up to three years or as necessary to minimize the ecological and water quality impacts of the infestation. The Commission will incur all costs of this treatment, including vegetation surveys, treatment delineations, and permits.
5. The Commission will continue to undertake routine SAV surveys on its regular, published schedule and may provide spot treatment of AIS as necessary to keep the AIS in check.
6. Lakeshore property owners may at any time undertake shoreline SAV management in accordance with DNR regulations at their own expense. The Commission will not participate financially in the cost of SAV management performed for recreation and access purposes.
7. At the request of a majority of lakeshore owners, and at their expense, the Commission may act as fiscal and contracting agent to provide SAV management for recreation and access purposes. If the lakeshore owners or lake association wishes to form a Lake Improvement District, the Commission may provide technical assistance and liaison with Hennepin County and the DNR.

# Technical Memo



**To:** Ed Mathisen, Wenck Associates, Inc.  
Diane Spector, Wenck Associates, Inc.

**From:** Tom Langer, Wenck Associates, Inc.

**Date:** January 30<sup>th</sup> 2018

**Subject:** Twin Lake Aquatic Vegetation Management Plan (AVMP)

The purpose of this technical memorandum is to outline the goals, objectives and timeframe for vegetation management on the Twin Lake chain of lakes following the winter removals of common carp in 2018. The phase is a proactive phase that assumes common carp densities have been reduced below critical thresholds and a significant change in water quality occurs in the summer of 2018 which stimulates an abundance of vegetation growth within the Twin Lakes, especially in Upper Twin Lake.

## Vegetation Management Goal and Objectives

With the anticipated results of improved water clarity resulting from fish management in the Twin Lake system we are also expecting a significant enhancement of the submerged aquatic vegetation (SAV) community and overall biological community health (measured via Indices of Biotic Integrity; IBI). Specifically, we anticipate:

- the number of species will increase,
- the spatial coverage of vegetation will increase, and
- the biomass of vegetation will increase.
- IBI scores will improve.

These ecological responses to improved water quality are perceived as beneficial to the overall ecosystem health, therefore, the intention of the AVMP is not to prevent these items from occurring but rather facilitate them. Vegetation management activities are intended to target and limit a significant rebound in vegetative AIS within the lake and restore a diverse and healthy native SAV community. Rather than waiting to see if the native community can outcompete and displace AIS we are actively choosing to be proactive and help ensure the AIS do not gain the upper hand in becoming pervasive within the basin. Currently, curlyleaf pondweed (CLP) is the only dominant vegetative AIS species in Twin Lake system (most notable in the Upper Twin basin) and is the focus species of management activities within the AVMP.

The objectives and success of activities of the AVMP will be addressed through:

- 1) Evaluating the SAV community pre-improvement project.
- 2) Delineating current locations of AIS.
- 3) Implementing activities that reduce, eradicate or control current population of AIS.
- 4) Assessing the effectiveness of implemented activities.
- 5) Evaluating the SAV community post-improvement project.

Below we provide specific tasks and target completion dates. These items need to be reviewed and approved by the MnDNR.

## Activity Timeline

	Task	Completion Target Date	Comment
<b>Pre-treatment efforts</b>	Pre-improvement SAV evaluation	Completed	The last point-intercept surveys were conducted in 2016 (Upper) and 2012 (Middle & Lower). These surveys will be used to provide context to current SAV communities within the basins.
	Develop AVMP	May 2018	Develop a vegetation management strategy and receive MnDNR approval.
	Landowner signatures	May 2018	Need approval for treating CLP within 150 feet of shoreline.
<b>Year 1</b>	Delineate curlyleaf pondweed (CLP)	May 2018	Determine extent and locations of CLP for treatment.
	CLP variance application	June 2018	Apply and be granted variance if treatment area exceeds permitted area.
	Treat CLP	June 2018	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2018	Conduct field assessment to determine effectiveness of treatment.
<b>Year 2</b>	Delineate CLP	May 2019	Determine extent and locations of CLP for treatment. Anticipated to be equal to or less than previous year.
	Treat CLP	June 2019	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2019	Conduct field assessment to determine effectiveness of treatment. Assess residual impact from previous year.
<b>Year 3</b>	Delineate CLP	May 2020	Determine extent and locations of CLP for treatment. Anticipated to be equal to or less than previous year.
	Treat CLP	June 2020	Treat CLP. Anticipated to be equal to or less than previous year.
	Evaluate Treatment Success	July 2020	Conduct field assessment to determine effectiveness of treatment. Assess residual impact from previous years.
	Post-improvement SAV evaluation	August 2020	Conduct point intercept survey across all three basins to determine the impact on the SAV community post-improvement activity.
	Summarize management activities and results	December 2020	Summarize all vegetation evaluation and monitoring results.