Bassett Creek Watershed Management Commission

Aquatic Plant Management/Aquatic Invasive Species Committee Agenda and Notes from Previous Meetings

Tuesday January 24, 2017 ~ 8:30 – 10:30 a.m.

Medicine Lake Room, Plymouth City Hall

1. **Welcome and Introductions**

Attendance at meetings

Committee Member	Sept Mtg	Oct Mtg	Nov Mtg
Commissioner Black	X	X	X
Alt. Commissioner Tobelmann	X	X	X
Commissioner Welch	X		
Commissioner Hoschka		X	
Commissioner Carlson			X
Tony Brough, Hennepin Co.	X		X
Rachael Crabb, MPRB	X	X	X
Rich Brasch, TRPD	X	X	X
Brian Vlach, TRPD	X	X	X
Jen Kostrzewski, Met Council	X		
Shanna Hanson, Sweeney Lake	X	X	
Kip Leonard, AMLAC		X	X
Dave Musliner, Parkers Lake	X		X
Derek Asche, City of Plymouth	X	X	X
Tom Hoffman, City of Golden Valley	X	X	X
Karen Chandler, BCWMC Engineer	X	X	X
Meg Rattei, BCWMC Engineer	X	X	X
Laura Jester, BCWMC Administrator	X	X	X
Keegan Lund, MDNR			X

2. **Review Objectives of BCWMC Role in APM/AIS (Answering the "WHY?") – September meeting**

At the September 27th meeting, the committee discussed and completed the following table to indicate PRIMARY objectives for the BCWMC's possible future role in APM/AIS. The committee discussed the fact that improving water quality and aquatic habitat, and reducing flooding were the main objectives of the Commission's work and should be the primary objectives in dealing with APM/AIS - hence the "X" in these categories.

PRIMARY OBJECTIVE	Commission Should Be Involved	Commission Should NOT Be Involved
Activities that improve water quality	**X**	
Activities that improve habitat and the overall ecology of the waterbody	**X**	
Activities that improve recreation		**Partnering only; not primary obj.**
Activities that improve aesthetics		**X**
Activities that improve or protect human health and safety		**Partnering only; not primary obj.**
Protect function/capacity of Flood Control Project	**X (Likely a maintenance activity by cities)**	

The committee noted that "recreation" is a broad term that means different things to different people and that improving water quality, in turn improves recreation. There was consensus that effects on recreation would be taken into consideration for any Commission project or program and the Commission could partner with others on recreation-based projects. However, there was consensus that projects which have the primary objective of improved recreation would not be led by the Commission.

It was noted that improved aesthetics may be an outcome of some Commission projects but that they wouldn't be considered an objective of a Commission project and it was noted the Commission doesn't have the statutory authority to focus on aesthetics.

Improving or protecting human health and safety was added as a possible objective due to blue green algae blooms and dense aquatic plants tangling swimmers. Again, there was consensus that the Commission wouldn't lead a project with a primary objective to improve or protect human health and safety, but may partner with others.

Finally, it was noted that dense vegetation may decrease the functionality of flood control structures. Since the Commission is charged with maintaining its Flood Control Project structures, this was added as a possible reason to take the lead on an APM project. (Although it was also noted that vegetation management is typically a city responsibility.)

The committee then reviewed a map and description of the different classifications of waterbodies in the watershed (to help consider the "WHERE"):

A. Priority 1 Lakes– "MDNR Public Waters" Lakes, greater than 10 acres, with public access or adjacent to public land
B. Priority 2 Lakes – "MDNR Public Waters" Lakes, greater than 10 acres, without public access or adjacent to public land
C. Priority 1 Streams – "MDNR Public Waters" Watercourses
D. MDNR Public Waters, no BCWMC priority
E. Non-MDNR Public Waters, no BCWMC priority

The committee also reviewed the locations of different AIS already within the watershed and in nearby waterbodies (to help consider the "WHAT"):

Species already known in BCWMC:

A. Curly-leaf Pondweed in lakes Crane, Lost, Medicine, Northwood, Parkers, Sweeney, Twin, Westwood, Wirth; and Main Stem Bassett Creek at Irving Avenue
B. Eurasian Watermilfoil in Medicine Lake, Parkers Lake, Wirth Lake
C. Yellow Iris in Sweeney Lake
D. Chinese Mystery Snail in several ponds in Golden Valley
E. Carp in Sweeny Lake, Twin Lake, Medicine Lake and likely several other lakes and streams
F. Purple loosestrife: ubiquitous
G. Hybrid cattails: ubiquitous

Species in nearby waterbodies: Zebra mussels, Flowering rush, Starry stonewort

3. **Recommendation to Apply for Hennepin County AIS Prevention Grant – November meeting**

At the November meeting, the committee received information on a Hennepin County grant program for AIS prevention with applications due January 20th. Commission staff and committee members agreed that even though the committee had not yet completed its work, the Commission shouldn't pass up the opportunity to apply for grant funds.

The Committee recommended that the Commission apply for grant funds to perform an AIS pathways analysis, inventory, vulnerability assessment, and prevention or management plan development for at least three priority lakes. Commission staff were directed to take the recommendation to the Commission at their December meeting.

4. **Presentation by Keegan Lund, Metro DNR AIS Specialist – November meeting**

Keegan presented information on the latest studies, observations, and monitoring results regarding control of curly-leaf pondweed (CLP). His presentation is available online at: http://www.bassettcreekwmo.org/application/files/2214/8106/4830/CLP_management_DNR_Dec_2016.pdf. Some of the key points of the presentation include:

- CLP has been well established in MN lakes for over 100 years.
- In some lakes, CLP is not a problem while in others it is a nuisance, particularly when it dies off in early July, sending phosphorus into the water and often creating algae blooms.
- There is a continuum of issues with CLP – lake groups should define the problem.
- Lake groups should look at history of lake and define CLP management goals.

- There are several tools to control CLP including water level drawdowns (successful in short term 3-8 years); mechanical control; herbicide; hand removal (not often used with CLP control); diver suction removal (for rapid response when trying to eradicate young infestations)
- Spot treatments seem most effective for long term management for most lake groups.
- Whole-lake treatments are costly and require professional monitoring and DNR assistance.
- Whole-lake treatments typically require Lake Vegetation Management Plan.
- Whole-lake treatments can increase native plants, reduce CLP reproductive turions, and significantly reduce CLP lakewide, but it usually comes back eventually.
- Whole-lake treatments rarely cause an improvement in lake water quality due to other sources of phosphorus.
- Can consider combining whole-lake treatment with other phosphorus reducing practices such as carp management, alum treatments, etc.

Meg Rattei (Barr Engineering) reported that a CLP control project in the Anderson Lake chain was successful in improving native plants and improving water quality such that the lakes now meet water quality standards. She reported that a combination of water level drawdown and alum treatments in areas of high sediment-phosphorus levels were used. It was acknowledged that you can never stop managing the lake system.

There was discussion about how herbicides can have long-term negative impacts on some native plants like bulrushes and lilypads so whole-lake treatments must be properly planned and managed.

5. **Discussion on Effects of Curly-leaf Pondweed Treatments in Medicine Lake – November meeting**
Brian Vlach with Three Rivers Park District (TRPD) provided information about the whole-lake CLP treatment that was part of a collaborative pilot project conducted in 2004 – 2006. The treatment followed a Vegetation Management Plan that was developed for the lake. The effects on water quality, native plants, and the possibility of long-term control were studied in subsequent years.

Brian's graphs on CLP treatments, water quality, and native plants, along with a narrative describing the project and results are available here: http://www.bassettcreekwmo.org/application/files/2014/8106/5264/Medicine_Lake_CLP_Statistics.pdf.

Some key points are presented below.

- 300 acres of CLP were treated with herbicide for three consecutive years 2004 – 2006 in hopes of reducing CLP and its turions in lake sediment.
- In subsequent years only spot treatments of CLP were performed on the areas of nuisance growth ranging from 15 to 80 acres in 2008 – 2016.
- Native plant communities were not negatively impacted by the CLP treatments but did not appear to be enhanced by CLP treatments.
- Water quality (total phosphorus, chlorophyll-a, and secchi depth) did not appear to change 2004 – 2016.
- CLP as an (internal) source of phosphorus in the lake was estimated to contribute about 12% (1,050 pounds) of the overall phosphorus load on the lake. Other sources include phosphorus from the watershed flowing into the lake (external sources), and phosphorus released from sediments within the lake (internal sources).

Rich Brasch (TRPD) and Brian Vlach agreed that although it's a low proportion of the overall phosphorus load to the lake, CLP control is an important part of the process to improve water quality in the lake. Rich noted it is a component of the total maximum daily load (TMDL) and that TRPD is not in favor of stopping CLP treatments in Medicine Lake. They noted that if CLP treatments stopped, the area of CLP would likely explode back to 300 acres and that continuing to control CLP sets the lake up for a successful alum treatment in the future.

Derek Asche (City of Plymouth) noted that projects installed in Plymouth over the last several years to reduce external phosphorus loading to the lake have resulted in an estimated 1,500 fewer pounds of phosphorus entering the lake. He indicated, however, that this amount still wasn't enough to register a significant difference in lake water quality.

[There was some discussion about the likely negative impact of wake boats and other boating on water quality, shoreline erosion, and sediment resuspension.]

The committee agreed that CLP control is one strategy to reduce phosphorus in the lake. They noted a distinction, however, between CLP spot treatments on lakes with an overall water quality management plan (like a TMDL) and CLP spot treatments on lakes without a plan. (This is noted in the table below.)

There was further discussion about the appropriate role for the Commission on CLP spot treatments. Some committee members were in support of the Commission taking the lead in the entire process because it was a multi-jurisdictional issue. Tasks could include applying for herbicide application permit and grants, coordinating with the DNR, contracting with a company to apply herbicide, contracting with a company to determine where to apply, etc. Other committee members believed that since other entities have been taking the lead on CLP control (at least in Medicine Lake), that the Commission should only cooperate with these entities. For now, the committee left the role in the "cooperate" column noting that with financial contributions from other stakeholders, the Commission could direct efforts but wouldn't necessarily do all the legwork for the permits, grant applications, contractors, etc.

There was further discussion about when and how the Commission should be involved with spot treatments of CLP. Some key points include:

- Just because a lake has CLP doesn't mean that it needs to be treated. Treatment may not always be warranted.
- There may be a threshold of the amount of CLP that would trigger the Commission's involvement.
- Any entity treating CLP needs to rely on studies and TMDLs (where possible).
- The Commission could assume one role now and revise policy and change course if the implementation of the policy is not working well or is too expensive, or if another entity steps up to plate.
- The Commission should think about the long-term plan for the lake with regards to water quality – how long would CLP spot treatments be needed?
- As an example of a watershed role: The Rice Creek Watershed District plans, monitors, facilitates and cooperates on CLP treatments where a lake association exists. It takes more of the lead role where a lake association doesn't exist.

6. **Continue to Discuss Possible Commission Roles per Activity (Answering the "HOW?") – All meetings**

At the September, October, and November meetings the committee discussed and worked to complete the table on the following pages to indicate how the Commission **should** be involved with various activities.

At the January meeting, the committee should work on completing this table and should concentrate on where gaps exist and determine if the BCWMC should fill those gaps.

	Activity	Current Activity by Others	Commission Role			
			Take Lead	Cooperate w/ Others	Only Provide Funds	No Role
Early Detection	Early detection training (including volunteer recruitment)	MDNR and Hennepin Co. training programs		X – BCWMC could help recruit volunteers for training		
	Early detection monitoring	TRPD does ED monitoring on Medicine Lk. for zebra mussels (could use help in expanding program) MPRB does ED monitoring on Wirth Lake Henn. Co. has grant $ to expand ED monitoring. BCWMC surveys aq. plants every 3 yrs. TRPD performs aq. plant surveys on Medicine Lk.	X – BCWMC could perform ED monitoring w/ Co. grant funds – including zebra mussel detection and expanded aq. plant surveys	X – BCWMC could cooperate with TRPD and Lake Assoc. to expand ED monitoring		
Rapid Response	Develop rapid response plan of action	Hennepin Co. has grant funding for developing rapid response plan. MPRB has Zebra Mussel Action Plan (Wirth Lk)	X – BCWMC should develop rapid response plan of action			

	Activity	Current Activity by Others	Commission Role			
			Take Lead	Cooperate w/ Others	Only Provide Funds	No Role
	Rapidly responding to new infestation	MDNR works with locals to implement rapid response.	X – BCWMC could take lead to hire contractors, provide technical expertise, and lead effort with funding & partners	X – Will take cooperation from others to implement plan of action, if needed		
Studies						
	Pathways analysis/vulnerability assessment	Henn Co. analyzed AIS risk from pet stores & nurseries Henn Co. has grant funding for developing pathways analysis	X – With grants, BCWMC could perform all three activities much like a watershed-wide TMDL for water quality. It was noted that additional water quality data may be needed to help predict suitability for invasion by particular species.	X – Partnering with others would be important component of these activities including gathering data collected by others, and/or using templates of existing prevention plans or management plans.		
	Inventory (species, current management activities)	(See early detection monitoring) TRPD, MPRB, BCWMC perform aq. plant surveys				
	Plan development (prevention plan or management plan)	MPRB has Zebra Mussel Action Plan (applies to Wirth Lk)				

	Activity	Current Activity by Others	Commission Role			
			Take Lead	Cooperate w/ Others	Only Provide Funds	No Role
Prevention	Boat launch/access management (inspections, washing stations, compost bins, closures)	TRPD performs inspections at Medicine Lk. launches MPRB closed Wirth Lk. launch		X –Additional funding likely needed soon (County/State funding may decrease or phase out); private accesses and lakeshore owners are missing link (inc. buying used docks from infested waters); lake associations are best partner. Decided BCWMC role would be case-by-case basis to be informed by pathways analysis. Also agreed it makes sense that launch owners should be ultimately responsible for inspections.		
	Education (signage, articles, literature, etc.)	TRPD, lake associations, MPRB – each provide some AIS education	X – BCWMC could tailor existing content to be lake specific and/or hold annual "state of the lake" event to provide more active engagement. Agreed pathways study could help refine education needs and identify jurisdictions and roles.	X – Would be inherently cooperative activity due to much existing educational content and variety of educational outlets.		

	Activity	Current Activity by Others	Commission Role			
			Take Lead	Cooperate w/ Others	Only Provide Funds	No Role
	Advocating for/assist with policy changes (Legislative, ordinances, rules)	MPRB policy: all contractors, partners, staff must have AIS identification training		X – Policy advocacy should be across multiple watersheds. BCWMC could help draft ordinances for cities, identifying need through pathways study		
Management	Monitoring current infestations	TRPD, BCWMC, MPRB through regular aq. plant surveys	X – Lack of fish surveys is a gap. BCWMC could survey fish in same years as water monitoring. Fish community data good for AIS and WQ analysis, TMDLs, etc. Need to determine goal of fish survey – presence vs. absence, characterizing whole fish population, and/or determining ecological threshold for fish impacts on WQ	X – Need to gather observations of others (residents, field workers)		
	Spot treatments (herbicide or mechanical or hand pulling)	TRPD, MPRB use spot treatments at access points, fishing piers, and beaches. (Plymouth previously treated CLP in Medicine Lake)	Began discussing the possible role of conducting spot treatments of curly-leaf pondweed (CLP) and debated whether or not the goal of treatments was to improve water quality or improve recreation. At the November meeting DNR staff will present information on the evolving science behind CLP treatments and outcomes. TRPD and Plymouth staff will present information on CLP treatments and results in Medicine Lake.			

	Activity	Current Activity by Others	Commission Role			
			Take Lead	Cooperate w/ Others	Only Provide Funds	No Role
	Spot treatments (herbicide) if State approved water quality management plan/TMDL/lake veg mgmt. plan warrants treatment for water quality and/or ecological improvements		X – with financial contributions from other stakeholders. Commission directs efforts but doesn't necessarily do all the legwork for the permits, grant apps, contractors – uses cooperation from others for legwork (similar to CIP process)			
	Spot treatments (herbicide) without water quality mgmt. plan/TMDL/lake veg mgmt. plan					
	Whole lake treatments (including engaging MDNR on current treatment policies)	TRPD = whole lake treatment for CLP, Medicine Lk (2004-2006)				
	Carp harvesting					
	Fish barriers	MPRB (outside BCWMC)				
	Water level management/drawdown	TRPD used lake drawdown for CLP control (outside BCWMC)				
	Biological treatment	Used by multiple entities for purple loosestrife				

7. **Next Steps and Future Meetings**

8. **Adjourn**