Vadnais Lake Area Water Management Organization
Technical Commission Minutes
January 9, 2015
Vadnais Heights City Hall, Lakes Room

Attending:

Paul Peterson	White Bear Township (WBT), Chair
Jim Grisim-Absent	White Bear Lake (WBL)
Mark Graham	Vadnais Heights (VH)
Marty Asleson	Lino Lakes (LL)
Jim Lindner	Gem Lake (GL)
Bob Larson	North Oaks (NO)

Others in attendance: Kristine Jenson, Brian Corcoran, Vanessa Strong, (VLAWMO); Margaret Behrens (Ramsey Conservation District – RCD); Kimberly Murray, Diane Gorder (North Oaks Homeowners Association - NOHOA

I. **Call to Order** Peterson called the meeting to order at 7:30am.

II. Approval of Agenda

The addition of Item IV. A. Election of 2015 Officers has been requested to the agenda.

It was moved and seconded by Lindner & Graham to approve the January 9, 2015 agenda as amended. Vote: all aye. Motion passed.

III. Approval of Minutes

Mark Graham requested the addition of some information from his comments to the 12/12/14 minutes. They are written in red under item VII. A.

It was moved and seconded by Graham & Lindner to approve the minutes of the December 12, 2014 Meeting of the VLAWMO Technical Commission as amended. Vote: all aye. Motion passed.

IV. Administration & Operations

A. Election of Officers

Lindner nominated Peterson as Chair, Graham as Vice Chair, and Lindner as Treasurer. The Board will formally approve Peterson as Chair at their February meeting.

It was moved and seconded by Larson & Graham to elect Peterson as Chair, Graham as Vice Chair, and Lindner as Treasurer for 2015. Vote: all aye. Motion passed.

V. Projects

A. Project Updates

1. Sucker Lake Channel

Kristine reported that the partners involved with this project, Ramsey County Parks and SPRWS have expressed that they would be willing to bring more money to this project if we can wait until 2016 to install it. Stephanie and Kristine are going to meet next week to talk about our next steps and working with SPRWS to see what they could bring for funding in 2016. If we can secure enough funding from the partners on the project instead of going through an arduous grant process, then Kristine feels it is worth it. Graham supports this decision.

2. Deep Lake Channel

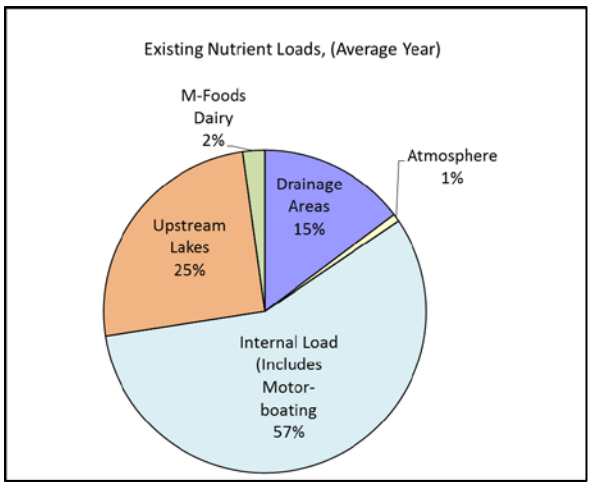
Kristine is still waiting to hear about whether we will be awarded a Conservation Corps grant which would be used for some of the labor on this project. Kristine is meeting with the designer next week to go over the plans

and get details more hammered out and then start working on a timeline for getting this project installed in 2015.

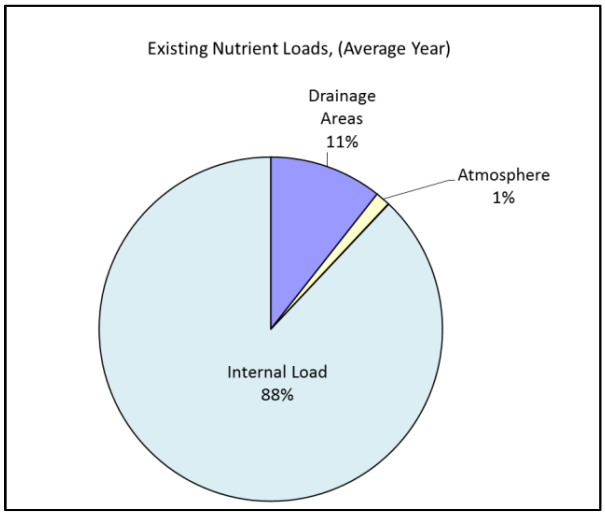
3. East Goose Project

Internal loading, you've heard the story of both sides of Goose Lake. But here it is again, just to set the context for this discussion. Based on the modeling in the TMDL, Internal loading or the recycling of phosphorus in the lake is by far the driver of poor water quality.

West Goose



East Goose



Some of the actions VLAWMO takes with the other partners will target internal loading, others will target reduction of the drainage area sources. The bullhead harvest targeted internal loading, while shoreline restorations and raingardens or other infiltration practices should help reduce loading from drainage area. We have two suggestions for TEC consideration. The TMDL Implementation plan rates both as Priority 1 or 2.

a) Wenck Proposal

Background: The results of the Goose Lake sediment core study (done on both the east and west basins) was similar to other metro lakes in that there was not a large release of nutrients from the lake sediments into the water column during undisturbed conditions. This does not mean there is not a

nutrient load problem, this is just telling us that the nutrients are locked in the sediments during undisturbed conditions. The TMDL as well as the history of Goose Lake suggests that the majority of the loading is internal. Monitoring results have shown differences between nutrient concentrations from one basin to the other suggesting multiple sources of internal loading such as wind suspension, rough fish, a lack of rooted plants, or motor boat agitation of the sediments. We've done some rough fish management and have noticed some improvement in nutrient levels, more work needs to be done however.

To determine which of the available management strategies will most effectively reduce internal load, additional information is needed. Wenck has proposed two tests that may increase the evidence to pinpoint the dominate source and provide VLAWMO direction identifying the most effective best management practices.

- 1. Particle entrainment study: This simulates shear stresses at the lake bottom associated with various sources of perturbation (fish, wind, motorboat). Using Goose lake sediment, how much sediment is stirred up and for how long? Cost: $3,400
- 2. Equilibrium study: This measures the release/absorption of phosphorus from the disturbed sediment at various lake water concentrations. This helps to quantify the nutrient release from the suspended sediments. $3,400

Total cost for the two studies is $6,800.

Results of these two studies would then allow for a third test if wanted to identify the dosing of alum required to manage internal load. This third test, the Alum dosing bench test, costing $5,500 would tell us if an alum treatment would likely be effective and how much such a treatment would cost.

Recommendation for TEC consideration: Staff recommends approval of the Goose Lake internal load management strategy and requests authorization to proceed with the first two tests, Particle entrainment and the Equilibrium study for a total cost of $6,800.

Peterson asked how long an alum treatment could last? Brian and Stephanie estimated that it could last 20 years but it depends on many factors, including how much the sediment is stirred up. Peterson asked how much phosphorus would be removed. Brian and Stephanie stated they do not know at this time but that the proposed studies would help to answer that question.

It was moved and seconded by Graham & Lindner to approve the Goose Lake internal load management strategy and requests authorization to proceed with the first two tests, Particle entrainment and the Equilibrium study for a total cost of $6,800. Vote: all aye. Motion passed.

b) Spring shoreline survey

This element would was identified in the Strategic Planning process last year. It was strongly encouraged by the City of White Bear Lake (Environmental Commission & engineering department). Different sections of East Goose shoreline may need different kinds of attention and of course may be different priorities. This shoreline survey with our WBL partners could identify and map:

- Where erosion is active, to what extent, & possible corrective actions,

- Identify multiple use sites (shore fishing, walking, etc.) and possible enhancement opportunities,
- Identify possible cost-share or Community Blue opportunities
- Identify possible lead partner for different sections of shoreline

The survey would be done in the spring. Survey results would be tabulated and mapped for inclusion in the Goose Lake sustainable lake management plan. Possible results:

- The channel in front of Polar Chev could be identified as an active erosion site which VLAWMO may want to pursue restoration work with the other stakeholders.
- Public shoreline on the north and east side of the lake may have any erosion identified, potential restoration or access enhancements identified. White Bear Lake may wish to develop a plan to pursue that work and possibly apply for a VLAWMO Community Blue grant or other grant options.
- Information on the benefits of shoreline restoration could be shared with homeowners and cost-share funds made available.

A shoreline restoration project is more of an outreach effort since most of the pollution is due to internal loading. A shoreline restoration will not have much effect on water quality for this particular lake. However, the City feels that this would be an effort that engages citizens and gets them interested in the lake which would then help support some of the potential internal loading projects.

VI. Programs

A. Water Quality

1. Annual Water Quality Monitoring Report

Brian stated the report is now up on the VLAWMO website. Gem Lake has had good water quality readings the last few years so we are hopeful that it will be taken off the Impaired List in the near future.

2. Burns & McDonnell Proposal

A proposal has been received from Burns & McDonnell to continue to assist staff with an E.coli monitoring study in 2015. The total for their proposal is up to $27,000 and we have money in the budget for this. However, the original budget identified $10,000 for 2015 last spring. The number of samples and complexity of the 2015 program is now better known. As this is significantly different than originally identified in the approved 2015 budget, the TEC is being asked to make a recommendation to the Board. The continued goal of this project is to identify sources of indicator bacteria in the Lambert Creek Watershed which can be used to develop and implement BMPs to meet the requirements of the bacteria TMDL. We will be concentrating on the Whitaker and Goose sub-drainages along with continued monitoring at Oakmede and Cty Rd F.

Burns & McDonnell 2015 Proposal

Task #	Task Description	Cost
Task 1	Update Monitoring Plan	$4,392
Task 2	Molecular Analyses	$10,000
Task 3	Data Analysis and Report Preparation	$9,000

Task 4	Report Presentation	$3,588
	Total	**$26,980**

Task 2- Molecular analyses are up to $10,000. Depending on the culture results it is very possible we may not need all $10,000 for the tests.
Task 4- Report Presentation is $3,588, it will be up to the TEC and BOD whether or not they would like Steve to present the findings again like he did this past December.
The monitoring will be very similar to last year except that we will have more monitoring sites, especially in the Whitaker drainage.
2015 E. coli source monitoring components

#	Component	Estimated Cost	Budget source
1	Burns & McDonnell: Plan, lab analysis, report, present	$27,000	6.4.6
2	Materials: SPRWS lab kits, bottles, shipping, etc.	$3,000	6.3.8.3
3	Ramsey County lab: filtration & shipping to CA	$750	6.3.8.3
4	Ground water wells	$6,200	6.3.8.3
5	Staff time: VLAWMO; SPRWS; Ramsey Co.		6.1.2

It was moved and seconded by Graham & Lindner that the TEC recommend to the VLAWMO Board to approve the Burns & McDonnell 2015 proposal for *E. Coli* monitoring, analysis and reporting as outlined below. The recommended funding source would be from 6.4.6, Impaired waters implementation. Vote: all aye. Motion passed.

B. Education & Outreach

1. E-newsletter response

Vanessa reported that the last newsletter went out. We had a good open rate that is higher than normal (just under 50%). Our numbers were very close to what we had last time. The top item that was clicked on for more information was the zebra mussel removal from Sucker Channel and the article Stephanie wrote about losing Dave Schuler and John Blackstone.

C. Community Blue

The Community Blue Program was originally created in 2011 to take advantage of a grant opportunity from BWSR. Community Blue reached out to those community groups within the watershed did not qualify for state or local existing grant programs. VLAWMO Board has noted their approval and appreciation of the Community Blue Program goals and achievements and has indicated desire for Community Blue to continue. VLAWMO staff investigated best methods for continuing the program that preserved the original intent of the Community Blue Program and adapted it to meet other goals and needs of the Watershed. Staff determined a two part solution would best fit VLAWMO's goals and objectives.

Part One: Community Blue education/partnership grants

Three of the seven original Community Blue grantees initially contacted VLAWMO because they were interested in doing more water related education and community outreach. A 4th grantee was looking for ways to serve as an educational example to the community by installing an outdoor classroom and raingarden centered around water stewardship. Finally, 4 of the 7 grant recipients were educational institutions (schools/learning centers). Funding additional education and outreach opportunities

is an important step in maintaining these excellent partnerships, and forming new partnerships for citizens, students, and community groups with and without property. It is also a logical evolutionary step for those who have already installed a BMP, and are now looking for what they can do next.

Continuing to provide education based partnership opportunities is a key part of Community Blue. The updated grant program will follow in the footsteps of many other successful education grant programs from other watersheds such as Capitol Region Watershed's Partner Grant Program*, Minnehaha Creek Watershed's Cynthia Krieg Stewardship Fund**, and Mississippi WMO's Stewardship Fund***. It would be an education & outreach based grant program that supports community service initiatives, and citizen engagement efforts to promote stewardship and behavior change in watershed protection.

Community Blue grants would be awarded to those who accomplish this goal through education, collaboration, innovation, and meaningful interactions between citizens and our local water resources. Grants may involve an installation or demonstration project as part of the grant, but would likely be more program and activity focused. VLAWMO's Policy and Finance Committee has approved an initial $5,000 to fund the program. Grant awards may range from $200 - $5,000 with an in-kind or financial match required. It is anticipated that 1-5 grants may be awarded each year.

Links to other watershed's similar programs:

*Capitol Region's Partner Grant Program: http://www.capitolregionwd.org/our-work/grants/2013-crwd-partner-grants/ **Minnehaha Creek Watershed's Cynthia Krieg Stewardship Fund: http://www.minnehahacreek.org/grants/cynthiakrieg

***Mississippi WMO's Stewardship Fund: http://www.mwmo.org/stewardshipfund.html

Part Two will focus on BMP project installation grants and will be available next month for TEC consideration.

Murray asked about whether the State Dept of Education could be involved with something like this. Stephanie said that we would like to establish the program first. The initial Community Blue program was partly funded by State grant money so it may be something that the State is involved with in the future as well.

Staff recommends TEC recommend to the Board to approve an initial $5,000 to fund the redeveloped Community Blue Grant Program beginning in 2015.

It was moved and seconded by Lindner & Asleson to recommend approval to the Board of $5000 to fund the redeveloped Community Blue Program for 2015 as described above. Vote: all aye. Motion passed.

VII. Reports

A. Financial Report for January 2015 & Authorization for Payment

It was moved & seconded by Lindner & Graham to approve the treasurer's report and January payment of checks. Vote: all aye. Motion passed.

B. Met Council Report: NE Metro Water Supply Discussion

TEC members received the highlights of the report with their information packets. The full report summary may also be found at the Metropolitan Council Website: NE Metro Water supply Feasibility Report.

Certainly the cost of the studied options for providing a sustainable drinking water supply the long and short term effect on the groundwater supply have been the focus of discussion and analysis. As some of the activity for any change would take place in VLAWMO, it might be good to have some further discussion. Some observations and questions for TEC consideration:

- Approaches #1 & #2 either increase the service area of SPRWS or add a treatment plant in this area. Both would draw anywhere from 20 – 60 million gallons per day of additional water through the main chain (Charlie-Pleasant-Sucker-Vadnais) of lakes.
  - What impact would this additional volume of water have on the chain of lakes? The study addresses the treatment plant(s) capacity and that of the Fridley intake. Other than quantifying the storage of the chain of lakes, it does not appear to consider impact on the lakes and the channels.
  - Does additional water pumped through the lakes increase the chance of new AIS infestations or other adverse impacts? Zebra mussels and channel catfish are already in the chain? Are bighead or silver carp, rusty crayfish, or invasive snail species next? Are there things that could protect the main chain?
  - Should maintenance of the main chain be considered as part of the discussion? The Charlie Lake channel has had maintenance work done to stabilize the channel mouth. VLAWMO has both Sucker channel and Deep Lake channel slated for restoration work. What future maintenance work might be needed and who should pay for it?
- Is Charlie Lake the 'forebay' of the chain; does it need maintenance now, and will it need it even more in the future? The report references settling as one of the functions taking place in the chain. Frequently most of the sediment drops out as the rate of flow drops– like when it hits the first lake. Should we be assessing the possible build-up of sediment in Charlie Lake – and who pays for that?
  - Should VLAWMO develop a position and distribute it to the other Stakeholders?
- Approach 2 sites a new NE Water Treatment Plant near Vadnais Lake. This is an area that has been historically highly protected from development.
  - Can this be done without compromising long term water quality in Vadnais Lake?
  - If this is determined to be a viable option, are there safeguards that are critical to protecting the reservoir system?
- Should VLAWMO recommend or insist on an assessment to the main chain? Who should pay for that?
- Is the augmentation pipe to White Bear Lake something VLAWMO would want to have a position on? It would be a very large pipe that would send water from one watershed (VLAWMO) to another (Rice Creek WD).

Graham stated that there will be community meetings coming up and he will share the details of when those meetings will be so we can put them on the website. Larson stated that the shoreline of Charlie Lake has seen a lot of wear and tear as well. Gorder also stated that the Deep Lake Channel is affected by the water pumping through the system. Lindner discussed the idea of "Who OWNS the problem?" and also discussed the fact that consumption of water is a primary issue here and people need to think about that and install water saving measures in their homes.

VIII. Commissioner Reports

Lindner handed out the brochures that were produced by the Audubon Society that promotes using native plants for sustaining songbirds and other wildlife.

Asleson stated that they are near to receiving the permit for their second wetland banking site.

Vanessa stated that a reception is planned before the Board meeting in February to honor Neil Franey and Bill Mample for their service to VLAWMO. Vanessa invited the TEC and will send out an official invite soon.
Stephanie stated that we will have 2 new Board members this year for North Oaks and White Bear Township. We will also wait to see if the City Councils for the other Cities will appoint the same reps for the VLAWMO Board.

IX. St. Paul Regional Water Service (SPRWS) Report

No representative at this meeting.

X. Ramsey Conservation District (RCD) Report

The first meeting of the year will be on Monday and reps will get their assignments. Behrens hopes to stay on with VLAWMO's assignment.

XI. Public Comment

None

XII. Next Meetings

TEC: February 13; Board: February 25

XIII. Adjourn

It was moved and seconded by Graham & LIndner to adjourn at 8:20am. Vote: All aye. Motion passed.

Minutes compiled and submitted by Kristine Jenson.