Discussion and Consideration of the proposed East Goose Lake Alum Treatment Grant and Project

VLAWMO
Vadnais Lake Area
Water Management Organization

Special Board Meeting – May 27, 2020

Items covered in this presentation

- Background /Update on the East Goose Lake Alum Treatment Project grant
- Scientific Analysis
- Discussion on Options
- Financial Breakdown/Budget Implications of Proposed Options
- Board member Lindner and Jones and Staff Recommendations
- Proposed Motions for Option 1 and Option 2

Background

- Summary of April VLAWMO Board meeting
  - Greg Wilson technical memo (4/15/20)
  - VLAWMO's response letter (4/16/20) responding to BWSR's 2/24/20 letter
  - Board scheduled special VLAWMO Board meeting (tonight)
  - Identified Board members Linder and Jones would meet in mid-May
- BWSR response to the VLAWMO 4/16/20 letter on 5/6/20.
  - *Phosphorus assurance standard (required to be met for 15 years) is 72 µg/L based on language cited in the VLAMWO grant application.*
- Meeting with BWSR staff on 5/11/20 – assurance standards did not change.
- On 5/13/20 BWSR - "We still has some significant concerns"

Background

- BWSR staff followed up on 5/19/20 with the final proposed assurance agreement for the grant (**see attachment 2**).
- The project's assurance standards required are summarized as follows:

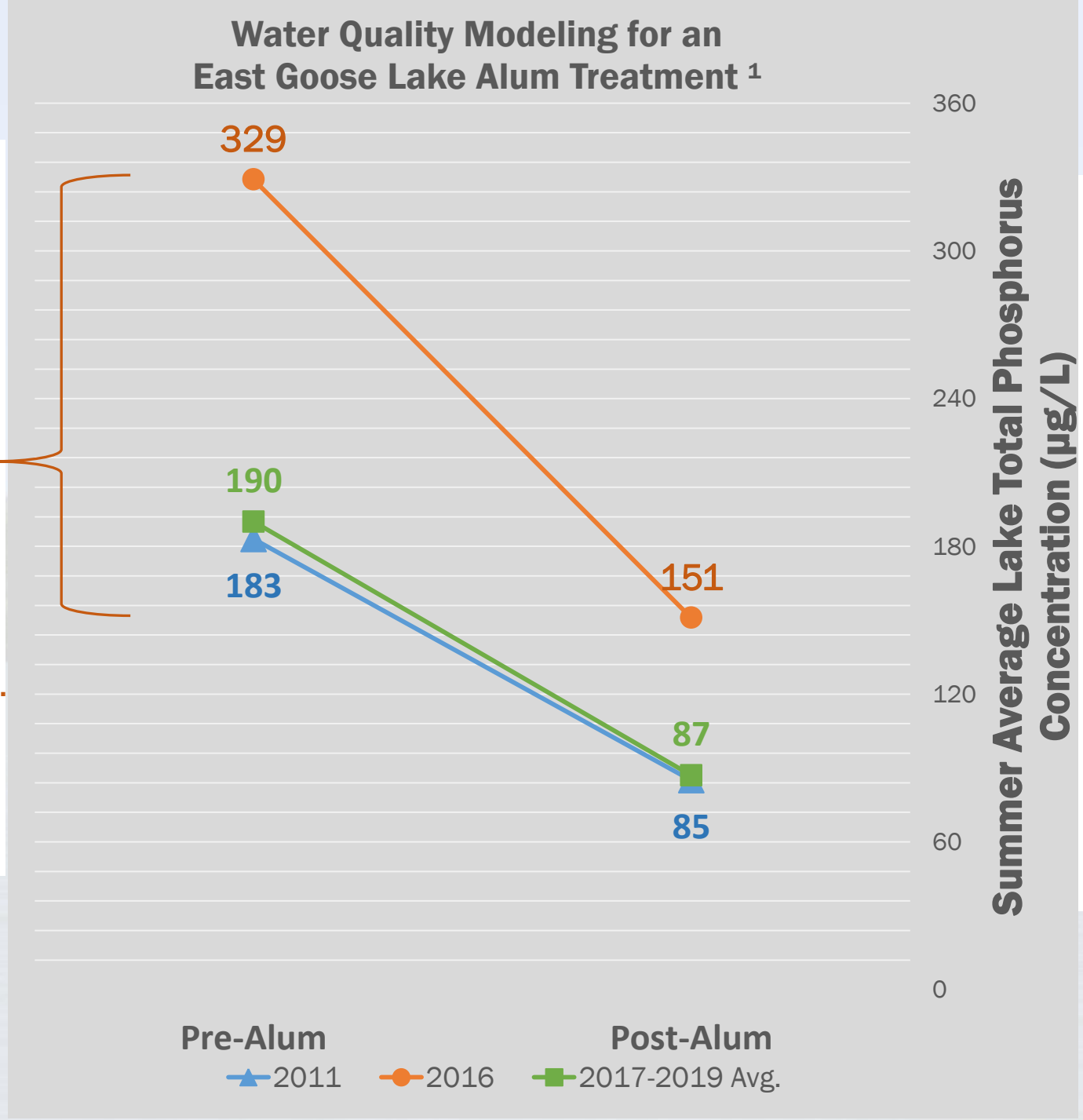
  "If WMO lake water quality monitoring data collected for East Goose Lake indicates that lake surface water quality does not fall within 20% of the state water quality standard for total phosphorous of <72 µg/L and either the chlorophyll-a (<20 µg/L) or secchi depth (>1 m) criteria, for three out of any five years for the effective 15 year life of the PROJECT, the WMO agrees to undertake additional actions (including additional alum treatments if needed) at the WMO's expense to reduce internal and external phosphorous load reductions to achieve the PROJECT annual numeric surface water quality target identified for East Goose Lake.:"

Scientific Analysis

Surface Water Quality Assurances [2]

Conduct annual monitoring and analyze summer average TP concentration:

- Minimum 50% reduction, for 3 out of any consecutive 5 yrs. for 10 years after alum application[3]

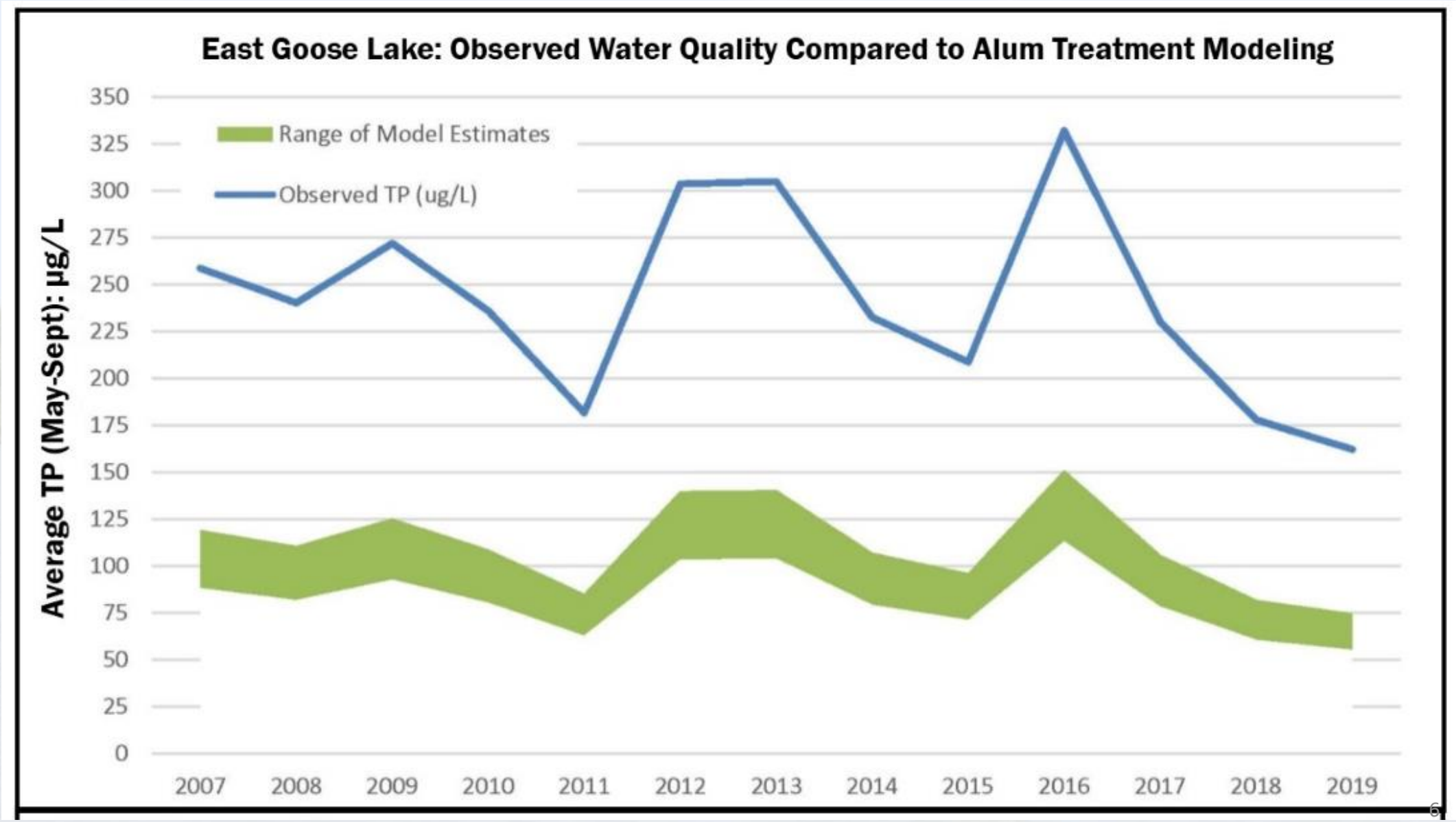


[1] Numbers and percentages as simulated in 2018 Barr In-Lake Treatment Feasibility Study.

[2] Represents engineer's recommended measurable metric for project assurances, based on proposed outcome identified in grant application.

[3] VLAWMO commits to this assurance.

Scientific analysis



Discussing the options

Option one: Approve the BWSR assurance agreement, grant agreement and work plan.

- See staff memo for list of materials contained in the Board packet- ***See* attachment 4**

Option two: Approve /authorize staff to pursue an "**adaptive lake management"** program on East Goose Lake.

Implementation of grant:

Option one tentative timeline: 2020-2022

- **2020:** Engineering for proposed 2020 alum application (phase 1) **Q 2**
- **2020:** Stakeholder engagement and outreach **Q 2/3**
- **2020:** Boat landing construction **Q 2/3**
- **2020:** Bullhead removal - Contract for bullhead removal in East and West **Q4**
- **2020:** Implement alum application **Q4**

Implementation of grant:

Option one Tentative timeline: 2020-2022 (Continued)

- **2020:** Possible - install aerator and run power supply **Q4**
- **2021 *and* 2022:** Water quality monitoring and possible sediment release rate analysis post alum project
- **2021/22:** Fish Survey, CLP treatment and possible starting other veg. management activities, Vegetation survey.
- **2022:** Implement 2nd alum application
- Grant closeout 12/31/22.
- **2023- 2037: 15 years of VLAMWO Funded Oper. And Maintenance**

Option one benefits and challenges

Benefits:

- more outside revenue for project implementation in years 2020-22;
- allow for project implementation earlier (given the required project implementation grant window timeline runs through end of 2022).

Challenges:

- Lack of ability to response to possible future financial, and scientific uncertainties throughout the 15 required assurance period;
- amount of short/med./long term costs borne solely by VLAWMO without the ability to adapt or manage project costs as it implements.

Discussing the options

Option one: Approve the BWSR assurance agreement and corresponding grant agreement and work plan.

Option two: Approve /authorize staff to pursue an "**adaptive lake management"** program on East Goose Lake.

A Draft for Goose Lake Adaptive Management: Option two

Alum Treatment
Adaptable Measurements:
In-lake TP levels
Sediment cores

Vegetation Management
Adaptable Measurements:
Curly-leaf pondweed growth
Other AIS
Lake recreation use

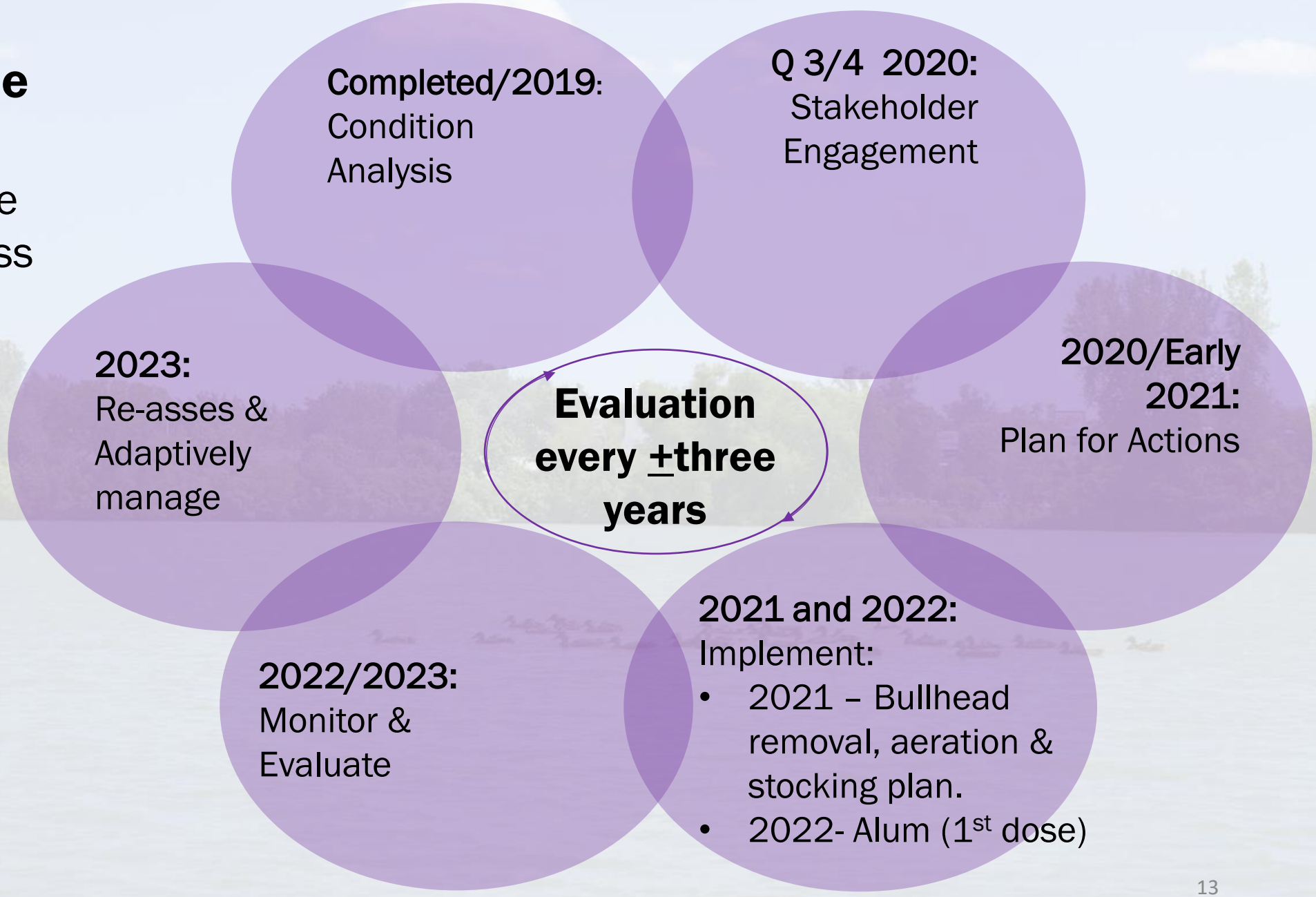
Turn the Dials: Every 3 years based on Project Evaluation & Stakeholder Engagement

Fish Management
Adaptable Measurements:
Bullhead monitoring
Bullhead removal

Subwatershed BMP's*
Adaptable Measurements:
TP removal
BMP effectiveness monitoring

Option two tentative timeline and process:

Goose Lake Adaptive Management Process



Option two benefits and challenges

Benefits:

- Has both short term and mid /and long term budgeting benefits given the ability to manage and "customize" the project budget every ± 3 years.
- The process will use "real world" project /science based evaluation to adapt and then design the next phase of management.
- "Does not take the foot off the throttle" - Would keep a strong emphasis on the actively pursuing projects to address the internal loading issue while also allowing for time and the framework for open communication/dialogue between the diverse stakeholder groups.

- *Option 2 could also include an "option 2A" which would be to reapply for the BWSR Clean Water Funds after the first phase (in ± 2-3 years).*

Option two benefits and challenges

Continued

Challenges:

- Does include the loss of the BWSR grant revenue over the first 3 years of the project and therefore an increase in VLAWMO only overall project expenditures over the short-term.

- Initial 2021 /short term draft budget projections – Based on anticipated budget levels, project implementation timing would likely include bullhead removal/ fish stocking and a possible demonstration aeration management program in 2021 with the first phase Alum application anticipated to occur in 2022.

Financial breakdown: Implications of the proposed options

Option 1: The BWSR project assurances agreement will require VLAWMO to become contractually responsible for the standards stated in the agreement for the required 15 life span on the proposed Alum project.

- It is estimated that the VLAMWO cost for ongoing operation of the whole lake management approach for option 1 (approve the BWSR grant /assurance agreement) would in the range of $435,000 – over $600,000 depending on how many VLAWMO additional alum applications are required during the mandated 15 year period.

See attachment 3

Financial breakdown: Implications of proposed options

Option 2: Provides for more of an ability to update and manage project costs (both short and long term) based on real world successes and evaluation results.

- Adaptable to the ever changing financial, social/political and scientific variables.
- Timing of project implementation for Option 2 is proposed to start later than option 1 due to budgeting considerations to date.

See attachment 3

Financial breakdown:
Budget implications in the short term (2021)

Given the multiple large scale projects planned for implementation in 2021 and in factoring anticipated future budget levels :

- Timing of this overall project implementation will need to be evaluated and both options (particularly option 2) would require small budget for the 5 subwatersheds project budgets with exception of the Goose Lake and Lambert subwatershed in 2021.

Board subcommittee summary: 5/15/20

Chair Lindner and Board Member Jones

- Staff and engineer provided background, the scientific analysis, summary of two possible options, cost comparisons and a staff recommendation.
- Members Lindner and Jones had several questions and discussed options
- Upon further discussion, came to a consensus on which option to recommend to the full board. – Option 2.
- *Comments from Chair Lindner and /or Board Member Jones?*

Subcommittee and staff recommendation

Staff Recommendation: Option two

- Provides for more of an ability to update and manage project costs (both short and long term) based on real world successes and evaluation results.
- Does not require the VLAWMO Board commit to a 15 year assurance agreement that can't change through time.
- Is the "practical" option from a budget stand point while also being adaptable to the ever changing financial, social/political and scientific variables.
- Allows for a better framework for stakeholders engagement while also continuing to focus on the water quality improvement realities of this Lake.

Board consideration for next actions

- **<u>Proposed Board motion if the Board wishes to pursue Option 1:</u>** Approve the BWSR assurance agreement, BWSR grant agreement and Grant work plan.

  - Proposed Motion – _____ moves to approve Resolution **01-2020** Second by _____.

Board consideration for next actions

- **Proposed Motions if the Board wishes to pursue Option 2:**
  - Board member _____ moves to authorize staff to take the necessary steps to pursue the "Adaptive Lake Management program" for East Goose Lake as described in the Board packet materials for the 5/21/20 special board meeting as "Option 2".
  - Board member _____ Moves to direct staff to Stop the negotiation process on the BWSR proposed project assurance agreement and therefore authorize staff to send communication to BWSR notify them that the VLAWMO Board has decided to not approve the 15 year proposed assurance agreement or the required grant work plan/ grant agreement for the East Goose Lake Alum Treatment grant.