AGENDA

May 28, 2025

LAKE MANAGEMENT COMMITTEE MEETING

CDA Library, 702 Front Avenue, Coeur d' Alene, ID 83814

5:00 P.M.

Room Location: Gozzer Room

Welcome to tonight's Lake Management Committee meeting!

Zoom link: https://us06web.zoom.us/j/83038324905?pwd=Y32LfqTNtZ7SYqlraWW1YuwllZ4R4k.1

***NOTE: meeting minutes are in BLUE ITALICS below*

1. Call meeting to order *Neil, seconded by Heidi*

2. Determination of Quorum *Neil*

3. Approve Agenda - are there any new agenda items? *Discussed that a 501c3 was approved by the City Council and that a "save the lake" donation had been made*

4. Recognize guests and public comments *Derek Vilar via zoom, Mickey Geraldi, Gina Hall*

5. Presentation by Derek Vilar, Project Manager for Newman Lake (Zoom)

Derek Vilar | *NLFCZD Project Manager*
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Water and Environmental Programs
Spokane County Public Works

The below information was compiled for FLAC members regarding the Newman Lake discussion. This is an overview and only meant to provide reference information and historical data regarding the topics discussed with Derek Vilar.

Description size, location, problem, previous studies and projects:
https://www.iwac.us/protect-our-waters/inland-empire-lakes/newman-lake-washington/

Newman Lake TMDL:
https://apps.ecology.wa.gov/publications/documents/0910039.pdf

Newman Lake has a problem with septic systems contributing to high levels of phosphorus and nitrogen, compounding the water quality issue: [*https://spokanecd.org/blogs/news/newman-lake-advanced-wastewater-treatment-pilot-study*](https://spokanecd.org/blogs/news/newman-lake-advanced-wastewater-treatment-pilot-study)

Three published studies from 2009-2012 spanning chemical surface treatment, chemical injector treatment, and oxygenation:

Moore, B. C., & Christensen, D. (2009). Newman Lake restoration: A case study. Part I. Chemical and biological responses to phosphorus control. Lake and Reservoir Management, 25(4), 337–350. [*https://doi.org/10.1080/07438140903172907*](https://doi.org/10.1080/07438140903172907)

Moore, B. C., Christensen, D., & Richter, A. C. (2009). Newman Lake restoration: A case study. Part II. Microfloc alum injection. Lake and Reservoir Management, 25(4), 351–363. [*https://doi.org/10.1080/07438140903172923*](https://doi.org/10.1080/07438140903172923)

Moore, B. C., Cross, B. K., Beutel, M., Dent, S., Preece, E., & Swanson, M. (2012). Newman Lake restoration: A case study Part III. Hypolimnetic oxygenation. Lake and Reservoir Management, 28(4), 311–327. [*https://doi.org/10.1080/07438141.2012.738463*](https://doi.org/10.1080/07438141.2012.738463)

- *Newman Lake has undergone full surface Alum treatments to strip phosphorus from the water column, injector alum treatment, and oxygenation*
- *Previous oxygenator costs approximately $500k in 1980 with an initial study costing ~$100k*
- *Oxygenator didn't really work because they couldn't get the dissolved oxygen out, sediment O2 demand got too great and system would get overloaded*
- *Thermal layer prevents mixing of deep hypolimnion with the surface layers epilimnion, O2 becomes depleted over time in the deep layers*
- *The Land's Council (nonprofit in Spokane) worked with Gonzaga University to install Beaver Dam Analogs, 4 years installed on private land, no measurable phosphorus reduction, not very expensive but substantial maintenance, time will tell if they are working to help reduce phosphorus*
- *Recommended we do a flood study to open up opportunities to tap into state money allocated for flood plains*
- *Cost of alum treatments 30,000gal surface treatment $85,000*
- *They sample phosphorus, chlorophyll, King County Labs run their analysis of samples*
- *Funding for their projects: WA Dept of Ecology grant, American Rescue (large $60million grant), taxes levied to residents based on "use" which*

also corresponds to distance of resident from lake (lakefront pays more than resident who lives 100ft from lake), 700 houses, considered "flood district", taxes pay for electrical bill and maintenance of oxygenation system and chemical treatment
- *Jacob's Engineering consulted for oxygenator design/plan, then went out to bid for building the system*
- *$2million dollar oxygenator, estimated cost for air compressors and electricity per year is $100k, permitting $50k, $1-3k maintenance per year, increases per year as years of use and expenses increase*
- *Planning to not run the oxygenator year round due to ice, but not sure*
- *TMDL similar to Fernan at surface (~20), but higher phosphorus in deep water (60-75)*

6. Discussion regarding obtaining a second opinion for lake management, explore potential options of:

- Oxygenation *$$ to obtain and maintain, Fernan is not a stratified lake, it mixes, making oxygenation less likely to have large effect*
- Dredging *have not heard specifics about cost or effect*
- Lake drawdowns *mixed opinions in the group if this would be beneficial, all agree lake drawdown alone is not an effective strategy for treating the phosphorus level in or entering the lake in the 2-30yr range to visibly measure results (we all agreed that a Lake drawdown to reestablish wetlands would not deal with the acute issue of the internal loading of phosphorus. However, we all agreed that treating external loading must be addressed at some point. If not addressed, then more frequent applications of chemical treatments would be required for future generations*
- Less expensive chemical options - Nitrogen, aluminum, other? *Aware that aluminum is cheaper than eutrosorb but can pose risk of pH change that can result in fish kills, need more info regarding other chemical options*
- Specifically ask if they can use soil samples or data from EutroPHIX to give an opinion *it is FLACs understanding that the EutroPHIX data and report is available to provide to other lake management companies or scientists to get additional opinions regarding proposed lake management plan and other treatment options for Fernan Lake.*
    - *Reviewed that EutroPHIX lake management plan includes volunteer monitoring, saving $* https://www.fernanvillage.org/wp-content/uploads/2024/09/Fernan-Lake-LMP_draft_v1.2-w-appendix.pdf
- *ACTION: RECOMMEND SEEKING A SECOND OPINION FOR LAKE MANAGEMENT, INCLUDING A PLAN FOR FERNAN LAKE WATERSHED & FERNAN CREEK. HERRERA IS RECOMMENDED AS A POSSIBLE*

CONSIDERATION

- *City Council member Tim Quinn has already established connection and provided info for review providing expedient referral, reviewed email between Tim Quinn and Tim Clark from Herrera*

7. Discussion regarding Lily Pad removal and use of Clearcast
   - Ryan from EutroPHIX provided the following info regarding Clearcast
     - Registered for use all across the US and utilized in aquatic systems for over a decade. All of these studies demonstrate there is a negligible risk for impacts for off-target aquatic organisms when used according to the label."
       https://www.sepro.com/aquatics/clearcast
       https://www.mass.gov/doc/clearcast/download
       https://apps.ecology.wa.gov/publications/documents/0010040addendum1.pdf
   - Marisa Burghdoff (Snohomish County Lake Quality) - Lily pad treatment of East Fernan Lake
   - Ben Scofield CDA Tribal Water Resource Specialist - Lily pad treatment
     - *FLAC has decided against recommending the removal of lily pads given we did not find corroborating opinions*
     - *Multiple consultants were contacted by telephone/email in this regard, including Rebecca Brown riparian and plant ecologist from Eastern Washington University, Tim Clark limnologist at Herrera, Marisa Burghdoff water quality manager in Snohomish County, Craig Cooper Senior limnologist Idaho DEQ., Ben Scofield water resources specialist Coeur d'Alene tribe*
     - *ACTION: RECOMMEND AGAINST LILY PAD REMOVAL AT THIS TIME*
8. Report on:
   - 4 C's (4 Northern Idaho Counties) meeting 5/7/25 *discussion regarding FLAC and its role / ongoing gathering of information to best advise the City Council*
     - *a presentation was given by Ryan Van Gotham on the Eutrophix proposal to treat Fernan Lake*
     - *Neil represented FLAC and briefly described the committee's advisory role to the City Council in researching remediation options*
   - Western Washington State's Lakes Workshop (WALPA) meeting 5/8/25
     - *Neil and FLAC member Karl Burke attended the annual 2 hour session by Zoom*
     - Birch Bay Village treatment of lakes with Eutrosorb
     - *Neil contacted David Schierman to discuss his experience using*

Eutrosorb

9. Next Committee Meeting? *6/25/24*

Agenda Items discussed

- *Engagement of community (newsletter, newspaper, online, potluck/picnic, volunteer), Chairman has asked the FLAC to consider options for encouraging and communicating the role of FLAC and to raise awareness/interest in saving Fernan Lake. Committee to bring ideas back to next meeting*
- *Communication to private landowners regarding lake issue, Monica to draft letter for review at next meeting, plan to submit to City Council to consider sending to private landowners on Fernan Creek (outside of city)*
- *Wetland restoration management plans*
- *Committee will be compiling a compendium of notes from all conversations, meetings attended, proposals, presentations, and recommendations from experts and consulted agencies, etc. for the City Council and FLAC members to review. This will be organized on the FLAC google drive and an emailed link will be sent by Monica when complete*

10. Adjournment