FLATHEAD BASIN COMMISSION
VIRTUAL ZOOM MEETING
MARCH 31, 2021 AGENDA

1:00 PM	Welcome, Introductions & Roll Call ACTION: Approval of *DRAFT 1/19/21 Minutes*	Rich Janssen, CSKT (Chair)
1:10 PM	Staff Report: Activities; Budget and Grants; Projects; Website; Stormwater Conference 2021 – FBC Panel; Legislative session update Stormwater Project, Phase 2 ACTION: Discussion & potential action on any legislation of interest/relevance to the FBC	Kate Wilson, Commission Administrator; Emile Henry, Big Sky Watershed Corps member
1:45 PM	Septic Leachate Projects: • GIS Risk Map - Flathead Basin • Unpermitted septic system analysis • Synthetic DNA Study (Whitefish & Lake Mary Ronan) • FLBS National Science Foundation Proposal • Flathead Basin Wastewater Partnership Update	Ed Lieser, FBC; Mike Koopal; Ryan Richardson, River Design Group; Kate Wilson; Jillian Henrichon, BSWC
2:30 PM	BREAK (15 minutes)	
2:45 PM	Water Quality Monitoring Panel (Flathead Basin) • Northwest Montana Lakes Network • Flathead Lake Biological Station • Swan Lakers • Friends of Lake Mary Ronan	Cynthia Ingelfinger and Mike Koopal, Whitefish Lake Institute; Rachel Malison and Tom Bansak, FLBS; Jim Baker and Lynn Maas, FLMR
3:45 PM	DISCUSSION & BRAINSTORM: Commission meeting topics; retreat/planning session potential (Fall 2021/Winter 2022)	Rich Janssen; Kate Wilson
3:55 PM	Public Comment	Rich Janssen
4:00 PM	Wrap up & Adjourn	Rich Janssen, Kate Wilson

We promote participation! *All Flathead Basin Commission (FBC) meetings are open to the public and stakeholders. To participate in the upcoming virtual meeting or to request special accommodations, please contact Cassidy Bender (cassidy.bender@mt.gov or 406-542-5886) as soon as possible before the meeting date. We hope you can join us!*

MEETING MINUTES

Meeting/ Project Name:	**Flathead Basin Commission**		
Date of Meeting:	**March 31st, 2021**	**Time:**	1:00pm-4:00pm
Minutes Prepared By:	**Cassidy Bender**	**Location:**	Virtual-Zoom/Call in

List of Acronyms

AIS	Aquatic invasive species	FBC	Flathead Basin Commission
BOR	US Bureau of Reclamation	FLBS	Flathead Lake Biological Station
BPA	Bonneville Power Administration	FWP	Montana Fish, Wildlife & Parks
BSWC	Big Sky Watershed Corps (AmeriCorps)	GNP	Glacier National Park
CEMIST	Central Eastern MT Invasive Species Team	MCWD	Missoula County Weed District
CFC	Clark Fork Coalition	NPS	National Park Service
CRB	Columbia River Basin	NRCS	Natural Resource Conservation Service
CRC	Clearwater Resource Council	UC^3	Upper Columbia Conservation Commission
CSKT	Confederated Salish & Kootenai Tribes	UCLN	Upper Columbia Lakes Network
DEQ	Department of Environmental Quality	USACE	US Army Corps of Engineers
DNRC	Dept. of Natural Resources & Conservation	USFS	US Forest Service
eDNA	Environmental DNA	USFWS	US Fish & Wildlife Service
E & O	Education & Outreach	WLI	Whitefish Lake Institute
EPA	US Environmental Protection Agency	WRDA	Water Resources Development Act
EQC	Environmental Quality Council (Interim)	WRP	Western Regional Panel

1. Welcome and Introductions

Ed Lieser (Vice-Chair)	Welcome. Ed opened the meeting. Confirmed quorum present (for voting purposes).
Introductions (Roundtable)	Each participant introduced themselves including name and organization/interest that they are representing.

2. Attendees

FBC (voting members underlined): Ed Lieser (Flathead Basin Commission), Mike Koopal (Whitefish Lake Institute/UC^3), Kathy Olsen (DNRC Kalispell), Jack Potter (Governor-appointed), Jasmine Courville-Brown (CSKT/Citizen), Steve Frye (Governor-appointed), Casey Lewis (City of Kalispell), Randy Brodehl (Flathead County Commission), Lech Naumovich (Flathead Conservation District), Sam Bourret representing Jim Williams (Montana FWP), Mark Reller (BPA), Bill Dykes (BOR), Peter Brumm (EPA), Kate Wilson (DNRC/FBC & UC^3 Commission Administrator), Cassidy Bender (DNRC/FBC & UC^3 Commission Coordinator), Emilie Henry (FBC BSWC, City of Kalispell), Jillian Henrichon (Flathead Wastewater Partnership, BSWC)

Absent members: Rich Janssen (CSKT), Dave Stipe (Lake County Commissioner), Jim Simpson (Lake County Conservation District), Jeff Mow (Glacier National Park), Kurt Steele (USFS), Michael Freeman (Governor's Office), Myla Kelly (DEQ), Mark Bostrom (DNRC Helena)

Public/Other: Ryan Richardson (RDG), Cynthia Ingelfinger (WLI), Tom Bansak (FLBS), Rachel Malison (FLBS), Jim Baker (Friends of Lake Mary Ronan), Lynn Maas (FLMR), Jim Elser (FLBS), Monica Elser (FLBS), Stephanie Hummel (FLBS), Keaton Martin (FLBS), Erin Sexton (FLBS), Ed Meece (Polson City Manager), Valerie Kurth (DNRC), Roger Smith (Flathead Lakers), Hailey Graf (FCD), Samantha Tappenbeck (FCD), Mayre Flowers (Citizens for a better Flathead), Onno Wieringa (Flathead Lakers), Chris Romankiewicz (DEQ), Joe Bouroncle, Mary T. McClelland (West Glacier), Rickey Schultz (HDR Inc.), Nanette Nelson (FLBS), Sharon Bengston (Citizen)

Media:

Heidi Desch (Whitefish Pilot)

3. Agenda and Notes, Decisions, Issues

Presenter	Topic/Discussion
Kate Wilson, Commission Administrator **Approval of Minutes**	• **Motion** to approve minutes from Jan 19th, 2021 meeting (Ed). Second (Kathy). All in favor. *Motion passes.* • Overview of Agenda: Approve Minutes, Staff Report (Budget, Grants, Projects, Website, Stormwater Conference 2021, Legislative Session Update, Stormwater Project Phase 2), Septic Leachate Projects (GIS Risk Map, Unpermitted Systems Analysis, Synthetic DNA Study, FLBS NSF Proposal, Flathead Basin Wastewater Partnership), Water Quality Monitoring Panel, Discussion: Meeting topics planning.
Kate Wilson, Commission Administrator Cassidy Bender, Commission Coordinator **Staff Updates/Budgets**	**Staff Update:** • Legislative Updates: OTO bill requesting our one-time-only funding become permanent has not had any flags so hopefully that will be passed and will return FBC back to our pre-cut budget status. If bill passes would be an addition of $40,000 (replacing $20,000) on top of the base (HB: 2). Each year of the next biennium would be closer to $60,000. • Kate and Cassidy split their time 50/50 with FBC and UC^3. • Executive Committee meets every other Tuesday at 10, meetings are open to everyone and if you are interested let us know. This allows us to conduct business between quarterly meetings. • Notable staff activities: ▪ Meeting follow up and planning ▪ Executive Committee planning and participation ▪ Grant & Budget management (writing/reporting/tracking) – EPA grant progress report submitted ▪ Monitoring Flathead Basin natural resource issues ▪ Flathead Basin Wastewater Partnership ▪ Septic leachate committee and tech subcommittee support- GIS Risk Map, Synthetic DNA Study, etc. ▪ Stormwater project support- Phase II ▪ BSWC projects & planning ▪ Education & Outreach committee- Basin-wide water quality campaign, website. ▪ 2021 Legislative Session Bill & Committee Tracking ▪ Crown Managers Partnership steering committee (represent both Commissions) ▪ North American Invasive Species Management Association conference (president-elect)- Sept 27-30, 2021 Missoula ▪ PNWER (co-chair of invasive species working group) ▪ Western Regional Panel (chair of Fire AIS protocol committee) ▪ BC Columbia River Basin Steering Committee (member) ▪ Pend Oreille Basin Commission (Ex-officio, MT upstream rep) ▪ Upper Columbia Conservation Commission & AIS support (50% of staff time) ▪ County Assist Team (CAT) Public Information Officer & Liaison Officer (Kate) ▪ Graduate School- MPA Certificate (Kate) • Upcoming Events: ▪ Montana Legislative Session- Jan-April 2021 ▪ NALMS Monitoring Conf- Apr 20-22nd (virtual) ▪ UC^3 Spring Meeting- May 12th (virtual)- Presentation from Nate Owens of Utah's Lake Powell AIS program ▪ Pacific Northwest Economic Region (PNWER)- Annual Summit Aug '21 (Big Sky) ▪ Flathead Basin Commission Summer Meeting- August 25th. Virtual/TBD ▪ StormCon 2021- Sept 13-15. Milwaukee, WI ▪ North American Invasive Species Management Association (NAISMA)- Conference Sept 27-30th '21 (Missoula) Hybrid conf ~200 people in person

	▪ NALMS- Nov 15-18. Oklahoma City, OK ▪ Always happy to cover registration and travel for FBC members so if you see things that are of interest to you, let us know. • 2021 Stormwater Conference- POSTPONED until May 2nd-4th 2022, at the Missoula Holiday Inn. Action from the Governor's office postponing all state sponsored events for the immediate future. The level of interest for the 2021 conference was on track to be more successful than the 2018 conference which was extended for an extra day with about 350 participants. • FBC Gold Level sponsorship with abstract for FBC priorities and projects panel to be held until next year. **Budget & Finances:** **Sources of Funding FY21** • Natural Resources Operating Fund FY21: ○ **$40,000**- base budget & OTO requested to be permanent (operating budget) ○ **$77,000**- personal services (staff salary, benefits- split with UC^3) • Natural Resources Operating Fund FY20: ○ **$20,000**- accrual from FY20 to RDG contract ○ **$15,000**- accrual from FY20 to Windfall contract ○ Accrual is a carry forward of money to the next year, the spendable amount is increased but does not change the base budget amount. • Federal: EPA Multipurpose State & Tribal Assistance **Grants** ○ **$51,113-** EPA grant 1 (stormwater project, 2 years)- $26,152 expended ○ **$26,191-** EPA grant 2 (septic leachate GIS mapping; synthetic DNA study) -$0 Expended **Budget: State Operating Funds (FY21):** • FY20 Operating: $40,000/$40,000 spent or accrued to existing contracts • **FY21 Operating: $41,170/$75,000 spent** ○ $20,000 (annual base budget) + $20,000 (addition One-Time-Only) ○ Added $35,000 in FY20 accruals to FY21 budget (existing contracts only) ○ $19,620/$20,000 accrued to RDG contract (septic leachate risk map/GIS). ○ $11,226/$15,000 accrued to Windfall contract (WQ campaign, website, etc.). ○ NO ACTION needed now (approved budget 9/23/20). • **Existing Contracts** 1. River Design Group—septic leachate risk mapping & additional technical support ○ $19,620/$24,800 (Balance: $5,180) ○ Currently seeking amendment to add funds ▪ EPA grant ($8,000) ▪ FBC operating funds ($8,000) 2. Windfall—website, water quality campaign development, reports & publications, graphic design ○ $11,266/$15,000 (Balance: $3,774) ○ Currently seeking amendments to add funds ▪ EPA grant ($4,645) ▪ FBC operating funds ($20,000)
Kate Wilson, Commission Administrator	**Education & Outreach Committee** • Co-Chairs: Lech Naumovich (FCD) & Casey Lewis (City of Kalispell) • Steering Committee: Flathead Lakers, Flathead CD, FLBS, CSKT, Crown of Continent Geotourism, WLI, etc. (currently adding DEQ)

Cassidy Bender, Commission Coordinator
 	
Committee Updates
	• Projects:
	  ○ New website (2021)
	  ○ Flathead Basin Water Quality Campaign
	  ▪ Address multiple water quality topics
	  ▪ Increase consistency and effectiveness of messaging
	  ▪ Campaign logo/look & feel/materials would be available to all partners.
	• Next Steps:
	  ○ Creation of WQ Campaign 'strategy': goals, objectives, work plan & timeline.
	  ○ Present campaign examples to steering committee, commission & partners (August 25th meeting).
	• We are always looking for input for E&O. Please share ideas with us sooner rather than later. If you have input or are interested in participating, please contact us!
	Technical Committee
	• The technical committee started as a subcommittee of the Onsite Wastewater Treatment Committee. After needed expertise on other projects including stormwater, the synthetic DNA study, and the GIS risk map we have updated the committee charter to form a broader standing committee to assist FBC on a variety of different projects.
	• Participation: Agency, technical staff, contractors
	• Meetings: As needed (project based)
	• Concept Update:
	  ○ Specialty/expertise of members fitted to project(s)
	  ○ Guide technical elements of projects
	  ○ Core Team: Mike Koopal (Chair); Myla Kelly (DEQ); Ryan Richardson (RDG); Tom Bansak (FLBS); Erin Sexton (FLBS); Sam Bourret (FWP); CSKT – TBD; staff
	  ○ Supplemental Members (based on project/need)
	  ▪ Septic leachate project(s) – to be scheduled soon
	  ▪ Stormwater project(s) – meeting w/ Technical Committee tomorrow 4/1
	  ▪ Monitoring (potential)

Emilie Henry, Big Sky Watershed Corps; Kate Wilson
 	
Big Sky Watershed Corps Member Activities & Outreach Project
	BSWC Overview
	• EPA Grant Components (2020-2022)
	  ○ Big Sky Watershed Corps (partial, 2 years)
	  ○ Emilie Henry back for 2nd term- Shared with the City of Kalispell
	• Phase II: Stormwater Monitoring & Inventory
	  ○ 2020 Phase I report available on FBC website
	• $22k remaining in EPA grant-progress report submitted
	• Education & Outreach
	  ○ Rain Garden Initiative
	  ○ Adopt-a-Drain Program
	  ○ Flathead Watershed/Stormwater Curriculum
	  ○ Organize Local River Clean Up Event(s)
	Stormwater Project Phase II Update
	• "How do we use the information gathered last year to improve stormwater management and ultimately, water quality?"
	• Researching & brainstorming future directions
	• To include stormwater sampling & dry-weather outfall inspections.
	• Meeting with Technical Committee 4/1/21 to clarify & expand project goals
	• Flathead Rain Garden Initiative
	  ○ Beginning outreach to interested participants, conducting site visits
	• Adopt-a-Drain Campaign
	  ○ Creating resources & setting up website.

	○ Piloting in Kalispell this year, will provide resources for expansion to other areas.
Ed Lieser, FBC Vice Chair; Mike Koopal, Whitefish Lake Institute/FBC; Kate Wilson **Septic Leachate Projects Update**	**Septic Leachate Projects** • Awarded EPA Grant- $26k for septic leachate work ○ $8k to RDG Contract + $15k to synthetic DNA project • GIS/Septic Risk Mapping Project- Phase 2 (2020-21): Southern end of lake is more difficult than Flathead County (Phase 1) since there is no electronic septic data ○ Tribal Council presentation/request to digitize CSKT septic data in progress ○ Lake County has declined our offer to assist in the digitization of the septic data but hopefully they will be doing this sometime in the near future. ○ Ryan is currently working on mapping unpermitted systems in the basin and exploring ways to continue on without the Lake County data. • Synthetic DNA study (Whitefish & Lake Mary Ronan)- **spring 2022** ○ Cornell contract in development ○ Originally had planned to implement project in spring 2021 but with contract/communication delays we are holding off until 2022. The DNA tracers can be fabricated and stored in the meantime, so they are ready to go April '22. • Flathead Basin Wastewater Partnership Update ○ Flathead Wastewater Partnership was formed: partners in the basin working on wastewater issues (DEQ, SWCDM/MACD, FBC, Flathead Lakers, etc.). ○ Jillian Henrichon- BSWC (Ronan) working on the Septic Maintenance Reimbursement Program – Lake County Conservation District also assisting with the FBC Onsite Wastewater committee projects. ○ The Wastewater partnership has been working on prioritization and eligibility criteria for the reimbursement program. Among other criteria, participants need to have a tank that has not been pumped in at least 3 years to be eligible. ○ FBC assisting with Education & Outreach on septic cost-share program. ○ Lech: Idea to incentivize the septic reimbursement program. Providing $100 amazon card or a local business gift card for participation. • UM Graduate Project: Looking into socio-economic impacts/barriers of septic leachate • UM/FLBS National Science Foundation Proposal (based on synthetic DNA project) ○ Nanette Nelson (FLBS) has been working with other UM faculty and WLI looking at more technical options of addressing septic leachate as well as the socio-economic barriers/benefits. ○ Put in an application for an NSF planning grant- smaller grant that will bring people together to discuss these topics that will talk about the different approaches. FBC members have been engaged and will be invited to a workshop and hopefully this will culminate in a bigger NSF project grant in the future. **GIS/Septic Risk Mapping Project- Phase 2 Update** Introduction: Mike Koopal (WLI & Technical Committee Chair) • The septic leachate issue is timely with more and more people moving to the Flathead basin along with the high density and raising age of septic systems. It is a 'marathon' issue that is not getting better but getting worse, it will probably outlast the two-year work plan with the Flathead Basin Commission but we are making great strides. • As part of Phase 2 of the mapping project, we have been looking into unpermitted systems in Flathead county (i.e. how many systems existed prior to the county permitting in 1978). • Ultimately what we want to do is have Ryan and the committees work peer reviewed so we can present the information to municipalities, county governments, subdivision planners, real estate professionals, etc.

Phase 1 Overview and Phase 2 Plans/Progress: Ryan Richardson (RDG)

- Project goals: Identify existing septic system distribution and age of population; increase the committee's spatial understanding of septic system pollution risk. Create layers/maps for known risk factors for septic system failure/poor performance.
- Phase 1 physical risk map parameters are based on soil, depth to groundwater, distance to surface water, and slope. These were mapped and applied to the existing density of systems in Flathead county (based off of all the existing permits starting from 1978).
- Phase 2 is to create these physical risk maps and septic density maps for the southern portion of the lake (CSKT and Lake County).
- Without the septic data from Lake County and CSKT, we needed a way to move forward with the project and estimate not only the number of systems but the location and number of parcels/potential systems on each plot.
- We have created an analysis of unpermitted systems prior to 1978 that target parcels within the Cadastral database (land ownership and tax information database) that have a high potential for an unpermitted septic system.
    - Systems pre-1978 were not required to get a permit.
    - If a system was installed prior to 1978 and then was altered at all, they would have gotten a permit. See Flathead County regulations: https://flatheadhealth.org/wp-content/uploads/2014/08/Septic-System-Regulation-2-16.pdf (Pg. 7)
    - Found ~$8000 unpermitted systems for Flathead County alone.
        - Some parcels are large in size and mapped as 'no permit identified' for the whole parcel, meaning we are unsure if/how many systems present.
- Unpermitted systems analysis:
    - Started with Cadastral database
    - Removed parcels of:
        - Public land
        - Blank owners and values
        - Building Value of Zero (value of structure assessment via tax info)
        - Building less than $5,000
            - Sweet spot of not adding too many sheds/barns but including most residences
        - Building less than $10,000 and greater than 10 acres
            - Only leave us with parcels that are likely residential
    - Link Septic Permit Database to Cadastral and remove all parcels with permits
    - Clip out areas with sewer distribution
        - Call communities to confirm sewer connection
        - Discussions with major water/sewer districts extent of services
    - Remaining parcels are identified as potential parcels with unpermitted septic systems (Results: ~8,000 parcels)
- Validation technique to validate the cadastral approach: We have the addresses and names of owners of these parcels (creating a random sample from these sites), so we will be able to send out a post card with a survey of 'do you have a septic system on your property' (possibly incentivize the survey).

ArcNLET Septic Analysis

- GIS based model to simulate nitrogen contaminate plumes from septic systems.
- Model based on physical characteristics of site and physics of groundwater flow and diffusion.
- Output is a useful tool for communicating septic pollution issue but may not accurately depict nitrate concentrations given the complexity of the processes.

	• Able to apply this analysis to Whitefish Lake and Lake Mary Ronan with the goal of coming up with particle paths with each of the systems/sites to target for the Cornell Synthetic DNA project.
	Synthetic DNA Tracer Study
	• Unlike eDNA these are unique short strands of DNA created in a lab that can be used as a tracer in groundwater.
	• Research in Georgia shows effectiveness at using this technique for septic systems in proximity to lakes.
	• Work plan needed additional information of location and timing of sampling.
	• Particle tracking module in ArcNLET will refine our sampling plan.
	• Sampling Sites:
	  ○ Lake Mary Ronan
	  ▪ Northern Inlet (8 sites)
	  ○ Whitefish Lake
	  ▪ Lazy Bay (2-4 sites)
	  ▪ Eagle Point (2-4 sites)
	  ▪ Lion Mountain (2-4 sites)
	• Sampling Technique
	  ○ Shoreline (100m along the shoreline, grab sample as close to shoreline as possible)—Van Dorn Sampler
	  ○ Whitefish Lake Institute
	  ○ Friends of Lake Mary Ronan
	• Sampling Frequency
	  ○ Months 1-3—Every 3 days
	  ○ Months 3-5—Every 5 days
	  ○ Months 5-7—Every 10 days
	Discussion/Questions
	• Salish Kootenai Housing Authority Water & Sewer may have info: https://skha.org/.
	• We would like to get this mapping product/information peer reviewed before we present the information as a public facing tool and share with municipalities, land managers/planners and other on board before it is a real public facing tool. With all the work that WLI has done on this issue previously: the lesson learned is don't rush it because there are so many factors on this issue, we want to make sure we aren't met with resistance.

Water Quality Monitoring Panel Cynthia Ingelfinger and Mike Koopal, Whitefish Lake Institute Rachel Malison and Tom Bansak, Flathead Lake Biological Station	Please see the meeting packet sent prior to the meeting for updates/information from each monitoring partner. Any additional updates that came up at the meeting are identified below. **Northwest Montana Lakes Network: Cynthia Ingelfinger** NEW WEBSITE: https://nmln.info/ **Whitefish Lake Institute: Mike Koopal** whitefishlake.org • NWML was formerly a FBC program and is now a partnership program with FWP combining water quality, quantity, and temperature and AIS monitoring. • Currently have about 50 volunteers now monitoring 41 lakes with 50 sites in 4 counties. • Have implemented a new website that has a feature were volunteers can enter their data in real time. With all information uploaded into the FWP database. • Value of these long-term monitoring programs is that we are now in a position to take a look at regional water quality trends. Long term monitoring programs provide us with a background database of conditions of lakes and streams, if we see deviations from that data, we can start asking why that is happening. • In addition to the 2 sites that WLI samples, the FLBS has a mid-lake site that they have been collecting data on and off since the mid-1980s.

Jim Baker and Lynn Maas, Friends of Lake Mary Ronan	• We also partner actively with the City of Whitefish on AIS and early detection monitoring. **Flathead Lake Biological Station: Tom Bansak** https://flbs.umt.edu/ • The biological station has been monitoring on Flathead Lake since 1977, originally in response to the threat of large-scale coal mining on the Canadian portion of the watershed as well as an outbreak of harmful algal blooms in the 1960-80s. • Very fortunate to have long term data and record of species occurrences through the biological station to know what is ecological and naturally normal. • Monitoring year round in Flathead Lake and its tributaries for water quality, quantity, temperature, water chemistry/nutrients, biological (algae, phytoplankton, zooplankton, Mysis shrimp), and shoreline algal sites. • Have added a long-term monitoring site in Polson bay (the hot tub connected to the pool), important monitoring as it is almost a whole other lake entirely. • 2019 best water clarity in Flathead Lake for over 20 years. Flathead Lake is 'tenuously stable' because it is entirely in our power and in societies hands to keep the lake clean. • Recommendations: We need to keep monitoring because we need good data to make good decisions. Especially with rapid development (shoreline development, more septic systems, and the conversion of forested and vegetated land into developed land and pavement). Through the development of the valley we are reducing the ability of the valley to process and filter nutrients and pollutants. **Monitoring Montana Waters- FLBS Citizen Science program: Rachel Malison** https://flbs.umt.edu/newflbs/outreach/mmw/monitoring-montana-waters/ • The bio station has often been approached in the past by volunteer programs that need assistance to monitor their home waters. Monitoring Montana Waters is a citizen science program launched in February of 2021 to enhance the capacity for citizen led water quality monitoring in Montana by providing scientific, financial, and technical assistance to volunteer monitoring groups. • Offer services to monitoring groups including: the development of monitoring plans, on the ground training in monitoring methodologies, collecting water quality data and upload that data into the database, as well as small grants to help financially. **Swan Lakers: Tom Bansak (volunteer board member)** http://www.swanlakers.org/ • Swan Lakers has been sampling since 2015, focusing on water chemistry, nutrient analysis, algal and chlorophyl monitoring. The lake is sampled at 2 deep water sites about 4 times a year: spring, runoff, summer, and late fall. • Late fall is when you see the lowest oxygen levels. If you get to low oxygen levels, Phosphorus can be released from the bottom of the lake and it will grow more algae, more algae grows more algae dies and consumes more oxygen and increases more phosphorus creating a negative feedback loop. The south basin of Swan lake has had an intermittent oxygen sag going back in the 1990s. • One of the causes of the oxygen lag could be septic leachate in the area. • The USFS and Swan Valley Connections collect AIS samples around Swan Lake. • Will be working with Monitoring Montana Waters to get Swan Lakers data uploaded to the database to validate data. **Friends of Lake Mary Ronan: Jim Baker & Lynn Maas** https://friendsoflakemaryronan.org/ • Friends of Lake Mary Ronan is an all-volunteer, tax exempt organization that has been involved with the WLI monitoring program for several years. Recent sampling data from Lake Mary Ronan showed it is high in Phosphorus and Nitrogen. • Lake Mary Ronan is a small lake ~1500 acres with deepest ~50 ft. Historically used primarily by ranchers downstream and they own most of the water rights.

- FLMR has worked with DEQ to develop a 2-year study to monitor the lake and will now be working with the Monitoring Montana Waters program to upload the collected data.
- A study done in the 1970s predicted 17.1 years for full exchange of the lake and more recent studies have estimated 3-7 years.
- Collect samples early may-November for 2 years 2019-2020. Samples taken at 2 sites on the lake, correspond with the 2 sites that the NMLN has been collecting at since 2012. Collect about every month. Also monitor 3 streams, 2 inlets and 1 outlet of the lake.
- When lake levels are low, 0% oxygen at 20-30 ft. we want to do an analysis of how bad it is and what we can do to solve the problem.
- The FLMR AIS monitoring committee is hoping to join with Cynthia's effort to do a more formalized and structured analysis AIS monitoring program.

Discussion/Questions

- Tom mentioned changes in Mysis spawning frequency changes, that seems to imply increasing abundance, is that the case?
    - Not necessarily increasing in abundance but population by itself is not just related to reproduction because the shrimp are eaten by a plethora of fish. We monitor the Mysis and provide that data to the fisheries departments of FWP and CSKT, looking at a connection between the fish population and the shrimp population. The populations fluctuate and we are trying to figure out why.
- Didymo is an algal species of national/international concern. In the Flathead, didymo is native - FLBS founder Morton Elrod documented didymo in GNP in the early 1900s but we are currently seeing increases in didymo growth in the Flathead, especially in lake outlet streams. Elsewhere in the nation and world, didymo is a nonnative invader causing significant problems. Some theories as to why didymo growth is exploding include: lower/dampened spring peak flows due to dam operations and climate change; warmer water temperatures; lower global Phosphorus to Nitrogen ratios - didymo has mechanisms to grab Phosphorous when at low levels that other algal species cannot. Ecologically dense growth of didymo is problematic because it chokes out other algal species and many of the aquatic insects that fish eat and fisher-people value. The country of New Zealand has banned felt soled waders as it has decimated their fisheries as an invasive species coming from North America. Didymo is also a big issue in south America and Patagonia with their world-renowned fisheries.
- Didymo research from NPS- The Inventory and Monitoring program, specifically for Stream Ecology (Vital Signs) has been in place in Glacier since 2007. They finally issued a status report in 2018 for years 2007-2009.
- Often reported by anglers, FWP was studying at the south and middle fork (Didymo is also located at the base of the Hungry Horse Dam). Didymo (rock snot) is also at the Kootenai below Libby dam and the Corp of Engineers is doing research there.
- Monitoring MT Waters- mostly watershed groups have applied, if it is a volunteer group potentially associated with a water quality district, applications are still open this year. MMW is focused more on rivers and streams (lots of data collected on lakes already esp. with NMLN but won't rule those applications).
- MSU Extension WQ program data hub (EQUIS database) you can upload your data and it will graph the data for you. Not trying to reproduce that with MMW, trying to make folks aware of that resource.
- Other things that you would add to a list of things that would be useful for management in the future:
    - Increasing development
    - Network of monitoring practitioners to create BMPs
    - Microplastics
    - Pharmaceuticals

	• These are questions that the technical committee can undertake and make recommendations to the commission in the future.

Brainstorming Session	**Brainstorming: Future Meeting Topics**
	• Member input on future meeting topics:
	  ○ Groundwater Investigation Program- proposals due in June
	  ○ Watershed Partners Coordination Panel (2021 Priority)
	  ○ Rail Safety Panel (tabled due to COVID, best as in person panel)
	  ○ Water Infrastructure
	  ○ Wildsight Update- Alberta and BC (presenter from that organization)
	  ○ Clean Water Act Amendment: EPA/CRB Restoration Grant
	• Retreat/Planning Session Potential
	  ○ FBC Summer Meeting: August 25th
	  ○ Retreat/Planning Session Potential (Fall of 2021 or Winter 2022)
	  ○ Let us know if you have location ideas.
	Poll for meeting topic at the August 25th meeting:
	• Results: Tie between Canadian headwaters of the Flathead updates and the Clean Water Act Amendment- Columbia River Basin/EPA Restoration Grant.
	• Selenium Standards was the third option.

Public Comment	• None

Kate Wilson
 	
Wrap up & Adjournment
	• Next meeting dates (2021):
	  ○ Summer- August 25th (TBD/likely virtual)
	  ○ Will keep the commission posted on the legislative session and please feel free to join any executive committee meetings in the future.
	• **Motion** to adjourn (Jack). Second (Steve). All in favor. *Motion passes.*
	• Meeting adjourned at 3:55pm.

4. Action Items				
Action		**Assigned**	**Due Date**	**Status**
1	Send out draft minutes	Kate Wilson Cassidy Bender	4/14/2021	Completed
2	Organize presentation for August 25th meeting on the Water Compact, EPA CRB restoration grant or an update on Wildsight, Canada.	Kate Wilson	8/25/2021	Completed
3	Add all future meeting topic ideas from brainstorming session to spreadsheet.	Cassidy Bender	4/8/2021	Completed
EXISTING ACTION ITEMS FROM PREVIOUS MEETINGS				
4	Myla will invite Jim Dunnegan to jointly present on the selenium topic at August meeting.	Myla Kelly	On Hold	On Hold
5	Kate to reach out to Erin Sexton at the FLBS on transboundary issues and filling the BC vacancy on FBC.	Kate Wilson	4/15/2021	
6	Draft joint UC^3 letter on AIS importance/partnerships. Exec Comm to approve before submitting to local papers.	Kate Wilson	2020-21 season	Unknown if warranted
7	Work with watershed staff on looking at opportunities that may work for state/federal partnerships	Agencies, Kate Wilson, Cassidy Bender	On-going	On-going
8	Reach out to other groups in basin for discussion on priority issues and potential partnerships	Kate Wilson, Cassidy Bender	On-going	On-going

9	Check with EPA and Lake/Flathead Conservation Districts (have watershed restoration plans to address TMDLs)	Kate Wilson	On-going	On-going
10	Address BC rep vacancy (ex-officio)	Kate Wilson	On-going	On-going