

Mystic Hydroelectric Project (FERC #2301)
Fisheries, Aquatic Habitat and Water Quality Technical Advisory Committee Meeting
Montana Fish, Wildlife and Parks Office - Bozeman, Montana
March 12, 2019

Location: MFWP Conference Room, Bozeman

Meeting Start Time: 9:00AM

Attendees

Mike Ruggles, FWP
Jason Rhoten, FWP
Clint Sestrich, USFS
Brent Mabbott, NorthWestern
Jordan Tollefson, NorthWestern
Jon Hanson, NorthWestern
Kristi Webb, New Wave Environmental Consulting

Agenda

Meeting lead by Brent Mabbott, NorthWestern Energy

Notes take by Kristi Webb, New Wave Environmental Consulting, LLC

Introductions/NorthWestern Staff Changes

Brent Mabbott retires April 1.

Jon Hanson taking over Brent's position, started February 25, 2019. Jon will be working out of the Missoula office.



2018 Monitoring Activities

-) Mystic Lake (NWE)
 - August sampling included angling and gillnets
 - Size of fish about the same as past. Last sample occurred in 2015 and available in the 2010-2015 Mystic Fisheries Report prepared in 2016 and available on the project website: <http://www.mysticlakeproject.com/com-orders.htm>
 - 2018 catch rate via angling is slightly higher than past
 - FWP – the sampling effort provides good baseline data to monitor the fish community
 - Showing the angling and gillnet data (catch per unit effort and over time) is helpful
 - No Lake Chub sampled in Mystic in 2018

- Brent – NorthWestern may go back in Summer 2019 and set nets to find Lake Chub
- Jon Hanson will coordinate with Jason Rhoten regarding summer sampling efforts, study needs, goals and objectives
- In the Annual Report – NorthWestern will continue to prepare and provide length-frequency histograms. Mike Ruggles will provide an example of multi-year graph that evaluates catch per unit effort by size group over time. AFS standards don't work for rainbow trout. FWP (Mike and Jason) will coordinate to develop size groups. The idea will be to discuss and review ideas during the next annual Mystic meeting and develop a method to evaluate long-term data and present this in the next 6-year report. (Mike sent email on 3-13-2019 with examples discussed during the TAC meeting)
-) Fall Redd Counts (FWP)
 - October and November survey FWP - ~35 redd count for Fall 2018
 - Focus on brown trouts, review data with FWP regarding brown vs. brook trout redd count in dataset. Modify results accordingly
 - FWP has 2017 data (will coordinate with Jason to get data in annual report)
 - Brent recommend redd count conducted annually versus every other year as in the monitoring plan
-) Water Temperatures Monitoring (NWE)
 - Defer to water quality monitoring discussion.
-) Discussion about a creel survey. Jon will ask the recreation group about the recreation use survey that is planned for summer 2019. FWP would like to find out: "Did you fish?" Where did you fish? and Did you catch any fish?... Currently FWP doesn't plan to conduct a creel survey as they have state data for annual pressure estimates, but this is at a large scale. FWP would appreciate more site specific additional angler data and this may be an opportunity to collect it within the recreation survey.

Water Quality Monitoring (NWE)

-) 2018 water quality monitoring
 - Mystic Lake Site, deepest spot around 150ft
 - West Rosebud Creek Sites: Upper Bypass, Above the Powerhouse, Below the Powerhouse, Below West Rosebud Lake
 - Macroinvertebrates at West Rosebud Creek sites plus Pine Grove Campground and Allen Grade Bridge
-) 2018 water quality parameters
 - Mystic Lake Water Chemistry – below detection or near detection limit
 - West Rosebud Creek Periphyton sampling and rock sample for Chlorophyll a
 - Mystic Lake – Phytoplankton within range of metrics observed in past
 - Not a lot of variability in species
 - Mystic Lake – Zooplankton
 - Some variation over years with some species, but 2018 similar to 2012 observations
 - West Rosebud Creek Water Chemistry – water chemistry has not changed much between APH, BPH, BWRL

- Didymo observed in 2018
 - % cover low at APH (5%), highest at BPH (40%), lower downstream (10% BWRL, 20% PGC, 20% AGB).
 - Phosphorous is below detection
 - Nitrogen is about 1/3 of state standard
 - Chlorophyll a is not very high either
 - Not sure what propagates Didymo in WRC?
 -) FWP – prevalence of Didymo seems to be increasing not just in the Mystic system but in other systems.. FWP doesn't monitor it, but it is a concern of anglers and angler report to FWP about areas with Didymo.
 -) It is occurring in “pristine” waters..
 -) Didymo is changing macroinvertebrate population (in literature).. could potentially impact fishery..
 -) Lot of research on the Kootenai River (https://www.researchgate.net/publication/289281255_Your_ugly_algae_neighbor_rock_snot_a_native_nuisance).. nitrogen was the key.. it has a niche to survive.
 - April 10 sampling prior to run-off there was significant Didymo.. couldn't tell as much in July sampling due to run-off
- Water Temperature Monitoring April -September 2018
 - 4 sites: Upper Bypass (5 ft snow and rain during install), APH, BPH, BWRL
 - Daily avg did not exceed 58 °F
 - Max did not exceed 60 °F
 - Upper Bypass – not much shade, max second week in August just below 61 °F
 - Above PH – a little cooler, maybe some groundwater coming in.
 - Below PH – all temps below 58 °F, temperatures slightly more regulated.
 - Below WRL – looks similar to PH sites, maybe a little cooler
- Periphyton
 - Shannon Diversity Index showed moderate stress
 - Other indices show non-stressed system
- Macroinvertebrates
 - Working with new contractor in 2018. Past data collected by Dan McGuire. 2018 data collected by Dave Stagliano.
 - Some changes in macroinvertebrate community observed, but not sure if results are due to natural variability or not. There were a couple years of high snowpack (2017, 2018) that may have contributed to changes or may be related to Didymo.
 - Overall taxa richness was a little lower at some of the sites. But compared to 2012, likely not significantly different. Compared to 2015 there was a difference and decline in 2018.
 - EPT taxa – APH in line with past data, BPH within range of past numbers, BWRL within range of past values, PGC within range of past values, AGB

- was a bit lower than past numbers. AGB has livestock grazing. Visually impacted in AGB. AGB is outside of project area and on private land.
 - Biotic index: higher value at AGB where most visibly impacted area due to private land use. For non-stressed or pristine systems, anticipate low biotic index value.
 - 2018 is the last sample event of the first 10-year monitoring cycle.
-) 10-Year (2010-2019) Water Quality Report, Submittal to FERC by December 31, 2019 Requires TAC review and approval (USFS, FWP, DEQ)
 -) Submittal to TAC – Water Quality Monitoring Report and Plan around May 1
 -) Submittal to FERC – June 1
 - o Deadline: December 31, 2019
-) Develop 10-Year (2020-2029) Water Quality Monitoring Plan for TAC review and approval prior to FERC submittal by December 31, 2019.
 - o Currently doing 3-year intervals. Propose to change to a 5-year interval for West Rosebud Creek.
 - o Propose a 20-year monitoring term (2020-2040)
 - o Provide updates to TAC following each monitoring year, but a FERC report would only be submitted within one year following the end of the 20-year cycle (December 31, 2041).
 - o Mystic Lake monitoring: recommend maintaining the same 3-year interval schedule for a 20-year term (2020-2040). Again summary of results following a sample event would be provided to the TAC. 20-year summary report prepared for FERC filing (December 31, 2041)
 - o Propose discontinuing water temperature monitoring.
 - o Clint (USFS) mentioned that during the East Boulder Mine conversation, USFS felt it was acceptable to decrease the monitoring interval but in the event thresholds exceeded may require additional monitoring. Proposed same concept for Mystic Lake Water Quality Monitoring.
 - o Jordan (NorthWestern – supports that idea and pointed out as an example, there were issues with Mystic Lake hydro labs in 2018, NorthWestern bought new hydro labs and will look at testing them in 2019 even though it won't be an official sampling year.
 - o 2020, 2025, 2030, 2035, 2040 – West Rosebud Creek (Water Quality and Macroinvertebrates)
 - Add dydmo to list of parameters.
 - o Mystic Lake every 3 years (2021, 2024, 2027, 2030, 2033, 2036, 2039), remain on the same cycle with fisheries. Easy logistically to sample water quality when up doing the fisheries monitoring.
 - o Annual reports to TAC within 1 year following each sampling event. No FERC filing.
 - o 20-year report to FERC, submittal December 31, 2041.
 - o Still have an annual meeting review data and discuss modification if warranted.

Custer-Gallatin NF and Stillwater Valley Watershed Group Stream Assessments

-) Jason – let Jon know if getting any feedback from residents and locals regarding concerns on West Rosebud Creek and flows.

Invasive Aquatic Mussels

-) Any updates and new public outreach needs send it to Jon Hanson.
-) Link to Cleandraindry.mt.gov is on the Mystic Lake Project website.

2018 Whitewater Recreation (NWE)

-) In 2018, 2 release days, 2 registered paddlers (end of July)
-) In 2017, 1 release day and 7 registered paddlers (end of July)

2019 USFS

-) Chicken creek bridge project – summer 2019
-) Recreation – new Trail project for 2019. NorthWestern Gate will be closed. The new trail will direct the public around the NorthWestern Camp area.

2018 Funding

-) \$11,000 USFS
 -) \$13,000 FWP
 -) \$1,000 Equipment (backpack)
- o USFS and FWP provide summary of how funding was spent in 2018.
 - o Clint and Jason will resend summaries to Jon Hanson.

West Rosebud instream flows

(2018 notes below)

Brent – discuss operations modification for flows to extend from April 15 to May 15 @ 43 cfs with NorthWestern operations managers

Mystic Lake Project SOP modifies flow operations from license requirements:

<i>October 1 through November 30</i>	<i>75 cfs</i>
<i>December 1 through April 15</i>	<i>43 cfs</i>

Recommendation: change April 15 to May 15

This won't change license. working agreement between NorthWestern and agencies. Brent will have to move recommendation up the chain for review and approval.

Operators indicate they can support recommendation to keep flows at 43 cfs through May 15 instead of April 15 when it goes to 20 cfs (per license). 43 cfs keeps side channels inundated where spawning occurred at minimum 75 cfs. Volume of water not enough for adult fish access but keeps inundated to allow area remain inundated during

emergence. Incubation for brown and brook trout require 144 to 156 days. A lot of spawning occurs in side channels (one is near campground) during 75 cfs.

) **2019 updates on 2018 proposal**

- o Brent spoke with operators. Extending 43 cfs flow through May 15.
- o 2019 will be the first year of implementation.

2016-2021 Fisheries Monitoring Plan

Approved by FERC in a letter dated, June 17, 2016. The following outlines the schedule for continuation of fisheries monitoring activities between 2016 and 2021.

Year	A	B	C	D	E	F
2016				X	X-not scheduled	X
2017		X	X		X - did not sample	
2018	X				X – make up for 2017	X
2019				X	X	
2020		X	X			
2021	X				X	

- A = Mystic Lake monitoring
- B = West Rosebud Creek between the dam and powerhouse
- C = West Rosebud and Emerald lakes fish monitoring
- D = West Rosebud Creek below Emerald Lake electrofishing**
- E = West Rosebud Creek fall redd counts**
- F = Water temperature monitoring

2019 Monitoring Activities

-) Electrofishing in West Rosebud Creek below Emerald Lake
 - o FWP will implement
-) Fall Redd counts
 - o FWP will implement
 - o Brent recommend Ben contact Jon to review redd survey

2018 Fisheries Annual Report will be prepared and submitted to TAC for project files. There is no FERC filing requirement for the annual monitoring reports. Target date for report to be submitted to the TAC is May 1, 2019.

Next submittal to FERC is the 6-year (2016-2021) report due to FERC by December 31, 2022.

2019 Funding (Jon – set up contracts)

-) \$11,000 USFS
-) \$12,500 FWP
 - o FWP equipment request – nets (send list to Jon Hanson) – last purchase was in 2017
-) \$1,500 Equipment (gillnets, waders for both USFS and FWP)

Other Comments

-) Clint Sestrich - comment regarding rearing habitat in West Rosebud Creek
 - o Considering trying to quantify rearing habitat for juvenile salmonids in lower reach. Is this an activity that is worth while? On USFS lands and maybe extend downstream to private land. There is connectivity to Emerald Lake but not West Rosebud Lake.
 - o Clint will dig into Darin Watschke’s methods used at Hebgen and try to establish a protocol and coordinate with Jason to review. FWP and USFS will continue discussing options.

Riparian Monitoring

-) Riparian Monitoring to be implemented in West Rosebud Creek in 2019 (last time was in 2009). Report will be provided to TAC for review and approval, submittal to FERC by end of 2019. Goal was to monitor riparian vegetation and detect any changes due to operations. Last survey indicated evaluation process is limited.
 - o Clint – walked stream in 2018 and noticed a lot of cottonwoods

Meeting Adjourn 11:10 AM

Meeting notes and reports are posted and available on the Project website (<http://www.mysticlakeproject.com/index.htm>).

MEETING ATTENDEES:

Name	Affiliation	E-mail	Phone
Brent Mabbott	NorthWestern Energy	Brent.Mabbott@northwestern.com	406-490-1801
Jordan Tollefson	NorthWestern Energy	Jordan.Tollefson@northwestern.com	406-565-3879
Jon Hanson	NorthWestern Energy	Jon.Hanson@northwestern.com	406-542-5961
Jason Rhoten	MT FWP	JRhoten@mt.gov	406-698-1905
Clint Sestrich	USFS	csestrich@fs.fed.us	460-222-1892
Mike Ruggles	MT FWP	mikeruggles@mt.gov	460-247-2663
Kristi Webb	New Wave	kwebb@nw-enviro.com	406-239-4484

Action Items

-) 2019 Contracts for FWP and USFS
-) 2018 Fisheries Report to TAC
-) 2010-2019 Water Quality Report and 2020-2040 Water Quality Monitoring Plan
-) USFS and FWP provide size of waders
-) NorthWestern will purchase same # of nets for FWP as in 2017
-) 2019 Riparian Monitoring Report to TAC in Fall 2019

Go forth and do good things!