

**Mystic Hydroelectric Project – Aquatic Resources
Technical Advisory Committee Meeting
Billings, Montana
January 30, 2013**

ATTENDEES:

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Review of 2012 TAC Meeting Notes

PPL Montana will put excess unspent funds into a special savings fund to save up for larger projects. In 2012, all money was spent so the savings account will begin to be funded in 2013.

December 4, Low Flow Event

Above freezing air temperatures caused the ice on West Rosebud Lake to break up. A south wind pushed the ice over the outflow of the West Rosebud Lake, reducing water flows from the lake. Ice was blocking the bottom of the dam so operators got the water flowing again by opening boards at the top of the dam.

Jon Jourdonnais wrote up a description of the event and filed the information with the Federal Energy Regulatory Commission (FERC), with copies to Montana Fish, Wildlife & Parks (MFWP) and the Forest Service.

The flow in West Rosebud Creek during this event is unknown, because the USGS flow reading shows a blank rather than showing an actual reading. It may be possible the USGS can provide numbers later.

Brent went to the project site as soon as he learned of the event, arriving that morning. He showed the TAC photographs of West Rosebud Creek that he took that day, and then after the flow was fully restored. Based on the photographs, it appears that below the campground there was about 17-20 cfs at 9:00 AM.

There was discussion of the possibility of PPL Montana putting a gage at the campground so they have a better sense of what flows are below Emerald Lake. Emerald Lake tends to attenuate flow fluctuations.

Other West Rosebud Discussions

Redd surveys: Redd numbers were higher this year in both the spring and fall surveys. Andy's redd spreadsheet is in addition to the data collected by MFWP. Ginger will get the additional data added to the redd survey map.

Sediment samples: The sediment samples were collected in West Rosebud Creek in 2012, one year ahead of schedule. The data will be reported in this year's annual report. PPL Montana won't collect these samples again this year (2013) unless something exceptional occurs. FWP and FS concur with this proposal.

PPL Montana has a long history of sediment samples in Madison River, but they are starting to question the utility of the data. They haven't seen changes in gravel quality that match up with high water years, when logically the stream substrate would have been cleaned by flushing flows.

Discussion on Mystic Lake Developments

Utah chub were collected in Mystic Lake during gillnetting in the summer of 2012, the first time this species has been seen in the project area. The TAC discussed the ramifications of this new species in the lake. The decision was made to keep sampling every 3 years at Mystic Lake. Brent will send the otoliths to Mike so the Utah club can be aged.

Whitewater Boating

PPL Montana will suggest that if Wednesday's flow in West Rosebud Creek is <310 cfs, then the whitewater boaters will get 1 day of special flow releases. If the flow is >310 cfs, then the boaters will get a 2nd day of flow releases. If the boaters get 1 day, it's always a Saturday. This proposal to go from a 280 cfs trigger to a 310 cfs trigger is in order to refill the re-regulating reservoir, and give boaters 2nd day. The plant operators have gate controls at the powerhouse so it is easier for them to provide the flows now than it was in the past.

This proposal will be discussed during the whitewater TAC call in April.

This year, there were two weekends plus 1 day when special boating flows were released. There was 1 day with zero (0) boaters; another day had 24. Some people thought the flows were "boney."

Water Quality

Andy sampled water quality in West Rosebud Creek at three different times at three locations, as specified in the Water Quality Monitoring Plan.

Temperature loggers were installed at 4 locations, from April 3 to September 12.

Water temperatures peaked around 60.5° F.

Macroinvertebrate sampling was conducted at five locations, PPL Montana is expecting the data back mid-year. There were three Hess samples per site.

Periphyton data were collected and chlorophyll a, which was 6 to 9 mg/m². The lab composited the five samples and did not give sample/site like as has been done in the past.

There was moderate amounts of *Didymo* in spring, but it didn't get more severe over the

season. *Didymo* coverage was patchy.

Mystic Lake

A temperature profile was measured and the thermocline around 40 feet, similar to past years. The Secchi depth was 25 feet, DO was 80% saturation on the lake bottom even while the lake was stratified. Conductivity was about 27-35 $\mu\text{S}\cdot\text{cm}^{-1}$, and Chlorophyll was 1.3 mg/L.

Plankton data was collected and will be reported on in the annual report.

Upcoming Repair Work at Mystic Dam

April 1, 2013 – PPL Montana needs to make repairs at the intake at Mystic Dam. The plan is to fill the re-regulating reservoir to the maximum level. The plant operators will build a berm to keep water in reserve to get flows going. PPL Montana will be able to keep the minimum flow in the bypass and 20 cfs in West Rosebud Creek downstream of West Rosebud Lake.

The plant operators think they can complete this in less than 4 days.

Brent is concerned that the top of the redds will be exposed downstream of West Rosebud Lake. Ken Frazer expressed that the most critical factor is to maintain the bypass reach minimum flow.

Miscellaneous

Ken hopes to have Jeremiah's position filled by the end of March. Use some project money to fill-in with temporary person this spring. MFWP will conduct spring redd surveys again this year.

PPL Montana will dedicate \$10,000 each for MFWP and FS.

The sampling equipment is in good shape, don't need to make any major purchases. Any left over money will go into savings.

Wait to decide after 3 years (after next Mystic sampling) to decide what study – Mystic Lake or radio telemetry in West Rosebud will be the highest priority. The TAC discussed how to do radio tagging study in West Rosebud Creek – Brent suggest HD tags and stationary antennas.

Recreation improvements will be happening this fall. This will entail drawdown of West Rosebud Lake for construction of the fishing pier.

Fall redd counts will be about November 1st.

Electrofishing – coordinate with FWP.

Jon would like to propose to FERC that the fisheries monitoring annual reports get filed with FERC every 3 years instead of annually. The TAC will see these reports annually regardless. The TAC concurs with this suggestion. PPL Montana will propose this change next year.