

**NorthWestern Energy Thompson Falls Hydroelectric Project (No. 1869)
Annual Thompson Falls Technical Advisory Committee Meeting
Missoula, Montana (MFWP Office)
November 28, 2018**

9:30 Welcome

The Thompson Falls TAC Meeting was held at the Montana Fish, Wildlife and Parks office in Missoula. Brent Mabbott, NorthWestern Energy, facilitated the meeting. A list of attendees is provided at the end of the meeting summary.

1. Announcements (NorthWestern) and Introductions

Safety Note: Be aware of black ice when traveling. Careful about running boards, may be icy.

NorthWestern provided a notebook with 2019 proposals for review and a few additional handouts regarding the upcoming December 4, 2018 Stakeholders meeting (to be held in Missoula from 9am-12pm). NorthWestern provided a PowerPoint (PPT) presentation with data and results from radial gates construction updates, Total Dissolved Gas (TDG) monitoring, baseline fisheries surveys, upstream fish passage results, and fish detections in the Thompson River. The PPT is available on Project Website.

2. 2018 TAC Funded Projects & Budget

Project Name	Update Provided by	2018 Approved Spending	Actual Spent
Koch In-holding	Ladd Knotek, FWP	\$60,000	\$60,000 (in 2017)
Crow Creek Design	Ryan Kreiner, FWP	\$30,000	\$30,000
Beartrap Fork (2016)	Jon Hansen, USFS	\$11,000	\$13,500
Rattlesnake Dam Removal, Phase I	Rob Roberts, TU	\$20,000	\$20,000
Prospect PIT Tag	Brent Mabbott, NorthWestern	\$30,000	\$29,418
CFRWG Coordinator	Ryan Kreiner, FWP	\$16,500	\$16,500 (in 2017)
Bull Trout Genetics	None	\$10,000	\$0
Misc. Funding	Brent Mabbott, NorthWestern	\$10,000	\$7,752.04
Total Funds Allocated		\$187,500	\$177,020.04
2018 Funds Spent (November 19)			\$100,340

The balance in the reserve account at the end of 2018 is about \$150,000, and with additional \$100,000 for 2019 the total available funding for 2019 will be about \$250,000.

Koch In-Holding Purchase (December 2017), Ladd Knotek

Ladd – Thank you to NorthWestern for providing funding for the project. The flexible NorthWestern funding helped to leverage funding from other sources that are more constrained. The Koch inholding is a 160-acre parcel including 1.2 miles of mainstem Fish Creek. Total purchase cost: \$782,000. Prior purchases: Forks Proposal (0.6 miles in 2015) and WF Fish Creek (Rehbein Property) including 320 acres and 1.3 miles of WF Fish Creek, as well as confluence of three tributaries (purchased in 2016). To date, over 3 miles of stream corridor have been

purchased. NorthWestern's \$180,000 contribution in past years leveraged 2.76 million dollars. Cost share leveraged (matched): >94 percent.

Crow Creek Restoration Design, Ryan Kreiner

Ryan – Crow Creek is a tributary to Prospect Creek (immediately downstream of Thompson Falls Dam). In 2018, the TAC worked to include Prospect Creek as part of the geographic area to receive off-site mitigation funding from the TAC. NorthWestern worked with FWS (and FERC concurrence) to include Prospect Creek on the list of bull trout tributaries which are eligible to receive TAC funding.

Historically, Crow Creek was impacted by two old power line corridors (one owned by NorthWestern; the other by BPA). Last year FWP spent money on design to extend restoration of a reach restored previously with positive impacts to native salmonids. The design (by RDG) was finalized last week. In 2019, FWP is requesting funding for construction. Project cost will be about \$103,000.

Bear trap Culvert Removal (Funding approved 2016), Jon Hanson

This project was delayed due to lack of resources during the past two summers due to wildfire seasons. Removal of the culvert, which was a fish passage barrier was completed in 2018. There have been some challenges with vandalism at the site after the culvert removal was complete. USFS will be adding cameras to monitor area.

Rattlesnake Dam Removal, Phase 1, Rob Roberts, Trout Unlimited (TU)

Started planning effort to remove Rattlesnake Dam with \$20,000 of TAC funding in 2018. The project work will continue in 2019. This summary provides a progress report from 2018 and proposal for 2019 in PPT. TU is requesting \$50,000 in 2019.

Rattlesnake Dam has been present for ~115 years. City of Missoula purchased Mountain Water Company, thus providing opportunity for project (due to public ownership and potential liability of site). Goals are to eliminate passage barriers (headwaters of Rattlesnake downstream to Clark Fork River) in system. \$13,500 from TAC for fish screen work (match \$100,000) in previous funding cycle. \$20,000 with \$150,000 match in 2018. About 11 percent contribution by NorthWestern for each project.

Rattlesnake Dam finished in 1901 to 1904. 1924 reinforced with concrete (earthen embankment, spillway, etc.) It was a complete barrier until 2003 when FWP installed a fish ladder. In 2014, Mountain Water Company removed barriers to the structure. Decision to leave gates open in the middle and welded open. Some partial passage. Video of high flow 2018 shows a seasonal fish passage barrier remains. Fishery in Rattlesnake include MWF, WCT, BULL, Slimy Sculpin and others such as LL, RB, EB. Species composition is the same above and below the dam. The fluvial populations (BULL and WCT) are struggling and need more positive measures to enhance habitat for species.

Structure is starting to crumble and fail. 2017 – pre-design work, evaluate feasibility of removal or mitigation of structure completed. Significant public input process and review of four conceptual designs.

Project Timeline

-) Final Design – 2018/2019
-) EA – 2018/2019
-) Planning and Fundraising Winter/Spring 2019
-) Permitting Spring 2019
-) Bid Docs. Spring/Summer 2019
-) Site preparation/deconstruction Summer/Fall 2019
-) Dam demolition and stream restoration Summer/Fall 2020 (Water comes down July 1, in-stream window until October)

Prospect Creek PIT Tag (Avista and NorthWestern)

Installed in September 2018 (50-50 funding with NorthWestern and Avista), \$30,000 funding.

There is some noise being detected by the antenna and Avista and NorthWestern are working with Biomark to address this issue.

Thompson River Coordinator

Funded \$16,500 for coordinating position. WF Fishtrap Ck proposal coming from this effort and likely another proposal for next year. Brita is able to coordinate landowners. FWP, USFS, and Weyerhaeuser very pleased with coordination efforts.

Bull Trout Genetics

None in 2018.

Ladd – no plans to update the tributaries. There is good assignment to Region 4.

Emergency/Contingency Funding

Brent spent money on Biomark (Fishtrap Creek PIT tag detectors technical support), detectors, etc. Great to have this flexibility for spending. Misc. Funding supports projects funded by the TAC.

Brent – Reminder that proposals for TAC should follow the form and kept to five pages.

Prioritization of Project Proposals for TAC Funding

In December 2017, the TAC agreed to develop prioritization guidelines for TAC proposals. The prioritization guidelines identified in December in 2017, and refined during this meeting, address geographic scale. The TAC agreed to further discuss guidelines for prioritizing proposals based on mitigation objectives, geographic scale, and type of project (e.g., on-the-ground, administrative, research, etc.). Below is the language for the geographic prioritization that was developed during this meeting. Please note that the language below is in Draft form and will be finalized at a later meeting.

- ▶ Tier 1 Stream – *Thompson River drainage*, a tributary immediately upstream of Thompson Falls Dam, with known migratory Bull Trout presence. Mainstem Clark Fork River (CFR) within Project Boundary.
- ▶ Tier 2 Streams – Mainstem CFR from upstream end of the Project Boundary upstream to Fish Creek. Tributaries downstream and upstream of Thompson Falls Dam between the Prospect Creek and Fish Creek in the middle CFR drainage and the Jocko River in the Flathead River. drainage that still support migratory bull trout. Other tributaries include: *St. Regis River., Cedar Creek, Trout Creek.*
- ▶ Tier 3 Streams – Mainstem CFR and tributaries upstream of Thompson Falls Dam, in the reach from Fish Creek upstream to the Blackfoot River confluence that still support migratory bull trout.
- ▶ Tier 4 Streams – The CFR watershed upstream of the confluence with Blackfoot River that still support migratory bull trout.

General Discussion Points regarding prioritization system (tiering developed above)

Ladd – originally the funding was for on-the-ground projects and not personnel. Originally research and design work were not part of the funding. What’s the reward to be frugal and getting match money?

General Comments from TAC: The tiered system only addresses and prioritizes projects spatially. The TAC is generally concerned there are other factors to consider in the overall prioritization than geographic location. It is recommended that the type of project be considered too. There needs to be some matrix to address the project type and geographic location/priority and mitigation goals addressed.

Ryan – has a ranking system for Avista projects. Some criteria include: Is there match? Is it on-the-ground? Location?

Ryan – the MSU study is an example of a non-typical project that was funded. Prior to 2015 funding would’ve been focused on tributary work. Because of the MSU work, the project in the mainstem Thompson River now may qualify.

TAC Vote on to continue the process to identify guidelines prioritize

MFWP – “YES” to continue discuss prioritization guidelines (Pat)
USFWS – “YES” to continue discuss prioritization guidelines (Kevin) – like the spatial and need to more guidance to the prioritization of the type of project
NorthWestern – “YES” to continue to discuss
CSKT – “YES” to continue to discuss (Craig)

Brent will set up a meeting in January 2019 in Missoula (MFWP office) and will notify group.

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3. 2019 Proposals for TAC Funding

Agency/Entity	Project Proposal 2019	TAC Funding Requested	Total Project Costs	TAC Vote
TU/FWP	Rattlesnake Dam Removal Project, Phase I1	\$50,000	\$907,512	FWP Yes FWS Yes CSKT Yes NorthWestern Yes
FWP (Kreiner)	Crow Creek Stream Reconstruction Phase II	\$51,500 (Max request)	\$103,000	FWP Yes FWS Yes CSKT Yes NorthWestern Yes – notify by email to group of final funding
USFS (Hanson)	WF Fishtrap Ck Rd Realignment (Design complete) (NEPA in progress)	30,627.15	\$40,000+	Primary BULL spawning reach. FWP Yes FWS Yes CSKT Yes NorthWestern Yes
FWP (Kreiner)	Pathogen Study	\$9,134	\$27,401	Brent – remove from TAC funding and fund through ladder operations funding
NorthWestern / Avista	Prospect PIT Tag array			Request funding through Misc. Funding (\$600 - \$2000)
FWP (Kreiner)	2019 Thompson River Coordinator	\$9,900	>\$9,900	FWP Yes FWS Yes CSKT Yes – small ask but funding is intended for on-the-ground work and stay vigilant on type of proposal requests NorthWestern Yes
NorthWestern	BULL Genetics	\$10,000	\$10,000	Brent – recommend we take this off the proposals and include in the Misc. Funding. FWS Yes FWP Yes CSKT Yes NorthWestern Yes
NorthWestern	Emergency/Contingency Fund (Prospect Creek PIT, Bull Trout Genetics, etc).	\$10,000	\$10,000	Include Prospect Creek PIT Tag Array, Bull Trout Genetics, etc (contingency for already funded projects). FWS Yes FWP Yes CSKT Yes NorthWestern Yes
TOTAL Requests		\$171,161.15		
TOTAL Approved		\$152,027.15		Removed Pathogen Study, Removed Genetics, Approved all Others

Crow Creek (FWP)

FWP is requesting about 50 percent funding. Anticipate funding request will likely be less than 50 percent. \$30,000 to \$50,000 funding request depending on funding from other sources. This is a TAC-approved project. Brent will notify the TAC of final funding amount via email in 2019.

West Fork Fishtrap Creek Road Realignment (USFS)

The proposal was developed through work conducted by the watershed coordinator and landowners. Project improve habitat in key spawning area that is currently adjacent to road. Weyerhaeuser (not able to attend meeting today) sent an email in support of this project. This is a TAC-approved project.

Pathogen Study (FWP)

Ryan – with fish passage at three facilities on the lower Clark Fork River, the state has pathogen analysis requirements. On-going pathogen testing is conducted every 5 years upstream of each dam facility facilities in each of the four regions. NorthWestern has typically paid for Region 4 testing. Avista Settlement Agreement pays for Regions 1, 2 and 3. Brent is taking this off the list and funding it through ladder operations.

Thompson River Coordinator

More money came into the coordinator budget than the program expended.

Proposing a lower amount of funding in 2019.

USFS – Brita has brought landowners together and confident there will be another proposal in the next year. A lot of issues in the Thompson River drainage are road-based and involve various landowners making it challenging to get projects started. Having a Watershed Coordinator is instrumental in getting proposals developed and projects developed.

Weyerhaeuser – supports proposal (via email).

FWP – coordination is not bad in and of itself when it leads to projects. The prioritization and guidance of projects will be beneficial.

Brent – Brita needs to document funding received and additional money matched and funds received. Would like to see this for the TAC next year.

BULL Genetics – NorthWestern

Removed as a separate project. If any genetic samples need to be analyzed, fees will be paid through Misc. funding.

Emergency/Contingency Funding (\$10,000) – NorthWestern

Brent recommends to the TAC to utilize between \$600 to \$2000 in continued support for the Prospect Creek TAG Array and not have this as a separate project. No issues were raised by TAC. Misc. Funding will include Bull Trout Genetics, Prospect Pit Tag array. The activity must be part of an approved project to qualify for misc. funding.

4. New Radial Gate Construction Update (NorthWestern)

Nearly complete (this week or next).

5. 2018 Baseline Fisheries Data Collection

Spring Electrofishing – Thompson Reservoir (Upper and Lower)

Fall Gillnetting – Thompson Reservoir (annual activity)

Fall Electrofishing – Above Islands and Paradise to Plains

Baseline electrofishing again in 2020 (alternating years)

Gillnet will be an annual activity (per decision in 2016 TAC Meeting)

6. 2018 TDG Monitoring and Results

TDG was monitored above the dam, at the High Bridge, and at the Birdland Bay Bridge in 2018. 2018 operations were modified due to new radial gates construction. The new gates couldn't be opened because they weren't ready. Operators opened the Dry Channel first (not typical) and then the Main Dam; usually the Main Dam is opened first. Stanchions were tripped on both dams (Dry and Main Dam). May 9 and 10 on Dry Channel, May12 on Main Dam Spillway. 2018 monitoring results showed that water going through powerhouse does not have increased levels of TDG. Refer to PPT for 2018 results presented.

Water quality standard is 110 percent. It is commonly accepted that TDG go as high as 120 percent without gas bubble trauma symptoms to fish. There was no gas bubble trauma monitoring done in 2018.

7. 2018 Bull Trout

Refer to PPT for data presented.

8. 2018 Ladder Operations and Results

Refer to PPT for data presented.

Ladder Operations 2019

In December 2017, the TAC decided to operate the fish ladder in notch mode in 2018 and 2019 and then switch to orifice mode in 2020. Recent data (2017 and 2018) show fewer fish ascend the ladder in notch versus orifice mode. Does the TAC want to modify weir mode operations in 2019 back to orifice?

Brent recommends meeting in January with GEI (Chad Masching) to discuss ladder operations and options for improvement. Also, this meeting will be an opportunity to review the report prepared by GEI regarding the hydraulics in the fish ladder during notch and orifice modes.

Pat – FWP understanding was the ladder is for upstream passage of salmonids and game fish too. The focus was bull trout with the understanding there may not be a lot of them around.

Ladd – Primary driver for developing the ladder was to pass bull trout, secondary consideration was for sport fishery (nonnative fisheries).

Ginger – requirement of ladder was to design ladder to FWS specifications which meant it had to be volitional.

Objectives of January 2019 meeting will be:

-) Review the goals and objectives of operations of ladder
-) Operations of Ladder in 2019 and 2020
-) Prioritization Matrix for Proposals

9. Results of Studies in the Thompson River (ladder fish migration to and from the Thompson River)

Refer to PPT for data presented.

10. Annual Report Schedule

-) Feb 8 Draft Report to TAC
-) Mar 8 TAC Comments DUE
-) Mar 15 Final Report Complete
-) Mar 27 FWS signature
-) Mar 29 E-Filing to FERC

11. Next Meeting

Stakeholders, December 4, 2018 in Missoula (Holiday Inn) 9am-12pm

Baseline Environmental Document <http://www.thompsonfallsfishpassage.com/>

Annual Meeting in 2019

- ▶ **December 2-6, 2019 (specific date to be determined)**

Adjourn 2:00PM

Action Items:

Need Progress Reports for each TAC Funded Projects 2018 (due by January 17, 2019)

Brent set up day for meeting in January (14-18), 2019 in Missoula (MFWP Office)

Objectives of January meeting will be:

-) Review the goals and objectives of operations of ladder.
-) Operations of Ladder in 2019 and 2020
-) Prioritization matrix for proposals

November 28, 2018 Meeting Attendees

Name	Affiliation	Email
Andy Welch	NWE	andrew.welch@northwestern.com
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