



Thompson Falls Relicensing Baseline Environmental Document Workshop December 4, 2018, 9:00-12:00 MST

Welcome and Introductions

The meeting began at approximately 9AM.

Attendee List is included in [Attachment 1](#).

Safety Moment

Reviewed safety considerations for driving during the winter season. Identified nearest fire exits.

PowerPoint Presentation

NorthWestern (Mary Gail Sullivan) provided an overview of the workshop, project history, and relicensing process (high-level review)

- Purpose of Workshop
 - Formal FERC Process doesn't start until Notice of Intent (NOI) and Pre-Application Document (PAD) Filed with FERC – July 1, 2020
 - The Baseline Environmental Document (BED) prepared in advance (and voluntary) of the PAD
- Project History
 - 1912-1916 Construction
 - 1979 current license issued
 - 1990 major license amendment
 - 1995 new powerhouse construction completed
 - 2009 FERC Order approval of ladder construction
 - 2011 ladder operations begin
 - 2025 current license expires (December 31, 2025)
- Integrated Licensing Process for Thompson Falls
 - Formal Process starts after the filing of the NOI and PAD on July 1, 2020
 - Final License Application December 31, 2023
 - License Order (October 2025)
- Default is 40-year license (up to 50 years max)

Question from FWP (Don Skaar) – Are operations at the new powerhouse rolled into the new license. Answer from NorthWestern (MG) – yes. The baseline is current operations. The new license (40 to 50-year term) will address operations for the new powerhouse and original powerhouse.



GEI (Ginger Gillin) continued the presentation with more detailed discussion about the Baseline Environmental Document (BED) and the Pre-Application Document (PAD)

- The Baseline Environmental Document (BED) was prepared by NorthWestern as a pre-relicensing activity (not a formal document). The BED is a pre-cursor to the next step in the process, the preparation of the PAD. The PAD is a formal part of the FERC Process. Earliest filing date is July 1, 2020 (5.5 years prior to the date when the current license expires, December 31, 2025). At this time, NorthWestern plans to file the Notice of Intent (NOI) and PAD by July 1, 2020.
- BED includes available information. Request stakeholders provide input on additional available information that was not included or identified in the BED.
- Review of NorthWestern Stewardship
 - Aquatics
 - 1988 – MPC paid \$250,000 in to a fund managed by FWP for 10,000 ac-ft water in Bitterroot River.
 - TAC established in 2003
 - Annual funding Adaptive Management funding Account (AMFA) – NorthWestern contributed \$100,000 per year (cap of \$250,000)
 - Fish ladder constructed 2010
 - Recreation
 - Trails, parking, benches, boat launches, docks, etc.
 - Cultural
 - Rehabilitate historic High Bridge (2010)
 - Project site is considered a historic district
- How will PAD differ from the BED?
 - Additional information included (provided by stakeholders)
 - Additional information gathered by NorthWestern (12-18 months)
 - Process plan and schedule will be included in the PAD
 - Additional detail and project operations (focus on last 5 years)
 - Preliminary issues and studies list for each resource area
 - Documentation and consultation with stakeholders

Request made to the stakeholders to provide additional information (reports, data, etc. not included in the BED) to NorthWestern by February 22, 2019
Submit to Andy Welch – Andrew.welch@northwestern.com

Resource Group Break Out Session

Short 10-minute break prior to breaking out into smaller resource groups to discuss data gaps based on information provided in the BED.

- [Fisheries and Aquatic Resources](#)
- [Water Resources](#)
- [Recreation and Cultural](#)



FERC's Study Request Criteria

Refer to "A Guide to Understanding and Applying the Integrated Licensing Process Study Criteria," FERC Office of Energy Projects, March 2012.

1. **Goals and objective of study** – clearly define and identify the goals, objectives, and information to be obtained.
2. **Relevant resource management goals** – what are goals of entities with jurisdiction over the resource to be studied?
3. **Relevant public interest considerations** – what are public interests, especially if study is requested by the public and not a resource agency?
4. **Existing information; need for additional** – describe information that is currently available, and what additional information is needed.
5. **Nexus to project operations and effects on resources** – describe the effects that project operations would have on the resource (direct, indirect, and/or cumulative) and how study results will inform development of license requirements.
6. **Methodology; consistent with accepted practice** – if proposed, explain how the proposed study methodology is consistent with generally accepted practices in the scientific community, or relevant to tribal values and knowledge.
7. **Estimates of effort and cost** – describe level of effort and cost, and why any proposed alternative studies would not be sufficient to meet the information needs.



10:00AM Fisheries, Wildlife, and Habitat Resource Group (RG) Breakout Session

The Fisheries, Wildlife, and Habitat Resource Group (RG) session was facilitated by Brent Mabbott, NorthWestern Energy.

A list of completed studies was handed out at the meeting and can be found in [Attachment 2](#).

Fisheries, Wildlife, and Habitat RG (Brent, Ginger, Kristi)

- Thompson Falls Project information available on the Project website: www.thompsonfallsfishpassage.com
 - Location of available annual reports, FERC filings, etc. are found under the Public Reference File

Resource Group (RG) Objectives

The goals and objectives of the RG is to identify data gaps based on information presented in the BED. Ginger explained that there is a distinction between studies for Relicensing and post-license. Studies for relicensing are intended to acquire information needed for NorthWestern to file a license application with FERC. This doesn't mean that there are no additional studies after 2023. The information collected in the study period (for relicensing) is for support of the application document.

Question about Schedule and Process.

After NorthWestern files the Final License Application (December 2023), then FERC files a Ready for Environmental Assessment (REA) notice that triggers USFWS, USFS, and MT FWP to submit their preliminary terms and conditions (approximately April 2024). NorthWestern is starting an informal process right now to allow for informal coordination. Once the relicensing process starts, the schedule is set (by FERC) and there is no flexibility in the schedule or process.

RG Data Gaps Identified/Questions/Concerns

1. How are DNRC lands, located with the Project (FERC) boundary managed?
2. Questions about the Relicensing Process:
 - A detailed schedule will be posted to the website

Discussion on Operations and Existing Licensing Conditions:

3. The current license allows the flexibility for operators to draw the reservoir down by 4 feet (load following)
 - How does the 4-foot drawdown impact the ladder operation?
 - Is there a desire for NorthWestern to change current operations?
 - Is there information about past 4-ft drawdowns and impacts to reservoir level, tailrace, ladder, etc.?
 - i. Note that information from past operations will be described in the PAD.



- Need to assess ladder operating challenges with 4-ft drawdown and options for operating the ladder under these conditions. Several data gaps identified:
Options for running the ladder with 4-ft drawdown. What do these operations look like? How does it impact fish ladder operations? What are alternatives to operate ladder under these conditions? How does the reservoir levels and/or tailrace levels look with 4 ft drawdown? How long is a 4 ft drawdown? How does a 4-ft drawdown impact fisheries at different times of year (seasonal impact) at the ladder and/or in the system?
 - Define and explain load following versus peaking. It is assumed load following means this is unscheduled operating condition versus peaking is a scheduled and predictable operating condition. Is this correct?
 - Is there flexibility to test operations (within the parameters of the existing license) to answer some of these questions? Brent – Yes.
 - Brent – If a 4-ft drawdown event during non-ladder operations, then there is no impact to the passage facility.
4. The current license requires a continuous flow of 6,000 cfs or inflow to the Project reservoir, whoever is less.

Review and discussion of the studies, reports, existing information summarized in the BED

5. Do we need to update northern pike data (last study was summarized in the 2009 Annual Report, annual gillnetting in reservoir since 2004) in the Thompson Falls Reservoir?

New Radial Gates on the Main Dam (installed in 2018)

6. How will the radial gates be operated?
- Construction completed in 2018. Operational in 2019.
7. Will radial gates impact attractant flow to the ladder?
8. How will radial gates impact fisheries (GBT, TDG, movement behavior)?
9. What are the impacts to TDG levels with new radial gates?

Thompson River Data

10. MT FWP (R. Kreiner) has collected more recent data on Thompson River tributaries.

Outmigration of Bull Trout in the Thompson Falls Reservoir

11. Study was completed and published (Glaid, 2017) about outmigration of sub-adult bull trout downstream of Thompson River and Thompson Falls Reservoir. Results found few bull trout outmigrating into the Reservoir. This question about when and how sub-adult bull trout migrate downstream into and through the Reservoir remains a data gap. What is the route of passage? If there is a drawdown (4ft), how does this impact movement?
12. MT FWP – have PIT tag arrays in tributaries and mainstem of Thompson River. Continuing to collect data from the study Glaid started in 2015.



Upstream Fish Passage

13. What other areas upstream (besides Thompson River) are used by salmonids passed upstream of the ladder? MT FWP – have ladder fish with Floy tags (angler reporting) to evaluate this in addition to PIT tags.
14. Does passage of rainbow trout (RB) and/or brown trout (LL) have an impact in upstream tributaries? In the Thompson River, there are an estimated 10,000 RB and 15,000 LL. Does the passage of RB and LL at the dam impact the tributaries compared to existing population in the Thompson River?

Fish Passage Facility and Passage Improvements

15. NorthWestern – evaluating possibility to improve fish passage through downstream channel below Main Dam.
16. Are fish trying to move upstream finding the ladder entrance?
 - Are bull trout finding the ladder effectively and ascending the ladder effectively? (the current sample size is low, so it's a difficult question to answer, but remains a data gap).
 - Is there a design flaw specific to a species? Do we need a second ladder?
17. Is there a population estimate of bull trout downstream of the ladder?
18. With a low sample size of bull trout, is the use of surrogates acceptable? Surrogates were utilized for the planning and development of the existing ladder.

Additional Data Sources

19. Avista can provide their reports and data collected from Noxon Rapids Reservoir, TDG data, transport program, etc. to NorthWestern

Future Fisheries Studies and Activities (in Thompson Reservoir and Region)

20. MT MFWP - Pathogen (fish) study 2019
21. Metals in reservoir fish in 2020

Other Topics

22. Current MOU (provides annual funding) expires in 2020. Renew MOU for 2020-2024?
23. Current BiOP expires at the end of the existing license. FWS will prepare a new BiOP for the new license.
24. What happens to funding in new license?
25. Data gaps on various species (e.g., Western pearlshell mussel or sculpin). Are we missing information on other fish species/fish assemblages?

Data Gaps and Context with Relicensing - FERC Study Criteria

26. Question – Explain “data gaps” in the context of relicensing. Studies to be completed for relicensing will be done for the specific purpose for NorthWestern to prepare and submit the license application. FERC has developed guidelines and criteria for developing studies during the relicensing process:



- Goals and Objectives
 - Relevant Resource Management Goals and Public Interest Considerations
 - Existing Information and Need for Additional Information
 - Project Nexus
 - Proposed Methodology
 - Level of Effort and Cost
27. NorthWestern will send the group the FERC study Criteria
<https://www.ferc.gov/industries/hydropower/gen-info/guidelines/guide-study-criteria.pdf>

Wildlife

28. Any data gaps? Please provide any additional information, input, comments to NorthWestern by February 22, 2019 (Andrew.welch@northwestern.com).

Final Thoughts

Brent Mabbott – NorthWestern will provide a summary of the data gaps identified by each RG and the FERC criteria for developing studies. Any additional information, comments regarding the BED, data gaps, additional information, please send to Andy Welch at Andrew.welch@northwestern.com by February 22, 2019.

Resource Group Meeting adjourned at 12PM



Water Resources Breakout Session Summary

Jordan kicked off the breakout session by identifying the resource topics to be discussed including water quality, TDG, sediment, water quantity, AIS, & wetlands. Riparian shoreline management would be discussed in the recreation, land use, and aesthetics group.

Overview of Resource Information Included in BED

Water Quality

- Thompson Falls Reservoir and CFR are both classified by MT as suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply.
- Support of beneficial uses for TFR have not been assessed (category 3)
- Limited water quality data is available in the project area. Existing data comprised of data from Tri-State, DEQ, and NWE.
- Most data is from TDG monitoring. Limited seasonality in temperature data.
 - Does project affect water temperatures? Could operational conditions help alleviate any negative temperature impacts?

Total Dissolved Gas

- NWE monitored for TDG for numerous years and has developed a TDG control plan. Following this plan, a good correlation between flows and entrained TDG is developed.
- TDG control plan is geared toward understanding operational configuration and resulting TDG to evaluate reasonable operation of dam standard.
- New radial gates need to be evaluated on how they may influence gas entrainment at the project. This will be pursued by NWE.

Sediment

- There are no state standards for sediment chemistry. Generally, focus is on impacts from toxicity in sediments is evaluated such as resulting water chemistry impacts or bioaccumulation in organisms.
- Sediment traps deployed before and after removal of Milltown dam. Temporary spike in metals but returned to pre-removal conditions.
- Fate of bedload through the project is unknown. There are some depositional areas observed but it is not known if these are stable or removed and re-deposited in high flow years.
- Potential for clean water scour below Thompson Falls Dam is unknown. Prospect Creek immediately downstream may contribute sufficient bedload for system.



Water Quantity

- Flows range from 6k – 120 kcfs in the project. Baseflow usually around 10kcfs. 7Q10 high flow is ~70kcfs
 - Powerhouse capacity ~23kcfs.
 - Spill everything over 23kcfs. Main dam used to spill first, then dry channel with increased flows.
 - Current license conditions allow for multiple modes of operation. During peaking, a limit to 4 feet drawdown from full pool is allowed. There is no limit on rate of drawdown or refill.
 - What impacts may be associated with a four foot drawdown at what rates? How fast can the reservoir be drawn down? Does ramping rate have an effect on shoreline erosion? Ramping may have potential for effect to multiple resources including water quality, fisheries and aquatics, and recreation. Is there an aspect on timing of ramping reservoir that should be considered?
 - No operational changes are proposed at this time but NWE wants to leave potential open.
 - No proposed facility modification or additions proposed at this time to pass more water through turbines.

Aquatic Invasive Species

- Currently present in the project are curly-leaf pondweed, yellow flag iris, and flowering rush.
- What economic impact may invasives have on NWE power production? Each facility is unique and treatments and maintenance need to be designed to fit that facility. Therefore, to put an accurate number on the economic impact is difficult.
- NWE represents hydropower industry on the Montana Invasive Species Council.
- Is AIS management a state (FWP) management issue? Should NWE become involved in early detection monitoring such as eDNA?
- What is the project nexus to AIS and AIS management? Should this be a state issue? Could potentially link this to an impacted use, and manage to maintain this use. Potential mitigation for impact of identified lost use if there is a nexus. Flowering rush seed source upstream in Flathead so should effort be made to manage or treat in TFalls? No approved chemical treatment options are currently known.
- Potential the AIS check station in TFalls will be moved upstream to Plains. This leaves Thompson Falls Reservoir vulnerable to unchecked boats entering, especially from downstream water infected with Eurasian milfoil.

Wetland and Riparian Habitats

- Wetlands exist along near shore areas in lower reservoir. More significant presence above Thompson River of mainly emergent wetlands. Did the development of the project result in creating and supporting these wetlands? Are they currently impacted by operations?

Data Gaps and Proposed Studies



Potential Data Gaps

- Project effect on downstream water temperature
- Sediment balance/deposition in the reservoir
- Clean water scour an issue at TFalls? Linkage to biological community?
- Potential impacts from drawdown operations
 - linkage to fisheries (juvenile) impacts and fish passage
 - shoreline erosion
 - TDG
- Optimal flow regime for upstream and downstream fisheries
- DEQ Monitoring and Assessment water quality data needs

Potential Studies

- TDG monitoring is scheduled on ongoing on an annual basis to determine effect of radial gates
- Temperature above, in, and below project
- Reservoir stratification
- Water chemistry seasonally



Recreation and Cultural Breakout Group Discussion Highlights

Recreation and Public Access:

- It is unclear how many (if any) fishing guides use the waterway near Thompson Falls.
- There was a need expressed for additional water access for recreation and emergency rescue from the north shoreline between Plains and Thompson Falls. There is a primitive access located on Forest Service property on the north shoreline near Weeksville Creek, but high potential for neighboring landowner impacts.
- The county park board struggles to maintain restrooms and vegetation at the Cherry Creek Access Site. Wild Goose Landing Park is also in need of maintenance, and it is a challenge for the city to keep the restrooms clean and unvandalized. An apparent conflict of uses at the boat launch at Wild Goose Landing was noted, where boat launching activities occurring in the same space as swimmers. Parking and access at the site is also challenging.
- The Sanders County Community Development Corporation recently completed an inventory of park facilities in Thompson Falls that will be useful for completing the PAD.
- There is a need for coordinated signage and wayfinding, as well as a planning document to help guide future signage. The city branding and marketing plan may serve as a guide.
- Road to the Buffalo needs to be included in the recreation section of the PAD. Linda Haywood is contact.
- Planning for the Ainsworth Community Park is underway.
- The aquatic invasive species check station may be moved to Plains to take advantage of a partnership for funding the station. This move could leave Thompson Falls Reservoir more vulnerable to infestations, particularly from Noxon.
- An accurate map of NorthWestern Energy property ownership is needed.

Shoreline Erosion:

- Green Mountain Conservation District (GMCD) is concerned with shoreline erosion and believes that boat wakes may be a leading cause. Wake boats (with ballast tanks) in particular are not prevalent on the waterway, so wakes are coming from other types of boats though there is not a good understanding of the types of boats that currently use the waterway. Higher levels of erosion would be likely if wake boats use the waterway in the future. Enforcing no-wake regulations is under Montana FWP jurisdiction.
- Shoreline erosion is not uniform but more pronounced on the south shoreline than the north shoreline. Kent Wilby with Green Mountain Conservation District (GMCD) suggested looking at this as a reservoir-wide problem and not just a case-by-case issue. NorthWestern has committed to work with GMCD to better understand the shoreline erosion issues.



Aesthetics:

- A request was made to document and examine sediment deposits above the dam and around docks from an aesthetics standpoint. The 1995 amendment application may have bathymetric maps or data available. GMCD also mentioned they have issued some 310 permits for dredging to remove sediment deposits around docks to allow for watercraft use.

Socio-Economics:

- Expand the description to include all of zip code 59873 or the Thompson Falls High School District for a broader understanding of “local” users. City population is stable, but outlying areas are growing.



Attachment 1

December 4 Stakeholder Attendee List

Name	Representing	Email	Phone
Mary Gail Sullivan	NWE	marygail.sullivan@northwestern.com	406-497-3382
Andrew Welch	NWE	Andrew.Welch@northwestern.com	406-444-7715
Jordan Tollefson	NWE	Jordan.Tollefson@northwestern.com	406-443-8907
John Tabaracci	NWE	john.tabaracci@northwestern.com	406-444-7378
Brent Mabbott	NWE	Brent.Mabbott@northwestern.com	406-490-1801
Ginger Gillin	GEI Consultants	ggillin@geiconsultants.com	406-240-3231
Liz Stender	Pinnacle Research	lizpinnacle@blackfoot.net	406-531-2719
Kim Bergstrom	Pinnacle Research	pinnacle@blackfoot.net	406-546-2447
Kristi Webb	New Wave Cons.	kwebb@nw-enviro.com	406-239-4884
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Kris Tempel	MFWP	ktempel@mt.gov	406-751-4573
Don Skaar	MFWP	dskaar@mt.gov	406-444-7409
Ryan Kreiner	MFWP	rkreiner@mt.gov	406-827-9320
Kevin Aceituno	USFWS	kevin_aceituno@fws.gov	406-758-6871
Kent Wilby	GMCD	kandcdub@gmail.com	406-546-4282
Jerry Lacy	City of Thompson Falls	Tfallsmayor@blackfoot.net	406-827-3557
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Christine Brissette	Trout Unlimited	cbrissette@tu.org	406-544-9649
Alex Leone	Clark Fork Coalition	alex@clarkfork.org	406-396-5284
Andrew Gorder	Clark Fork Coalition	andrew@clarkfork.org	605-695-3357
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Mark Sommer	APLE	msommer@apleco.com	406-728-4176
Bruce Bugbee	APLE	bbugbee@apleco.com	406-728-4176
Jim Shive	Legacy Consulting	lcs@bresnan.net	406-782-5663



Attachment 2

Completed Fisheries and Aquatic Studies

Studies/Plans/Data Collection Efforts Completed in Recent History and Documented in the BED (2018):

- Macroinvertebrates upstream of Project (1987-2001), Section 5.5 in BED
- Northern Pike Study (2009 Annual Report)
- Baseline Fisheries Data collection in the Clark Fork River, Thompson Reservoir in spring and fall
 - Gillnet since 2004
 - Electrofishing since 2009
- Gas Bubble Trauma Monitoring downstream of Thompson Falls Dam
 - 2008, 2009, 2011, 2012, and 2014 (Section 4.2.2.3.4 in BED)
- Fishway Operating Manual (PPL Montana 2010)
- Spill Management Plan (PPL Montana 2010)
- 5-Year Thompson Falls Reservoir Monitoring (2010-2015)
 - A fish survey was completed in West Fork Thompson River in 2010 (PPL Montana 2012)
 - A fish survey was completed in Fishtrap Creek in 2011 (PPL Montana 2012)
 - A Thompson River drainage database documenting available records from 1973 through 2011 was completed in 2012 (PPL Montana 2012)
 - Thompson River Bull Trout Enhancement and Recovery Plan (GEI Consultants Inc. and Steigers Corporation 2013)
 - Fish surveys were completed in four tributaries in the Thompson River, including Lazier Creek, Indian Creek, Twin Lakes Creek, and Big Rock Creek in 2013 (PPL Montana 2013)
 - Fish surveys in Murr Creek, a tributary to Thompson River, were completed in 2014 (PPL Montana 2014)
 - A multi-year juvenile bull trout out-migration study (2014-2015) from the Thompson River drainage was completed (Glaid 2017)
- 10-year Fish Evaluation Plan (2010-2020)
 - Ladder Evaluation – Weir modes (2011-2018)
 - Ladder Evaluation – Attractant Flow (2011)
- Bull Trout Genetic Database – Annual TAC Funding (2011 to present)
- Annual Reporting regarding ladder activities (since 2009 to present)
- Remote Tag Arrays in Ladder (2011?) detect PIT tagged fish
- Thompson River Remote PIT Tag Array (since Fall 2014)
- Fishtrap Creek, West Fork Thompson River PIT Tag arrays (2014?)
- Prospect Creek PIT Tag Array (since September 2018)
- Fish consumption Guidelines (Selch 2015) (referenced in Section 5.6 in BED)



- Annual Technical Advisory Committee (TAC) meeting to review ladder results, review TAC funded projects, review proposals for TAC funding (2010 to present)

No compliance requirements for current license regarding wildlife or terrestrial habitat studies

- Future Wildlife Studies - none
- Future Terrestrial Habitat Studies – None

Fisheries - Future Compliance Studies Scheduled

- Baseline Fisheries data collection continue through 2020
 - Gillnet (annual for term of license)
 - Electrofishing in 2018, 2020
- Fish Ladder Annual Reporting through license term (2025)
- 10-year Fish Evaluation, December 31, 2020
- Review of Ladder Results (2011-2019), Recommendations for Operations 2021-2025 by April 1, 2021
- Annual TAC meetings continue for term of license
- MOU TAC Funding through 2020