

Water Resources Technical Advisory Committee
Meeting notes
August 21, 2019
Noxon Emergency Services Building

WRTAC Representatives Attendees:

Avista – Eric Oldenburg
Bull River Watershed Council – Kathy Ferguson and Tom McDowell
Cabinet Resource Group – Rob Kjos
Idaho Department of Fish and Game (IDFG) – Ken Bouwens
Lake Pend Oreille Idaho Club – David Gillespie
Montana Fish, Wildlife and Parks (MFWP) – Jason Blakney (alternate)
Montana Department of Environmental Quality – Hannah Riedl (alternate)
Montana Department of Natural Resources and Conservation (DNRC) – Valerie Kurth
Noxon-Cabinet Shoreline Coalition – Rick Robinson (left at 2:25 p.m.)
Panhandle Chapter Trout Unlimited – Bill Love
U.S. Fish and Wildlife Service (USFWS) – Kevin Aceituno (left at 3:30 p.m.)
U.S. Forest Service (USFS) – Doug Grupenhoff

Other Attendees:

Avista – Nate Hall (arrived at 12:45 p.m.), Shana Bernall, Lisa Vollertsen, Paul Kusnierz, and Susan Drumheller; Lower Clark Fork Watershed Group – Brita Olson; Pack River Watershed Council – Jessica Erickson; Panhandle Chapter Trout Unlimited – Glen Lefebvre; Public – Bob Gregg (left at 2:25 p.m.); USFS – Chris Rossel

General Updates:

- History of the Clark Fork Settlement Agreement (occurred after lunch)
 - Nate Hall gave a presentation on the history of the Clark Fork Settlement Agreement.
 - The question was asked, “What happens to signatories that are no longer around?” Hall responded that the change is captured in Avista’s FERC Annual Report and may be described in the history of any pertinent Protection, Mitigation, and Enhancement measure project plans.
 - There is also a process for organizations to join the Management Committee (MC). And our process is public, so anyone can participate. Bull River Watershed Council has signed on since the issuance of our License.
- Grant writer update
 - Susan Drumheller provided an update. Summary of grants received: \$838,000 dollars total.
 - \$15,000 for aquatic invasive species management from MT DNRC; \$800,000 for white hat project for EPA Brownfields clean up on LPO; \$200,000 for Invasive watermilfoil control of which half is being spent this year for treatment on Noxon and Cabinet Gorge reservoirs.

- Pending grants: \$3,000 from the Trout & Salmon Foundation; \$200,000 from USCOE; white hat project \$9.8 million for a underpass through DOT – planning grant; this fall will apply for Western Native Trout Initiative Grant and \$50,000 through future fisheries for Simms meander project in Vermilion River; received an ID Fish and Wildlife foundation grant for the Trout and About Festival.
- If you have a project that you need help finding funds for please contact Susan and/or Ruth.
- Review of consent mails
 - April 17 “Lower Bull River day use boat access site management plan and 2019 operation and maintenance funding requests” was approved on May 7
 - Still working on signs and chose to not enforce the no commercial use until signs are up/next year.
 - May not be able to install a vault toilet, working on zoning, porta potty there in the interim.
 - July 3 “Vermilion River passive integrated transponder (PIT)-monitoring station funding request” approved on July 31
 - Located one-half mile upstream from the delta
 - Infrastructure work is starting today and the equipment will be installed next week
 - Thanks to all for the help getting all of the permitting in place
 - July 3 “Total dissolved gas monitoring funding request” approved on July 31
 - Replacing old equipment and getting the infrastructure in place to facilitate real-time data access for total dissolved gas (TDG).
- 2020 project plans and 2019 annual work summaries
 - If you have a project you would like to propose for 2020, start working with the program leader for that appendix as soon as possible.
 - If you have a project, Annual Work Summaries are due to program leaders by November 15.
- Update on past property acquisitions (occurred after lunch).
 - Any properties that are acquired and held by Avista need to come back to the MC within 10 years of purchase to determine if the property should still be held by Avista. After the initial 10 years it is reviewed every 5 years Ferguson asked how many properties have been sold; Wood Duck Property up Bull River had a home and home site, so carved out 9 acres for the home site and donated it to the land trust (has a conservation easement for a single family); and when that property was sold the money went back to the land trust.
 - No properties due for 5 or 10 year review this year.

- Proposed Appendix F5 Walleye Geochemistry Study
 - The goal of this research is to develop a suite of geochemical markers that can be used to reliably discern between Walleye that hatched upstream versus downstream of Cabinet Gorge Dam. This information will be an important piece of the puzzle as IDFG continues to evaluate the feasibility of Walleye suppression.
 - The total request is about \$180,000 but only about \$110,000 will be spent if the first suite of markers gives the resolution needed.
 - It was noted that this project would develop a tool that can be used, but may not specifically be able to quantify the number of Walleye coming from Montana.
 - Kjos asked if it would be more economical to start a suppression program all over versus this study. MFWP noted that a proposal for Walleye suppression was submitted five years ago, but the majority of the public was against it. Bowens added that an understanding of where those fish are coming from will help us on the approach and where to target efforts. Blakney added that fishing regulations now specify no limit on Walleye in Montana.
 - The WRTAC is recommending to move this project forward to the MC with the proposed ranking criteria.
 - Will seek MC approval during the September meeting.

Winter WRTAC meeting date: Tuesday, January 21, 2020

Review of 2019 projects to date:

***Appendix A: Idaho Tributary Habitat Acquisition and Fishery Enhancement Program
Tributary Habitat Acquisition and Enhancement***

Bowens noted that the public has been inquiring about changes in flows below Cabinet Gorge Dam, and his response has been that these robust mitigation programs are mitigating for these changes in flows at Cabinet.

1. Habitat Restoration Scoping Fund
 - Western Federal Lands Exchange on Trestle Creek Road; plan to pave the road to the USFS property; working with County and Federal group on design for the road.
2. Habitat Restoration and Acquired Property Maintenance and Monitoring Allocation
 - No significant issues with projects this year; riparian planting on Twin Creek – staff time to weed around the plants at Twin Creek.
 - Work with Lake Pend Oreille (LPO) Idaho Club to work on Sullivan Springs spawning channel (enhance spawning gravels by hand raking gravel prior to kokanee spawning).
3. Priority Native Salmonid Habitat Acquisition and Conservation Allocation

- Funding provided to Kanisku Land Trust to assist with negotiations.
 - Talking with a landowner near the mouth of Johnson Creek – easement access (opportunity to conserve property around Johnson and Clark Fork Delta).
 - Approached by the Navy and they have a conservation project around the south side of LPO – they have identified several lands they are interested in getting conservation easements on and some overlap with our interests. The goal is to work with willing landowners, and look for opportunities.
4. Lightning Creek Rootwad Salvage
 - Ken Davis just issued a contract to remove the rest of the rootwads this fall; can be used for future projects.
 5. Habitat Prioritization Evaluation for Trestle Creek
 6. Habitat Prioritization Evaluation for Caribou and Hellroaring Creeks
 - Fieldwork completed in the fall of 2018; draft report submitted July 15th, waiting for the final draft in next few weeks.
 7. Spring and Mosquito Creeks Pathogen Survey
 - Report out on this project. Infectious pancreatic necrosis (IPN) everywhere in system and confined to Brook Trout. Pathogen sampling protocol for fish transported upstream of Cabinet Gorge Dam is more than adequate.
 8. Idaho Field Station Planning
 - Request for bids was sent out last month for a set of drawings for Trestle Creek.
 9. Habitat Prioritization Evaluation for the Upper Pack River and McCormick Creek
 - Held kick off meeting with contractor and field tour of the area; expect field work by Geoengineers to be completed this fall.
 10. Pack River Watershed Management Plan Addendum
 - The plan is to summarize all the information from the past Pack River watershed assessments. Putting together technical advisory committee and building relationships and once the other watershed assessments come through will work on the addendum. This plan is for native salmonid enhancement.
 11. Johnson Creek Fish Passage Improvement Design and Construction
 - Plan to do project in two phases; permitting is taking a lot of time, so hope to do Phase II of the project this fall and Phase I next year (instream work).
 12. Lower Clark Fork River Minimum Flow and Water Temperature Monitoring
 - Have temperature dataloggers deployed at the U.S. Geological Survey (USGS) gauge station and Foster Bar Side Channel. Went out recently to make sure location of temperature loggers was representative of the temperature in the river and it looks good.
 - As flow goes down in the lower Clark Fork River, the temperature goes down, most likely due to the many springs in the lower river. At 3,000 cfs temperatures getting colder in the river. Anticipate a report by December 1st.

Fishery Resource Monitoring, Enhancement, and Management

13. Fish Resource Monitoring, Enhancement, and Management Plan
 - Getting caught up on reporting with Susan Fraley onboard.

- 25 tributaries around LPO (Bull Trout and Westslope Cutthroat Trout); monitor each stream every 5 years to keep an eye on trends.
- Finished 2017 and 2018 reports this spring.
- Also look at new tributaries each year. Sampled Trout Creek, but no Bull Trout.
- Clark Fork River Abundance Program – intense sampling the last few years, to look at changes in abundance and species composition over time; still working on comprehensive report.

Appendix B: Montana Tributary Habitat Acquisition and Recreational Fishery Enhancement Program

Tributary Habitat Acquisition and Enhancement

1. Habitat Restoration Monitoring and Native Salmonid Abundance Monitoring Plan
 - Sampled Vermilion River, etc.; fish salvage in Crow Creek as part of a restoration effort.
 - Prospect Creek drainage – salvaged Bull Trout and Westslope Cutthroat Trout; salvaged 36 Bull Trout and 101 Westslope Cutthroat Trout released in lower Prospect Creek near Brush Gulch (several Westslope Cutthroat Trout already detected on PIT array near the mouth of Prospect Creek).
2. Miners Gulch Stream and Riparian Restoration Project
 - Monitoring and report completed by USFS.
3. Vermilion River Sims Reach Restoration Survey and Design
 - Finalizing final designs for this project, use leftover materials from Miners Gulch, and implement project next year.
4. Mainstem Bull River Reforestation on Forest Service Lands and NEPA Process
 - Did maintenance, some replacements, and will add willows and conifers this fall; the revegetation sites look good.
5. Match Funds for Outreach in Bull River Revegetation (Section 319 Project)
 - Project was completed.
 - Maintenance of enclosures will be an ongoing project.
6. Stream Gage Monitoring
 - Collecting flow and temperature data and USFS is upgrading housing.
 - Oldenburg noted that in Graves Creek there is an option to integrate pressure sensors into the Biomark equipment for PIT arrays, so we can have real time discharge data. Anticipate in project plan for next year.
7. Cabinet Ranger District Automated Snow Recording Site Operation and Maintenance
 - Anticipate NRCS will take over this site and maintenance in the future.
8. Crow Creek Bull Trout Investigation
 - Working on the report and future manuscript. Preliminary results indicate that the amount of pools and large woody debris are not strongly correlated with the abundance of native fish. This brings up more questions to contemplate with future habitat restoration projects.
9. Lolo National Forest Priority Native Salmonid Habitat Restoration Assessment and Planning

- The NEPA was signed in February, and now have permission to implement projects in Prospect, Graves, Cooper Gulch, and Crow creeks, and Fishtrap/Thompson River.
10. Graves Creek Pilot Habitat Enhancement Project
 - Four structures installed in early August over a few days. Will evaluate collection of spawning gravels over time and determine if future structures will be placed.
 11. Lower Clark Fork Watershed Group Project Coordination
 - Second Phase of Crow Creek project and Graves Creek restoration; finalizing a restoration plan with DEQ; road decommissioning project in Beaver Creek; revegetation project in Bull River; and continue to coordinate meeting with landowners on Blue Creek regarding future projects.
 12. Habitat Restoration Monitoring, Maintenance and Contingency Allocation
 13. Habitat Restoration, Property Acquisition, and Conservation Easement Contingency Allocation
 - Working with Avista, NorthWestern Energy, and other stakeholders - 40 acre parcel on lower Thompson River; no room for septic on the land based on the appraisal, so the cost should be lower than what it is valued at. This is a proposed cost share between the state of MT, Avista, and NorthWestern Energy.
 14. Phase II Crow Creek Stream and Riparian Restoration Project
 - Restoration occurred this year under NorthWestern Energy powerline; 1/3 of a mile section degraded from removal of conifers; complete channel restoration; instream habitat looks good; revegetation efforts will occur this fall; some bank vegetation disturbance, but will grow back.

Recreational Fishery Enhancement

15. Cabinet Gorge and Noxon Reservoir Fisheries Monitoring Plan
 - Monitored Walleye in spring (18 nights; 715 unique individuals; 97% males and 3% females) high proportion of 2015 year class; curious if the conditions are declining related to the predator load; did not see many mature age 4 females this year, and will be reservoir monitoring this fall.
16. Eurasian Watermilfoil Literature Review and Noxon Reservoir Existing Data Analysis
 - Over 200 sources have been reviewed. Started writing the report, but unsure the report will be finished this year. Will be discussing Eurasian Watermilfoil (EWM) and management of fisheries next year.
 - One experimental treatment occurred last week and one regular treatment will occur this week.
17. Mountain Lake Fisheries Monitoring Project
 - Last year of this project.
 - Surveyed 29 mountain lakes, and have a few more to sample in September.
 - Taking otoliths from all fish.
 - Recent information shows many lakes have hybridization between Rainbow Trout, Westslope Cutthroat Trout, and YCT; most of these populations have pure Westslope Cutthroat Trout populations in the headwaters.

- Love asked how prevalent was Yellowstone Cutthroat Trout stocking; from the 1930s through the 1970s trout stocking in Western Montana were primarily Yellowstone Cutthroat Trout; also stocked Lahontan Cutthroat Trout.
18. Lower Clark Fork River Pathogen/Disease Survey of Montana Tributaries
- Sampled 12 tributaries; target of 60 fish; only got 60 out of 10 of 12 streams; being processed by Bozeman fish health lab.
19. Thompson Falls Field Station Facility Feasibility Study
- Money used to remodel the building as an office space. Project was completed.
20. Thompson Falls Field Station Phase II
- Exterior and fencing upgrades and pole barn; contractor will do work in the fall.
21. Lower Bull River Day Use Boat Access Site Management Plan and Construction
- Open to the public this year; working on contracting the fencing and handicapped access; PIT array located on lower end of property.
 - Ferguson stated it is an eye sore right now; where did the maintenance money go; weeds, overgrown, and no signs. Blakney noted that signs are in the works and there will be future maintenance. Ferguson asked if there is fishing access along the bank. Blakney replied the site is open to the public.
 - Oldenburg added that we can discuss in the 2020 project plan fishing access along bank and maintenance of the site.
22. Noxon Reservoir Boat Ramp Improvements
- Avista and MFWP working on liabilities associated with proposed sites. Hope to make a decision for next year.

Appendix C: Fish Passage/Native Salmonid Restoration Plan

Annual Operations

1. Upstream Fish Passage Program
 - Westslope Cutthroat Trout:
 - 29 Westslope Cutthroat Trout captured downstream of Cabinet Gorge Dam and transported upstream to Cabinet Gorge Reservoir.
 - Two fish transported twice.
 - Five fish detected on the Bull River PIT array including one that was detected on the East Fork Bull River PIT array (only one fish detected moving out of the Bull River following the spawning season).
 - Currently operating remote telemetry site at Cabinet Gorge Hatchery (will remove this fall).
 - Working on a comprehensive report.
 - Bull Trout:
 - 14 Bull Trout captured to date. Lowest number of transports to date, but seeing quite a few Bull Trout on the spawning shelf, so expect capture numbers to improve.
 - 12 transports and 1 awaiting a genetic assignment.

- Mouth of Lightning Creek dry, so any Bull Trout genetically assigning to the Lightning Creek drainage will be transported to the East Fork Bull River.
 - One more week of night electrofishing and hatchery ladder operation; although flows in the ladder down to 0.6 cfs (from 2.3 cfs). Discuss more under Appendix T.
2. Tributary Trapping and Downstream Juvenile Bull Trout Transport Program
 - Slightly above average spring trapping season in both Graves and the East Fork Bull River with 12 and 10 juvenile transports thus far. The majority of transports occur in the fall. The Vermilion River downstream of China Gorge will be electrofished in late October or early November.
 - Graves Permanent weir trap has been very successful and seeing record number of Bull Trout redds in Graves Creek, which is leading to high numbers of offspring as seen through recent abundance monitoring.
 - East Fork Bull River – Bull Trout numbers pretty low and hard to capture Bull Trout in the Vermilion River
 - Oldenburg explained design improvements for the Graves Creek permanent weir trap. Designs at 30% and hope to build next July or August.
 3. Bull Trout Emigration Study
 - Maddie Lewis, the graduate student from Montana State University, just completed the first field season and all is going well with the project.
 - Electrofished 12 sites in Graves Creek and captured 530 juvenile Bull Trout, 488 were new fish and tagged, 14 were recaptures of previously tagged fish, and the remaining 28 were under 100 mm, too small to tag.
 - Electrofished 15 sites in the East Fork Bull River and captured 78 juvenile Bull Trout, all of these were new fish and one was too small to tag.
 - Completed the first mobile survey in Graves Creek and detected 56% of the fish that were tagged while electrofishing and estimated only passed over about 60% of the available habitat during the survey. Preliminary results indicate detection efficiency of the new floating antenna is outstanding.
 - Due to the amount of large woody debris in the East Fork Bull River, we quickly determined it would not be feasible to do this type of survey.
 4. PIT-Monitoring Station Operation and Maintenance
 - This project plan is utilized to pay monthly bills associated with the PIT-monitoring stations, repair equipment, and purchase additional antennas or hardware, when needed.
 - The mobile PIT-detection system (floating) was purchased through this project plan.
 5. East Fork Bull River Bedload Sediment Sampling 2016–2020
 - Did not get high flows and never hit bank full.
 6. Redd Surveys in Montana Tributaries
 - Surveys will occur in the fall.
 7. Non-Native Fish Suppression Project in the East Fork Bull River

- For this year, continue excluding non-native fish at the weir trap and excavating positively identified Brown Trout redds to subsample eggs for genetic analysis.
- Sean Moran is working on summarizing 12 years of data collected for this project and key findings will be presented to the Aquatic Implementation Team (AIT) by October 1st.
- Blakney inquired about the number of non-native fish excluded from the East Fork Bull River this year compared to previous years.

Facilities

8. Fish Capture Facilities Operation, Development, and Testing

- Cabinet Gorge Dam Fishway
 - Hall provided an overview of the fishway.
 - The focus this year is construction of a cofferdam and dealing with flows. Contractor has been mobilizing onsite since mid-March and started inwater work on the cofferdam on July 15th.
 - There are constraints with flows to allow divers to be in the water and to keep too much flow from impacting the cofferdam during construction.
 - Cofferdam will be removed in the spring of 2021 based on current schedule.
 - Will be asking the MC for an additional 2 million dollars this fall to carry us through to next March (\$13.5 million total for the year). Total cost of project over \$60 million.
 - Received a License Amendment from FERC recently including the new Biological Opinion.

Appendix D: Bull Trout Protection and Public Education Project

1. Idaho Bull Trout Officer Support
 - Dustin Masin replaced Tom Whalen (who retired in July) as IDFG game warden. Only one Bull Trout violation this year to date.
2. Montana Bull Trout Education Communication and Website Support
 - Radio and web based ads. Web based advertisements allow them to monitor the number of individuals that are being reached. No newspaper advertisements to date.
3. Montana Bull Trout Education Outreach Support
 - 14 presentations to 4th grade classes; and outdoor education days
 - Two kids fishing days (Triangle Pond and Thompson Falls State Park).
 - Bull Trout Trailer at Huckleberry Festival and Sanders County Fair.
4. Montana Game Warden Support
 - Contact with 273 anglers; 26 fishing violations which were not related to Bull Trout.
5. Bull Trout Booth Events
6. Fly Fishing Film Tour Support
 - Love noted this event was a huge success with many active members. Starting to incorporate Bull Trout education into any event or group Trout Unlimited works with.
7. Summerfest Support
8. Trout and About Festival Support

- August 31st in Sandpoint; family oriented event with a number of booths for hands on experience. Seeing a lot of interest through social media.
- 9. Trout Unlimited Website and Social Media Support
- 10. Bull Trout Education Promotional Items
- 11. Interpretive Signs and Kiosk Component for Trestle Creek Education Center
 - Getting interpretive signs together; do not expect installation will occur this fall.
- 12. Draft Five-Year Implementation Plan (2020-2024)
 - TU, IDFG, MFWP, and Avista have been working on the 5-year plan which will be brought to the WRTAC in the future.

Appendix E: Watershed Councils Program

1. Pack River Watershed Council, Bonner Soil and Water Conservation District
 - Helping with Appendix A watershed assessment; partnered on Grouse Creek to improve floodplain habitat (floodplain roughness project and excavate ponds).
 - 10 year anniversary for Pack River Watershed Assessment, so the plan is to do some additional monitoring.
 - Assisted with educational programs.
2. Lower Clark Fork Watershed Council Projects
 - Focus this year was a watershed story map through ArcGIS that has information about the watershed and is located on their website.
 - Thompson River Fly Fishing Festival – told a story about the restoration project; the Bull River Revegetation film was played at the Panida Theater.

Appendix F1: Clark Fork River Water Quality Monitoring Program

1. Clark Fork River Water Quality Monitoring Program
 - Six high flow samples were collected this year to help monitor phosphorus levels.
 - Switched labs and working with DEQ to make sure data is consistent with previous year's data.
 - Report for 2018 will be available soon.

Appendix F2: Monitoring of Noxon Reservoir Stratification and Mobilization of Sediment Nutrients/Metals

1. Monitoring of Noxon Reservoir Stratification and Mobilization of Sediment Nutrients/Metals
 - Contract in place to conduct sampling when needed; four or more days in a seven-day period with flow less than 8,000 cfs is the trigger for additional sampling, did hit the trigger a day after the cut off.

Appendix F3: Aquatic Organism Tissue Analysis

- There are no 2019 Project Plans associated with Appendix F3.
- Anticipate next sampling event to occur next year; previous sampling was completed in 2015.

Appendix F4: Water Quality Protection and Monitoring Plan for Maintenance, Construction, and Emergency Activities

- July 23 and 24 zero flow event.
- Likely a need for no flow events for two days in early September with a third day as a contingency. Oldenburg will be sending out a formal notification to the “interested stakeholder” list next week.

Appendix T: Project Operations Package

1. Project Operations and Coordination

- Have been within operational limits for Noxon and Cabinet Gorge Reservoirs.
- Minimum flow requirements have been met with the exception of zero flows on July 23 and 24th. Oldenburg reached out to interested stakeholders and developed Best Management Practices for zero flow events out of Cabinet Gorge Dam (public notification, stakeholder notification, monitoring and mitigation, and operational endeavors and requirements). Blanket approval was provided for construction of the cofferdam; will likely need minimum flows closer to 3,000 cfs during the September 15 through October 31st.
- Monitored channel during zero flow events; saw juvenile Smallmouth Bass in pools and Longnose Dace stranding on the Whitehorse Rapids gravel bar.
- Lake level influence when LPO is at full pool is up to the railroad bridge at the town of Clark Fork (affects would be different if LPO at low pool).
- September 4, 5, and 6th zero flow is being requested again out of Cabinet Gorge Dam. Oldenburg will be sending out a notification to interested stakeholders next week.
- Riedl recommended adding pictures to warning signs at Twin Creek (make more of an impact).

2. Priest River Coldwater Bypass Alternatives Assessment

- Bouwens provided an update. Four alternatives were identified for the project; gravity system, siphon system, groundwater well system, and pumping water through. Cost for implementing the project ranges from 4 to 7 million dollars. Questions have arisen on biological impacts to Priest Lake and property owners. Next step is to look at limnology problems and then determine if it is worth moving forward.
- Love noted he was surprised when the opposition surfaced from landowners in the area and those concerns need to be addressed; Panhandle Chapter Trout Unlimited worked with USGS and Kalispel Tribe on water temperature monitoring and sampling in the river downstream of the dam and Westslope Cutthroat Trout, Rainbow Trout, hybrids between the two species, Smallmouth Bass, Whitefish, and a Brown Trout were captured. Love noted these trout must be finding coldwater refugia in the middle of the summer.

3. Cabinet Gorge Fish Hatchery Spring Collection System Upgrade

- Prior to this summer there were two instances where there was not enough spring water to supply all three facilities. With the 12 hour windows of 3,300 cfs minimum flows out of Cabinet Gorge Dam that are necessary for the construction of the CGDF cofferdam the spring water available in the current spring collection basin was not

sufficient to provide water for the hatchery and Upstream Fish Passage Program needs. We had to close the valve to the ladder which is now supplying only 0.6 vs. 2.3 cfs of flows.

- Working with engineer and contractor on a design to solve this problem and provide a reliable water source.
- The preliminary plan is to build a spring collection wall that will contain a 12 inch perforated pipe that will backup water and supply more to the current collection basin (and will install an additional collection chamber within the wall that will house a backup pump). Bernall is working with a design engineer and contractor on evaluating the plan and developing a design for the project.

Appendix F5: Dissolved Gas Supersaturation Control, Mitigation, and Monitoring Operations

- This component of Appendix F5 basically states that Avista will follow the “spill protocol”. The protocol was updated in 2018 to include the use of newly modified spillways 1 and 3.

TDG Monitoring

1. Total Dissolved Gas Monitoring
 - Monitoring sites were deployed in mid-March and are currently operating.
 - An early and late peak this year; peaked in May with TDG levels above our target.
 - Report will be out in September or October and working on getting real-time TDG data.

TDG Mitigation and Monitoring Program

2. Analysis of Gas Bubble Disease Monitoring Data
 - Did not see much gas bubble disease in fish this year.
3. Lake Pend Oreille Stock Identification of Bull Trout
 - Abernathy Fish Technology Center personnel are working on a draft report, which we expect to be complete by this fall.
4. Lake Pend Oreille Experimental Walleye Angler Incentive Program
 - Heads that are gathered from this program will be used for the Walleye Geochemistry Study.
 - 504 heads have been turned in to date; tagged 50 Walleye last spring (each worth \$1,000), none captured to date.
 - Fish head freezer drop off locations around LPO continue to be emptied and maintained.
 - Other research: have acoustic monitoring arrays throughout LPO and the Clark Fork River; tracking all of these fish, so hope to have a monthly update to the anglers.
5. Lake Pend Oreille/Clark Fork River Walleye Population Assessment
 - Bycatch has been low.
 - Certain areas where they can effectively net fish (mouth of Pack River), but hard to net near the long bridge and mouth of the Clark Fork River.
6. Lake Pend Oreille Lake Trout Angler Incentive Program

- Number of heads turned in appears to be even lower this year.
 - Started putting all of predator suppression program results in one report on the IDFG webpage and Avista has a copy.
7. Lake Pend Oreille Trap and Gill Net Program
 - Plan for 14 weeks in spring and 13 in fall (2,600+ Lake Trout captured in the spring)
 - Started expanding the gill net size to increase capture of larger Lake Trout; continuing to learn from previous years and not ready to move into maintenance mode.
 - Rossel asked if the bounty was working (IDFG noted they are catching 1/3 of the fish through the Angler Incentive Program); and anglers catch the size of fish that normally are not captured in the net.
 8. Demography of Adfluvial Bull Trout in Lake Pend Oreille
 - Finished the model and working through harvest scenarios and in process of writing report. Getting good information on data gaps in the Bull Trout population.
 9. LPO/Lower Clark Fork Strontium Isotope Baseline Collection
 - Report will be available in the near future.
 10. Lake Pend Oreille Bull Trout Survival Study
 - Started PIT tagging all Bull Trout in all tributaries to assist with this project and the Demography Study.
 - Will be putting out a report in the near future, but plan to continue monitoring into the future.
 11. Lake Pend Oreille Nearshore Index Netting
 - Will take place this fall and compare data to previous sampling event.
 12. Box Canyon Reservoir Northern Pike Suppression
 - They have sustained target of 1.7 Northern Pike/net and have sustained since 2016; reaching maintenance mode.
 13. Lake Pend Oreille Tributary Creel
 - Lightning Creek/Pack River did not get much use, or enough for data analysis.
 - Clark Fork River – spring is Rainbow Trout and Westslope Cutthroat Trout fishery; July through October – Westslope Cutthroat Trout, Rainbow Trout, Smallmouth Bass, and Walleye fishing was the highest.
 14. Trophic and Phytoplankton Monitoring in Lake Pend Oreille Idaho
 - Sampling is going as planned
 15. Temperature Monitoring Data Compilation
 - Developing database to house all temperature monitoring data and set up protocols for how to collect data in the future.

GSCP Alternative:

16. Gas Supersaturation Control Program Total Dissolved Gas Abatement
 - Kusnierz provided an update. Gas Supersaturation Control Program describes how we are going to reduce TDG at Cabinet Gorge Dam. Five of eight spillways have been modified to reduce TDG, and there has been a reduction in TDG based on these modifications. Phase III – working on final mitigation funding for the term of the license. Meeting with Gas Supersaturation Subcommittee to discuss how the program is progressing. Met last month and again Monday to discuss results of modifications

report and whether or not to move into Phase III negotiations. Had allocated 2 million dollars for additional modifications, but no modifications are occurring this year.

The meeting was adjourned at 3:55 pm.