Council Meeting
Polson, Montana
August 9 and 10, 2016

August 9, 2016

Council Chair Henry Lorenzen brought the Council to order at 1:30 p.m. All members were in attendance.

Council Member Pat Smith introduced Vernon Finley, chairman of the Salish and Kootenai Tribal Council, who welcomed attendees. Finley greeted attendees in his native language, thanking visitors for coming to his country. He talked about the nature of power and the importance of salmon to the region — not only for its food value, but also for salmon's critical spiritual connection to the region. Kootenai have a lot of traditional activities in this area. It's a place of celebrations, gatherings and feasts.

Reports from Fish and Wildlife, Power and Public Affairs committee chairs

Fish and Wildlife Committee

Fish and Wildlife Committee Chair and Council Member Jennifer Anders reported that they heard a presentation on the importance of cold-water refuges and where they are located. Steelhead and some species of salmon are fond of using these areas to rest and to avoid warmer, mainstem water. It's important that we understand the benefits of these sites during prime migration times, she said.

The committee received an update from the U.S. Army Corps of Engineers on water temperature modeling in mainstem rivers. The update was in response to a letter sent by the Council last December, encouraging a systemwide model for monitoring mainstem temperatures in the Columbia and Snake rivers. The committee will get another update in a few months.

The committee heard a briefing on real-time summer conditions from fish and wildlife managers in the Basin. They are taking measures to prevent and reduce summer fish mortalities. These tools include the early release of water from Dworshak Dam to help cool waters in the fish ladders. There also was a release of water from Canada to help fish in the Okanagan Basin. This year, they're seeing a "more normal" level of fish survival. They might be "out of the woods this year," but coordination will continue basinwide to prepare for next

summer.

The cost savings workgroup has been working with the relative reproductive success projects, and will hold a one-day workshop in Portland in October to discuss how to efficiently move these projects forward. The group recommended using $40,000 in cost savings for Northern Pike suppression work proposed by the Spokane Tribe in Lake Roosevelt during the 2017 fiscal year. There is a remaining balance of $510,000, and they are still looking for ways to spend this money, including O&M at existing projects and other research endeavors.

In an update on emerging priorities, staffer Nancy Leonard informed the committee that NOAA has issued a nomination process for the Columbia Partnership Task Force. She led a session to work on the regional habitat indicator project, and also discussed the ISAB predation metric report, which will be finalized by the end of September.

Power Committee

Power Committee Chair and Council Member Tom Karier said that Brian Lipscomb presented as CEO of Energy Keepers for the Salish/Kootenai Tribe. They have been operating the Seli'š Ksanka Qlispe' (formerly Kerr Dam) Hydroelectric Project on the Flathead Indian Reservation. They have generated up to 200 MW of power, which they have sold into the wholesale market. They have built an independent power producer business from scratch. Karier said that the Council will be asked during its meeting to release the adequacy assessment for 2021. They were reminded of the closure of Colstrip this last month, which delayed the release of the study. Momentum savings were discussed as a component of energy-efficiency achievements in the Northwest. He said we save energy through utility programs, codes and standards, and momentum savings. It's a spinoff from activities that utilities start. There will be a presentation before the full Council.

Public Affairs Committee

Public Affairs Committee Chair and Council Member Jim Yost reported that the committee did not meet last month. It will meet today to discuss the Congressional tour taking place in Washington later this month. It also will discuss the status of the RTF bid.

1. Remarks by Dan James, Deputy Administrator, Bonneville Power Administration

Chair Lorenzen welcomed Dan James as a familiar face in a new role. James recently joined the Bonneville Power Administration. He previously worked as vice president of public affairs for PNGC.

James has been in his new role for two months, and is getting up to speed on the incredible array of issues at BPA. It's a place that moves at a very fast pace, he said. He discussed his role as deputy at the agency, which oversees communications and intergovernmental affairs, compliance, audit and risk, finance and compliance strategy. He is one of the primary spokespersons for BPA.

He said that BPA plays a role in how we live and work in the Northwest. He is now seeing everything through the Focus 2028 lens. "We must be cost competitive approaching these

new, long-term contracts," he said. He said there is immense change in the utility industry from new markets and technologies, to new leaders and the new perspectives they bring to the table.

James said that Focus 2028 is about BPA's future competitiveness. Most important is how its finance structure interplays with the assets they manage. He said that where we need to focus is on cost drivers so that BPA's affordability remains foundational to the Northwest — which is most important to the rural Northwest's economic and environmental vitality. "We need to keep a long-term view as a regular perspective in our two-year rate process," he said.

He said the Reference Case helps BPA assess the effects of different alternatives that may come out of strategy discussions. It's a long–term analysis of BPA's financial condition and rates using spending levels from the 2016 program review, with an escalation in assumptions for the out years. The most recent analysis shows the Tier 1 PF rate decreasing from BP 16 to 2030 in real dollars, while transmission rates slightly increase over the same time in real dollars. The BPA 18 rate case doesn't start until the fall, but they have been conducting meetings and workshops.

James said that based on current spending levels, the power rate increase would be 4 to 9 percent. There is a range of uncertainty due to natural gas and power price forecasts. Transmission rate increase will be 3 to 5 percent. The numbers are subject to change before BPA issues a rate proposal.

"This is the foundation we'll be working on as we build the rate case, and as we release an updated strategic plan based on the Focus 2028 process at the end of the year," he said.

Regarding emerging energy markets, James said that BPA has engaged in several separate but related initiatives related to emerging markets in California. However, it is not considering joining EIM or the Regional Independent System Operator. But he said they must be engaged in how the rules are constructed. BPA is interested in an appropriate role in building a governance structure, and in building a coordinated transmission agreement. For transfer service customers, it is ensuring that market roles comply with federal statutes, that they don't add significant costs, and don't impact the reliability of the transmission service BPA is purchasing from transfer providers.

"We're waiting with great interest to see how the California legislature reacts to governor's proposal," he said.

Regarding the FCRPS BiOp decision from Federal District Court Judge Michael Simon, James said it came out the very day he was appointed deputy. "I got to enjoy the news about my appointment for five minutes," he said. He said that Judge Simon adopted the federal defendants' proposed five-year NEPA schedule. The agencies have more time to develop a new Environmental Impact Statement (EIS). It will have a robust scoping process that will include public input on actions that federal agencies will consider for alternatives. "We're interested in working with all interested parties," James said. The deadline for scoping is Sept. 30, 2017, and the court wants a status report soon after that. The draft EIS is required by March 2020 and the other by March 2021. NOAA will still issue a BiOp in late 2018.

“It already feels like a ‘hair on fire” moment,’ he said. “We are establishing working teams with federal partners, knowing that this is a ball we simply can’t drop.”

Member Smith asked, “As you look at Focus 2028 and the Reference Case, what worries you the most and excites you the most looking ahead?”

James said all of the changes in the industry. He said they have lots of opportunities to find cost savings, and they have to look at everything in the rate requirement. It’s good opportunity to engage stakeholders. Having Bonneville in a healthy financial place at the end of this contract is important. Many say that Focus 2028 is really Focus 2021, since customers will think about their future supplies much earlier than 2028. It gives us a sense of urgency, he said. New leadership is given the opportunity to look at everything with fresh eyes.

Member Karier asked what areas excite James where he can make some changes or improvements. James said that he’s spent most of his professional life thinking about the entire Columbia Basin and all of the purposes BPA serves: power, navigation, irrigation and a responsibility for fish communities. “I have an understanding of BPA’s role from Western Montana to Southern Oregon and Washington,” he said. “My goal is to get small groups of people to sit down and get to know each other better.”

“We do have very difficult challenges ahead of us,” James added. “Using mechanisms to bring people together out of the spotlight in order to find common solutions is a personal goal.”

2. Power Supply Adequacy for the 2021 Operating Year

John Fazio, staff senior power systems analyst, unveiled the latest Power Supply Adequacy report for 2021 after it was delayed from being released at the July Council meeting in Olympia. At the July meeting, the closure of Colstrip in 2021 was announced the week of the meeting, so the council directed staff to rerun the analysis to include the additional impact of the plants’ loss.

Fazio explained that adequacy is assessed by simulating the power system operation thousands of times using more than 6,000 different combinations of river flows, temps, wind generation and forced outages. They count how many simulations had at least one shortfall in supply. The system’s supply is deemed adequate if the loss of load probability (LOLP) is 5 percent or less. The adequacy assessment is performed every year.

Fazio discussed different simulations and how much customer curtailment would be needed in them.

Fazio said that through 2020, the region is adequate. In 2021, when the region loses the Boardman and Centralia coal plants (1,330 MW), the LOLP goes to 10 percent, assuming a medium load forecast, existing resources, 121 MW of planned demand response, and the Seventh Plan’s energy-efficiency target of 1,400 aMW. The region would need 1,040 to 2,230 MW of new capacity.

With the retirement of Colstrip 1 & 2 (307 MW of dedicated regional capacity), the LOLP goes to 13 percent. Then, the region would need 1,360 to 2,560 MW of new capacity.

Fazio said that there is a lot of potential new generation that could come on line, so we shouldn't be concerned. This is only an early warning. Plus, according to PNUCC, there is about 550 MW of planned (but not sited and licensed) new resources. In the Seventh Power Plan, the Council identified 600-2,700 MW of demand response potential. Also, coal replacement strategies are being evaluated by individual utilities. Additional wind and solar doesn't help as much with winter capacity problems.

Council Member Bill Booth remarked that's potentially quite a shortfall. "I think we might want to be a little nervous, but it's up to the individual utilities to deal with the problem," he said. He said the Council analyzes and doesn't tell utilities what to do. "The role we should play is to monitor it and let the region know there will be a shortfall unless action is taken," he said.

Ben Kujala, staff interim power division director, assured the Council that notifying utilities is a key product of the process. He said there is a lot of activity and he believes that utilities are planning for this.

Member Lorenzen asked how the Council staff interfaces with public utility staff. Fazio replied that they invite them and they can participate, but they don't always. They get copies of all of the staff's analysis.

Member Karier agreed that Member Booth raised good points. "I've found that utilities look at market balance," he said. "They're very interested in Council business."

Fazio discussed different variables in future LOLPs. For this analysis, they're assuming a medium load forecast. The Resource Adequacy Advisory Committee assumes 2,500 MW of imports. That gives us an LOLP of 10 percent. If the loads change or if the imports change, the LOLP changes as well. Under a low load forecast, the LOLP is 4 percent. Under a high load forecast, the LOLP is 24 percent.

In 1999, the Council forecasted the LOLP three years out and it was 9 percent.

Fazio said that the Council messages are:

- Inadequate status in 2021 was expected.
- Loss of the coal plants increases winter capacity need.
- The continued acquisition of energy efficiency is imperative.
- Some combination of planned resources, plus acquisition of demand resources could be sufficient.
- If needed, the region has time to acquire additional generating resources.
- The Council will assess this again next year.

Chair Lorenzen said he was surprised by the relatively low magnitude of the generation loss of Colstrip.

Council Member Bill Bradbury asked about the obligation of already-planned resources described in the PNUCC study. Fazio answered that it's some natural gas and some hydro improvements.

Member Karier recalled that much of Colstrip is sold to industrial load in Montana. “If that goes away, how do we draw the line between a Northwest issue and a non-Northwest issue? Aren’t they still in the Northwest market or are they outside the transmission grid in the Northwest?”

Kujala answered that there’s some limited capacity east of Colstrip. There’s a DC connection into the Midwest grid to take it, but they’re not sure how much.

Member Karier asked if we making an assumption that may not be correct. Kujala said that we’re pretty confident. They’ve made assumptions about in-region, independent power producers. Fazio said that they would reexamine imports and exports.

Chair Lorenzen asked that with half of Colstrip not serving Northwest loads, do we assume it’s not part of the Northwest load forecast? Yes, Kujala replied.

Member Bill Bradbury said he’s very supportive of demand response and wondered what it will take to get it going. Kujala answered that we’ll hear from the DRAC later in the meeting.

Northwest Power and Conservation Council Motion to Approve the 2021 Power Supply Adequacy Assessment

Member Booth moved that the Council approve the 2021 Power Supply Adequacy Assessment as presented by staff and recommended by the Power Committee.

Member Karier second. Motion passed without objection.

3. Briefing on System Capacity Contribution of Montana wind: John Fazio; Ben Kujala, interim director, power division; and John Ollis, power system analyst.

Kujala said that during the Seventh Power Plan, staff was asked about the difference between wind power in Montana and wind in the Gorge. They acquired some generation data to give some preliminary results. He said that integrating the data received from Gorge wind studies was a lot of work, and Montana wind will also require additional study.

John Ollis, power system analyst, oriented Members to the locations of wind farms in the region — and where there are lower and higher wind speeds.

Fazio reviewed the average energy produced by the wind energy sites: The Gorge is 29 percent. Judith Gap is 42 percent and Great Falls is 34 percent. He described the Associated System Capacity Contribution (ASCC), which is the effective change in the aggregate system capacity when a resource is added to the existing power supply. He said:

- Because of the interaction between the added resource and the hydroelectric system, the added resource can sometimes provide more capacity than its nameplate.
- If a resource can run during light load hours and replace hydroelectric generation, some water may be held in reservoirs to be used during peak load hours over the next day(s).
- This interaction can increase the hydroelectric system’s sustained peaking capability.

- The ASCC can be thought of as a resource's nameplate capacity plus any capacity gained by the hydroelectric system.

Fazio then provided a detailed discussed about how to calculate the ASCC. ASCC = needed capacity divided by nameplate capacity.

Preliminary results indicate very promising ASCC values for the two Montana sites, which could provide greater available wind generation during regional peak load hours. Electricity use peaks in the Pacific Northwest during the late morning and early evening hours in winter. Preliminary analysis shows that Montana wind generation is a much better match with the Pacific Northwest's winter peak demand than Columbia Gorge wind generation. Comparing a wind plant of the same size in both places, the Montana wind plant will usually generate more than a Columbia Gorge wind plant.

Kujala said that heavy load alignment is due to the time difference in Montana and higher winds with peak usage hours in western states.

The staff's conclusions are:
- Higher annual energy generation, especially in winter – helps increase ASCC; and
- Montana wind correlates better with timing of regional winter peak load.

Next steps are to obtain more historical data to improve simulated generation, and to investigate other potentially promising sites in Montana.

Member Smith said that in the last couple of years, there has been renewed interest in Montana wind by large, national wind companies. He said there are currently 1,400 MW of capacity requests pending on BPA's system. Companies include EDP Renewables, Orion Renewable Energy and others. While there is a lot interest, the issue will be transmission capacity, he said.

Member Karier remarked that we didn't have this information during the Seventh Plan. Montana is different than Gorge wind and we just didn't have the information. Does Montana wind look better?

Kujala said they tested increasing the capacity factor for Montana wind and looked at the incremental costs of adding transmission. In most of the scenarios, when it ran into the transmission barrier, that's when costs became a barrier.

Member Karier asked if there would be more transmission when Colstrip is closed. Kujala replied that the transmission owners would have to figure that out. They're still grappling with the impacts of the closure.

Smith added that there is 40 MW of new wind under construction in Montana near Bridger that will connect with PacifiCorp's system.

4. Update on Demand Response Advisory Committee Membership (DRAC).

Tina Jayaweera, staff senior energy efficiency analyst, briefed Members on the popularity of

the newly formed DRAC. An email solicitation went to 65 people and nearly everyone wants to be engaged. It will be a large committee. This is promising given Member Bradbury's earlier question on how to get demand response off the ground. The first meeting is in November. Kujala provided a list of proposed members for review.

Jayaweera said the Council is cosponsoring a demand response symposium on Sept. 28. The first DRAC meeting will be held in November. The agenda will cover how demand response is defined and what it's good for. They also will spend time learning the perspectives of the various attendees. They will address expectations, structure and talk about barriers.

The meeting adjourned at 3:41 p.m.

August 10, 2016

Council Chair Henry Lorenzen brought the Council to order at 8:31 a.m. All members were in attendance.

5. Presentation on Bonneville Power Administration Energy Efficiency and Momentum Savings.

Carrie Cobb, BPA's market research lead, started in 2011 and her work has matured to where she's become known as the "maven of momentum savings."

She said that what makes it a privilege to work in the Northwest is that we're building an energy-efficiency power plant; one that resides in everybody's home and business. Today, consumers can't buy the type of appliances they used to. Today's appliances are more efficient, so consumers are a part of our power plant whether they want to be or not.

Cobb said that to build our power plant, we have different levers:

- Programs;
- Market-induced savings (changes in pricing, customer attitudes and product availability); and
- Market transformation (NEEA, codes and standards).

The criteria for momentum savings is that they are:

- Not paid for by programs and are not included in NEEA's net market effects.
- Cost effective — if the RTF says it's not cost effective, we don't study it.
- Relative to a frozen baseline — for us it's married to what the Council sets as its baseline.

BPA uses data. They look at installed stock and product flow (new things that people are getting). The product flow is the change, and that's what is measured using sales data. They take the average consumption of these products and measure it over time. The market average energy consumption goes down because more efficient products are sold than inefficient products. Cobb said that one example where a market became more inefficient was

the MAP program for mobile homes. Once the program fell apart, the market became more inefficient. They estimate the market average and pull out their programmatic contributions.

Cobb said that lighting is so exciting because the drivers for market change are new technology and regulation (which makes the least-efficient options unavailable).

Lighting over the years:
2011 – 68% were incandescent and some halogen, 31% were CFL
2012 – CFL gets to 43%
2013 – CFFL is 36%, LED 7%
By 2015, one out of every bulb sold is LED.

Appliance Standards:
These are very prone to the political climate. Under Obama, there have been more DOE standards than before. Working in collaboration with Council staff, they measured the impact: 1,476 aMW coming from these standards, enough to power one million homes.

When you're building an energy-efficiency power plant, having accurate data helps. If energy efficiency is happening, and we don't know about it, we're wasting people's efforts, she said

Cobb said they are focusing their resources and are declining some things by knowing where the market is. With LEDs, there has been a movement with retailers going to lower-life LEDs, so they're not incenting those LEDs.

They are working to identify program opportunities and markets where there's investment needed. When BPA researched the agricultural market, they found that the higher-efficiency sprinklers weren't moving quickly. HVAC still has a lot of inefficient furnaces beings sold, and they have found an opportunity in the commercial market for high-efficiency lighting.

In conclusion, Cobb said that momentum savings are exciting, but they're a compliment, not a substitution. They want all the levers working together to make the region's power plant larger at the lowest cost.

Member Karier said that lighting is interesting, but there are other areas too. Are they calculating televisions and other appliances? Cobb said that NEEA is tracking those and BPA works with them on data collection. "We track lighting, appliance standards and HVAC," she said.

Member Karier asked if the research is limited to public power. Cobb replied that it's across the Northwest. They can't get data just for public power. She added that she expected to see a story of how the east and west sides were different, but she found it was remarkably consistent. The differences found were in the home vintage and fuel availability, and were not driven by geography.

Charlie Grist, staff manager of conservation resources, said this is a complex piece of work, requiring a lot of money and consultants to gather it.

Member Smith asked how many employees are working on this effort. Cobb said it's a team of four.

Grist said the RTF has established a market subcommittee so they're trying to bring in some reinforcements to help in the effort.

Member Lorenzen asked about opportunities in irrigation. Cobb said it's not a large segment for energy consumption, but within it there is a lot of opportunity. There is a lot of technology that farmers could be using. They're looking at scientific irrigation scheduling in 250 fields right now, measuring how folks are applying water.

6. Research Plan and Habitat Priorities

Member Karier gave a presentation on his workgroup's efforts to revise and develop a draft research plan by the end of the year by looking at habitat research and potential priorities.

Member Karier discussed the difference between research and monitoring. Some monitoring is independent, providing just data. Its purpose is to report the numbers. But monitoring should be a smaller subset of what we do, he said.

Member Anders asked, "Are you suggesting a monitoring project would not be under the scientific method?" Member Karier replied that it could be, but then it would be research. We need to shift it in that direction.

He provided a review of habitat work, looking at historical budgets. Most of the funds are going to fish propagation.

How should the Council set budget priorities?

By theme?

- Fish propagation 35%
- Tributary habitat 17%
- Hydrosystem flow and passage operations 13%
- Monitoring and evaluation methods 12%
- Population structure and diversity 11%
- Harvest 4%
- Mainstem habitat 3%
- Estuary, plume, and ocean 3%
- Predation 2%
- Wildlife 1%
- Climate change and human development 0%

Within themes?

- Are current projects producing desirable environmental and biological results?
- Identify future actions that may significantly improve biological results.

By projects?

- The information is critical and unknown.
- The project can provide that information.
- The cost of the project is appropriate. Can the project use existing data?

Member Karier asked if the Council should prioritize tributary habitat critical uncertainties? The Council has put a lot of money into these questions. When the ISRB developed critical uncertainties for habitat, that question continues. We need to ask if it's a priority under the matrix criteria and ask if they are they important to us, he said.

Member Karier discussed Judge Simon's and NOAA's three levels of uncertainty about the effectiveness of habitat investments:

"There are several layers of uncertainty in predicting benefits from habitat improvement. First, it is uncertain how much improvement to habitat quality each project will provide. Second, it is uncertain whether habitat quality improvements will translate into improvements in survival and overall condition during the portion of the fish's life cycle in that habitat. And third, it is uncertain whether habitat improvements will correlate to improvements in survival over the full life cycle of the fish, resulting in greater numbers of fish returning to spawn."

Member Karier then listed the measure of success for the three uncertainties:
Uncertainty 1's measure of success: habitat improvement.
Uncertainty 2's measure of success: productivity – an increase in smolts per spawner and larger smolts.
Uncertainty 3's measure of success: abundance – an increase in returns per spawner.

Under uncertainty 1, action effectiveness in the Columbia Basin continues.
Decades of habitat research have provided some answers. Habitat projects generally improve habitat quality and quantity. Since 2004, Tetra Tech in Washington has evaluated nine habitat actions.

Under uncertainties 2 and 3, we don't see as many research projects except for ISEMP/CHaMP. Since 2004: $65,619,478 has been budgeted.

Member Karier asked why haven't we seen answers to uncertainties 2 and 3. Are they answering different questions? Are the results there and simply not analyzed and reported yet? Are the answers in the report but too complicated to understand? Can these uncertainties even be answered? So, I'm wondering where this is with ISEMP/CHaMP, he said. It's already been 12 years, so it would be good for the Council to challenge them.

He then discussed ISEMP/CHaMP's approach. Its 2015 Annual Combined Technical Report stated, "Results from the three IMWs are varying in their completeness, and at this stage in their implementation it is hard to draw conclusions about the usefulness of the IMW approach."

Member Karier said that given the money spent, he's looking for more from them. He also asked if the value of beavers was a major policy question and if we need another Life Cycle Model. Also, can ISEMP/CHaMP reports be translated into a less-technical language?

He shared his seven priorities for habitat research:

1. Apply the matrix criteria to every habitat research project.
2. Continue to focus on the effectiveness of current habitat investments.
3. Limit funding on new evaluations of habitat improvement (uncertainty #1), for example, livestock exclusion and floodplain enhancement.
4. Support fish-in/fish-out monitoring in some select subbasins where it currently exists and consider extending to additional subbasins (uncertainty #2).
5. Support returns/spawner monitoring in some select subbasins where it currently exists and consider extending to additional subbasins. (uncertainty #3)
6. Call the question on ISEMP/CHaMP, what have they discovered, what will they deliver? *"The Council will review the accomplishments of intensively monitored watersheds and the Integrated Status and Effectiveness Monitoring Project to ensure that it is cost-effective and produces useful results." 2014 Fish and Wildlife Program, p. 104*
7. Which project will address uncertainties #2 and #3 in the future?

Member Bradbury asked, how do we call the question on ISEMP/CHaMP. Member Karier said, "I'm thinking this presentation might inspire them to respond." Patty O'Toole said they are supposed to get a report to the Council in December. Member Karier said that we'll want to look at if they helped us with uncertainties 2 and 3.

Member Booth said that you have to shake your head a little bit. "You talked about $65 million to ISEMP/CHaMP, but after 35 years, we're billions down the road. You have to start asking yourself. You're dealing with Mother Nature here. How much do we need to continue the research and can we ever answer all those uncertainties?" He said he wished they could get something that they could chew on where they, as a Council, have the ability to make a decision. The key is ISAP/ISRB review, he said. "You'll find unanimous agreement with you on the Fish and Wildlife Committee," he said. A lot of people were opposed to CHaMP. Fish and Wildlife spent a lot of time trying to pare that back. We ended up funding a trial with CHaMP, and we're not too pleased with what we're seeing.

There are meetings being held now by NOAA, BPA and others highlighting their concerns. NOAA felt it was one box they could check to show the court. There is general dissatisfaction there.

Member Anders asked about fish propagation and all the other topics. Will Member Karier address all those as well?

Member Karier said he hoped to have time to address artificial fish production and other topics. He thanked staff members for doing all the work.

Chair Lorenzen said he once was seeking certainty to help lay out what benefit we'd see from increased spill. Tony Van Vliet told him, "Henry you're an electrical engineer and you expect clear answers. We're in biology and there will be no clear answers." Still, we shouldn't give up getting answers to issues that are enormously complex. Also, why do we want information? To manage our programs better, and we have a judge seeking clearer answers to what's happening.

Member Smith praised the presentation and is struck by the consequences of not pressing on this issue, whether it's habitat or elsewhere. We are pressured by time as well as dollars, he said. If we don't press to get answers, they'll look at other things, such as operations. We need to continue to press.

Member Karier said the Council needs to justify these expenses to the public. There will be more information presented in the fall.

Chair Lorenzen said that he's seeing an enormously complex decision matrix that has to be addressed on how to go about establishing these priorities. "I feel inadequate figuring out how to allocate funds to these priorities," he said. "Who is best able to advise us with unbiased analysis and recommendations? How do we as laypeople decide from that information? I'm struggling with that. On power, we have advisory groups. We do get comments from fish and wildlife managers and others, but what is the Council's role?"

Member Karier replied that all this has to be through public discussion and we will get comments from fish and wildlife managers. Ultimately it's the Council that decides the final research plan.

7. Bull Trout Litigation

John Shurts, staff general counsel, updated the Council on bull trout litigation in response to a request by the Montana office. He provided a:

1. Summary of ESA status of bull trout,
2. The bull trout recovery plan lawsuit, and
3. Overview of bull trout critical habitat

The U.S. Fish and Wildlife Service listed bull trout as threatened in 1998. Its status was reviewed and retained in 2008. The listing didn't happen without litigation. It was known that the species had problems. There have been a number of BiOps on bull trout, but no jeopardy opinions. One was for the FCRPS in 2000 and for Libby Dam in 2006. There have been Bureau of Reclamation projects in the Snake River in 1999 and 2005.

The U.S. Fish and Wildlife Service (USFWS) designated bull trout critical habitat across Oregon, Washing, Montana, Idaho and Nevada in 2010. USFWS released a recovery plan in 2015. Since the early1990s, there have been a number of lawsuits filed by the Alliance for the Wild Rockies.

There is a Recovery Plan challenge filed April 2016 from Friends of the Wild Swan and Alliance for the Wild Rockies v. USFWS.

- The suit alleges that the bull trout recovery plan doesn't comply with the recovery plan requirements of the ESA.
- There are nine separate claims for relief.
- Federal defendants filed a motion to dismiss in July.

There was a Section 7 consultation lawsuit filed in July 2016 by the Alliance for the Wild Rockies v. Corps of Engineers, Bureau of Reclamation and Bonneville. It's about every dam in the Northwest. It alleges that these federal agencies have failed to comply with P7 of the ESA by failing to complete consultation with the USFWS regarding effects of 26 federal hydro projects in bull trout's critical habitat. Federal defendants have asserted that a formal consultation related to bull trout and its critical habitat is ongoing.

Member Smith asked Shurts about operations issues at the dams. Shurts replied that if you're consulting on the operations of the dams, some segment of that will come out of this lawsuit, but don't have any indication yet on what those will be. If we get into issues of water temperature and water quality, and habitat, those issues will be raised.

Shurts said that there's been so much litigation, they need to create a matrix to help everyone track where everything this. He thanked Sam for putting the presentation together.

Chair Lorenzen asked what are the potential impacts on the hydrosystem. Shurts said that in terms of big impacts, they probably wouldn't be major in addition to what we're already facing. One reason system operations are what they are now, is because there are other species up the river such as sturgeon and bull trout. We've already internalized some of this. Most of this action has been in the myriad of tributaries where the spawning is.

Member Anders said Shurts points out the upriver/downriver dynamic. Do courts take these differences into account? Shurts replied that this might come out in the NEPA process. You can't look at those without looking at all the listed species. Courts haven't had to take on this issue. We think of bull trout as an upriver issue, but they're throughout the system.

8. Bull Trout Recovery Efforts in the Flathead Subbasin

Les Evarts, Barry Hansen and Lynn DuCharme, of the Confederated Salish and Kootenai Tribes (CSKT); and Brian Marotz, Montana Department of Fish, Wildlife & Parks (MFWP) provided an overview of bull trout's status, and the actions being taken to address limiting factors for this and other resident focal fish species in the Flathead Subbasin.

CSKT and MFWP have been critical partners in the history and formation of the Council's fish and wildlife program, especially as it pertains to resident fish issues, and Libby and Hungry Horse dam operations. The Hungry Horse mitigation was the first in Montana. MFWP and the CSKT have formed a partnership with Council and BPA to understand and mitigate losses.

CSKT and MFWP mitigation efforts incorporate many of the key elements of the FW program. In the early 1990s, they developed fisheries loss statements, which the Council adopted into its program.

Les Evarts discussed bull trout in the Flathead River Subbasin, describing it as the salmon of the Mountain Columbia Province. The Flathead watershed is largely intact: 31 percent is within parks and wilderness, but habitat concerns remain relevant. The sudden drop in the Flathead Lake bull trout population precipitated the species listing in 1998.

Evarts discussed the Flathead River Subbasin management plan and the tribal community. Bull trout is very important for sustainability. He also pointed out where to focus conservation measures for bull trout. Crown of the Continent is an important area to build partnerships and show off the region to politicians.

Barry Hansen showed adult bull trout index and population levels between 1980 and 2014. The peak was in 1982 and the lowest in 1996. Addressing habitat and invasive species will help bring it back. For instance, too many lake trout hinders the survival of bull trout. CSKT and MFWP authored a co-management plan, which was regarded as a milestone.

The first step was to increase harvest of lake trout. They began fishing contests, engaging the public. By 2010, they met the limit of 50,000 fish harvested per year by anglers. Next they moved to a netting program. They agreed on harvesting 143,000 lake trout total. It's also minimizing impact on native species. They only caught 29 bull trout.

Hanson said they know it will go on indefinitely and they are seeking funding for their effort. They are hoping to build a marketing program to sell the lake trout. They received a $250,000 grant to do so. The goal is to make this a financially sustainable program.

Lynn DuCharme discussed habitat protection and restoration. Forty percent of the historic spawning habitat for Flathead Lake native trout populations has been blocked by Hungry Horse Dam. To date, 73 BPA projects have been completed and 51 kilometers of stream have been protected to offset losses.

Areas where they are achieving landscape-level benefits include Jocko River Watershed, the Flathead River to Lake Initiative, and Swan Watershed.

Brian Marotz, discussed the bull trout spawning areas and what impacts them. He mentioned a memorandum of understanding between Vancouver, B.C., and Montana on environmental protection, climate action and energy.

Marotz outlined the impact of sedimentation and water temperature. Bull trout require clean, cold water. Topics covered were mine tailing pond failures, greatly reduced aquatic insect diversity and density, and increased selenium concentrations in fish tissue.

He discussed mitigating dam impacts by adding flood control. "Downstream, we were getting temperature swings ranging from 4 to 11 degrees," Marotz said. "We have ability of selective withdrawal to minimize temperature swings and cool the river down."

"Now there are too many fish to count," he said. "That is exactly what we were after."

He described efforts to create secure fish populations. Sites have been identified in Glacier National Park and genetic reserves provide a source of native fish. In summary, they have made huge strides, but there is more left to do.

Member Anders commended everyone for their cooperation and for their high level of expertise. "We're after mitigation and you've taken that very seriously," she said. "It's a model for the region."

Member Smith said that it's been a great, long-term partnership between the state and tribes. He asked how long it would be before they see results in bull trout numbers after the netting phase. Hansen said that lake trout move throughout the lake. They expect a delay in response of a few years and they need to see bigger effects. There will be a delay in the bull trout response and we need to be patient.

Member Booth referred to a graph in the presentation that seemed to show an abundance in redds, but then levels crashed. What caused that crash? Hansen said it was predation by lake trout. Member Booth asked why. Hansen said it wasn't until mysis shrimp broke the bank on lake trout's expansion. They're very abundant and their impact on native species was very large.

Member Karier asked how the shrimp got into the system. Hansen said they were introduced in upstream lakes and drifted downstream. There is no practical means to control them at this time, but they can address lake trout, Hansen said.

9. Council Business

Northwest Power and Conservation Council Motion to Approve the Minutes of the July 12-13, 2016, Council Meeting

That the Council approve for the signature of the Vice-Chair the minutes of the July 12-13, 2016 Council Meeting held in Olympia, Washington. Jennifer second. Motion passes without objection

Public Comment

Scott Levy, Bluefish.org, told Council members that he wanted to promote an honest discussion on salmon. He said he's promoting information, not any particular answer. He said in 2005, he submitted a proposal to reduce the cost of reservoir removal. The idea was to have a college student come up with a plan to get rid of the reservoirs. He said it was ridiculous how they were going to remove the reservoirs. He said he was told that the proposal wasn't fundable because the $10,000 proposal wasn't persuasive on why it was needed. He said the best approach would be for the author of the EIS to come and tell us the truth of the matter. Levy talked about his meeting with the author of the study. He distributed a handout for the members to review. He expressed his frustration with the public comment portion of the meeting.

Adjourned at 11:22 a.m.

Approved September __, 2016

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Vice Chair