

Bill Bradbury
Chair
Oregon

Henry Lorenzen
Oregon

W. Bill Booth
Idaho

James A. Yost
Idaho



Northwest Power and Conservation Council

Jennifer Anders
Vice Chair
Montana

Pat Smith
Montana

Tom Karier
Washington

Phil Rockefeller
Washington

Council Meeting Boise Idaho

May 6-7, 2014

Minutes

Council Vice-chair Jennifer Anders called the meeting to order at 1:35 pm on May 6th and adjourned it at 12:02 pm on May 7th. All members were present, except Jim Yost and Council Chair Bill Bradbury, who participated by telephone.

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

Phil Rockefeller, chair, fish and wildlife committee; Pat Smith, chair, power committee; Henry Lorenzen, chair, public affairs committee.

Phil Rockefeller reported the Fish and Wildlife (F&W) Committee had a demonstration of a data management system, Follow Idaho Salmon Home, or F.I.S.H., from the Idaho Dept. of Fish and Game (IDFG). It provides Web access to salmon and steelhead information, and this system could be expanded to the entire Snake Basin or even the Columbia Basin, he noted. Rockefeller said the committee also had a presentation from a representative of the Western Governors Association on a Crucial Habitat Assessment Tool, and an update from BPA on habitat effectiveness monitoring and evaluation programs and how they have evolved. Tom Karier suggested the full Council have a presentation on those programs annually because, he said, they've been problematic over the years.

Pat Smith reported the Power Committee had an update on the impacts of new energy efficiency standards on loads and conservation programs and how the Seventh Power Plan will reflect the effects of those standards. Staff presented a "look-back" on Northwest utilities' sales, revenues, and prices from 2007 to 2013, he said. PNUCC representatives briefed us on the Northwest Regional Forecast (NRF), Smith stated. We recommended that the Council release the 2019 Resource Adequacy Assessment, and we had a presentation from a Northwest Gas Association representative on the 10-year outlook for that industry, he said.

Henry Lorenzen reported the Public Affairs Committee met last month to work on arrangements for the Congressional staff trip that will take place in August in central Oregon. The committee approved a Council contribution of \$10,000 for the Efficiency Exchange conference, he noted. The committee will meet today to discuss the 2015 Congressional staff trip, likely to be hosted by Idaho, and to review the revised Council website design and a protected areas brochure, Lorenzen said.

The Council viewed a short video promoting the transboundary conference on the future of the Columbia River to be held October 21 to 23 in Spokane. The theme is “Learning from Our Past to Shape Our Future.”

1. Discussion of Draft Northwest Energy Efficiency Alliance Strategic and Business Plans:

Charlie Grist, senior analyst, introduction; and Susan Stratton, Executive Director, NEEA, presentation.

Jim West, chair of the Northwest Energy Efficiency Alliance (NEEA) board, told the Council NEEA’s draft budget and five-year business plan “have morphed.” We now have a smaller budget and we’ve decided to offer choices that utilities can opt for or not, he said.

We issued a revised draft business plan April 14, NEEA executive director Susan Stratton reported. It responds to the needs of existing NEEA funders, achieves savings, supports our core work, accounts for increased local utility investments and capabilities, identifies ways to collaborate more productively, and minimizes overlaps between NEEA and utility activities, she stated. Our proposed five-year budget range is \$145 million to \$169 million, Stratton said. Our current budget is \$188 million, and we expect to come in around \$180 million, she added.

We are now offering funders up to 15 percent in optional activities, Stratton noted. We have reduced our strategic markets from six to four, she reported. We took out irrigated agriculture because utilities told us it didn’t have broad applicability across the region, and we made commercial real estate an optional program, Stratton noted.

We now plan to ask our regional portfolio advisory committee to vote on whether NEEA should include a new initiative, she said. We have built in visibility and some nice checks and balances with this new process, and we’ll be watching it closely and review it after a year, West added. Stratton said NEEA will hold a special meeting in June for the board to take action on the final business plan and budget.

We’ve tried to understand the changes you’ve made in the plan, Karier stated, adding the Council thinks scanning and strategic market analysis are key NEEA activities and the budget should reflect that. There was a need for NEEA to respond to the concerns of its funders, and it’s good your board rolled up its sleeves and did what was necessary to satisfy the funders, Bill Booth said.

2. McCullough Research Study of Columbia Generating Station:

Charlie Black, introduction; Robert McCullough, presentation.

Robert McCullough summarized a study McCullough Research did in 2013 for the Physicians for Social Responsibility on the future cost-effectiveness of continuing operation of the Columbia Generating Station (CGS). His study concludes that operating and maintaining CGS on an ongoing basis would be more costly than closing the plant and replacing it with firm power supplies procured from the wholesale market, according to a Council handout.

With changes in natural gas prices and the growing availability of renewable energy, the landscape has changed, and the bottom line is that market competition is crushing plants like CGS, McCullough said. He pointed out Dominion Resources closed the Kewaunee nuclear plant for economic reasons because they couldn't find a market, even though the plant was not outdated.

CGS' location is a problem because, McCullough said, the plant is surrounded by zero marginal cost resources and there isn't enough load in the area. He said the cost of operating a nuclear plant is high compared with the low market prices available today. Unlike coal and natural gas units, nuclear units consume \$90 million a year in additional capital expenditures, and aging plants cost more to maintain every year, McCullough stated.

He said the Comprehensive Review, organized by the Northwest governors, adopted a "market test" BPA and Energy Northwest accepted, but that CGS has failed the test since 2009. McCullough recommended verifying provisions of the 1971 Project Agreement to see if the BPA Administrator has the power to terminate CGS; BPA issuance of an RFP on behalf of Energy Northwest for 1,130 MW of replacement power; and that after the replacement contract is implemented, decommissioning of the plant start in May 2015. If the plant had been closed in 2012, and BPA had been buying "the same energy" at Mid-C market prices, there would have been a 10.67 percent reduction in BPA wholesale rates, he said.

Because of its nuclear fuel arrangements, CGS has "the dirtiest fuel in the industry for years to come," McCullough continued. If we are really interested in fighting global warming, we should call up BC Hydro and try to purchase some of the output from their hydro projects, he said. BC Hydro is building a new major dam, Site C, and is considering upgrading other hydro facilities like Mica, McCullough added.

If you replaced CGS with a long-term contract, what is the probability you could get a contract comparable to the output of the CGS? Lorenzen asked. The key is to do an RFP, and "if it fails, don't invite me to your Christmas party, but if it succeeds, I expect a present," McCullough replied.

Why are capital costs increasing at nuclear plants? Smith asked. As the plants get older, their parts need replacement, like hip replacements for old people, McCullough replied. Phil Rockefeller asked if BPA has the legal authority to issue an RFP on behalf of Energy Northwest. I would get the RFP's portfolio of resources approved by the Council, BPA, and Energy Northwest and have Energy Northwest operate the virtual plant, replied McCullough. If BPA operated it, we would have to replay the entire rate case, he added.

Why would BPA want to do the RFP? Rockefeller asked. Rate reduction would be a pretty good incentive, replied McCullough. Why would BPA not want to do it? Rockefeller asked. Inertia and fear, replied McCullough.

3. IHS Report on Columbia Generating Station:

Charlie Black; introduction; Lawrence Makovich, IHS CERA, presentation.

Lawrence Makovich of IHS CERA presented the results of an economic assessment of CGS his firm did last year at the request of Energy Northwest. That report concludes that continuing to operate and maintain CGS on an ongoing basis is cost-effective, according to a Council handout.

If you want to give consumers the electricity they want, when they want it, at predictable prices, you can't do it all with wind power, Makovich said. CGS is part of cost-effective baseload generation in the Northwest regional power system, and continued operation of the plant provides \$1.6 billion in benefits to power consumers, compared to closing CGS and replacing its power, he stated.

Until replacement resources could be built, spot market purchases would have to be made, and the future delivered price of natural gas to the Northwest is hard to predict, Makovich noted. The delivered price of natural gas to the Northwest exhibits multi-year cycles, strong seasonality, and periodic price spikes, he added.

The long-run marginal cost of power supply in the Northwest is greater than \$60/MWh, Makovich said. Mid-C wholesale prices reflect the short-run marginal costs of power supply that typically average around half the long-run marginal cost, he stated. The spot market is not the proper benchmark to judge the viability of an existing generation asset, Makovich said. Our study found it was less expensive to continue to run CGS than to replace its power between 2014 and 2043, plus continued operation of the plant prevents 3.6 million metric tons in annual carbon emissions, he told the Council.

The Northwest states have the lowest electricity rates in the country, and when the cost of electricity rises, the burden falls disproportionately on low-income individuals, Makovich stated. Low power prices give the Northwest a comparative advantage, and electricity costs are one of a number of important things that determine competitiveness, he said.

If you close nuclear plants that are economical to run, then you will have power prices that are higher and more variable than they need to be, Makovich stated. There are already indications that the loss of the San Onofre nuclear plant is increasing emissions and costs in California, he added.

Lorenzen asked what a long-term contract to replace CGS would look like. A large investment has been made in CGS, and the plant provides energy, capacity, and emissions benefits, replied Makovich. To be comparable, an RFP should be for a 30-year supply, with 1,000 MW of capacity that is available 90 percent of the time, and also provide energy and emissions benefits, at a price that can't be escalated by natural gas prices, he said.

Collateral of \$1 billion should also be required in case of a default, Makovich added. Loads of people enter into these contracts and default on them, he said. If you write an RFP with a 30-year commitment, I'd be surprised if you could get something more economical than what you've got, Makovich stated.

What about securing power from Canadian hydro facilities? Smith asked. You are talking about trade that involves treaties and about building transmission between the Northwest and Canada, replied Makovich. I don't think you can do that and come up with a cost of 5.5 cents/kWh for 30 years, he said. Plus, you would have to add exchange rate risk to it, Makovich stated.

4. Update on Fish and Wildlife Program Amendments:

Patty O'Toole, program implementation manager; and Laura Robinson, program implementation and liaison specialist

Staffer Patty O'Toole reported that the draft F&W program was posted on the Council's website on May 7. She explained how the public can comment on the draft and said staff would be e-mailing and sending letters to people across the region notifying them of the opportunity to comment on the draft and encouraging feedback. O'Toole pointed out that all contacts and communication about the draft would be documented. She thanked other members of the staff for their help in preparing the draft program.

Staffer Laura Robinson said the comment period is scheduled to end July 9. She reviewed the upcoming schedule of public hearings on the draft that will be held in each state and noted a court reporter would be present at each hearing. Hearings will begin in Astoria on May 29 and conclude on July 8 in Portland, Robinson said. Staff is also setting up some additional consultations, she noted.

Bradbury commended the staff for all their "remarkable" work on preparing the draft program. It's an honor to participate in such a process, he said, noting the Council's program is the largest F&W program in the world.

5. Presentation on NOAA's run forecasting tool and 2014 run forecasts:

Jim Ruff; manager, mainstem passage and river operations; and Brian Burke, NOAA Research Fishery Biologist.

Brian Burke of NOAA's Northwest Fisheries Science Center made a presentation about a salmon run forecasting tool developed by NOAA Fisheries and the agency's 2014 run forecasts. He described how the Science Center has compiled a set of ocean indicators, based on long-term ocean surveys, that characterize ocean conditions relative to adult salmon return rates. We measure physical and biological conditions and focus on the distribution and abundance of juvenile salmonids along with metrics of growth and condition, Burke said. We put together a "stoplight chart" that summarizes ocean conditions as "good, fair, and poor," he noted.

In 2012, the large-scale physics of the ocean suggested it would be a good year for salmon, but the regional physics and biology were mixed, Burke said. In 2013, the large-scale physics

suggested an average year, the regional physics a poor year, but the biological indicators suggested a good year, he stated. So we've had a mixed signal in the last couple of years, Burke said. Last year, we overestimated spring chinook coming back and underestimated fall chinook coming back, he pointed out.

We estimate adult returns of spring chinook of 200,000 in 2014 and 155,000 in 2015, and for fall chinook, 470,000 in 2014 and 401,000 in 2015, Burke reported.

Our goal is to understand how the ecosystem works, he stated. Burke said they have discovered some problems with using the Pacific Decadal Oscillation (PDO) to characterize ocean conditions. For example, in 2011, a cold PDO year, we predicted fairly high returns of spring chinook, but there was average warm water in a cold year in March and September, he noted. The PDO is a great summary, but is not sufficient to describe local dynamics, Burke added.

Is there a way, rather than using the PDO, that you can tell us about the local dynamics? Bill Booth asked. We are trying to advance our understanding so we can do that, replied Burke. In the future, we want to refine our indicators and create a forecast to understand the system, he said.

Could you ever get to a point where you could predict the carrying capacity of the ocean or rivers so the optimal number of smolts could be released to maximize returns? Lorenzen asked. No, every year is different, and that will likely be more so due to climate change, but we can assist with variables describing the ecosystem, replied Burke.

Rockefeller said Washington State is concerned about the impacts of ocean acidification on the oyster population. Are you looking at things like that? he asked. We could incorporate something like that in our list of indicators – it's something we can consider, replied Burke.

Rockefeller asked about the budget for Burke's work. Our budget has decreased quite a bit, and we have been trying to redesign our project, replied Burke. We have been on an annual budget for the last few years, and we are not sure what will happen in the future, he added.

Some years ago, the Council pushed NOAA to build their data on ocean conditions into a forecast, noted Karier. The idea was to test the theory that we can characterize ocean conditions as good or bad, he said. There is your forecast, and there is also the Technical Advisory Committee forecast, Karier noted. This fall, it will be a good opportunity to test both forecasts, he said.

Are the ocean indicators a fixed list, or are you continuing to look for other indicators? Smith asked. Each year we evaluate which indicators are useful, replied Burke. We are constantly looking for new indicators, he added.

6. Council decision to approve the 2019 Resource Adequacy Assessment:

Charlie Black; and John Fazio, senior power systems analyst.

Staffer John Fazio briefed the Council on the final Resource Adequacy Assessment for 2019, noting that the Council adopted an adequacy standard of 5 percent maximum allowable loss of

load probability (LOLP) in 2011. In 2012, he noted, the Council adopted a resource adequacy assessment for 2017 with a LOLP of 7 percent.

Key elements in the assessment include what we assume for generating resources in the region, including independent power projects, as well as what we assume about power imports from California, Fazio explained. We hired Energy GPS to conduct a study of California's power situation, and it shows there is a substantial amount of surplus in California, even when you take into account the shutdown of the San Onofre project and the loss of once-through-cooling generating resources, he noted.

Our Resource Adequacy Advisory Committee discussed this study, and as a result, staff recommends the assessment assume 2,500 MW are available to be imported from California, Fazio said.

He went over what has changed since the Council did its 2017 assessment. The changes include a 260 aMW increase in net load growth, which includes 700 aMW in energy efficiency savings, Fazio reported. There is also an increase in Southwest imports of 800 MW, 670 MW of new gas generation, 260 MW of new wind, reductions in standby energy and winter capacity, and an increase in standby summer capacity, he stated. All of these new assumptions brought our adequacy assessment from 7 percent in 2017 to 6 percent in 2019, Fazio said. These results assume the Council's annual energy efficiency savings target of 350 aMW is achieved between 2017 and 2019, he added.

In 2021, after the Boardman and Centralia 1 coal plants are retired, the LOLP rises to 11 percent, Fazio reported. There are a variety of actions to bring the 2019 and 2021 power supplies into compliance with the Council's 5 percent LOLP standard, and that discussion will take place in conjunction with the Council's next power plan, he said. Fazio noted that PNUCC's 2014 NRF shows utilities are planning new resources through 2024 that would total about 1,800 MW. He added that there seems to be quite a bit of surplus California power in the winter the Northwest could call on "if we can find a way to get it up here." The power plan should consider this, Fazio stated.

Smith noted the assessment puts a limit of 2,500 MW on California imports, but he asked if that number could go higher. Staffer Charlie Black said it could go up, but that part of the issue is market-related. In the past, Northwest and California utilities would do seasonal exchanges, but after market changes in California, when those interregional agreements expired, they were not renewed, he stated. We have identified a real opportunity for such capacity agreements to happen again, and it would get back to more use of what the Interties were built for in the first place, Black told the Council. California entities are assuming that the surplus solar energy identified in the "duck chart" will be moved to the Northwest, he added.

This assessment shows a LOLP of greater than 5 percent, noted Bradbury. He asked about the consequence of adopting an adequacy assessment of 6 percent, higher than the desired standard. The purpose of the assessment is to look five years forward, said Black. If we are above the 5 percent threshold, it indicates something needs to be done in the next five years, he added. Utilities have told us they are planning generating and other resource programs that would get us under the threshold, Black said.

Booth moved that the Council approve and release the 2019 Resource Adequacy Assessment. Karier seconded, and the motion passed.

Karier said the Council and staff did a great job in putting together the assessment. The work on the assessment has raised some issues that require more discussion, he stated. One of these is the opportunity for higher levels of imports from California, especially with the predictions of a solar surplus in the summer, Karier said, adding “we can tee that up in the power plan.” Another issue is the fact we have low energy prices, but don’t have adequacy in the Northwest – that’s a dilemma, he said.

As for energy efficiency, maybe we are being “a little too complacent,” Karier stated. BPA staff has told us they don’t know what our targets are, and we need to talk with them about that, he said. If we had more energy efficiency, we wouldn’t have to build any new plants by 2019, Karier added. If we can consider building new gas plants, we can consider raising the energy efficiency targets in the short term, he said.

Karier also noted the situation at Wanapum Dam has not been factored into the assessment. It may be in low production through next winter, with related effects on other hydro projects, he said. The Council needs to do more analysis of that, Karier recommended.

7. Overview of energy policy and fish and wildlife issues in Idaho:

Shirley Lindstrom, Idaho Council staff, introduction; and John Chatburn, Idaho Office of Energy Resources, presentation; Jeff Allen, Idaho Council staff, introduction; and Virgil Moore, Idaho Department of Fish and Game, presentation.

John Chatburn, director of the Idaho Governor’s Office of Energy Resources (OER), made a presentation on his office’s activities. He noted the OER was created by Governor Otter in 2007 and the administrator is a cabinet-level official. Our charges include coordinating energy planning and policy development in the state, coordinating the state’s comments on federal energy policy issues, serving as Idaho’s clearinghouse for energy information, representing the state in regional and national energy forums, and coordinating the Idaho Strategic Energy Alliance (ISEA), Chatburn said. The ISEA involves state agencies, utilities, and private sector representatives to explore and vet energy ideas in Idaho, he noted

The ISEA has updated the state’s “Energy Primer,” is working with the Idaho legislative Interim Energy Committee on an update of Idaho’s Energy Plan, has completed Task Force reports on baseload and energy efficiency, and developed fact sheets and other materials to provide information to the public, Chatburn said.

He described a number of areas OER is working on, starting with transmission projects. The Bureau of Land Management (BLM) has delayed a decision on segments 8 and 9 of the Gateway West transmission project, Chatburn said. We are working with BLM to review potential routes for those segments and hope to have recommendations to them by the end of this month, he reported.

BLM has again delayed the draft EIS on the Boardman to Hemmingway transmission line, and we now hope to see it by the end of the summer, Chatburn said. BPA is releasing a draft supplemental EIS this month for the Hooper Springs transmission line in southeast Idaho, which will examine a new route that has local support, he added.

Chatburn enumerated several federal regulations OER is working on. OER is providing comments on the sage grouse EIS, he said. We are monitoring EPA's development of carbon emission standards for existing power plants, and we are coordinating Idaho's comments to EPA about the Wyoming regional haze rule, Chatburn noted. We are also working with BLM on regulations for hydraulic fracturing on federal and Indian lands, he said.

Idaho received a grant from the U.S. Forest Service to establish a wood-to-energy team that is looking at sustainable forest biomass projects, Chatburn stated. We hope to develop some small biomass plants and explore ways to do combined-heat-and-power projects to boost rural communities with depressed economies, he said.

Industrial energy efficiency is a top issue for Governor Otter, Chatburn pointed out. The governor recently announced three winners of the first annual awards for leadership in industrial energy efficiency in Idaho, and we have completed industrial energy-savings assessments at five industrial facilities and identified over \$1.2 million in annual energy-savings measures, he reported.

We are also deeply involved in residential and commercial energy efficiency efforts, Chatburn continued. We participate in the Idaho Energy Code Collaborative, are working with BPA and Boise State University to assess the acceptance of energy codes in Idaho, and providing funds for "government to lead by example" on energy efficiency, he said. We work with the University of Idaho's Integrated Design Lab to provide energy-saving assessments for government facilities, Chatburn added.

He listed the wide range of regional energy policy forums in which OER participates, including the Western Governors Association, the Western Interstate Energy Board, and the Northwest Energy Efficiency Alliance. We put a lot of time working with "the power folks" in neighboring states and throughout the whole Western Interconnection, Chatburn said.

In Idaho, our legislature did not enact a Renewable Portfolio Standard, but you see from this presentation that, rather than using the top-down approach, using a bottom-up approach that includes grass-roots efforts produces quite positive results, Booth commented. A recent report from the American Wind Energy Association listed only three states that have a higher percentage of electricity provided by wind than Idaho, noted Chatburn. One of our big issues is access to federal land, he said. We have no renewable projects on federal lands – they are all on private or state lands, Chatburn added. It's a struggle to find ways to move energy from projects on private land across federal land, and it's an issue we have to figure out how to deal with, he said.

Montana has no cabinet-level energy position nor do we have a strategic alliance, said Smith. This is food for thought for us, he added.

Virgil Moore, director of the Idaho Dept. of Fish and Game (IDFG), told the Council its work is critical, and he said, “I’m proud of the relationship we have with our Councilmembers.” We place high value on that relationship, he added.

This is the 75th anniversary of the IDFG commission being formed, Moore said. Last year we passed a constitutional amendment to guarantee people’s right to hunt, fish, and track in Idaho, he noted.

Moore said he would talk about two elements of the Council’s F&W Program. The first is wildlife mitigation, he stated, noting that Idaho is working on habitat acquisition with many partners, but that one partner that has been absent is BPA. We suspended project implementation over the last few years, but recently we have been making huge progress in our discussions with BPA, Moore noted. I hope we can soon announce we have some agreements so we can implement projects that will take care of our mitigation debt, he said.

The other wildlife mitigation issue is the Albeni Falls settlement, Moore noted. It is not as far along as our discussions for southern Idaho, but we hope we will be able to use the southern Idaho example to help us with the Albeni Falls settlement, he said.

You’ve heard the good news about fall chinook returns in Idaho, Moore told the Council. He noted the importance of the diversion screens in protecting fish. Screening is an extremely effective mitigation strategy, but many of Idaho’s installations are reaching their life expectancy, Moore said.

Idaho’s screens are funded by the Mitchell Act and BPA, he said. Mitchell Act funding has declined, and BPA funding has been flat, Moore added.

We appreciate your continued commitment to support screening, he told the Council. I understand the draft F&W program contains language that supports the screening program, Moore said. I applaud your commitment to this infrastructure need, he concluded.

Karier asked what his opinion is of developing strongholds for wild and naturally spawning salmon. IDFG strongly supports that and has for years, replied Moore. IDFG has identified streams that we decided wouldn’t have hatchery fish stocked in them, and those areas have remained as core areas for wild salmon and steelhead stocks, he said. They are also controls for all the other actions we take, Moore added.

8. Update on the status of Snake River Fall Chinook:

Jeff Allen, introduction; Dave Johnson, Department Manager, Nez Perce Tribe, Department of Fisheries Resources Management; and Steve Yount, US Fish and Wildlife Service, presentation.

Staffer Jeff Allen kicked off a panel presentation on 2013 Snake River fall chinook returns by saying “this is a comeback story of epic proportion.” The fall chinook story is about collaboration, said Steve Yundt of the U.S. Fish and Wildlife Service (USFWS) who described the history of the Lower Snake River Compensation Plan, starting with efforts to prevent the

extinction of the fish and moving on to the first releases and the 1980 Hells Canyon Settlement Agreement with Idaho Power.

Dave Johnson of the Nez Perce Tribe said the Snake River fall chinook program “was born in anger and frustration” and we were all geared for litigation, but then through the *U.S. v. Oregon* process, we were able to strike an agreement. Senator Mark Hatfield found the money to get this program started, and it has worked, Johnson said. It’s a testament to “dealing with the cards you’ve been dealt,” he added.

We have formed an extremely collaborative regional effort, Johnson stated. We expect sometimes there will be bad ocean conditions and bad flows, but what we know is that we’ve formed a good team that will be able to deal with those conditions if they occur, and that is truly a success, he said.

Jay Hesse, a fisheries researcher for the Nez Perce Tribe, reported that total Snake River fall chinook returns to Lower Granite Dam were 75,846 in 2013, compared to 575 in 1990. In 2013, there were 20,222 natural-origin fall chinook adult returns, compared to 78 in 1990, a 260-fold increase, he noted.

Hesse explained the reasons the fish declined including overharvest, habitat loss from agriculture, logging, and dam construction, as well as hatchery efforts “with questionable old methods.” Natural factors included drought and ocean productivity, he said. We are dealing with an altered ecosystem, and the basin now has just 15 percent of accessible habitat for fall chinook, Hesse added.

He described the various legal mandates that govern the fall chinook program, including the Lower Snake River Compensation Plan, the Hells Canyon Settlement Agreement, the Nez Perce Tribal Hatchery program, the *U.S. v. Oregon* management agreement, the Columbia Basin Treaty Tribes Accords, the Biological Opinion, and the Endangered Species Act/Hatchery Genetic Management Plan.

The hatchery programs in the Columbia Basin are producing fish to mitigate for the development and operation of the hydrosystem, and as long as the dams are in place, there is a legal obligation to provide fish, Hesse told the Council. We have a highly coordinated and integrated hatchery program, involving the states of Washington, Oregon, and Idaho, the Nez Perce and Umatilla Tribes, the USFWS, NOAA Fisheries, Corps of Engineers, BPA, Idaho Power, and university and private consultants, he noted.

Hesse described the hatchery program and how it has evolved and its goals and release totals. On average, over the last five years, we’ve been at 101 percent of our release goals for hatchery-origin fish, he pointed out. For natural-origin fish, over the last five years, we are greatly exceeding the minimum viability threshold, Hesse said.

He described adaptive management actions, as well as legal and management agreement revisions coming up, such as the Accords ending in 2019 and the fact Hells Canyon Dam is undergoing relicensing.

Adult fall chinook abundance has increased significantly, but there are a number of things we don't know yet, Hesse noted. These include the level of contribution to increased adult abundance from supplementation, the influence of hatchery fish on natural fish productivity, and the productive capacity of the remaining habitat, he said. Our successes include the fact we've avoided extinction, maintained native stock structure, had a 260-fold increase in natural-origin fish abundance, provided considerable down-river and ocean harvest, and re-established tributary fisheries, Hesse reported.

We are forecasting a return of 70,000 total fall chinook at Lower Granite in 2014, about half natural-origin and half hatchery fish, he said.

This is an innovative and successful effort, stated Karier. What are the prospects for re-introduction of fish above Hells Canyon? he asked. The Tribe fully supports re-introduction above Hells Canyon, but the question is when, replied Johnson. It needs a lot of work, and one of things we are watching is what's being done as part of the Hells Canyon relicensing effort, he added.

This is a very impressive presentation, and it's a tribute to the perseverance and collaboration of all the parties involved, said Booth.

9. Council Business:

– Approval of minutes

Booth moved that the Council approve the minutes of the April 8-9, 2014 Council meeting held in Spokane, Washington. Rockefeller seconded, and the motion passed.

– Approval of IEAB appointment

Staffer Tony Grover told the Council staff recommends the appointment of Dr. Terry Morlan, former director of the Council's Power Division, to the Independent Economic Analysis Board. Booth moved that the Council approve the appointment of Dr. Terry Morlan to a four-year term on the Independent Economic Analysis Board. Karier seconded, and the motion passed.

– Council decision to release Draft Fiscal Year 2016 Budget and Fiscal Year 2015 Revisions for public comment

Staffer Steve Crow said staff is recommending the release of the draft FY 2016 and FY 2015 Revised Budget for public comment. Booth moved that the Council approve release of the Council's Fiscal Year 2016 and Fiscal Year 2015 Revised Budget as presented by staff for public comment for a period between May 8, 2014 and June 27, 2014. Rockefeller seconded, and the motion passed.

Public comment on the Draft Columbia River Basin Fish and Wildlife Program Amendment.

There was none.

Approved June ___, 2014

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Vice-Chair

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