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Council Meeting
Council Central Offices
Portland, OR
December 10-12, 2002

Minutes

Decision – Meet in Executive Session
Judi Danielson made a motion that the Council meet in executive session at the call of the Chair to discuss matters protectible under the civil litigation exception. Ed Bartlett seconded the motion. The roll call vote was unanimous in favor of the motion.

1. Presentation by the Bonneville Power Administration on Bonneville's financial condition

Steve Wright, Chief Executive Officer, Bonneville Power Administration; and Paul Norman, Vice President, Bonneville Power Administration

Bonneville Administrator Steve Wright brought the Council up to date on Bonneville's financial crisis. He said Bonneville has taken a number of actions as a result of its financial choices process, but "we have a ways to go." In addition, Wright said he would ask the Council to address an issue related to Bonneville's fish and wildlife spending.

In 2002, Bonneville expects to lose $300 million to $400 million, bringing total losses to $800 million in the past two years, he said. The losses are due primarily to the low inventory of power the agency has had available to sell and to price volatility in the market – our purchases in 2001 were expensive, and sales in 2002 were at lower prices than expected, Wright explained. As a result, "we are in a financially fragile position," he stated.

We were hoping for average water conditions and high prices in the secondary market this year, but neither of those things has occurred, Wright continued. We're now projecting a $1.2 billion loss during the current rate period, he indicated.

It has become very clear to me how dependent we are on secondary revenues, Wright said. We had some good water years in the early 1990s, and "we've become addicted" to secondary revenues, counting on them to cover cost increases, he said. Over the past two years, those

revenues have not materialized, and as a result, we have had to make major cutbacks and significantly reduce expenses, Wright said.

People ask me what has happened at Bonneville, pointing out that in the late 1990s, we were flourishing, but now are in deep trouble, he acknowledged. Bonneville has experienced cost increases in several areas, Wright stated: the agency is serving load in excess of Federal Base System (FBS) resources, which is costing $500 million per year; the annual benefits being paid to the residential and small farm customers of investor-owned utilities (IOUs) have gone from $70 million to over $400 million; and Bonneville's fish and wildlife costs have increased by $80 million per year. In addition, there have been increases in other expenses, including the Columbia Generating Station, Corps of Engineers and Reclamation projects, and renewables and conservation, he noted.

Wright said Bonneville has cut $350 million from its budget and given up on the goal of a 10 percent rate reduction. Our goal now is to maintain stable rates, which will save us another $350 million, he stated. Those savings, plus cuts made in the budget, total $700 million, still $500 million shy of what we need to cover the $1.2 billion gap, Wright said. We are discussing ways to achieve other cost reductions, he added.

Bonneville decided about six weeks ago not to trigger its Safety Net cost-recovery adjustment clause (CRAC), Wright went on. Instead, we are going to see if there are other ways to close the gap and what kind of a water year takes shape, he said. So far, indications are that the odds of triggering the Safety Net CRAC at some point are increasing day by day, Wright stated.

Bonneville anticipated spending $139 million annually for the fish and wildlife program, but it's becoming clear that we are headed toward spending much more than that in 2003, he explained. This is a big problem, and we need to address it, Wright said.

I am asking the Council to take on this problem for us, he stated. We would like "to throw the ball back to you" and have you take on the challenge of helping us get fish and wildlife spending back to the $139 million level, Wright said. We want to know right away if you will take this on, and we are asking for your recommendations by February 21, he said.

Wright pointed out that while Bonneville needs to get its fish and wildlife spending down, the agency has statutory obligations to meet, not the least of which is the Biological Opinion (BiOp). In short, we want to achieve two things with certainty, he said: the $139 million fish and wildlife funding level and fulfilling our statutory and Treaty obligations.

According to Wright, Bonneville must take certain actions immediately due to its "financial fragility." We are postponing any new land acquisitions, and we are planning to fund contract renewals at a reduced level, he said, adding that Bonneville will work with the Council to see if there is a better way of getting at the needed reductions. "I don't like springing this on you," but we have to take action now, Wright reiterated.

You have a proposal to reduce incentive payments by 50 percent, and I would ask, given your financial situation, why you don't eliminate them entirely, Tom Karier stated. A second issue is whether you could be using the capital component of your budget to fund some land acquisitions, he said. Third, Bonneville's response to data requests the Council makes are late in coming, and

while this issue won't stand in the way of our committing to work with you, the response time has to improve, Karier added.

We have cut by half the maximum incentive that can be paid, and we are also tying incentives more closely to financial performance, Wright responded. I considered eliminating them entirely, but we need to encourage high performance in this period, he said. The capitalization issue is very difficult, Wright continued. He cited accounting rules that dictate what should and should not be capitalized. There is some discretion, but Bonneville places great importance on maintaining a high bond rating, Wright said. As a philosophical matter, I'm opposed to pushing costs off to the future, he added. Wright noted that Bonneville has a significant problem with access to capital. We have not been successful in getting more access, and any capitalization cuts into our limited borrowing authority, he stated. I am skeptical we can do much in this area, Wright said.

John Hines questioned whether the Council or anyone else could "do a good job of scrubbing the fish and wildlife numbers," given the short time frame. I appreciate it's difficult, but we have to take some action now, Wright replied.

People in the region seem to think that fish and wildlife expenses are driving Bonneville "to the point of insolvency," and that is not the case, Bloch said. Fish and wildlife expenses are a small piece of Bonneville's budget, he added. We were under budget in all but one year of the Memorandum of Agreement (MOA) on fish spending, Bloch pointed out. The overall expenditures in fish and wildlife are not driving Bonneville's cash-flow problems, and I want acknowledgment that the Council and the fish and wildlife managers stayed within the budgets they were given, he said.

Bonneville has $500 million in costs associated with serving additional load, Wright responded. We have 2,500 megawatts (MW) of new load beyond what the FBS can provide, and buying resources to serve that load drives up costs, he indicated. We are also spending substantial dollars on delivering benefits to the small farm and residential customers of IOUs, Wright continued. Fish and wildlife costs are one of the contributors to our increased expenses, but the main thing is, "as an agency, we overcommitted on what we could do," and we committed to doing it without a rate increase, he stated. I am not saying that our problem is fish and wildlife's fault, Wright said. But we have to find a way to cut costs across the board – we can't afford to do all that we are doing, he stated.

All of us must confront the serious crisis at Bonneville, Bloch responded. Bonneville is good at coming to us and saying, we have a problem, but the region needs more collaboration up front, when a problem is taking shape, he indicated. Bloch asked Wright to commit to having Bonneville and Council staff work together to scope the size of the problem. You need to commit to going through "a ground-truthing process" to get at the magnitude of the cost levels at issue, he said. We need to work together to avoid problems in the future, so people will truly feel "we are all in this together," Bloch stated.

Wright said Council and Columbia Basin Fish and Wildlife Authority (CBFWA) staff are spending a lot of time with Bonneville staff to ground-truth the numbers. We don't yet have an exact number for the size of the problem, but we need to move on solving it, he said.

We have a system that "at its core" is still a low-cost system, but we have taken on a lot of commitments, Wright said. We still have a system that can produce value for the citizens of the region – "these resources are still incredibly valuable," he emphasized.

In my experience, the process has been "pretty clean" for prioritizing projects, but now we are being asked to go back and see which of the projects that have gone through our process meet the RPAs (Reasonable and Prudent Alternatives under the BiOp), Jim Kempton pointed out. That should have been established up front, he said. Kempton asked for assurance that Bonneville and NOAA Fisheries Service (formerly NMFS) would let the Council do its work without second-guessing.

My goal is to get you as much information as possible up front, so you can do your work, Wright responded. We have to define how to meet the RPAs, he acknowledged. We need to define the baseline and establish the planned spending, so you'll know how much we should cut to get to the $139 million spending level, Wright said.

We would have preferred to have the RPAs identified up front, Kempton said. NOAA Fisheries has never been clear on what meets the BiOp and the RPAs, he said. The issue of the NOAA Fisheries credit has to come to the forefront, Kempton said, adding, "we don't want a second line of negotiation" going on while we try to solve this. Wright said he would take the issue to the Federal Caucus.

Cassidy urged Wright to get "the right number" for the Council to work with. "It's vitally important," he said. The fish and wildlife managers have pointed out that your idea of going to short-term contracts for project renewals could turn out to be very expensive and may not be the best vehicle, Cassidy added.

My biggest concern is that we not continue to sign more contracts and then find out the money has all been spent to pay for them, Wright responded.

We may need to have an emergency meeting next week to decide whether and how to weigh in, Cassidy said. I understand you need more time, but I'd ask you not to go beyond next week, Wright responded. I need to know if you will take this on, and "if not, we will," he concluded.

2. Council decision on revised schedule for mainstem amendments

Steve Crow, executive director; and John Shurts, general counsel

Oregon's newly appointed Council members have asked for an extension of the comment period on mainstem amendments, executive director Steve Crow told the Council. We were scheduled to wrap up written comments January 10 and hold a final hearing January 14, but Oregon asked to extend the comment period and make our decision in April, he said.

We are at a disadvantage with this, having just come on board, Gene Derfler said. We would like time for a couple more hearings in Oregon before the vote, he indicated.

Ed Bartlett said some extension would be fine, but going to April is too long. If the Council adopts what is on the table, we hope to make progress by this summer, he added. Karier said he would support a short extension and asked that the comment period close early enough to give

Council members adequate time to consider comments before a vote. Judi Danielson expressed concern that a vote on mainstem amendments would push into the time for considering systemwide projects. If we postpone the mainstem vote, I'd suggest we delay decisions on systemwide projects by six months, she said.

I understand the concern about wanting to have changes in place in time for spring operations, "but the reality is that this year's operations will be driven by Bonneville's finances and the weather," Bloch commented. The staff is already taxed with multiple demands, including the latest request from Steve Wright on fish and wildlife spending, he indicated. We don't want to have three public processes going on simultaneously, Bloch said.

Crow pointed out that if comment closes February 7, it would give staff 10 days before the February meeting to incorporate comments. The Council could consider the amendments at its February meeting and vote on them in March, he suggested.

Danielson moved to extend the comment period to February 7, with a final decision at the March 11-12 meeting, and to delay the mainstem/systemwide project decisions for up to six months. Bartlett seconded.

If the project decisions are delayed, would we need bridge funding for ongoing projects? Cassidy asked. Staffer John Ogan said some bridge funding would be needed. He also pointed out that the federal agencies are concerned about having projects in place that meet the requirements of the 2003 BiOp check-in. "They will be anguished" about a six-month delay, Ogan added.

Karier said he couldn't support the six-month delay on mainstem project selection and suggested the motion be amended to delete the delay. Bloch pointed out that Bonneville said it needs $9 million in other mainstem projects to meet the BiOp check-in and is talking about doing a targeted solicitation. If they don't let us make reductions across the basin and instead go after targeted solicitations, there is no point in us trying to get to the February deadline Steve Wright set, Danielson said.

Once we've decided about participating in the Bonneville fish and wildlife budget process, we should make a decision on a delay, Karier proposed. Danielson agreed to change the wording in her motion to "up to six months." Staffer John Shurts said he thought the motion should refer to consultation on the mainstem amendments at the February meeting, and Danielson and Bartlett agreed.

I'm nervous about going to Montana to make this decision, Cassidy commented. Bartlett said the issue of when the vote occurs should take precedence over where. Bloch agreed "in principle," but added that the cost of getting to Montana diminishes public participation at the meeting. Hines pointed out that delaying the vote did not come at the behest of Montana. Montana is greatly affected by the amendments, and there are people there who will be interested in the opportunity to participate, he stated.

Decision – Extension of comment period

Danielson reread her motion as follows: I move that the Council approve the extension of the comment period and the revised schedule for considering the mainstem amendments to the 2000 Fish and Wildlife Program, with public comment to close on February 7, 2003, consultation at the Council's February 18-20 meeting, and a final decision at the March 11-12 meeting, per the

request of the Oregon members, and to delay the mainstem/systemwide project decisions for up to six months. Bartlett again seconded, and the motion passed unanimously.

3. Update on research plan process

Brian Allee, manager of policy and program implementation.

Staffer Brian Allee reported on efforts to develop a regional research plan, noting that the Independent Scientific Review Panel (ISRP), the Independent Economic Advisory Board (IEAB), and the ISAB will meet February 25-27 to lay out research goals in the "four Hs" and the ocean. He said Karier will present Council views on a research plan, and Rock Peters of the Corps will talk about Corps research. Kempton asked Karier to coordinate his comments with the rest of the Council, and Karier agreed to do so. Allee said his draft schedule aims to have a research plan ready for Council approval next June.

4. Presentation on proposal by action agencies on mainstem operations for 2003

Bruce Suzumoto, manager, special projects; and John Shurts.

Shurts asked if the Council wants to respond to federal action agency proposals to change hydrosystem operations and system configuration schedules in 2003. You are in the middle of amending mainstem operations, and the relevance is quite obvious, he said. The question is whether the Council wants to weigh in on the proposals in a direct way; if so, staff has come up with a proposed schedule for doing that, Shurts explained.

He pointed out that the Council would need to act soon on the federal agencies' proposals to change spill and chum operations in the spring. If you choose to weigh in, staff would gather information and prepare an issue paper before the January meeting, Shurts said. We'd schedule time at the January meeting to get input from the action agency representatives and tee things up for a decision, he said. You could make a decision then or put out draft recommendations for comment, Shurts stated.

Cassidy asked about the federal agencies' process for making the changes, and Witt Anderson of the Corps said the agencies had taken "a suite of operations" to Regional Forum groups for discussion. Has NOAA Fisheries bought into the changes? Cassidy asked. We got agreement to put the proposals "on the table," but I wouldn't say NOAA Fisheries or the U.S. Fish & Wildlife Service (USFWS) have bought in, Anderson replied.

I think it's important that we become part of this, Kempton commented. "It's an excellent opportunity for us to take some of our own advice," he added. This is implementing what the Council said in its program about testing operations, reviewing results, and determining whether to continue, Karier agreed.

Bartlett said he is "favorably disposed" toward getting involved, but cautioned against bogging down in process. I'd like to hear what fish managers think about this, he added. Can we consider this process to be comment on our mainstem draft? Bartlett asked. Shurts said yes.

This is worthy of consideration, but some of the proposals are clearly not part of our mainstem amendments, Hines pointed out. If we adopt some of them, such as the two spill options, would we have a legal problem? he asked. "The world is on notice" that the Council is considering different spill patterns, Shurts responded. He said he would look further into the question. I'm thinking about 2003 operations, Hines said. We can manage through this in a way that is consistent with the law, Shurts responded.

It's important for us to establish in the record our rationale for considering these proposals, Bloch stated. The agencies are proposing major changes, and we are being asked do make a decision based on data that is "incomplete and equivocal," he said. Bloch said he did not want to send a message to the region that such changes are okay, when the data is inadequate. One of the proposals would eliminate daytime spill at John Day, and the only rationale I've heard for doing that is Bonneville's financial crisis, he continued. If that's the rationale, the Council should engage in this "under that truthful label," Bloch urged.

We aren't being asked to endorse, but to consider, Cassidy responded. I don't think we should even deliberate on it unless we are provided an appropriate rationale, Bloch said.

We want to consider what the early data is telling us, Therese Lamb of Bonneville responded. Our financial situation is creating urgency, she acknowledged, but the BiOp sets up a process for us to review what is going on and make appropriate changes. These proposals respond to studies that have been under way for several years, Lamb added. We want to highlight actions we propose to take on the basis of the data, she reiterated.

Karier expressed concern about adopting the proposals into the Council's program, and Cassidy questioned some of the proposals. We are not presuming the Council will make a yes-or-no recommendation, Shurts responded. He said the Council's consideration would "sharpen the focus" and aid understanding of the implications of the proposals.

We have a process for making these changes, and we do this regularly, engaging many parties, Anderson responded. The Council used to be more fully involved in the Regional Forum, he pointed out. We haven't made a decision yet, and we have not had discussions with state agencies, Anderson said. We want to talk to you further in January, he added.

Cassidy asked for "a head nod" from Council members about getting involved. My opinion is, "the Council is in," he concluded.

5. Presentation on flow augmentation

Karl Dreher, Director, Idaho Department of Water Resources

Karl Dreher, Director of the Idaho Department of Water Resources, briefed the Council on a recent analysis of flow augmentation in the Snake River. In Idaho, we started looking at the benefits of flow because NOAA Fisheries assumed flow augmentation increases water velocity and moves the fish faster, he said. "The jury is still out on that," Dreher added.

He described the questions his department considered, using several graphs to illustrate that flows in the Snake River have not changed due to dam construction. What has changed is "the gradient of the land," and water particle travel time has slowed greatly, Dreher explained. But

flow augmentation doesn't help, he continued. The change in the gradient is so great, "there isn't enough water in the system" to make a significant improvement in the travel time, Dreher stated. The contribution of flow augmentation "is virtually undetectable," and it is difficult to see any benefit for fish survival, he said.

Could you increase the velocity with more flow augmentation? Bloch asked. Yes, but not significantly, Dreher responded. Could you measure the increase in velocity? Bloch asked. It would be difficult to detect, Dreher replied.

He went on to describe the department's analysis of data on PIT-tagged fish released from hatcheries into the Snake River over varying flow conditions. The fish released later in the season "caught up" with fish from the earlier releases, even though flows were decreasing, Dreher said. We saw this trend in all of the data sets, he added. In other words, their travel time was faster with lower flows, Dreher said, acknowledging that the trend changed after 50 percent of the fish had passed. He also noted there may have been disease problems with the fish in some years. We are having difficulty quantifying "fish fitness," Dreher said.

Looking at this data, it is hard to argue that adding flow would decrease travel time and increase survival, he continued. The data "is so inconclusive" it should not be used as an argument to increase flow augmentation, Dreher said. It appears that in a good water year, fish do better, but the question is, can you use flow augmentation in a bad year "to make it a good year," he said. "We are not finding that to be true," Dreher stated. "You can't make a bad year good by dumping water into the system," he reiterated.

Dreher added that because of the large number of variables and the study design, it is difficult to sort out the effects of specific variables. Overall, there was low survival in low water years, but the experimental design did not address factors that appear to have strongly influenced migration characteristics and survival, including water velocity, temperature, climatic conditions, and the time of release, he said. The rearing and fitness of fish appear to strongly influence survival, Dreher added. The effects of individual flow attributes – velocity, turbidity, and temperature – cannot be evaluated with the existing data, he stated.

Dreher also pointed out that if temperature is a significant factor in survival, adding warm water from the upper Snake could undo the effects of cold water added from Dworshak in the summer. That's why it is important "to tease out" the individual variables, he stated.

In conclusion, it's important to know how the components of flow affect migration and survival, Dreher said. The current data does not show a clear relationship between flow and survival, and it should not be used to support flow augmentation, he added.

Bloch pointed out that the Independent Scientific Advisory Board (ISAB) came to an opposite conclusion. The reason the ISAB concluded flow augmentation should continue was because they said there was no proof it did not provide a benefit and that the region couldn't continue to study the effects if it was discontinued, Dreher responded. You could take either view – there isn't proof it does benefit, there isn't proof it does not – but the jury is still out, and our analysis brings to light interesting anomalies that need to be explained, he added.

More studies are under way, Dreher said. It would be useful to have more collaboration between the federal agencies and the states to design a study, he added.

6. Briefing on additional analysis of flow augmentation

John Fazio, senior power systems analyst

Staffer John Fazio reported on his analysis of flow impacts under the Council's preferred alternative for the mainstem amendments to the fish and wildlife program. He listed the major components of the alternative as follows: remove the April 20 and retain the end-of-June refill requirements; extend the period of reservoir draft through September; provide level outflows at Libby and Hungry Horse and impose an elevation target at Dworshak from July to September; set September draft limits at Grand Coulee, Hungry Horse, and Libby; and keep Grand Coulee at 1,283 feet through September.

Compared with the 2000 BiOp, flow augmentation volumes under the Council's alternative would decrease by 400,000 acre-feet from April through June; drop by 800,000 acre-feet in July and August; and increase by 400,000 acre-feet in September, Fazio said. In the driest 30 percent of water years, the April through August volumes would fall by a million acre-feet or more, compared with the BiOp, but would increase in September by 350,000 acre-feet, he explained. Fazio outlined differences in the shape of the flows, noting that the Council alternative tends "to flatten out" summer flows at Lower Granite and decrease flows at McNary in the driest years. Spring flows decrease at McNary in dry years under the Council alternative, he said.

If the April refill requirement is eliminated, it would provide an additional 1,800 MW-months of winter energy, saving the region about $8 million, Fazio said. It would also mean less mainstem flow in the spring and lower flows in dry years, he pointed out.

Karier asked about the rate impacts of the increases in generation under the Council alternative. There is basically no rate impact, Fazio said, explaining that even in the December-March period, when the most generation would be gained, it would mean only an additional 1,747 MW-months.

Cassidy asked Fazio if he could put together a summary of what has actually occurred under the BiOp, given that in-season changes are made in the Regional Forum process. Let's compare the BiOp, our alternative, and the actuals, he suggested. That would be interesting – I'll see what I can do, Fazio replied.

In a follow-up, Fazio said he took another look at dry-year flow and spill data and found in the driest years, such as 1977, flows would be lower and total spill (discretionary and forced) would be less under the Council's preferred alternative. He pointed out that while the amendment does not propose to make any changes to spill, spill is a percentage of flow at some projects, so when flow is changed, the level of spill changes as a result.

7. Presentation by University of Washington on CRiSP modeling results on mainstem operations

Chris Van Holmes, University of Washington, Columbia Basin Research.

Chris Van Holmes of the University of Washington (UW) gave a rundown on computer modeling results of juvenile fish survival under the BiOp compared to the Council's preferred alternative for the mainstem amendments. Researchers at UW conducted their analysis using a downstream migration and survival model called CRiSP, short for Columbia River Salmon Passage, he explained.

Van Holmes described the data that goes into the model, including hydrosystem flow and spill operations, water temperature, pool elevations, headwater dissolved gas levels, transport operation, and details on juvenile stock releases. The model also uses the best available estimates on fish behavior, such as fish guidance and spill efficiency, passage mortality, and predator density, he said. Researchers calibrate migration and predation parameters with other data, after which, several sub-model calculations are made to peg the water velocity, subsequent flows and temperatures, total dissolved gas, fish passage timing, and fish mortality due to predation and gas bubble disease, Van Holmes said.

He offered some caveats on the analysis, including the fact that all of the scenarios were run using the same temperature profile and that dam survival depends on how passage occurs, whether it's through the turbines, spill, or bypass system. There was no survival calibration for the Hanford fall chinook, Van Holmes added.

The model results indicate there is very little difference between the Council's preferred alternative and the BiOp for all stocks, he reported. For the high-flow case, survival dropped 0.04 percent under the Council alternative, and for the medium-flow case, it dropped 0.15 percent, according to Van Holmes. For the low flow case, there was an increase of 0.10 percent under the Council's proposal, he said.

Van Holmes suggested that in future modeling, researchers develop more detailed scenarios to evaluate the timing of fish operations with fish passage and the effects of flow and spill independent of one another, and to match temperature profiles to the flow volumes. He said CRiSP 1.7 is being developed and will improve the model.

How does flow affect survival in your model? Karier asked. It's connected to travel time and time spent in the pool behind a dam, where predation occurs, Van Holmes responded.

Bloch pointed out that the ISAB weighed in on using the CRiSP and SIMPAS models and warned against using models in the absence of data. The "historical fact" missing here is that CRiSP represents a different perspective on passage and survival than the model used by state fish and wildlife managers, he said. I would have advised that we not get into "the modeling wars" again, Bloch stated.

Van Holmes agreed modeling wars are bad, but he added that CRiSP has been improved. The model is best used as a tool to compare one hydro operation scenario to another, he said. Comparing CRiSP to SIMPAS to FLUSH is not valuable, Van Holmes stated.

The results of one model should not be the basis for our decision, Hines pointed out. I don't think we have any modeling wars going on – SIMPAS and CRiSP are showing similar things, and they are useful tools, he stated.

8. Presentation by the NOAA Fisheries Service on 2002 juvenile survival and adult returns

John Williams and Bill Muir, NOAA Fisheries Service.

It is critical to recognize that salmon stocks evolved under conditions where they had a free-flowing river in which to migrate, John Williams of NOAA Fisheries told the Council in a briefing on "what we do and do not know" about the status of salmon and the link to flow. Because of their small size and limited ability to store energy reserves for the long distance they must travel, fish rely tremendously on flow (water velocity) to move them to the ocean, he stated.

Williams detailed the increases in fish travel time from Lewiston, Idaho to Bonneville Dam that have occurred since construction of the four Snake River dams, and he said "a strong and consistent relationship exists between flow and travel time." When the Snake River dams were added to the four mainstem Columbia River dams, the juvenile survival through the hydrosystem decreased, according to Williams. The ratio of smolt-to-adult returns dropped concurrently, he added.

With eight dams in place, the travel time through the system has increased under all water conditions, Williams explained. But beginning in the mid 1990s, the measured survival through the system began to go up from the levels in the 1970s, he pointed out. There is a threshold above which survival appears to vary little, is relatively high, and does not correlate with flow, Williams acknowledged. Below the threshold, survival is lower, and the relationship between flow and survival is not as strong, he stated.

Williams presented a number of graphs detailing jack returns over a range of flow conditions, indicating there was not a lot of correlation between flows and jack returns in 2001. Most of the salmon were transported, so they didn't experience the low-flow conditions in 2001, he added. The timing of when fish arrive at the ocean is an important variable in survival, Williams said. Flow affects that timing, but presently, "we can't predict the window" of good estuary/ocean conditions, he said.

Williams offered several conclusions: construction of dams has decreased water velocities and increased juvenile travel time; adult returns vary widely, depending on the timing of the juvenile migration through the estuary and into the ocean; and in recent years and over a broad range of flows, smolt-to-adult returns have increased, but they are below levels estimated for the 1960s. NOAA Fisheries is presently conducting research to relate juvenile migration history and experience within the hydropower system to adult returns, he reported, adding "we are trying to see what kind of links we get with adult returns."

Danielson pointed out that Williams' presentation can't be compared with Dreher's. "It's apples and oranges," she said, adding that Dreher's analysis is on Snake River fall chinook, and NOAA Fisheries' research is on spring chinook. Kempton asked about the difference between salmon and steelhead. When they are slowed down, steelhead tend to lose the urge to migrate, Williams replied.

Bill Muir of NOAA Fisheries followed up with an overview of survival studies, using data from 1993-2002. The studies look at yearling chinook survival from Snake River hatcheries to Lower Granite Dam, chinook and steelhead survival through individual reaches and through the

hydropower system as a whole, and survival for subyearling fall chinook in the Snake River and from McNary to John Day Dam, he explained.

Yearling chinook released from eight hatcheries into the Snake River survived at rates ranging from a low of 38 percent to a high of 78 percent, as they made their way to Lower Granite Dam, Muir reported. Overall, survival averaged about 61 percent, he said. Muir offered statistics for the Snake River reaches above McNary Dam, and he said about 90 percent of the fish make it through each reach and dam.

Predation is a factor, particularly at Crescent Island near the confluence of the Snake with the Columbia, Muir continued. Gull and cormorant colonies in the McNary pool are also a hazard for migrants, he indicated. In 2002, 12,000 PIT tags were found, and the estimates are that 9.7 percent of steelhead and 1.5 percent of chinook leaving Lower Monumental Dam succumb to predation, Muir said. And not all tags are found, he added.

The chinook survival estimate through the hydropower system, from the Snake River trap to Bonneville Dam, is 50.4 percent, which is above the BiOp requirement, Muir said. Survival for steelhead is 26.7 percent, he said, noting that the steelhead population is not rebuilding as fast. We have also plotted the transportation benefit using the most recent data, which is 1995 and 1996, Muir pointed out. We don't see a benefit in transporting from McNary, but we are evaluating it, he said.

Muir explained that NOAA Fisheries is taking the data and correlating it with specific variables. We are seeing that flow, temperature, turbidity, and release date are highly correlated and that survival is highly correlated with all of the variables, he stated. In other words, all of the variables affect survival, Muir indicated. Sorting out which of the variables is driving survival will require manipulative studies, he added. In general, our comparisons show hatchery and wild fish performing similarly, Muir said.

9. Council decision on subbasin planning contracts

Brian Allee; and Lynn Palensky, subbasin planning coordinator

Staffer Lynn Palensky said staff recommends modifications to the Idaho subbasin contract and budget to consolidate two functions, project management and coordination. The change would increase the amount by $23,909, she said.

Decision – Modify Budget

Danielson made a motion that the Council approve a modification of the Idaho subbasin planning support budget, adding project management responsibilities to the scope of work performed by Mr. Tom Dayley as project coordinator for the Idaho Subbasin Planning Steering Committee, as recommended by the Fish and Wildlife Committee and presented by the staff. Bloch seconded, and the Council voted unanimously in favor of the motion.

10. Presentation on climate change and river operation

Dr. Dennis Lettenmaier, University of Washington; and John Fazio.

Dennis Lettenmaier of the UW reported on a DOE-funded project called the Accelerated Climate Prediction Initiative and potential impacts of climate change on water resources in the Columbia River Basin. There is not much argument in the scientific community that humans are altering the atmospheric composition and that the earth is warming abruptly, he said. Data from various sources, including tree rings, corals, ice cores, and historical records, indicate temperatures over the past 1,000 years were relatively stable until about 1900, when there was a sharp increase, Lettenmaier pointed out.

In the West, data shows that the snowmelt will occur about 20 days earlier in the year, he said. We can't say that it is climate change, "but something is happening," Lettenmaier stated. At Snoqualmie Pass, Washington, the annual amount of snow is going down, and the fraction of snow days is declining, while the fraction of rain days is going up, he said.

Lettenmaier described the computer modeling he has done to try to get at what the changes mean. All of the climate models show it is getting warmer, he said. Over time, this means runoff from the Cascades would occur earlier in the year, posing a problem for storing water for fish operations and power generation, Lettenmaier explained. This would make it difficult to meet today's fish flow targets, he said.

Lettenmaier analyzed three alternatives that could be used to address the situation, including shifting reservoir refill dates, making changes to flood control operations, and allocating more storage for fish and environmental targets. Of these alternatives, early refill did not help much, nor did changing the storage for flood control, he reported. There was surprisingly little economic damage as a result of decreasing flood control storage by 20 percent, Lettenmaier noted. The biggest impact came from allocating more storage for fish, he concluded.

Fazio said he analyzed the results from the UW research for their impact on the hydrosystem. By 2020, he explained, the research predicts a 1.7 degree (C) higher average annual temperature; more rain and less snow in the winter, resulting in higher winter streamflows; spring runoff that peaks about one-half month earlier; less snowpack, resulting in lower streamflows in summer; and about the same annual volume of water.

A graph of historic and global-warming streamflows indicates we will see a decrease in peak flows in the future and higher flows in the later fall and winter, Fazio said. As a result of the change in streamflows, the winter loss-of-load probability improves, there is a net energy gain of about 500 aMW annually, generation is higher in the winter and lower in the summer, and September refill is less likely to be achieved at Libby, he indicated. The change in generation, more in the fall and winter and less in summer, would hurt Bonneville's secondary sales revenue, Fazio pointed out. The "significant" drop in summer flows could create real problems, he said.

The potential climate changes suggest several operational considerations, Fazio said. We may have to operate the reservoirs differently than we are doing now, he said, noting that spring and summer rule curves for Libby and Dworshak would have to change to improve refill by August; and fish and wildlife operations would need to be re-examined.

What changes could be made to alter the potential for future climate change? Bloch asked. At some point, you have to go to emission controls, Lettenmaier responded. When, how, and who will be affected is an issue for policymakers, he said. Nothing would be likely to happen for a few decades, even if you went to a carbon tax tomorrow, Lettenmaier said. The opportunity for change is out about 30 to 40 years, he added.

11. Council decision on Council recommendations on Bonneville's future role in power supply

Dick Watson, director, power division

Staffer Dick Watson hit the highlights of proposed Council recommendations on Bonneville's future role in the region's power supply, starting with why a discussion is timely. There is concern about the instability of Bonneville in the evolving electricity market, and there is a critical need to clarify the responsibility for developing new resources, he stated. If the roles are not clear, we risk future unreliability and price volatility, Watson pointed out. Also key are the efforts of the public and private utilities in the region to settle a dispute over the residential exchange, he said. The negotiations among the parties have resulted in "an unprecedented comprehensive proposal" for the future of Bonneville, Watson explained.

He said the recent joint Council/Bonneville Regional Dialogue resulted in draft recommendations that were sent out for public comment. We made some revisions in response to the comments, and if the Council approves, we will send the recommendations to Bonneville for consideration as it develops its own proposal, Watson said. Bonneville is talking about having a proposal out in January or February, so if we want to influence what they do, it is time to act, he stated.

The Council's recommendations took shape around the following goals, Watson continued: stable and sustainable benefits of the federal power system for the Northwest; reduced risk to the U.S. Treasury and taxpayers; equitable sharing of system benefits; widespread regional support for the federal system and reduced conflict; better alignment of the costs and benefits of access to federal power; improved clarity regarding the responsibility for meeting load; improved adequacy and reliability of the power system; clear signals regarding the value of new energy resources; reduced market risk for Bonneville and reduced Bonneville "footprint" in the market; and conservation/renewable resource and fish and wildlife efforts that meet the goals of the Northwest Power Act. A final goal is to accomplish this at an acceptable cost to the region's consumers, he pointed out.

Cassidy suggested rewording the reference to "an acceptable cost." How do you assess an acceptable cost? he asked. Cassidy advised saying "at the most efficient cost."

The following are highlights from Watson's presentation, focusing on final recommendations approved by the Council.

***Contract Term*:** We support 20-year contracts because they demonstrate the region's commitment to the federal system and shield Bonneville from periodic load loss and gain. To address customer concerns about losing leverage in controlling Bonneville's costs, the Council said if parties can negotiate a mechanism to enforce cost control without jeopardizing long-term stability for Bonneville, it should be considered.

***Slice of the System Product*:** We support offering a Slice product in which customers have responsibility for managing their take from the system and providing for their own load growth. Slice reduces Bonneville's impact in the market and its exposure to hydro and market risk. Our major concern is about the ability of Slice customers to handle the risk. We took note of the Northwest Energy Coalition's concern that because Slice customers share costs and revenues under emergency conditions, that could create "a perverse incentive" to violate fish operations. We suggest work be done to ensure that does not happen.

***Requirements/Block Products*:** We support offering a traditional requirements product, but once new resources are needed for load growth, customers must share directly in the costs. We support offering a block product independent of whether a customer buys Slice. Block customers would be responsible for meeting their own load growth.

***Residential Exchange*:** We support a settlement to achieve an equitable sharing of federal system benefits to reduce conflict and create a broader regional stake in the system. There was concern about the level of IOU benefits under the joint customer proposal, but we analyzed the benefits relative to the current Subscription settlement and found them comparable.

***Service to the DSIs**:* We support making 600 MW available to DSI customers, with the condition that Bonneville be able to capture the benefits of interruptibility and that for any allocation over 100 MW, the customer bring an equivalent resource to Bonneville at cost.

***Conservation/Renewables*:** Any proposal to change Bonneville's role in power supply must include a realistic approach to accomplishing the goals of the Northwest Power Act regarding cost-effective conservation. We support Bonneville's redesigned Conservation and Renewables Discount Program. We also support some level of "above-market" expenditures for renewables established through the Council's Power Plan and an implementation framework agreed to by environmental groups and joint customers.

***Fish and Wildlife*:** We acknowledge that the dynamics of fish and wildlife decisions will change if more customers perceive a more direct stake in the outcome (Slice), but the responsibility for implementing the law remains with the federal agencies and the Council.

Will you be able to sit in with Bonneville to develop this plan further? Derfler asked. Bonneville is holding a series of workshops, and we have staff attending those, Watson responded. Bonneville will also hold public meetings on its recommendation and develop a Record of Decision, he added.

Derfler indicated he would like the Council to have further influence on the outcome. I would like to see Bonneville get out of the market – we need a true market for the industry, he added. Derfler also cautioned that the DSIs have a lot of influence in Washington, D.C., which ought to be taken into account.

Karier said the Power Committee agreed the Council should adopt and forward the proposed recommendations to Bonneville. The current document needs minor editing, he said, and suggested the committee make the final edits. The proposal is in very good shape, and Bonneville should appreciate our efforts, Karier added.

Decision – Approval of Recommendations

Danielson made a motion that the Council approve, for the signature of the Chair, the recommendations for the future role of Bonneville, after final approval and editing by the Power Committee. Karier seconded the motion, and the Council voted unanimously in favor of its passage.

12. Council decision on fish and wildlife project funding and implementation issues

Mark Fritsch, fish production coordinator

Staffer Mark Fritsch reported that the Council's Fish and Wildlife Committee asked project sponsors to do more work on the Walla Walla Juvenile and Adult Passage Improvements and the Live Capture Selective Harvest project proposals before it makes a recommendation on funding either one. The items will be scheduled for a future agenda.

13. Discussion on Bonneville's fish and wildlife project implementation budget and financial condition

John Ogan, senior counsel; Mark Walker, director, public affairs division; and Sarah McNary, Bonneville Power Administration.

Sarah McNary of Bonneville told the Council that since 1996, Bonneville has experienced increasing obligations and accruals in its fish and wildlife program, and with the end of the MOA in 2001, the rate of accruals "surprised us," climbing to $136.9 million for 2002. Contract obligations have been carried over from one year to the next, and the financial risk is growing this year as the accruals continue to stack up, she indicated.

It looks like you are carrying over your financial obligations from one year to the next, and I assume you recognized the costs in rates and have money to pay them, Hines said. We don't have a specific account set aside for specific obligations, McNary replied. For this rate period, we assumed fish and wildlife expenditures would exceed those in the last, she said.

How did you get to the $139 million cap on spending for 2003? Cassidy asked. It is a staff and management estimate of what we expect to accrue, but the number has not been "ground-truthed" by those who could do it, McNary responded.

She explained a chart of Bonneville's "outstanding accrual exposure" for 2003 that totals $179.8 million in expenses and $14.5 million in capital. Funding for some items, including BiOp research, monitoring, and evaluation requirements, is yet to be determined, McNary said.

To curb Bonneville's "spending trajectory" for fish and wildlife, we are placing a hold on all land and easement purchases, and for a limited period, we will fund contracts up for renewal at a reduced or "holding" level, she said. These are interim measures, McNary stated.

Does this move all multi-year projects to annual funding? Kempton asked. It does not, McNary said. But we need to approach next year's contracts with an acknowledgement of the accruals we carry over, she added.

"We need to ground-truth these numbers so we know exactly the size of the problem," Bloch stated, adding that the Council can't get at a solution until Bonneville can give an accurate account of the problem. I'm concerned about your interim action on land acquisitions and complying with the BiOp, he said. The RPAs say Bonneville should protect currently productive habitat, and my concern is if you stop acquisitions, "we will run afoul of the BiOp," Bloch pointed out. Land acquisitions are something that should be shifted to capital, he said. They are not expenses, they are assets, Bloch added.

Bartlett read a resolution adopted by the Salish-Kootenai tribes in which the tribes strongly urge the Council "to restore the derailed project funding process." According to the resolution, Bonneville's fiscal year 2003 budget must include the Council-approved levels of fish and wildlife funding to restore credibility to the process, he said. How are we going to proceed so we will have a credible result? Bartlett asked.

"The process is broken," Karier agreed. We have to restore a regular public process – I'm not happy with the current short-term rules, he said. Bonneville needs to commit to responding to our requests for the data we need to inform our process and to working on the policy issues, such as crediting and capitalizing land acquisitions, Karier stated.

I am calling a special meeting December 19 for the Council to deal with the $139 million cap and to decide how it wants to participate, Cassidy said. I have no idea how anyone can run the existing contracts since they are so undefined, he added. We can't help out much until you tell us exactly what the number is that you need to manage to, Cassidy said.

Bloch pointed out that fish and wildlife spending is running below what it was projected to be in the rate case. Bonneville has not spent more than it said was available, and I don't think the Council or the project sponsors caused this situation, he said. The "headline" here is, "We Did Not Overspend," Bloch stated.

Danielson and Karier pointed out the need for complete and accurate numbers for the meeting on December 19. Bartlett acknowledged that the fish and wildlife Committee would take on a large share of the work, but "this is a full Council effort."

14. Council Business

- **Approval of minutes from October and November Council Meetings**

Decisions – Approval of Minutes

Danielson made a motion that the Council approve, for the signature of the vice chair, the revised minutes for the October 15-17, 2002 meeting in Spokane, Washington. Bartlett seconded the motion, which passed unanimously.

Danielson made a motion that the Council approve, for the signature of the vice chair, the minutes for the November 13-14, 2002 meeting in Coeur d'Alene, Idaho. Karier seconded the motion, which passed unanimously.

– **Council decision to release demand response issue paper**

Decision – Release demand response issue paper for public comment
Danielson made a motion that the Council approve the release for public comment the demand response issue paper in preparation for the Fifth Power Plan as recommended by the Power Committee and presented by the staff. Karier seconded the motion, and said the committee was unanimous in its recommendation to release the paper. The motion passed, with all members voting aye.

The Council meeting adjourned at 12:05 p.m.

Approved January 16, 2003

/s/ Judi Danielson

Vice Chairman

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