

Independent Economic Analysis Board Meeting Notes

December 8, 2015

Members Present	Members Absent	Guests
Terry Morlan		Jim Ruff
Bill Jaeger		John Fazio
Roger Mann		
Noelwah Netusil		
JunJie Wu		

1. *Greetings and Introductions.*

Chair Terry Morlan welcomed everyone to today's meeting of the Independent Economic Analysis Board, held December 8, 2015. This was a phone meeting. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at this meeting. Anyone with questions or comments about these notes should contact Tony Grover at 503-222-5161.

The minutes from the IEAB's September 3, 2015 meeting were amended and approved. At Mann's suggestion, it was agreed that the next time the IEAB makes a presentation to the Council, they will also provide an update on recent IEAB activities.

2. *Implementation Status of O&M Cost Report*

Grover said the Fish and Wildlife committee members have been very interested in this report and wanted to be sure its recommendations are integrated into the Fish and Wildlife Program project selection process, as well as the routine review of existing projects. In other words, he said, our report is going to become a working tool in the Council's F&W program. O&M costs, and in particular, evaluations of hatcheries, are the number one priority in the new Program, Grover said. BPA is currently revising its hatchery O&M RFP in response to questions they have received – in particular, people want to see feet on the ground at each hatchery facility before they make recommendations about long-term O&M. The RFP is going to be reissued, Grover said; however, we think there is still plenty of time to start the O&M review in the spring, as scheduled.

In its report, the IEAB made five recommendations; the first three are pretty straightforward, Grover continued – the asset management process, the information system, and the lifecycle process. All three are already embedded in BPA's RFP. The other two IEAB recommendations,

in particular, the endowment fund, aren't quite ripe yet, but BPA is actively implementing IEAB recommendations 1, 2 and 3, Grover said.

Have you seen any progress in terms of a more consistent and formal accounting of hatchery costs moving forward? Morlan asked. Yes, Grover replied. First, in the area of fish screens – that will be another place where the IEAB's recommendations will come into play. We will also be undertaking a two-step review of the wildlife plan, asking project proponents if they have a management policy that accounts for their long-term O&M costs. Grover noted that the Council had adopted and recommended implementation of the IEAB's recommendations with a unanimous 8-0 vote.

BPA has said it plans to task existing staff with the right education and experience to stay on top of implementing the IEAB's recommendations, Grover said. With respect to recommendations 4 and 5, BPA has said they may be willing to create an endowment, but more likely, they will address those funding needs through an annual set-aside. BPA is concerned about its authority to create multiple endowment funds, under their existing federal mandate, Grover said. They have both legal and policy concerns about an endowment fund; we will continue to talk to them about it, and it may be a good idea to invite Bill Maslen to speak to this issue at a future IEAB meeting.

The group devoted a few minutes of discussion to the Hatchery O&M report presentation, in particular, whether there are more specific recommendations as to the type or definition of the long-term cost information that would be collected. We've started thinking about that, Grover replied; BPA doesn't yet have enough data to be able to compare projects across or, in some instances, even within project types. It was suggested that the IEAB request a presentation on the hatchery review and the type of data they're gathering, so that the IEAB can weigh in and offer course corrections as to the type of information BPA is gathering through their RFP. It was agreed that Morlan and Mann will review BPA's revised RFP and will submit any comments they may have to Grover, for submission (with finesse) to BPA during the upcoming BPA-Council staff meetings on that topic.

Grover suggested that the IEAB develop a standing annual agenda item in which they meet with the Council staff lead and appropriate BPA staff to discuss progress toward the implementation of the IEAB's O&M recommendations. That could be especially valuable now, before this expected 18-month process gets too far down the road, Grover suggested. There was general agreement that this would be appropriate and desirable.

One other thing, Mann said – the report talks about developing cost forecasts with a 20-year horizon. To what extent have the different types of projects moved to a long-term cost-planning basis? To me, that's a key question, Mann said. That is what we're striving for, Grover replied; it's a pretty big cultural shift for BPA, and they may struggle a little with it, at least at first.

3. Status of Study on Salmon Passage Above Grand Coulee Dam.

What an interesting topic, Grover said. Late this summer, there was a salmon recovery conference in Vancouver Washington. Will Stelle, the head of NOAA Fisheries for the west, was there. He said that reintroduction into blocked areas is a vital necessity to achieve recovery of

salmon and steelhead on the West Coast – in California as well as Oregon and Washington. That’s a really big deal – otherwise you can’t achieve recovery, Grover said, and have no path out of ESA liability.

So we need those fish, Grover said. After an astonishing amount of resistance from BPA and others, we got a tiny toe in the door of looking at the potential of reintroduction above Chief Joseph by getting BPA to agree to do a small -- \$200,000 – assessment of existing habitat between Grand Coulee and the Canadian Border. There is a coalition of tribes, WDFW and others working on a response to that RFP, which is now on the street, Grover said. What they’re proposing is a phased project that will cost a lot more than \$200,000, but they are actively developing their response now.

How does this work relate to the Phase 1 reintroduction plan the tribes are currently circulating? Morlan asked. It relates very little, Grover replied – the Council has no opinion one way or another regarding the Tribal plan, but I am unaware of strong Council support for the proposed tribal approach. We have encouraged the tribes and others in that subbasin to adopt a stepwise approach – if you could get fish above Grand Coulee, regardless of passage method, where would they do well, for starters. In response to another question from Morlan, Grover said that, to the best of his knowledge, the tribal reintroduction plan has gained zero traction since it was proposed.

Under the RFP, phase 1 might be to identify an area or multiple areas where salmon might do well, said Grover. Phase 2 might be to develop a plan for capturing adults and transporting them to the areas identified during Phase 1; Phase 3 might be to study whether or not they reproduced successfully; Phase 4 might be to build a juvenile capture facility, collect the juveniles and truck them past Grand Coulee and Chief Joseph. That’s the current focus, rather than, say, intensive engineering studies of how Grand Coulee might be modified to allow passage, Grover said. Grover noted that, in the Willamette, there have been mortality issues associated with trucking adults above barriers. They release them in what looks like pretty good habitat, and then they just die, he said. We may see something similar above Grand Coulee – at this point, no one knows. However, in the meantime, Will Stelle’s statement is hanging out there.

The group devoted a few minutes of discussion to the question of what specific criteria must be met in order to achieve “recovery,” under the ESA. The only way you get out of the liability is to recover populations to naturally-spawning, self-sustaining levels, Grover replied. Here in the Columbia basin, the Biological Opinions have been constantly litigated since the 1990s, and the federal parties have lost all but one of those rulings. Grover noted there are 260 Reasonable and Prudent Alternatives that have been mentioned in the various FCRPS BiOps, intended to avoid jeopardy.

4. Discussion of Studies on Lower Snake River Dam Removal.

Grover noted that the BiOp contains many Reasonable and Prudent Alternatives to removal of all or part of the FCRPS. Grover noted that he had distributed two reports from Rocky Mountain Econometrics prior to today’s meeting. BPA is currently working on a third report, which was

supposed to be released by Thanksgiving, but is still being worked on internally at BPA, in response to these two studies.

The main conclusion appears to be that the Lower Snake dams are not needed from a capacity point of view, and are not cost-effective for Pacific Northwest ratepayers, Wu said. Is this type of conclusion typical for all the FCRPS dams, or just the Lower Snake dams? Wu asked. All of the political pressure has been on the Lower Snake dams, for many years, Morlan replied. The Lower Snake species were the first ones listed, and the dams were constructed more recently than the Columbia River dams. The Corps did a huge Environmental Impact Statement on the Lower Snake dams back in the '90s, he said; the Corps asked the IEAB to review the technical study from an economic perspective. It was a very detailed economic analysis of the Lower Snake dams, Morlan said, but that hasn't stopped people from re-analyzing this issue.

In looking at these two studies from Rocky Mountain Econometrics, they don't include any dam removal costs, which, in the original study, were pretty substantial, Morlan said. In addition, mitigation costs, for things like getting rid of the sediment, may actually increase if the dams were breached. I don't know that there is a lot of appetite on the Council to revisit this, he said; the region spent a lot of time, money, and effort on the original EIS.

Wu observed that the two Rocky Mountain Econometrics reports make removing the Lower Snake dams sound like a no-brainer. I agree, said Morlan, but the reports don't really address the benefits of those dams in terms of capacity, flexibility and other power system issues. I found these two reports to be quite interesting – to me, they weren't intended to be a comprehensive benefit-cost analysis, but instead focused on two particular issues, where they argue that things have changed, in terms of economic circumstances, said Jaeger. They suggest that it may be beneficial to revisit the economic analysis in light of current market and economic conditions, particularly in the case of navigation.

The group devoted a few minutes of discussion to the Rocky Mountain Econometrics reports and the methodology they did (and did not) employ. One question for the group is, when BPA finishes its economic study, is there enough “there” there to warrant an IEAB task, which we would then propose to the Council? Possibly, Morlan replied – let's hear from John Fazio first, and then make a decision.

5. Presentation: BPA's Economic Study of the Four Lower Snake Dams.

Fazio said BPA is doing a Lower Snake River study to update their previous studies; they expect to release it shortly. While I can't discuss the results, I can discuss their methodology, he said. BPA doesn't yet have a release date, but it should be shortly, he said.

They're looking at the period of 2021 and beyond, once the Boardman and Centralia plants are retired, Fazio explained. They are adding sufficient resources to offset the loss of those facilities (1,150 MW of new gas generation). The next thing they do is remove the dams, probably all at once, despite the fact that this is likely physically infeasible. They then estimated how much new gas-fired generation would need to be added to bring the system back to adequacy once the

Lower Snake dams are removed. At the end of the day, their report will be looking at amortized capital costs of 810 MW of additional gas turbines, additional operations costs, changes in export sales, and other factors, including increased carbon emissions, social costs, and dam removal costs, Fazio said. That's the basic approach – itemized costs and savings to come up with a net cost to the region and the hydrosystem.

One thing BPA told me is that in their review of the recent reports that have come out, they have seen some differences in how the costs are analyzed and accounted for, Fazio said – that's one potential area where the IEAB may have some analytical scope. In response to a question from Ruff, Fazio said he does not believe the BPA study addresses the question of sediment mitigation.

Ruff noted that in the early '90s, the Corps did a study in which they drew Lower Granite Dam down to spillway crest, and the river was flowing through 8 to 10 feet of sediment in order to continue downstream. We would need some additional information about potential toxics – pesticides, heavy metals and other contaminants – in those sediments, Ruff said.

Grover noted that thus far, no one has addressed the elephant in the room: the fact that, if you really want to help salmon, you would remove the Hells Canyon complex and John Day, rather than the Lower Snake dams. That's where the majority of species loss took place; there was always a lot more spawning above the Hells Canyon complex than there was above Lower Granite. I've always wondered why everyone talks about the Lower Snake dams, rather than the Hells Canyon complex and John Day, he said. If you really want salmon recovery, especially for fall chinook, that's what you actually need to do. Ruff noted that the Hells Canyon complex is privately-owned by Idaho Power Company; negotiations on the relicensing of that complex have been ongoing for more than 10 years, but overall, the publically-owned Lower Snake dams are probably easier targets for the environmentalists.

Mann noted that it has been quite some time since the drawdown study and the Lower Snake EIS; he said that, in his opinion, if this topic is going to be on the table, the IEAB should weigh in on it. Jaeger said he agrees; to the extent that three new reports add to the existing body of analysis, having the IEAB look carefully at what they say would be beneficial. Our role would essentially be a broker of objective, neutral interpretation, he said. Wu conditionally agreed, noting that BPA's report, in particular, would be a good candidate for IEAB review. He expressed reservations about reviewing the two Rocky Mountain Econometrics reports, which were privately commissioned by the anti-dam litigants to support their position.

To me, you have to look at everything – not just navigation, but power costs, dam removal, carbon, social cost-benefit, everything, said Mann. Wu agreed, reiterating that he would prefer that the IEAB focus its review on the BPA report. Mann disagreed, saying that, to him, the IEAB needs to look at all recent work. Jaeger suggested that, rather than, "Should the dams be removed," the IEAB focus on the question of the strengths and weaknesses, and potential biases, of the BPA and Rocky Mountain Econometrics reports. The question of dam removal involves many other aspects that were studied exhaustively 15 or 20 years ago, Jaeger observed. My preference would be to make some IEAB judgments about the merits and detriments of the three recent studies. He noted that BPA may also have institutional biases toward retaining the dams,

so it isn't necessarily accurate to view the Rocky Mountain Econometrics reports as biased, and the BPA report as balanced and accurate.

Mann posed the question: have the economics of dam removal changed since the seminal research of the 1990s – does it deserve another look at a high level of detail? We can review these three studies, but we have to address all of the costs and all of the benefits – that's the only way it makes any sense at all. Morlan noted that there has been some controversy about the cost assumptions used by the Corps for O&M and for juvenile passage in its 20-year-old report, which might also have to be re-analyzed in order for the IEAB analysis to have substantial validity.

The discussion continued in this vein for some minutes. Ultimately, Jaeger suggested that, until the BPA report is available and the IEAB has had a chance to read and consider all three reports, it is probably premature to make a decision as to whether or not the IEAB can make a useful analytical contribution on this issue. Morlan suggested that an IEAB task that initially will allow the group to review both the three new reports and some of the historical reports and data on this topic may be appropriate.

Netusil reminded the group that, some years ago, the IEAB reviewed a report commissioned by Save Our Wild Salmon; the methodology in that report was very poor, she said. She said she likes Morlan's proposed approach, which would allow the IEAB to review both past reports and data and the three new reports. Jim Waddell's reevaluation of the Lower Snake River Feasibility Study from 2015 should also be included in our work, Mann suggested.

It was agreed that the IEAB will review Waddell's "Reevaluation" report, as well as the BPA report (once available) and the Rocky Mountain Econometrics reports, before deciding what type of task may be appropriate. Morlan noted that Waddell's report estimates that the Corps understated the cost of keeping the dams in place by almost \$161 million per year in its 2002 "Lower Snake River Juvenile Salmon Migration Feasibility Report, so he is very interested to review Waddell's methodology. We will wait for the BPA report, bundle them all together, and then schedule a conference call, Grover suggested. It was agreed that once the BPA report is available, the IEAB will discuss whether or not to draft a task order for this analysis.

One final comment to keep in mind as we review these various reports, said Ruff – there are 13 ESUs listed as endangered or threatened in the Columbia Basin, but only four of those 13 would benefit from Lower Snake dam removal. In fact, it could be argued that the other nine could be harmed (by the release of sediment) if the Lower Snake dams are breached.

The group discussed the political sensitivities surrounding this issue; there was general agreement that the IEAB needs to proceed with caution. Morlan said he will draft and circulate a proposed strawman approach to this potential analysis, for discussion at the next IEAB meeting.

6. *Other Issues.*

Grover said he is not aware of any immediate issues demanding IEAB attention; once Judge Simon issues his ruling about the most recent BiOp, there may be a flood of potential topics,

including the potential that he will order an Environmental Impact Statement, as was recently ordered in California. You have to look at alternatives in an EIS, which would likely involve economic analysis, Grover said.

Jaeger said he has been involved in an ISAB project that may be of interest to the group. The task we're working on is the Critical Uncertainties Report, an expansion of a report that was done in 2006. This is an amazingly ambitious project to look at everything we know about the fish of interest in the Columbia Basin, everything we want or need to know to make optimal Fish and Wildlife Program decisions, the difference between what we actually know and what we need to know, and what, specifically, those areas of uncertainty are. The process involves making lists for each species, and identifying literally thousands of uncertainties, then deciding which of those are critical.

Jaeger noted that much of the discussion of which of these uncertainties should be considered critical is, to him, essentially an economic analysis – what is the cost of the information? How can we most cost-effectively move forward and make decisions? I wanted to share that because in many ways, it has been a similar discussion to many of the conversations we have here at the IEAB, Jaeger said. It has been very interesting to encourage the other members of the ISAB – all scientists -- to consider that broader context in deciding which uncertainties are critical. The basic point is, everything comes at a cost; how do you derive the most benefit, in addressing the 140 or so critical uncertainties identified in the report, given fixed RM&E budgets? The budget for the collection of scientific information isn't infinite – given that fact, how can you spend that money most effectively, in terms of providing maximum benefit to the listed species? We're glad you're there to provide that perspective, said Mann.

7. Next IEAB Meeting Date and Agenda Items.

It was agreed that the next IEAB meeting date will depend on the timing of the availability of BPA's Lower Snake report (likely in January or February). Council staff will send out a Doodle poll to determine the meeting date once the report is available. Meeting summary prepared by Jeff Kuechle, NWPPC contractor.

Certified by: Signed Terry Morlan, Chair/ 6/03/2016