
Anadromous Fish Agreements and Habitat Conservation Plans

Final Environmental Impact Statement
for the Wells, Rocky Reach, and Rock Island
Hydroelectric Projects

Volume II
Appendices

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Appendices

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ACRONYMS

ALCOA	Aluminum Company of America
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
BP	before present
BPA	Bonneville Power Administration
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
DDT	dichloro-diphenyl-trichloroethane
Ecology	Washington Department of Ecology
EIS	Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
HCP	habitat conservation plan
JARPA	Joint Aquatic Resource Permit Application
kcfs	thousand cubic feet per second
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NTU	nephelometric turbidity unit
ODFW	Oregon Department of Fish & Wildlife
PIT	passive integrated transponder
PUD	public utility district
QAR	Quantitative Analysis Report
RCW	Regulatory Code of Washington
ROD	Record of Decision
SEPA	State Environmental Policy Act
TMDL	total maximum daily load
USC	United States Code
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WDFW	Washington Department of Fish & Wildlife
WRIA	Watershed Resource Inventory Area

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DEIS Public Meetings

March 6, 2001

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DEIS Public Meetings in East Wenatchee, Washington March 6, 2001

This appendix provides the transcripts of the DEIS public meetings held in East Wenatchee, Washington at the Douglas County Public Utility District main office auditorium on March 6, 2001, at 1:00 p.m. and 7:00 p.m. Responses to public comments on the DEIS occurred at the meetings.

1:00 p.m. Meeting Attendees

Bob Dach	National Marine Fisheries Service	525 NE Oregon St Ste 500, Portland, OR 97232-2737
Bryan Nordlund	National Marine Fisheries Service	525 NE Oregon St Ste 500, Portland, OR 97232-2737
Jim Hastreiter	Federal Energy Regulatory Com.	101 SW Main St #920, Portland, OR 97204
Merrill Hathaway	Federal Energy Regulatory Com.	888 1st St NE, GC-11, Washington, DC 20426
Bob Clubb	Douglas County PUD	1151 Valley Mall Pkwy, E. Wenatchee, WA
Steve Hays	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Rod Woodin	WDFW	600 Capitol Way N., Olympia, WA
Dennis Beich	WDFW	1550 Alden St. Ephrata, WA
Jon DeVaney	Rep. Doc. Hastings Office	302 E. Chestnut, Yakima, WA 98901
Lee Barnhebel		90 TCR Carlton, WA 98814
Brian Cates	USFWS	12790 Fish Hatchery Rd, Leavenworth, WA
Brett Joseph	NMFS – General Council	7600 Sand Point Way NE, Seattle, WA 98115
Bob Rose	Yakama Indian Nation	Box 151, Toppenish, WA 98948
Mark Miller	USFWS	Box 848 Ephrata, WA 98823
Lynn Heminger	Douglas County PUD	1151 Valley Mall Pkwy, E. Wenatchee, WA
Bob Bugert	Governor's Office	1133 N. Western Ave., Wenatchee, WA 98801
___ Rice	Irrigator	7776 Ranzle Rd., Blewett, WA 98826
Gray Montague	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Barbara Tilly	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Chuck Peven	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Rob Sutter	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Rick Smith	Wenatchee Reclamation	514 Easy St. Wenatchee, WA 98801-9652
Shane Bickford	Douglas County PUD	1151 Valley Mall Pkwy, E. Wenatchee, WA
Malcolm McLellum	Chelan PUD Attorney	821 Second Ave. Suite 2000 Seattle, WA
Bob Sullivan	Parametrix, Inc.	5808 Lake Wash. Blvd NE, Kirkland, WA 98033
Pam Gunther	Parametrix, Inc.	5808 Lake Wash. Blvd NE, Kirkland, WA 98033

Presentation Part I

- Question: Can you explain a little bit about how the relationship of the Biological Opinion that they are operating under now dovetails into the adoption of the HCPs to get some consistencies ?
- Bob Dach: There are sort of two related issues that you are thinking about: (1) what's going on in the interim the species were listed in 1997 and 1998 and here it is 2001, and (2) what is covering operations at the project to date. I think that is your question.
- Reply: I know there are biological opinions out there.
- Bob Dach: There actually are not, well there is a biological opinion for Wells that was finished, we are working how we are covered under one law or not covered under another law, or whether it is good for fish or bad for fish. Over the last few years in our course of trying to exercise the HCPs, if you will, we have sort of been implementing them getting our feet wet, working specific measures of the HCPs over the last few years. Through that process, through the consultation process we've been trying to resolve the inconsistencies. We managed to get a major portion of those resolved for Douglas County, which enabled us to produce their biological opinion on their interim operations. So everything they are doing now is consistent with a program, whatever that may be, for recovering the species over the long-term. We're doing the exact same thing for Chelan County, but because I hate to say this, but there is only one of me, so it sort of takes me a little longer, and Chelan is a little bit more tricky because Douglas was fortunate to have a pretty decent bypass system in place so it was just a matter of making sure that all of the caveats were consistent. For Chelan we are trying to approach it in more of an adaptive way. As you work through an adaptive management process, sometimes, it gets a little complicated on how certain measures under one set of statutes relate to certain measures under another set of statutes. So, in a round about sort of way, what I'm saying is we haven't resolved all of the Chelan issues. But Chelan is in consultation with us, and every year we work out sort of an interim plan until we can figure out how to work all these other things out.
- Comment: So this...for the FERC settlement agreement for Chelan.
- Bob Dach: For Rock Island?
- Comment: The settlement agreement for all the Mid-Columbia.
- Bob Dach: There's a settlement agreement in place right now that would be for Rock Island, and yes, we are trying to be consistent with the settlement agreement, with FERC's position on enforcing the settlement agreement, with our legal authority under the ESA, with someone's desire to be protected from third-party lawsuits, with the direction that the HCP has taken us. But, so we're considering all of this in the case of Rock Island. At Rocky Reach, where there was never really a settlement agreement reached from the 1979 lawsuit, which is actually coming out. But because it was never actually reached, we're working under the Fourth Interim Stipulation and trying to make sure that that is

coordinated with everything else that we're doing. I think a good example of that is the construction of the Rocky Reach bypass, which we're working with Chelan right now to ensure that it meets the terms of the stipulation, that it meets the terms of the Endangered Species Act, and it meets the terms of the proposed HCPs.

Question: So they all should be consistent?

Bob Dach: They all need to be consistent. And you can imagine that it is easy to be inconsistent, it's a little bit more difficult to make sure that we are consistent with everything and it takes us a little bit more time. But I think we're getting there.

Comment: If I could add one thing to what I heard in that questions that was how the interim processes dovetail with the HCPs, and I think the fundamental distinction is that the HCPs are considered part of the NEPA process that pertain to the long-term operations of these projects. Whereas the things that Bob has described is the interim protection plans that are really looking at the current operations and the development and compensation of the long-term plans. So by resolving issues of consistencies, and so forth, we are not prejudging what happens in the long-term, trying to solve the problems right now. Obviously, they provide valuable information; it gets us a little further down the road toward the long-term objectives. But we were not separately, through a separate processing decision, to take it to the long-term effort.

Question: Has NMFS been trying to determine if the Section 10 is the correct section, all the time that we have been working on this, seven years?

Bob Dach: The issues that I have raised are the things that come up, you need to keep in mind that they're issues that have been generated by all of the parties. So, we could certainly say that it is consistent and I think that we have. However, it has been pointed out to us from a number of different comments, specifically through the scoping process, that we did last....., and as a result of the 1998 declaration, people getting back with us questioning whether or not it is something that we can actually do. So those are the sorts of things that we are trying to work our way through now. Again, like a lot of these things we could very well make a decision on what we think is appropriate, but we have to be able to support and justify that with the available information. When it comes down to it, everybody in essence has to be pleased with the outcome or the process isn't going to work. Well it will work but there will be some hiccups along the way. We're working on it; we don't have it resolved yet.

Question: Bob, did I hear you say that there are parties questioning whether or not NMFS should pursue the Section 10 route?

Bob Dach: Yes.

Question: Which parties are concerned.....?

Bob Dach: I'm not sure I remember..... Of course, council..... A couple of the environmental groups, specifically Save our Wild Salmon and...I've forgot the other one-two NGO that were not part of the original discussions.

Question: Then can I continue on with that? Then is the issue related to Trust responsibilities.....

Bob Dach: That is certainly what the Tribes are concerned with.

Question: What are the concerns of the Tribes?

Bob Dach: It is difficult to paraphrase, but in essence the relationship between Section 10 and the associated features, particularly the No Surprises, not only with the Endangered Species Act but also provisions under the Federal Power Act.

Brett Joseph: I would just caution that what is being reflected here is that in development of the HCPs there has been a consistently supported process, where we've had all of the various stakeholders, including the groups that Bob mentioned, that that resulting process going into the development of a proposal that we are not considering with the permit, but that our decision on the permit will now be on public record that we are now in the process of developing so that those groups that continue to have concerns reviewing the way that it comes together and that it will be available... in the document. That it is incumbent on them, as well as all reviewers to raise those concerns through this process on the record. What we will be relying on is this record.

Bob Dach: Is anyone on the telephone? Is the phone on?

Comment: I don't think so.

Presentation Part II

Comment: Bob, speaking of Douglas, I may have read the BO wrong, but I thought there was a benchmark catch phrase even in the BO, one that I'm concerned with that started with the EIS and that the DEIS or EIS has to be approved by the end of this month.

Bob Dach: Right. The way that the Douglas interim biological opinion is set up was that it has a definite sunset date of April of 2002. Because what we don't want is..... because the Douglas BO says that they are moving in the right direction, it doesn't say that they are doing everything that they can to recover the listed species. That is consistent with our policy, but none-the-less in April of 2002 we're prepared to go back in and say OK you guys are going to have to do all this because we need you to meet these standards for listed species. We couldn't keep pushing that off and saying every two years, "Well, they're moving in the right direction, they're moving in the right direction," because if they're not moving in the right direction quickly enough, it doesn't matter. So, that's why there's a sunset date on the interim biological opinion for Douglas. We gave this until 2002, we put that thing together a year and a half ago, or whenever it was, we made it specific to match up with how long we thought it would take us to get this agreement...the HCP, or to phrase it more correctly, to get a decision on where we're headed with the HCP.

Brett Joseph: Bob if I could clarify one point under our role under the ESA - the manner in which we say what needs to be done is through, is by means of our formulation of a biological opinion. Which is supported by the best available information through the consultation

process at that applies whether we're in a Section 10 process or Section 7, we still have to be developing the record to formulate our biological opinion. This is an iterative process that would be the framework of the biological opinion and allow us to come back to revise our recommendation regarding what needs to be done. But the distinction here is that I think comes in with context is that under the implementation agreement we do not have-we're not preserving authority to dictate what action is taken that goes with the recommendation. But I wanted to clarify that we are not making those recommendations in an arbitrary manner simply because the ultimate burden of proof is on the proponent of the action.

Malcolm McLellum: I think that was unfair. The dispute resolution process is not binding, and it indicates that it is binding and that is technically not true. It's a non-binding decision. The key is that if somebody wants to take the result of the dispute resolution forward with FERC, then the opinion that's derived from the dispute resolution can be admitted into evidence so that the hope is that by going through the dispute resolution process the parties won't find it necessary to continue to fight and be able to take that decision and act on that. And with regards to the burden of proof, NMFS specifically reserves the authority to not take an issue to the dispute resolution; they retain the authority under the Endangered Species Act to deal with enforcement issues through the ESA. That is one of the significant exceptions to an alternate dispute resolution.

Bob Dach: Let me just say that it is an issue. It can be inferred, when we look at it, not to belabor the point too much, but without being clear what it is we would be enforcing, meaning that as long as we are technically inside of the framework of the HCPs, then there would be nothing for us to enforce under Section 9 once we have issued the permit. Now what happens then is there can be some scenarios where in essence everybody would have to agree that your violating Section 9 somehow, in order for us to actually have something that we could actually enforce. Which makes the real application of this a little bit less straightforward.

Comment: As I read it enforcement of the incidental take permit shouldn't be the issue, because NMFS retains the right to enforce an incidental take permit through the ESA without first having to resort to resolving the issue under an alternate dispute resolution.

Brett Joseph: Let me just suggest that for the purpose of this hearing, this is not intended to be a debate although it's good to flag these as issues that have cropped up. To the extent that this raises questions or further clarification maybe warranted, I think it's appropriate to raise it and flag it as an issue, but what is being said here may constitute different interpretations that underscore the issue for having that issue clarified.

Bob Dach: And I have it, and I think it's good to know that it's an issue when we get to issues, I have to..... but I'm not trying to present one side over the other, so thanks for pointing that out.

Question: I have a question about the withdrawal provisions this is a 50-year HCP theoretically but in 15 years or 20 years either of the PUDs could withdraw from the HCPs unilaterally?

- Bob Dach: My read is, this is an issue, so we could get into a debate. But my read is not so much that the PUDs are going to want to get out of this agreement. Correct me if I'm wrong, but my read is more that the resource agencies wanted to be able to say after the 15 years that the species weren't coming back that we want out of the agreement. It applies both ways, but in my read, I didn't see the utilities as wanting a way to get out of it.
- Comment: That's correct.
- Comment: This is more than an HCP under the Endangered Species Act, it's a comprehensive settlement agreement, and it's a mechanism for the parties to the agreement to say after a period of time that they can get out, if they elect to choose to. The PUDs are in a different position - this is an incentive to get as many people in the agreement as signatories and there is..... hopefully have not have trapped somebody who is in it. But if they are dissatisfied with the way it's looking after 15 years, or 20 years in the case of Douglas, that they have an option to get out.
- Bob Clubb: The difference between the 15 years and the 20 years is basically because of differences in our license termination dates. Rocky Reach license terminates in the year 2006, Wells projects license terminates in the year 2012. And that was to recognize that that was a little farther out and to give us the same kind of deal that Chelan is having addressing withdrawing provisions.
- Bob Clubb: Bob, could you go back to your Tributary Conservation Plan slide, I would just like to get a clarification of something. We talked about if total project survival is greater than or equal to 95 percent.
- Bob Dach: Yes.
- Bob Clubb: That exceeds our standard.
- Bob Dach: Yeah, this actually wasn't an issue until yesterday. As I was clarifying, the differences and I knew that Douglas had a standard in there, but I was reading the standard and it seems to be inconsistent with the standards that we were talking about earlier. And indeed it is a higher standard than what we were talking about earlier, and Shane told me it was because of the expectation was that they could be a little bit higher, that they thought there was going to be a higher survival associated with the bypass.
- Comment: So that if they could do better than what the standard is, the benefit for them is to be able to drop the amount that they have to put into the tributary fund.
- Bob Clubb: Right. The expectation was that the Wells project was pretty friendly towards the fishery resource, and it was a recognition that the project would have that benefit.
- Comment: Okay, I just wanted to make sure that's how to read it.
- Bob Dach: Yeah, it's good to point out because it seems like a new standard. Whether or not we understand the definition of project survival here, is another question.

Bob Bugert: Bob, could you explain No Surprises.

Bob Dach: In essence what No Surprises says is that we can't come back five years later and say well it's not working out like we thought, or we forgot something, so you have to do this other stuff. Or you didn't address all the requirements that are necessary to address underneath the Fish and Wildlife Conservation Act, or something along those lines. When we have a deal there's some expectation on the part of the utilities that we are not going to come back for another bite of the apple.

Brett Joseph: Just to add to that. Another way of saying that we're looking across the landscape at all these factors that are maybe contributing to the decline of the species and developing our recovery plans to get species to the point of recovery that activities that are covered under a No Surprises guarantee and that are implementing the Habitat Conservation Plan that we've agreed to, will have the guarantee that as long as they are implementing that plan that we're not going to be adding on, except for a situation where we really addressed or gone to all the other activities through the other consultations, and there is kind of an escape valve where if the species is still in decline after you exhaust all remedies that you have to reassess what needs to be done across the board. But we are not going to be singling out, going kind of in the first instance to the PUDs to gain additional recovery benefits.

Bob Bugert: Can I ask a little clarification on that. Is there a precedent under the Federal Power Act for No Surprises that FERC has had to make a ruling on at all? Has this situation come up yet?

Merrill Hathaway: I think you know that the No Surprises policy was produced in the last administration and was an executive department's initiative to address concerns with the flexibility of the Endangered Species Act enacted by the administration to make it work, so to speak, and is a very important concept if the Endangered Species Act is something that the American people cannot accept....how people would support it. And it seems to make a lot of sense but we kind of observe that from the point of view of an independent regulatory agency, but the long answer to your question. No there is no , unless you're talking about the Federal Power Act about analogs, depending on how these scenarios workout there is no..... I think the Commission has strongly supported all sorts of collaborative efforts..... subtleties of legal and other questions of the Habitat Conservation Plans as being a collaborative effort, people working together. You know..... so we very much appreciate that and therefore people work collaboratively; they're trusting each other and we hope that if it doesn't come to the point where somebody says "Gotcha," you know, or if someone says, "Guess what heads, I win tail you lose." So, I think the Commission would do it's part to try take the sense if this comes before the Commission, the Commission's responsibility that we would act as consistently as the rest of the

Bob Dach: One more thing about No Surprises, it's applicable to all plan species so if sockeye or fall chinook were to be listed in the future, there would be no additional requirements.

- Steve Hays: Bob, I think that it's important to point out that the requirements that you are talking about are the survival requirements. If you're not meeting the survival standards then additional tools or whatever would be implemented through the appropriate committee. It's a little bit different from what most people think of HCPs for...or other land use actions. In this case, the survival standards are the requirements subject to No Surprises and the actions necessary to get to those standards can vary considerably.
- Brett Joseph: Maybe it would also be appropriate at this point in the presentation to make one additional point. And that is Bob's just gone through a long list of issues some of which are still sort of pending and were never resolved in the negotiations, some of which have been identified by NMFS in preparing this DEIS and others which have been identified by other parties in discussions that have occurred over this period of development, and so we're not distinguishing kind of the source of the issues other than to just flag them as areas of focus. But I also want to mention that not withstanding all of these issues, NMFS has made the decision to proceed with the NEPA process on the expectation that, and actually this is a mutual expectation of the parties that were involved in the negotiations, that not withstanding certain unresolved issues that it would be appropriate and informative to proceed with the environmental review process. And then taking in comments and views obtained through that process as information that our hope is will assist in resolving these issues. So that we can not only make a decision on the permit but also to underscore the point that Malcolm made that this is also an anadromous fish agreement and so we are really doing two decisions here. One is a permitting decision under ESA and the other is a decision of whether to proceed in concluding and negotiating a settlement.
- Question: Brett I probably heard what I wanted to hear, but let me ask for clarification. There's a lot of issues here that it's hard to imagine that they could be resolved very easily and is there a way to understand to what extent NMFS will allow certain issues to be out there still hanging before a preferred alternative can actually be decided?
- Bob Dach: If there is, I haven't figured it out yet.
- Brett Joseph: I think our intent is to avoid having significant issues that are unresolved and still out there hanging at the time that we proceed with our preferred alternative, because for NMFS at that point that we're identifying we're saying this is the alternative that we proposed to go forward with the way the NEPA process works, we're saying subject only to consideration of new issues or additional comments that have not been received. Now we're putting out this draft EIS, flagging all these issues, many of which are unresolved or there is I think there is varying degrees they are not of equal significance. But the next iteration of this will be hopefully a final EIS, if this large number of issues still unresolved, the risk is that we end up having to extend this NEPA process or extend negotiations. And it is certainly our hope that does not occur so we're really focusing on this step in the process, the review of the draft EIS as probably the best opportunity to get as much resolution as we possibly can. And then kind of step back and see where we are, reconvene the parties, because this is a negotiation. But if we need to put something further out for public review, we would have to make that judgment call at that time.

Presentation Part III

Rod Woodin: Another question Bob. One of your issues was coordination with Fish and Wildlife Service. Will that be timed such that consultation or whatever happens has to happen under the time frame to include bull trout?

Bob Dach: Yes. I don't know, we have been talking with Fish and Wildlife Service and we have offered them some plans to do this and they're busy trying to figure out how to proceed. So not knowing exactly how we are going to move forward with bull trout, I'm not entirely sure how to answer your question. We recognize that the intent is to incorporate it and include it; ideally we would include bull trout in the biological opinion that we are going to do. And so we get covered. I'm going to work it in up here, and if I haven't answered it by the end of Section III, you can ask it again.

Question: For non-listed species, I assume that your authority is under Section 18 of the Federal Power Act.....?

Bob Dach: Yeah, what we get into in the DEIS a little bit is what we would do for unlisted species and what we would do to pursue our management authority, if you will, through the other avenues that are available at our disposal. The key one being the Federal Power Act. So Section 18, 10a, 10j of the Federal Power Act. Again, we have a lot of other, these little authorities, but none with the teeth of the Endangered Species Act and the Federal Power Act.

Question: you talked about time lines..... could you talk about the interactions occurring between NMFS and/or FERC and Fish and Wildlife Service over bull trout.

Bob Dach: My last discussions with Fish and Wildlife Service..... You might be able to address this a little better Mark {Miller}, but I'll take a stab at it. Fish and Wildlife Service isn't entirely sure how they want to address bull trout. The recommendation that I offered was that we draft a joint biological opinion. So after we select our preferred alternative, when we're developing the biological opinion on that we also evaluate its effects on bull trout at the same time. So we'll have a joint biological opinion, or concurrent biological opinion, and then for issues specific to bull trout that came up during the biological opinion, we would incorporate that back or at least identify they were going to need to be addressed in the HCPs. So, for instance, the one that has me the most concerned is that the U.S. Fish and Wildlife Service is saying that we don't have enough information to do anything for 50 years. So being that the case, we would incorporate that information into our biological opinions, and working through it in my mind there is some sort of off-ramp if necessary to address the effects on bull trout. And that incorporated into the..... potentially incorporated into the HCPs.

Question: The actions under the proposed alternative with regard to bull trout are actions that would have.....

Bob Dach: a negative effect.

Question: They would have a negative effect?

Bob Dach: That's correct.

Question: Has Fish and Wildlife Service made any determination or made any recommendations with regard to the HCPs under NEPA concerning bull trout?

Bob Dach: I haven't talked to them about that issue. Well they don't have to do NEPA because it's not their action, it's our action. And we could in essence use the NEPA process that we have already developed to satisfy any of that sort of requirement. The biggest issue here is their biological opinion regarding the effects of implementation of the HCPs on listed species. And if they're not going to be able to say without a doubt that, they might be able to but what they've told me is that they are not going to be able to for instance give a No Surprises guarantee for the effects on bull trout for 50 years.

Brett Joseph: And since it is a biological opinion through Section 7, theoretically we could reinitiate consultation if we found something out down the road that could negatively impact bull trout.

Bob Dach: Right. And they would reinitiate consultation with us. And there are some provisions in the HCPs that I think we can underscore to make sure how they can be used. One of the provisions is that if there is a regulatory requirement that requires a modification of the HCPs then that may, there are some steps that can be taken at that point to adjust or modify the HCPs. There are some provisions in the HCPs now that I think we can explore which we have to figure out how we can use. One of the provisions is that if there is a regulatory requirement that requires a modification to the HCPs, then that may, I mean there are some issues, so there are some steps that can be taken at that point to adjust or modify the HCPs. And it may be that it makes the HCPs no longer a viable product to move forward and be adopted.

Question: Whatever the preferred alternative that you come up with, including the HCPs, then you have to consult with the Fish and Wildlife Service?

Bob Dach: That's correct. On the issuance of the permit, but see remember that we also have to consult with them on this issuance of the permit. So ideally we would consult with NMFS and Fish and Wildlife Service at the same time.

Question: So is Fish and Wildlife Service aware and prepared for that consultation?

Bob Dach: No, and I started this conversation out by saying that's what I put on the table. That's the way that I think we can handle it most easily. Meaning that we can look at the effects specifically, one of the other options would be to make bull trout one of the permit species and prepare conservation for them. But I'm thinking that that's probably not going to happen. So, what we have to do is look at the HCPs, see what the effect is on bull trout, see if they have to be modified at all to address the potential effects on bull trout. If they do, we go back to the utilities..... and say that the ESA process has shown that we have to make these sorts of modifications in order to address the effects on bull trout but we still have a program.

Comment: To get a little more specific, in the ESA consultation for bull trout there are no guarantees for the time frame of that consultation.

Bob Dach: That's why I want to do a joint consultation, so that I have a little bit of control over how long it's going to take.

Question: How long do you think it would take, it could take five years to get a biological opinion?

Bob Dach: Not legally. Anything could happen; I mean yeah you're right we could never figure out what would happen with bull trout. We could never produce a biological opinion on the HCPs. We're still trying to produce a biological opinion on the HCPs, they're consulting with us over steelhead and the HCPs. So it's not beyond the realm of reason that it will take us longer than that schedule shows.

Brett Joseph: I think that the issue currently under interagency discussion between the Services is just a matter of how the process of consultation on bull trout should be initiated. Obviously, the biological expertise on bull trout resides with the Service, yet we are the action agency for the purposes of this consultation. So it's kind of, it's not an atypical situation where prior to the formal initiation of consultation, you would use informal consultation to develop the body of the information that would be needed for us, actually in this case Fish and Wildlife to formulate a biological opinion. NMFS is not saying we have no responsibility there, but we're saying we coordinate on a lot of consultations given our dual responsibilities under the ESA and it sure should be no different here. But it is an inefficient allocation of resources just to wait....

Steve Hays: You would have had to have consulted with the Fish and Wildlife Service over the 2000 biological opinion for the federal system.

Bob Dach: No. It's a different deal because it's not our action, the federal system is not our action. The federal system is Bonneville Power, Corps of Engineers, and Bureau of Reclamation. So they have to deal with U.S. Fish and Wildlife independently.

Steve Hays: So did they consult independently?

Bob Dach: Well, they did but it was sort of a joint, there were two separate biological opinions done. One for anadromous species and one for bull trout at the same time.

Steve Hays: So then were they able to pull that off successfully?

Bob Dach: They were. To us that's the second best. The first best is to do one biological opinion. The second best is to do concurrent joint biological opinions. The third best is to go on about different and merry ways. I guess I'm a firm believer in that most people outside the federal government don't understand that there is a difference between the U.S. Fish and Wildlife Service and National Marine Fisheries Service. So what it ends up looking like is that the government is just running around in circles, they're arguing, they can't make a decision, all of these bad nasty government stereotypes. That's how you get this.

- Steve Hays: I guess my point is that that's a far more wide reaching decision that was successfully dealt with.
- Bob Dach: Yeah, I don't have a concern that we can deal with this. The problem is that under the federal biological opinion remember that's all been done under Section 7. Section 7 says that with new information, change course again. Under the HCPs, with new information we don't change course, per se. We change course but it all has to be done under the framework of the HCPs. So Section 7 is a little bit more flexible with regard to the species, at least from the standpoint of FERC, than we would have under the HCPs. So it may be a little harder to work out the subtleties. Again, what it might mean is that in five years the Fish and Wildlife Service has a bunch more information on bull trout and they request reinitiating consultation. In which case we would have to do that, and if the Service holds our feet to the fire and we're stuck in this quagmire of violating, National Marine Fisheries Service violating the Endangered Species Act with regard to bull trout on the one hand because we're in agreement with the utilities and a bunch of other parties for the long-term protection of anadromous species on the other hand. That's a situation that would be untenable for us. So we need to make sure that it's clear what's going to happen with bull trout with regard to the HCPs. I think we can work it out, talking with Fish and Wildlife Service I'm optimistic that we can work something out.
- Brett Joseph: I just want to suggest a couple of things, in the interest of time. First of all, we have a small tape recorder here, so I would like to encourage everyone to speak up with comments because we're sort of hoping for a transcript or a summary of comments received. And also there are a lot of issues that end up becoming questions and I don't want to create the expectation that we are going to resolve all the issues here. Mainly our objective for today is to receive the public comments. It sounds bureaucratic, but we want to get the comments of the record to clarify if we can, but we don't want to spend a lot of time debating the issues.
- Steve Hays: Just another question on something that I was a little unclear of. On a federal action, NMFS action is the incidental take permit, is that correct?
- Bob Dach: Right.
- Steve Hays: OK, so when you were referring in your earlier slide that you were going to Section 7 consultation over the preferred alternative, you had in your mind that that was the incidental take permit.
- Brett Joseph: Right.
- Bob Dach: Well.....
- Steve Hays: You don't do a consultation on selecting a preferred alternative under NEPA. You do a consultation when you actually decide to issue the permit. Is that correct?
- Brett Joseph: Right, that's the point where the proposal that we are receiving, in the permit application, the NEPA process is triggered by the fact that we have received an incidental take permit application from the PUDs. At the point where we decide that our proposal is to issue

that permit, we've identified this as our preferred alternative, subject to the completion of the NEPA process.

Steve Hays: I just wanted to make sure that there wasn't another consultation, that I wasn't....

Bob Dach: No.

Steve Hays: There is no in-between consultation?

Bob Dach: Right. What made it a little clearer if we had done this a different way. Correct me if I'm wrong, but I believe that you could have submitted to us, not only your HCP but an environmental document, an environmental ...as well. And then that could have sufficed for a completed Section 10 application that we would then do a biological opinion on. It would require NEPA on top of that as well, but it would be a little clearer, and you saw what we were doing our opinion on. In essence what it does is mushes them together and to answer your question, no there's not some hidden biological opinion on the issuance of the permit, which would only occur if that were the selected approach.

Bob Dach: Before everyone goes, there is a public meeting tonight, another public meeting. I want to know how we did on time, whether we lost anybody, whether there are things we should change for tonight. If anybody has any suggestions, to make me even clearer. Because you all have a background in this, so folks will come in tonight, if you guys didn't have a background could you follow me?

Answer: It was clear.

Brett Joseph: Were there any other comments?

Bob Dach: My facial read says that there are no other comments.

7:00 p.m. Meeting Attendees

Bob Dach	National Marine Fisheries Service	525 NE Oregon St Ste 500, Portland, OR 97232-2737
Bryan Nordlund	National Marine Fisheries Service	525 NE Oregon St Ste 500, Portland, OR 97232-2737
Jim Hastreiter	Federal Energy Regulatory Com.	101 SW Main St #920, Portland, OR 97204
Merrill Hathaway	Federal Energy Regulatory Com.	888 1st St NE, GC-11, Washington, DC 20426
Bob Clubb	Douglas County PUD	1151 Valley Mall Pkwy, E. Wenatchee, WA
Steve Hays	Chelan County PUD	PO Box 1231, Wenatchee, WA 98807-1231
Rod Woodin	WDFW	600 Capitol Way N. Olympia, WA
Shane Bickford	Douglas County PUD	1151 Valley Mall Pkwy, E. Wenatchee, WA
Bob Sullivan	Parametrix, Inc.	5808 Lake Wash. Blvd NE, Kirkland, WA 98033
Pam Gunther	Parametrix, Inc.	5808 Lake Wash. Blvd NE, Kirkland, WA 98033
Malcolm McLellum	Chelan PUD Attorney	821 Second Ave. Suite 2000 Seattle, WA
David Poirier	Lockwood Canaday Irrigation Co.	2474 W. Malaga Rd.
Larry Gordon		531 33rd NW
Svend Westlund		107 N. Lyle Ave.
Elisabeth Westlund		107 N. Lyle Ave.
George Krakowka		2409 #2, Cyn Rd.
Steve Lachowicz	Chelan County PUD	327 N. Wenatchee Ave.
Lonnie DeCamp		2000 Skyline Dr.
Frasier Strutzel	Monitor Community Council	PO Box 259, Monitor, WA
Tom Clark		555 Antoine Ck Rd, Chelan
Dale Helbig		
L.V. Breckenridge		1380 Eastmont #102, E. Wenatchee, WA
Karin Whitehall		Box 476 Entiat, WA
Arnold Asmussen		Box 1, WA 98830
Lonnie Murphy		1400 N. Anne, E. Wenatchee, WA 98802
Whitey Excubus		City of Rock Island
Mike Doneen		602 Daniels Dr. E. Wenatchee, WA
Jim Davis		1195 Road 1 NE, Coulee City, WA
Glen Klock		2113 Sunrise Circle, Wenatchee, WA
Jack W. Keller		319 So. Chelan St, Wenatchee, WA

Introduction

Bob Dach: We are tape recording the meeting tonight so we can get everyone's comments down so we know what they were. I would help us out if when you made a comment you sort of gave us your name, so we know who to respond to. And either come up to the table and we can get you on the tape recorder, or just yell really loudly. But just to let you know that we are taping for the purpose of making sure that we get comments accurately. We had mostly agency folks here today so I would sort of like to get a feel for who is here

tonight. It sort of helps me out to see who is interested in it, who we're going to be getting comments from and that sort of thing. My name is Bob Dach. I'm with the National Marine Fisheries Service. I'm the one with NMFS that is responsible for doing both the environmental review, the Endangered Species Act review of the proposed Habitat Conservation Plans. So that's who I am and what I'm here for. So maybe Merrill you can just let folks know why you're here.

Merrill Hathaway: I'm Merrill Hathaway with the Federal Energy Regulatory Commission. We license or approve the licensing of the mid-Columbia projects.

Jim Hastreiter: I'm Jim Hastreiter. I'm also with the Federal Energy Regulatory Commission. I just want to mention that we're a cooperating agency with National Marine Fisheries Service on this environmental impact statement.

Brian Nordlund: I'm Brian Nordlund with the National Marine Fisheries Service.

Shane Bickford: Shane Bickford, Douglas PUD.

Karin Whitehall: Karin Whitehall.

Arnold Asmussen: I'm Arnold Asmussen, and I'm here because I have a high distrust of National Marine Fisheries Service, and I question their agenda, and I question their science, and I question the way they run this country like a dictatorship without votes on the things that control our lives from one end to the other. I would like to hear some form of reality in this meeting, and that's why I'm here, I kind of doubt it.

Bob Dach: Well, I'll give you what I know of the issues and leave it to the decision on your own on that one. But I'll try to answer questions you have.

Arnold Asmussen: In general National Marine Fishery agents claim to just be following orders, but collectively they're ruining our country. And I'm not a radical; I'm a typical farmer, rancher, and businessman. So that's what you're trying to explain to, if you'd be a little careful and try to explain the things that don't make much sense.

Bob Dach: Point them out and.....

Arnold Asmussen: I'll do my best.

Bob Dach: I don't want to defend this too much but point them out when I come across something.

Frasier Strutzel: I'm Frasier Strutzel. I represent the Monitor Community Council, and I've also spent the better part of five years or six years on the Wenatchee River Watershed Study. And my view is in line with the bumper sticker on my car out there that says "Save a salmon, plug a bureaucrat."

Bob Dach: Man, I'm going to have a hard time with this crowd.

- Comment: Well, I kind of agree with what these guys are saying. I'm just a concerned citizen. I've grown up and lived on this side of the state for sixty years and I grew up on Whidbey Island and I'm a sportsman, fisherman all those years, and I've seen the incompetence of the National Marine Fisheries since they've come to being and the fishing has continually gone downhill and poor management that has continued to go disastrous up in Alaska also, other than Canada that has an aggressive plan to fix the situation. I don't think you guys are doing a very good job.
- Comment: I'm like this fellow, I came down here as an interested party. About two years ago, we were down in Railroad Springs, California, and this big vineyard down there, hundreds of acres, all dead, no water. I was talking to the residents that live down there and they just ran out of water and they just died. The race track grass is all gone, the vineyards are gone, so that's why I'm interested. I don't like to see these fellows who talk about taking our dam out. We need that water.
- Rod Woodin: I'm Rod Woodin with the State of Washington Fish and Wildlife. I'm here to track your public review process.
- Steve Hays: I'm Steve Hays with Chelan County PUD one of the original negotiators of the Habitat Conservation Plan for Rocky Reach and Rock Island. It's our application to National Marine Fisheries Service that the proposed plan for tonight is to review the draft environmental impact statement, and Bob will be explaining the differences between our application and some of the other processes.
- Bob Clubb: I'm Bob Clubb, Douglas County PUD, and I was one of negotiators for the HCP. And we represent Wells Project which is the top end of the system. The last dam that passes anadromous fish.
- George Krakowka: I'm George Krakowka, concerned citizen. Do we get a chance to talk later?
- Bob Dach: Sure.
- George Krakowka: OK. That's all I'm going to say now.
- Dave Poirier: My name is Dave Poirier representing Lockwood Canaday Irrigation Company.
- Whitey Excubus: I'm Wade Excubus, mayor of the city of Rock Island.
- Tom Clark: I'm Tom Clark. I'm a public advocate and promoter of salmon recovery.
- Steve Lachowicz: I'm Steve Lachowicz. I'm with Chelan County PUD Relicensing Team, a project that will be impacted by decisions that are made on the Habitat Conservation Plan.
- Lonnie DeCamp: I'm Lonnie DeCamp. I live in Chelan County.
- Lonnie Murphy: I'm Lonnie Murphy and at present I work for Chelan County PUD. Part of the year I also work for the Forest Service in this area and I'm here tonight basically at my own

personal will because I'm interested in what your findings are and seeing if they correlate with what happens.

Svend Westlund: I'm Svend Westlund. Just a curious Douglas County resident.

Elisabeth Westlund: Elisabeth Westlund, I just want to learn more about what's going on.

Pam Gunter: I'm Pam Gunter with Parametrix and we're helping to do the NEPA process and I was hoping that anyone who hasn't signed in can do so.

Bob Sullivan: I'm Bob Sullivan, also with Parametrix.

Bob Dach: Thanks, like I said, I like to know who my audience is.

Presentation Part I

Arnold Asmussen: Why don't you have a part in there [comprehensive strategy for dealing with ESA listed fish species] about working with the public, do you have no desire to do that?

Bob Dach: We do.

Arnold Asmussen: It wasn't listed on the slide.

Bob Dach: I probably should have. For instance, this forum, the whole NEPA process, and I'll get into it a little bit further in the presentation. But the whole reason behind it is such that we can get all the information that we don't have down on paper, and get it out to everybody, the general public, agency decision makers, anybody that's interested. And get their feedback and comment. And we actually have a couple of very specific steps in the process to insure that we are soliciting public comment. Then we go through a process by addressing those comments.

Arnold Asmussen: OK, excuse me I guess I misunderstood. I just thought that if your reason for existence is to serve the public you would list it.

Bob Dach: OK.

Arnold Asmussen: I have a question and I don't want you to think I'm here just to agitate you. I really have an interest in this whole process.

Bob Dach: That's OK.

Arnold Asmussen: Looking at Section 10, does that cover private parties, such as people wanting to drive their boats or have things to do on the Wells Pool?

Bob Dach: Right. If your action is prohibited under the Endangered Species Act, if it's actually going to result in the take of the species.

Arnold Asmussen: That's a pretty broad thing, does this take include to harass?

Bob Dach: Yeah, it could be.

Arnold Asmussen: to look at, and are boats going to be included in that do you know? Or who makes that decision?

Bob Dach: I don't know how to answer that question specifically, you know.

Arnold Asmussen: Because it's really broad. There is business interests I'm sure up and down the river that would like an answer to that.

Bob Dach: Right.

Arnold Asmussen: And I don't think that the boats bother them that much.

Bob Dach: Whether or not specific actions need to have an incidental take permit, I don't know. I don't know, as you say, the definition of take is pretty broad.

Arnold Asmussen: So you're developing federal law to the conditions?

Bob Dach: Well, we're not really developing federal law in this case. What we're doing is evaluating the action of permitting the take that results simply from operating the power plants. So we're not looking at

Arnold Asmussen: So, you're just looking at the power plants tonight, in this session? It's confusing.

Bob Dach: Yeah. No. The action that is in essence on the table to us is the action of continuing to operate the power plants.

Arnold Asmussen: And the power plants somewhat license the pool behind them, and control what activities take place on each pool?

Bob Dach: I don't know that, in either case, we're not looking at indirect activities that are related, for instance, to recreation on the pools. We're looking specifically at operation of the projects themselves and the effect that operations of the projects have on these fish. So we're not looking at boating, or fishing or anything like that on the pools themselves. Only, in essence, the fact that the dams are there and generating power, and that will go on.

Arnold Asmussen: I'll reserve those specific questions until I.....

Bob Dach: And then again, I got into it a little earlier; this is a coordinating proceeding.

Presentation Part II

Bob Dach: the allocation of unavoidable mortality is not transferable. Why that's in there is specifically to show that if, say you're only getting 89% total project survival, you wouldn't make up the difference by increasing the number of hatchery fish you put in the water.

Arnold Asmussen: Why?

Bob Dach: The hatchery fish themselves don't lead back to the..... in essence the original listing issue. Which the example I used was the 359 redds on the Wenatchee.

Arnold Asmussen: I'm sorry, I'm a little dense on this one. First of all, I have a question. As I drive to Portland about five times a year, I see hundreds of nets. How are you going to get the fish past the nets to the dams....

Bob Dach: The way I can answer it is that they go through a similar process to determine how many fish they can actually keep. So we have a take that is associated with activity then there is a certain level of take that is allowed. They get to.....

Arnold Asmussen: Who decides it?

Bob Dach: National Marine Fisheries Service.

Arnold Asmussen: That's important, that's why I'm here. You guys are not doing a good job. When they first, when the nets, when they first gave the treaties the Indians caught their fish with nets and spearing. Now if they do that again, they can have all the fish they want.

Question: Do you know the current success rate? I think Wells Dam is one of the safer dams on the river for fish. Do you know what percent of juveniles currently pass through Wells to survive the nitrogen loads?

Bob Dach: The survival level that we have for Wells from evaluations that they have been doing for the last three years show, I want to say for juveniles and this includes the pool, Shane can address this as well because he is the one that is actually conducting the studies. But we're looking at right about 95 percent pool and dam passage survival. The adults, we haven't really, this will come up later, but we haven't figured out how to measure survival in adults yet.

Arnold Asmussen: But they might be doing a little better because.....

Bob Dach: The thought process is that adults are doing better. Yeah. We just don't know how to measure it. But we have measured juvenile dam and pool for a couple of species, juvenile steelhead and yearling chinook. And they're coming out right about 95 percent.

Bob Clubb: Actually the average for the three years is a little better than 96 percent.

Arnold Asmussen: So the best dam on the river is just right on the border of that number.

Bob Dach: This number here, juvenile dam passage survival, is a little bit different than pool and dam passage survival and that's what the Wells studies represent. This 95 percent is just, in essence, through the forebay, dam, and tailrace. The information that we have generated at Wells also includes a significant component in the Wells pool. So the thought process was that between the Wells pool and the Wells dam that survival would

be, it had to be about 93 percent and they're getting 96 percent so they're beating it by about 3 percent. At least for those fish that were tested.

Arnold Asmussen: So you're saying that if you can get 91 percent survival of the smolts heading down the river, you talked about getting them back to recover the species, or are you just talking about getting them out to the ocean?

Bob Dach: The 91 percent number is the number that includes the mortality associated for all of the smolts going out and the adults coming back up. So the combination of all the associated mortality has to be less than 91 percent, less than 90 percent.

Arnold Asmussen: Well then, I want to call your attention.....

Rod Woodin: Just that one dam.

Arnold Asmussen: Just for one dam?

Bob Dach: For one dam, right.

Question: What should be done about the island down there with all those gulls that are.....?

Arnold Asmussen: I was just going to bring that up. Rice Island, are you familiar with that? Forty miles from the mouth, there's 8,000 pairs of nesting Caspian terns down there and they eat between 10 and 20 percent of the salmon migrating past the island. That is not a guess; that is tracking salmon with rice grain sized tags. Thousands of these tiny tags end up consumed, digested, and deposited on the sand of the island. Ten to 20 percent of our salmon we're losing down there, yet nothing's been done about it by the National Marine Fisheries Service and I was just wondering if you just don't care about those 10 to 20 percent,

Bob Dach: Well.....

Arnold Asmussen: Only here at the dams.

Bryan Nordlund: I could actually talk to that a little bit because I work directly with the biologists that worked on that project. There was an attempt that was successful to modify the habitat so that the terns don't nest as readily on Rice Island. That was done in recent years. I guess maybe not so surprisingly there were some groups that were offended by that action. They felt that impacts on arctic terns were not any more tolerable than impacts.....

Arnold Asmussen: So those groups were adhered to, and the terns are still there eating 10 to 20 percent of the salmon?

Bryan Nordlund: They actually, what has happened is the terns a lot of them have relocated off of Rice Island now. They're not in as big of colonies as they used to be.

Arnold Asmussen: I mean those groups overrode the idea of shooting the birds to protect the salmon.

Bryan Nordlund: They had some additional modification planned and there was a court injunction that stopped us from doing any additional habitat modifications because of impacts on migratory birds.

Question: What's the percentage that we're losing there?

Arnold Asmussen: Ten to 20 percent.

Comment: I had a follow up to my question. You said that you decide, U.S. Fish and Wildlife, whatever, National Marine Fisheries Service, decides how many fish they can take out of the river with their nets.

Bob Dach: We have a, we have the, we decide, yeah, we decide. It's not quite that simple. As you can imagine there are a number of interested parties that all have a position, that all gets weighed in any decision that's made. We'll make the final call of that take permit issue. So that we don't do it in a box, so I don't want to imply that. We might not make the right decision, but we at least get a lot of input.

Bryan Nordlund: Keep in mind too.....

Comment: You make that decision each year? When you talk about this, they've been in the river for years now and we even less and fewer and fewer salmon.

Bob Dach: We evaluate the decision annually. So the decisions are.....

Question: So, have you ever published how many fish you allow them to catch?

Bob Dach: Yeah. The percentage of fish allotted to, and again it's the percentage of fish allotted to the Tribes, as it relates to our concern that indirectly they would be taking a lot of wild fish that should be up on the Wenatchee spawning. So they can catch a lot of fish, but their component of the population that's the wild population is really the one that we're concerned with.

Bryan Nordlund: Also you have to keep in mind that Bob and myself are, we're particular to the hydro portion of NMFS, there's other divisions that do sustainable fisheries, is the action you're talking about now. And the Rice Island issue was a habitat issue that our habitat division is handling. We can talk to it but that's not really what we're here for tonight. I mean we're, I mean I would be glad to.....

Arnold Asmussen: I have one more thing I would like to cover and that is I think the reason we're all here is because somebody in the National Marine Fisheries Service had determined that there is a difference between wild salmon and hatchery salmon when DNA testing has shown there is hardly any, if any. But to have a person working out of your office in Seattle, Robin Waples, a senior scientist of National Marine Fisheries Service said he is in favor of getting more data for DNA, but doubts his agency's conclusions will change. In other words, he is going to ignore science, he's a scientist hired by the government and tax payer dollars to evaluate science and implement it, but he's saying he's going to ignore it

Steve Hays: Bob, I would just like to mention that, I don't remember the date, but a local group is having Dr. Waples and a geneticist speak here in Wenatchee, as well as a neutral geneticist as well.

Bob Clubb: March 20th.

Steve Hays: March 20th, so you'll have a chance to ask that question...

Bob Clubb: It's at the Red Lion, I think at 7 o'clock.

Shane Bickford: There is also a meeting in the Methow on the 21st, the same group.

Arnold Asmussen: To finish my point, sometime in the last million years two chinook salmon swam up the Columbia River and now we have some biologists who have determined that that is now over 300 separate distinct species that are the offspring of these salmon.

Bob Dach: Stocks.

Arnold Asmussen: Do you know how many total stocks they've determined.

Bob Dach: No, I don't know how many separate stocks there are.

Arnold Asmussen: But I, if we, if these people keep going on they'll take every little creek off the side of the Wenatchee River and they'll have a spring, summer and distinct species for the spring run, summer run, and fall run for each little tributary whether it has any water in it or not. I mean, these people are creating species like some people pass gas. If it weren't for these people being able to declare that these salmon are genetically different, which the DNA doesn't support, we wouldn't be here. The hatcheries would be putting out the salmon that we need. And one more point I'd like to make, here's a top Canadian fisheries biologist named David Welch, and he..... this ocean theory, by telling about the pristine, undammed, Keogh River in British Columbia. Where the coho run has dropped 90 percent. There are no dams on this river but the coho run is down 90 percent since 1970.

Comment: The same goes for the Olympic Peninsula, there's no dams on it, the same goes for Alaska. There are no dams on those pristine rivers at all.

Arnold Asmussen: We're here over some fantasy that some biologist has that we've got these different genetic, and they all started with two salmon hatching. That's why we're here.

Comment: Did you ever hear the word overharvesting..... They're the ones that control that.

Bob Dach: I'm not a good person to debate it with you. There are folks that know way more about it than I do. It would be great if they were here.

Arnold Asmussen: I'm afraid they don't work for the National Marine Fisheries Service. We wouldn't have this problem.

Bob Dach: I could just give you my opinion, I couldn't quote facts and data on it.

Steve Hays: Just a real quick note so we can put things into perspective here. National Marine Fisheries Service obviously has management responsibilities to manage the fishery, manage the habitat, and manage other stuff. But Bob's responsibility is to manage the hydro system actions through the FERC. He didn't write the law, of course there are congressmen out there to review the law. That's one point that you might take up. The other thing is that not even National Marine Fisheries Service is immune to lawsuits and the Rice Island incident they wished to be more aggressive to relocation than the Audubon Society and others allowed them to, and were prohibited by a court injunction. They also have proposed an initiative on a lower percent harvest on some of the fisheries and were successfully sued by an advocacy group. So I guess the whole mess is what comes around, goes around, comes around, so just keep that in mind too. Today though we are talking about the two local PUD's proposals to the National Marine Fisheries Service for a plan to maintain long-term operation and to relicense our hydro projects through a Section 10 process for which we could use more local input. And Bob's going to explain the difference between that and a Section 7 process, which is the federal to federal negotiations that occur for the federal projects which is another alternative that could be used in place of ours.

Comment: I just had one more comment. I know that we've kind of gotten out of focus on the hydro projects impacts, but I think everyone here probably realizes that they do have their...salmon passage and survival. I was wondering if you could clarify the 9 percent unavoidable mortality because that actually is more like potential mortality? I guess you're requiring them to meet 95 percent but yet allowing 9 percent?

Bob Dach: No. We're actually requiring that they meet this 91 percent, that's for a combination of juveniles and adults. So this 9 percent mitigates for that. The 95 percent is a sub-product of this, meaning that 95 percent, specifically of the juvenile population, and specifically at the concrete. So you could look at total juveniles need to be 93 percent, which allows 2 percent mortality per dam on adults, if you wanted to. There is some intent behind those numbers, but the number of importance is the 91 percent, and the 9 percent that we're mitigating for, but it's a combination of juveniles and adults.

Rod Woodin: Bob, you might also clarify that if the measures at the projects achieve greater than 91 percent survival, and it's documented, that the 7 percent hatchery production won't be reduced.

Bob Dach: Right.

Steve Hays: The reason that there is a separate number for at the concrete is because there's a lot more opportunities to do things to improve salmon survival at the dam than there is out in the reservoir, for example, where you have less ability to change things. So that's why they're separate numbers. There was a certain amount of effort that was negotiated as to what we would do at our dam in terms of operations and structures to prevent loss of fish, primarily through turbine passage. That, theoretically, you could only get so much

benefit through anything you might try in the reservoirs so it's an additional allowance for reservoirs and adults...

Comment: I have a question, Bob. This agreement, those numbers, apply specifically to each dam, Wells, Rocky Reach, so you're going to have 9 percent unavoidable mortality at each dam?

Bob Dach: Correct. Times nine if they have to go through nine dams.

Comment: Bob, I would just like to make sure people understand the point about the kind of money that each utility is paying for the habitat improvements over the 50-year life of the proposed plan. Do you have totals for each of the utilities and what that will amount to over 50 years?

Bob Dach: I do not.

Bob Clubb: About \$42 million.

Bob Dach: Do you know for Chelan?

Steve Hays: That's for both combined.

Bob Dach: Oh, that's combined?

Comment: \$42 million - that could buy a hell of a lot of fish downtown, couldn't it?

Comment: Buy a lot of commercial fishing boats too.

Arnold Asmussen: It could take the whole National Marine Fisheries Service out to dinner.

Bob Dach: Just pay us off and go home.

Comment: Then you'd have to find a job.

Comment: Withdrawing from the plan in 15 years for Chelan and 20 for Douglas. Is it going to be a process established for those two PUDs to approach the agencies to exit the plan?

Bob Dach: There is a process. Basically what it comes down to is that after 15 years, for example for Chelan, if after 15 years the species is continuing to decline then we, the resource agencies, have the option to opt out. There are some caveats in that, so there are some requirements that must be met. But the idea was, that to the best of our ability, we picked the wrong standards and the species are continuing to decline, or we have the right standards and they're still continuing to decline because the measures weren't appropriate, or something. We would have the option to back out of this process and then decide if something different needed to happen. The reality of the situation is that due to the flexibility that the proposal has in it, ideally if we weren't meeting the standards in 15 years, or the species were continuing to decline, there would be ample room inside of the framework to allow us to regroup mid-stream without having to back out of the

agreements. But again, it's in there as a last ditch effort because nobody, as you can appreciate in the federal government, likes to think that they can't make a decision for 50 years. So this is just in case.

Comment: Bob, another comment on the amount of money that Chelan and Douglas PUDs are agreeing to pay over 50 years, is it?

Bob Dach: Over the term of the permit.

Comment: \$46 million?

Bob Dach: Taken on good authority.

Comment: Chelan County PUD right now has allocated \$44 million for diesel generators that are being installed at Alcoa. The projection is for that \$44 million to be paid off in 5 months.

Bob Clubb: I would just like to say one thing, it was actually \$42 million for the Tributary Plan, which is just one component of the Habitat Conservation Plan. In addition to that, we produce 7 percent through the hatcheries. Douglas spends \$2 million a year on hatchery O&Ms, plus the initial capital contribution. And then there are things being done at the dams that cost millions and millions of dollars. Chelan PUD is proposing to have a surface bypass system, and it is going to cost \$168 million. So it's not a fair thing to speak of, that we are just paying \$42 million dollars over 50 years for the protection of the resource. You have to have all of these many items that we're doing, which are hundreds and hundreds of million of dollars over the course of this 50 years, not 42.

Bob Dach: I tend to just add to that, when you start talking about money you always get into those sorts of comparisons. The money, the dollar amount was certainly at the time considered to be adequate to cover that mitigation component. So it wasn't as though the utilities were trying to get away with as little as possible. It was that this is about the kind of money that was going to be required in order to do these improvements as a result of the tributary program. We could have asked for more money, but as we work our way through processes we like to be sure that whatever we're asking for, whatever we're going for, whatever our bottom line is, is pretty well seated in the available biological information. People will disagree with the available biological information, and that is one of the reasons that we do these public processes and take comments and do all that other stuff. We put the information we have on the table and people take shots at it. The stuff that we have, I think tends to support the dollar amounts. And again, conscious about the dollar amount itself, just in that, we want to make sure that we have an adequate programming. And I think the take-home point is that the utilities are prepared to ensure that they're funding adequately to take care of that component of the program. Is that reasonable?

Arnold Asmussen: Bob, you're saying that if the stock has continued to decline, or are you taking other factors such as weather, or drought, or anything like that into consideration? Or will it be strictly based on the dams.

Bob Dach: It's quite an involved process, and I don't even understand the ins and outs of the process, but what it does is, it looks at returns, if you will. It looks at the total life history of populations over the course of, I think from our prospective, you really need to look at over a course of about 15 years in order to get a reasonable, in essence, data point. Then you look at whether or not the line from today to 15 years, is moving in this direction or it's moving in this direction.

Arnold Asmussen: I grew up on the Wenatchee River. I've lived I've grown up on the river and I know we were in an extreme drought, except from three years, from 1969 clear up to the middle 80's and I know that it had a very bad impact on salmon In '87 U.S. Congress directed the U.S. Army Corps of Engineers to investigate causes of declining salmon runs. And this was 1887. You know, these things happen regardless of the dams. I wonder if you take in the weather conditions.

Bob Dach: Yeah. We're not, because this particular component of the puzzle being discussed here tonight, try not to misconstrue that as being the only thing that is being done, the phase of the recovery, to recover fish populations. It's really not the case. There are things being done everywhere.

Arnold Asmussen: I was nervous about it just being pinned on the dams themselves.

Bob Dach: Yeah, it comes across that way, the dams are big visible objects and we do a lot of big visible expensive work at dams. But I think that if you ask anyone they know that, if you ask somebody that is trying to irrigate crops out in the Methow, for instance. They know that they're not getting away with anything. And the tribes will tell you, if you sit, if I were to go to a tribal meeting, the tribes will tell you it used to be we used to go get, we used to have fish coming out of our ears. So, it's a very broad based multi-faceted issue.

Arnold Asmussen: But in 1887, without a dam on the river, congress took it upon themselves because of the severity of the situation, to direct the Corps of Engineers to.....

Bob Dach: Yeah, I think that weren't the conclusions of their report were..... I think they came to overfishing. They said all the big fish wheels down the lower Columbia had to go. From what I remember of the report.

Question: I'd like to say are there any documents put out by National Marine Fisheries Service that address all of these issues affecting salmon, so these people might get an overview?

Bob Dach: Yeah, there's a few. We have a thing we now call the all H paper. All of these are on our website, and our website is in that handout information I gave you. But there is a lot of information on species status reports, there's what we call the all H paper, which addresses, we used to call it the 4-H paper but I think somebody had a copyright on the 4-H's so we had to change it. It's hatcheries, habitat, harvest, and hydropower. So those were, in essence, the big four that we evaluated under this, what we call the all-H paper.

Arnold Asmussen: But weather is not included in those?

Bob Dach: Pardon me?

Arnold Asmussen: But weather is not included in those?

Bob Dach: Well weather comes into play.

Arnold Asmussen: In habitat?

Bob Dach: Yeah, weather comes into play in all of the analyses that you do. This is one of the reasons we say that you can't get one year of data and call that the answer. Because it doesn't take into consideration environmental variables, weather. So that's why you have such a long period of time before you know, that's why you have 12 or 15 years or 15 or 20 years before you know whether you've done good or bad. Because it takes a while to generate that kind of information. But you can't, as you know, say well this is the data point that we got this year but it was a dry year, so we're going to add a fudge factor of 14 percent. It just doesn't work that way.

Steve Hays: Your ocean factors are worked into the CRI.

Bryan Nordlund: CRI and QAR both.

Bob Dach: The CRI is actually now three papers, from what I remember. One of those has been published and two of them are on the way; they're on the website as well. And we have the cumulative, cumulative analytical report, quantitative that's it.

Steve Hays: So that's it?

Shane Bickford: QAR, CRI is the cumulative risk initiative.

Bob Dach: Thank you. But there is probably a hundred other models that other people have done as well. The one's that we have, that we rely upon, are on our website and have been published. And the last big analysis that we did, I think the best analysis that we have done so far, was the one just released in the federal biological opinion on the operation of the federal hydropower system. So BPA, Corps of Engineers, and Bureau of Reclamation, and I think there was 43 dams in that one, something along those lines. And they looked at everything. Bonneville Power out there is trying to fix habitat because they think that they are going to get more of a survival improvement in habitat than they are if they keep tinkering with the projects.

Steve Hays: The bottom line in that decision was the decision not to remove the Snake River dams because other indications were that there might be more losses occurring elsewhere. Is that correct?

Bob Dach: Well the bottom line was removing Snake River dams, in and of themselves, was not a guarantee that they were going to recover fish species. So the politics behind that, then why in the heck would you do it. So where NMFS was at was we don't necessarily know that we can save fish species without removing dams, but we'll work on it for a few years, we'll see if there's a way to keep the dams in place with a bunch of experimenting if there's any way we can recover these species leaving the dams in place. That, in essence, was the decision.

Bryan Nordlund: The other component of that too was you pick out four Snake River dams and it doesn't put any more fish in the Wenatchee River, for example. So that it's broader than just those dams. In looking at all these other habitat, harvest, and hatcheries used in addition to hydro it gives us a chance to try to put in a more comprehensive program together that will address recovery in all the different areas, not just in one particular area, which removing the dams would do.

Comment: When you talk about the species status in 20 years, are you talking about wild species or hatchery species?

Bob Dach: Under the Endangered Species Act, it would be naturally producing species of wild fish, not hatchery fish. Well, not hatchery fish per se. Some of the hatchery fish are covered as well. But we're looking at wild populations. Which is an issue because, you know, when you're talking, probably this year we'll have one of the biggest spring chinook runs we've ever had. It's just not associated with a big wild spring chinook run, unfortunately.

Frazier Strutzel: Excuse me. Bull trout use to be called Dolly Varden until

Bob Dach: Hey, that's Fish and Wildlife Service.

Frazier Strutzel: Until the biologists got hold of it. But we used to have a big run of silvers, silvers we called them, on Lake Wenatchee. Since the protection of bull trout has come into being now the Lake Wenatchee coho aren't there anymore. Isn't Article 3 of the Endangered Species Act concerned with controlling predators.

Bob Dach: I'd have to read Article 3, I don't know off the top of my head.

Frazier Strutzel: I think that either Article 3 or Article 4 says you look to control predation.

Bob Dach: It seems reasonable that's in there somewhere.

Frazier Strutzel: And bull trout is the worst predator in the world on immature salmon, that are an endangered species.

Bob Dach: So what do you do?

Frazier Strutzel: So why are we protecting them?

Bob Dach: So what do you do when one listed species is preying on another listed species?

Frazier Strutzel: Well, you shoot one of them, then you have the other.

Bob Dach: Save the one you like better, huh? Well that's what we worked, that's what we consult with U.S. Fish and Wildlife Service over. Because we have all these plans.....

Frazier Strutzel: It's contradictory.

Bob Dach: Yeah. We have these plans for, you know, the federal government believe it or not is not one big happy family either. The U.S. Fish and Wildlife Service has their species of

concern, we have our species of concern. When we get into this sort of deal, we sit down with those guys and hash it back and forth about what we're going to do for endangered fish.

Frazier Strutzel: So you duke it out?

Bob Dach: Yeah, that might be easier.

Karin Whitehall: I have a comment. If you think back a hundred years ago, 200 years ago, bull trout and salmon co-existed here, so to say that they are a voracious predator on salmon doesn't really make sense. They co-existed.

Arnold Asmussen: The silver runs in Lake Wenatchee are eliminated, and nobody's concerned about that. They are gone. You can't find any silvers in Lake Wenatchee, they've been eliminated.

Bob Dach: Well, you know, this is a, the issue I think that I hear you bringing up, is one of the reasons why Habitat Conservation Plans are appealing. Because it looks at all of the interrelated issues, it doesn't, it intentionally doesn't select one fish over another fish. It provides the program necessary in order to allow these fish to cohabitate. But I understand what you're saying.

Arnold Asmussen: Yeah, they're eliminated so that entire species is gone. You just can't find in Lake Wenatchee. We used to catch them, 20 or 30 at a time when I was a youth.

Shane Bickford: Isn't that part of the 9 percent? (Bob Dach said: The combination of effects [of all three dams] leads to an additional mortality that you won't see in the project area. These HCPs don't really address that. They do to a degree, it's just not completely clear how it's addressed.)

Bob Dach: No. The 9 percent is for fish that are moving through your project. Not the fish, not what happens to them when they get down to the estuary.

Shane Bickford: Unavoidable mortality doesn't take that into account?

Bob Dach: No.

Malcolm McLellum: But Bob, didn't you say before that it's 9 percent allowable take?

Bob Dach: Per dam, so nine times nine

Malcolm McLellum: Nine dams. So that's 81 percent loss.

Bob Dach: It doesn't really work like that, but.....

Malcolm McLellum: No it's not, I didn't finish, I wasn't allowed to finish. It's 81 percent if a 7 percent hatchery program is not working.

Bob Dach: It's even if the hatchery program was working, it still would be a significant component of the wild fish that was not..... So each one of these dams takes a piece, but the issue is a fish that survives through all three projects up here. Survives through the Wells project, the Rocky Reach project, and the Rock Island project. A component of those fish that survive through these projects may die later because of the trip through the system. In which case, there would be a burden on each one of the utilities for that cumulative effect on the species. Everybody takes a scale, fish can only lose so many scales before it dies. So there's.....

Malcolm McLellum: But that's a part of another program that says that the net cumulative effects are not addressed.

Bob Dach: Well we're trying, they're not addressed under the HCPs. So we're, it's an issue that's been identified.

Question: One of the objectives of the Endangered Species Act is to recovery species and to delist them. Right?

Bob Dach: Right.

Question: So what would happen in the event that you saw a delisting of affected species before the 50-year tenure of the agreement was up?

Bob Dach: That's a good question. I don't know what would happen.

Question: There wouldn't be any need for the HCPs?

Arnold Asmussen: You would have to create a new species and declare it endangered.

Bob Dach: Yeah, something would have to get endangered.

Bob Clubb: Well it's more than just endangered species.

Steve Hays: Yeah, the PUDs are proposing to amend their FERC licenses with these plans, so even in the event that these species were delisted and there would be no longer a need for a Section 10 permit. But all the actions taken to preserve and protect those species would have become part of the FERC license, that would remain in effect until the licenses were amended, or until the license term ended and another federal license was issued. So that, the answer to your question is, if these are approved and become part of the license, then it becomes part of FERC's responsibility to make sure that it continues to be implemented, even though the need for a Section 10 permit will go away, if the species were actually delisted.

Bob Clubb: And I think the original intent of the HCP was to provide measures that prevented the necessity for the occurrence of listings.

Bob Dach: Yeah. It wouldn't behoove anybody to just all of a sudden say OK we're done. So, although I wouldn't want to commit the utilities in, like I said it wouldn't seem prudent to

stop doing anything that they had been doing that's resulted in recovering the species. It would be, we would drink a beer over it, I'm sure.

Comment: I'll buy it for you.

Steve Hays: I expect to be pushing up daisies before they're delisted.

Bryan Nordlund: It would take all the fun out of public meetings too, if we're not doing anything right and the species were actually recovering.

End of Presentation

Bob Dach: I can answer any questions, or I can try to.....

Arnold Asmussen: Yes, I have a question.

Bob Dach: Make it something that I didn't address.

Arnold Asmussen: Well, I'd like to give my name and have a written response from NMFS on this one.

Pam Gunther: Well, you know, at this point I would appreciate it if you could come to the microphone so that we can be sure that we have exactly what you say, and state your name first. It's to your advantage.

Arnold Asmussen: My name is Arnold Asmussen, and do you need the address?

Pam Gunther: No, I have it.

Arnold Asmussen: I'd like to make an observation. Back in 1997 when this started, and I'll be a brief as I can, I sat in a meeting up in, I believe it was Twisp, and I asked why a federal agency, such as NMFS that had federal authority, and in my opinion and that of others should be protecting citizens rights from the outside interests, outside of the United States. In the context of federal authority, therefore federal responsibility, I questioned the Indian fishing which consider themselves, depending on what day it is, consider themselves an independent nation and the offshore fishing, outside of our waters, or in our waters by other nations. And those things seem to be the last things that have been addressed, or effectively addressed. And the first thing that our federal agency did was to start taking away private citizens' water rights and property rights. Which is the easiest thing and took the least amount of will and resolve of the National Marine Fisheries Service to do. But it was the first thing that they effectively did, was to take things away from our citizens, while they allowed citizens of other nations to go ahead. Now they lodged protests and they did things to try to curtail it, but effectively no. The Okanogan has a tributary 2 percent of the problem and the terns, I think it's been well documented 10 to 20 percent, perhaps less now are an unprotected species. Is that correct?

Bryan Nordlund: They're protected by the migratory birds or.....

Arnold Asmussen: Well, all animals should be protected. I'm not an anti-naturalist, I believe I want our area to stay nice. But those terns are not an endangered species. And I don't believe they're threatened. They're living on an unnatural island and a small group, I don't know how small..... perhaps large on the internet, got together and decided to protect those birds that are taking 10 to 20 percent of the fish. Now, it has to sting a little bit for the National Marine Fisheries to say well we have to turn back because of that environmental group and not take care of that 10 or 20 percent issue, but we are going to go ahead, and there is a little group up in the Okanogan of citizens, farmers, ranchers, county commissioners, and even recently the Okanogan PUD voted to support the law suit against National Marine Fisheries with \$20,000. And that is being ignored. They're going to go ahead and take care of that 2 percent but they're ignoring the 10 to 20 percent of these birds that some environmental group decided to protect. I see that as completely wrong. It should be illegal. And my question is: Why are those terns getting more consideration than the Okanogan and the farmers and ranchers up there? When that's 2 percent and this is 10 to 20 percent. I'd like a written answer. Thank you.

Comment: I just want to say a little bit..... some of you here might not be aware of, but maybe a lot of you are. In the north Atlantic, they had huge numbers of fish for years, no dams, now there's practically no fish. They finally realized it was overfishing and they're trying to do something about it. The Fraser River never had a dam, huge numbers of salmon going up the Salmon River. I was up there, I came here 50 years ago, and I was up there and watched those salmon go up the Fraser River. Now there's none. No dams, no fish. Then south of China, in the islands south of China, there used to be a lot of fish and they finally admit there is too much fishing, there's practically no fish left from overfishing. Not Americans, by the way. And I think that we ought to extend our boundary line. It's only three miles out now, from what I gather. Does anybody agree with that? That our national boundary in the ocean is about three miles out.

Bob Dach: There is an economic exclusion zone, I think it's, I want to say it's 49 miles out.

Question: It is?

Bob Dach: But you could be right, I'm certainly not sure.

Comment: Well, I heard that Japan has 150 coming this way. I don't know if that's true or not, but you hear things like that. And, what is the problem then? It's overfishing, overfishing. Foreigners come in to our area; we're breeding salmon for them to catch. They have miles and miles of nets out there, sweeping the ocean clean of our salmon that we try to raise here. And that's what you're going to be doing, is putting some more salmon out for these people to catch. Then the terns have already been mentioned. Our wonderful government made an island out there when they dredged out the Columbia River and made a place for the terns, about 10,000 of them, eating the smolts going out to the ocean. Now that island, I think, ought to be shoved under water and let the terns go elsewhere. Even though they are an "endangered species" when there's 10,000 of them that's not very endangered. Well the Indians, of course when they first had the agreement in the early 1800s it was for sustenance, and the type of nets they had were hand-made and I don't know what they wove them out of, but they got enough fish for

sustenance. Now they claim there are over 700 nets. And somebody flew over and they counted, and said they counted 1,000 nets. Now I don't know how much of that is true or not, but that's what hit the paper. And they have modern nets. They can't be seen in the water, they're almost invisible. They're catching fish way beyond their sustenance because I know I went down the Columbia River each year now for a while for other reasons stopped in there and they were selling the fish for \$2 apiece. Now that isn't sustenance. That \$2 buys some other things, usually whiskey if I can use the expression. Anyway, that's enough for me to say. Thank you for listening. Any questions? Somebody must have a complaint about what I said.

Frasier Strutzel: I have some comments I would like to make. I'm Frazier Strutzel and I live at Monitor, Washington P.O. Box 259. But I had a real problem with the Endangered Species Act and the National Marine Fisheries Service enforcement of that. And that is the item I brought up before of the Article 3 or 4, whichever one deals with predation, and I see the National Marine Fisheries Service totally ignoring that. They're actually protecting predators. And I think until you enforce all the articles of the Endangered Species Act, and not the ones that serve your bureaucracy and to further your bureaucracy. I think everything you do should be ignored and I think it's a waste of tax dollars. And I personally will contact my senators and representatives and urge them to cut the National Marine Fisheries Services' budget. I think that's the only way you get an agency under control. If you're going to bring this Endangered Species Act out here and club us over the head, you know, I'm paying for all this every time I send in my power bill. I'm paying for all this crap that's going on. And until you folks start enforcing the entire Endangered Species Act, I think you ought to be ignored and your budget should be cut.

Bob Dach: I just thought I would ask. What do you think, for instance, the utility's proposal of this Habitat Conservation Plan?

Frasier Strutzel: How it's made me mad?

Bob Dach: Just what they're putting on the table. Endangered Species Act aside, what they're putting on the table to, in essence, enhance and recovery these species.

Frasier Strutzel: Do I have a problem with my PUD spending these millions of dollars to enhance salmon runs?

Bob Dach: Yeah.

Frasier Strutzel: Not really. No, I'm a conservationist, my family has been farming in Monitor since 1907, and we've done everything we can to enhance the wildlife in our orchard and in the surrounding hillsides of our orchards. Prime hillsides, and we do everything we can to support the wildlife and the bird populations. And we want to see fish in the rivers. I have no problem with money being spent wisely, but when I see it spent of nonsense, which this is, I have a problem with that. But actual money being spent on the turbines to lessen the kill of fish, that's a good one. I'd pay my share of that one anytime. But this bureaucratic nonsense that we're paying for, which this is, I have a problem with it

because you folks are only enforcing the portions of the Endangered Species Act which further your bureaucracy, that's my problem.

Bob Dach: So it's appealing, if I might paraphrase, to have, I guess what can be phrased certainly as a higher level of willful control over how the money is spent. It's not so much that you don't think there is a need there, it's that you think that it would be much more appropriately addressed if you had a little bit more hand in it.

Frazier Strutzel: What I think should happen is that we should get rid of the Caspian Terns with shotguns, if that's what it takes. That would make sense.

Bob Dach: I don't know if I'm allowed to comment.

Frazier Strutzel: I understand what you're saying, but we need to stop the high seas fishing. I have personal friends that fish on the high seas and they say when the nets are pulled in, and there is incidental kills of salmon, the observers onboard the ship turn their heads the other way. There's no count made of that at all. Those fish are uncounted. We actually had a salmon situation here where Rollie Smitten, who I grew up with, working together for salmon, water and people. Rollie Smitten was director or assistant administrator for the National Marine Fisheries Service. I grew up with Rollie, and he came and he said that the fish issue is not happening on the high seas, and I took issue with Rollie. I said I know for a fact that it is because I know guys out there on ships. And it is happening out there. But we're friends and everything but I took issue with him because I know people who are on those boats. And the observers are letting them get away with the incidental kill of salmon. They're pulling in huge, mile-long, miles and miles of nets and there's, one guy saw over 1,500 salmon kicked overboard one day on one ship. There is over 3,500 ships out there. That's not being addressed by you folks, you're here clubbing our dams over the head, you know. Because somebody has an agenda to try to remove our dams. And that's what's being pushed.

Bob Dach: Are there any more questions?

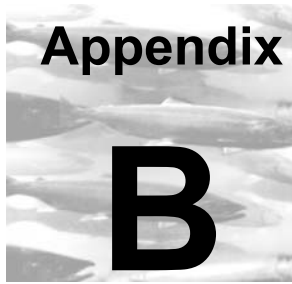
Steve Hays: Well, if nobody else, I would like to go over a few things. I work for the PUD here, you guys own me and if you don't like what I say you can fire me because I'm an at-will employee. I've given about 8 years, a better part of 8 years of my professional career as a biologist here at the PUD working on this plan. So I wanted to make sure that everybody understood exactly what Bob has been explaining here and what the issue is before us. And the real issue is that there are two alternatives out there for dealing with the Endangered Species Act responsibilities the PUD has through the FERC who has responsibilities, particularly in terms of relicensing the Rocky Reach project, for example, we have to deal with these issues. Because if we don't get it dealt with, FERC is the federal agency who has to deal with National Marine Fisheries Service over the Endangered Species Act. So the issue is, what is the best way to approach the problem. National Marine Fisheries Service can talk to FERC, federal agency to federal agency, and Bob went through at the end there the Section 7 process, which is a federal process whereby their action to grant a new license to Rocky Reach, say, is a federal action that requires consultation. National Marine Fisheries will come and consult with the PUD

and with FERC to try and work out a reasonable approach. But at the end of the day, their opinion is the judgment. The other option is the Section 10 permit, which would not just cover the two listed species, but would be a comprehensive package, hopefully with multiple signatories, not just the National Marine Fisheries Service and FERC but the Fish and Wildlife Service, the state Department of Fish and Wildlife and hopefully some tribes and even perhaps an environmental group. All with the combined commitment to make a process work, that they would take care of the ESA issues through a Section 10 permit. They actually have, at least when we all walked out of the room three years ago, felt that they could even give up some of their opinion-type authority and delegate it into the alternative dispute resolution. And allow the seeking of a third, impartial party to get it worked out. So those are the issues, which process do you citizens in this area feel is a better way to resolve a National Marine Fisheries Service mandate to protect these specific species. Regardless of whether they should be listed or not listed or they're not doing enough out there. We only have here at the PUD, control over those things that we can directly affect. We can't affect other than with our votes, we can't affect offshore harvest or something else. I can affect turbines at Rock Island Dam, I can affect turbine survival. That's the issues, is anyone unclear of what the issue is? If your going to comment on the draft environmental impact statement, the comments they're seeking are what alternative you think should be the preferred alternative, Section 7 or Section 10, and why. What do you like about it and what you don't like about it. What do you like about Section 10 or what you don't like about it. If you like the alternative dispute resolution, you would do them a service and us a service by making that comment. If you don't like it you won't do us a service, you'll do them a service by making that comment. And so forth.

Arnold Asmussen: I'd like to answer that directly. This is Arnold Asmussen, the guy with the previous question, I cannot speak for the Methow Basin Planning Unit, and in no way shape or form am I. But I have been involved with them, and we have been negotiating in a similar scenario with that little drainage that you're going through with the dams, and an HCP is on the table for us, as it will be for you. I think local input of any sort given to the PUDs and the ability of the citizens to come to speak to those decisions is good. Those processes appear to have been manipulated by the National Marine Fisheries in terms of timing and different things that they can do to achieve whatever objectives they have. And I'm not saying their objects are bad, we want salmon in the river, we want to see steelhead fishing back at Pateros, not just below Wells Dam and above Brewster, which is in the gap. But the Section 10 will allow us to speak to the issues and that is appreciated. But I would certainly say with a high degree of wariness what you enter in to them because the fact that the citizens get to have input adds validity to the decisions, rather than just the federal agencies making decisions on their own. And you want to make sure that that validity isn't misled.

Steve Hays: All I can conservatively say is that none of us three years ago thought that we be at this place in the process that we'd all be walking out of the negotiations with smiles on our faces, but such is life. But at any rate, that's a valid comment that I've heard that concern raised before. Are you better to be part of the process and....

- Arnold Asmussen: You do not want to get in a position where you're being asked to sell the emperor's new clothes. That's a good comparison. When you have to have water, water tables in the Methow going back to pre-date historical man, that's asking an awful lot. And you do not want to get in those positions, I would check and re-check the science and the numbers, but certainly local input is the way to go, I would think.
- Steve Hays: So that's all I had to say, I just wanted to make sure that everyone knew what the purpose of today's meeting was, and what the two decisions are with National Marine Fisheries Service and which of the two processes will carry the day when they get through their internal analysis asking themselves whether they can do it this way or not. That's why we want public comment on how it should be approached.
- Bryan Nordlund: I just wanted to say that I want to personally thank everybody for showing up here tonight. You know I understand that we've taken some hits, and that's fine. I mean, I'm perfectly willing to listen to public input, especially guys, a lot of you have prepared and I could tell you've done your homework and know the issues as well as you can. I really appreciate the input. The things that we can control, in hydro, our little portion of the ESA world, we're doing to the best of our ability and apologize to those of you who that don't think that we are. I have a passion for trying to protect the fish, I've lived here all my life, I'm a fisherman, I want to see the fish healthy just like you all do. And that's reflected in my work. And I'm here on my own time tonight, and so is Bob and I think so are these guys from FERC. And it's just specifically to solicit public input from people like yourselves that have the same concerns and passions that I do about the fish. So I just wanted to give my personal thanks, not a National Marine Fisheries Service thanks, but my own thanks.
- Bob Dach: Again, I'd appreciate any comments that you have to send it to me to the address in that handout. And, no guarantees, but the information can never hurt. You might think we won't do anything with it, but we certainly aren't going to do anything with it if we don't get it.



DEIS Public Comments

Appendix B provides written comments received by the public (including agencies, non-governmental organizations, businesses, and individuals) on the DEIS. Substantive comments in each letter are marked and numbered.

Provided at the front of each letter containing substantive comments is a table directing the reader to the specific NMFS numbered response in Appendix C. The NMFS response may direct the reader to specific FEIS sections that were changed based on the comment or may include a discussion explaining how the HCPs were changed in response to the comment.

Letters without substantive comments are also included in this appendix, although no specific responses were requested by the letter writer. NMFS acknowledges receipt of these letters and the information contained within the letters.

The letters in this appendix are organized in alphabetical order. Refer to the Table of Contents below for the location of specific letters within this appendix.

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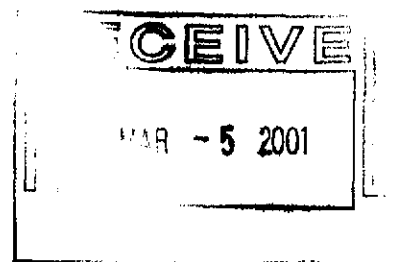
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February 14, 2001

Mr. Bob Dach
Hydro Division
National Marine Fisheries Service
525 NE Oregon St.
Portland, OR 97232-2737



RE: Comments related to the DEIS for the Wells, Rocky Reach and Rock Island
Anadromous Fish Agreements and Habitat Conservation Plans.

Dear Mr. Dach:


The proposed Anadromous Fish Agreements and associated Habitat Conservation Plans represent a milestone in the development of environmental protection and species recovery planning. We encourage NMFS to continue their efforts to find a balance between environmental concerns and the need for renewable hydroelectric generation. The HCPs, as defined by Alternative 3 in the Draft Environmental Impact Statement (DEIS), should be selected as the preferred alternative and implemented in its' entirety. The assurances provided in the proposed HCPs include long-term monitoring and evaluations, the guarantee of achieving survival standards and the maintenance of No Net Impact conditions for listed and not-listed anadromous salmonids.

No Net Impact, as defined in the DEIS allows for continued generation of renewable, non-polluting, cost-efficient hydroelectric power while ensuring that important fisheries resources are not harmed. Monitoring and evaluation activities outlined within the proposed HCP will ensure compliance with specified survival standards. Fish populations will be enhanced through the production of hatchery fish and wild fish populations will be augmented through the enhancement of fish habitat found in tributary streams.

In contrast, Alternative 2 should not be selected as the preferred alternative. Alternative 2 covers only spring chinook and steelhead, will result in significant delays in the full implementation of recovery plans and will increase the level of uncertainty concerning future dam operations and power generation.

We are encouraged by the long-term certainty prescribed by the proposed HCPs and anadromous fish agreements. Future certainty in fish recovery planning and in power generation will be important to the future economic viability of the Pacific Northwest.

Sincerely,



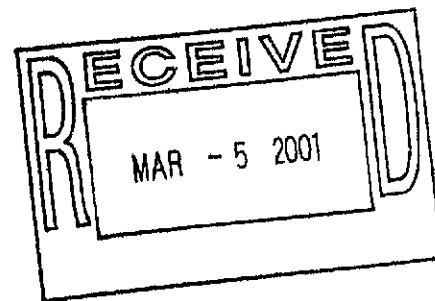
Robert D. Huber
Northwest Energy Manager
Alcoa Inc
6200 Malaga/ Alcoa Highway
Malaga WA 98828

cc: Mr. Dick Nason
PUD No. 1 of Chelan County
P.O. Box 1231
Wenatchee, WA 98807-1231



March 2, 2001

Mr. Bob Dach
Hydro Division
National Marine Fisheries Service
525 NE Oregon St.
Portland, OR 97232-2737



RE: Comments related to the DEIS for the Wells, Rocky Reach and Rock Island
Anadromous Fish Agreements and Habitat Conservation Plans.

Dear Mr. Dash:

Chelan County is under duress. Many longtime area orchardists, burdened by regulations, market conditions and crop failures, are at or near bankruptcy. Family wage jobs are scarce. New housing starts are at a near standstill. Drought conditions have severely impacted energy supplies. There are problems everywhere you turn.

At Alcoa's Wenatchee Works, one of the area's largest employers, skyrocketing energy prices have forced us to cut aluminum production in half over the past few months. Alcoa's employment levels are scheduled to be reduced this summer, further impacting the struggling local economy.

We are fortunate to have contracted with the Chelan County PUD for a supply of reliable, affordable energy from Rocky Reach Dam -- enough to power approximately two of our five potlines under normal water conditions. Without our long-term contract, Alcoa would likely be unable to continue any level of production at the Wenatchee Works.

Looking to the future, it is absolutely vital that the mid-Columbia Habitat Conservation Plan (HCP) be approved to maintain this area's energy production capabilities and provide cost certainty for Alcoa and all Chelan County PUD customers.

The PUD has demonstrated over the years its outstanding stewardship abilities in protecting the environment while efficiently operating and maintaining its hydroelectric projects. We note that the parties to the HCP have agreed that the PUD has an opportunity to meet established fish survival standards, as opposed to dealing with an endless string of costly mandates imposed by outside agencies.

We have every confidence that the PUD will meet the survival standards. It is worth noting that the PUD has forged ahead, absent an approved HCP, on the installation of a permanent fish bypass system at Rocky Reach Dam.

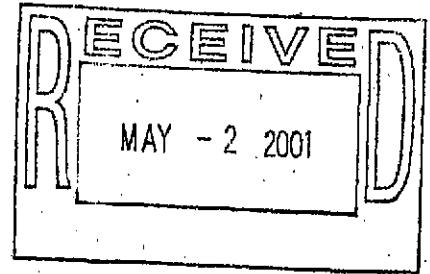
This kind of commitment demonstrates the PUD's innovation and willingness to meet its regulatory obligations in an aggressive, yet cost-effective manner. The Rock Island Settlement Agreement, construction of the supplementation hatchery and fish friendly turbine installations at Rocky Reach Dam are further examples of the PUD's demonstrated stewardship abilities.

Please consider this letter as a vote of support for the long-negotiated HCP that is outlined in the Draft Environmental Impact Statement. We urge the swift adoption of this program. It is the right approach to protecting both critical energy supplies and the environment.



Jack Speer
Northwest Energy Director
Alcoa Inc.
6200 Malaga/Alcoa Hwy.
Malaga, Wa 98828

cc: Mr. Dick Nason
PUD No. 1 Chelan County
PO Box 1231
Wenatchee, WA 98807-1231



May 1, 2001

Bob Dach
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737

Re: Draft Environmental Impact Statement: Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects

Dear Mr. Dach:

American Rivers appreciates the opportunity to review the draft Environmental Impact Statement (DEIS) for the proposed Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects, dated November 2000. We strongly support and endorse the comments submitted on behalf of the Save Our *Wild* Salmon Coalition (SOS), and have reiterated and emphasized several specific concerns below.

As noted in the DEIS, American Rivers was involved in the development of a long-term anadromous fish protection plan for the three hydropower projects at issue. It was our goal to ensure that any alternative that allows continued project operations would (1) promote recovery of ESA-listed stocks and make certain that such operations do not jeopardize their continued existence, (2) adequately protect non-listed species and provide sufficient mitigation for the effects of the hydropower projects, and (3) comply with all relevant laws and policy. Prior to resolution of several critical issues and finalization of any plan, Public Utility District No. 1 of Chelan County and Public Utility District No. 1 of Douglas County (collectively, the PUDs) submitted the draft Habitat Conservation Plans (HCPs) to the National Marine Fisheries Service (NMFS) for environmental analysis. The limited analysis contained in the DEIS highlights the failings of the proposed HCPs to adequately protect anadromous salmonids and ensure compliance with relevant federal law and policy. Accordingly, American Rivers does not support the proposed HCPs and urges you to more fully evaluate alternatives that sufficiently protect anadromous salmon and steelhead in the Columbia River basin. The alternatives must be consistent with all relevant federal law and policy.

National Environmental Policy Act

As elaborated on in the comments submitted by SOS, the DEIS falls far short of satisfying the fundamental requirements of the National Environmental Policy Act. NEPA requires that federal agencies take a hard look at the consequences of their actions prior to undertaking them. To do

NORTHWEST REGIONAL OFFICE
150 NICKERSON STREET
SUITE 311

so, agencies must carefully consider the significant environmental impacts of the action, including direct, indirect, and cumulative impacts. NEPA also requires that federal agencies evaluate a range of alternatives to the proposed action, including the alternative of taking no action at all. This alternatives analysis is at the heart of NEPA. The DEIS does not meet any of these requirements for the following reasons:

AR

- 1 | • The DEIS fails to take a "hard look" at all of the environmental information and consequences of each alternative, fundamental purposes of the Act.
- 2 | • The DEIS fails to analyze the cumulative impacts of myriad other actions that affect Mid-Columbia salmon and steelhead.
- 3 | • The DEIS fails to consider an adequate range of alternatives
- 4 | • The DEIS fails to adequately inform the public and decision-makers of the requirements and responsibilities of all federal statutes and treaties.

5 | NMFS may not, as it has done throughout this DEIS, ignore relevant information and rely upon conclusory statements and unsupported assertions to satisfy NEPA requirements. General and speculative statements about hoped for benefits fail to ensure informed decision making, one of the fundamental purposes of NEPA. Consideration of a range of reasonable alternatives to the proposed action is a critical component of any NEPA analysis. However, NMFS effectively evaluates only two alternatives, admitting that the no action alternative would violate the ESA. NMFS must explore and objectively evaluate an adequate range of alternatives including a true no action alternative that considers no project conditions, drawdown, and non-power operations, to name a few. Also, NMFS must consider an alternative that would provide greater protection for salmon and steelhead than the proposed action. While such alternatives may cost more, the DEIS presents no information for the decision-maker or the public to draw any conclusion about the benefits, or cost of such a measure.¹

6 | Finally, the cumulative impacts analysis fails to consider a myriad of easily identifiable, foreseeable actions that affect Mid and Upper Columbia River salmon and steelhead. For example, NMFS must analyze the proposed Columbia River channel deepening project, the Lake Chelan Hydroelectric Project, and numerous other land management activities in the basin.

We believe that these deficiencies present an inaccurate picture of the impacts to the public, making it impossible for anyone, including NMFS, to draw any reasoned conclusions about the environmental impacts of the three alternatives presented in this DEIS.

Endangered Species Act

To echo SOS' comments, NMFS' analysis in the DEIS is wholly insufficient to comply with the underlying legal obligations of the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 *et seq.*

7 | ¹ The DEIS states that the "purpose of the HCPs is to protect fish in the Mid-Columbia River while generating electricity." DEIS at 1-3. This statement too narrowly cabins the rest of the analysis by removing, among other things, consideration of a true "no action" alternative as well as assumes that the HCPs analyzed in Alternative 3 are the proper means to comply with the ESA. We believe that the purpose and need must be expanded to emphasize protection of listed species and compliance with the requirements of the Endangered Species Act as the purpose of this DEIS. The HCPs are only a proposal to meet the requirements of the ESA, they are not an end in themselves. Indeed, to perform a valid NEPA analysis, NMFS must not assume, as it does in the current purpose and need statement, that the HCP Alternative fulfills the mandates of the ESA.

The ESA is the “most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *TVA v. Hill*, 437 U.S. 153, 180 (1978). “[T]he language, history, and structure of the legislation . . . indicate[] beyond a doubt that Congress intended endangered species to be afforded the highest of priorities.” *TVA*, 437 U.S. at 174. As a result, agencies are required to use “all methods and procedures which are necessary,” 16 U.S.C. § 1532(2), to “prevent the loss of any endangered species, regardless of the cost.” *TVA*, 437 U.S. at 188, n. 34. The DEIS does not meet that standard and in fact, if implemented would result in serious harm to listed species in the Mid-Columbia. The DEIS violates the ESA for several basic reasons:

- The DEIS violates the fundamental principle of species conservation – erring on the side of caution in the face of uncertainty.
- The DEIS misunderstands the requirements of the ESA.
- The DEIS fails to analyze inconsistencies between Section 7 consultation requirements and the proposed Section 10 Incidental Take Permit and Habitat Conservation Plan.

8 First and foremost, NMFS repeatedly fails to ensure that uncertainty is resolved in a manner that does not place the species further at risk. Of particular concern is the failure to provide the benefit of the doubt to species with respect to data gaps or information disputes. NMFS’ approach undertaken in the DEIS is at odds with the cautionary approach required under the ESA. Any risk must be borne by the projects, not by the listed species. The ESA does not allow for an alternative that provides substantial certainty for the project, while placing the risk of uncertainty on the species.

9 Second, the ESA requires NMFS to consider alternatives that are more protective of fish than the HCP. Failure to do so violates the ESA requirement that take of listed species be minimized and mitigated to the “maximum extent practicable.” One possible alternative includes drawdown, which NMFS incorrectly maintains is available only at relicensing.

10 Finally, the DEIS fails to analyze a critical issue raised in some of the scoping comments – that the Section 10 incidental take permit process is available only for non-federal actions. NMFS’ Habitat Conservation Planning Handbook maintains that the Section 10 process is intended to address non-federal actions that are not otherwise subject to Section 7 consultation. As such, the Section 10 ITP and HCP process may not even be an available option to the PUDs. Although hydropower projects are owned by non-federal entities, FERC clearly maintains ongoing authority and jurisdiction over the project. This ongoing authority constitutes federal agency action, requiring FERC to initiate consultation under the ESA. Although this procedural analysis was not undertaken during development of the HCPs, the DEIS must address the applicability of Section 10 to the FERC-licensed hydropower projects in question.

11 If such an option is available, it does not relieve FERC of its ESA Section 7 responsibilities to insure that the action is not likely to jeopardize the continued existence of any endangered or threatened species. As such, the ITP and HCP must be consistent with FERC’s Section 7 obligations. To ensure consistency, FERC must undertake consultation prior to further development of the HCPs.

Federal Power Act

12 The DEIS fails to adequately analyze statutory requirements of the Federal Power Act despite the intention that the HCPs supercede existing FERC license articles and satisfy NMFS’ obligations pursuant to sections 18, 10(a), and 10(j) of the FPA. The FPA requires that the commitment of a

river to power production be reevaluated anew at the time of relicensing and establishes various legal obligations that must be met prior to relicensing. The DEIS fails to analyze any of these requirements, and the fundamental nature of the HCP precludes fulfillment of some.

The DEIS fails to consider the following Federal Power Act requirements:

- The DEIS fails to analyze the requirements necessary for the HCPs to supercede the existing FERC license articles and satisfy NMFS' obligations pursuant to sections 18, 10(a), and 10(j) of the Federal Power Act.
- The DEIS and HCPs limit the requirement that a hydropower project licensee evaluate pre-project conditions as required by the Federal Power Act and NEPA.
- The DEIS provides no analysis of whether the HCPs at issue satisfy the FPA.
- The HCPs' "no surprises" assurances presuppose the term and content of the PUD FERC licenses and are inconsistent with reopener clauses intended to ensure "equitable treatment for fish and wildlife over the terms of the license agreement."

Clean Water Act

13

To reiterate SOS' comments, the DEIS provides no analysis of Clean Water Act requirements. The CWA requires that all federal agencies "having jurisdiction over any property or facility . . . shall be subject to and comply with" all applicable federal, state, and local water quality laws. 33 U.S.C. § 1323. As a federal court has recently held, dams are no exception to this rule. See *National Wildlife Fed'n v. U.S. Army Corps of Engineers*, 92 F. Supp.2d 1072 (D. Or. 2000) (holding that the Corps' dams on the lower Snake River must comply with state water quality standards). Further, NMFS' issuance of an incidental take permit or incidental take statement will require certification under section 401 of the CWA. In light of these requirements, the DEIS is deficient in several respects.

- The DEIS lack any analysis of whether the alternatives will comply with water quality standards.
- The DEIS fails to discuss section 401 certification requirements.

NMFS must analyze the water quality impacts of the hydropower projects at issue – Rocky Reach, Rock Island, and Wells – and ensure compliance with the relevant water quality impacts.

Inadequacy of HCP Provisions

The fundamental principle set forth in the HCP is a "no net impact" standard for salmon and steelhead protection at the hydropower projects. This standard consists of two key components – a 91 percent total project survival rate, including an independent 95 percent juvenile passage rate, and 9 percent compensation through hatchery and tributary improvement programs. The DEIS clearly highlights but overlooks the shortcomings of the proposed standards in the HCP. The serious shortcomings place unacceptable risk on the species contrary to ESA requirements, and fail to sufficiently protect salmon and steelhead.

- The DEIS analysis of adult and juvenile survival standards is insufficient. There exist no scientifically credible methodologies to evaluate survival for all covered species at all life stages.
- The DEIS lacks adequate analysis of the off site mitigation proposals – Tributary Improvement Fund or Hatchery Supplementation Program.
- Inconsistencies between the QAR and the DEIS call the DEIS analysis into question

14

American Rivers would like to reiterate and emphasize the inadequacy of the HCP provisions as outlined in SOS' comments. In particular, we view the inability to measure the proposed survival standards and the inadequate data to support the independent programs as some of the most significant shortcomings of the HCP. And, although acknowledged in the DEIS, NMFS utterly fails to address these issues. Recent actions undertaken by Chelan County PUD highlight the risk that immeasurable standards place on the species. Chelan County PUD based its decision to forego the minimum spill requirement at the Rocky Reach Hydroelectric Project on limited analysis of yearling spring chinook and steelhead. Although not allowed under the HCP, Chelan County PUD relied on representational studies to support its decision. Development of agreed-upon methods for assessing compliance with survival standards for all species must occur prior to implementation of the HCPs.

The DEIS acknowledges that there are limited or no methodologies for assessing juvenile and adult survival for all species and all life stages. NMFS cannot issue an ITP while at the same time expressly acknowledging an inability to determine whether the applicant is in compliance with its terms. Moreover, the ESA requires that NMFS resolve uncertainties and information disputes in favor of the species of concern, contrary to what the HCP currently provides. Until the PUDs complete accurate assessments of juvenile and adult survival, the ESA's cautionary principle prohibits NMFS from assuming that the survival rate estimates in the HCP are correct. The DEIS provides insufficient data to support the estimates.

The DEIS also fails to consider the effect of (1) maintaining a 95 percent juvenile dam passage survival standard over only 95 percent of the run, and (2) excluding spring-migrating chinook smaller than 50 mm in length from the 95 percent juvenile dam passage survival for the full run of that species in the event turbine intake screens are installed certain instances.

15

Further, the DEIS provides insufficient evaluation of the tributary habitat improvement or hatchery supplementation program, both of which are key to attaining the no net impact standard. The DEIS acknowledges that there are no means to assess the benefits from these programs and then simply assumes that the funding and supplementation levels contained in the HCPs are adequate. There is no data to support the proposed funding levels for the tributary habitat fund, and NMFS acknowledges that there is no way to assess whether the tributary program is actually providing 2 percent compensation. While a habitat restoration program is critical to salmon recovery efforts, it must be accompanied by measurable goals and objectives. The DEIS also provides no scientific justification for reducing Douglas County PUDs contribution to the habitat fund in the event it achieves a 95 percent juvenile dam passage survival rate at Wells dam.

Similarly, the DEIS provides insufficient analysis of the proposed hatchery program, other than to assert that it must be consistent with ESA recovery goals. The DEIS fails to explain how such consistency may affect the program and its ability to provide 7 percent compensation. Although unable to guarantee 7 percent hatchery compensation, NMFS fails to analyze the effect of not meeting the 7 percent, and in turn, the no net impact standards.

Finally, the Quantitative Analytical Report (QAR) relies on several unjustified assumptions in its analysis. There is no data to support that (1) the survival improvements that the HCPs call for at the hydroprojects, and through off-site mitigation, occur instantaneously, (2) Grant County PUD's Priest Rapids Project has achieved a 95 percent juvenile survival standard, and (3) the survival improvements called for in the Federal Columbia River Power System Biological Opinion are being met. Inconsistencies between the QAR and available facts call into question NMFS' reliance on the analysis to draw any conclusions about the adequacy of the HCPs.

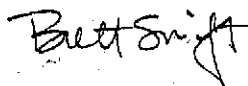
All of this adds up to insufficient protection for salmon and steelhead. The significant uncertainty associated with the HCP standards (95/91/7/2 percents), coupled with an inability to determine compliance, is inconsistent with ESA requirements and precludes NMFS from fully assessing the environmental impacts of the HCPs.

Conclusion

The DEIS fails to demonstrate that the proposed HCPs provide sufficient protection to Columbia River Basin salmon and steelhead that are negatively affected by the hydroelectric projects. Moreover, the DEIS highlights the significant shortcomings of the HCPs and their failure to comply with all relevant federal law and policy. American Rivers does not support these long-term salmon and steelhead protection plans. The limited analysis in the DEIS in no way justifies issuance of incidental take permits that will lessen NMFS' ability to undertake whatever actions are necessary to protect and recover listed species for the next 50 years.

Thank you for the opportunity to comment. Please feel free to call if you have any questions regarding these comments.

Sincerely,



Brett Swift

cc: Susan Fruchter, NEPA Coordinator
Office of Policy and Strategic Planning
Room 6117
Herbert C. Hoover Bldg.
U.S. Department of Commerce
Washington D.C. 20230

American Rivers (AR)

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¹ see Appendix C



February 12, 2001

Northwest Region - Hydro Program
National Marine Fisheries Service
525 NE Oregon St. Suite #420
Portland, OR 97232-2737

Dear Sirs:

Affordable, reliable electricity has been the lifeblood of Washington's state's economy for decades. Fueled largely by clean, renewable energy from hydroelectric power, our state as a whole has been able to grow and prosper. Now, hydroelectric power is in short supply. Environmental regulations have all but eliminated new hydropower plant construction, and conditions imposed on existing power plants have significantly reduced generation. Our state faces an immense challenge in finding new generation sources to fuel an expanding economy.

In many rural Eastern Washington communities, affordable hydroelectric power is not only critical for growth, it is critical for survival. The agricultural industry is in serious decline, in part due to the cost of endless regulations imposed by unyielding agencies. Aluminum plants are closing or severely cutting production due to rising energy costs. Jobs are in short supply.

For several years, I have been closely watching the development of the Habitat Conservation Plan (HCP) for the hydro projects in the mid-Columbia area. Frankly, I have been disappointed that we have all had to wait so long for this plan to wade through the regulatory process. We cannot afford to wait any longer.

The HCP offers hope that the mandates of the Endangered Species Act can be met, while retaining critical hydroelectric power supplies. Rather than relying upon agencies to mandate never-ending fish protection measures, the plan establishes an outcome-based standard. The Public Utility Districts (PUDs) have the opportunity to meet the agree-upon survival standards, with unavoidable losses compensated through state-of-the-art hatchery production and habitat funding.

Finally, we may have a model for addressing fishery protection that embraces common sense. It's about time.

Habitat Conservation Program
page 2,

I would like to note for the record that our PUDs have not been waiting for the regulatory review process to conclude before moving ahead with resource protection plans. For example, Chelan County PUD has thoroughly tested a prototype surface collection system at Rocky Reach Dam. Construction of a permanent surface collector will begin later this year. The PUD is also nearing completion of a turbine replacement project, using a more fish-friendly design. The cost of these programs is significant and the PUD should be applauded for its environmental stewardship.

I support the HCP and urge you to move it swiftly through the review process. This is a golden opportunity to demonstrate to the citizens of Washington State that cooperation can yield positive results. Our citizens are growing more and more skeptical that something like this is possible. Don't disappoint them.

With Warmest Regards,

A handwritten signature in dark ink, appearing to read 'Clyde Ballard', with a stylized, cursive script.

CLYDE BALLARD
Speaker of the House

FEB -9 2001

LYNN W. BAKER, ED.D.
Superintendent



CASHMERE SCHOOL DISTRICT NO. 222

210 South Division Street
Cashmere, WA 98815-1198

Phone: (509) 782-3355
Fax: (509) 782-4747

February 6, 2001

National Marine Fisheries Service
Northwest Region - Hydro Program
525 N.E. Oregon Street, Suite 420
Portland Oregon 97232-2737

To Whom It May Concern:

Collaboration is one of the best lessons we can teach.

When we're facing a challenge as difficult as protecting salmon and steelhead in the Columbia River, it is remarkable to find a solution such as the Mid-Columbia Habitat Conservation Plan. The fact that it is a negotiated effort in an arena marked by adversarial action provides a valuable template for the future.

I endorse the plan for these reasons:

- * It ensures protection of salmon and steelhead while maintaining an economical and reliable energy supply for our region.
- * It establishes performance standards, based on the best available scientific evidence and allows local PUD fisheries staff to develop the most cost-effective ways to meet them.
- * The plan provides a balanced approach to compensation for unavoidable losses.
- * It includes a commitment to improve habitat in the Columbia River as well as important tributaries such as the Wenatchee River, a touchstone of our town.
- * A dispute resolution process is included to avoid expensive and time-consuming legal battles that would take resources away from helping fish.

Overall the Mid-Columbia Habitat Conservation Plan is a much needed, innovative and rational approach to protecting endangered salmon and steelhead while also ensuring continued operation of our local hydroelectric dams. That power source is crucial to the region to ensure there will be jobs for our students in the future. This is particularly true because our agricultural industry is eroding.

Sincerely,

Lynn W. Baker, Ed.D.
Superintendent

DIRECTORS

RON TRIMBLE
Chairman of the Board

G. TODD COWAN
Vice-Chairman of the Board

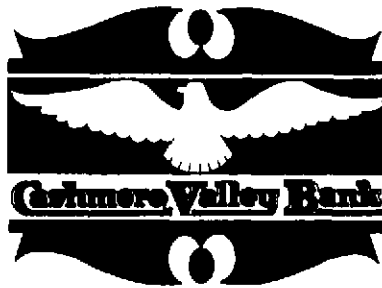
KEN MARTIN
President and CEO

LYMAN BOYD

JACK GARLAND

GARY HANNON, M.D.

BRIAN NELSON



FEB 15 2001

**ADMINISTRATIVE
OFFICERS**

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President & CEO

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Vice-President & CIO

CONNIE FRITZ
Vice-President/Operations

GREG L. OAKES
Vice-President/Lending

ALAN K. CRAIN
Vice-President & CFO

February 12, 2001

National Marine Fisheries Service
Northwest Region-Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, Oregon 97232-2737

To Whom It May Concern:

As a lifetime resident of North Central Washington who is currently serving as the President of Cashmere Valley Bank, a six branch community Bank with headquarters in Chelan County, I have deep concerns regarding our local economy. The performance of a community bank is the reflection of the success or failure of the customers it serves.

Currently our agricultural based economy is suffering serve setbacks as it deals with the challenges of pesticide use, land use restrictions, water regulations and Federal trade policy. The financial difficulty is resulting in numerous bankruptcies and beginning to impact our unemployment rates, retail sales volume and housing industry.

One of the strengths of our local economy is the dependable, reasonably priced supply of electricity provided by the Chelan County Public Utility District. But they are experiencing increasing costs from salmon and relicensing projects. Sooner or later those costs will need to be pasted along to the local customers. I have grave concerns over the impact of those increases on our local economy.

It is because of the need for the dams to continue to provide reasonably priced power that I support the habitat conservation plan for our PUD's dams on the Columbia River.

Although I am not an expert on the HCP, I understand that it address the mandates of the Endangered Species Act in a logical and reasonable manner. I believe we will be best served by giving our PUD the survival targets and let them decide on how to best meet them. I believe that hatchery programs and habitat improvements are the best way to supplement fish losses. Local control with reasonable oversight makes the most sense to me.

As a banker I understand the impact of regulation on our ability to do what is best for our customers. These regulations are often born of good intention and end up having exactly the opposite of the intended impact. Please don't let this happen to our PUD as they work diligently doing what is best for fish and the best for our local power supply.

Sincerely,

Ken Martin
President



FEB -5 2001

BOARD of DIRECTORS

February 2, 2001

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National Marine Fisheries Service
Northwest Region - Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

To Whom It May Concern:

Central Washington Hospital in Wenatchee and our power provider, Chelan County Public Utility District, share the challenge of providing a vital service at a reasonable cost for our community. As the head of a regional, non-profit hospital, I oversee a team striving daily to accomplish this, even though factors outside our control often drive those costs.

This is why I support the Mid-Columbia Habitat Conservation plan negotiated by Chelan and Douglas County PUDs. It would provide a measure of financial certainty for the complex proposition of protecting and enhancing salmon and steelhead in our region. Its performance-standard approach provides an incentive to find a cost-effective solution, based on the best science available. That ensures a benefit not only for fish, but our region as well, by providing a balanced approach to compensation for an unavoidable loss.

I also endorse the Habitat Conservation Plan's collaborative approach, which includes a method for resolving future disputes and avoids the lengthy governmental processes that can lead to long and expensive legal battles. The plan also provides a guarantee - something that can be hard to come by in these challenging times - of no net impact on fish from the PUDs' hydropower operations. If Chelan and Douglas County PUDs fail to meet that standard within five years, then the regulatory agencies have a guarantee the PUDs will put the agencies' recommendations into place quickly.

In conclusion, the Mid-Columbia Habitat Conservation plan offers a cost-effective process, based on the best scientific information available for protecting the Northwest's salmon and steelhead, and I urge your approval of this innovative approach.

Sincerely,


John T. Evans, Jr., FACHE
President & CEO



BOARD OF COMMISSIONERS
CHELAN COUNTY

STATE OF WASHINGTON
 CHELAN COUNTY COURTHOUSE
 350 ORONDO AVENUE, WENATCHEE, WA 98801
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CATHY MULHALL
 County Administrator
 cathy.mulhall@co.chelan.wa.us

KATHLEEN L. WARD
 Clerk of the Board
 kathy.ward@co.chelan.wa.us

January 29, 2001

National Marine Fisheries Service
 Northwest Region - Hydro Program
 525 NE Oregon Street, Suite 420
 Portland, OR 97232-2737

In our capacity as the elected officials representing the citizens of Chelan County, we are writing to support the mid-Columbia Habitat Conservation Plan (HCP).

Over the past several years, we have literally seen our local government and our citizens strangled by endless federal and state regulations. Our once-plentiful and prosperous orchards are being plowed under because their owners are finding it impossible to make a profit. Government regulations have played a major role in this catastrophe.

Other landowners are also hampered by too many rules and regulations. Substantial amounts of privately-owned land can't be developed due to water rights issues, setback requirements, required lot sizes or other concerns.

The HCP offers some hope that diverse interests can work together and craft workable solutions to address challenging environmental and regulatory issues. It includes a measure of certainty that our hydroelectric dams can continue operating in a cost-effective manner, while meeting fishery obligations mandated by the ESA.

Our county and its economic future rely heavily upon hydroelectric power. With a per-capita income half that of the Seattle area and with unemployment at nearly double-digit levels in Chelan County, we desperately need the affordable energy that the Chelan County PUD provides through ownership of its Columbia River dams.

The outcome-based approach outlined in the HCP makes great sense as opposed to the traditional method of endless mandates with no accountability and a lack of clear goals. The HCP approach sets survival standards to be achieved by the PUD at its dams. The PUD has the expertise to develop cost-effective fish protection and enhancement

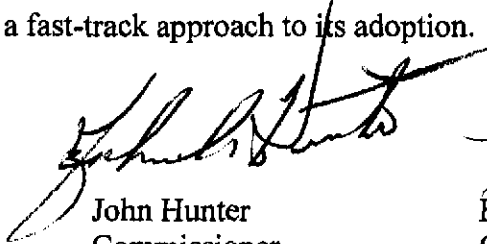
programs while maintaining critical operating standards. They have demonstrated their stewardship countless times, most recently with the unique, new surface collection system at Rocky Reach Dam.

We also applaud the approach to compensating for unavoidable losses. The fund provided by the PUD will address some of the critical habitat improvement needs in Chelan County. Those needs are among the items being discussed by Chelan, Douglas and Okanogan counties and the Colville and Yakama tribes as we work on the Upper Columbia River Salmon Recovery Board to formulate recovery planning for our area. The fund may also provide habitat recovery program partnership opportunities.

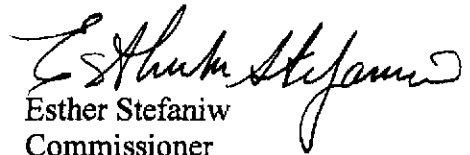
We support the HCP and urge a fast-track approach to its adoption. Thank you for the opportunity to comment.



Ron Walter
Commissioner



John Hunter
Commissioner



Esther Stefaniw
Commissioner



CHELAN COUNTY POMONA
No. 23



February 15, 2001

National Marine Fisheries Service
Northwest Region - Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

Re: Habitat Conservation Plan

Gentlemen:

The Chelan County Granges have reviewed the "Anadromous Fish Agreements and Habitat Conservation Plans" prepared by the Chelan County Public Utility District #1 dated November 2000. The Granges find Alternative #3 to appropriately and adequately address the environmental impact including the protection of anadromous fish species and non-threatened species and to allow continued operation of the three dams to provide power, recreation, and other uses for the human species.

The Grange has always been a proponent of sound environmental policies and procedures and conservation of our natural resources. We also believe an adequate supply of electrical energy at a reasonable cost is absolutely necessary to allow continued economic viability of the region. Therefore, some compromise is essential to balance the requirements of the resources necessary for people with those of fish and other wildlife.

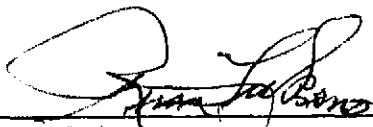
We strongly encourage you to approve the proposed alternative #3 in the process of re-licensing the Mid Columbia dams and issue the incidental take permits authorized under Section 10 (a)(1)(B) of the Endangered Species Act.

Also for your information, we are attaching a document developed by the Chelan County Pomona Grange in 1992 which reflects the Grange's past as well as its current position and concern on the issue of salmon recovery.

Sincerely,

Shirley Ward
Washington State Deputy Master


Donald W. Dwinell
Master, Chelan County Pomona #23
Master, West Wenatchee Grange



Russ Lukens
Master, Beacon Hill Grange



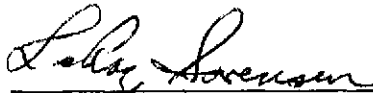
Jackie Smart
Master, Bee Hive Grange



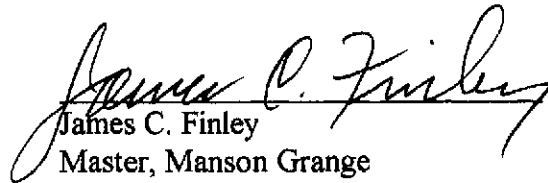
Dale Stewart
Master, Cashmere Grange



Stephen Clark
Master, Chumstick Grange



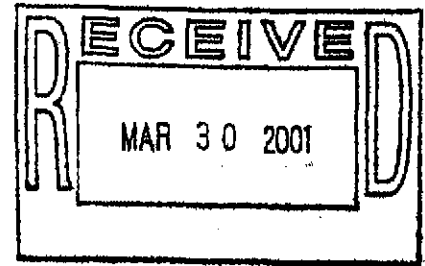
LeRoy Sorenson
Master, Entiat Grange



James C. Finley
Master, Manson Grange



Gordon Goodwin
Master, Stemilt Hill Grange



March 28, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon St, Suite 420
Portland, OR 97232-2737

To Whom it May Concern,

I have reviewed the Draft EIS for Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects. I strongly support Alternative 3, the proposed HCPs for Rock Island Dam, Rocky Reach Dam, and Wells Dam. I am familiar with the provisions of the Endangered Species Act (ESA) and believe that the development of these HCPs is the only practical way for Chelan and Douglas PUDs to meet the requirements of the ESA. I complement the PUDs on their proactive approach to meeting the requirements of the ESA. This is a bold and progressive step that demonstrates true leadership.

Let me make it clear that the Chelan-Douglas Land Trust (CDLT) is not simply an interested observer. The CDLT is actively involved in the protection of salmon habitat and other fish and wildlife habitat in North Central Washington. We recently received nearly \$1.5 million from the Salmon Recovery Funding Board to purchase salmon habitat along the Entiat River and we will be applying for additional money from the Salmon Recovery Board in the future. We are developing the capacity and expertise to own properties and easements and manage them for their habitat values. It is likely, therefore, that the CDLT can play an important role in the proposed Tributary Conservation Plan.

CDLT

- 1 Now that you know where I am coming from, let me state the CDLT perspective on some of the specifics of the Draft EIS. I would rather see the compensation for unavoidable project mortality come more from the tributary program and less from the hatchery programs. The tributary program will provide numerous public benefits above and beyond improving salmonid spawning and rearing habitat. However, I know this is a very difficult and contentious issue. I will support the proposed 7 percent compensation through hatchery programs and 2 percent through habitat improvement programs. The hatchery program should be closely monitored however. On a recent tour of Columbia and Methow River hatcheries I observed firsthand that hatcheries
- 2 require careful evaluation and monitoring. Otherwise they can become institutionalized commodity production facilities that churn out fish like widgets with little regard for their

genetic makeup and unique life histories. Hatcheries should enhance natural reproduction not attempt to replace it.

3 I also hope that the funds in the Plan Species Account will be spent prudently and in conjunction with other salmon recovery efforts. Chelan, Douglas, and Okanogan counties have developed an outstanding regional process for evaluating projects submitted to the Salmon Recovery Funding Board. Their efforts helped entities in this region to garner nearly \$5 million in the latest round of Salmon Recovery Funding Board grants. The proposed Tributary Committee should work closely with this existing group, rather than duplicating their efforts.

4 I also believe that that a majority of the funds in the Plan Species Account should be spent sooner rather than later. There is an urgent need to protect critical habitat now, before it is further subdivided and degraded. With the decline in the orchard economy, many of the orchards along the tributaries will be put up for sale in the next two years. This presents a unique opportunity to acquire property or easements to protect riparian areas and floodplain along the tributaries. Some of the funds in the Plan Species Account also need to be dedicated to the long-term maintenance of these properties and easements. If the CDLT should end up acquiring properties or easements with these funds, we would require that a certain percentage of the funding be dedicated to long-term maintenance. I also recommend that funding be set aside to make property tax payments or payments in lieu of taxes. There will be strong opposition to protecting habitat along the tributaries if this means the properties are removed from the tax rolls. Providing funding for tax payments will make this effort much more acceptable to local citizens and elected officials.

5 I recognize that there is strong opposition to HCPs from all sides of the political spectrum. Conservation groups argue that HCPs are a sellout and not enough is known about the affected species to make such long-term agreements. While I acknowledge these as valid concerns, I believe that there is more to be gained than lost by the implementation of the proposed HCPs. With the recent HCP revisions (June 1, 2000) that clarify the importance of biological goals, adaptive management, monitoring, permit duration, and public participation, I feel confident that the proposed HCPs can be evaluated and monitored to make changes when appropriate. I therefore strongly support the HCPs as proposed in the Draft EIS.

Yours sincerely,



Gordon H. Congdon
Executive Director

Chelan-Douglas Land Trust (CDLT)

Comment #	NMFS Reference #¹
1	12, 28
2	17
3	13
4	13
5	12

¹ see Appendix C



CITY OF CASHMERE

101 Woodring Street • Cashmere, WA 98815-1034
Business (509) 782-3513 • Fax (509) 782-2840

February 1, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

Dear Sir or Madam:

As mayor of Cashmere, WA, located on the shores of the Wenatchee River, I am very familiar with the competitive interests laying claim to the water of our rivers and streams. Farmers, fishermen, environmentalists, river rafters, power producers ... all have a vested interest in our water.

These competing demands frequently result in stalemates at best and court battles at worst. The Habitat Conservation Plan forwarded by Chelan County PUD takes a new approach, and I commend the PUD for its vision.

The HCP offers a common-sense plan for alleviating the fish problem. The HCP sets fixed targets for fish survival, allowing the PUD some freedom in how to meet those targets. Yet it includes regulatory oversight that should satisfy both environmentalists and the various federal and state agencies. It creates a spirit of cooperation not evident in many, many other water issues.

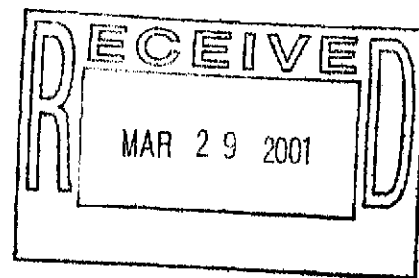
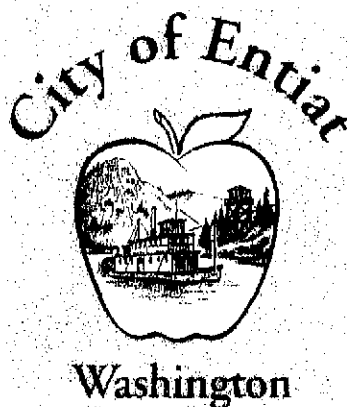
I also strongly support the focus on habitat, since the Wenatchee River is a Columbia River tributary that could stand to gain under the HCP program.

The PUD supplies wholesale power to Cashmere and is an important player in the economic health of our region. The HCP allows the PUD to do what it has always done best -- generate power -- while providing for continued mitigation and enhancement of the local fishery.

I urge you to move ahead on the HCP process.

Sincerely,

Gordon Irle
Mayor



March 12, 2001

To Whom It May Concern:

As Mayor of a community situated along the reservoir created by Rocky Reach Dam, I am directly aware of the importance of balancing river uses.

The City of Entiat relies on tourism created by having an attractive waterway for recreation; on the economic benefits of a sustainable sport fishery; on the use of water to irrigate the fruit orchards within and surrounding the community and on the economic boost afforded our financially stressed region by low electric power rates made possible by Rocky Reach Dam. Implementation of the Habitat Conservation Plan (HCP) will help preserve all of these benefits.

Chelan County PUD has demonstrated how well it knows the business of running its' dams, and the sizable expenditures and endless work on fish protection over the last 20 years are equally significant. With the cooperative approach envisioned by this HCP, there is every reason to believe all the critical resources will be protected long into the future.

On behalf of the City Council of Entiat, I compliment all the participating agencies on the work that went into creating this Habitat Conservation Plan. We support the provisions it contains and recommend their implementation as quickly as possible.

Sincerely,

Wendell Black
Mayor

P.O. Box 228, 14070 Kinzel Street • Entiat, Washington 98822



City
of
Leavenworth

700 HIGHWAY 2 / POST OFFICE BOX 287
LEAVENWORTH, WASHINGTON 98826
(509) 548-5275 / FAX: (509) 548-6429
E-MAIL: leave@televar.com

FEB 12 2001

City Council
Bill Bauer - Mayor
Bill Wells - Mayor Pro-Tem
Trisha Bradley
Peter D. DeVries
Carl Florea
Jack Koenig
John Pool
Keith Tower

Scott Hugill - City Administrator

February 7, 2001

National Marine Fisheries Service
Northwest Region —Hydro Program
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

After discussion with the City Council, I am writing in support of the Chelan County PUD's Habitat Conservation Program (HCP) now under review by your agency.

Since a national fish hatchery is located in our back yard (on Icicle Creek, a tributary of the Wenatchee River in Chelan County), most citizens of Leavenworth are keenly aware of the issues surrounding salmon survival. They know about the competing demands on our rivers and streams – demands for domestic water, irrigation, hydro generation, fisheries and recreation, among others. They are also aware of the stalemates that can result when these seemingly competing interests are at legal loggerheads.

The proposed HCP offers a common-sense approach to the fish problem. The HCP gives Chelan County PUD a fixed target, the outcome-based standard of 91 percent overall survival. It allows the PUD time to find the most economical means of satisfying the regulatory agencies' fish protection requirements. And it appears to avoid the courtroom, where so many of these issues end up.

Of particular interest to the citizens of Leavenworth are the provisions for habitat protection and improvements included in the HCP. Leavenworth is situated near several important tributaries to the Columbia River, and we support habitat improvements to these rivers and streams.

On the business side, I represent a community that has become an outstanding pillar of the tourism industry of the Pacific Northwest. More than one million (1,000,000) visitors come to Washington's Bavarian Village each year. It is our hope that the PUD will be allowed to continue as the provider of low-cost, reliable electricity while maintaining its status as a good steward and good neighbor.

Please place the City of Leavenworth on record as supporting the Habitat Conservation Plan (HCP) of Chelan County PUD.

Sincerely,

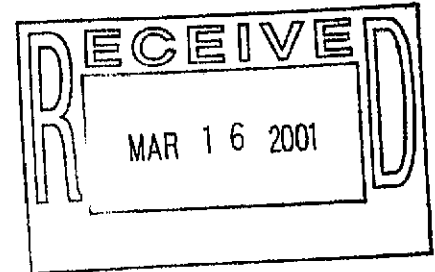


City Hall
(509) 664-3300
Fax (509) 664-3301
129 S. Chelan
P.O. Box 519
Wenatchee, WA 98807-0519

Public Works
(509) 664-3360
Fax (509) 664-5986
25 N. Worthen
P.O. Box 519
Wenatchee, WA 98807-0519

March 8, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232 – 2737



Dear Sirs:

We would, on behalf of the citizens of Wenatchee, like to collectively voice our support for the mid-Columbia River Habitat Conservation Plan (HCP).

Our community relies heavily upon affordable, reliable hydroelectric power. Public Utility District (PUD) dams therefore provide the foundation for the local economy, which has been struggling for the past several years due to extremely unfavorable agricultural market conditions and intense regulatory pressure. We must maintain the economic stability provided by hydroelectric power to preserve an affordable lifestyle for our citizens and to attract new businesses to the Wenatchee area.

The HCP is a carefully planned, collaborative approach to protect mid-Columbia fisheries resources. By establishing performance standards rather than arbitrary mandates, the HCP provides a measure of business certainty for the PUD and its customer owners while ensuring that effective, scientifically-based fish protection measures are implemented.

The City applauds the Chelan County PUD for not waiting until the conclusion of the HCP regulatory process to start implementing such fish protection measures. At Rocky Reach Dam, for example, testing of a fish collection and bypass system is nearing completion, with the permanent system scheduled for installation next year. This work is a vital part of meeting the fish survival standards outlined in the HCP.


The HCP provides a common sense model for addressing the requirements of the Endangered Species Act, and provides a far more productive approach than court system battles of regulatory disputes. We are hopeful that other jurisdictions will embrace this model throughout the region, as we all must do our part to save our salmon.

National Marine Fisheries Service
Page Two

It is our understanding that the HCP outlines fish survival standards at the hydroelectric projects, with compensation for unavoidable losses to be provided by a PUD-funded conservation account. We believe this is an excellent idea, as it may provide an avenue for future partnerships with other government entities and organizations for matching funds to address critical habitat areas.

We are hopeful that the HCP will move swiftly through the regulatory review process and that its terms and conditions will be implemented as soon as practical.

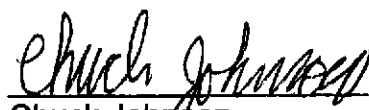
Sincerely,


Dennis Johnson
Mayor


Bill Edwardson
City Council

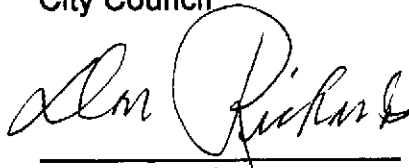

Randy Gold
City Council


Don Gurnard
City Council


Chuck Johnson
City Council


Steve May
City Council


Mark Peterson
City Council


Don Richards
City Council



COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

729 N.E. Oregon, Suite 200, Portland, Oregon 97232

Telephone (503) 238-0667

Fax (503) 235-4228

May 16, 2001

Donna Darm
Acting Regional Administrator
National Marine Fisheries Service
BIN C-15700
7600 Sandpoint Way, NE, Bld. 1
Seattle, Washington 98115

**RE: Comments on the Mid-Columbia Habitat Conservation Plan
Draft Environmental Impact Statement**

Dear Ms. Darm:

The Columbia River Inter-Tribal Fish Commission (CRITFC),¹ on behalf of the Confederated Tribes and Bands of the Yakama Nation (YN), the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), the Confederated Tribes of the Warm Springs Reservation of Oregon and the Nez Perce Tribe has reviewed the document entitled, "Anadromous Fish Agreements and Habitat Conservation Plans-Draft Environmental Impact Statement for the Wells, Rocky Reach and Rock Island Hydroelectric Projects" (DEIS). We have prepared the following comments. We also include by reference the comments of the Yakama Nation and the Confederated Tribes of the Umatilla Indian Reservation on the DEIS. We appreciate NMFS granting us additional time to comment on the DEIS.

Overview

The Yakama Nation and the Confederated Tribes of the Umatilla Indian Reservation aboriginally occupied lands in what is today the Mid-Columbia region in Washington State. The Columbia River and its tributaries are a part of that land. Protection of rivers and flows for anadromous fish and wildlife populations, as well as cultural resources and other matters are critically important to these tribes. The existence and operation of the Wells, Rocky Reach and Rock Island Hydroelectric Projects impacts the treaty-reserved natural resource interests of all four CRITFC member tribes. The outcome of the DEIS process could significantly affect rebuilding of fish and wildlife populations impacted by the Project. Therefore, the tribes have a unique interest and stake in this process that cannot be represented by any other entity.

¹ The CRITFC was formed in 1977 per formal resolution of the governing bodies of the four Columbia River treaty tribes: the Yakama Nation, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon and the Nez Perce Tribe. The Commission is comprised of elected and appointed tribal officials who are members of the respective tribal fish and wildlife committees. The Commission has technical and legal resources that provide assistance to the tribes in protecting and enhancing their federally reserved trust resources.

Anadromous fish stocks that originate above and within the boundaries of the Wells, Rocky Reach, and Rock Island Projects (Projects) are adversely affected by the presence and operation of the Projects. These stocks support ceremonial, subsistence and occasional commercial treaty fisheries in Lower Columbia River Zone 6 by all of the CRITFC member tribes. Thus, CRITFC has a unique interest in this process that cannot be represented by any other party.

DEIS Scoping

In general, CRITFC notes that NMFS has failed to address most of the CRITFC February 5, 1999 comments and recommendations made to the DEIS Notice of Intent to Prepare an Environmental Impact Statement (EIS) on the Habitat Conservation Plans (HCPs) for the Operation of the Projects (NOI). We incorporate by reference into the record the CRITFC February 5, 1999 comments on the NOI (Attachment 1). The purpose of scoping for a NEPA environmental impact statement is to collect a reasonable range of alternatives to be reviewed and analyzed in the statement. We note that the following critical issues included in the scoping comments are not addressed in the DEIS. This is not an exhaustive list of issues raised in the CRITFC comments on the NOI:

CRITFC

- | | |
|---|---|
| 1 | <ul style="list-style-type: none">• The HCP hatchery plan attachment and the no-net impact standard, the foundation of the HCP Agreement, was contingent on the tribes receiving reciprocal assurances relative to treaty-secured fishing rights. The DEIS maintains NMFS position of not guaranteeing that the hatchery component will be met, thus, the no-net impact standard cannot be met. |
| 2 | <ul style="list-style-type: none">• Other issues between the tribes and NMFS relative to reserved treaty fishing rights, such as potential prejudice against tribes posed by the "no surprises rule," also remain unresolved in the DEIS. |
| 3 | <ul style="list-style-type: none">• The DEIS did not correct the misleading language of the NOI that states that parties to the 1998 "Commemorative Declaration" signed a declaration acknowledging "<i>their commitment to complete the regulatory actions necessary to issuing a permit</i>" (emphasis added). The Declaration did not commit the parties to this language. |
| 4 | <ul style="list-style-type: none">• The geographic scope should not be limited to the three project area, but should be a reach-based approach consistent with the original intent of the HCP, including the federal projects, Grand Coulee and Chief Joseph, the Priest Rapids Project and the Hanford Reach. In particular, the existence and operation of federal projects above the three Mid-Columbia Projects significantly influences flow management and water quality, which in turn impacts anadromous fish survival through the Projects. This remains a major deficiency of the DEIS. |
| 5 | <ul style="list-style-type: none">• The DEIS fails to address anadromous fish survival and recovery from a life history and ecological perspective (Williams et al. 1996; Lichatowich |

and Mobrand 1995). Anadromous fish productivity cannot be addressed merely by measuring direct survival of a small sample of salmon from one point above the Projects to a point below the Projects.

- 6 • A cumulative impacts analysis is lacking in the DEIS.
- 7 • The DEIS should not have used the existing degraded state of salmon stocks and critical habitat as the environmental baseline, but should have used the natural river baseline as the measuring stick for considering harm and benefits. The DEIS should have taken into consideration the fact that the development of hydroprojects in the Mid-Columbia Reach set in motion a decline in fish populations that continues through much of the Columbia River Basin. NMFS themselves argued for use of a natural river baseline in American Rivers et al. v. Federal Energy Regulatory Commission 201 F.3d 1186 (9th Cir. 2000), but has not used this standard in the DEIS.
- 8 • The DEIS failed to include Pacific Lamprey and sturgeon in the "Plan Species". Current and permanent development of a screened bypass system, under "conditional HCP implementation"² at Rocky Reach does not consider lamprey passage, and lamprey have shown a propensity to become impaled upon screen systems at other basin dams (ISAB 98-4 1998).
- 9 • The DEIS failed to review and acknowledge water quality standards under the Clean Water Act. A recent court opinion states that dams are not above the law with respect to meeting water quality standards (see National Wildlife Federation v. Corps of Engineers, 132 F.Supp.2d 876 (D. Or. 2001)).
- 10 • The DEIS lacks an adequate quantitative analysis as to how much take of the listed species will occur under the proposed alternatives. Further, the DEIS fails to quantify the effects that each proposed alternative would have on the goal of reaching sustainable anadromous fish populations that provide harvestable surpluses for treaty and non-treaty fisheries. The DEIS lacks survival, recovery and delisting goals specific to the listed and non-listed anadromous fish populations considered under the alternatives.

² NMFS has allowed Douglas and Chelan PUD to proceed with Phase I of the HCP under a "conditional HCP implementation policy," over strong tribal objections. Given that environmental review is not completed, an HCP Agreement remains unsigned, and a Section 10 Permit has been issued the legality of this action is highly questionable. However, Chelan is proceeding to finalize installation of a major bypass system that will likely exacerbate the decline of Pacific lamprey and sensitive salmon stocks which are Plan Species but not ESA-listed species.

- 11 • The DEIS fails to describe how the various alternatives relate to other applicable treaties and laws, including tribal treaties, the Clean Water Act and the *U.S.- Canada Pacific Salmon Treaty*.
- 12 • The DEIS failed to determine whether the 7% hatchery component can actually be achieved with or without Grant PUD's involvement in the HCP. Further, it remains unresolved in the DEIS how "no net impact" (NNI) would be accomplished if NMFS deems the 7% hatchery component unfeasible because of particular genetic or policy concerns with respect to supplementation. This is a key failing of the DEIS.

General Comments

- 13 There are many incorrect statements and factually erroneous declarations in the DEIS. While the following comments will serve to highlight some of the inaccuracies, we will not address them all. As stated above, most of the scoping issues identified by CRITFC were never addressed in the DEIS. For these reasons, the DEIS is a fatally flawed document and should be completely rescoped and reanalyzed.
- 14 The document abstract states that the HCPs satisfy the PUDs' regulatory obligations under the Federal Power Act. This is not factually correct. Future relicensings, measures to protect species not addressed by the HCPs and treaty obligations under tribal treaties and the *U.S.-Canada Pacific Salmon Treaty* are all obligations that must be satisfied whether or not an HCP is consummated. Further, the
- 15 HCPs will not satisfy standards under the Clean Water Act.
- 16 In the summary section it states that, "the parties have been engaged in cooperative HCP planning for over 6 years." This is not correct. Tribal parties have been in dispute with NMFS and the PUDs for much of that time, and are not in agreement with the proposed HCP documents at this time. Details of these disputes are provided below.
- On page S-3 it is stated that, "the effects of Rocky Reach, Wells and Rock Island on anadromous fish *may* continue downstream through the Hanford Reach to McNary Dam." [emphasis added]. The Joint Fisheries Parties agree that the effects will continue downstream, whether they are from dissolved gas generated from the HCP projects, or injuries suffered when passing through these projects.
- 17 On page S-18 it is stated that the NNI standard of 95% survival per dam was developed in coordination with tribal biologists. However, not all tribal biologists agreed with the standard. The DEIS states that the NNI standard of 95% survival is consistent with the 1995 FCRPS Biological Opinion. While this is factually correct, it leaves out the other major criteria for passage systems required by the 1995 FCRPS, such as an 80% Fish Passage Efficiency (FPE) standard.³ Because tribal biologists desired that the NNI

³ Fish Passage Efficiency (FPE), as defined by the 1995 FCRPS Biological Opinion at VIII. 15, refers to the percentage of the juvenile migration that passes over a dam through non-turbine routes. The tribes have

standard would be consistent with the three basin restoration plans,⁴ tribal biologists strongly recommended that the NNI standard have dual and complementing components, 95% survival and 80% FPE. This recommendation was rejected by NMFS and the PUDs.

18

Since the signing of the Commemorative Declaration of the HCP on June 27, 1998, the NMFS, Chelan PUD, Douglas PUD, WDFW and USFWS have been under a false assumption that the HCP was established, and that it should be under "conditional implementation" until the environmental review is completed and the Section 10 Incidental Take Statement finalized. The PUDs have embarked upon survival studies to determine HCP NNI standards without agreement from the Joint Fisheries Parties as to methodologies, principles and results. Chelan PUD recently unilaterally declared that they have reached the NNI standard of 95 % at both Rock Island and Rocky Reach dams, and that reduced spill at Rock Island and complete reliance on the Rocky Reach prototype bypass system are appropriate to protect listed and unlisted anadromous fish as they pass these dams (Attachment 2). Several of the Joint Fisheries Parties strongly object to Chelan's unilateral decisions under "conditional implementation" of the HCP as a proxy to reduce critical fish protection measures (Attachments 3,4,5,6,7).

These actions indicate extreme bad faith on the part of Chelan PUD in resolving key issues that remain unaddressed in the DEIS. The acceptance of "conditional implementation" by the non-tribal parties involved in the HCP negotiations has, in effect, stymied important progress in resolving key relicensing issues for the Rocky Reach Project (Attachment 7). The DEIS has not addressed these issues, which are critical to the future of the fisheries resource, because of the very depressed status of listed and unlisted Mid-Columbia anadromous fish stocks (TAC 1997; Cooney et al. 2000). The final EIS should address these issues.

Environmental Baseline

19

The DEIS defines the environmental baseline as the status of the anadromous fish stocks and their critical habitat in the 1970's when they were already depressed and degraded. This is inconsistent with the NMFS' 1995-8 FCRPS Biological Opinion (at page 12) that defines the baseline as the effects of the proposed action that would be added to the past and present impacts of all Federal, State, and private activities in the

defined FPE as the percentage of the juvenile migration that passes over a dam through spill or surface bypass, and they, as NMFS, have adopted the dual criteria in their Columbia Basin salmon recovery plan, *Wy-Kan-Ush-Mi Wa-Kish-Wit* (Nez Perce et al. 1995). Adoption of the FPE standard is critical because it provides a measurable standard that covers the entire migration, rather than just a snapshot of survival provided by survival studies. An FPE standard also incorporates the available scientific literature that reviews comparative survival studies through different passage routes. This includes scientific information about delayed mortality and smolt-to-adult returns. These attributes cannot be assessed by limiting passage criteria to a simple measurement of survival for a distinct group of salmon through a dam over an extremely limited range of environmental conditions. Thus, the NNI standard lacks consistency and lacks a true assessment of the impacts of the Projects on the anadromous fish resource.

⁴ The three plans are the 1995-1998 FCRPS Biological Opinion, the CRITFC tribes' 1995 restoration plan *Wy-Kan-Ush-Mi Wa-Kish-Wit*, and the Northwest Power Planning Council's 1994 *Strategy for Salmon*.

action area. The action area is defined as, "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action."

Critical Habitat

- 20 The DEIS fails to address listed species critical habitat. This is inconsistent with the 1995 FCRPS Biological Opinion (IV p. 82) which defines critical habitat as that which is critical to the survival and recovery of the species and determines whether or not the proposed operation adversely modifies or destroys the listed salmon's critical habitat.

Specific Comments

S.5 No Action Alternative

- 21 The No Action alternative, with extant baseline conditions and no action, is not an authentic alternative. Because upper Columbia spring chinook and steelhead are ESA listed, ESA Section 7 consultation and Section 10 Incidental Take permits must be conducted. In the case of the Wells Project, these have been consummated. NMFS, however, has failed to finalize these consultations for the Rocky Reach or Rock Island projects. Thus, this alternative is premature until these consultations are finalized and appropriate permits and biological opinions have been issued. It should be deleted from the final EIS unless these opinions and permits are finalized.

- 22 The DEIS fails to mention that the Rocky Reach prototype juvenile bypass system has been under dispute from tribal parties since it was first conceived. The Fourth Interim Stipulation for the Rocky Reach Project required Chelan PUD to seek consensus in developing the system. However, conditional implementation of the HCP has allowed Chelan to proceed with development of the system while it is still under dispute (Attachment 7). Thus, Alternative 3 (the HCP) has significantly impacted the other two alternatives. The final EIS must clarify these issues when defining the alternatives.

Currently Chelan PUD is refusing to honor the Fourth Interim Stipulation for Rocky Reach, which requires spill to 15% daily average flow. This situation also impacts the definition of Alternative 1, in that Alternative 1 as described is not reality. Further, the DEIS is incorrect when it states that the "main goal" of the Fourth Interim Stipulation was to build a bypass system. From the Joint Fisheries Parties' perspective, the main goal of the stipulation was to obtain immediate fish protection through spill, and advance mitigation and compensation for losses through the Rocky Reach Project.

- 23 With respect to Rock Island, the Alternative 1 in the DEIS does not accurately describe the baseline condition. A spill agreement between NMFS and Chelan, under the "conditional implementation" of the HCP, removed the spill authority from the other Joint Fishery Parties and the spill conservation account management specified under the Rock Island Settlement Agreement (Attachments 7 and 8).

S 5.2 Alternative 2 (Section 7 Consultation)

24

The DEIS fails to mention that the QAR report indicated a substantial risk of extinction for Mid-Columbia River spring-run salmon and steelhead if recent survival rates continue without supplementation. The final EIS must correct this oversight. Further, if the Mid-Columbia dams were removed, then recent total life-history survival rates would not continue, because survival, fish critical habitat and productivity would dramatically increase through the Mid-Columbia reach.

25

No rationale is offered why a screened bypass system would be included at each dam for Alternative 2. If spill is sufficient enough to meet downstream passage objectives, then it would stand alone.

26

If studies show that drawdown and decommissioning (dam removal) are necessary to meet recovery standards that provide harvestable surpluses, then these options would proceed under a relicensing process. No rationale is given as to why the decision would be postponed, given the high probability that upper Columbia listed species, closest to extinction in the basin, may expire in the near future without such measures.

27

The DEIS is inconsistent with the 1995-1998 FCRPS Biological Opinion and completely speculative as to the benefits that could be derived from minimum operating pools at the Mid-Columbia Projects. Drawdowns to minimum operating pool have been a fundamental reasonable and prudent measure under the 1995 FCRPS Biological Opinion, and haven't been studied at the Mid-Columbia projects.

28

A major strength of Alternative 2 is that there are many avenues to create and prescribe measures that are necessary for recovery of listed salmon by fishery experts who have the legal and management authorities to protect the resource, and the statutory authorities of the federal agencies are fully maintained. For example, actions through relicensings, actions through the Mid-Columbia Proceedings, actions under the ESA and actions under the Clean Water Act are all possible remedies to promote and achieve meaningful recovery measures. The final EIS should fully describe these attributes associated with Alternative 2, but not available under Alternative 3.

S. 5.3.1 Alternative 3 (Project HCPs)

29

The HCPs fail to include Pacific Lamprey, sturgeon, and ESA listed bull trout. Whether or not these would be afforded protection would be up to other processes, including the Federal Power Act and the Northwest Power Act. This is a key deficiency of the HCP.

30

Full mitigation has not been provided for anadromous fish losses at the HCP projects. From a tribal perspective this includes both listed and unlisted species. Currently, Rocky Reach and Rock Island are illegally taking listed salmon without a Section 7 Biological Opinion under the "conditional implementation" of the HCP as

allowed by NMFS. This demonstrates that under a consummated HCP, listed species would continue to be taken and driven to extinction.

31

Existing hatcheries have not provided adequate compensation for the initial construction of dam and reservoirs and the continual passage losses through the dams. NMFS' supplementation policies that restrict hatchery compensation add additional blockages to full mitigation and compensation.

32

The environmental baseline should consist of pre-project river conditions and population levels of anadromous salmon, or just prior to 1933 when Rock Island was constructed. No rationale is given in the DEIS to explain why the baseline conditions are moved from 1933 to 1977.

33

The terms of the HCP are arbitrary and not biologically based. Each PUD is given from 15-20 years to achieve NNI. Given the current status of the upper Columbia stocks presented in the QAR (Cooney et al. 2000), it is very likely that these stocks will be extinct by the time that the PUDs achieve NNI. Under the HCP alternative, if a stock is headed toward extinction, neither NMFS nor the other fishery parties have leverage to force operational or structural changes to improve passage at PUD projects.

34

NMFS and the USFWS would not withdraw from the HCP if the PUDs met all conditions except the performance standards, which are the heart of the HCP. Thus, the federal agencies with jurisdiction over the ESA would not have the leverage of the ESA to prevent extinctions. Further, NMFS and USFWS are restricted from recommending drawdowns and/or project removal without the consent of the PUDs- effectively removing a key restoration action that may be required to prevent extinctions.

S.5.3.4 HCP Mitigation Objectives

35

The HCP alternative includes measures from a biological standpoint, but not a physical and chemical standpoint. Biological measures and criteria stem from physical and chemical measures. For example, if temperature, a physical parameter, is too warm, then salmonids develop biological responses such as stress, disease and mortality. This is a significant omission in the HCP alternative.

36

As previously mentioned, the effects of the projects on anadromous fish go well beyond 1,000 feet below an individual project. This was an issue raised by tribal biologists but disregarded by NMFS and the PUDs. Water quality parameters such as dissolved gas, can directly and cumulatively impact stocks below a project. These impacts include stress or injury of fish as they pass the project that result in direct and delayed mortality by predators or disease well after the fish have passed an individual project. This is another concern with Alternative 3.

S.5.3.5 HCP Performance Standards

- 37 The original intent of the NNI standard was to make the dams, "transparent." However, the standards were developed without any quantitative analysis. Further, the standards remain speculative because the PUDs have not obligated themselves to fund measures that will contribute to meeting the standards (ie; spill at dams, habitat improvements and full supplementation production) and the measures themselves remain very speculative. For example, NMFS will not guarantee the 7% hatchery component, because of policy concerns related to genetic management, thus, it is impossible for the NNI standard to be achieved. It is disingenuous and factually wrong for NMFS to characterize Alternative 3 in the DEIS as consistent with the proposed HCPs that guarantee the 7% hatchery component.
- 38 The habitat component of 2% is purely speculative. It remains unknown whether or not this is obtainable. Specific measures that should be implemented to attempt to achieve this piece of the NNI standard remain unresolved.
- 39 The 95% and 91% dam and project survival standards, as noted by tribal biologists during the HCP discussions, are not sufficient to foster recovery of severely depressed salmon stocks, particularly to havestable levels. These standards must be viewed from a cumulative, exponential perspective, rather than a linear perspective. From an exponential perspective, the 95% dam survival standard results in (.95) raised to the third power or 85.7% survival through three dams. Likewise, a 91% project survival standard results in only a 75.4 % survival through three hydroprojects. These losses are much too great to sustain, much less recover upper Columbia stocks. Due to the extreme depressed status of the runs and the desire of tribes for recovery of treaty resources, some tribal biologists sought a 98 % survival standard during the HCP discussions.⁵ If achieved, this standard would have resulted in a 94.1 % survival rate through three projects or dams.
- 40 A major omission of Alternative 3 in the DEIS is the failure to include passage and survival standards for adult anadromous fish. This was a contentious issue in HCP negotiations for some tribal biologists. While some adult losses were calculated into the compensation numbers, the lack of measurable adult passage standards allows the PUDs to avoid operational or structural measures necessary to improve adult passage and survival through the projects. Given that one successfully spawning adult can contribute 3,000-5,000 eggs to the next generation, CRITFC has recommended adult passage standards requiring mainstem dam operators to decrease pre-spawning mortality due to dam passage and passage time through their projects by at least 50% (CRITFC 2000). The 2000 FCRPS Biological Opinion at least requires reduction of adult fallback as a means to increase adult passage survival. The HCP alternative fails to provide any standards. Further, power peaking, an action that has been shown to reduce adult passage success (Bjornn and Peery 1992) is not addressed in the DEIS.

⁵ During the relicensing process for the Lower Elwha and Glines Canyon dams, tribal, state and federal biologists determined that a 98% juvenile survival standard was necessary to restore five races of anadromous salmon and steelhead to the Elwha River.

S.5.3.6 HCP Phases

41 Because the HCP is already under “conditional implementation,” steady progress toward achieving the survival standards should be required. However, the exact meaning of “steady progress” was never defined or quantified by the parties. It is clear that Chelan PUD is failing to make steady progress at both Rock Island and Rocky Reach since juvenile fish guidance decreased in 2000 from 1999 levels (Murphy et al. 2000); in 2001 Chelan ended Rocky Reach spill which in 2000 was 15% of daily average flow and Chelan has reduced 2001 spill from 2000 spill levels at Rock Island (Attachment 8). This raises the question as to the meaning of “steady progress.”

42 While in theory it might be appropriate for the PUDs to move on to Phase III if performance standards were met for some species, in reality there may be other species that migrate at the same time that are not achieving the standards. These species may be subjected to passage “tools” that benefit other species but select against the species that have not met the standard. Thus, they are not protected.

43 The Mid-Columbia Coordinating Committee has yet to resolve issues related to the performance standards. There remains serious disagreements about the tools and methodologies to measure the standards, appropriate ranges of flow years to consider, life cycle analyses, delayed mortality and other issues. Under the existing Mid-Columbia settlement agreements and the Mid-Columbia proceedings, the coordinating committees operate under a consensus basis. This would be altered under Alternative 3. Under Alternative 3, the HCP coordinating committee would no longer be ruled by consensus. Instead, the PUDs would have the final decision on what passage tools to use, even in Phase III after NNI and/or the performance standards are not met. This represents a significant loss of authority for the tribes and other members of the Joint Fisheries Parties and is unacceptable.

Wells Dam

44 Section E. 2 of the existing 1990 Wells Settlement Agreement requires Douglas PUD to provide juvenile salmon with an 80% and 70% fish passage efficiency protection over the entire migration (100% of the migration). The Alternative 3 performance standard reduces juvenile protection to the middle 95% of the spring and summer migrations. The lack of protection on the beginning and end of the migration selects against important genetic and life history characteristics of the population and works against overall stock recovery.

Rocky Reach Dam

45 As previously stated, limiting performance standards to point estimates of survival for one group of fish for one environmental condition fails to consider the impacts of hydroproject passage for an entire stock over a number of varied environmental conditions. Further, survival study methodologies employed by the PUD

are in dispute with some of the JFP. In particular, critical assumptions that are necessary to make survival estimates robust continue to be violated.⁶

46

As Chelan PUD refuses to spill at Rocky Reach for the 2001 migration under the conditional implementation of the HCP, there is no assurance that spill would continue to be provided under Alternative 3 (Attachment 8).

Rock Island Dam

As Chelan PUD has significantly reduced spill at Rocky Reach for the 2001 migration under the "conditional implementation" of the HCP despite entreaties from NMFS (Attachment 6), there is no assurance that spill would be provided under Alternative 3.

Tributary Conservation Plan

47

In the original HCP discussions, about \$100 million was deemed necessary by the JFP to achieve a 2% habitat improvement component to NNI. The DEIS states that the PUDs would contribute less than \$ 4 million to the habitat fund. This is less than 4% of the original estimate and would fail to achieve the 2% component of the NNI goal.

Hatchery Compensation Plan

48

Alternative 3 would not afford coho the same standards for compensation as the other plan species. It is unclear why this is the case. In Alternative 2, coho would be afforded mitigation and compensation.

S.5.3.9 Provisions for Impacts on other Species

49

It is very likely that the turbine intake screen system at Rocky Reach Dam, installed under "conditional implementation" of the Alternative 3, will likely impinge juvenile lamprey as been seen at Corps' mainstem dam screen systems (NWPPC 1999). Based upon information at Corps dams, the Rocky Reach bypass system will likely injure bull trout, an ESA listed species, because the system passage will cause physical injury similar to that experienced by adult salmon and steelhead. Wagner and Hilson (1991) found 41% of the adult steelhead that fell back through the McNary Dam screen system had visible bruises.

⁶ Current survival studies implemented by the PUDs employ mark and recapture techniques that compare downstream passage detection of a group of fish above one dam to those released below the dam. If the fish from both groups fail to experience identical passage conditions downstream, then a key critical assumption necessary to validate the survival estimate is not met. The model assumes that similar arrival times of marked groups to downstream detection sites satisfies the assumption of identical passage conditions. However, Chi-Square Goodness-of-Fit analyses indicate that the groups do not necessarily arrive at the same time, thus, making suspect survival estimates.

S.3.5.14 Clarification of Issues

While Douglas PUD has conducted survival studies, whether or not the 91% project survival parameter has been met is still under dispute. Douglas has yet to conduct a study that evaluates yearling juvenile survival through the entire Wells Pool, nor have they conducted survival studies for subyearling salmon or sockeye.

Verification of Standards

- 50 No specific biological or statistical standards have been agreed to by the JFP. Representative tools are not available to measure performance standards for all of the planned species. The DEIS appears to indicate that dam passage survival would be the only measurement available to measure the performance standard. Yet the HCP requires survival measurements of the entire project. The DEIS appears to modify the intent of the draft HCP agreements, similar to the modification of the 7% hatchery component.

S.7.2.2 Alternative 2

- 51 The DEIS fails to mention that Alternative 2 would require NMFS to consult with affected tribes under the Secretarial Order. The DEIS also fails to mention that under Alternative 2, NMFS and the Department of Interior maintain their authorities under the Federal Power Act to condition the dams for fish passage and even condition the dams for project removal.

S.7.2.3 Alternative 3

- 52 Under Alternative 3, the burden of proof is on the party bringing an issue to dispute resolution. Because Alternative 3 establishes the JFP with the burden of proof, the JFP have the burden of demonstrating that their position (to protect and restore the resource) is accepted by a third party. This is a key drawback of Alternative 3 for the JFP. In Alternative 2 the burden of proof is equally placed between the PUDs and the JFP.

- 53 The "no surprises policy" guarantees that the PUDs will not have to take additional measures to assure recovery of the resource in the 50 year HCP period. The tribes have no such assurance for the health and abundance of the resource or that their harvest rate will be protected.

These aspects of Alternative 3 are unacceptable to CRITFC.

S.7.4.3 Alternative 3

- 54 As noted above, Alternative 3 as defined in this DEIS fails to guarantee 100% NNI. Neither the hatchery component nor the habitat component is assured.

Adaptive Management

- 55 Adaptive management, as defined by Hilborn (1987) means that experimental, probing actions are implemented, monitored and evaluated. Based upon the results, more actions are taken. In the true sense of adaptive management, all passage solutions would be used as probing experiments, including drawdowns. Under the HCP, drawdowns are not jointly considered. Thus, Alternative 2, which allows a range of probing actions, is more likely to achieve an adaptive management context than Alternative 3.

S.7.6.2 Alternative 2

- 56 Under Alternative 2, provisions of the Clean Water Act, the Federal Power Act, the Northwest Power Planning Act, tribal treaties and other laws and statutes are available to protect and restore Mid-Columbia anadromous fish through increased operational and structural measures and supplementation.

S.7.5.3 Alternative 3

- 57 Under the HCP, as noted above, Alternative 3 as defined in the DEIS fails to guarantee 100% NNI. Neither the hatchery component nor the habitat component are assured.

S.7.6 Other Environmental Measures (Table S-3)

The DEIS is incorrect or fails to express the following in the environmental comparisons and in general lacks analysis of alternatives from an ecosystem approach as noted by Williams et al. (1996) and Lichatowich and Mobrand (1995):

- 58 Project area soils- only Alternative 2 provides drawdown or project removal options. Riparian areas would be restored increasing mainstem spawning, incubation and rearing habitats through restoration of lotic properties instead of reservoir/lentic properties (Williams et al. 1996).
- 59 Reservoir erosion and sedimentation- only Alternative 2 provides drawdown or project removal options. These would reestablish natural river sediment transport regimes in the project area contributing to increased anadromous fish production (Vannote et al. 1980). For example, increases in turbidity would provide cover for juvenile salmon from predators and increase production as noted by Junge and Oakley (1966) and NMFS (2000).
- 60 Tributary Channel and watershed conditions- only Alternative 2 provides drawdown or project removal options. This would restore vital habitat linkages between tributary and mainstem areas. In particular, summer chinook habitat at the confluence between the tributaries and the mainstem would be restored (Williams et al. 1996).

- 61 | Juvenile Migration/Survival standards- only Alternative 2 has the stated goal to require standards necessary to recover listed species, while leaving flexibility to establish standards through other laws and statutes necessary to recover unlisted species.
- 62 | Adult Migration/Survival standards- only Alternative 2 has the stated goal to require standards necessary to recover listed species, while leaving flexibility to establish standards through other laws and statutes necessary to recover unlisted species. Alternative 3 has no adult standards.
- 63 | Drawdown- as stated above, drawdown will increase fish spawning and rearing habitat and adult and juvenile survival, for a cumulative net production benefit. Winter (1990) gives several examples of anadromous fish restoration through dam removal. These issues are not mentioned, yet they are significant.
- 64 | Bull trout- Alternative 2 allows the USFWS to engage in Section 7 ESA consultations and through the Federal Power Act, condition the projects to protect and restore bull trout. Alternative 3 does not allow this conditioning since bull trout are not an HCP species.
- 65 | QAR results- the DEIS fails to consider that drawdowns or project removals would increase survival and significantly increase productivity through habitat restoration. The QAR did not consider the benefits to habitat restoration. As stated in the table, the effects of supplementation have not been analyzed in the QAR. This is a key deficiency in the DEIS that should be addressed. The statement that "*habitat productivity*" would increase survival under Alternative 3 from 6-10% is completely speculative and not supported by any DEIS analysis.
- 66 | Fisheries resources- this section is not consistent with other parts of the DEIS. For example, under Alternative 3, coho are not afforded immediate supplementation, but the table indicates that they are afforded supplementation. Under Alternative 3, the retention of reservoirs will continue to provide excellent habitat for fish predators on salmon as compared to restoring lotic conditions possible under Alternative 2.
- 67 | Monitoring- under Alternative 2, NMFS and the JFP could condition the licenses and appeal to the Clean Water Act provisions to provide both fish and water quality monitoring. Under Alternative 3, the JFP have no authority to obtain fish and water quality monitoring at the projects.
- 68 | Total Dissolved Gas (TDG)- under Alternative 2 the JFP could condition the licenses and appeal to the Clean Water Act provisions to provide for reductions in total dissolved gas by either drawdowns or project removals that would limit deep plunging and entrainment of nitrogen. These provisions could also force the PUDs to install structural modifications to the dams to reduce TDG. Under Alternative 3, the JFP have no authority to regulate the PUDs to reduce total dissolved gas. Downstream reductions of total dissolved gas would be possible under Alternative 2, which would increase fish survival at lower river dams through increased spill at these dams and decreased risk of

gas bubble trauma from reduced exposure to elevated gas. This is a cumulative benefit that the DEIS failed to fully analyze.

69 | Temperatures- The DEIS failed to address this critical parameter. Data from Jaske and Gobel (1957) and more recent data (Corps 2001) indicates that the projects contribute to violations of temperature standards. Under Alternative 2, the JFP could condition the licenses and appeal to the Clean Water Act provisions to provide both fish and water quality monitoring. Under Alternative 3, the JFP have no authority to obtain fish and water quality monitoring at the projects.

70 | Wildlife- the DEIS fails to mention that under Alternative 2, draw downs and project removal would restore anadromous fish and riparian wildlife habitat. These would also contribute to the restoration and enhancement of wildlife populations. Alternative 3 would not restore riparian wildlife habitat, thus, depression of wildlife populations would persist.

71 | Economics – Alternative 2 would allow for restoration of natural resources through draw downs, project removal, or appropriate passage conditions. These would promote natural river recreational opportunities that are at least equal or greater than that provided by retaining the projects and reservoirs. Increased sport, tribal and commercial fishing activities would be available from restoration of natural resources, yet the DEIS does not address these. As note below, tribal health, welfare and socio-economics could be vastly impacted by the alternatives, yet the DEIS fails to address these issues.

72 | Cultural resources- the DEIS fails to address the anadromous fish resource as a critical cultural resource. The projects occupy ceded lands of the Yakama Nation. Maintaining the status quo or limiting restoration under Alternatives 1 and 3 will continue to impact tribal cultural resources.

1.5.2.6 Federal Trust Responsibilities to Indian Tribes

73 | The DEIS fails to distinguish the differences between trust responsibilities and treaty protection. The courts in United States v. Oregon have stated that all non-tribal conservation measures must be exhausted before the treaty tribes right to harvest is diminished. Alternative 3 with a “no surprises” policy allows the PUDs to limit their efforts to harvest salmon through their hydroprojects, effectively shifting the conservation burden back to the tribes. This is not consistent with the law and equitable sharing of the conservation burden.

74 | The DEIS should state that the tribes will not endorse the HCPs if NMFS will not guarantee the 7% hatchery compensation necessary to achieve NNI.

1.6.3 Alternative 3

75 | The footnote on page 1-16 contains contradictory statements. The proposed draft HCP agreements commit to the 7% hatchery component for NNI, yet in the DEIS, NMFS

cannot commit to the 7% hatchery component. Yet, the footnote says that NMFS is committed to the proposed draft HCPs. NMFS can't have it both ways.

76 Since the "conditional implementation" of the HCPs has been implemented, juvenile salmon protection has already been unilaterally diminished by Chelan PUD at Rocky Reach and Rock Island dams. In April, 2001, Chelan reduced Rock Island spring spill from 31 kcfs to 20% of daily average flows and completely ended Rocky Reach spill. This indicates clearly that Alternative 3 would not meet the requirements of the treaties, ESA, the Federal Power Act and the Northwest Power Act.

77 p. 1-25 The CRITFC tribes restoration plan, *Wy-Kan-Ush-Mi Wa-Kish-Wit* has specific recommendations for the hydroprojects and watershed area under consideration yet it is not mentioned in the DEIS.

p. 2-10-2-15

78 The DEIS fails to mention that recent estimates for turbine mortality in the DEIS occurred during high flow years with good water conditions. Estimates have yet to be established for poor water years, yet need to be. Further, the DEIS uses Snake River turbine estimates for Wells, Rocky Reach and Rock Island, when there are specific turbine mortality data for these projects. For example, steelhead mortality through turbines at Wells Dam is cited as 16% while Rock Island turbine mortality was cited as 5.7% or 13% (Whitney et al. 1997). The DEIS should have cited specific data that is available for specific projects.

79 Adult median passage times through fishways is a nebulous statistic. What is more important is the range of outliers in the data set. For example, according to adult passage studies, it can take days and even weeks for some salmon to pass these dams. Such delays compromise adult spawning success and distribution into more favorable spawning areas and waste precious energy reserves.

80 As stated previously, there are problems with the robustness of the estimates of survival using the mark and recapture pit-tag survival studies. At best, they are a snapshot of the survival of a particular group of marked fish and do not adequately represent survival of even one years' migration. Alternative 3 limits accounting of juvenile salmon protection to these snapshots while failing to incorporate passage standards for the migrations as a whole.

81 Juvenile mortality through screen bypass systems is much higher than indicated in the DEIS. For example, subyearling chinook direct and indirect mortality at the Bonneville Dam second powerhouse screen bypass system was documented at 20% (Gilbreath et al. 1993). Matthews 1987 (in Chapman and Witty 1994) notes that yearling chinook suffered an average of 5.8% mortality from the Lower Granite bypass system. In 1977, at low flow year, juvenile mortality in bypass systems was as high as 30% (Park et al. 1978). IDFG (1998) and Deriso et al. (1996) reported that adult returns trended negatively from juvenile pit-tagged salmon that went through multiple bypass systems.

82 | Screen systems also negatively impact sockeye causing large rates of descaling and impinge juvenile Pacific Lamprey. The DEIS should be modified to include all relevant studies on the impact of these systems on salmon.

83 | The DEIS speculates that the Rocky Reach bypass system can achieve a 98% survival rate, without any supporting data. Guidance for migrants in 2000 significantly decreased in 2000, which the DEIS fails to mention. Based upon pit-tag detection guidance for sockeye and subyearling chinook was only 7% and 27% respectively (Murphy et al. 2001). These extremely low guidance rates indicate that spill should be increased. Instead, Chelan PUD, under NMFS' definition of conditional implementation of the HCP, has completely shut off spill (Attachment 8).

84 | Under controlled spill conditions, total dissolved gas has not been shown to impact salmon survival (Backman et al. in press; Backman et al 2000). The DEIS fails to examine the wealth of literature available that indicates the extreme risk to salmon populations from not spilling and sending salmon through bypass systems or turbines.

p. 2-16-2-17

85 | The DEIS states that adult survival estimates have not been established for the Mid-Columbia. This is incorrect. NMFS and the Idaho Cooperative Fishery Unit presented adult survival data for Mid-Columbia spring chinook and sockeye (Bjornn and Keefer 1999). Survival from Rock Island to Wells Dam for spring chinook is about 91% and for sockeye is about 97%.

p. 2-18

86 | The DEIS fails to include NMFS' conclusion in the 1998 Supplemental FCRPS Biological Opinion that there is a strong relationship between flow and reduced travel time for juvenile steelhead. This led NMFS to adopt a target flow in the Mid-Columbia of 135 kcfs for spring migrants. Other supporting literature that indicates reduced travel time for juvenile migrants is related to flow includes Cada et al. (1994) and Williams et al. (1996). Reduction of smolt travel time is positively related to increased smolt-to-adult returns as noted by Petrosky and Schaller (1998) and Schaller et al. (1999) and DeHart (1999). Alternative 3 does not include drawdowns that would decrease smolt travel time to the estuary. The DEIS should be modified to include a holistic assessment of the benefits of increased flows and reduced travel time to salmon production.

2.2.4.1 Water Quality

87 | Due to forced spill, the projects can cause total dissolved gas levels to exceed Clean Water Act Standards. Under "conditional implementation" of the HCP, the PUDs are doing little to establish structural remedies to bring the dams into compliance with the standards. The DEIS should be modified to reflect these issues.

88 The loss of turbidity from the existence of the projects has also diminished salmon productivity as noted by NMFS (1999), CRITFC (1999) and Junge and Oakley (1966). The alternatives should be analyzed from this perspective.

2.2.4.2 Water Temperature

89 The creation of the Wells, Rocky Reach and Rock Island Dams has altered thermal regimes in the Mid-Columbia River as noted by Jaske and Gobel (1967) and has at times created thermal blocks for salmon migrations (Major and Mighell 1966). Water temperatures at these dams and passage facilities often exceed water quality standards (DART 1997-2000) for a considerable portion of the summer. Under "conditional implementation" of the HCP, the PUDs are doing little to establish structural remedies to bring the dams into compliance with the standards. Cooler water at depth could be used to regulate thermal regimes in fishways. The DEIS should be modified to reflect this issue.

2.3.3.11 Project Cumulative Effects

90 The DEIS fails to consider cumulative effects from a reach-based perspective. This is inconsistent with the FERC approach for the upper Snake River. In 1997, FERC initiated a cumulative effects analysis through an EIS for the entire upper Snake River reach.

91 The DEIS is also inconsistent with the NMFS cumulative effects approach for the federal hydrosystem. The NMFS 1995-1998 PCRPS Biological Opinion states, under Section V Cumulative Effects (p82) that, "for the purposes of this analysis, the action area encompasses the Snake and Columbia Rivers, including areas outside the range of listed Snake River salmon that affect natural runoff of water into those areas that are within the listed species' range". Thus, the HCP should include projects and areas above the Wells Project.

p. 3-156 3.9.3.3

92 The DEIS statement that a 1969 Supreme Court decision in *U.S. v. Oregon* established the right to fish at all usual and accustomed areas is incorrect. There was no 1969 decision. The Supreme Court established that the 1855 treaties reserved the rights of the CRITFC tribes to fish as found in *United States v. Winans*. Federal District courts in Washington and Oregon have defined the tribes' rights to fish on and off the reservations in *Sohappy v. Smith* and *U.S. v. Washington*. The DEIS sentence that reads, "the court later decided that the Columbia River Tribes were entitled to should be changed to", "The court has decided that..".

4.7 Socioeconomics

93 The DEIS fails to include an analysis of the socioeconomic impacts of the alternatives on tribal economies. Most of the salmon wealth has been taken away from

the tribes and redistributed to non-tribal people in the form of flood control, navigation, irrigation and municipal development. This redistribution of wealth from tribal people that originated in the Mid-Columbia region has resulted in elevated poverty and death rates within tribal populations well in excess of the general population (Ch2 M Hill 1999). In particular, the loss of salmon from construction and operation of the Mid-Columbia PUD hydroprojects has transferred the sustainable wealth created by the river away from tribal peoples and has redistributed this wealth to non-tribal peoples (CH2 M Hill 1999). For example, the Yakama Nation tribal members have access to and take less than 10% of their traditional salmon harvest.

Loss of tribal wealth and the diminishment of opportunities to exercise treaty fishing rights from the depletion of salmon stocks has resulted in disproportionate rates of poverty, disease, mental illness and death in tribal communities compared to non-tribal communities (CH2 M Hill 1999). For example, the per capital income of a Yakama Nation tribal member is only 43% of the State of Washington per capita income, and the poverty rate of a Yakama Nation tribal member is 42.8% compared to the average citizen of Washington State at 10.9 % (CH 2 M Hill 1999).

Further, salmon are the mainstay of tribal religious and cultural practices. Every juvenile salmon that survives hydrosystem passage brings back as an adult some of the river's wealth to the tribal economy and culture. The DEIS alternatives must be evaluated as to their effects on tribal culture and economies and the alternatives ability to redistribute the river wealth back to tribal peoples.

4.10.7 Indian Trust Assets

While the guarantee of the 7% hatchery component is an important issue for the tribes, there are other important issues, including the inadequacy and lack of definition for the Alternative 3 performance standards, the "no surprises" policy, and the loss of JFP authorities under various laws and statutes.

The DEIS is incorrect when it states that, "the 7% level is similar to the existing hatchery production under the FERC settlement agreements." The current Wells Settlement agreement provides for a 14% hatchery production level for unavoidable juvenile losses through the Wells Project. Further, the DEIS is incorrect in stating, "meeting the 7 percent annual goal would guarantee a hatchery production level that supports current tribal harvests and ensures the Tribes that hatchery production would not decline." Current tribal harvest objective on upper Columbia anadromous fish stocks are not being met with current hatchery production (Nez Perce et al. 1995).

The courts in *United States v. Washington* have fully supported the tribal position that hatchery fish are treaty trust resources. The final EIS should clarify this issue. Lastly, the DEIS is erroneous in stating that the settlement agreement numbers were for fish losses from original dam construction. Both the Rock Island and Wells Settlement Agreements have mitigation components that require hatchery compensation for juvenile salmon passage losses.

4.10.8 Environmental Justice

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Both Alternatives 2 and 3 will impact tribal economies that rely upon the health and abundance of treaty anadromous fish in different ways. Alternative 2 will allow retention of federal authorities and protection of treaty resources from a variety of different statutes and laws. Alternative 3 will cause federal trustees to essentially dismiss their authorities for a 50 year period. The DEIS is incorrect in stating that Executive Order No. 12898 is not relevant to the DEIS alternatives. The final EIS should provide analysis of the alternatives in relationship to the Executive Order.

4.10.13 Water Rights

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The implementation of each alternative will impact tribal and non-tribal water rights in different ways. For example, in a low flow year water withdrawals from the Columbia Basin can diminish mainstem flows to the point where spill is jeopardized at the PUD hydroprojects. Further, spill at dams is a water right in that it is the use of water for fish instead of for power. The final EIS needs to analyze the issue of water rights from the perspective of the alternatives.

Summary

The DEIS fails to address fundamental issues raised in CRITFC's scoping comments. In addition, the DEIS contains many erroneous statements and fails to provide analyses for critical issues such as the impact of alternatives on tribal socioeconomics and tribal trust assets. The DEIS is further flawed because it fails to reconcile the fact that NNI is dependent on the 7% hatchery component as called for by the proposed HCPs, while NMFS' position and the DEIS state that the HCPs are "whole" without the 7% hatchery component.

The DEIS fails to analyze the alternatives from an ecosystem perspective and a water quality perspective. The DEIS cumulative and quantitative effects analysis is lacking, and the environmental baseline begins in 1977, which is nearly 50 years after the construction of the Rock Island Project. Further, the DEIS fails to analyze the effects of the alternatives on returning adults to natal spawning areas. The DEIS should be completely rescoped and redone if parties continue to support an HCP concept.

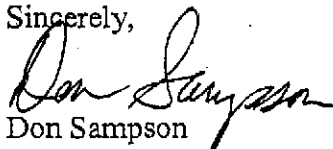
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The acceptance of "conditional implementation" by the non-tribal parties involved in the HCP negotiations has, in effect, stymied important progress in resolving key relicensing issues for the Rocky Reach Project and has apparently prevented NMFS from completing Section 7 consultations with Chelan PUD and FERC. If biological opinions were issued on the Rocky Reach and Rock Island Projects, the DEIS alternatives would be fundamentally changed.

Given the bad faith of Chelan PUD to "conditionally implement" the HCP through cooperation and consensus of the JFP, NMFS should immediately complete a Section 7 Biological Opinion and declare jeopardy on the operation and structural configuration of the Rocky Reach and Rock Island Projects. Upper Columbia stocks, both listed and unlisted, are in extremely poor status, and cannot withstand protection delays while the HCP process grinds onward at an excruciatingly slow pace.

CRITFC does not support DEIS Alternative 3 for the above reasons. CRITFC recommends that NMFS and the Department of Interior retain their authorities under various statutes and laws to prescribe, in consultation with the tribes, meaningful protection, mitigation and compensation measures for the PUD hydroprojects, as offered in Alternative 2. This is critical to immediately increase anadromous fish survival and productivity to avoid extirpation and to fully recover Upper Columbia populations to a level that provides for tribal and non-tribal harvestable surpluses.

Sincerely,



Don Sampson
Executive Director

Attachments 1-8

CC: Commissioners, tribal attorneys and program managers, Joint Fisheries Parties.

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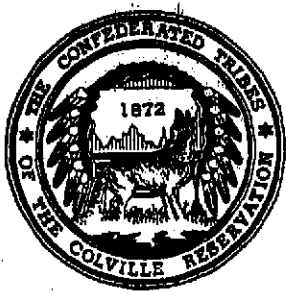
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Columbia River Inter-Tribal Fish Commission (CRITFC)

Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹
1	15	34	24	67	50
2	38, 43	35	22	68	2
3	44	36	55	69	1, 23, 50
4	55	37	15	70	34
5	6	38	12	71	34
6	6	39	29	72	37, 106
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8	35, 48	41	62	74	44
9	23	42	22	75	15
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11	23	44	28	77	23
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15	23	48	17	81	35
16	44	49	35	82	48
17	44	50	18	83	35, 80
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20	1	53	21, 38, 40, 43	86	25
21	47	54	15, 27	87	4
22	35	55	21, 34	88	3
23	33	56	23, 34	89	62
24	16, 54	57	15, 27	90	6
25	35	58	24	91	55
26	24	59	3, 24	92	40, 82
27	25	60	24	93	95
28	23, 34	61	34	94	16
29	48	62	24	95	20
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¹ see Appendix C



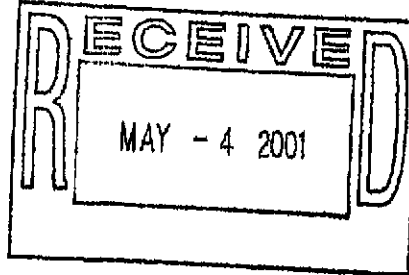
Confederated Tribes of the Colville Reservation

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Bob Dach
NMFS, NWR, Hydro Program
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Portland Oregon 97232 - 2737



May 1, 2001

RE: Comments on the Draft Environmental Impact Statement (DEIS) regarding the proposed Anadromous Fish Agreements and Habitat Conservation Plans (HCPs) for the Wells, Rocky Reach and Rock Island Hydroelectric Projects.

Dear Mr. Dach:

The Confederated Tribes of the Colville Indian Reservation (Colville Tribes) has reviewed the DEIS regarding the *Proposed Anadromous Fish Agreements and Habitat Conservation Plans (HCPs)* for the Wells, Rocky Reach and Rock Island Hydroelectric Projects. We appreciate the opportunity to review the document and provide the following comments. The Colville Tribes has been a participant in the process of this HCP development since it's initiation more than six years ago. We have in good faith attempted to support and move the process forward towards meeting the recovery, protection and conservation of Mid-Columbia anadromous fish resources which are so important to the Colville Tribe's subsistence, religious, ceremonial and cultural way of life. However, since last year it has become evident to the Colville Tribes that several unresolved issues exist with respect to the HCPs which place in question whether they fall short of providing the necessary protection, conservation and recovery for Mid-Columbia River anadromous fish resources. We will discuss these issues and the uncertainties they create for the HCP alternative in our comments below.

General Comments

- The most important element of the HCP alternative from the Colville Tribes perspective is the overall performance standard of 100% which is known as the No Net Impact standard. This standard in our view is the foundation of the HCPs and is intended to achieve no net impact for all plan species at each project. It includes both a project survival requirement of 91%, which includes a 95% juvenile dam passage survival, and a 9% compensation requirement for unavoidable project mortality, which is provided through 7% hatchery and 2% habitat compensation programs. During the late stages of HCP development, the National Marine Fisheries Service (NMFS) determined that they could no longer support the 7% hatchery compensation requirement as had been identified during the prior 4 years of HCP development. They were concerned

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with the potential impacts to ESA recovery from hatchery programs and therefore could not guarantee the 7% compensation level. We question this decision by NMFS, especially since their assessment (QAR) of implementing only the HCP survival and tributary improvements (no hatchery compensation measures), indicate that these HCP actions would not meet interim recovery levels for either spring chinook or steelhead. The reluctance on the part of NMFS to guarantee the 7% hatchery compensation level creates a major concern for the Colville Tribes and as long as the No Net Impact standard remains unresolved, the Colville Tribes will not support the HCP alternative.

- 2
- A major objective of the HCP alternative is to protect and conserve both listed and non-listed anadromous fish plan species which include: spring run chinook salmon, summer/fall chinook salmon, sockeye salmon, coho salmon and steelhead inhabiting the Mid-Columbia River basin. The hatchery compensation plan for one of these plan species, Okanogan River sockeye salmon, is inconsistent with this objective. This plan species, and only this species, is subject to a substitution measure, which allows sockeye smolt production to be eliminated and substituted by summer/fall chinook. The Colville Tribes oppose this action and voiced concern on many occasions during the HCP development process that they would not support an action, which substituted one plan species for another. However, one of the HCP proponents, Douglas County PUD continues to pursue this action and just recently reminded the Colville Tribes of their ability to continue this action within the HCP process. Okanogan River sockeye are an important anadromous fish species to the Colville Tribes and we are concerned about the well being of this species in light of the unavoidable losses caused by the Wells Hydroelectric Project. We will not agree to an HCP that contains measures that allow unavoidable mortality of Okanogan River sockeye to be compensated by substituting hatchery production of sockeye for that of another species.
- 3
- The verification of survival standards also concerns the Colville Tribes. Currently, technology is not available to sufficiently conduct all of the survival evaluations required in the HCPs for all plan species. The HCPs propose to conduct representative survival studies for yearling chinook and steelhead and then develop indirect methods to measure compliance of other plan species during Phase I. Efforts would continue to determine more direct compliance during later phases but no mandatory survival studies to verify survival standards of all plan species is required. This strategy tends to suggest to the Colville Tribes that there is a lack of commitment on the part of the proponents to conduct survival studies on any plan species except the listed species. They want a 50-year agreement that supposedly will conserve, protect and recover all anadromous plan species, both listed and unlisted, but in reality the survival studies only deal with listed species. Why would the Colville Tribes commit to a 50-year agreement that would affect the Tribe's ability to raise other anadromous fish issues that may become important to the
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Tribe during the next 50 years, when only listed species will be the focus of this HCP. We can almost certainly obtain those same assurances with the Section 7 Consultation Alternative without having to commit to a 50-year agreement. This issue is discussed in more detail in specific comments, 2, 3, and 4 below.

Specific Comments

6 * We note that survival estimates and monitoring efforts appear to be heavily reliant upon marking programs (PIT tags, balloon tags, radio tags). We feel that although theoretically this may be sound, in practice, large scale marking programs as needed to assess both juvenile and adult passage rates and survival may not be possible due to the scarcity of test animals. We offer no solution to this situation but question, given the stress and mortality associated with fish handling and marking, the practicality of marking large numbers of Plan or Permit species for either phase I or II evaluation or phase III monitoring efforts.

7 We also note that survival studies utilizing PIT tags require downstream recovery locations equipped with passive interrogation systems. At present, the primary recovery locations for PIT tagged fish used in survival studies at Wells, Rocky Reach, and Rock Island Dams would be at McNary and John Day Dams. Due to the great distance between the release and the recovery locations and associated in-river mortality, precise survival estimates would require the release of large numbers of PIT tagged fish. For example, approximately 70,000 yearling chinook were required to evaluate survival rates at Rocky Reach and Rock Island Dams in 1998 and even with these large numbers of marked fish the precision of survival estimates were lower than anticipated due to lower than expected recovery rates. Recovery rates for sockeye and zero age chinook would likely be lower than that of yearling chinook, requiring excessive, possibly unrealistic, numbers of PIT tagged fish to conduct the survival studies.

9 It is our understanding that turbine mortality studies with balloon tags are normally conducted by releasing individual marked fish through turbine intakes. Although we agree that this type of assessment does provide some level of insight into the effects of turbine passage on juvenile salmonids, we do not believe that this assessment technique adequately represents the simultaneous passage of thousands of juveniles through turbine intakes as occurs during peak outmigration periods. We therefore suggest that other evaluation techniques be used in conjunction with balloon tag studies to adequately assess juvenile turbine passage mortality.

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* We have noted that the HCPs rely heavily on marking programs to verify compliance with survival standards and have questioned that adequate numbers of test fish will be available to conduct these evaluations. We also note that under "Phase I Measurement and Evaluation, section d" in each HCP it states:

"If the differences between the study results and the District's performance standard being measured are not statistically significant, then the District's performance standard has been met."

We object specifically to this clause as non-significant differences, which would be interpreted as meaning that the District's have met their performance standards, can easily result from a combination of inadequate numbers of marked fish or lower than anticipated recovery rates.

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* We acknowledge the use of surrogate species (i.e., yearling fall chinook for spring chinook) in marking studies as an alternative to marking endangered species. However, we question that yearling chinook and juvenile steelhead adequately represent the FPE or mortality rates of juvenile sockeye or zero age chinook summer migrants. We note that Fish Guidance Efficiency research at COE projects has consistently shown both sockeye and zero age chinook to have considerably lower Fish Guidance Efficiencies (FGE) compared to those of yearling chinook and steelhead. In addition, descaling and mortality rates for juvenile sockeye are typically higher than those of yearling chinook and steelhead at Columbia River COE projects. We also note that both turbine passage mortality and predator susceptibility for juvenile sockeye and zero age chinook are likely different from those of yearling chinook and juvenile steelhead. We suggest that FPE and survival estimates derived through the use of tagging studies with yearling chinook and steelhead likely will overestimate FPE and survival for the other Plan species (sockeye, zero age chinook, and possibly coho) under Alternative 3. In addition, because adult passage studies have not been completed for each of the three hydroelectric projects and juvenile studies have not been completed for each of the Plan species, the only standard to which project survival can be measured under Alternative 3 are survival studies of juvenile steelhead and yearling chinook. We further note that the yearling chinook used in such studies were yearling fall chinook as a surrogate for yearling spring chinook. We suggest that both juvenile and adult passage and survival evaluations need to be completed for all Plan species and used to evaluate and monitor compliance standards for all three HCPs. However, we also question the practicality of completing such work and repeating such work on a timely basis as necessary for either evaluation or monitoring activities.

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- 14 * Under Alternative 3, the HCPs indicate that the evaluation portion of Phase I will occur over a three year period. We question that all five Plan species could be evaluated during such a short period of time.
- 15 * We applaud the consideration given to adult fallbacks in both Alternatives 2 and 3. We are aware of 1999 radio tracking work conducted with adult steelhead in the Mid-Columbia which, when the data analysis is complete, will provide some reference on adult steelhead migration behavior including fallback at mainstem projects. We are not aware of work specifically designed to address: 1) kelt passage in terms of guidance efficiency, direct and delayed mortality (note that kelts are downstream migrants and not true fallbacks) or 2) fallback guidance efficiency, direct and delayed mortality. We believe this to be an outstanding unresolved issue, which has not been adequately addressed in either the action areas of the Wells, Rocky Reach, or Rock Island Projects or elsewhere in the Columbia Basin.
- 16 * We agree that Pacific lamprey, although currently not listed as a Plan species, may benefit from tributary improvements as part of Alternative 3. Pacific lamprey currently are the focus of dam passage research elsewhere in the Columbia Basin due to declining populations. Currently, little is known of juvenile lamprey FPE or turbine passage mortality and we therefore consider this to be an outstanding unresolved issue. We further request that due to the cultural importance of lamprey to the Colville Tribes, that Pacific Lamprey be included as a Plan species under Alternative 3.
- 17 We also note that restoration of lamprey populations is consistent with the objectives for basin level biological performance as indicated under the "Anadromous Fish Losses" section of the Northwest Power Planning Council's 2000 Columbia River Basin Fish and Wildlife Program.
- "Halt declining trends in salmon and steelhead populations above Bonneville Dam by 2005. Obtain the information necessary to begin restoring the characteristics of healthy lamprey populations." (Page 18)*
- 18 * Similar to Pacific lamprey, white sturgeon are another anadromous species, which have been affected by the development of the hydrosystem but are not listed as a Plan species. The DEIS mentions little about white sturgeon other than that little is known about their population status. Sturgeon are an important species to the Colville Tribes and we believe the most likely impacts to sturgeon populations have been loss of spawning habitat due to inundation and blocked migration due to dam construction. We consider the effect of hydroelectric development on white sturgeon populations in the Mid-

Columbia to be an outstanding unresolved issue, and request that white sturgeon be included as a Plan species under Alternative 3.

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* We note that natural river drawdown and dam removal, although not considered to be viable alternatives in and of themselves, would appear to remain as possible actions available to be evaluated through the FERC relicensing process under Alternative 2 but, except as where specifically noted, not under Alternative 3.

Alternative 2

"Although natural river drawdown is not an option under the existing FERC licenses, it could be evaluated during relicensing procedures. The current FERC licenses expire in 2006, 2012, and 2028 for Rocky Reach, Wells, and Rock Island dams, respectively." (Page S-11)

"In addition to the required research and monitoring efforts, the following measures, or combination of measures, could potentially be required as a result of the Section 7 consultations:...

... Other non-power actions (i.e., drawdown) if the combination of project and habitat related measures have not adequately addressed the decline of listed species." (pages 1-14 through 1-15

Dam removal is extremely controversial, and can only be legally mandated at project relicensing." (page 2-45)

Alternative 3

Under Alternative 3, it would appear that drawdown or dam removal are actions that could be ordered by FERC as part of the relicensing process,

"HCP's also have termination provisions if the performance standards are not achieved. An HCP could be less than 50 years under the following circumstances:...

...FERC orders removal or drawdown of the project." (page 2-33)

But, given ...

"It is the intention of the PUDs that mitigation measures agreed upon as part of the HCP be consistent with, and where possible form the basis of subsequent FERC license articles developed to address impacts on Anadromous salmonids." (page 2-33)

it would appear that such an order from FERC would be unlikely.

A special provision has been made to allow for drawdown or dam removal without termination of the HCP but requires mutual agreement between the services and the PUDs.

"Any party to the HCP (except the PUDs) may elect to withdraw from the agreement, based on the non-compliance provisions of the HCP agreements. However, NMFS and USFWS will not exercise their right to withdraw from the HCP if the PUDs have complied with all aspects of the agreement but have not met the survival standards. If mutual agreement is reached between PUDs and the two Federal agencies, the services (NMFS and USFWS) can seek natural river drawdown, dam removal, and/or non-power operations without withdrawing from the agreement or suspending or revoking the Incidental Take Permit." (page 2-33)

We further understand that, based upon the conditions as stated in the "Assurances" sections of the HCPs, signatories to the HCP cannot advocate drawdown or dam removal except as noted above. However, we assume that non-signatory parties could request an evaluation of drawdown or dam removal as part of the FERC relicensing process for each project.

We request verification that our understanding is correct.

20

* We note that significant differences related to hatchery production exist between Alternatives 2 and 3. Changes in hatchery production are not specifically identified under Alternative 2 although hatchery production may be refined (increased or decreased) based upon effects on listed species.

Under Alternative 3, the HCPs provide 7% hatchery compensation for unavoidable project mortality. We understand from the statement below that the 7% hatchery compensation for unavoidable project mortality is above and beyond that provided for original project inundation (i.e., baseline conditions).

"HCP Baseline Conditions. The HCP's do not address impacts resulting from original project construction or mitigation from past damages. Mitigation measures for these impacts have already been implemented as part of the existing licenses. Prior activities are not considered an action subject to additional mitigation beyond license requirements unless they are considered to cause a continuing "take" of listed species as defined under the Endangered Species Act."

Existing hatchery production levels are initially assumed to provide adequate compensation for original inundation by the projects. Therefore, the baseline is considered to be the existing conditions." (page S-16)

We interpret these statements as meaning that hatchery production would be increased under Alternative 3 to provide an additional 7 percent compensation above baseline conditions (conditions present as of January 1997) unless NMFS determines that such production results in jeopardy to listed species.

21

However, current PUD funded hatchery production includes compensation for both inundation losses (baseline) and for some level of unavoidable project mortality. For example, Rock Island and Wells Settlement Agreements also provide for passage loss through Eastbank and Methow Hatchery Programs. So at least some of the 7% is already being provided under the existing settlement agreements and the PUD's may be providing additional compensation above what is currently required. Because of this, it is difficult to discern from the DEIS how hatchery production levels for each of the Plan species will change under each HCP. Will the Douglas PUD funding for 14% hatchery compensation be reduced with the adoption of the Wells HCP?

22

In addition, the DEIS states,

"During the development of the HCPs, NMFS determined that the 7 percent hatchery compensation levels might adversely affect wild salmon populations under certain conditions. For example, it may be necessary to use adult salmon and steelhead that are not adapted to the local habitat conditions in order to produce enough juvenile fish to meet the 7 percent compensation level. In order to ensure that these compensation levels do not effect the long-term health of the wild populations, all fish produced under this program must be from local stocks. Therefore, until the specific details of the compensation programs are developed, including identification of appropriate broodstock, maximum percentages of the wild population that can be trapped for broodstock, and the total number of fish that can be produced through artificial means, NMFS can not guarantee that the 7 percent compensation level will satisfy Endangered Species Act requirements and no net impact would not be achieved." (page S-26)

It would appear that under Alternative 3, current hatchery production levels could be reduced if they:

- currently exceed the 7% unavoidable project mortality compensation level, or
- are determined to jeopardize the recovery of ESA listed stocks, or
- must rely on insufficient numbers of local broodstock.

We request clarification as to specifically how hatchery production for each Plan species will change from current production levels under each of the HCPs.

23

We note that under "Initial Production Capacities" in the HCPs for the Wells, Rocky Reach, and Rock Island Projects, production of coho is not mentioned. As a Plan species, coho need to be included in the 7% hatchery compensation. As native coho salmon are considered to be extirpated from the Mid-Columbia River region, how will hatchery production levels be established for this species under the HCPs?

24

* We understand that under Alternative 2 a biological opinion will be created and will be a "living document" that will be updated at any time that new information becomes available.

"Specific measures required in the initial biological opinion may be modified or new measures may be required as a result of this process. In addition, if other species were listed under the Endangered Species Act, additional consultation practices would occur." (page 2-27)

We note that under Alternative 3,

"The requirements of Section 10 of the Endangered Species Act provide the guidelines for HCP preparation. The information within each of the HCP's includes the following:.. Proposed mitigation and enhancement measures to address unresolved and unknown future issues (note: an adaptive management plan to address changing circumstances and unknown future events addresses this issue in the proposed HCPs)." (page 2-32)

However, under Alternative 2,

"National Marine Fisheries Service has the legal authority to determine the actions necessary to ensure the survival and recovery of listed species. This includes determining the most appropriate measures to be taken at each project, the necessary level of survival at each project, determining the most appropriate data to be considered when evaluating survival; and modifying the measures as needed if species continue to decline Under Section 7, NMFS has a legal responsibility to provide the benefit of the doubt to listed species with respect to gaps in the information base.

If FERC or the PUDs disagree with the NMFS's decisions under this process, lengthy legal proceedings may ensue." (page 2-53)

Under Alternative 3,

"According to provisions in the HCP's, the authority to determine the appropriate protection measures for all of the Plan species, including Endangered Species Act species, fundamentally shifts away from NMFS under Alternative 3 (HCPs) once the incidental take permit has been issued. During Phase I of the HCPs, the PUDs

would have the ultimate authority to determine the measures necessary to achieve the survival standards. During Phase II, a Coordinating Committee (comprised of the PUD responsible for the HCP, NMFS, and each of the signatories to the agreement), jointly decides on the appropriate measures. If the Coordinating Committee cannot reach consensus, the PUDs may continue to determine the appropriate measures unless the matter is addressed through the dispute resolution process."

"The party bringing an issue to dispute resolution must prove its case by a preponderance of the evidence. There is no requirement to provide the benefit of the doubt to the species of concern with respect to gaps in the information base and NMFS has no authority to determine what constitutes the best available information to be utilized in support of any decisions. The dispute resolution process is limited to under 5 months, ensuring that lengthy legal disputes would not occur, and decisions reached through the dispute resolution process are binding." (page 2-53)

We note that both alternatives provide for some level of adaptive management and that adaptive management under Alternative 2 would only apply to listed species whereas under Alternative 3 adaptive management would apply to all Plan species.

We further note that although Alternative 3 appears to provide an expedited mechanism for settling disagreements, the emphasis shifts away from providing the benefit of the doubt to the species of concern. We recognize that the species of concern would include all Plan species under Alternative 3 as opposed to just ESA listed species under Alternative 2. However, given that substantial data gaps pertaining to fish passage and survival do exist and are likely to continue to exist in the future, we doubt that a "preponderance of evidence" can be readily assembled to support a resolution in favor of the species of concern. We consider this potentially to be a fatal flaw in Alternative 3, as non-compliance to HCP standards must be proven under the dispute resolution process, presumably through some mark recapture study about which we have already expressed concerns (see Comments 2-4). If such proof is not available, then actions detrimental to the species of concern will be allowed to continue.

25 | We believe that lack of direct evidence should not constitute assumed compliance with survival standards.

26 | * It would appear that tributary habitat enhancement is possible under both Alternatives 2 and 3. Under Alternative 2, such actions are not expected but could be required if other on-site actions do not lead to the recovery of the two listed species.

"In addition to the required research and monitoring efforts, the following measures, or combination of measures, could potentially be required as a result of the Section 7 consultations: ...

7. Improvements in tributary habitat if the project specific measures have not adequately addressed the effects of project operations." (pages 1-14 through 1-15)

Under Alternative 3, a Tributary Conservation Plan and Plan Species Account would be created to compensate for 2 percent of the unavoidable project mortality. Contributions to this account would be made by the PUDs on behalf of each project. We note that for the Wells Project:

"For the Wells Project, the Douglas County PUD would make an initial contribution to the account of \$991,000 (1998 dollars adjusted for inflation). If juvenile dam passage survival after three years of evaluations remains greater than or equal to 95 percent, the district would make annual payments of \$88,089 (1998 dollars) throughout the HCP term or would pay \$1,321,333 (equivalent to 15 years of annual payments), deducting the actual costs of bond issuance and interest. If juvenile dam passage survival is less than 95 percent, the Douglas County PUD shall contribute an additional \$991,000 and increase the annual funding to \$176,178, or make an up front contribution of \$2,642,667 (equivalent to 15 years of annual payments in 1998 dollars), deducting the actual costs of bond issuance and interest." (pages 2-38 through 2-39)

We have several concerns related to this clause.

- 27 Per our previous comments related to the heavy reliance of the HCPs on the results of marking programs, to ensure that the 95% juvenile passage survival standard is accurately measured, evaluations must be conducted using each of the Plan species and not through the use of surrogates (Comment 3). As
- 28 indicated in Comment 4, we once again question that survival studies for each of the five plan species can be completed in a three-year period. As indicated in Comment 2 we object to the clause *"If the differences between the study results and the District's performance standard being measured are not statistically significant, then the District's performance standard has been met."* In this case non-significant differences would result in a reduction in
- 29 Douglas PUD contributions to the Plan Species Account.

- 30 In addition, during Phase III of the HCP, juvenile survival is to be periodically re-assessed. If the 95% survival standard were to be met under Phase I, no provision appears to exist to allow additional monetary compensation if juvenile survival is determined to drop below the 95% standard as measured during Phase III monitoring efforts.

We suggest that a statement such as the following should be added:

"In the event that the 95% survival standard is met for each of the Plan species during the phase I three year evaluation period, but subsequently determined to decline to a survival level less than 95% for any of the Plan species during Phase III monitoring activities, Douglas County PUD will

provide an additional \$991,000 and will increase annual contributions from \$88,089 to \$176,178. The \$991,000 (1998 dollars) will be a one time additional payment required for non-compliance with the 95% juvenile survival standard. The increase in annual contributions from \$88,089 to \$176,178 will continue until further monitoring assessments determine that the 95% juvenile survival standard is met for each of the Plan species. Douglas County PUD may provide an additional \$1,321,333 one-time payment in lieu of the additional annual \$88,089. "

31

We further note that the annual payments would begin "...after three years of evaluations..." In addition "The HCPs set an initial 5-year period for the PUDs to meet the 95 percent juvenile dam passage survival standard, followed by up to three years of evaluations." From this, we conclude that the annual payments to the Plan Species Account may not begin until eight years after the start of Phase I. We suggest that the initial payment of \$991,000 be increased to \$1,695,712 (1998 dollars) to account for the eight years of annual payments of \$88,089 that will be missed during Phase I.

32

* We question and seek clarification as to what happens if an affected party does not sign the HCPs under Alternative 3. Our understanding is that because the HCPs are voluntary ESA compliance efforts on the part of the PUDs, that technically they need only include the services (NMFS, USFWS), FERC and the PUDs themselves. It would appear that non-signatories couldn't participate as members (either voting or non-voting) on either of the Coordinating Committees or the Hatchery Committee. The same is generally true for the Tributary Committee, however, a non-signatory party could potentially be selected to serve as an expert non-voting member by the Tributary Committee.

33

* Within the mid-Columbia River, total dissolved gas (TDG) supersaturation is the foremost water quality concern. It causes migration delays and mortality from "gas bubble disease". Most of the TDG is a result of spilling done to aid downstream fish passage or to manage excessive flows. The high TDG levels persist well downstream of the project area where they originate. Currently, spill deflectors are a voluntary mitigation measure, and WDOE grants waivers to the dams for exceeding TDG levels.

We note that spill remains the primary juvenile passage strategy at Rock Island Dam under Alternatives 2 and 3. Spill is also the primary juvenile passage strategy at Wanapum and Priest Rapids dams. We are concerned that increased volumes of spill at Rock Island Dam, as potentially advocated under both Alternatives 2 and 3, may result in increased Total Dissolved Gas levels, which may cripple or preclude spill operations for juvenile passage at the Wanapum and/or Priest Rapids projects.

34 | Given the larger water volumes stored and/or spilled at Chief Joseph and Grand Coulee dams, TDG and other water quality problems originate upstream of the area the DEIS considers. Just as tributaries to the Mid-Columbia are included in habitat and water quality considerations, the effects of the upstream dams should be part of any HCP.

More specifically, the DEIS does not mention any specifics with respect to gas abatement structures at Chief Joseph or Grand Coulee dams. In addition, the large storage behind Grand Coulee Dam (in terms of both areal extent and temporal duration) allows a thermocline to develop during warmer months. The increased temperatures exacerbate the effects of total dissolved gas supersaturation. High water temperatures have other adverse effects on salmonids; these are discussed in a separate section.

35 | Wells: A controlled spill with modified spill bays is currently used for juvenile fish passage, and is relatively successful, having an overall survival rate of 98 percent. The spill form is not clear in the DEIS – is it a step-pool cascade structure? If so, it might result in relatively lower TDG levels resulting from spills (because of decreased vertical drop). The DEIS states that TDG levels “sometimes” exceed state standards; in fact, the Mid-Columbia is 303(d) listed for this parameter because of high TDG levels below Wells Dam. Could the goal of improved fish passage and WDOE’s water quality responsibility to reduce TDG justify a more elaborate structure to accommodate spills (and fish passage)? There is no mention in the DEIS of spill deflectors at Wells Dam, and there have been no new structural modifications there since 1990.

36 | Rocky Reach and Rock Island are part of the same reach for WDOE water quality designations, and are currently listed for TDG, as well as temperature and bioassay levels. Rocky Reach has a spill program to aid juvenile fish passage (and perhaps adult fall-backs and kelts); the program provides for spill levels equal to 15% of daily flows during spring and 10% during summer. In addition, a turbine bypass system (for fish passage) was installed in 1994 and is still being modified. There is no mention in the DEIS of spill deflectors at Rocky Reach Dam.

37 | Rock Island: As mentioned above, TDG, temperature, and bioassay levels are 303(d) listed in the reach that includes Rock Island. Currently, there is a primitive orifice bypass used for spill purposes, and spill is purchased with a conservation account. Thus, timing and magnitude of spill may be dependent on available funds. Given the effect of spill on TDG, this might also restrict options for resolving water quality problems.

38 | A bypass system has never been adequately developed at Rock Island. The DEIS states that several modifications for fish passage are being considered: a forebay guidance curtain, testing spill configurations, turbine bypass systems, and other options for juvenile bypass. Consideration of water quality effects


- (especially TDG), including opportunities for improvement, should be part of all bypass development plans.
- 40 There is no mention in the DEIS of spill deflectors at Rock Island Dam. Both Rock Island and Rocky Reach dams have TDG and gas bubble disease monitoring mentioned as part of Alternative 2, yet there is no planned response to those problems.
- 41 * The Washington Department of Ecology is in the process of revising the Water Quality Standards for Surface Waters of the State of Washington (Chapter 173-201A WAC). The revised standards, if adopted, will be more stringent with regards to water temperature and dissolved oxygen concentrations. Water body classifications will be "use-based" with specific attention paid to use by salmonids. There do not seem to be provisions within the DEIS or the HCPs to account for or integrate these more stringent water quality standards.
- 42 For example, the DEIS acknowledges violations of current state temperature standards with maximums as high as 23.8°C and three-month averages ranging from 10.0 to 18.8°C. Temperatures in Tables 3-5 and 3-6 are often in excess of the proposed revised WDOE standards for seasonal daily maximums and moving 7-day averages for daily maximums. For salmonid rearing and migration waters, the proposed water temperature standard is 15°C (moving 7-day average of daily maximums) with no single daily maximum to exceed 17.5°C from June 1 through September 14.
- DO levels are linked to temperature; the DEIS consistently states for all three dams that "DO levels do not *typically* drop below 8.0 mg/L" but under the proposed revised standards, this only applies from June 1 through September 14, and only for rearing and migration waters. For salmonid spawning waters, average daily DO levels cannot fall below 10.5 mg/L from September 15 through May 31, with no single daily minimum falling below 9 mg/L.
- We also note that the Wells project has inundated the lower 17 miles of the Okanogan River resulting in elevated water temperatures for this reach. Elevations in water temperature have delayed adult sockeye migration into the Okanogan River and possibly resulted in an elevation in pre-spawn mortality rates. This needs to be addressed in the HCP for the Wells Project.
- 43 * Fall and summer chinook in the Mid-Columbia River are generally considered to outmigrate during the first year of life as zero age summer migrants. However, it is our understanding that a high percentage (46%-78%, John Sneva, WDFW, personal communication 3/21/01) of the Wenatchee River adult summer chinook show scale growth patterns indicative of an additional year in fresh water. These fish may be relatively small in number but an important component of adult returns. In addition, these fish may over-

winter in hydroelectric reservoirs and therefore may arrive at hydroelectric projects at any time during the year such as late summer or early spring.

Summer chinook are not an ESA listed species and therefore not addressed in Alternative 2. They are plan species under Alternative 3, but the holdover component of the juvenile population does not appear to be considered, most likely because this characteristic has not been adequately assessed. We further note that the 95% dam passage survival standard for juveniles under Alternative 3 applies to 95% of the run period for each Plan species, which may not provide adequate protection for holdover summer chinook. We consider this to be an outstanding unresolved issue.

Thank you for the opportunity to comment on the HCP DEIS. If you have questions about our comments or need further clarification, please contact Joe Peone, Director of the Colville Tribal Fish and Wildlife Department at 509 634-2113.

Sincerely,

for 

D. R. Michel,
Chairman, Natural Resource Committee
Colville Tribal Business Council

Cc: Tim Brewer
Joe Peone

Office Reservation Attorneys
Fish and Wildlife Dept.

Confederated Tribes of the Colville Reservation (CTCR)

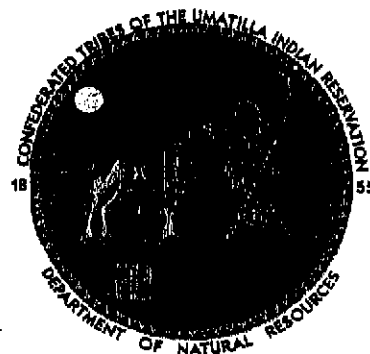
Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹
1	27	25	21
2	86	26	14
3	57	27	56, 57
4	18, 57	28	22
5	21, 57	29	21
6	57	30	22
7	57	31	12, 30, 75
8	57	32	20
9	56	33	2
10	21, 57	34	1
11	57	35	78
12	57	36	2
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14	22, 57	38	4
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¹ see Appendix C



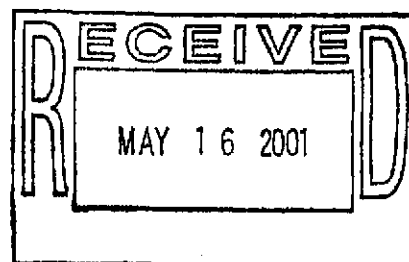
CONFEDERATED TRIBES
of the
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May 1, 2001
Via E-Mail, FAX and U.S. Mail

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Re: Draft Environmental Impact Statement for the Mid-Columbia Anadromous Fish
Agreements and Habitat Conservation Plans

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Department of Natural Resources, offers the following comments on the Draft Environmental Impact Statement (DEIS) for the Anadromous Fish Agreements and Habitat Conservation Plans (AFAs/HCPs) for the Wells, Rocky Reach and Rock Island Hydroelectric Projects prepared by the National Marine Fisheries Service (NMFS). Our comments incorporate by reference the comments of the Columbia River Inter-Tribal Fish Commission (CRITFC), submitted on behalf of the Columbia River Treaty Tribes.¹ We also incorporate by reference all prior correspondence and comments submitted by the CTUIR and CRITFC on our behalf, such as Scoping Comments dated February 5, 1999.

¹ The Columbia River Treaty Tribes include the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes of the Yakama Nation. The four tribes possess rights reserved by treaties with the federal government to take a fair share of the fish destined to pass our usual and accustomed fishing places. Among these fish are the anadromous species that originate in the Columbia River and its tributaries, including the Mid- and Upper Columbia.

Introduction

The construction and continued operation of the Wells, Rocky Reach and Rock Island dams have greatly impacted the rights and resources of the CTUIR and its members. They have harmed anadromous fish populations and significantly altered their habitat. These fish and their habitat have been a critical part of tribal existence for thousands of years. Even when faced with the overwhelming power and unfair bargaining position of the United States during negotiations over the Treaty of 1855, the Cayuse, Umatilla and Walla Walla tribes were adamant in specifically securing the pre-existing right to fish at all usual and accustomed places. Retaining the right to continue their traditional fishing practices was a primary objective of our ancestors when they signed the Treaty.²

- 1 While the Draft AFAs/HCPs may have been developed pursuant to provisions of the Endangered Species Act (ESA), NMFS (and other federal agencies) should not lose sight of the fact that they are subject to additional, higher duties and obligations such as those imposed by the Treaty of 1855. In this process and all others involving salmon and steelhead in the Columbia River Basin, the federal government must adhere to the paramount goal of protecting, enhancing and restoring anadromous fish and their habitat so as to lead to sustainable, harvestable fish populations consistent with tribal Treaty Rights. The United States must honor those Rights, ensure the free exercise of those Rights by tribal members, and fulfill its Trust Responsibility toward tribal trust resources.

The DEIS And Underlying AFAs/HCPs Do Not Adequately Honor Treaty Rights Nor Fulfill Federal Trust Responsibility

- 2 Unfortunately, the Draft AFAs/HCPs and the DEIS examining them indicate that the federal government has fallen far short of above goal thus far. Merely striving to "de-list" species currently listed under the ESA is insufficient. It may serve as an initial step in the right direction, but our Treaty demands more. Other laws have separate mandates, and also require more rigorous results, such as the Federal Power Act, the Northwest Power Act and the Clean Water Act, for example.
- 3 The Proposed Action (Alternative 3) does not fulfill the federal Trust Responsibility to the CTUIR or other tribes. The Draft AFAs/HCPs lack assurances that 7% hatchery compensation will be achieved, which we believe is essential in order to eventually enjoy healthy, harvestable fish populations. The federal government seems willing to offer "No Surprises" assurances to
- 4 other parties, but is unwilling to extend equivalent ones to the tribes. The United States is also reluctant to include provisions assuring the tribes that nothing within the AFAs/HCPs will be
- 5 used against us in possible future litigation, should any arise. Finally, the federal agencies also may be prevented from taking additional necessary recovery and rebuilding measures in the event fish resources continue to deteriorate despite implementation of the AFAs/HCPs.

² See *Tulee v. Washington*, 315 U.S. 681, 684-85 (1942); *United States v. Washington*, 443 U.S. 658, 664-69 (1973).

The Agreements Are Not Ripe For Review

- 6 Before proceeding further, we should note that we seriously question whether it is appropriate for the AFAs/HCPs to be subject to environmental review at this time. The parties to the negotiations agreed that the documents were not to move forward in the absence of a “final package” acceptable to all the parties. At present, this is not the case—not everyone is “on board” with the draft documents, in particular the tribes. Unfortunately, the DEIS apparently presumes that the AFAs/HCPs are final, official, and suitable for implementation, when in fact there are as of yet no signed HCPs and no ESA Section 10 permits.³ Thus, the region should be proceeding under regular relicensing, for dams such as Rocky Reach, until the HCP process has reached a satisfactory conclusion.

The DEIS Contains Inaccuracies And Promotes Misperceptions About Tribal Positions and Involvement

- 8 The DEIS inaccurately portrays the CTUIR’s position on a number of issues. While the CTUIR and others offered substantial concessions during negotiations in exchange for the incorporation of certain measures in the AFAs/HCPs, those measures were not included in the Draft AFAs/HCPs submitted to NMFS. Thus, no valid, binding agreements have been reached between the parties as of this date. Consequently, the DEIS cannot and should not imply or suggest that the CTUIR has agreed to the sum of contents of the AFAs/HCPs.
- 9 In the past, the CTUIR informed NMFS that it should not create the appearance that the CTUIR fully supported the AFAs/HCPs or any portion of them, specifically asking that our name be removed from certain documents.⁴ This was not done, and explanations in the DEIS relative to the CTUIR’s positions do not adequately convey the fact that we have not agreed to the AFAs/HCPs in their present form.
- 10 The CTUIR also seeks additional assurances in the AFAs/HCPs addressing not just hatchery and production, as the DEIS mentions. There are other guarantees that are as important to us as those sought by the Public Utility Districts (PUDs), and are required before we can agree to the AFAs/HCPs. Finally, there are assertions that the “No Net Impact” (NNI) concept was developed with tribal biologists, implying wholesale tribal acceptance when that was not the case.⁵

³ See DEIS at p. 2-35, pp. 2-41 to 42.

⁴ See Letter from Alphonse F. Halfmoon, Vice Chairman, Board of Trustees, to Mr. William J. Stelle, Jr., Regional Director, Northwest Region, National Marine Fisheries Service, Sept. 28, 1998; Letter from Antone C. Minthorn, Chairman, Board of Trustees, and Alphonse F. Halfmoon, Vice Chairman, Board of Trustees, to Mr. William J. Stelle, Jr., Regional Director, Northwest Region, National Marine Fisheries Service, Dec. 9, 1998.

⁵ See DEIS, p. 2-35.

NMFS Has Not Complied With The Secretarial Order In Developing The AFAs/HCPs Or The DEIS

- 12 In participating in the development of the AFAs/HCPs and producing the DEIS evaluating them, NMFS has failed to comply with the 1997 Secretarial Order of the Secretaries of Commerce and Interior entitled "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act." The Secretarial Order requires the agencies to interpret and implement the ESA in a manner that harmonizes the tribal rights and our sovereignty with the Secretaries' duties under the ESA. It also requires that the agencies ensure that tribes not bear a disproportionate share of the conservation burden for listed species. The DEIS must account for the Secretarial Order's requirements, but does not.

The DEIS And Underlying AFAs/HCPs Have Additional, Substantial Deficiencies

The DEIS and the AFAs/HCPs also suffer from numerous other serious flaws that render them inadequate and unsupportable. Some of these are summarized below:

- 13 The DEIS neglects to address several important legal issues, such as compliance with Clean Water Act requirements for water quality and quantity. The document acknowledges that the projects exceed water quality standards for temperature, yet it contains no information about how this problem could be addressed under the alternatives.⁶

- 14 The DEIS lacks meaningful analysis of survival, recovery and rebuilding. Quantitative detail is absent in both the AFAs/HCPs and the DEIS on how listed species would be impacted by implementation of the AFAs/HCPs. While the DEIS mentions the Quantitative Analytical Report (QAR) produced by NMFS, it does not incorporate its results into the alternatives analysis. This is a significant oversight in that, according to NMFS's own data in the QAR, measures in addition to those set forth in the AFAs/HCPs will be necessary for recovery:

"Even under the most optimistic scenarios . . . regarding future survival rates and the effectiveness of supplementation, additional survival improvements beyond those projected for the draft HCP actions would be necessary to achieve extinction risk/recovery criteria."⁷

The DEIS essentially ignores the QAR's finding that meeting the HCP standards and achieving off-site mitigation "would fall short of meeting survival and recovery criteria under the assumptions that 1980-present conditions will continue."⁸ Therefore, according to the QAR, additional measures are going to be required for recovery, but such measures are not required nor allowed by the AFAs/HCPs. The DEIS must more fully and completely address these issues relative to all the alternatives.

⁶ See DEIS, pp. 3-96 to 3-100.

⁷ QAR, p. ii.

⁸ QAR, p. iii.

- 15 | Furthermore, the geographic scope of the DEIS is inadequate. It fails to address or analyze
16 17 | cumulative and synergistic effects. It lacks a reasonable range of alternatives. Its "No Action"
18 | Alternative is inadequately described and evaluated. The DEIS's comparison and contrast of
19 | Alternatives 2 and 3 is biased and inadequate. The DEIS fails to fully consider and address
20 | potential constraints on federal authorities under various statutes, and difficulties in fulfilling
federal Trust Responsibility, associated with adoption of Alternative 3. The assurance of "No
Surprises" for the PUDs is inappropriate for HCPs of this type, covering facilities that are
inextricably interconnected with other facilities and activities *not* covered by the HCPs, *all* of
which affect the anadromous fish populations at issue.
- 21 | "No Net Impact" under Alternative 3 is misrepresented in the DEIS, which fails to take into
account recent scientific information or uncertainties about funding. Additional NNI issues
should be explored as follows:
- 22 | • Assess potential impacts on species within the first five years of the HCPs, during the time in
which NMFS and the U.S. Fish and Wildlife Service are limited in prescribing or preempting
the plans of the PUDs;
 - 23 | • Analyze and explain the biological basis for the draft AFAs/HCPs' assumption that 91%
survival + 7% hatchery mitigation + 2% tributary mitigation are additive so as to guarantee
zero impact on the species;
 - 24 | • Examine the relationship between the NNI standard and long-term stock viability;
 - 25 | • Analyze whether or not the proposed measurement of the performance standard for 95%
Juvenile Dam Passage Survival, by measuring juvenile survival over only 95% of the run,
ensures a juvenile passage mortality of only 5% such that the draft AFAs/HCPs address full
mitigation for take;
 - 26 | • Examine passage impacts to anadromous fish and lamprey and descaling injuries
(particularly on sockeye) if screens are installed, and assess whether such impacts are
accounted for within the NNI standard;
 - 27 | • Determine what impacts may occur during the time period that elapses before the PUDs
actually meet the proposed survival requirements and analyze whether those impacts can or
will be appropriately mitigated;
 - Determine impacts on the species should the survival goals never be reached during the term
of the AFAs/HCPs;
 - 28 | • Assess impacts on spring migrating Chinook salmon if they are exempted from the 95%
Juvenile Dam Passage Survival standard as planned; and
 - 29 | • Provide an accurate evaluation of losses and determine whether the mitigation proposal is
supported by adequate data to ensure no unmitigated take.

- 30 | The DEIS also misrepresents the issue of drawdown in its comparison of the alternatives, making it appear to be a much more accessible and available option under Alternative 3 than it actually would be in reality. In truth, it would be virtually “off the table,” notwithstanding the status of the fish, whether their numbers continued to decline, or whether the dams were responsible. Drawdown must therefore be given serious consideration under Alternative 2 and should also be analyzed as its own alternative.
- 31 | The AFAs/HCPs lack satisfactory provisions for measuring and evaluating the results if the plans are implemented. The DEIS states, “There is currently no methodology that all parties support for determining the survival of adult fish through the projects.”⁹ The DEIS improperly refers to
- 32 | existing conditions as the baseline in its assessment of the alternatives, precluding the meaningful examination of the ongoing, lingering effects of prior degradation. A “natural river” baseline is more suitable and appropriate.
- 33 | The DEIS does not give adequate consideration to lamprey and sturgeon. It does not give
- 34 | adequate consideration to the issue of long-term risks associated with Alternative 3.¹⁰ It does not
- 35 | evaluate the alternatives in terms of the widely accepted scientific determination that re-establishment of more “normative” river conditions is essential to long-term salmonid survival.
- 36 | It does not adequately portray tribal economic issues and impacts. It does not adequately inform
- 37 | the public and decision-makers about the requirements and responsibilities of all applicable federal statutes and treaties. It lacks adequate analysis of the off-site mitigation proposals.

Conclusion

- 38 | The DEIS fails to establish that the proposed AFAs/HCPs are sufficient to protect anadromous
- 39 | fish in the Mid-Columbia region. Standards and benchmarks are difficult to assess. Risks and uncertainties remain disproportionately balanced on the backs of the salmon and the steelhead on which we depend for the exercise and fulfillment of our rights, religion, economy, culture and spirit. This seems particularly inappropriate at the moment, given the unwillingness of the federal agencies to carry out many of the very measures that they prescribed for themselves in operating the federal hydrosystem.
- 40 | Plans for configuring and operating the Rocky Reach, Rock Island, and Wells dams should have more certainty as to whether or not standards will be achieved, and whether or not those standards are in fact enough. Significant doubts as to the ability to comply with even minimal ESA requirements are raised; thus, far greater doubts as to satisfying tribal Treaty Rights and fulfilling the federal Trust Responsibility are inescapable.

⁹ DEIS, p 2-41.

¹⁰ See DEIS, p. 4-77.

The CTUIR remains hopeful that the outstanding issues in the AFAs/HCPs can one day be ultimately resolved in a manner that mutually benefits all the parties. Thank you for your consideration of our comments on the Draft Environmental Impact Statement for the Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects. If you have any questions or wish to discuss any of these matters further, please contact Carl Merkle with our staff at (541) 276-3449.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael J. Farrow". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael J. Farrow
Director, Department of Natural Resources

MJF: DNR EP/RP: CFM: cfm

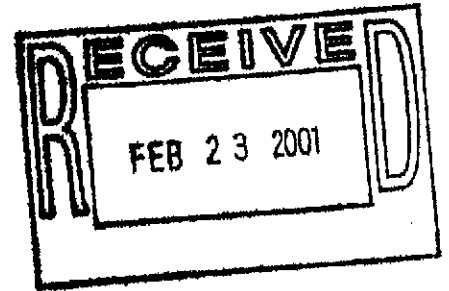
cc: Susan Fruchter
NEPA Coordinator
Office of Policy and Strategic Planning
Room 6117
Herbert C. Hoover Bldg.
U.S. Department of Commerce
Washington, D.C. 20230

CTUIR Fish and Wildlife Committee
Donald Sampson, Executive Director, CRITFC
Carl Scheeler, Chair, Columbia Basin Fish and Wildlife Authority

Confederated Tribes of the Umatilla Indian Reservation (CTUIR)

Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹
1	37	25	28
2	23	26	35
3	40	27	22
4	42, 43	28	28
5	19	29	41
6	19	30	24
7	47	31	18
8	44	32	25
9	44	33	48
10	44	34	21
11	44, 83	35	25
12	37	36	20
13	23	37	30
14	6, 7	38	6, 7
15	6	39	21
16	32	40	29
17	33		
18	32		
19	37		
20	38, 43		
21	18		
22	22		
23	27		
24	27		

¹ see Appendix C



February 21, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

Greetings:

For the past several years, I have been working with business, government and industry leaders to enhance economic development in North Central Washington. While we have had some successes, there are also many challenges for our region to overcome.

Our region's agricultural industry is suffering, due largely to increasing government and environmental regulations. Our low per-capita income reflects a lack of family-wage jobs. Alcoa, one of this area's two largest industrial employers, is cutting production significantly.

One of our main selling points in keeping existing businesses and attracting new ones is a reliable supply of reasonably-priced electricity from the hydroelectric projects owned and operated by Chelan County PUD.

For the past few years, I have been following the development of the mid-Columbia HCP. It has been my hope that somehow all of the diverse parties involved in this process could come up with a plan to not only protect our fishery resources, but to protect affordable, reliable electricity for residents and businesses in this area. It appears as though the plan that is outlined in the recently released Draft Environmental Impact Statement has a high potential of meeting that goal.

The outcome-based survival standards in the HCP address both performance and compliance in protecting fish. Working with agencies, Indian tribes and other interested parties, the PUD can develop the protection and enhancement measure necessary to achieve the survival goals. Unavoidable losses are compensated through supplementation hatchery production and a significant habitat enhancement fund. Although the fish protection measures will be expensive, it appears that waste will be minimized and our dollars will be channeled into programs that will achieve agreed-upon goals. This is a far better approach than a series of broad-based agency mandates focused on a moving target. Lawyers are the only winners under that scenario.

The HCP provides a measure of certainty for local citizens and businesses and for the other utilities whose customers rely upon Chelan PUD's hydroelectric energy. Meeting the survival standards provides long-term business assurances that fish mitigation requirements won't dramatically escalate in the future. Our PUD should be able to continue to provide the reliable, affordable electricity that we desperately need to sustain, grow and prosper in this region. And, with the ongoing energy crisis in the Northwest, we can ill afford to lose any further generating capacity.

Finally, there is a cooperative plan that makes sense in addressing the requirements of the Endangered Species Act. I support the mid-Columbia HCP and I urge all parties involved to waste no time in implementing this valuable program. Let's keep it moving!

Sincerely,

Jon Eberle
President

CC: Gary Montague, PUD Commissioner

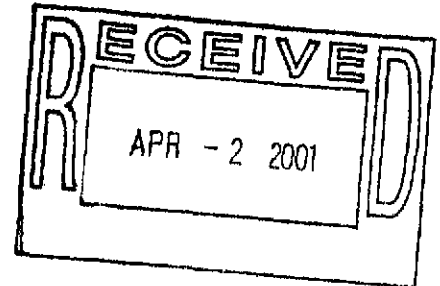
Gateway to Excellence

ENTIAT SCHOOL DISTRICT NO. 127

2650 Entiat Way • Entiat, Washington 98822 • Telephone (509) 784-1800 • Fax (509) 784-2986

March 28, 2001

Mr. Bob Dach
NMFS, NWR, Hydro Program
525 N.E. Oregon St., Suite 420
Portland, OR 97232-2737



RE. Anadromous Fish Agreements and Habitat Conservation Plans for
Wells, Rocky Reach, and Rock Island Hydroelectric Projects

Dear Mr. Dach:

As superintendent of the Entiat School District, I wish to express my concern that
Page 2-40 Project Cumulative Effects of the above-referenced plan is
inadequate.

It is our position that any further erosion of our tax base would cause irreparable
harm to the children and parents of this school district. In our current situation,
funds designed to mitigate the loss of fish habitat have seriously impacted the
fiscal condition of this school district. The proposal of an additional \$45 million
for possible land acquisition is obviously a frightening proposition to the officials
of this district.

Thank you for providing us an opportunity to express our concern.

Sincerely,

Jeff Davis
Superintendent



**FOREMAN ARCH DODGE
VOLYN & ZIMMERMAN ^{PS}**

DALE M. FOREMAN

124 NORTH WENATCHEE AVENUE, SUITE A

POST OFFICE BOX 3125
WENATCHEE, WASHINGTON 98807-3125
509/662-9602 FAX 509/662-9606
E-MAIL: dale@fadv.com

BRANCH OFFICES:

MOSES LAKE
CHELAN
OMAK

February 9, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

Re: Comments on Habitat Conservation Plan

To Whom it May Concern:

Having served in the State Legislature to represent the people of North Central Washington (and to protect the interests of all the citizens of the entire State of Washington), it is with a sense of urgency that I write to endorse the concept of Habitat Conservation Plan (HCP) now being reviewed as a way to deal with the important fishery resources of the mid-Columbia.

This region is faced with extremely serious economic problems. The HCP speaks to economic concerns by offering long-term business certainty on fish spending costs and power rates. It speaks to environmental concerns by providing a balanced approach to compensate for unavoidable losses at dams on the river. It affords quick resolution of disputes rather than plunging issues into the limbo of long, drawn out court battles. It promotes cooperation by establishing review panels involving regulatory agencies and PUD staff. And it sets an example for the rest of the country that illustrates how complicated issues can be resolved through hard work and a collaborative spirit.

With pressures mounting on successful hydropower generators as a result of energy shortages in California and elsewhere, it is increasingly important to protect operators, such as Chelan PUD, who have demonstrated their farsightedness and their competency in managing both the environmental and the generation aspects of their industry. This HCP affords outside regulators a way to do their duty to protect fishery resources while allowing Chelan PUD the

National Marine Fisheries Service
Northwest Region – Hydro Program
February 7, 2001
Page 2

flexibility to find creative and workable solutions that produce results. Such an enlightened approach is long overdue. I urge you to do everything possible to allow it to work.

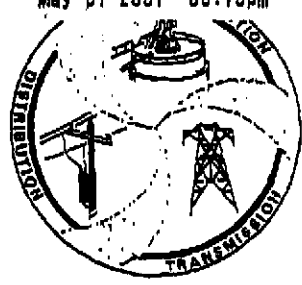
Sincerely,

**FOREMAN, ARCH, DODGE
VOLYN & ZIMMERMAN, P.S.**

A handwritten signature in black ink, appearing to read "Dale Foreman". The signature is fluid and cursive, with the first name "Dale" and last name "Foreman" clearly distinguishable.

DALE M. FOREMAN

DMF:kj
cc: Roger Braden
H:\FOREMAN MISC\NMFS-1.ltr



PUBLIC UTILITY DISTRICT NO. 2 OF GRANT COUNTY

MEETING OUR CUSTOMER ENERGY NEEDS IN A COST CONSCIOUS MANNER.

P. O. BOX 878 • EPHRATA, WASHINGTON 98823 • 509/754-0500

May 1, 2001

Bob Dach
National Marine Fisheries Service
Northwest Region, Hydro Program
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

Ref: Draft Environmental Impact Statement for the Anadromous Fish Agreements and Habitat Conservation Plans (HCPs) for the Wells, Rocky Reach and Rock Island Hydroelectric Projects (DEIS)

Dear Mr. Dach:

This letter contains our observations and comments regarding the referenced document. Public Utility District No. 2 of Grant County (Grant PUD) owns and operates the Priest Rapids Hydroelectric Project that consists of the Priest Rapids and Wanapum dams and is geographically situated immediately downstream of the 3 projects that are the subject of this DEIS.

We are generally supportive of the proposed action which, as we understand it, is to issue incidental take permits under Section 10 of the Endangered Species Act to Douglas and Chelan PUDs' based on the HCPs. However, we have a number of concerns with the analysis provided by NMFS in this DEIS and its implications and potential impacts on the Priest Rapids Project. This comment letter will discuss specific concerns regarding the analysis in the DEIS.

GC PUD

1

1. The DEIS Presupposes Consistency of the HCP with the New Federal BiOp and A Non-Existent Basin-Wide Salmonid Protection Programs

The 100 percent no net impact performance standard (NNI) is presented as the centerpiece of the HCPs which are the subjects of the DEIS analysis. However, no scientific justification is given for this standard other than the statement that it is consistent with the performance standards of NMFS' 1995 biological opinion (BiOp) for the Federal Columbia River Power System. In fact, the 1995 BiOp was replaced in 2000. If there is any reason to scrutinize the DEIS in the context of a federal BiOp, the new BiOp should be used for comparison. Furthermore, there is no basis for concluding that the HCPs will be consistent with evolving basin-wide salmon protection plans that do not yet exist (See page 4-39).

2. The Presentation of Vastly Different Alternatives Confuses the Proposed Action

Specifically, the DEIS presents separate alternatives relating to Section 7 and Section 10 of the ESA. As we have pointed out in prior correspondence to you, there are substantive and procedural differences between the two Sections that, if glossed over, make it difficult to analyze the impacts of a proposed action and its implications for the various parties to the HCP as well as Grant PUD.

3. The DEIS Presents No Independent Scientific Analysis of the Validity of the NNI Standard

At page 4-39, the DEIS states that the NNI standard was developed through negotiations between State and Federal resource agency (sic), PUD, and Tribal biologists. The fact that the NNI standard was negotiated in concert with several parties does not support its scientific validity. We know of no correlation between the NNI standard and the biological needs of listed or non-listed salmonids covered by the HCPs. For example, the DEIS details that the NNI standard is comprised of a 91 percent project survival standard and a 95 percent juvenile dam passage survival standard. The 91 percent project survival standard is derived from an unmeasurable combination of assumptions about dam passage survival of juveniles, reservoir survival of juveniles and the upstream passage survival of returning adults. In addition the HCP relies on assumptions about the efficacy of hatchery supplementation and habitat enhancement projects to achieve the NNI standard. We know of no scientific basis for any of these assumptions. The DEIS acknowledges that many components of the NNI standard cannot be verified (See, page 2-41).

We encourage the use of the best available scientific information to support the NNI standard or, in the absence of a verifiable standard, a set of proposed measures which, when analyzed by NMFS, can be shown to meet the requirements of either Section 7 or 10 of the ESA and other applicable law.* A sound means to monitor compliance with the measures and an evaluation system to determine success of the measures are both necessary to prevent the attribution of mortality from these HCP projects to downstream projects.

4. The Water Quality Analysis of the DEIS Is Incomplete.

The DEIS states that the mid-Columbia river is on the 303(d) list for exceeding total dissolved gas, water temperature and pH criteria. The DEIS analysis of the alternatives concludes that the preferred alternative is likely to increase total dissolved gas (TDG) levels, with no explanation of how the HCPs would mitigate for these effects or prevent the passage of TDG to downstream projects. Additionally, there is no analysis of how the TDG and temperature impacts would affect fish survival (salmonid and otherwise) within the project areas and downstream. No supporting rationale or analysis is provided as support for the conclusion that the HCPs can be expected to benefit water quality.

* Our understanding of the NNI standard is that it was developed as a negotiated resolution to a variety of regulatory matters and policy issues and goes well beyond what is required for ESA purposes. As such it would not be appropriate or justifiable to apply its standards to other projects.

Bob Dach, Northwest Region Hydro Program, NMFS
May 1, 2001

Page 3

5. Water Quantity and Socio-Economic Effects Are Not Discussed

6

The water quantity and socio-economics sections of the DEIS provide no analysis or assessment of the impacts of any of the alternatives under drought conditions or in the event of an energy emergency. As you are aware, the Pacific Northwest is currently experiencing one of the worst water shortages in history. Current projections are that if Columbia Basin runoff declines to 53 million acre-feet as expected, the Pacific Northwest's electricity generators will be unable to meet demand. The proposed action of the DEIS relies on fish spill which exacerbates electricity shortfalls during times of drought or energy emergency. This effect of water quantity shortages and associated socioeconomic impacts should be addressed in the DEIS. Any proposed action should include operational provisions that may be enacted when a declared drought, energy alert or emergency exists.

6. The DEIS Does Not Contain An Adequate Analysis of Impacts on Species Other Than The Four "Plan Species"

7

Four "Plan Species" of salmon are the subjects of the DEIS analysis (See page S-1). The analysis of effects on resident fish species in the Columbia River system concludes that: "Little is known about the effects of project operations on resident fish populations in the Mid-Columbia River" (page 4-27) although it is noted that bull trout have been listed as threatened and are the subject of ongoing consultation and the potential exists for negative impacts on pacific lamprey. The DEIS should be strengthened to reflect available information on the possible effects of the alternatives on other fish species.

7. The DEIS Does Not Meet NEPA Requirements to Consider Cumulative Effects of the Proposed Action

8

The DEIS contains no comprehensive cumulative effects analysis. The only resources evaluated for cumulative effects in this DEIS were listed anadromous salmonids. That analysis was based on an incomplete NMFS analysis that was cited as NMFS (2000c) but not included in the DEIS reference section. In addition, this Quantitative Analytical Report is incomplete, has never received peer review, is not available for public review and any reference to it should be removed and the analysis presented as NMFS' simulations based on a variety of unverifiable assumptions. The analysis presented relies on a subset of available data (1980-94) to conclude that extinction risks are high without presenting information from the full data set analyzed (1960-94) that concludes that extinction risks are actually quite low. The analysis presented also fails to consider recent data showing very large returns of spring chinook. The DEIS fails to include any cumulative effects analysis for summer/fall chinook salmon, sockeye salmon, coho salmon, or any other resource area.

8. The DEIS Does Not Adequately Consider the Impacts of the Proposed Action on Other Agreements Relating to Plan Species

9

The HCPs are intended to support incidental take permits for four permit species including Upper Columbia River summer/fall chinook (page S-1). Fall chinook are protected under the Vernita Bar Settlement Agreement and the Hanford Reach Juvenile Fall Chinook Protection Program. Both Douglas and Chelan PUDs are included in these

Bob Dahn, Northwest Region Hydro Program, NMFS
May 1, 2001

Page 4

programs. However, the DEIS does not analyze the consistency of the HCPs with these other agreements nor does it include an analysis of the obligations of the HCP parties under those agreements.

In conclusion, we reiterate our support for a scientifically supportable HCP and comprehensive DEIS which would justify the issuance of incidental take permits for the permit species. However, for the reasons stated above, we do not believe the DEIS prepared by NMFS adequately provides the necessary science or analysis of the alternatives considered.

Sincerely,



Douglas M. Ancona, Manager
Natural Resources and Regulatory Affairs

Cc:	Susan Fruchter	Chris Leahy	Mike Erho
	Dick Nason	Robert Lothrop	Cary Feldmann
	Bob Clubb	Jerry Marco	Rick Klinge
	Brian Brown	Carl Merkle	Chuck Peven
	Malcolm McClellan	Joe Peone	Bob Rose
	Tim Brewer	Starla Roels	Shane Bickford
	Keith Brooks	Nolan Shishido	Bryan Nordlund
	Brian Cates	Curt Smitch	Steve Hays
	Bill Frymire	Brett Swift	Robert McDonald
	Jim Hastrieter	Bill Tweite	Thad Mosey
	Merrill Hathaway	Tim Weaver	Tom Scribner
	Bob Heinith	Timothy Welch	Paul Ward
	Ken Johnston	Rodney Woodin	Steve Parker
	Brett Joseph	Ron Boyce	

Grant County Public Utility District (GCPUD)

Comment #	NMFS Reference #¹
1	27
2	47, 85
3	12, 27
4	29
5	2
6	29, 31
7	48
8	6
9	23

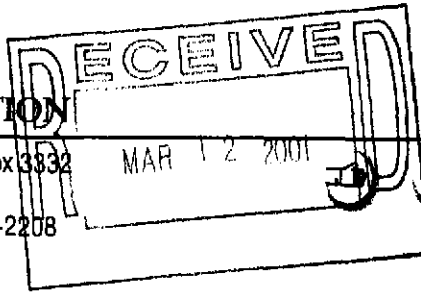
¹ see Appendix C



For North Central Washington

GREATER WENATCHEE COMMUNITY FOUNDATION

7 No. Wenatchee Ave., Suite 201 • PO Box 3832
Wenatchee, WA 98807-3332
Phone (509) 663-7716 • FAX: (509) 667-2208
E-mail: gwcf@gwcfncw.org



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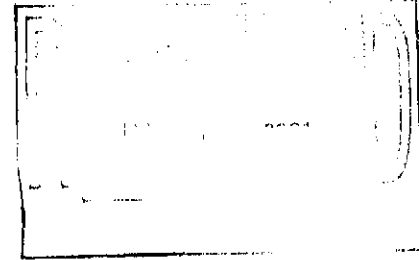
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Christopher Stahler
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President and CEO

Russell J. Spindel
Spindel Law Firm
Judy S. Corbett, CPA
Corbett, Weber & Co. PLLC

March 8, 2001

National Marine Fisheries Service
Northwest Region Hydro Project
525 NE Oregon Street, #420
Portland, OR 97232-2737



Dear Sirs:

The Greater Wenatchee Community Foundation was formed 15 years ago to provide a new source of funding for worthy organizations. Over the years I have had the privilege of associating with a diverse group of social service and educational organizations. While each pursues individual goals, one thing is also clear; each understands the need to work together with others in the community to develop solutions to problems.

It appears a similar spirit of cooperation is behind the Habitat Conservation Plan developed by the Chelan and Douglas PUDs. As outlined in the plan, the PUDs and regulatory agencies work cooperatively to find and implement the best methods for ensuring fish survival. The plan also includes provisions for timely resolution of any disputes. It sets up an oversight committee for coordination and consultation between the PUDs and interested parties and agencies.

The PUDs are a key ingredient in the economic vitality of the Greater Wenatchee area. The plan they are proposing holds the key ingredients to their success, and to ensuring continued economic operation of the public utilities.

While it is important that endangered salmon be saved, it is also important to invest in the most cost-effective, scientifically sound solutions. The plan ensures that the PUDs will do their part to save salmon, while providing for long-term, affordable hydropower for local residents.

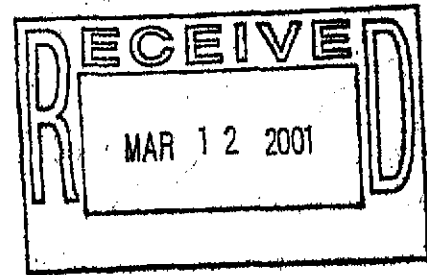
I urge you to favorably consider the Habitat Conservation Plan of the two PUDs and to move it forward as quickly as possible.

Sincerely yours,


G. Raymond Taylor
President and CEO



Serving
Chelan,
Douglas,
Grant
and
Okanogan



Icicle Creek Watershed Council
P. O. Box 773
Leavenworth, WA 98826

February 27, 2001

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Marine Fisheries Service
525 NE Oregon Street
Suite 420
Portland, OR 97232-2737

Re: Chelan and Douglas County's Draft Environmental Impact Statement (DEIS) for fish conservation.

Gentlemen:

We appreciate the time and resources the Chelan and Douglas County Public Utility Districts (PUDs), tribes, and agencies spent developing the DEIS and also appreciate the opportunity to comment.

The PUDs want, among other things, to ensure the production of hydroelectric power will not be disrupted by changing requirements for anadromous fish. They want this certainty to last for 50 years. We would like to see fish populations increase with the hope that listed species will be removed from threatened or endangered lists and that other fish species will continue to flourish as well.

The Public Utility Districts indicate in the DEIS that they prefer Alternative three. For the following reasons, we equally prefer Alternative three:

1. Citizens at the local level have an opportunity to be involved through the habitat improvement programs.
2. Alternative 3 promotes an ongoing action separated from the swings of political forces to recover listed fish species while at the same time assuring a measure of protection for other fish species as well.
3. The preferred alternative provides certainty for both the PUDs goal of producing electricity and certainty for those of us who regard fish in our streams as one of the indicators of continued prosperity.

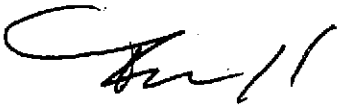
IC

1 We agree with the concerns National Marine Fisheries Service has about the seven per cent hatchery compensation levels and how they may adversely affect wild salmon populations. We recommend that the PUD guarantee in writing that only native stock will be produced under the seven per cent hatchery compensation program and that hatchery management protocol will ensure the genetic integrity of wild fish.

2 We were disappointed to read that such a small portion of the nine percent compensation was given over to habitat improvements. We understand the difficulty in quantifying the results of habitat improvements. Nevertheless, at the heart of declining fish populations, is loss of habitat. We would have preferred four per cent of the compensation given to habitat improvements instead of two per cent with less emphasis on hatchery production.

3 Finally, we would like to see assurance that the majority of funds for habitat improvement and restoration be spent in the first part of the 50-year agreement. The sooner habitat improvements are completed, the sooner the results can be monitored.

Sincerely,



Buford Howell,
President

Icicle Creek Watershed Council (ICWC)

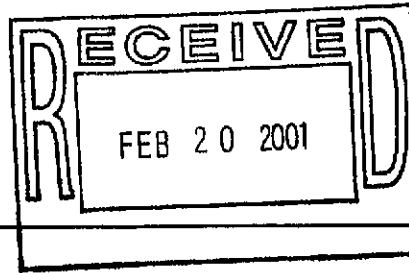
Comment #	NMFS Reference #¹
1	17
2	12, 28
3	13

¹ see Appendix C

Mann & Gellatly

Commercial Real Estate Rentals & Investments

103 Palouse Street Wenatchee, WA 98801
Bus. (509) 662-5552 Fax (509) 663-4086



David Gellatly
Conrad Kuehl

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N. E. Oregon Street, Suite 420
Portland, Oregon 97232-2737

February 7, 2001

Gentlemen:

As a longtime businessman in Chelan County and a Lake Chelan Valley resident, I am writing to add my support for the mid-Columbia Habitat Conservation Plan (HCP).

From my perspective, Chelan County businesses, farms and industries are feeling the squeeze of intense regulatory burdens. Often the regulations come in the form of mandates from agencies that know very little about the issues of our area and are unapproachable about unique, local solutions.

The HCP provides Chelan County PUD the opportunity to design programs and systems to meet agreed-upon survival standards for its Columbia River dams. The PUD knows the business of running its dams better than anybody else. Giving the PUD the opportunity to design and implement fish protection measures, rather than respond to agency-driven mandates, makes good sense to me.

Another item that I particularly like is the “no net impact” standard. If the PUD achieves the survival standards at its hydroelectric projects, it provides supplementation hatchery capacity and habitat funding to make up for unavoidable losses. The end result is the certainty that we can relicense Rocky Reach Dam and continue to provide reliable, reasonably-priced electricity to our customer-owners.

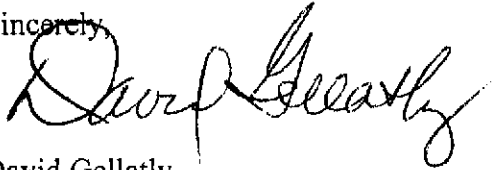
It is also important to note that Chelan PUD has not been idly standing by waiting for the HCP to go through the long regulatory process. As an example, the PUD has thoroughly tested a prototype state-of-the-art bypass system at Rocky Reach and will begin a permanent installation in 2001.

National Marine Fisheries Service

Page two

While many of us in Chelan County may not agree with the requirements of the Endangered Species Act, it appears that we have little choice but to comply with the law. What we need is a reasonable template to work from that allows for common sense and local solutions in achieving survival standards. This HCP seems to meet that mark. Let's stop wasting time and get it done.

Sincerely,

A handwritten signature in black ink, appearing to read "David Gellatly". The signature is fluid and cursive, with a large initial "D" and "G".

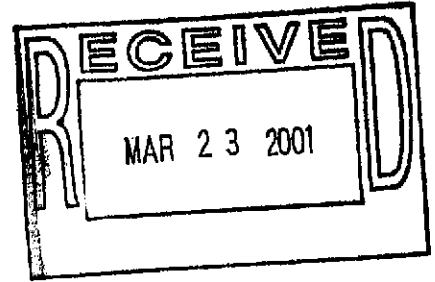
David Gellatly

Mann & Gellatly

Commercial Real Estate Rentals & Investments

103 Palouse Street Wenatchee, WA 98801
Bus. (509) 662-5552 Fax (509) 663-4086

March 20, 2001



National Marine Fisheries Service
Northwest Region – Hydro Program
525 N. E. Oregon Street, Suite 420
Portland, OR 97232-2737

Gentlemen:

As a longtime businessman in Chelan County and a Lake Chelan Valley resident, I am writing to add my support for the mid-Columbia Habitat Conservation Plan (HCP).

From my perspective, Chelan County businesses, farms and industries are feeling the squeeze of intense regulatory burdens. Often the regulations come in the form of mandates from agencies that know very little about the issues of our area and are unapproachable about unique, local solutions.

The HCP provides Chelan County PUD the opportunity to design programs and systems to meet agreed-upon survival standards for its Columbia River dams. The PUD knows the business of running its dams better than anybody else. Giving the PUD the opportunity to design and implement fish protection measures, rather than respond to agency-driven mandates, make good sense to me.

Another item that I particularly like is the "no net impact" standard. If the PUD achieves the survival standards at its hydroelectric projects, it provides supplementation hatchery capacity and habitat funding to make up for unavoidable losses. The end result is the certainty that the PUD can relicense Rocky Reach Dam and continue to provide reliable, reasonably-priced electricity to its customer-owners.

It is also important to note that Chelan PUD has not been idly standing by waiting for the HCP to go through the long regulatory process. As an example, the PUD has thoroughly tested a prototype state-of-the-art bypass system at Rocky Reach and will begin a permanent installation during this year.

While many of us in Chelan County may not agree with the requirements of the Endangered Species Act, it appears that we have little choice but to comply with

the law. What we need is a reasonable template to work from that allows for common sense and local solutions in achieving survival standards. This HCP seems to meet that mark. Let's stop wasting time and get it done.

Sincerely,

A handwritten signature in black ink, appearing to read "David Gellatly". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

David Gellatly



(509) 548-5829 • Fax (509) 548-6372

P.O. Box 218 • 11724 Riverbend Dr. • Leavenworth, WA 98826-0218
 Drywall Division - Wenatchee (509) 663-5154 • Fax (509) 663-5154

February 6, 2001

National Marine Fisheries Service
 Northwest Region - Hydro Program
 525 NE Oregon Street, Suite 420
 Portland, OR 97232-2737

To Whom It May Concern:

Our firm has been in business for 45 years, serving the residents of North Central Washington. The economic situation for our area is very precarious and uncertain for the future. For the past several years, I have watched countless regulations pile up on the citizens of Chelan County. Many of the continued mandates are produced by out-of-town bureaucrats without a regard for our local citizens and our way of life. Our area is now to the point where many orchardists are either ripping out their fruit trees and/or facing bankruptcy. Water regulations are stifling growth in other areas. Housing starts are down and living wage jobs are hard to come by. The future of the Alcoa plant in Wenatchee is in question. All of these things have certainly had an impact on our family-owned business and those of my friends and neighbors.

In these difficult times, one of the blessings we have been able to count on is relatively low-priced, dependable electricity from our citizen-owned public utility district. The PUD has certainly faced its' challenges in dealing with costly mandates as well. Re-licensing the dams, expensive fish programs and many other items have steadily increased rates, although fortunately not nearly as much as in other areas that have to rely upon coal, nuclear power and other more expensive forms of electric generation.

Eastern Washington has not experienced the dynamic economic growth that Western Washington has achieved. People in our area are also very concerned that somehow California will be able to siphon off our power further jeopardizing our area's economy. We must keep our hydroelectric dams providing reasonably priced power if our communities are to have a chance to grow and prosper. That is why I am voicing my support in this letter for the habitat conservation plan for our PUD's dams on the Columbia River.

Although I do not know every detail about the HCP, it is my understanding that it addresses the ESA mandates. I support the idea of outcome-based survival standards as opposed to simply ordering the PUD to take expensive actions to protect the fish with no accountability from outside agencies. Having the PUD establish and implement cost-effective, scientifically-based programs that are unique to our dams gives us the opportunity to protect our local power generation while doing what is right for the fish. If we do our part, the dams are protected from removal and re-licensing is assured. That makes good sense.

From my point of view, it seems as though all of these various government agencies, Indian tribes and other parties can rarely agree on anything. We have wasted tens of millions of dollars spending money on fish programs that represented somebody's best guess on solving the problem. The HCP appears to be the exception. Although for some reason, this program took over five years to negotiate. It has taken even longer to wade through the regulations. I noted that some pretty diverse groups, like American Rivers, National Marine Fisheries, Indian tribes and others signed the declaration stating that the HCP is a good idea. Now, maybe we finally have a program we can all support.

Without further delay, please keep the HCP moving forward. We need this program to protect our dams, to meet the ESA mandates and to keep our communities growing and surviving.

Sincerely,

A handwritten signature in black ink that reads 'Ken Marson, Jr.' The signature is written in a cursive, flowing style.

Ken Marson, Jr.
 President



NORTH CENTRAL EDUCATIONAL SERVICE DISTRICT

Sharing the Vision for Student Success

January 29, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

To Whom It May Concern:

During my nine years of service as the superintendent of the North Central Educational Service District 171, I have had the pleasure to work with the Chelan County PUD on many successful projects.

In the field of education, the PUD has been a leader in the development of a four-county educational cooperative that provides high-quality, well-respected curriculum from kindergarten through middle school.

Chelan County PUD has also proven to be an outstanding partner in several other successful community education projects, including bringing distance learning to Wenatchee Valley College, helping to develop the North Central Technical Skills Center and developing a Technology Center in the Olds Station Industrial Area.

In my role as both an educator and an avid recreationist, I have noted the PUD's role in yet another collaborative venture – the development of a comprehensive Habitat Conservation Plan (HCP) for the mid-Columbia area. For the record, I wholeheartedly endorse this program.

The HCP demonstrates to our community, from students to business leaders, that parties with diverse interests can work together to develop common-sense programs that address our hydroelectric energy requirements while protecting our valuable fisheries resources.

All too often regulatory agencies seem determined to mandate specific measures, evaluate their success and add on still more measures. We then end up with an endless cycle of more regulation. Under that scenario, the focus on results is lost, millions of dollars are wasted and court battles are the only recourse.

The HCP challenges that trend. With survival standards as the goal, all parties work cooperatively on the development of solutions. Testing ensures results. Unavoidable losses are compensated through a unique balance of natural hatchery production and habitat enhancements.

National Marine Fisheries Service

January 29, 2001

Page Two

Endangered Species Act requirements are met while protecting our low-cost hydropower resources that benefit not just our local citizens, but also millions of citizens throughout Washington and the Northwest.

I urge your continued resolve to move the HCP swiftly through the regulatory process. Citizens are anxiously awaiting a national model for cooperatively addressing both our energy and environmental needs. This appears to be it.

Sincerely,

A handwritten signature in cursive script, reading "Gene Sharratt". The signature is written in dark ink and is positioned above the printed name and title.

Gene Sharratt
Superintendent

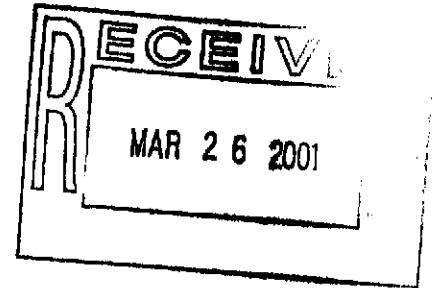
Washington



Northwest
Power Planning
Council

Frank L. Cassidy, Jr.
"Larry"
Council Chair

March 15, 2001



Mr. Dick Nason
PUD No. 1 of Chelan County
P.O. Box 1231
Wenatchee, WA 98807-1231

Dear Mr. Nason,

The Northwest Power Planning Council appreciates the opportunity to comment on the Habitat Conservation Plan to protect and enhance salmon and steelhead in the Mid-Columbia River. We commend you for sticking with the development of this document, six years in the making.

It is the Council's understanding that a collaborative effort involving a group with diverse interests has worked to develop this Habitat Conservation Plan. Chelan and Douglas PUD's, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, the Washington Department of Fish and Wildlife, the Yakama, Colville, and Umatilla Tribes, American Rivers, Inc, and major purchasers of wholesale energy are some of the partners identified as participating in this endeavor. The Council supports the development of these negotiated agreements.

In the next couple of years, the Council will be embarking on a subbasin planning process, and will be working to bring parties with diverse interests together to protect, mitigate, and enhance fish and wildlife harmed by the operation of the hydropower system. Your demonstrated commitment to fish and wildlife will be instrumental in assisting the Council to successfully develop a broad-based plan for the Mid-Columbia.

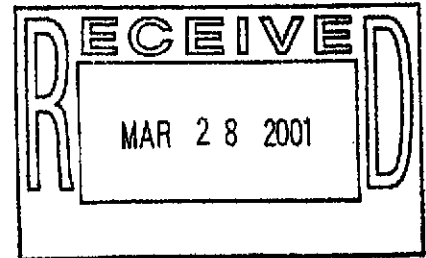
The Northwest Power Planning Council understands that Chelan County PUD is firmly committed to this Habitat Conservation Plan. We continue to wish you success in your endeavor, and appreciate the hard work you have put in to develop this negotiated agreement.

Regards,

Frank L. Cassidy, Jr., Chairman
Northwest Power Planning Council

Bob Dach
NMFS, NWR, Hydro Program
525 NE Oregon St. #420
Portland, Oregon 97232-2737

March 26, 2001



RE: Comments on DEIS for Wells, Rocky Reach, and Rock Island Hydro Projects

Thank you for allowing the public to comment on future operations of the Mid-Columbia Hydro projects as to their impacts on the fishery resource. The DEIS is very general and is lacking in what it doesn't say rather than what it says. The following comments are directed mostly to habitat considerations rather than dam operations.

OWL

Consistency

The Okanogan Wilderness League (OWL) has followed the Mid-Columbia process since the late 1980's and has commented on the different protocols that have been developed for spring chinook recovery in the Methow Basin. I am including two of our comments as enclosures that point out some of the inconsistencies and deviations from the adopted FERC Settlement Agreements. The FERC agreement identifies three separate spring chinook populations in the Methow Basin and the DEIS identifies the spring chinook as "composite" stock. The escapement of wild fish for natural spawning is not consistent with previous protocols.

Fish flow

The DEIS recognizes that in-stream flow is a habitat consideration in its analysis of tributaries such as the Wenatchee and the Methow, but fails to analyze fish flows for the Columbia River.

Fish management must be flexible enough to change. It should not be held hostage in committees that have veto power for change. This is especially important when that veto power is held by the PUDs who have an economic vested interest detrimental to the best interest of fish. The HCP(alt 3) runs for 50 years and recognizing the above considerations, is not in the best interest of the fisheries resource. Because of the flexibility in the consultation process the only acceptable alternative in the DEIS is alternative 2.

Sincerely;

A handwritten signature in black ink, appearing to read "Lee Bernheisel", written over a horizontal line.

Lee Bernheisel

Okanogan Wilderness League
90 TCR
Carlton, Wa. 98814
(509) 997 3794

encl: 2

Okanogan Wilderness League (OWL)

Comment #	NMFS Reference #¹
1	96
2	97

¹ see Appendix C



PACIFIC AEROSPACE & ELECTRONICS, INC.

February 13, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737

On behalf of Pacific Aerospace & Electronics, Inc. (PAE), I am writing to support the mid-Columbia Habitat Conservation Plan (HCP).

PAE employs over 450 people in Chelan County. Our company designs, manufactures and sells components and subassemblies used in technically demanding environments. Affordable, reliable electricity is a critical element of our bottom line. We simply cannot tolerate major price increases and/or interruptions in electric service and remain competitive.

With the energy crisis in California and the Northwest, it is apparent that we maximize all of our existing generation, especially the clean, renewable hydropower dams that fuel this region. Further, new power plants must be built immediately.

From my perspective, it appears that the HCP preserves affordable, reliable hydropower for our business and our communities while meeting federal and state requirements to protect the Columbia River fish.

The HCP offers the Chelan and Douglas PUDs an opportunity to seek cost-effective fish protection methods that are unique to the individual dams, as opposed to seemingly endless fish protection mandates from outside agencies. Mandates without accountability equals waste, and quite frankly that is exactly what we have been seeing from regulatory agencies in the past.

Please add our voice to the public record in support of the HCP.

Sincerely,

Don A. Wright
President & CEO



April 4, 2001

Ms. Donna Darm
National Marine Fisheries Service
Northwest Region - Hydro Program
525 N.E. Oregon St., Suite 420
Portland, OR 97232-2737

Dear Donna:

The Pacific Northwest Utilities Conference Committee (PNUCC) has played an important role in the region's electric utility industry for over 50 years. As a voluntary, non-profit organization, PNUCC is a forum for bringing the power of good ideas to bear on a range of issues including the recovery of ESA listed salmon.

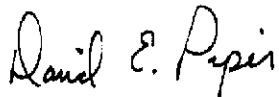
PNUCC has been engaged in the salmon issue for many years seeking a regional plan that will successfully recover endangered salmon. In order for a plan to succeed it must address the salmon's entire lifecycle; have clear, consistent goals; clearly articulate who is accountable for meeting the goals; and be acceptable by all interested parties. Such a regional plan would provide a guide for local actions for fish. In addition, the regional plan would be used to assure that individual actions at the local level are consistent with the region's goals and are complementary and not at cross-purposes.

The mid-Columbia Habitat Conservation Plan (HCP) is consistent with our regional goals and we ask that NMFS fully endorse it. The HCP successfully meshes fish management with hydropower operations and it embodies many key principles PNUCC strongly supports for recovering salmon in the Pacific Northwest. It establishes overall survival targets for fish. It is comprehensive in nature, relying on habitat improvements and hatchery operations, as well as, hydro operations to improve fish survival. It relies on the innovations of the project owners, giving them the responsibility and accountability for meeting fish survival targets yet provides for oversight from and cooperation with interested agencies and parties. And most importantly, the mid-Columbia HCP is the product of a comprehensive, collaborative process that included all the major stakeholders. We see this as a successful formula that recognizes the unique characteristics of each hydroproject.

In order to maintain system reliability and ensure a stable power supply for the Northwest, it is imperative that the region has certainty to the amount of power available from the NW hydropower system. The HCP provides some additional certainty for the operation of the three dams it addresses and thus their power contributions.

This HCP is one example of how to locally and effectively address salmon recovery. We urge you to adopt the principles of the HCP and move forward on meeting its admirable goals.

Sincerely,



Gerry Miller
Chairman
Goldendale Aluminum

Dave Piper
1st Vice Chairman
PNGC Power

Jim Miller
2nd Vice Chairman
Idaho Power Company

cc: PNUCC Board of Directors



PESHASTIN HI-UP GROWERS

P.O. Box 446

PESHASTIN, WASHINGTON 98847

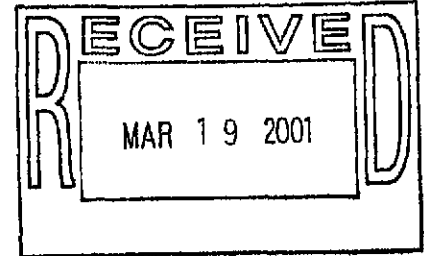
FAX: (509) 548-6619

Phone (509) 548-7312



March 16, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, OR 97232-2737



Dear Sirs:

Please consider this a strong endorsement of the Habitat Conservation Plan (HCP) for Chelan and Douglas PUDs now under review by your agency.

Agriculture – long the lifeblood of North Central Washington – is hurting. Thousands of fruit trees are being ripped out as growers give up and file for bankruptcy. Agriculture's plight is having a ripple effect throughout our communities, and we are in the midst of a serious economic downturn.

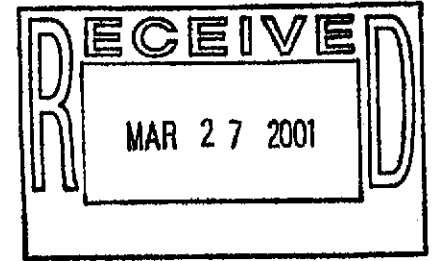
But so far, we can still count on reliable, low-cost energy. It remains a pillar of our past and a key foundation to building our future. We must have ample water to irrigate our remaining and future orchards. We need low-cost power to pump that water to the orchards, to run the packing lines where we process our fruit, and to power the controlled-atmosphere storage that maintains pears, apples and other produce in quality marketing condition. With so many other forces squeezing agriculture, the Habitat Conservation Plan can help by providing more long-term certainty regarding water supplies and electric power.

The Habitat Conservation Plan assures the PUDs of guidelines under which they can operate most effectively and efficiently. It provides a framework for fish mitigation with identifiable targets. The plan lets the local experts direct operations, but with federal and state oversight. It offers a common-sense approach that is good for fish and good for our region.

Our PUDs have done a great job caring for our local resources. The Habitat Conservation Plan demonstrates responsible stewardship. We can help fish and help people too, by ensuring the continued production of reliable hydropower for the citizens of the northwest.

Thank you,

Dan Gaspar, General Manager
Peshastin Hi-Up Growers



March 26, 2001

Mr. Bob Dach
NMFS, NWR, Hydro Program
525 N.E. Oregon Street, Suite 420
Portland, Oregon 97232-2737

RE: Habitat Conservation Plans Proposed by Chelan and Douglas PUDs

Dear Mr. Dach:

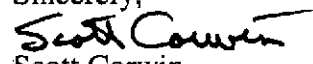
I am writing on behalf of Pacific Northwest Generating Cooperative (PNGC Power) to express support for the Habitat Conservation Plans (HCPs) for the Wells, Rocky Reach and Rock Island Hydroelectric Projects that are currently the subject of a Draft Environmental Impact Statement that is out for public comment. PNGC Power is an energy services cooperative owned by 15 rural electric cooperatives throughout the Northwest. We have a strong interest in plans that effectively protect natural resources while taking into account the serious needs of the rural economy in the Northwest.

There are several aspects to these HCPs that make them worthy of your approval. In fact, these same aspects make these HCPs models that will serve the region well during discussion over other species recovery efforts. First, the emphasis on setting specific outcome-based targets will prove extremely useful during implementation, monitoring, and review of the plans. Proper focus is put upon real results regarding the species themselves, rather than upon fulfilling a checklist of measures that may or may not be effective.

Second, the balance within these plans is very evident and is another key towards creating a viable, enforceable approach. Especially in light of the current predicament in the West Coast energy market, the balancing of species protection and recovery with the need to preserve a reliable supply of energy is crucial for the economic health of the region.

Finally, the level of collaboration evidenced by the diverse array of supporters for these plans is very impressive. As we have seen in many other natural resource proceedings this type of broad collaboration is very difficult to achieve and is to be commended.

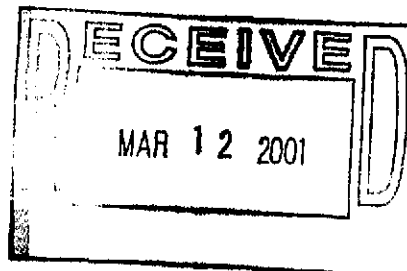
In summary, these HCPs form a balanced approach to addressing some very challenging issues. Their unique proposals for creating scientific and economic accountability in species recovery should serve the region well. We ask that you adopt the principles included in these HCPs.

Sincerely,

Scott Corwin
Manager, Government Affairs



March 9, 2001

Mr. Bob Dach
Hydro Division
National Marine Fisheries Service
525 NE Oregon Street.
Portland, OR 97232-2737



Dear Mr. Dach:

The Public Power Council (PPC) is a trade association of consumer-owned electric utilities in six states here in the Pacific Northwest. We applaud NMFS, Douglas and Chelan PUDs for their efforts to develop long-term habitat conservation plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects.

The proposed Anadromous Fish Agreement and Habitat Conservation Plans (HCP) are particularly timely given the Northwest's present short supply of renewable electric energy. Our region is now struggling to maintain its economic vitality in light of recent developments in the wholesale power market. Solutions to these issues must be found through active planning and long-term solutions. The proposed HCP represents both of these ideals.

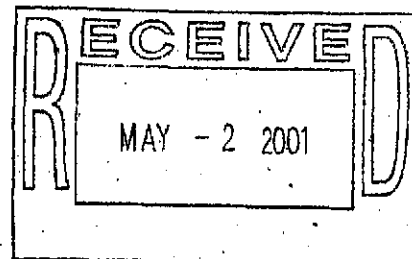
We support the proposed Wells, Rocky Reach and Rock Island HCPs as the preferred alternatives for salmon protection, mitigation and enhancement at those hydroprojects. The selection of the long-term HCPs is intended to ensure the future viability of anadromous salmonids while maintaining the benefits of clean, renewable hydroelectric power generation. We encourage NMFS to select and implement Alternative 3 as described in the Draft Environment Impact Statement for the proposed Wells, Rocky Reach and Rock Island Anadromous Fish Agreements and HCPs.

Sincerely,

C. Clark Leone
Manager



Main office: 424 Third Avenue W, Suite 100 • Seattle, WA 98119 • (206) 286-4455 • (206) 286-4454 fax
Field offices: 2031 SE Belmont Street • Portland, OR 97214 • (503) 230-0421 • (503) 230-0677 fax
1511 N Eleventh Street • Boise, ID 83702 • (208) 345-9067 • (208) 343-9376 fax
419 Sixth Street, Suite 328 • Juneau, AK 99801 • (907) 586-6667 • (907) 463-3312 fax
also in Washington, DC and Spokane, WA



May 1, 2001

Bob Dach
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737

**Re: Draft Environmental Impact Statement: Anadromous Fish
Agreements and Habitat Conservation Plans for the Wells, Rocky
Reach, and Rock Island Hydroelectric Projects**

Dear Mr. Dach:

The Save Our *Wild* Salmon Coalition, National Wildlife Federation, Friends of the Earth, Cascade Chapter of the Sierra Club, Northwest Sportfishing Industry Association, Pacific Coast Federation of Fishermen's Associations, and Institute for Fisheries Resources appreciate the opportunity to comment on the draft Environmental Impact Statement (DEIS) for the proposed Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects, dated November 2000. We have reviewed the document and offer the following comments.

The hydropower projects at issue have played a significant role in the decline of anadromous fish populations in the Columbia River basin, several of which are now listed under the Endangered Species Act. Any alternative for continued operations of the projects must promote recovery of these stocks and ensure that such operations do not jeopardize their continued existence. The proposed Habitat Conservation Plan purports to be a comprehensive agreement to promote actions that will improve conditions and lead to the recovery of species. However, based on the limited analysis contained in the DEIS, we believe it would be imprudent for the National Marine Fisheries Service to move forward with the proposed Habitat Conservation Plans (HCPs). Due to the lack of legal and scientific analyses of any of the alternatives in the DEIS, we cannot support any of the alternatives at this time. Section 7 of the Endangered Species Act requires NMFS to consult with the Federal Energy Regulatory Commission over the operation of these projects immediately. Anything less than this, such as the alternatives discussed in this DEIS, does not comply with the law. We are deeply troubled by this blatant lack of compliance with federal law and policy and urge you to reconsider your approach to satisfying your responsibilities under the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Clean Water Act (CWA), and the Federal Power Act (FPA).

SOWS

1

Alaska Trollers Association
American Rivers
Antioch Living Systems Collective
Association of Northwest Steelheaders
Boulder-White Clouds Council
Clearwater Forest Watch
Coalition for Salmon and Steelhead Habitat
Coast Range Association
Defenders of Wildlife
Earth Justice Legal Defense Fund
Federation of Fly Fishers
Friends of the Earth
Idaho Conservation League
Idaho Rivers United
Idaho Steelhead and Salmon Unlimited
Idaho Wildlife Federation
Institute for Fisheries Resources
Izaak Walton League - Greater Seattle Chapter
Lands Council
Long Live the Kings
The Mountaineers
Natural Resources Defense Council
North Cascades Conservation Council
Northwest Ecosystem Alliance
Northwest Environmental Defense Center
Northwest Resource Information Center
Northwest Sportfishing Industry Association
NW Energy Coalition
Oregon Natural Desert Association
Oregon Natural Resources Council
Oregon Outdoors Association
Oregon Trout
Oregon Wildlife Federation
Pacific Coast Federation of
Fishermen's Associations
Pacific Marine Conservation Council
Puget Sound Gillnetters Association
Purse Seine Vessel Owner's Association
River Network
Rivers Council of Washington
Salmon For All, Inc.
Salmon For Washington
Sawtooth Wildlife Council
Sierra Club
The Wilderness Society
Trout Unlimited
Washington Kayak Club
Washington Trollers Association

National Environmental Policy Act

1. The DEIS fails to take a “hard look” at all of the environmental information and consequences of each alternative.

2

The fundamental purposes of NEPA are to guarantee that: (1) federal agencies take a “hard look” at the consequences of their actions before the actions occur by ensuring “that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts,” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); and (2) “the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision,” *id.* at 349. In short, NEPA requires federal agencies to look before they leap. This DEIS fails to serve this critical function.

To satisfy the requirement that it take a “hard look” at the environmental consequences of its actions, an agency must engage in a “reasoned evaluation of the relevant factors” to ensure that its ultimate decision is truly informed, *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992). The DEIS must be searching, detailed and comprehensive; “[g]eneral statements about ‘possible’ effects and ‘some risk,’ do not constitute a ‘hard look’ absent a justification for why more definitive information could not be provided,” *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).

An agency’s failure to include and analyze information that is important, significant, or essential renders an EIS inadequate – for, without such detailed information, there is no way for the public or the agency to adequately assess the impacts of a proposed action. *See California v. Bergland*, 483 F. Supp. 465, 495 (E.D. Cal. 1980), *aff’d sub nom., California v. Block*, 690 F.2d 753 (9th Cir. 1982) (by failing to disclose key data, “the Forest Service effectively undercut the twin goals of environmental statements: informed decisionmaking, and full disclosure”).

NMFS may not, as it has done throughout this DEIS, ignore relevant information and rely upon conclusory statements and unsupported assertions to satisfy NEPA’s “hard look” requirement. We believe that these deficiencies present an inaccurate picture of the impacts to the public, making it impossible for anyone, including NMFS, to draw any reasoned conclusions about the environmental impacts of the three alternatives presented in this DEIS.

For example, the HCPs (Alternative 3) rely on “off-site” habitat improvements and hatchery supplementation to make up for 2% and 7%, respectively, of the 9% “unavoidable” mortality caused by these projects. As a threshold matter, NMFS fails to justify or explain this 2/7% division and provides no explanation for how it will measure these needed improvements. *See infra* at 14-15. Compounding this omission, the DEIS contains no explanation for whether the funds to implement these measures will be adequate to achieve the benefits necessary to mitigate for this mortality. The DEIS does not even attempt to connect the funding proposed for Alternative 3 with the actions to be taken as part of the HCPs. Not surprisingly, since the DEIS contains no explanation of what these measures may be, or how/when they will be funded or implemented, NMFS presents no data or scientific analysis whatsoever to explain how the benefits will accrue. The best the DEIS can do is to acknowledge that “there is considerable difficulty measuring the effectiveness of habitat improvement projects, [but] there are numerous areas with degraded habitat in the Mid-Columbia River tributaries that would benefit from improvement or plan protection programs.” DEIS at 4-41. This may well be the case, but this conclusory statement does not approach the level of analysis required to allow the public or a decisionmaker to conclude that Alternative 3 will actually provide the survival benefits necessary to mitigate for the effects of the PUD’s actions, nor does it present enough information to support NMFS’ threshold conclusion that it will result in a quantifiable increase in survival. Such generalized and speculative statements about hoped-for benefits

do not satisfy NEPA's "hard look" requirement. "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Neighbors of Cuddy Mountain*, 137 F.3d at 1380. Courts routinely reject such vague discussions of mitigation measures where, as here, they "are so general that it would be impossible to determine where, how, and when they would be used and how effective they would be." *Id.* at 1381.

2. The DEIS fails to analyze the cumulative impacts of myriad other actions that affect Middle and Upper River Columbia salmon and steelhead.

3

Perhaps the most glaring omission in the DEIS is NMFS' failure to consider cumulative impacts in its analysis. To ensure that the combined effects of separate activities do not escape consideration, NEPA requires that federal agencies consider cumulative environmental impacts in their environmental analyses. Cumulative impacts result "from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7

NEPA requires a cumulative impacts analysis to: (1) catalogue past projects in the area; (2) assess the cumulative environmental impacts of those projects with the proposed project; and (3) analyze the additive cumulative impact of all reasonably foreseeable Federal and non-Federal actions, whether or not they have actually been proposed. *See City of Carmel-By-The-Sea v. United States Dep't of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997) (rejecting cumulative impacts analysis that referred generally to other past "development projects" and did not discuss the additive impacts of foreseeable future projects); *Fritiofson v. Alexander*, 772 F.2d 1225, 1243 (5th Cir. 1985) (agency must consider reasonably foreseeable actions regardless of whether they have yet formally been proposed). Furthermore, NEPA requires that a cumulative impacts analysis provide "some quantified or detailed information" because "[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide." *Cuddy Mountain*, 137 F.3d at 1379.

The DEIS falls far short of satisfying a single one of these requirements. For example, the DEIS ignores even the impacts of other dams in the Columbia River. Most notably, the DEIS contains no analysis of the cumulative impacts of these alternatives when combined with the Grant County PUD's Priest Rapids and Wanapum dams, located just downstream of those covered by the HCPs analyzed in Alternative 3. Nor is there any mention of the cumulative effects of hydro operations on the Middle or Upper Columbia River tributaries, such as the Yakima and Chelan rivers. These tributaries house numerous hydro and diversion projects and irrigation withdrawals that have a significant impact on these same listed Middle and Upper Columbia River stocks. In addition, the U.S. Army Corps of Engineers has recently analyzed a proposal to deepen the Lower Columbia River – an action that, if approved, will impact Middle and Upper Columbia River juvenile and adult salmon and steelhead as they migrate through the lowest reach of the Columbia River estuary. This dredging project – while currently awaiting a Record of Decision – has been analyzed in a Final EIS and is therefore clearly "reasonably foreseeable," but there is no mention of it in the DEIS.

These examples are by no means exclusive. There are myriad other, easily identifiable actions and conditions that impact the Middle and Upper Columbia stocks, including, but not limited to, continuing habitat destruction and modification from on-going and proposed land-management activities, such as timber sales and livestock grazing on both public and private lands and the operation of the FCRPS. All of these activities and factors – whether they be in the development stage, or completed projects – must be catalogued and considered in NMFS' cumulative effects analysis.

Nowhere, however, does the DEIS meaningfully discuss the cumulative impacts of any these activities. Although NMFS alludes to its "Quantitative Analytical Report" (QAR) purportedly used to identify cumulative effects, it fails to employ or explain this model, drawing only the most general conclusions about the impacts of actions in other life stages in conjunction with each alternative. *See, e.g.*, DEIS at 4-44 ("The protection and enhancement of riparian habitat ... are expected to result in increased natural production levels for both anadromous and resident fish species."). Such conclusory and generalized statements do not satisfy the requirement that NMFS take a "hard look" at cumulative impacts.

The DEIS compounds these errors by painting an optimistic outlook for the Middle and Upper Columbia's listed stocks. *See, e.g.*, DEIS at 4-4 to 4-16. NMFS' discussion of these other actions takes full advantage of the potential positive effects of actions, but fails to account for – or even mention – any of the actions that may have negative impacts. Looking at only the positive side of the ledger distorts the true picture of the effects of the action to the public and inflates the already speculative benefits of many of these actions. NEPA's cumulative effects requirement demands that NMFS complete a comprehensive analysis that includes all of the actions occurring in the basin.

NEPA "emphasize[s] the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that 'the agency will not act on incomplete information, only to regret its decision after it is too late to correct.'" *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998). The DEIS' terse and incomplete discussion of cumulative effects fails to satisfy this fundamental requirement. The DEIS' failure to analyze all past, present, and reasonably foreseeable future actions results in a skewed, and ultimately inaccurate picture of the impacts of the proposed actions, leading to the kind of "blinders-on" decision-making that NEPA is designed to prevent.

3. The DEIS Fails To Consider an Adequate Range Of Alternatives

NEPA, §101(2)(C)(iii), requires that an EIS contain a discussion of the "alternatives to the proposed action." The discussion of alternatives is at "the heart" of the NEPA process. 40 C.F.R. §1502.14. The CEQ regulations require the agency to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. §1502.14(a). All federal agencies shall, to the fullest extent possible, "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4322(2)(E); *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992). A federal agency must look at every reasonable alternative within the "nature and scope of the proposed action," *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982), "sufficient to permit a reasoned choice." *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 815 (9th Cir. 1987), *rev'd on other grounds sub nom. Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989). The failure to consider all reasonable alternatives is fatal to the adequacy of an agency's NEPA analysis. *Idaho Conservation League*, 956 F.2d at 1519 ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate."). The DEIS is deficient in many respects with regard to the alternatives considered.

First, according to the Habitat Conservation Planning Handbook, the "no action" alternative "means that no permit would be issued and take would be avoided or that the project would not be constructed or implemented." Handbook at 3-35. The "no action" alternative presented in the DEIS does neither. Indeed, the "no action" alternative is really not an alternative at all because, as NMFS admits, it would violate the ESA and leave both the Federal Energy Regulatory Commission ("FERC") and the PUDs liable for causing a "take" of listed species. DEIS at 1-14 (only the "action alternatives ... will provide FERC and the PUDs legal coverage from the take prohibitions under section 9 of the act."). In short, Alternative 1 fails to present any alternative at all.

NMFS should evaluate a true “no action” alternative that considers “no project” conditions to fully assess the impacts of issuing incidental take permits for the Rocky Reach, Rock Island, and Wells hydroelectric projects. The reason for analyzing river conditions without the project is not just to consider past impacts, but to open up the full range of alternatives and impacts associated with a decision to continue the project. Understanding environmental conditions that would exist without a project is essential to evaluating the ongoing impacts of the projects and discerning key ecological components of a healthy aquatic ecosystem. Only by considering a no-project alternative can NMFS “explore all issues relevant to the public interest, including future power demand and supply, alternative sources of power, the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife.” *LaFlamme v. FERC*, 852 F.2d 389, 402 (9th Cir. 1988) (quotation omitted).

As Courts have explained:

[t]he goal of [NEPA] is to ensure that federal agencies infuse in project planning a thorough consideration of environmental values. The consideration of alternatives requirement furthers that goal by guaranteeing that agency decisionmakers have before them and take into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and cost-benefit balance. ... Informed and meaningful consideration of alternatives – including the no action alternative – is thus an integral part of the statutory scheme.

Bob Marshall Alliance, 852 F.2d at 1228 (citations and quotations omitted; emphasis in original).

The DEIS gives short shrift to considering this true “no action” alternative. Instead, NMFS states that, due to perceived legal and timing constraints, “dam removal is not considered a reasonable alternative.” If the baseline against which all alternatives are judged is the present state of the hydropower project, there can be no way to evaluate the pluses and minuses of rejecting or substantially modifying those operations. Without collecting and disclosing the costs and benefits of such options, the informed decisionmaking and full public disclosure purposes of NEPA cannot be met.

Whether better characterized as a “no-action” or an action alternative, NEPA requires NMFS to give full consideration to alternatives that include not proceeding with the activities. NMFS must analyze the condition of the river without the project and outline the public benefits gained from restoring the river to a more natural state. Both these inquiries are necessary for NMFS to fulfill its NEPA obligations.

Second, stripping away the alternatives given only brief consideration and eliminated in the EIS, and the “no action” alternative – which violates the ESA – NMFS is left with only two alternatives. Such a narrow range of alternatives does not fulfill NEPA’s mandate to rigorously explore alternatives. For example, the Court in *Commonwealth of Massachusetts v. Clark*, 594 F. Supp. 1373 (D. Mass. 1984), found that the Department of Interior had not considered an adequate range of alternatives in its analysis of an offshore oil drilling proposal. Of the thirteen alternatives presented in the document, the court found that, “once the illegal and overlapping alternatives are removed from the FEIS, the Secretary was presented with basically only two different configurations for the sale... the FEIS is hopelessly skewed in favor of only small deletions from the propos[ed action].” *Id.* at 1380.

The DEIS’ failure to consider a reasonable range of alternatives is even more troubling in light of the fact that many alternatives clearly exist. Notably, the DEIS fails to consider any alternative that would be more protective of fish, such as drawdown, non-power operations, or the installation of sluiceways at each

project. While such alternatives may cost more, the DEIS presents no information for the decision-maker or the public to draw any conclusion about the benefits, or cost of such a measure.¹

Finally, the DEIS relies on inaccurate information in its comparative analysis of alternatives. The DEIS emphasizes repeatedly that Alternative 2 will take longer to implement due to the potential for legal challenges from the PUDs. See, e.g., DEIS at s-32, 1-15, 2-53, 4-6. This fear, however, is nothing more than a straw man of NMFS' own construction. First, while it is true that the PUDs may prefer the less stringent measures that would result from Alternative 3, it is irrational to make the leap from that to a delay. The section 7 consultation with FERC described in Alternative 2 will yield the measures necessary to avoid jeopardy and will provide incidental take coverage for FERC and, by proxy, the PUDs. Even if either entity challenges these measures, they must still adhere to the results of consultation during that challenge, or they would be liable for a take under section 9 of the ESA. 16 U.S.C. § 1538. Thus even if, as NMFS assumes, one of the actors challenges the results of consultation, the measures required must still be implemented immediately to avoid take liability. The DEIS fails to disclose and to account for this fact in its analysis.

4. The DEIS fails to adequately inform the public and decision-makers of the requirements and responsibilities of all federal statutes and treaties.

"A reasoned evaluation of the relevant factors" must also include an understanding of all the federal laws with which an agency must comply, especially when those other laws have been enacted to protect environmental and natural resources. In this case, the DEIS fails to inform adequately the public and the decision-makers of the requirements under numerous other laws including, but not limited to the Endangered Species Act ("ESA"), 16 U.S.C. §§1531 *et seq.*, and the relationship between the alternatives and the requirements of these laws and treaties. To give the public and decision-makers the tools necessary to balance all relevant factors, the DEIS must address the basic requirements of these statutes.

For example, the DEIS states that Alternative 3 is intended to meet the requirements of the Federal Power Act and purports to analyze this requirement. Indeed, the DEIS implies that Alternative 3 is the only alternative that meets the requirements of the FPA. The DEIS does not, however, disclose that other alternatives must also comply with the FPA. By failing to disclose and analyze this requirement for the other alternatives, the DEIS presents the public and the decisionmaker with an inflated and inaccurate picture of the benefits of Alternative 3.

Endangered Species Act

NMFS' analysis in the DEIS is wholly insufficient to comply with the underlying legal obligations of the Endangered Species Act (ESA), 16 U.S.C. §§ 1531 *et seq.* The ESA is the "most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *TVA v. Hill*, 437 U.S. 153, 180 (1978). "[T]he language, history, and structure of the legislation . . . indicate[] beyond a doubt that Congress intended endangered species to be afforded the highest of priorities." *TVA*, 437 U.S. at 174.

¹ The DEIS states that the "purpose of the HCPs is to protect fish in the Mid-Columbia River while generating electricity." DEIS at 1-3. This statement too narrowly cabins the rest of the analysis by removing, among other things, consideration of a true "no action" alternative. Moreover, it assumes that the HCPs analyzed in Alternative 3 are the proper means to comply with the ESA. We believe that the purpose and need must be expanded to emphasize protection of listed species and compliance with the requirements of the Endangered Species Act. The HCPs are only a proposal to meet the requirements of the ESA, they are not an end in themselves. Indeed, to perform a valid NEPA analysis, NMFS must not assume, as it does in the current purpose and need statement, that the HCP Alternative fulfills the mandates of the ESA.

As a result, agencies are required to use "all methods and procedures which are necessary," 16 U.S.C. § 1532(2), to "prevent the loss of any endangered species, regardless of the cost." *TVA*, 437 U.S. at 188, n. 34. The DEIS does not meet that standard and in fact, if implemented would result in serious harm to listed species in the Middle and Upper Columbia.

Specifically, the DEIS violates the ESA's requirements for three basic reasons. First, the DEIS fails to abide by the ESA's fundamental principle of caution in the face of uncertainty. Second, the DEIS assumes, contrary to law, that the underlying Habitat Conservation Plans (HCPs) are legal in the context of federally regulated hydroelectric dams. Third, the DEIS fails to understand fundamental requirements of the ESA. All three issues are discussed more broadly below.

1. The DEIS Violates the Fundamental Principle of Species Conservation – Erring on the Side of Caution in the Face of Uncertainty.

Effective conservation management requires a conservative, species-protective approach to ensure that management decisions made in the face of uncertainty do not place the species further at risk.² An independent peer review panel recently criticized the state of Washington's statewide salmon recovery plan for failing to heed that precautionary principle.³

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The Supreme Court has recognized the importance of this approach in ESA decisionmaking. "Congress has spoken in the plainest of terms, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as 'institutionalized caution.'" *TVA*, 437 U.S. at 194. The ESA's policy of "institutionalized caution" requires that [t]he risk [presented by an action] must be borne by the project, not by the endangered species. . . . Congress clearly intended that [federal agencies] give the 'the highest of priorities' and the 'benefit of the doubt' to preserving endangered species." *Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987). (citations omitted)(emphasis added). NMFS appears headed down an errant path with the DEIS, by placing the risk of uncertainty squarely on the backs of listed stocks.

NMFS' failure to err on the side of protecting listed fish is endemic throughout the DEIS. *See infra* at 12-14. For example, the DEIS states at the very on-set that the purpose of the preferred alternative, the HCPs, is to protect fish while at the same time generating electricity. DEIS at S-2. The ESA strictly forbids this type of analysis. Instead, the ESA requires that the biological needs of the species be identified and addressed. The ESA only allows economics and other interests to come into the determination once recovery and survival thresholds have been met. Setting out the purpose as one that must protect economic interests is inconsistent with the ESA's obligations in this regard.

This problem is also apparent in the DEIS' analysis of scientific gaps. The DEIS specifically states that under Alternative 3, there is no requirement to provide the benefit of the doubt to the species of concern with respect to data gaps or disputes over information. DEIS at S-33. This determination is clearly inconsistent with the ESA and fails to provide sufficient protection to listed species.

Moreover, NMFS specifically finds in the DEIS that the long-term risks to listed stocks is greater than the long-term risks to the PUDs. DEIS at 4-77. Again, the ESA does not allow for this type of imbalance. The "risk of uncertainty on the long-term effects to the species" cannot legally be balanced on the backs

² See Noss, R.F., M.A. O'Connell, and D.P. Murphy. *The Science of Conservation Planning*. (Island Press. Washington, D.C. 1997)

³ Independent Science Panel. Review of "Statewide Strategy to Recover Salmon: Extinction is Not an Option." (2000).

of the fish. Instead, the law requires these risks to be borne by the action. That is, the PUDs' facilities must bare those risks.

Although NMFS and the PUDs might argue that the adaptive management provisions of the HCPs eliminate the illegal risk to the listed stocks, this simply is not the case. The current agreement promises not to use the HCPs' "off-ramp" until year 15 (even if the stocks are plummeting) and the burden of proof requirements under a "no surprises" policy, limit any positive impacts the adaptive management provisions might otherwise present. Simply put, NMFS has negotiated an agreement that while it provides "a substantial amount of planning and financial certainty for the PUDs," it puts a significant risk on the likely survival of the listed species. DEIS at 4-77. We urge NMFS to do what the ESA requires and place the unknown risk on the project, not the species.

2. FERC's Licensing of a Hydroelectric Facility Requires a Section 7 Consultation Process.

The operation of these federally licensed projects should be the subject of a § 7 consultation between the NMFS and the FERC, not the subject of a § 10 incidental take permit (ITP) in an HCP. Issuing an ITP to these projects would be misguided for several reasons.

First, § 7 and NMFS' Handbook make clear that the ITPs are available only for nonfederal activities. See 16 U.S.C. § 1536(b)(4) & (o) (providing for incidental take statements for federal activities and ITPs for nonfederal actions); HCP Handbook at 1-4 ("[The Section 10] process is designed to address non-federal land or water use or development activities that do not involve Federal action that is subject to section 7 consultation."). As the DEIS makes clear throughout the document, the projects at issue in the HCPs are FERC-licensed projects. See, e.g., DEIS at S-5 (discussing the Wells Hydroelectric Project as a FERC-licensed project). FERC's permitting authority over these projects and its continuing authority over the projects through so-called reopener clauses, constitute federal activities. As such, FERC must consult with NMFS over its actions under § 7 of the ESA. The use of the § 10 HCP process is inappropriate, and likely illegal, in this context.

Second, even if an ITP were appropriate in this context, the ITPs and HCPs would not relieve FERC of its § 7 responsibilities. Section 7 of the ESA requires federal agencies to "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered or threatened species." 16 U.S.C. § 1536(a)(2) (emphasis added). Section 7 also requires federal agencies to conserve listed species. 16 U.S.C. § 1536(a)(1). Section 10 of the ESA merely requires that actions not "take" a listed species. 16 U.S.C. § 1539(a). The difference is extraordinary.

We recognize that NMFS acknowledges the need to complete a § 7 consultation on the implementation of the HCPs. However, by blessing the HCPs first, NMFS simultaneously renders the § 7 consultation process meaningless and places the agencies in a position that, very likely, will result in a process that is contrary to the law. The "no surprises" policy of the HCPs would negate the ability of the agencies to insert provisions into the FERC licenses that the agencies found necessary to comply with their § 7 conservation, survival, and recovery obligations. Contrary to the "no surprises" assurances that certain commitments will not be revisited, NMFS would illegally restrict the ability of FERC and NMFS to comply with their § 7 responsibilities. In the very least, the consultation process must occur prior to any further development or agreement to the HCPs.

Third, a "no surprises" cap on these projects' responsibilities is particularly troubling due to the river-based nature of these operations and each individual dam's impacts on migrating salmon and steelhead. To justify the promises of certainty in the face of rapidly changing conditions, NMFS and Fish and Wildlife Service asserted in their "no surprises" rulemaking that the agencies can rely on conservation contributions from neighboring land owners or voluntary conservation organizations to compensate for

the cap on the permittee's responsibilities. See 63 Fed. Reg. 8859 (1998), codified at 50 C.F.R. §§ 17.22(b)(5), (6) & 17.32(b)(5), (6) (1998). This justification makes absolutely no sense for the salmon and steelhead of the middle and upper Columbia River, which will not survive dams that prove to be harmful regardless of the extent to which neighboring landowners step up their conservation contributions. In essence, there is no "neighbor" to make up for the adverse impacts to the species.

Finally, no surprises assurances have already created significant new risks for endangered species as they have been applied over the past five years to nonfederal activities. "No surprises" guarantees tend to lock-in an HCP's initial design, rendering adaptive management meaningless, by setting extremely high burdens of proof for the Services, requiring additional mitigation to first occur on public lands, requiring any additional mitigation to be fully subsidized by the public, and/or allowing any additional mitigation to be voluntary. Even in cases where an HCP's initial provisions are more adequate, changes and additions to these measures may well become necessary over time, including as a result of changes in the permittees' resource management practices, changing environmental conditions, or other foreseeable and unforeseeable circumstances. Rather than repeating our general concerns regarding the no surprises policy here, we include by reference, the National Wildlife Federation's comments on the "no surprises" policy rulemaking and American Lands' comments on the Scoping Notice for these HCPs. These concerns are heightened by the fact that NMFS has found the listed species at issue in these HCPs to be some of the most imperiled in the Columbia River Basin. This is not a time to add to the obstacles these species must face, but rather a time to provide the maximum protections afforded by law and policy.

3. The DEIS Misunderstands the Requirements of the ESA.

8 The DEIS fundamentally misunderstands the requirements of the ESA and its relationship to hydroelectric projects. In several places, the DEIS states that NMFS cannot legally mandate drawdown or dam removal until project relicensing. See, e.g., Table 2-8 at 2-57 or 4-29 & 2-45, respectively. This is simply not the case. These projects currently hold licenses that contain reopener clauses that allow FERC to change or revoke the licenses due to fish and wildlife concerns. As a result, FERC retains ongoing authority and jurisdiction over these projects. Courts have found that this ongoing jurisdiction requires the federal agency with this authority to reinstitute consultation and to take whatever action necessary to protect the listed species. See *WaterWatch of Oregon v. U.S. Army Corps of Engineers*, Civ. No. 99-861-BR (D. Or. June 7, 2000) (finding that a reopener clause in a federal permit required the Corps to reinstitute consultation over a water withdrawal). NMFS' elimination of the dam removal alternative is simply inconsistent with federal law. We strongly urge the agency to reconsider its elimination of this alternative.

Additionally, the ESA requires NMFS to consider alternatives that are much more protective of fish than the HCPs proposed in Alternative 3 of the DEIS. The ESA requires that an HCP minimize and mitigate the taking of endangered and threatened species to the "maximum extent practicable." 16 U.S.C. § 1539(a)(2)(B)(ii). As discussed earlier, the DEIS fails to consider any alternative that would be more protective of fish, such as the installation of sluiceways at each project. NMFS' failure to consider this and other, more protective alternatives violates the ESA's "maximum extent practicable" requirement. As Courts have held, "the most reasonable reading of the 'maximum extent practicable' nonetheless requires the Service to consider an alternative involving greater mitigation . . . 'The Administrative Record must contain some analysis of why the level or amount [of take] selected is appropriate for the particular project at issue.'" *National Wildlife Fed'n v. Babbitt*, 128 F.Supp.2d 1271, 1292 (E.D. Cal. 2000) (citing *Sierra Club v. Babbitt*, 15 F.Supp.2d 1274, 1279-82 (S.D. Ala. 1998)). NMFS must not only show that the mitigation proposed in the HCPs is practicable, but must demonstrate that a higher level of mitigation would be impracticable. Just as NMFS cannot satisfy NEPA's range of alternatives requirement with the discussion of only 2 alternatives, such a narrow range of alternatives similarly fails to satisfy the requirements of the ESA.

Also disturbing is the manner in which the DEIS treats permit revocations. The ESA requires revocation of the permit if the permittee is not meeting the permit's terms and conditions. 16 U.S.C. § 1539 (a)(2)(C). However, the HCPs appear to limit this revocation authority in two significant ways. First, the HCPs only allow revocation after year 15. So, the PUDs could fail to meet the terms and conditions of the HCPs for 14 years without recourse. DEIS at S-16; 2-33. Second, the revocation at year 15 may be exercised only if NMFS is specifically seeking drawdown, dam removal, and/or a non-power operating action. Neither limitation is consistent with ESA requirements. We urge NMFS to review the law and the underlying HCP agreements to ensure consistency.

Finally, NMFS' failure to provide an adequate review of the HCPs' monitoring and evaluation programs undermines the very essence of the ESA. The monitoring and evaluation of the HCPs are critical for compliance with the ESA. Without accurate and adequate monitoring and evaluation mechanisms, NMFS and FSW will be unable to determine, in any scientifically or legally credible manner, whether the PUDs are complying with the HCPs and thus, with the ESA. The DEIS fails to adequately address the obvious limitations with the alternative's monitoring and evaluations processes. We urge the agency to do a more thorough analysis of the limitations of these processes and to articulate how the agency will be able to ensure compliance with federal law.

Federal Power Act

The DEIS specifically states that the HCPs would "supercede the existing FERC license articles and settlement agreements as they pertain to anadromous fish." DEIS at 1-9. It is also the intention of the PUDs that the HCPs satisfy NMFS' obligations pursuant to sections 18, 10(a), and 10(j) of the Federal Power Act. However, the DEIS falls far short of including the analysis and requirements necessary to supercede these statutory requirements.

Both the Federal Power Act (FPA) and NEPA obligate a hydroelectric licensee to incorporate pre-project conditions in the relicensing process. As currently written, the DEIS and HCPs limit these requirements. Section 10 of the FPA establishes two mechanisms for requiring the analysis of pre-project conditions. First, section 10(a) requires an assessment that ensures the "equal consideration" of non-power values, including fish, wildlife, recreation, and environmental quality, when relicensing a hydroelectric facility. 16 U.S.C. § 803(a). The FPA's legislative history further clarifies that the intent of the FPA's 50-year cap on hydroelectric licenses was to ensure that the commitment of a river to power production be reevaluated anew at the time of relicensing. *See, e.g.,* Statement of Theodore Roosevelt, H.R. Rep. No. 507, 99th Cong., 2nd Sess. 11 (1986) stating that "[t]he public must retain the control of the great waterways. It is essential that any permit to obstruct them for reasons and conditions that seem good at the moment should be subject to revision when changed conditions demand.") A proper assessment of giving equal consideration cannot be determined without first understanding how the project has impacted environmental resources and how these resources could be restored. The DEIS utterly fails to address those issues by ignoring the pre-project conditions. Including a dam removal alternative would help rectify this serious oversight.

Second, § 10(j) of the FPA also compels a pre-project analysis by requiring that relicensing be conditioned upon the inclusion of "adequate and equitable" fish and wildlife protection, mitigation, and enhancement (PM&E) measures. 16 U.S.C. § 803 (j). This first step in determining the appropriate level of PM&E measures is to identify the historic conditions within which fish and wildlife existed prior to the hydroelectric project. The goal is to understand the key ecological conditions required for a healthy, self-sustaining fish and wildlife populations, and to strive to restore the physical, chemical, and physiological processes that create and maintain those conditions. However, reaching this goal is impossible without

first assessing the conditions of the ecosystem prior to dam construction. Again the DEIS is woefully lacking in this analysis.

Third, the DEIS provides no analysis of whether the HCPs at issue satisfy the FPA. It seems obvious that NMFS has blinded itself to these requirements. Certainly, by not analyzing the impacts to the FPA requirements, NMFS has failed to present the issues squarely for the public and decision-makers. The FPA grants certain authorities to NMFS to protect fishery resources, (listed and non-listed), affected by the hydroelectric project. The DEIS fails to analyze whether the HCPs' measures will satisfy such obligations. We urge the agency to complete a thorough analysis of how the proposed alternative will comply with the FPA requirements.

Finally, the very concept of the HCPs at issue in the DEIS circumvent the FPA requirements by including a "no surprises" assurances. As discussed earlier, the "no surprises" policy pre-supposes both the content and the term of years for the PUD FERC licenses. This is particularly disconcerting in terms of content where FERC has regularly inserted reopener clauses into its licenses in order to ensure "equitable treatment for fish and wildlife over the terms of the license agreement. The "no surprises" policy in the HCPs would eliminate FERC's ability to ensure compliance with this section of the FPA and many of its own license terms:

Clean Water Act

10 The CWA requires that all federal agencies "having jurisdiction over any property or facility . . . shall be subject to and comply with" all applicable federal, state, and local water quality laws. 33 U.S.C. § 1323. As a federal court has recently held, dams are no exception to this rule. See National Wildlife Fed'n v. U.S. Army Corps of Engineers, 92 F. Supp.2d 1072 (D. Or. 2000) (holding that the Corps' dams on the lower Snake River must comply with state water quality standards). As the permitting agency, FERC has jurisdiction over the operation of these dams. Nowhere in the DEIS, however, is there an analysis of whether any of the alternatives will comply with water quality standards. NMFS must analyze the water quality impacts of these projects and ensure that state water quality standards are met.

In addition, as a result of the actions analyzed in this DEIS, NMFS will issue an incidental take permit or an incidental take statement. However, both the ITP and the ITS require state certification under section 401 of the CWA. 33 U.S.C. § 1341. To the best of our knowledge, NMFS has not acknowledged receipt of such certification from the applicants. We ask the agency either to identify where in the DEIS this certification is discussed or to seek such certification prior to issuance. To issue one of these permits without a certification is a violation of section 401 of the CWA.

Inadequacy of HCP Provisions

11 The HCPs establish a no net impact standard for salmon and steelhead at the Rocky Reach, Rock Island, and Wells hydroelectric projects. The key components include a 91 percent total project survival rate, including an independent 95 percent juvenile passage rate, and 9 percent compensation through hatchery and tributary improvement programs. The DEIS clearly illustrates the shortcomings of the proposed standards and the unacceptable risk placed on the species as a result. Nonetheless, NMFS' analysis overlooks the serious shortcomings with the HCPs.

1. Adult and Juvenile Survival Standards Are Insufficient.

The DEIS must determine whether the adult and juvenile survival standards proposed in the HCPs are sufficient to recover the species and importantly, whether it is even possible to measure compliance with the proposed standards. The DEIS fails on both accounts.

Perhaps one of the most significant problems with Alternative 3 is the inability to accurately measure the key components of the HCPs – juvenile and adult survival standards. The DEIS makes clear that there is considerable uncertainty surrounding the available survival information for juvenile and adult salmonids passing the Mid-Columbia hydroelectric projects. Further, the DEIS states that (1) methodologies do not currently exist to measure total project survival for all species for juvenile migration, and (2) there are no specific plans to assess overall adult survival at the projects due to the lack of accurate methods to do so. Despite a lack of scientifically credible methods to determine whether the PUDs are meeting the proposed survival standards, NMFS relies on the standards when evaluating risks to the species of the proposed action. The DEIS fails to explain such reliance or evaluate the risk associated with standards that cannot be measured. NMFS cannot issue an incidental take permit while at the same time expressly acknowledging an inability to determine whether the applicant is in compliance with its terms.

Until such time as accurate assessment methods are developed, NMFS proposes to utilize representational studies of yearling spring chinook and steelhead to determine juvenile survival of all species and proposes nothing with regard to measuring total project survival, which includes adult survival. In the absence of adequate methods to measure whether the specified standards are being met for all of the life stages of all covered species, the standards are meaningless. Yet, the DEIS does not account for this considerable uncertainty in its analysis.

Compounding the risk to species is the provision that in the absence of methods to accurately determine unavoidable project mortality – defined as 5 percent juvenile dam passage mortality and 4 percent mortality from all other project effects, including adult mortality – NMFS assumes that the underlying estimates are correct. There is absolutely no data to justify such an assumption, and making this assumption runs counter to the fundamental principles of the ESA requiring that uncertainty be resolved in favor of the species. *See supra*, at 7-8. Therefore, until the PUDs accurately assess the specified survival standards, NMFS should assume non-attainment of the standards.

12

Moreover, the assumptions regarding the underlying mortality estimates serve as a disincentive for the PUDs to develop and implement studies of total project survival in a timely manner. The HCPs allow the PUDs to transition from Phase I to Phase III based solely on attainment of the 95 percent juvenile survival standard. As a result, the PUDs can forego studying total project survival, relying instead on the unjustified assumptions in the HCPs. Again, this result runs afoul of the ESA's cautionary principles.

13

We acknowledge the difficulty in evaluating certain standards and that the HCPs call for such protocols to be developed at some future date. However, NMFS may not rely on survival standards for which there are no technologies available to evaluate when determining whether the proposed HCPs comply with the ESA. A promise of future assessments, coupled with assumptions that standards are being met in the absence of such assessments, falls far short of what the ESA requires, and cannot be used to support any conclusions as to the HCPs' adequacy. *See, e.g., Sierra Club v. Marsh*, 816 F.2d 1376 (9th Cir. 1987) (the benefit of the doubt must be given to species not the action). There must be scientifically credible means to determine whether the standards set forth in the draft HCPs are being met *prior* to issuance of an incidental take permit. And, NMFS must consider the accuracy, reliability, and feasibility of the proposed measuring techniques in its analysis of the HCPs.

Recent actions undertaken by Chelan County PUD highlight the risk posed to the species by failing to develop agreed-upon methods for assessing whether survival standards are being met for all species prior to implementation of any HCPs. Despite lack of support from tribal, federal, and state fishery experts,

Chelan County PUD concluded that the Rocky Reach Hydroelectric Project was providing 95 percent juvenile dam passage survival and decided to forego the minimum spill requirement set forth in the HCPs. The PUD relied on inadequate analysis to support its conclusion, and ignored the requirement that all parties agree that the standard has been met prior to foregoing spill. Similar situations are likely to occur in the absence of measurable criteria.

Even if the 95 percent juvenile dam passage survival standard was measurable for all species, NMFS' analysis of the expected survival improvements and their adequacy in recovering the species is deficient in several respects. First, the HCPs call for the PUDs to maintain a 95 percent juvenile dam passage survival standard over only 95 percent of the run. NMFS fails to analyze the effect of protecting only 95 percent of the run and whether this approach is even legal under the ESA. Additionally, the HCPs allow for the exclusion of spring migrating chinook smaller than 50 mm in length from the 95 percent juvenile dam passage survival for the full run of that species in the event turbine intake screens are installed certain instances. The DEIS does not consider the effect of such exclusion on the species.

Finally, the PUDs, rather than NMFS, have the ultimate decision on what measures to implement during Phase I of the HCPs. The minimum required of the PUDs is that they demonstrate "steady progress" toward project survival standards throughout the duration of Phase I. However, the DEIS provides no criteria to determine adherence to steady progress, and importantly, states that such adherence will not be monitored until actual implementation of the HCPs. The result is that despite Phase I beginning in 1998, NMFS is not requiring the PUDs to comply with the steady progress requirement. Failure to provide steady progress delays implementation of critical protection measure and shifts the burden onto the species.

The insufficient analysis of the 95 percent standard, the lack of scientifically credible methods by which to determine whether the PUDs are achieving the HCP standards, and the lack of a requirement to provide the benefit of the doubt to the species of concern with respect to information gaps or disputes results in insufficient protection for the species.

We recommend that NMFS identify and evaluate feasible measurement protocols to assess compliance with all aspects of the survival standards. Such protocols should address all species and all life stages, including adult survival. In conjunction with development of study methodologies, NMFS should evaluate the potential impacts on the species that may result from implementation of such studies. Further, any uncertainties with regard to whether standards are being met must be resolved in favor of the species.

2. The DEIS Lacks Any Adequate Analysis of the Off Site Mitigation Proposals.

The DEIS notes that the ultimate goal of the HCPs is to achieve no net impact to each species covered by the HCPs. This standard requires a 9 percent compensation for unavoidable project mortality through two programs – 7 percent compensation to be provided through hatchery programs and 2 percent compensation provided through tributary habitat improvement programs. However, the DEIS fails to provide a detailed evaluation of either program, including the manner in which NMFS will assess the projected benefits. Rather, the DEIS acknowledges that there are no means to assess these benefits and then simply assumes that the funding and supplementation levels contained in the HCPs are adequate.

a. Tributary Improvements

A critical component of any salmon protection and recovery effort will involve the protection and restoration of salmon and steelhead habitat throughout the basin. Thus, while a tributary habitat improvement fund is a laudable goal, it must be accompanied by measurable actions and objectives. The

proposed tributary fund in the HCPs fails to meet that requirement and as a result, raises questions about the legality of such a program under the ESA.

The DEIS provides no analysis to support the proposed tributary habitat improvement fund levels established in the HCPs or to suggest that the fund will result in the 2 percent compensation for unavoidable project mortality as intended. The fund is defined in monetary terms, with no connection to specific habitat improvement measures or goals necessary to meet the habitat needs of salmon and steelhead. And, although the DEIS states generally that habitat conditions are expected to improve, there is no way to measure the actual benefits of such improvements or determine whether the PUDs are complying with the 2 percent compensation standard. Despite this inability to measure and the uncertainty surrounding the fund, the DEIS quantifies and relies upon expected survival increases for steelhead and spring chinook resulting from such improvements. The DEIS fails to support its finding that the fund will either provide 2 percent compensation or provide the projected survival benefits.

Additionally, the DEIS does not explain how the funding structure may affect when or whether improvements are made and survival benefits realized. Similarly, the DEIS fails to explain how the funding structure will actually achieve interim goals for recovery. The QAR analysis assumes that survival improvements from off site mitigation will be realized immediately, even though the funding for such improvements is spread out over the 50 years of the permit. NMFS clearly understands that the survival improvements cannot be immediately realized. And yet, the DEIS, while acknowledging this discrepancies, simply ignores the problem. NMFS' avoidance technique and lack of analysis presents an illegal burden of risk on the listed species and violates both the ESA and NEPA.

17

Finally, the DEIS fails to explain why Douglas County PUD's contribution to the tributary improvement fund would be reduced by half in the event that the PUD is achieving 95 percent juvenile dam passage survival or higher at the Wells dam. There is no justification for linking the tributary habitat fund solely to the juvenile dam passage survival standard. Such a reduction runs counter to the goal of attaining no net impact at the project and is not considered in the DEIS estimation of survival benefits. The projected benefits, although not supported by data or scientific analysis, are based on tributary improvements to mitigate for 2 percent of unavoidable project mortality. Changing the contribution level without scientific justification is irrational and contrary to law.

b. Hatchery Mitigation

18

The DEIS fails to adequately analyze the hatchery supplementation component of the HCPs. Not only does the QAR analysis fail to consider a long-term program, but NMFS also provides no analysis to support a program that compensates for 7 percent unavoidable project mortality. Although the HCPs rely on 7 percent compensation through hatchery programs to attain the underlying goal of no net impact, NMFS expressly states that it cannot guarantee a program at that level. The DEIS notes that any hatchery program must be designed and implemented in a manner consistent with recovery goals, but provides no information as to how that might be accomplished nor whether such consistency will prevent the PUDs from meeting the required 7 percent hatchery compensation. Nevertheless, the analysis fails to factor in the potential for non-attainment of 7 percent compensation through the hatchery program, and in turn, the no net impact standard. The failure of this analysis raises questions as to whether the HCPs and the no net impact standard meet the obligations of the ESA.

19

Although the DEIS identifies continued supplementation as an important factor to consider and clearly a key component of the HCPs, the QAR fails to analyze the impacts of a long-term supplementation program intended to provide the 7 percent compensation. In fact, the QAR analysis assumed a short-term supplementation program would be suspended upon attainment of certain goals, while supplementation under the HCPs would continue unless shown to have a negative impact to ESA listed species.

Insufficient information about the hatchery program, in combination with uncertainty surrounding both the survival standards and the tributary program, preclude NMFS from fully assessing the environmental impacts of the HCPs and drawing any conclusions as to its sufficiency under the ESA.

3. Inconsistencies between QAR & DEIS Call DEIS Analysis into Question

20

The DEIS relies on the Quantitative Analytical Report (QAR) to assess the impacts of implementing the survival standards and tributary habitat improvement measures in the HCPs. NMFS' reliance on the QAR analysis is misguided for several reasons. First, the QAR "assumed that the survival improvements called for at the hydroprojects, and through off-site mitigation, occur instantaneously," when in fact, as the DEIS notes, the survival benefits from the measures in the HCPs may not be realized for years. DEIS at 4-11. The QAR also assumes that Grant County PUD's Priest Rapids Project has achieved a 95 percent juvenile survival standard, similar to the juvenile dam passage survival standard called for in the HCPs. However, the DEIS provides no support for this assumption. As discussed above, the QAR also fails to adequately assess the proposed hatchery supplementation program. Finally, the QAR incorporates the survival improvements called for in the Federal Columbia River Power System Biological Opinion, even though such standards are not currently being met. The QAR relies upon unsupportable assumptions contrary to the requirement that NMFS articulate a rational connection between its findings and the available facts. Inconsistencies between the QAR and available facts call into question NMFS' reliance on the analysis to draw any conclusions about the adequacy of the HCPs.

Conclusion

The DEIS fails to demonstrate that the proposed HCPs provide sufficient protection of anadromous salmon and steelhead. It relies on immeasurable standards and too often places the risk of uncertainty associated with such standards on the species. A plan that is to govern salmon and steelhead protection measures at the Rocky Reach, Rock Island, and Wells hydroelectric projects must contain significantly more certainty with regard to attainment of standards, effectiveness of standards in light of all the impacts in the Columbia River Basin, and must be conservative in favor of ESA-listed species. The DEIS does not provide sufficient analysis of the environmental impacts of the alternatives to warrant adoption of the HCPs.

Thank you for the opportunity to comment. Please feel free to call if you have any questions regarding these comments.

Sincerely,



Pat Ford, Save Our *Wild* Salmon
John Kober, National Wildlife Federation
Steve Gerritson, Chair, Cascade Chapter of the Sierra Club
Liz Hamilton, Northwest Sportfishing Industry Association

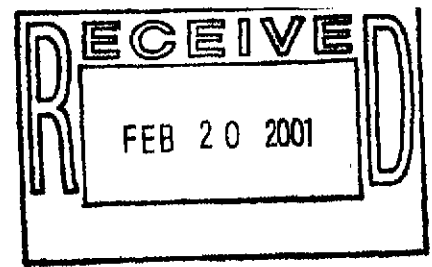
Glen Spain, Pacific Coast Federation of Fishermen's Associations &
Institute for Fisheries Resources
Shawn Cantrell, Friends of the Earth

cc: Susan Fruchter, NEPA Coordinator
Office of Policy and Strategic Planning
Room 6117
Herbert C. Hoover Bldg.
U.S. Department of Commerce
Washington D.C. 20230

Save Our Wild Salmon (SOWS)

Comment #	NMFS Reference #¹
1	47
2	32
3	6
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5	21, 23
6	51
7	47
8	24, 34
9	23, 25, 43
10	23
11	18
12	21, 22
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15	12
16	12
17	14
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19	16
20	16, 53

¹ see Appendix C



National Marine Fisheries Service
Northwest Region – Hydro Program
525 NE Oregon St. #420
Portland, OR 97232-2737

Feb. 15, 2001

Dear Sirs:

We are residents of East Wenatchee, and have been involved in conservation issues for many years. We have worked through the Chelan/Douglas Land Trust, the Foster Creek Conservation District, and The Nature Conservancy of Washington to preserve riparian habitat and aid salmonid survival and restoration in the Mid-Columbia Region.

We heartily endorse the HCP as prepared by the Chelan County PUD. While we cannot comment with any authority on the specific recommendations and actions, we support the increased certainty re: future licensing and take issues that the HCP addresses. We don't feel that dam breaching or removal is a reasonable alternative, and therefore extensive mitigation measures need to be pursued as outlined in the HCP.

We look forward to working with the PUD in the near future regarding conservation easements on riparian lands on both the tributaries and the main stem of the Columbia. We have already met with the senior staff of the PUD and look forward to more meetings to plan ways that local conservation groups can work with the PUD to ensure healthy fish stocks into the future. We agree with the comment: "extinction is not an option," and we welcome the proactive approach as outlined in the HCP.

Thank you for the opportunity to submit these comments, and we look forward to seeing the implementation of the HCP.

Sincerely Yours,

A handwritten signature in cursive script, appearing to read "Eliot W. Scull".

Eliot W. Scull

A handwritten signature in cursive script, appearing to read "Christine E. Scull".

Christine E. Scull



GROWERS, INC.

Apples • Pears • Cherries

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N.E. Oregon St, Suite 420
Portland, Oregon 97232-2737

February 12, 2001

To Whom It May Concern:

As a resident of North Central Washington, a fruit grower and the President of Stemilt Growers, Inc., I want to comment on the Habitat Conservation Plan for salmon recovery in our area.

Like almost everyone I know I have a high interest in the salmon recovery success. I work with over four hundred fruit growers in Central Washington. We employ well over a thousand people in our packing plant and orchards. We rely on the natural resources of the mid Columbia region to support these family farms and to employ these hundreds and hundreds of people in production jobs. I would like to endorse enthusiastically the principles behind the Habitat Conservation Plan (HCP) now being reviewed by your agency for the fish resources of the Columbia River.

Ample water is necessary to irrigate our orchards. Reliable low-cost electricity is necessary to pump that water to the trees, to run the packing lines which process the fruit and enable the controlled atmosphere storage rooms to maintain their precise conditions for top marketing of the products. In an era when so many other pressures are squeezing the agricultural industry, cooperative approaches like this HCP help by providing more long-term certainty regarding water supplies and electric power. It would be a shame to remove yet one more cornerstone of our increasingly shaky foundation.

As we understand it, the HCP approach lets the knowledgeable people at the Chelan County PUD use their insight and understanding to achieve measurable results on fish issues. As a business owner, I can appreciate the approach. Regulatory burdens too often lead to nothing but long drawn out legal battles.

The region will best be served by allowing Chelan County PUD to match it's fish protection measure with other aspects of hydroelectric operation, especially with the guaranteed review of the results provided for in the HCP. Stemilt Growers adds its voice to those calling for implementation of the agreement as it has been presented.

Thank you,

Thomas K. Mathison
Thomas K. Mathison
President – CEO
Stemilt Growers, Inc.

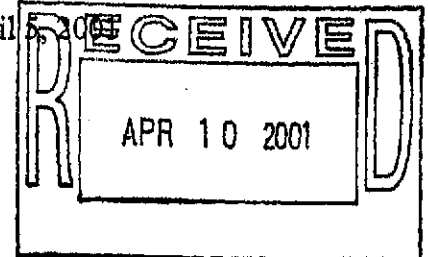


File Code: 2770

OWNF

Mr. Bob Dach
NMFS, NWR, Hydro Program
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

Date: April 5, 2001



Dear Mr. Dach:

The Okanogan & Wenatchee National Forest (OWNF) would like to submit the following comments on the *Anadromous Fish Agreements and Habitat Conservation Plans, Draft Environmental Impact Statement for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects* which we received January 2, 2001. We have organized our comments in two categories; (1) general and (2) specific, according to page numbers from the DEIS. We hope this facilitates your review and response.

General Comments

The DEIS has been reviewed by OWNF Fishery Biologists, Hydrologists, District Rangers and other specialists from the following Ranger Districts: Leavenworth/Lake Wenatchee, Entiat/Chelan, Methow Valley, and Tonasket. The consensus of the reviewers is that the DEIS chapters covering Affected Environment and Environmental Consequences with respect to the associated tributaries tend to be overly general, out dated, and in some cases innaccurate. The developmental lifespan of the HCP/DEIS has been such that it does not reflect recent advances in a number of areas:

- Watershed Restoration: The DEIS hints at the possible effects of these ongoing activities but is short on specifics.
- Watershed Analyses: The DEIS utilizes USFS documents in an uneven manner, often overly generalized. More recent documents are unutilized.
- Watershed Monitoring: Aquatic habitat monitoring in the tributaries has intensified in recent years yielding new information (particularly regarding thermal and sediment regimes) that would increase the quality of the DEIS.
- Biological Assessments: The associated tributaries are now covered by analytical baselines completed according to the NMFS ESA-matrix for steelhead and spring chinook salmon and the USFWS ESA-matrix for bull trout. These BAs are typically updated annually and include a wealth of information and interpretation that is not reflected in the DEIS.

It is our opinion that sections of the DEIS that pertain to the associated tributaries are inadequate to serve as a basis for effective protection and restoration of Plan species habitat in the tributaries. Requiring the DEIS to be updated would serve little purpose other than to further delay implementation of the HCP. The OWNF is concerned that implementation of the HCP will not be timely enough to reverse the declining population

trends of Plan species. It is acknowledged that attempts to keep the DEIS up-to-date regarding the tributaries would continually lag behind. The process of watershed analysis is iterative by design to account for changes in the dynamic processes that shape watersheds and the advances in our knowledge of these processes. To solve this dilemma, we propose that the parties to the HCP add wording to the adaptive management sections of the DEIS that would require the following:

- Prior to selecting projects for the associated tributaries, the Tributary Committee conduct a thorough review of the current status of Plan species and habitat limiting factors within the associated tributaries.
- The PUDs become involved (technically and financially) in future watershed analyses of the associated tributaries.

The OWNF supports Alternative 3, particularly the Tributary Conservation Plan and the dam passage survival standards. The OWNF has some reservations regarding the Hatchery Compensation Plan. The policy and direction of the OWNF is to manage habitat for natural production; therefore, it is mandatory that Forest Fishery Biologists carefully review any HCP-driven proposals to artificially supplement salmonid populations within the National Forest. It is understood that artificial supplementation may be required to restore some anadromous species. The Forest's opinion is that artificial supplementation should be applied as a short-term stop-gap measure and phased out over time. Because of concerns about broodstock mining, appropriate release sites, and species interactions (competition, disease, genetic integrity) the OWNF expects to be directly involved in reviewing plans for hatchery supplementation.

The Forest is one of the principal aquatic habitat managers in the Wenatchee, Entiat, Methow, and Okanogan Subbasins. The Forest expects to be an integral part of the Tributary Committees proposed by the HCP.

Monitoring and adaptive responses will be keys to evaluating the success of the HCP. The Forest expects to be involved in reviewing monitoring results after the HCP is implemented. The Forest expects to make future recommendations based on HCP monitoring results.

Specific Comments

2 | *Page S-40:* Vegetation impacts during drawdown should also disclose the increase of noxious weeds if drawdown occurs.

3 | *Page 1-31:* "Any additional measures NMFS deems necessary for the permit would be detailed in the biological opinion." and *page 2-2* "If NMFS determines that the proposed measures are not adequate to ensure the continued existence of the species, a reasonable and prudent alternative to the proposed action would be developed". These statements give the appearance that NMFS has not disclosed all of the actions associated with the alternatives and consequently has not disclosed all of the effects. We cannot comment on the proposed action and effects unless they are disclosed in their entirety.

4 | *Page 2-40:* Project Cumulative Effects appears incomplete. 40CFR1508.7 defines cumulative effects as: "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such action." This DEIS addresses neither impacts of past actions nor

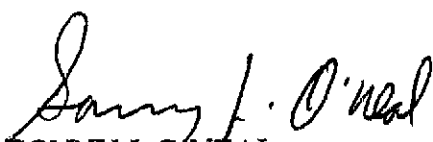
reasonably foreseeable actions. It is our opinion that reasonably foreseeable actions would include all actions proposed in each of the tributaries including cumulative effects of DEIS hatchery supplementation programs combined with current hatchery programs including coho re-introduction during implementation of alternatives 2 or 3 and actions proposed as restoration projects in the watershed analyses for each of the tributaries. What are the expected effects of all the smolt outplanting on wild fish, both in the tributaries and during migration out to the Columbia estuary?

5 | *Page 3-68:* The reported Entiat River spring chinook salmon average escapement estimates (redds) based on dam counts (turnoff estimates) are clearly in error. The OWNF considers spawning ground surveys to produce more accurate estimates of escapement and population trends and suggest the use of redd count expansions as recommended by Carie (1996). For example: if Entiat steelhead escapement is estimated by subtracting Wells Dam counts from Rocky Reach Dam counts and then subtracting Wells hatchery broodstock take, the resulting escapement estimates are often negative numbers (1982, 1983, 1984, 1991 & 1992). Chapman et al. (1994) concluded that steelhead escapement to the Entiat River cannot be accurately calculated.

6 | *Page 3-89:* The reported average monthly flows in the lower Entiat River are incorrect and inconsistent with the flows correctly depicted in Figure 3-9.

7 | *Section 4.1.3.2* identifies specific projects that would be implemented under alternative 3. The projects generally relate to reducing erosion, sedimentation and turbidity. These are worthy goals; however, none of these tributaries are on Washington State Department of Ecology's 303(d) list for sediment or turbidity. They are 303(d)-listed for instream flows. An action that would increase instream flows while reducing the risk of landslides after catastrophic wildfires is captured in the OWNF dry site strategy. This strategy of reducing vegetative stocking and fuel levels in fire-prone landscapes would increase streamflows in the tributaries, especially during the critical base-flow time of year. This strategy has been subjected to a blind peer review. The OWNF has more than 500,000 acres of dry site in these four tributaries that could benefit from some form of stocking control and fuels reduction over the next 50 years.

Sincerely,



SONNY J. O'NEAL
Forest Supervisor

Cc
Susan Fruchter, U.S. Dept of Commerce
Mark Morris, Tonasket District Ranger
John Newcom, Methow Valley District Ranger
Karin Whitehall, Entiat District Ranger
Bob Sheehan, Chelan District Ranger
Glenn Hoffman, Leavenworth/Lake District Ranger

USDA - Okanogan-Wenatchee National Forests (OWNF)

Comment #	NMFS Reference #¹
1	14
2	63
3	5
4	6
5	89
6	90
7	13

¹ see Appendix C



United States
Department
of Agriculture

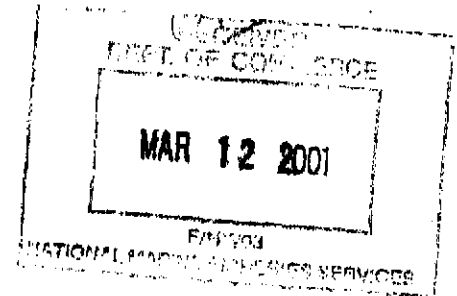
Animal
and Plant
Health
Inspection
Service

Wildlife
Services

720 O'Leary St., NW
Olympia, WA 98502

March 8, 2001

National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737



Dear Sir/Ma'am:

The United States Department of Agriculture-Wildlife Services (WS) would like to thank you for the opportunity to review and comment on the DEIS regarding the proposed Anadromous Fish Agreements and HCP's for the Wells, Rocky Reach, and Rock Island hydroelectric projects.

After reviewing the document we have compiled a list of comments based on the context of the DEIS and how it relates to the Cooperative Service Agreements (CSA) we have with the Chelan and Douglas County PUD's.

The objectives and goals of the CSA at Rocky Reach and Rock Island dam are to reduce predation on downstream migrant salmonid smolt and steelhead fingerlings by populations of predatory gulls, cormorants, and other piscivorous birds. This includes the reduction of damage to electrical utilities/structures caused by nesting/roosting cormorants.

In Douglas County, the CSA with Wells Hatchery directs WS to reduce or alleviate predation on juvenile salmonids by piscivorous birds, primarily mergansers, cormorants, gulls, herons, and diving ducks. The CSA at Wells Dam is in place to maintain the integrity and function of the existing overhead wire exclusion system over the tailrace area, thus reducing predation on juvenile salmonids by piscivorous birds. This wire exclusion system is also in place over the rearing ponds at Wells Hatchery.

Our comments focus on the lack of information and discussion of piscivorous birds at each of the hydroelectric projects. Predation on salmonid species by fish-eating birds is well documented in the literature, and we find the omission of all piscivorous bird species but gulls to be a serious oversight of the DEIS.



APHIS - Protecting American Agriculture

COMMENTS

WS

Section 2.2.4.3 Predation

The last paragraph (p. 2-22) discusses bird predation and measures taken to reduce the damage. The methods listed include: *wires, propane cannons, and other pyrotechnic methods*. It is important to reveal that lethal methods are used to reinforce the nonlethal methods. Shooting in the direction of, but not at, target birds is sometimes augmented by intentional shooting of individual target birds. The intent of such shooting is to enhance the scaring efficiency of firearms and pyrotechnics by training the birds to anticipate injury when they hear explosions. Birds that learn to fly beneath the wires strung over the tailraces, at certain projects, are shot. The discussion of lethal measures should not be a red-flag issue.

1

Section 2.3.1.1. Wells Hydroelectric Project

▫ Measures Planned

2. Juvenile Passage

C. Predation

Part C under Juvenile Passage reads: *continue to refine and implement a northern pikeminnow removal program*. It is our understanding that Wells Hatchery is affiliated with Wells Dam. If Wells Hatchery is indeed a facility within the Wells Hydroelectric Project then mention must be made to the piscivorous bird program at the hatchery. As mentioned earlier, our CSA with Wells Hatchery includes a multitude of fish-eating birds. Similar wording used in section 2.3.1.2., paragraph 4, bullet 4 on avian predation would be suggested.

2

Section 2.3.1.3. Rock Island Hydroelectric Project

Unlike the two hydroelectric projects described prior to Rock Island, there is no mention in this section as to the piscivorous fish and bird programs in place, nor mention of their continuation in the future. We believe there should be mention made to these programs.

3

Section 2.3.3.8. HCP Conservation Plan and Compensation Measures

▫ Wells Dam

Once again there is no mention of Wells Hatchery. Does the hatchery compliment the dam and are both operated by the Douglas PUD? Wells Hatchery is not combined under the proposed plan for Wells Dam, nor is it mentioned anywhere under section 2.3.3.8. We believe that Wells Hatchery needs to be included, either separately or under Wells Dam.

4

Section 3.2.9.2. Project Area Rearing

▫ Predation

The lack of data, literature, and discussion of piscivorous birds is problematic. The DEIS has but one reference (Ruggerone, 1986) to the only piscivorous bird species mentioned. Gulls are only one of many fish-eating birds found at Wells, Rocky Reach, and Rock Island dams. WS is under agreement to control cormorants, herons, mergansers, diving ducks, and terns. A separate section discussing piscivorous birds and their associated damage is needed. Failure to address this issue could result in a forced cessation of bird control activities for Chelan and Douglas County PUD's due to insufficient NEPA. We would conclude that a deeper look at predator/pest management programs be taken.

5

Please let us know if we can be of assistance in providing information needed for this or other analyses.

I would like to thank you again for allowing Wildlife Services to review and comment on the DEIS regarding the proposed Anadromous Fish Agreements and HCP's for the Wells, Rocky Reach, and Rock Island hydroelectric projects. We hope our comments will be of some help in the completion of a thorough and complete Environmental Impact Statement.

Sincerely,


J. Gary Oldenburg
State Director, WA/AK

USDA Wildlife Services (WS)

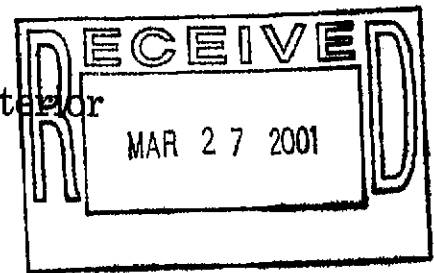
Comment #	NMFS Reference #¹
1	101
2	101
3	101
4	101
5	101

¹ see Appendix C



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 556
Portland, Oregon 97232-2036



IN REPLY REFER TO:

March 26, 2001

ER 01/82

Mr. Bob Dach
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737

Dear Mr Dach

The Department is currently reviewing the Draft Environmental Impact Statement (DEIS) for the Anadromous Fish Agreement and Habitat Conservation Plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects, Washington. We note in the letter accompanying DEIS that comments are due March 29, 2001.

I am currently working with the Fish and Wildlife Service and the Bureau of Indian Affairs to develop the Department's comments. Because of the magnitude of these issues the Department will need additional time to discuss and coordinate our concerns prior to submitting comments on the DEIS.

We therefore respectfully request a time extension until May 1, 2001 to provide comments. I appreciate your cooperation in this matter. If you have any questions or require any additional information you can contact me at (503) 231-6157 and preston_sleeper@ios.doi.gov.

Sincerely,

Preston A. Sleeper
Regional Environmental Officer

cc:

Terry Martin, OEPC
Estyn Mead, FWS
Bernie Burnham, BIA



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 366
Portland, Oregon 97232-2036

IN REPLY REFER TO:

May 11, 2001

ER 01/0082

Mr. Bob Dach
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737

Dear Mr. Dach:

The U.S. Department of the Interior (Department), through its bureaus the Fish and Wildlife Service (Service) and the Bureau of Indian Affairs (BIA), has reviewed the Draft Environmental Impact Statement (DEIS) for the Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects, Washington. In the DEIS, the National Marine Fisheries Service (NMFS) considers whether to authorize incidental take permits pursuant to the Endangered Species Act Section 10(a)(1)(B) for 50-year anadromous fish agreements and habitat conservation plans (HCPs) with two Washington State public utility districts (PUDs) operating three Federal Energy Regulatory Commission (FERC) licensed hydroelectric projects on the mid-Columbia River. The Department offers the following comments for your consideration in the development of a final environmental impact statement (FEIS). These comments were prepared under the authority of and in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*; 83 Stat. 852), as amended, the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*; 48 Stat. 401), as amended, the Endangered Species Act (16 U.S.C. 1531 *et seq.*; 87 Stat. 884), as amended, and the Federal Power Act (16 U.S.C. 791-828c *et seq.*; 41 Stat. 1063), as amended, and other authorities mandating our concern for environmental values.

GENERAL COMMENTS

We appreciate the document's candor in highlighting each alternative and noting those areas in which the alternative is or may be inconsistent with the requirements of Section 10 of the Endangered Species Act or current science and technology. Obviously, these inconsistencies are problematic for the NMFS and will require resolution before a final decision regarding permit issuance can be made. The Department fully supports the document's strategy of encouraging reviewers to comment on these inconsistencies and suggest potential solutions. Accordingly, these comments focus on those areas of the DEIS that do not adequately address or analyze the potential consequences of permit issuance on areas of special interest to the Department. These areas include the effect of the proposed action on Indian reserved rights and resources that are

subject to the Federal trust responsibility, and Columbia River bull trout, a listed threatened species for which consultation with the U.S. Fish and Wildlife Service may ultimately be required. We also provide comments regarding the need to modify certain terms of the HCPs to reflect current science and technology and align those plans with the requirements of the Endangered Species Act.

In the DEIS, NMFS discusses three alternatives including the proposed action. Alternative 1 is the "no action" alternative and describes baseline conditions and existing regulation of mid-Columbia operations. Alternatives 2 and 3 utilize different sections of the ESA to protect and recover fish species under the Act. Under Alternative 2, NMFS would enter into Section 7 consultations with the Federal Energy Regulatory Commission (FERC) and could require modifications of the projects' federally-licensed operations to protect and recover the listed stocks. Under the proposed action, Alternative 3, NMFS would issue 50-year incidental take permits for the affected species pursuant to conservation plans developed by the project operators and implemented under Section 10 of the ESA.

Tribal Resources and Federal Trust Responsibility

Overview of the Proposed Action's Trust Deficiencies

The projects at issue in this DEIS are located on the mid-Columbia River near lands that were aboriginally occupied by the Tribes of the Columbia River Basin, and the existence and operation of these projects impact and restrict the treaty-confirmed property rights of these and other Indian Tribes. In 1855 treaties with the United States, four Columbia Basin Tribes ceded millions of acres of land while specifically reserving the Basin's fisheries for cultural, ceremonial, subsistence and economic purposes. As the primary Federal agency responsible for protecting the trust property of Indian tribes, the Department has a strong interest in ensuring that these projects are operated in a way that protects tribal trust resources, and specifically, the anadromous fish of the Columbia River Basin.

1 The Department is primarily concerned that many of the elements of the DEIS's proposed action, Alternative 3, would impair the ability of the Federal government to fulfill its trust responsibilities to the Columbia Basin Indian Tribes. To protect the Tribes' rights to their treaty reserved property and to avoid liability for a breach of the Federal government's trust obligations, it is essential that NMFS's management role in the basin ensures the maintenance and utilization of the reserved fisheries.

However, pursuant to Alternative 3, the Federal government's responsibility to manage mid-Columbia trust resources would be impermissibly transferred to non-federal entities who are not accountable for breaches of Federal trust and treaty obligations. The decision-making process described in Alternative 3 for implementing recovery measures severely constrains Federal authority. Under Alternative 3, the species' recovery and the management authority of the United States is relegated to Coordinating Committees which yield ultimate decision-making authority to

1 the non-federal commercial operators. Consequently, NMFS's role in the management of the mid-Columbia fisheries, including treaty trust fisheries, would be reduced to recommending mitigation measures that the Coordinating Committees may reject. Despite the fact that its management authority would be severely constrained, the United States would still be liable for a breach of its trust responsibility should measures under Alternative 3 fail to recover the endangered fisheries,

Given the potential liability, NMFS should require actions that are able, on a sound scientific basis, to protect the endangered fisheries in exchange for the proposed incidental take permits that would be issued under Alternative 3. However, a recent quantitative analysis performed by NMFS to assess the conservation measures included in the proposed action concluded that "[e]ven under the most optimistic scenarios modeled regrading future survival rates and the effectiveness of supplementation, additional survival improvements beyond those projected for the draft HCP action [discussed in this DEIS] would be necessary to achieve extinction risk/recovery criteria." See NMFS, *Upper Columbia River Steelhead and Spring Chinook Salmon Quantitative Analysis Report*, Final Technical Review Draft, page ii (December 20, 2000) (*QAR Report*). Moreover, in the context of operations and planned conservation for the entire Columbia River system, the *QAR Report* determined that, "[t]he combined effect of meeting the HCP objectives at the mid-Columbia PUD projects and meeting the off-site mitigation targets [for the rest of the Columbia River] would be substantial but would fall short of meeting survival and recovery criteria under the assumption that 1980-present conditions will continue." *QAR Report* at iii. Thus, according to NMFS's own best science, whether the DEIS's proposed action does enough to protect trust resources is questionable.

In contrast, the provisions of Alternative 2 maintain the Federal government's and NMFS's trust responsibility role while providing NMFS with the authority to ensure a full range of measures to protect and ensure the continued existence of endangered mid-Columbia trust resources. In light of the constraints that Alternative 3 would impose on the United States' ability to manage resources subject to its trust responsibility to the Columbia Basin Tribes, and given the scientific uncertainties identified in the DEIS regarding the implementation of Alternative 3, the Department is gravely concerned about the merits of issuing 50-year incidental take permits under the terms described in the DEIS's proposed action. We offer the following comments in support of these concerns.

The Proposed Action Impermissibly "Transfers" NMFS's Federal Trust Responsibility to Non-Federal Entities

The DEIS's proposed action, Alternative 3, impermissibly transfers the Federal government's authority to ensure the maintenance and utilization of Indian trust resources to two non-federal entities, the PUDs, operating projects on the mid-Columbia. Under Alternative 3, NMFS would be subject to an implementation process that gives ultimate management authority to project operators for the 50-year term of the incidental take permits. Pursuant to the three phase decision-making process described in Alternative 3, NMFS would be unable to initiate recovery measures and would be subject to the ultimate decision-making authority of the project operators.

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Moreover, should NMFS disagree with a project operator about recovery measures, NMFS would be required to carry the burden of proof in a dispute resolution process with time and evidentiary limitations. By constraining and transferring NMFS's authority to manage threatened trust resources, Alternative 3's implementation process is contrary to common trust principles and may expose the Federal government to liability for failing to sufficiently manage and protect the Tribes' treaty-reserved resources.

3

As described in the DEIS, Phase I of this three-phase process requires NMFS to transfer its authority to manage the plan species to the project operators themselves. During this time, the PUDs will attempt to modify project operations to attain 91 percent overall project survival and 95 percent juvenile passage survival at each project. According to Alternative 3, a Coordinating Committee will be formed to ensure that the project operators are making "steady progress" toward survival goals.¹ This Coordinating Committee can recommend "parallel actions" to the project operators. See DEIS at 2-35. However, if a Coordinating Committee is unable to reach consensus as to mitigation procedures, or even whether a project is meeting survival standards, the project operators themselves are provided the "ultimate authority" for final decision-making under the Coordinating Committees. See DEIS at S-19 and 2-53.

If after five years the project operators are unable to attain the survival goals set forth in Alternative 3, the implementation process moves to Phase II. During this phase, the Coordinating Committee will evaluate the mitigation measures that were utilized by the project operators and may recommend additional measures to ensure that survival goals are achieved. NMFS, as a member of the Coordinating Committee, will be able to participate at this stage in the process and may recommend more stringent mitigation tools. However, if the Coordinating Committee is unable to reach consensus as to these additional measures, the project operators will retain the ultimate authority to determine the necessary mitigation measures unless a dissatisfied member of the Coordinating Committee is willing to submit itself to the dispute resolution process. See DEIS at 2-53.

Pursuant to Alternative 3's dispute resolution process, if NMFS desires to oppose a decision of the Coordinating Committee or to oppose the continued use of the project operators' mitigation tools, NMFS will be required to prove by a preponderance of the evidence that the operators' mitigation measures are insufficient. If NMFS purports that the mitigation provisions violate the ESA, NMFS must also overcome a presumption that favors the existing mitigation measures.² The expertise of NMFS will receive no deference in the dispute resolution process, and NMFS

¹ This Coordinating Committee will be comprised of representatives of each signatory party. DEIS at 2-36. Because the Tribes have been unable to agree to the terms of the existing HCPs, and are not expected to be signatory parties, the Tribes will not be represented on this Committee.

² This is a presumption expressly built into the dispute resolution process and, more generally, the DEIS asserts that because Alternative 3's measures are consistent with "HCP agreements and protocols" by definition they cannot violate the ESA. See DEIS at S-17.

will have only five months to prove that the PUDs' mitigation tools are insufficient. Under such a dispute resolution process, NMFS's ability to ensure that trust resources are protected is severely constrained.³

4 Finally, if any of the project operators are able to demonstrate that they are meeting survival standards, the implementation process enters Phase III. Pursuant to Phase III, the three hydroelectric projects will be subject only to periodic review to assess whether they are meeting Alternative 3's survival standards. During this phase, NMFS will not be able to require any additional mitigation actions. Even if, years later, the plan species require additional protective measures, Alternative 3 precludes NMFS from imposing such measures. Consequently, for the 50-year term of the HCPs NMFS's Federal responsibility and ability to ensure the survival and utilization of endangered trust resources is effectively and impermissibly transferred to non-federal parties.

5 The Tribes of the Columbia Basin will be depending on NMFS to ensure adequate protection of the river's tribal trust resources. If NMFS, pursuant to Alternative 3, is required to transfer its management authority to project operators, which are private commercial entities, NMFS would be violating its trust responsibility to the Tribes and perhaps exposing the Federal government to liability for failing to properly manage treaty-reserved resources.

6 Moreover, the DEIS fails to discuss the implications that Alternative 3 has on NMFS's obligation to manage the mid-Columbia's resources in the best interests of the Columbia Basin Tribes. While Alternative 3 would displace NMFS's role as trustee for the Tribes' reserved fisheries, the DEIS provides no general or specific discussion regarding the potential consequences or impacts that may result from this "transfer" of management authority of treaty reserved resources to non-Federal parties, or indeed, whether such a "transfer" is legally permissible.

7 In contrast, the provisions of Alternative 2 would allow NMFS, BIA, FWS, the Tribes, and all other interested stakeholders to consult with and/or appear before FERC to ensure that the federally-licensed project operations account for the United States' trust responsibilities. Under the provisions of Alternative 2, NMFS would engage in Section 7 consultations with FERC and would retain the authority and responsibility to ensure that the projects' federally-licensed operations are consistent with the biological needs of the endangered trust resources. For example, Alternative 2 includes a range of specific recovery actions that NMFS has determined are necessary to improve biological conditions for the affected species, but not all of these actions

³ The Department is concerned that the dispute resolution process has already proven to be an unsuccessful mechanism to protect trust property or to carry out the Federal government's trust responsibility. Specifically, the BIA notes that the project operators have been operating under the terms of the HCPs since 1998 and have been utilizing the dispute resolution process since then as well. Several disputes have arisen over the last three years, specifically disputes regarding timing and quantity of migration spill. The PUDs, Chelan in particular, have basically ignored the dispute resolution process and have made unilateral decisions on how to proceed on these issues despite repeated requests from NMFS and the Tribes. Such a track record does not bode well for future cooperation on implementing discretionary measures under Alternative 3.

are included in the measures proposed under Alternative 3. See DEIS at 1-14 to 1-16. Of the alternatives presented, only Alternative 2 ensures that NMFS is able to completely and responsibly fulfill its role as trustee for the treaty-reserved resources of the Columbia Basin Tribes. Accordingly, the Department maintains that NMFS should utilize the procedures described in Alternative 2.

The DEIS and the Proposed Action do not Adequately Consider Impacts on the Tribe's Treaty Reserved Fishing Economies

8 The DEIS's analysis of the proposed action's likely impacts on the Tribes' reserved harvests is inadequate and in key respects, absent. In place of such an analysis, the *QAR Report*, which assesses the survival and recovery requirements of listed upper-Columbia steelhead and spring chinook salmon, supposedly considers treaty harvests. However, harvest was modeled in the *QAR Report* under the assumption that recent harvest rates would continue into the future. The effect of assuming that treaty harvest rates for spring chinook would remain at the extremely low levels of the past two or more decades is that the adequacy of Alternative 3's project passage and survival goals are overstated. While the DEIS, through the *QAR Report*, recognizes that additional survival gains will be needed, Alternative 3 does not examine the relationship between these additional survival needs and the needs of treaty harvest. The unfolding experiences of the 2001 drought indicate that it may not be prudent to assume that non-project survival would be stable, let alone improve for Upper Columbia listed stocks.

10 Had the DEIS accounted for the protection and recovery of the Tribes' trust property, the reasonableness and necessity for additional tribal conservation of the listed species would have been carefully analyzed, not assumed. In these circumstances, NMFS's analysis should demonstrate that such conservation could not be achieved by reasonable regulation of non-Indian activities. It is not clear that the alternatives in the DEIS were ranked in their ability to achieve the required conservation purpose. Absent this ranking, an alternative may be selected that discriminates against future Indian harvest necessitating conservation measures the Tribes are not voluntarily willing to accept. Joint Secretarial Order 3206 states that when ESA listed species affect the exercise of tribal rights, the Department and NMFS will cooperate with affected tribes to develop and implement recovery plans in a manner that minimizes the social, cultural and economic impacts on tribal communities, consistent with the timely recovery of listed species. The DEIS acknowledges that Alternative 3's proposed conservation measures were completed without the benefit of such tribal cooperation. Secretarial Order 3206 pledges the Services to working cooperatively with tribes to identify and implement the most effective measures to speed the recovery process. Alternative 3 neither identifies the actions needed to assure a speedy recovery, nor guarantees that such actions would be implemented.

12 Consequently, Alternative 3 is problematic due to its potential impact on the Tribes' treaty reserved harvests of mid-Columbia fisheries. The listing of ESA salmon populations which spawn upstream from the subject projects currently restricts harvest in treaty fisheries at treaty reserved usual and accustomed fishing sites. This restrictive effect is detailed in the NMFS's 2001

Biological Opinion for spring and summer treaty harvest. See NMFS, *Biological Opinion, Impacts of the Interim Management Agreement for Upriver Spring Chinook, Summer Chinook and Sockeye on Salmon and Steelhead Listed Under the ESA 2001*. The DEIS does not quantitatively describe Alternative 3's future effects on harvest. This is especially important in light of the ramifications of underestimating ESA-permitted mortality of listed salmon. The cumulative effects of such underestimation have two predictable consequences – dangerously low numbers of returning adult salmon and the continued curtailment of tribal fisheries. The hatchery mitigation component of Alternative 3 does not address this situation if present hatchery policies yield an incomplete replacement of wild fish killed by the PUD projects.

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Furthermore, the DEIS generally does not consider the range of issues related to NMFS's trust responsibility to ensure the utilization of fishery resources reserved by the Tribes. For example, in Section 3.7 of the DEIS, "Socioeconomics - Population, Employment, and Income," NMFS mentions the tribal population of the region, but fails to account for the impact of mid-Columbia of projects on the Columbia Basin Tribes' fishing economies. While the DEIS notes that in at least one county impacted by the projects "Native Americans constitute an important part of the County economy," there is no general or specific discussion of the projects' economic impacts on the Tribes' commercial and subsistence fishing economies. See DEIS at 3-132. Rather, the DEIS merely discusses project benefits to industry, tourism, and agriculture without contrasting these perceived benefits in light of the substantial detrimental impacts on the Tribes' fishing economy for which NMFS is a trustee.

14

A recent study assessing the economic impacts of the mid-Columbia projects found that tribal harvests on the mid-Columbia have dropped to less than 10 percent of traditional harvests. See CH2MHILL, *Human Effects Analysis of the Multi-Species Framework Alternatives 3-6* (1999) (prepared for the Northwest Power Planning Council). In addition, specifically assessing the broad social impacts on the Tribes, the study notes that such an economic and cultural loss powerfully impacts the material well-being and self-sufficiency of tribal members and negatively affects physical and psychological health. *Id.* at 3-7. Given NMFS's role as a Federal trustee, and considering that Native Americans constitute 11 percent of the population for one of the counties under discussion, it is incumbent on NMFS to weigh the impacts of the proposed action on the tribal fishing economies. Moreover, as the DEIS notes the region's depressed economy, NMFS should also include in its economic discussion the ways in which a profitable and self-sustaining salmon harvest could increase tribal self-sufficiency, alleviate unemployment and poverty, and improve the region's depressed economy. See DEIS at 3-130.

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In passing, we note that the economic impacts that are not fully discussed in the DEIS have far-reaching consequences not only on the Tribes, but on non-Indians as well. The CH2MHILL study also reported that the non-Indian catch has fallen to less than 1 percent of commercial catches in 1900. See CH2MHILL, *Human Effects Analysis of the Multi-Species Framework Alternatives 3-6* (1999) (prepared for the Northwest Power Planning Council). The economic benefit of the power projects, as well as their economic detriments, need to be fully displayed in the DEIS.

The 50-Year Term of the Proposed Action is Inappropriate for the Management of Riverine Ecosystems Supporting Trust Resources

- 16 In light of the Federal government's trust responsibility and the dynamic ecological conditions of the Columbia River, the Department believes it is inappropriate and risky to constrain the Federal government's authority to manage endangered riverine species for the 50-year term of the proposed action. We strongly believe that the proposed action would be greatly improved by matching the term of the HCP with the licensing authority of FERC. Therefore, we recommend that if NMFS decides to issue incidental take permits for these projects, the permits should be for no longer than the term of the existing FERC licenses. Subsequent licenses could include identical provisions of the HCPs, if the HCPs are operating to protect and ensure the continued existence of endangered mid-Columbia trust resources.
- 17 Under Alternative 3, NMFS would issue incidental take permits that establish the measures through which the species' losses can be mitigated. As proposed, the HCPs would contain the only mitigation measures that NMFS would recommend to be employed for the next 50 years. The practical effect of a NMFS decision to select Alternative 3 is to predetermine the extent of the recovery measures at relicensing and to impose conditions on subsequent licenses many years before the relicensing process. This would seriously undermine the relicensing process and is beyond the scope of FERC's authority to implement.
- 18 The purpose of relicensing is to evaluate the hydropower project under the environmental conditions occurring at the time of licensing and to determine what changes are necessary to ensure the protection of important public resources into the future. As such, FERC regulations require the licensee to undertake a complete reevaluation of their project and the impact on natural resources, water quality, recreation, flood control, navigation, power production, and many other factors. This would occur regardless of whether NMFS issues an HCP. Therefore, at the time of relicensing, there will be a complete reevaluation of the project and a considerable amount of information in the administrative record outlining the continuing impact of the project on important fish and wildlife resources, including listed species. It is possible that the information may indicate unacceptable levels of impacts to listed species, or that the mitigation measures are ineffective. If NMFS issues an HCP for 50 years, they may find themselves in the difficult position of recommending mitigation measures that have been shown to be ineffective, counter-productive, or wasteful. The Department strongly believes that perpetuating such mitigation is not in the public interest, particularly when the relicensing process is intended to correct such problems.
- 19 The proposed action's 50-year time frame is especially problematic in light of the "no surprises" policy set forth in regulations implementing Section 10 of the ESA. The "no surprises" regulations were adopted to provide long-term assurances to landowners by allowing them to avoid additional mitigation measures during the term of an incidental take permit. However, constraining the Federal government's ability to protect listed species in the mid-Columbia River

for the next 50 years is inappropriate for the management of a fragile river habitat, particularly since it exceeds FERC's authority, and the action directly affects habitat that supports important Federal trust resources and treaty reserved fishing rights. Unlike private lands, the Columbia River is a public waterway and its biological health is essential to many stakeholders, including the Tribes of the Columbia River Basin.

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The proposed action is especially troubling in light of FERC's responsibilities under section 7 of the ESA. When a listed species is affected by project operations, FERC is required to consult with NMFS (or FWS) pursuant to section 7 before issuing a new license. Such consultation usually results in a biological opinion that specifies the ways in which a project can be operated to avoid jeopardizing listed species. However, if NMFS selects Alternative 3 of the DEIS, NMFS may be unable to require FERC to include mitigation measures that go beyond those provided in Alternative 3. This would occur despite the possibility that substantial information may be in the record indicating significant impacts to listed species are occurring and may continue to occur with any new license issued. Consequently, by committing to the terms of Alternative 3 prior to section 7 consultation with FERC, NMFS effectively precludes the inclusion of additional mitigation measures in a subsequent FERC license, even though there may be substantial information indicating such measures are needed.

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This is particularly problematic because the Wells' license will not expire until 2012 and Rock Island's current license will not expire until 2028. Thus, even if salmon and steelhead populations dramatically decline over the next several years, because of the projects' incidental take coverage under Alternative 3, NMFS may not be able to recommend additional mitigation measures for unavoidable mortality in any subsequent licenses. The effect of limiting additional mitigation measures is that under poor environmental conditions, there becomes an "over appropriation" of mortality with impacts on trust resources via otherwise avoidable fishery restrictions.

Consequently, in contrast to the requirements of Secretarial Order 3206, the proposed action's use of the "no surprises" policy and its effect on FERC licensing may subject tribal use of treaty trust fisheries to long term diminishment depending on climatic conditions or improvements elsewhere in the Columbia Basin.

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Instead, we suggest that NMFS limit the length of the incidental take permits to the term of each project's existing FERC license. By matching the length of the incidental take permits with limits of the FERC license, NMFS aligns their actions with FERC's authority plus they maintain the ability to revisit the HCPs' at relicensing. As such, NMFS would be able to ensure that, in the unlikely event that these mitigation measures are unsuccessful at protecting listed species as NMFS and the licensees expect, each new license could contain provisions that adequately protect endangered trust resources. Conversely, if the HCP is operating as NMFS and the licensees expect, we would not expect NMFS to recommend any further changes at relicensing. Under these circumstances, the provisions of the HCP could continue through the next licensing period. We believe this would be consistent with the "no surprises" policy.

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In addition, we suggest that NMFS incorporate some of the provisions of Alternative 2 into its proposed action. Under Alternative 2, the project operators would seek new FERC licenses pursuant to the Federal Power Act and FERC would consult with NMFS pursuant to section 7 of the ESA. It is current FERC policy to routinely insert re-opener clauses into new licenses which allow FERC to reconsider fish and other natural resource issues, if warranted. Thus, under Alternative 2, FERC and NMFS would be able to ensure that the projects would be operated in a way that is responsive to trust fishery needs. This is particularly important in a ecosystem as dynamic as a river basin, where aquatic species populations constantly fluctuate in response to the quality and quantity of water and habitat conditions.

Fish and Wildlife Resources

HCP Performance Standards

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As the DEIS notes, both the NMFS and the U.S. Fish and Wildlife Service recommend that biological goals and objectives be incorporated into HCPs. The 95 percent juvenile dam passage survival standard and the 91 percent total project survival standard incorporated into Alternative 3 (the proposed action) are examples of biologically-based standards. The 95 percent standard limits the direct mortality of dam passage while the 91 percent total project standard is intended to limit losses in the total project area, including the dam and reservoirs. We note, however, that actual total project mortality is a combination of direct and delayed adult and juvenile mortality attributable to project effects. Delayed mortality can and does occur outside the project area. Many fish are injured as they pass through the pool above each dam and the tailrace below each dam, but do not die until they are past the project boundary. Subsequently, by limiting the application of the 91 percent total project survival standard to the immediate vicinity of the dams, Alternative 3 fails to account for a potentially significant amount of incidental take. The issue of delayed mortality (project-related mortality occurring outside of the project area) needs to be addressed in greater detail. If necessary, the components of the total project survival standard should be reevaluated to be certain that all forms of project take are fully considered.

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The *QAR Report* indicates an improved potential for in reach survival for spring chinook salmon and some increase in the probability of meeting recovery criteria if Alternative 3's survival standards are combined with expected survival improvements at lower Columbia River Federal dams contingent upon environmental conditions observed since 1960. However, the ability of steelhead to meet recovery criteria is more problematic and is dependent on assumptions concerning the effectiveness of hatchery supplementation and whether environmental conditions would be similar to those seen since 1960. Although no one can predict exactly what future conditions might be, using a long term database should more accurately reflect a full range of environmental possibilities.

The QAR modeled a range of different survival (including the survival standards proposed in the HCPs), passage, and environmental conditions that could reasonably be expected to occur in the future. If met, the standards identified in Alternative 3 should offer improvements in long term survival for all plan species as compared to the current situation. Although the *QAR Report* did not model potential survival for species other than steelhead and spring chinook salmon, we expect that survival benefits would also accrue for sockeye, summer/fall chinook and coho as a result of the survival standards and mitigation.

An example of the improvement expected with Alternative 3 compared to Alternatives 1 or 2 would be the benefits accrued for non-listed sub-yearling summer/fall chinook by application of the survival standards during the summer juvenile migration at Rock Island Dam. Spill is the primary juvenile summer passage measure at this project, but the amount and duration of spill is based on the dollar value of the Conservation Account which is a component of Alternatives 1 and 2. As energy prices and demand rise, the spill program provides less fish protection over the summer period. Since summer migrants are not ESA listed species (with the possible exception of bull trout), the Conservation Account is the only passage measure providing assured protection for these fish. The limited protection inherent in the Conservation Account does not apply to Alternative 3. The HCP standards must be met regardless of the yearly cost of energy and are not limited by a predetermined dollar amount. In addition, Alternative 3 provides an increased level of juvenile fish protection because the 95 percent juvenile dam passage survival standard applies over 95 percent of the run. This likely provides more protection than juveniles currently receive via Alternative 1 spill and bypass programs at Rock Island Dam and Rocky Reach Dam for all plan species. It also provides improved passage benefits for summer migrants, not necessarily assured by Alternative 2. The current spill/bypass program at Wells Dam appears to be providing protection over 95 percent of the run for all species.

The Department interprets Alternative 3 as indicating that for all plan species, the HCP standards must be met regardless of the yearly cost of energy or drought. In addition, the projected improvements at the lower Columbia projects must not be impacted by cost or drought. If that is not the case, then the QAR analysis may be inadequate in modeling the future effects of this alternative. The FEIS should clarify this aspect of Alternative 3 and the QAR analysis. In addition, the DEIS should include data on the level of improvements needed to sustain tribal harvests well above recent severely restricted levels. Alternative 3 does not examine the relationship between additional survival needs and the needs of treaty harvests.

Verification of Standards

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Verifying the biological standards of Alternative 3 would be of critical importance in determining whether this alternative actually meets its stated goal of no net impact (NNI) and contributes to the recovery of anadromous salmonids. Achieving and maintaining these survival standards is the element necessary to allow NNI attainment through hatchery compensation (7%) and tributary habitat improvements (2%).

27 Unfortunately, direct measurement of total project survival (91% standard) is not technologically feasible at this time. This is acknowledged in the DEIS. Key problems are estimating survival for subyearling summer/fall chinook (the primary fish migrating during the summer period), measuring juvenile sockeye spring migration survival, identifying project related adult survival independent of other non-project related impacts, and measuring cumulative indirect impacts for adults and juveniles. Moreover, Alternative 3 does not even attempt to measure adult mortality. Finally, the effect of delayed mortality on the ability of Alternative 3 to protect trust resources also remains to be clarified. These measurement problems exist for all alternatives, but under Alternative 3, compensation programs may be adjusted up or down based on these survival studies.

28 The DEIS recognizes these problems but offers only the use of some indirect methods ("representative survival studies") to assess survival and indirect losses. Such representative studies are an unacceptable way to measure the survival of all the species affected by the projects, species that contribute to treaty fisheries. Additionally, these "representative studies" are less likely to assure the broad protections that the DEIS claims because they do not measure all of the affected species at a variety of life stages and flows. Given these uncertainties, Alternative 3 cannot be considered to be protective of treaty trust fisheries unless it includes an established scientific methodology for measuring fish survival.

29 If the survival standards cannot be fully verified, the size of compensation programs necessary to reach NNI cannot be fully identified. Until the uncertainty surrounding measurement of total project survival is resolved, it may be appropriate to develop an interim measurable standard such as 93 percent juvenile total project survival before moving to Phase 3 and triggering adjustments in hatchery/tributary compensation levels down from the 7 percent and 2 percent levels. Allowing a reduction in compensation without appropriate verification or an approved alternative would not be consistent with the intended goals of Alternative 3.

Adjusting Compensation

30 The DEIS notes that dam and project juvenile survival has been measured for the Douglas PUD project for steelhead, spring chinook, and fall chinook yearling migrants. These evaluations have occurred over the spring migration season in one or several years, but have not occurred over the range of conditions that are expected to occur from year to year. According to the DEIS, Douglas PUD hopes to adjust its hatchery compensation levels and tributary habitat fund proposed in its HCP utilizing the survival studies that have been done to date. We surmise that Douglas PUD would adjust the hatchery component for steelhead and spring chinook salmon below the 7 percent compensation level based on these spring migration survival studies coupled with other indirect survival measurements. Given that under Alternative 3, total project survival is not based just on juvenile survival, we find it difficult to support reducing hatchery compensation levels below the 7 percent level for a species without a process to address at least some of the other uncertainties. As noted previously, this leaves Alternative 3's goal of NNI without any verifiable method of validation. In addition, we have concerns about reducing the tributary fund

component (2%) without a more systematic approach to defining what actual survival is occurring. Such a reduction of compensation without an agreed upon way of verification is inconsistent with the government's trust obligations to the Columbia Basin Indian Tribes and the goals and objectives of Alternative 3.

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One means of correcting this inconsistency would be to revise Alternative 3 to preclude a reduction in hatchery compensation and tributary habitat improvement below the 7 percent and 2 percent levels without agreement on the appropriate measurement criteria for these critical uncertainties by the mid-Columbia Coordinating Committee or some similar technical group. It would be essential for tribal issues regarding the proposed action to be overcome and for the Tribes to be active participants in plan implementation. Alternatively, the total project survival standard could be revised to an interim juvenile total project survival standard of 93 percent. Measuring juvenile project survival is something that can be accomplished with current methods and technology. Once a method of measuring adult survival and indirect juvenile mortality is available, the total project survival standard could return to the 91 percent level and compensation levels adjusted as described in Alternative 3. Lastly, we note that Alternative 3 does not clearly indicate that achieving and maintaining the survival standards for one plan species does not mean that the survival standards have been reached for all plan species. Use of yearling chinook and/or steelhead as surrogates for doing survival studies of sockeye and subyearling chinook is not appropriate for these fish which demonstrate different behaviors and life histories. No reductions in compensation levels should occur for any plan species where components of the total project survival standard are unknown. It is hoped that full consideration of these suggested modifications will lead to an acceptance of the HCPs by all parties.

Maintaining 7 Percent Hatchery Compensation

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ESA issues related to the potential impacts of hatchery supplementation on wild productions have the potential to limit attainment of the 7 percent hatchery compensation level, the goals for the recovery of listed species, and NNI. This is identified in the DEIS as a significant unresolved issue with respect to Alternative 3. This impact also has a direct bearing on the results of the QAR analysis and selection of the most appropriate alternative. For example, if hatchery steelhead are just as effective reproductively as wild fish, then Alternative 3 would not meet conservation criteria under any scenario. Additionally, the constraints imposed by the ESA also limit the potential expansion of hatchery programs to meet compensation requirements and NNI needs. These constraints include the potential short and long term negative genetic, behavioral interaction, and spawning fitness impacts of hatcheries and supplementation on the viability of naturally spawning populations of listed fish. These issues relate to all three alternatives, but most severely effect the potential expansion of hatchery production in Alternative 3 to reach NNI.

The DEIS states that NMFS can not commit to the 7 percent hatchery compensation goal. Because of NMFS concerns that hatchery fish may adversely affect wild fish populations, all fish produced from the hatchery program must come from local stocks. See DEIS at 2-43. The DEIS acknowledges that it will be difficult to produce the number of fish needed to ensure 7 percent

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compensation from local stocks alone. *Id.* Lastly, the DEIS states that "if the 7 percent hatchery compensation level is not met due to NMFS's ESA concerns, neither the dam passage survival standard, the total project survival standard, nor the habitat compensation standard would be adjusted." DEIS at 2-43. Consequently, reliance on Alternative 3's hatchery programs to compensate for the incidental take of listed species is problematic.

While we recognize that NMFS's concern with hatchery supplementation programs applies to all the alternatives considered in the DEIS, hatchery compensation is a significant factor for Alternative 3 because it is wedded to the attainment of NNI. Erosion of the hatchery compensation provisions of Alternative 3 would prevent NNI from being achieved. More so, given the absence of provisions in Alternative 3 to compensate for take through other means if the hatchery programs fail to produce the number of fish necessary to meet the 7 percent hatchery compensation standard. Furthermore, hatchery compensation is significant in light of the fact that the Columbia Basin Tribes have reserved the right to harvest the affected species. These Tribes have already faced significant restrictions in tribal harvest caused by the status of listed stocks, and a disconnection of the hatchery compensation program from continued losses of wild fish to the projects can only result in additional harvest restrictions.

Columbia River salmon and steelhead constitute important tribal trust property, and the right to fish at usual and accustomed fishing sites on the Columbia River, and to have a meaningful fishery there, is a property right that is protected through treaties with the Federal government. The mid-Columbia's stocks of salmon and steelhead are being depleted at alarming rates, and the ESA has forced the Federal government to seek severe restrictions on the number of fish available for tribal harvest. If the river's stocks continue to decline, the Tribes may face even tighter restrictions. Hatchery production is critical to the on-going harvesting needs of Tribes of the Columbia River Basin. Consequently, it is imperative that the hatchery compensation provisions of the selected alternative assure that there would be mitigation to fully compensate for the treaty fish lost through incidental take.

The effectiveness of hatchery compensation as a tool for achieving NNI might be strengthened by including in the HCPs studies to evaluate the effects of hatchery supplementation on the viability and restoration of self-sustaining, natural populations of salmon and steelhead. This should be done at a selected site or two in the upper Columbia River with an existing or new supplementation effort. We also recommend the Bonneville Power Administration (BPA) as a potential funding source because this issue is common to all supplementation programs, and BPA is funding offsite mitigation measures associated with operation of the Federal Columbia River Power System (FCRPS). Such a study would start answering uncertainties related to genetic interaction and reproductive fitness issues that are a major source of contention. These recommended studies are critical to recovery efforts, full mitigation compensation, and in satisfying the harvest needs of the Tribes.

Tributary Conservation Plan

33 Under Alternative 3, 2 percent of the fish lost through incidental take at each project would be compensated for through tributary habitat restoration. Tributary habitat restoration is a significant component of Alternative 3 because it is wedded to the attainment of NNI. The proposed action, however, does not provide for the monitoring of tributary contributions to ensure that this percentage is met. In addition, it is acknowledged that the 2 percent tributary compensation standard is a negotiated figure. This figure is not based on scientific analysis which predicts that tributary restoration would result in increased tributary compensation. Instead, this figure is based upon the level of funding that the project operators are willing to set aside for tributary habitat restoration. The DEIS assumes that attainment of the 2 percent compensation level is reasonable because the selection of restoration projects would be controlled by a technical committee. If this assumption proves optimistic, there are no provisions in Alternative 3 that allow for this contribution to be increased or for other restoration measures to be implemented. Hence, the reliance on tributary habitat restoration to compensate for the incidental take of listed species and achieve NNI is problematic.

35 The DEIS acknowledges that there are "difficulties and uncertainties associated with monitoring and quantifying the effects of tributary habitat improvements." DEIS at S-18. The DEIS does not propose a way to overcome these "difficulties and uncertainties" and construct a standard by which the percentage of tributary compensation would be accurately measured. The risk that NNI may not be met if the assumed benefits of habitat restoration are not realized must be fully disclosed. Still, disclosure of this risk is not a substitute for the mitigation of potential impacts on trust resources. At the very least, the FEIS should explain how Alternative 3 meets the criteria for issuance of an incidental take permit in the absence of a viable method for confirming tributary contributions to NNI or, lacking a measurable standard, a clearly specified alternative strategy for achieving this 2 percent compensation level.

36 We also note that Alternative 3 apparently limits the compensation that may be achieved through habitat restoration by shifting the focus of habitat restoration activities to the tributaries and away from the mainstem river. The DEIS makes numerous references to locations where active mainstem spawning is occurring. While the mid-Columbia projects ultimately limit mainstem habitat productivity, these pockets of mainstem spawning habitat within the project boundaries provide models for increasing spawning and rearing habitat within the mainstem river. Therefore, mainstem habitat restoration should be considered to be within the scope of the this alternative's tributary habitat improvement program. Taking steps to conserve and protect existing mainstem spawning habitat should not be overlooked as a potential means of minimizing the impact of incidental take.

Water Quality and Water Temperature

37 Alternative 3 acknowledges that the Wells, Rocky Reach, and Rock Island Projects negatively impact water quality, and, most particularly, dissolved gas levels. The proposed action fails to

address mitigation of these negative impacts other than to indicate that the PUD's would meet state standards for water quality. Because spill appears to be a needed component for fish bypass at each of these projects, avoiding spill does not appear to be a long-term solution to resolving dissolved gas problems. Consequently, the discussion of alternatives in the DEIS should be expanded to include measures to address meeting water quality standards through the installation of gas abatement structures.

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Water temperature is also a matter of concern. Water temperatures can be high in the surface waters of reservoirs in the Columbia River and in fish passage facilities. Under Alternatives 1 and 2, measures to improve thermal conditions at each project could be pursued through avenues such as FERC relicensing, Clean Water Act compliance, or ESA section 7 consultation. Alternative 3 proposes a specific set of measures to meet the NNI standard of the HCPs. However, the implementation of structural and operational modifications to improve the water temperatures at these dams does not appear to be specifically included. If an incidental take permit is issued incorporating the proposed terms of Alternative 3, the adoption of other measures to improve thermal conditions may be precluded. The FEIS's discussion of Alternative 3 should be expanded to include plans to monitor water temperature and, if problems are observed, implement structural and operational modifications to improve thermal conditions at these projects.

Bull Trout

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The DEIS correctly acknowledges that bull trout occur in the mid-Columbia reach where the PUD projects operate and presents information from most available sources. Information on the distribution of bull trout in the mid-Columbia River area is limited. However, additional information may be available to augment the information presented in the DEIS. PUD ladder counts have noted the presence of adult bull trout for many years. The recent listing of bull trout has prompted additional vigilance at these counting stations during in the last two years. The PUDs have also recently initiated a research effort aimed at tracking the movements of bull trout in the Columbia River. Hence, additional recently developed information may be available. Other sources of information include the Washington State Salmonid Stock Inventory for bull trout/dolly varden.⁴ With this information in hand, a more complete analysis by NMFS of the effects of permit issuance and HCP implementation on bull trout can and should be incorporated in the FEIS.

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The effects of hydropower operations on bull trout in the mid-Columbia River are not specifically known, as indicated in the DEIS, but inferences may be suggested by comparing what is known about bull trout behavior and distribution with the effects that have been described for bull trout and other salmonids at other Snake and Columbia River hydropower projects and associated reservoirs (see the December 2000 NMFS and Fish and Wildlife Service biological opinions on the FCRPS operations). These effects include entrainment, turbine-associated mortality and

⁴ Washington Department of Fish and Wildlife. 1996. Washington state salmonid stock inventory: bull trout/dolly varden. Draft Report.

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injury, passage delays, habitat alteration, stranding, reduced prey base, and associated adverse effects on individuals and discrete populations. The effects of hydropower project operations on adult steelhead may be especially analogous to those affecting adult bull trout, as both species have the potential to migrate downstream as well as upstream (although fluvial bull trout generally survive spawning and return to the mainstem river as a rule, while this may be the exception for steelhead).

Except for a brief discussion of the potential effects of project operations and HCP implementation on adult migratory bull trout, no inferences are made in the DEIS regarding potential adverse effects on juvenile bull trout. Nor does the DEIS consider conservation measures to minimize the incidental take of bull trout that could be included in the proposed HCPs or stipulated as conditions in NMFS's section 10(a)(1)(B) incidental take permits. As the lead Federal action agency responsible for the development of the DEIS and the proper implementation of the proposed HCPs, NMFS has the primary responsibility to describe the effects of its proposed actions and to avoid or reduce adverse effects on bull trout.⁵ Such information should be included in the FEIS.

Pending the development of any new information, bull trout conservation measures that should be incorporated in the HCPs and reflected in the FEIS to reduce potential adverse effects include, at a minimum, those identified in the December 2000 NMFS and Fish and Wildlife Service biological opinions on the FCRPS operations. In the NMFS biological opinion, those measures identified for steelhead are particularly germane to the conservation of bull trout. Implementation of these measures would partially fulfill section 7(a)(1) requirements of the respective Federal agencies, and enhance timely section 7(a)(2) consultation in the future. They are as follows:

- The PUDs should determine the extent of bull trout use of the middle Columbia River affected by the subject hydropower projects. This would include the river reach from the Chief Joseph Dam downstream to Wanapum Dam reservoir. This effort would include recording the occurrence of bull trout in the smolt monitoring facilities at the middle Columbia River dams and their use of adult ladders.
- The PUDs should include bull trout as a species of concern in their research efforts to determine the upstream and downstream passage requirements of salmonids at middle Columbia River dams. These investigations should address entrainment, both upstream and downstream adult passage, and juvenile passage. Consideration of spill, flow attraction, temperature and other issues affecting passage should be included.
- The PUDs should include observations of bull trout captured in field activities under their funding (e.g., research studies and northern pikeminnow reward program fisheries) and

⁵ On page 4-48 and elsewhere, NMFS appears to suggest that consultation under section 7 of the ESA regarding the effects of permit issuance and HCP implementation on bull trout is a matter to be resolved between the Fish and Wildlife Service and the FERC.

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report that information annually to the Fish and Wildlife Service.

- The PUDs should cooperate in studies to determine the movements of bull trout from tributaries into middle Columbia River reservoirs. Include the Service, Washington Department of Fish and Wildlife, Forest Service, and Native American Tribes, whenever appropriate, in development of research/study plans.
- The PUDs should initiate studies to determine the effect of flow fluctuations on river or reservoir water surface elevations and on stranding or entrapment of bull trout and other aquatic life related to the prey base of bull trout.
- Depending on the results of monitoring described above, the PUDs should, in consultation with the Fish and Wildlife Service, consider expanding the fish counting periods to include time periods outside the normal upstream migration periods for adult salmon and steelhead. It is important to note that if bull trout are seldom observed, it may mean they seldom use the fish passage facilities or migrate at different times than salmon and steelhead, and does not necessarily mean they seldom use the mainstem river and reservoirs.
- The PUDs should implement an adaptive management approach for designing and implementing actions, including performance standards, relative to bull trout that are similar to those being developed in the HCP for Permit species (salmon and steelhead).
- The PUDs should include consideration of bull trout in any studies addressing downstream movement of steelhead kelts and any subsequent operational or structural modifications aimed at improving the survival of adult salmonids migrating downstream through the dams.
- The Fish and Wildlife Service recommends that the PUDs participate in implementation (when completed) of the bull trout recovery plan.

Section 7 consultation requirements regarding the effects of implementing the proposed HCPs on listed species may be addressed by NMFS through several pathways: 1) internal ESA section 7 consultation analyzing the effects of issuing section 10(a)(1)(b) incidental take permits on listed salmon and steelhead; 2) external consultation with the Fish and Wildlife Service analyzing the effects of NMFS issuing section 10(a)(1)(b) incidental take permits on listed bull trout and other species not under NMFS's authority; and/or 3) concurrent section 7 consultation by both NMFS and the Fish and Wildlife Service with FERC analyzing the effects of amending existing licenses to implement the provisions of the proposed HCPs. The latter would be technically feasible if implementation of the HCP coincides with issuance of the required license amendments. Of these three pathways, the Fish and Wildlife Service views concurrent section 7 consultation with FERC as the approach most likely to assure the development of new information and expedite the consultation process. Consideration of all affected species in the planning process (e.g.,

finalization of the HCPs, FEIS, and FERC license applications) would effectively streamline the various potential elements of future consultation processes. The Fish and Wildlife Service will work with NMFS, the PUDs, and FERC to further identify bull trout biological information, potential effects related to hydroelectric project operations, and mechanisms to reduce or eliminate any potential adverse effects for inclusion in the FEIS and HCPs.

SPECIFIC COMMENTS

- 41 S.5.3.8, page S-22. Tributary Conservation Plan. It is our understanding that the Douglas PUD Tributary Program contribution could be reduced if total project survival is greater than 95 percent, not 95 percent dam passage survival as listed.
- 42 1.6.3, page 1-15. Alternative 3. Another unresolved matter in the HCP is the status of parties such as an agency or Tribe not signing the HCP. How would FERC deal with their Federal Power Act and other authorities concerning these projects if they remain outside of the agreement?
- 43 2.6.3.3, p.2-53. Alternative 3. According to this section, each of the signatories to the HCP agreement agrees not to institute any action under ESA, the Federal Power Act, the Fish and Wildlife Coordination Act, or the Pacific Northwest Electric Power Planning Conservation Act. This statement should be altered to state that these restrictions pertain to plan species at these projects only.
- 44 3.2.8.1, p.3-50. Bull Trout. This section indicates that bull trout are only occasionally observed in adult and juvenile passage facilities of the mid-Columbia River Dams. More recent information provided by Douglas PUD and Chelan PUD indicates yearly observations of adult bull trout seen passing through fish ladders at Wells Dam and Rocky Reach Dam. This information should be included.
- 45 3.2.9.3, p. 3-63. Steelhead. This section should utilize more recent information generated by radio telemetry studies to describe migration patterns in the mainstem and tributaries. This information is available in the draft report, Assessment of Adult Steelhead Migration through the Mid-Columbia River using Radio-Telemetry Techniques, 1999-2000 by Karl English, Cezary Slinwinski, Bryan Nass and John R. Stevenson.
- 46 4.2.1.3, p. 4-10. Action Analysis. It is not clear in this discussion how having or not having the Grant PUD projects under the HCP standards or under situations similar to Alternatives 1 and 2 effect the outcome of the QAR analysis and the potential success of HCP measures in meeting recovery for the listed plan species. This needs to be clearly addressed.
- 47 4.2.1.10, p 4-15. Methow River Steelhead. If the assumptions (p.4-11) concerning low hatchery fish contribution to natural production are not valid, then steelhead would not likely meet recovery criteria under the HCP. Studies to evaluate the success of hatchery fish in natural

production are absolutely critical to determining if the HCP measures for this species would lead to recovery. These studies must be done as part of this HCP to determine the appropriate level of hatchery compensation for long term recovery.

Additional Data Needs

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The 2001 water year is proving to be an extraordinary year. The Department believes that the FEIS should fully consider emerging scientific information and data that will result from the analysis of the 2001 juvenile outmigration season. The importance of fully utilizing the most recent data cannot be overemphasized, and is particularly significant when tribal trust property is at stake. See Seminole Nation v. United States, 316 U.S. 286, 296-97 (1942) (describes the exacting standards that must be followed by the United States in its trustee capacity). Pursuant to the ESA, an incidental take permit applicant is required to establish that the incidental take will not "appreciably reduce the likelihood of the survival and recovery of" the plan species. 16 U.S.C. § 1539(a)(2)(B)(iv). The results of this year's outmigration may alter some of the basic assumptions underlying the HCPs. Consideration of this year's extraordinary circumstances is consistent with NMFS's obligation to base its decisions on the best available scientific information. This information includes the effects of natural climatic variations such as drought, and the resultant increased juvenile mortality that is acknowledged to be an outcome of the current FCRPS emergency operations plan.

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The presence and operation of the projects create many difficulties for adult salmon and steelhead that return upstream to spawn. For example, adult telemetry studies indicate that adult fish experience significant delays in the tailraces of the dams and in the trifurcation pool areas of the fishways. See Stuehrenberg, et al., *Migrational Characteristics of Adult Spring, Summer and Fall Chinook Salmon Passing Through Reservoirs and Dams of the Mid-Columbia River* (1994). These delays can cause adult fish to deplete their energy reserves and may lead to increased adult mortality. In addition, the process of traveling through the reservoirs and the fishways may cause increased stress to adult fish. Given these kinds of impacts and the uncertainties related to the measurement of delayed adult mortality and total project survival, the Department believes the HCPs should be modified to include specific actions to minimize delay and adult mortality at the dams and fishways. This could increase the likelihood of achieving the 91 percent total project survival standard. Improving passage conditions for adults is consistent with incidental take permit criteria that require applicant's to minimize and mitigate the impacts of incidental take to the maximum extent practicable. This issue should be addressed in the FEIS.


SUMMARY COMMENTS

The Department concurs with the DEIS's findings that certain portions of some of the alternatives considered are or may be inconsistent with the requirements of section 10 of the Endangered Species Act or current science and technology. Clearly, these inconsistencies require clarification and include issues related to HCP performance standards, verification of standards, adjusting and

maintaining hatchery compensation levels, and future consultation with the U.S. Fish and Wildlife Service regarding the effects of permit issuance and HCP implementation on bull trout. In addition, the Department is concerned that the DEIS does not adequately address the effects of the proposed action on Indian reserved rights and resources that are subject to the Federal trust responsibility. We are especially concerned that by implementing HCPs as presently proposed, the NMFS would transfer the Federal government's obligation as trustee for the Tribes fisheries to non-federal, commercial entities. We recommend that NMFS renew its efforts with the PUDs to address these issues and attain the support of the Tribes regarding implementation of the HCPs.

We appreciate the opportunity to comment on this draft environmental impact statement for the Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects, Washington. If you have questions or require clarification regarding any of the fish and wildlife comments contained herein, please contact Mark Miller, Project Leader, U.S. Fish and Wildlife Service, Eastern Washington Ecological Services Office, 32 C Street NW, P.O. Box 848, Ephrata, Washington 98823 (509-754-8580). Questions or clarifications for the Bureau of Indian Affairs should be directed to Stan Speaks, Regional Director, U.S. Bureau of Indian Affairs, Northwest Regional Office, 911 NE 11th Avenue, Portland, Oregon 97232-4169 (503-231-6702). If you have any other questions please contact me at (503) 231-6157.

Sincerely,

A handwritten signature in black ink, appearing to read "Preston A. Sleeper", written over a horizontal line.

Preston A. Sleeper
Regional Environmental Officer

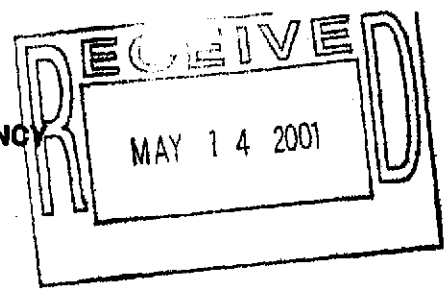
U.S. Department of Interior (USDOI)

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¹ see Appendix C



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101



Reply To
Attn Of: ECO-088

MAY 11 2001

01-001-NOA

Bob Dach
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

Dear Mr. Dach:


We have reviewed the draft Environmental Impact Statement (EIS) for the proposed *Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects* (CEQ #000464) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and §309 of the Clean Air Act. The draft EIS evaluates the decision to authorize incidental take permits for 50-year anadromous fish agreements and habitat conservation plans (HCPs) with two Washington State public utility districts (PUDs) to protect five species of Columbia River steelhead and salmon, two of which are currently listed as endangered under the Endangered Species Act.

We have rated the EIS, EO-2 (Environmental Objections- Insufficient Information). We base our environmental objections to the project on the selection of Alternative 3 as the preferred alternative. Our objections are primarily based on the lack of information and the lack of proposed measures that demonstrate that fish species of concern would be protected under the framework provided by the HCPs as described in the EIS. Specific sources of our objections are

- the failure to include listed Columbia River bull trout in the HCP;
- the lack of key biological information in the EIS that is presently slated for later development in the biological opinion;
- the lack of information on water quality impacts, namely total dissolved gas and temperature from the existence and operation of the three PUD dams;
- yet undeveloped or agreed upon methods of measuring compliance with standards established in the HCP; and
- an explicit statement that future interpretations of information will not favor protecting fish over other interests.

This rating and a summary of our comments will be published in the *Federal Register*. A copy of the rating system used in conducting our review is enclosed for your reference. Thank you for the opportunity to review this draft EIS. If you would like to discuss these issues, please contact Chris Gebhardt at (206) 553-0253.

Sincerely,


Judith Leckrone Lee, Manager
Geographic Implementation Unit

**EPA Detailed Comments on the EIS
for the Proposed Anadromous Fish Agreements and Habitat Conservation Plans
for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects**

General Comments

The Environmental Protection Agency has environmental objections to adopting the preferred alternative (Alternative 3) which uses anadromous fish agreements and habitat conservation plans (HCPs) to address Endangered Species Act (ESA) concerns associated with the Wells, Rocky Reach, and Rock Island dams in the Mid-Columbia Rivers for the next 50 years. The primary reason for our objections is that information and proposed measures do not demonstrate that fish species of concern would be protected under the framework provided by the HCPs as described in the EIS. We are also concerned that the HCP does not include Columbia River bull trout and that the EIS lacks information on water quality impacts, namely that of total dissolved gas and temperature, caused by the operation of the dams.

HCP Framework and EIS Do Not Demonstrate Sufficient Protection of Salmon and Steelhead

Alternative 3 proposes using anadromous fish agreements and HCPs in lieu of adopting the no-action alternative and complying with ESA through Section 7(a)(2). ESA calls for the protection and restoration of listed species; however, the HCP, as it is currently written, does not provide assurances that populations of salmon and steelhead would be protected and restored in the mid-Columbia River for 50 years. The HCP is based on an adaptive management framework which accepts less front-end planning, greater gaps in understanding, and fewer commitments to do specific actions to protect and restore fish. This, in turn, exposes the listed fish species to more risk because the requirements to protect and restore fish, and to measure their status become subject to future interpretation.

The HCP proposal found in the EIS is additionally problematic because

- key biological information on salmon and steelhead is not in the EIS (instead it is slated for inclusion in the Biological Opinion (BiOp));
- another listed species, Columbia River bull trout, are not included in the HCP;
- technology to monitor compliance does not presently exist; and
- the EIS states that issues that arise (and with adaptive management, there are bound to be many) will not necessarily be resolved so that fish protection is favored over other interests.

In short, the EIS presents a HCP framework to protect listed species which we found to contain significant gaps, thus reducing assurances that fish will be protected with HCP implementation.

Although it contains good information, the EIS is also not arranged in a manner that helps the reader understand the overall risks posed to salmon and steelhead throughout their life stages, the specific risks posed to the fish by the dams, the extent of those risks, ways to monitor those

risks, and ways to mitigate those risks. The EIS should clearly explain and illustrate the risks posed to salmon and steelhead in the mid-Columbia River. This discussion should begin broadly with a discussion of the life cycle of the different fish species, maps showing the range of their migrations, and a comprehensive list of sources of injury and mortality (ocean harvesting, natural predation, etc.). This would provide a context by which the reader could view the level of fish injury and mortality occurring in the mid-Columbia River dam complex.

2 The EIS should then contain photographs and diagrams of each dam facility with annotations showing migratory routes, the number of fish using each route, and sources of fish injury and mortality. Supplemental information should state the number or percentage of juvenile and adult fish that use individual migration routes, and the level of fish injury and mortality at specific locations in each dam, for each dam complex, and the overall injury and mortality rate for juveniles and adults that pass all three dams.

3 To better address the risks posed by the dam complex to salmon and steelhead, the HCP should include monitoring that continually assesses the level of salmon injury and mortality salmon as they are passing through the dams and mitigation measures that reduce those levels. Specifically, the EIS should:

- explicitly identify an available monitoring method that could be used to measure compliance and commit to using that method in the Record of Decision (ROD), and
- propose concrete actions that analyses demonstrates is sufficient to protect fish in lieu of basing success solely on fish protection standards.

4 The EIS should also contain biologic information that is planned to be issued in the BiOp so that the public and decisionmaker can review and comment on this key information. 40 CFR 1502.25(a) states that agencies shall prepare draft EISs concurrently with and integrated with environmental impact analyses required by the Endangered Species Act.

Compensating for Fish Loss

5 The EIS proposes to mitigate 7 percent of the 9 percent of salmon and steelhead losses due to dam existence and operation using hatchery supplementation and the remaining 2 percent by improving habitat in tributary reaches. We strongly believe that favoring habitat improvement over hatchery supplementation is a more sustainable practice that benefits other amenities (such as water quality) in addition to fish. At the same time, we understand that treaties entitle tribes to a harvest level of fish and that the only way of guaranteeing this harvest level in the short term (until habitat improvement activities result in increase numbers of fish) is through hatchery supplementation. The EIS should therefore propose to implement the majority of the habitat improvement projects soon after project adoption to maximize the benefits of habitat improvements as quickly as possible. The EIS should prioritize these reaches proposed for improvement and indicate the order by which those listed in the EIS should be restored. The EIS should predict the when and to what extent habitat improvement would result in additional fish numbers and prescribe a commensurate reduction in hatchery supplementation. Finally, the EIS should state the method used to translate 2 percent compensation into the type and level of habitat improvement.

6

The draft EIS has a good discussion of water quality in the mid-Columbia River, especially highlighting the effects of warm water and high total dissolved gas concentrations on juvenile and adult salmon. However, the EIS downplays the importance of the three dams on the water temperature regime of the river and its potential effects on salmon. The conclusions on temperature have not been substantiated and we are concerned that the EIS underestimates the effects of the three dams on temperature and current in the reservoirs and therefore, the degree to which the dams "result in the destruction or adverse modification of critical habitat" of the plan species.

7

The DEIS states that the thermal regime of the mid-Columbia is controlled largely by water released at Grand Coulee and the three subject dams do not significantly affect water temperature because of the short water retention times in the reservoirs of each dam. These statements are unsubstantiated. There is no information on travel time in the river without dams or in the reservoirs with dams. There is no temperature data provided that could be used to verify the statements. The EIS says the travel time through each reservoir is a few days. There are three reservoirs in the study and two more downstream, so a few days in each reservoir adds up.

8

In addition to increasing temperature or causing shifts in the temperature regime so that warm temperatures last longer into the late summer and fall, dams can reduce the diurnal fluctuation of temperature and dampen the cooling effects of short term weather fluctuations. Currently, temperature at all three dams exceeds 18 C at times. At temperatures over 19 C any decreases in temperature can be beneficial, so diurnal fluctuations and short term weather fluctuations might play a role in salmon migrations through these reaches. Further, by slowing down the river flow, dams can cause out-migrating juvenile salmon to be subjected to warm temperatures longer, cause them to expend more energy to migrate, and subject them to increased predation and disease. We believe that these changes in the reservoirs could represent "destruction or adverse modification of critical habitat" by the dams and should be more thoroughly evaluated in the EIS so that actions to remedy the situation or off-site mitigation can be planned.

The EIS suggests that little can be done to offset elevated temperatures because Grand Coulee is not equipped to release cooler water from deep in the reservoir. There are some possible steps that can be taken both to remedy the effects directly and to provide off site mitigation that should be investigated in the EIS. Water to run Grand Coulee's turbines is from deep in the reservoir and is cool. Grand Coulee is rarely operated at its capacity. During the short critical period in the summer when temperatures are at critical levels, generation could be diverted to Grand Coulee to release as much cool water through its turbines as possible. This was done in 1961 to cool the Hanford Reach and resulted in temperatures up to 9 F cooler in that reach which is quite a distance downstream from the subject reach. This may require spill from the dams downstream of Grand Coulee, and if so, the trade off between cooler temperatures and increased gas would have to be evaluated.

An offsite measure that might mitigate the effects of the dams on critical habitat would be to augment or create cold water refugia primarily in tributaries (where they are already planned).

For example, creating shade at the mouths of some tributaries could augment the temperature benefits naturally obtained from cool water from ground water wells entering those tributaries.

Detailed Comments

9 | Abstract. The EIS proposes 50 year anadromous fish agreements and habitat conservation plans. The EIS should explain the basis of the decision to select a 50 year time frame. The EIS should state whether other time frames would work equally well and whether the HCP is protective enough to ensure fish protection for the next 50 years.

10 | Abstract and 1-3. The EIS states that the agreements would provide the PUDs with some degree of certainty for the long term operation of these projects. Please define "some degree of certainty" and explain what elements of the agreements and HCP are subject to future negotiations and which are not. Does the flexibility contained in the agreements and HCP compromise the stable operating environment that the PUDs are seeking or the long term protection of the five species of salmon and steelhead?

11 | S-1. The EIS states that "fish protection measures of the HCPs are also intended to satisfy the PUD's obligations under the Federal Power Act, Fish and Wildlife Coordination Act, Pacific Northwest Electric Power Planning and Conservation Act, and Title 77 Regulatory Code of Washington (RCW)." The EIS should also state that HCPs also intend to satisfy the Clean Water Act and State of Washington Water Quality Standards by operating dams in a manner that complies with total dissolved gas and temperature criteria which is also consistent with fish protection. The EIS should also state that the fish protection measures of the HCP are consistent with the Innovative Columbia River Basin Strategy (i.e., All-H Paper Strategy).

12 | S-2. The EIS states that the purpose of the HCP is to "support a comprehensive strategy for protecting and recovering five Plan species of anadromous salmonids in the Mid-Columbia River, two of which are currently listed as endangered under the Endangered Species Act." The EIS contains a lot of good information on the fish species of concern, however, the EIS should comprehensively discuss the life cycle of the five species and the sources of mortality and injury during their life cycles. This information should be used to determine how to best protect and recover the species. Such a strategy might include increasing restoration and habitat improvement activities in tributaries or limiting the harvest of salmon on the Columbia River or in the oceans. This information could be elaborated on page S-11 after the statement that, "in addition to improved survival through the middle and lower Columbia River projects, and during early life states of the fish, improved environmental/climate conditions are necessary for the listed species to survive and recover."

13 | S-6. The EIS states that the mid-Columbia River dams will continue to be operated to control total dissolved gas levels under total river flows up to the 7-day 10-year peak flow event to 120 percent saturation. The EIS should explicitly state that the 120 percent saturation criteria is a special exemption that applies only when dams are spilling water to aid in fish passage and that the criteria at all other times is 110 percent.

- 14 | S-6. At several places in the document, the EIS states that turbines will be operated at peak efficiency ratings, to the extent possible to protect juveniles. We recommend that the EIS define “efficiency” as it is used in the EIS. Does this mean that the turbines will be operated to maximize power production? In addition, the EIS should explain the connection between operating turbines efficiently and protecting juveniles.
- 15 | S-11, Last paragraph. “Drawdown to minimum operating pool....has not been shown to increase juvenile survival.....Therefore it was not evaluated in this EIS.” Has drawdown been tried or evaluated through some kind of modeling exercise? It hasn’t been shown to increase survival but has it been shown that it doesn’t increase survival? Or is the effect of drawdown an unknown?
- 16 | S-16. The EIS states that prior activities are not considered an action subject to additional mitigation beyond license requirements unless they are considered to cause a continuing “take” of a listed species as defined under the Endangered Species Act. The EIS should clarify what is meant by this statement and use examples.
- 17 | S-17, S.5.3.5, bullet 1. Does the 91% project survival include mortality of juveniles in the reservoir?
- 18 | S-17. The HCP proposes to compensate the 9 percent loss of fish species by providing 7 percent compensation through fishery supplementation and 2 percent compensation through tributary habitat improvement programs. We are concerned that the proposed strategy heavily relies on the non-sustainable practice of habitat supplementation which additionally results in genetic erosion of native fish stocks (see page 2-47 of the EIS). The EIS should propose implementing the majority of habitat improvement projects soon after project implementation so that benefits to fish occur as quickly as possible. In addition, we recommend that the EIS predict when and to what extent habitat improvements result in increased fish numbers and propose a commensurate decrease in hatchery supplementation at that time. The EIS should also identify the method used to quantify the level of habitat improvement needed to provide 2 percent compensation.
- 19 | S-18. The EIS states that the PUDs would use “best efforts” to evaluate, improve, maintain, and operate adult and juvenile fish passage systems to the meet the performance standards. We recommend that the EIS define “best efforts” to ensure that there is clear understanding about the PUDs commitments in the context of this HCP and to ensure that they are sufficient to effectively protect fish species.
- 20 | S-18. The EIS describes HCP phases. We are concerned that the HCP relies extensively on an adaptive management strategy without having the benefit of a completed risk assessment which would evaluate the likelihood of meeting HCP performance standards.
- 21 | S-21. The EIS proposes to create a tributary conservation plan which prescribes activities that would decrease bank erosion, sedimentation, channel scouring, and water quality problems. Restoration activities for the HCP should be matched up with water bodies identified as impaired under Section 303(d) of the Clean Water Act, and should be coordinated with TMDL development and implementation.

- 22 | S-22, first paragraph second column. Will a tribal representative be asked to sit on the tributary committee?
- 23 | S-23 and 1-12. The EIS states that bull trout are a threatened species in the Columbia River Basin and that they also occur in the project area, however, the extent of their occurrence and the project-related impacts are unknown. We are very concerned about the HCP's ability to provide sufficient protection to bull trout when there is a lack of knowledge about the presence of bull trout in the project area and the potential impacts of the project. We strongly recommend that NMFS invite the U.S. Fish and Wildlife Service to become a cooperating agency in the development of the EIS to facilitate adding bull trout as a fish species protected under the HCP. Protecting bull trout in the context of the HCP would likely need to begin with designating critical habitat for bull trout in the Columbia River and the development of ESA Section 4(d) recommendations. The EIS should also state whether dolly varden also occur in the project area, and whether protection would be extended to this fish species, because of the inability to tell this fish species and bull trout apart.
- 24 | Table S-23. Under Water Quality, Project Area TDG, Alt 3: The PUD's agree to take measures to maintain Total Dissolved Gas levels at or below legal maximum levels. Is that referring to the 110% standard or the 120% waiver?
- 25 | S-24. The EIS states that the PUDs would, to the maximum extent practicable, minimize and mitigate the impacts of takings. Please define and give examples of the "maximum extent practicable."
- 26 | S-24. The EIS states that available technology is not sufficient to adequately conduct all of the evaluations proposed in the HCPs for each of the Plan species and there is currently no methodology that all parties support for determining the survival of adult fish through the projects. We object to the concept of employing an adaptive management strategy when technology is not available to evaluate whether the PUDs are successfully meeting HCP performance standards. Monitoring and evaluation are the key to ensuring that an adaptive management strategy is meeting performance standards. We recommend that the EIS characterize the importance of evaluation tools that are not currently developed in the context of this EIS. If these tools are sufficiently important, the EIS should propose using alternative methods of evaluation or, at a minimum, should demonstrate that these tools could be developed in a timely manner.
- 27 | S-27. We recommend that the monitoring section include implementation monitoring, which would ensure that mitigation measures are in place and working.
- 28 | S-33. The EIS states that there is no requirement to provide the benefit of the doubt to the species of concern with respect to gaps in the information base and NMFS has no authority to determine what constitutes the best available information to be utilized in support of any decisions. We believe that the framework proposed in the HCP does not provide sufficient protection to fish species of concern primarily due to an adaptive management approach coupled with methods of evaluation which have yet to be approved or developed. We believe that the loose framework of the HCP will require clarification and information in the future and that the

statement above about information precludes NMFS from providing adequate protection to fish species. We therefore, strongly recommend that the framework be tightened and the level of information in the EIS be bolstered to limit information gaps that would require clarification in the future.

29 S-35. We strongly recommend that all analyses planned for inclusion in the biological opinion be included in the EIS. Many of the analyses that we believe necessary to include in the EIS for adequate information disclosure and to ensure protection of fish species are listed as studies to be described in the biological opinion. The purpose and need of this proposed action is to protect and restore Columbia River salmon and steelhead species to comply with ESA and issues related to biological parameters should be discussed in the EIS. This information should have been presented in the draft EIS to be consistent with NEPA which requires that Federal agencies shall "to the fullest extent possible...prepare draft environmental impact statements concurrently and integrated with environmental impact analyses and related surveys and studies requested by Endangered Species Act (40 CFR 1502.25(a))."

30 S-36. Table S-3 states that if reservoir drawdown occurs, erosion and reservoir turbidity would initially increase over the short term and damage aquatic habitat conditions with the greatest damage occurring the first 4 to 7 years. The EIS should identify ways to mitigate these impacts if any exist.

31 S-38. Table S-3 states that although maximizing survival at each of the PUD dams will increase the return rates of spring-run chinook salmon and steelhead, populations will continue to decline without reductions in non-hydro system related impacts, although at a slower rate than Alternative 1. We strongly agree with this statement and therefore strongly recommend that the EIS describe the life cycles of the fish species of concerns and the sources of mortality and injury during different stages. We believe this information is critical to determine how to best protect and restore the species.

32 1-3. We were pleased to read that the purpose of the HCP is to protect fish in the Mid-Columbia River and not to merely satisfy ESA requirements. We, however, recommend that the EIS contain an objective that is less prescriptive than generating electricity, such as helping to provide electricity to meet local electricity needs. This broader purpose and need statement would allow options such as conservation if additional fish protection is needed and would also give priority to power production that served the needs of local people over that for exportation. The EIS should also discuss tensions that exist when operating the dams for power production versus fish protection and existing legal and policy requirements for fish protection and electricity production.

33 1-17. The EIS identifies activities significantly impacting salmon including hydroelectric and irrigation projects; commercial and sport fishing; logging; mining; livestock grazing; water use by farms, cities, and towns; and municipal and industrial pollution. We recommend that the cumulative effects section in the EIS describe in quantitative terms the extent that these activities impacts the fish species of concern. This will better allow the reader and decision-maker to understand how to protect and restore salmon and steelhead in the Mid-Columbia River.

- 34 | 1-17 and 2-7. The EIS contains a germane discussion of the power aspects of this project. It states that the Northwest Power Planning Council projects an energy deficit of 25 million megawatts by 2003. We recommend that the EIS state whether this is a net deficit, or in other words, does the Northwest produce 25 million megawatts less than they use or is the deficit partly attributable to exporting electricity. We believe that this is an important point in the context of the scope of the project (the Mid-Columbia River dams) and a statement in the following paragraph that these dams were developed primarily to serve customers in nearby areas and the statement on page 2-7 that the three dams produce 14 billion kilowatt-hours or 6 percent of the hydropower in the U.S.
- 35 | 1-18 and 1-32. The EIS identifies two additional Mid-Columbia River PUD dams, Priest Rapids and Wanapum, that are not covered in the scope of this EIS. The EIS should explain why these two facilities were not included as part of the EIS (i.e., why Grant County withdrew from the HCP development process) and should characterize how their absence from the HCP affects fish protection and restoration.
- 36 | 1-27. In the section describing EPA's responsibilities, the EIS should identify our Clean Air Act Section 309 responsibility to review the significant federal action described in this EIS.
- 37 | 1-31. The EIS correctly states that NMFS must identify critical habitat for listed species. The EIS should also state that U.S. Fish and Wildlife Service must identify critical habitat for Columbia River bull trout.
- 38 | 1-31. The EIS states that the biological opinion will determine whether the species can be expected to survive with an adequate potential for recovery under the proposed action. Again, we believe that this is critical information for inclusion in the EIS and that the EIS should state what the predicted potential for recovery is for all alternatives. This would better allow the public and decision-maker to understand this key issue and to allow the decision-maker to make the appropriate decision.
- 39 | 1-31. The EIS states that the biological opinion will identify reasonable alternatives to the proposed action if it is likely to jeopardize listed species. Because the biological opinion was not developed concurrent with the development of the draft EIS as required by NEPA (40CFR1500.2(c)), any reasonable alternatives identified would require a supplemental EIS to describe the new alternatives and the environmental consequences of adopting them. We recommend that NMFS develop the biological opinion prior to issuing the final EIS and include information and analyses developed for the biological opinion in the EIS. Finally, NMFS should issue a supplemental or revised EIS to fulfill NEPA requirements for all newly developed alternatives.
- 40 | 1-32. The EIS states that the original ecosystem based management approach was abandoned as overly ambitious in favor of HCPs that focus specifically on the five Plan species. The EIS should present this in chapter 2 as an alternative considered but eliminated from detailed evaluation. The EIS should describe in more detail why the ecosystem approach was abandoned? Was it economically or technically infeasible? Were there time restraints?

- 41 | 2-2. The EIS states that reasonable and prudent measures or alternatives and the terms and conditions of the biological opinion would remain in effect as long as new information did not indicate that the species' continued existence was in jeopardy. We are concerned that the HCP relies on new information for ensuring the protection of fish species of concern when the EIS indicates that evaluation methods are not universally accepted or are not technically feasible. We are also concerned that this criteria ignores the ESA requirement to restore listed species. We recommend that the appropriate evaluation techniques be developed for the HCP and identified in the EIS and that the above statement be changed to read that reasonable and prudent measures or alternatives and the terms and conditions of the biological opinion would remain in effect as long as new information did not indicate that the species continued existence was in jeopardy or was failing to recover.
- 42 | 2-4. The generic dam diagram helps the reader identify components and understand how a dam operates. To improve the document more, however, we recommend that the EIS include a number of diagrams and photos illustrating the existing and proposed layouts for each dams including mitigation measures, monitoring stations, etc. In other words, the EIS should contain diagrams that illustrate the information listed in table 2-3 for each dam.
- 43 | 2-8 and other pages. The EIS does a good job identifying locations where fish could become injured or die when passing through the three dams. We recommend that the EIS include diagrams for each mid-Columbia dam that shows passages, the number of fish that use each passage, and injury and mortality rates at each obstacle. We believe that our recommendation is consistent with a statement on page 2-9 that the proportion of fish passing through spillways and bypasses is essential information for estimating the overall survival of juvenile salmon and steelhead passing a project and a statement on page 2-12 that fish bypass systems are fairly complex systems that can include turbine intake screens, gatewell orifices, etc. These features vary by project, and all of them affect the survival rate of juvenile salmon and steelhead.
- 44 | 2-18. The EIS states that current natural anadromous salmonid spawning in the mainstem Mid-Columbia River is limited primarily to the Hanford reach and major tributaries. The EIS should contain an estimate of how much spawning area is lost due to the dams and, if necessary, how compensatory spawning areas could be created or enhanced.
- 45 | 2-22. The EIS discusses salmon predators and predator control programs. The EIS should estimate injury and mortality rates caused by predators and the effectiveness of predator control programs to reduce predation.
- 46 | 3-28. The EIS describes lower population numbers for the species of concern during the 1990s. The EIS should explain recent population declines in the last decades despite increased attention and effort being given to saving salmon and steelhead species.
- 47 | 3-37. The EIS identifies information gaps here and on pages 3-58 and 3-67 among others. The EIS should contain a table listing research needs. The table should also include a schedule indicating when studies need to be conducted or an indication of high and low priority projects.
- 48 | 3-37 and 3-47. The EIS states that it is not possible to differentiate between natural and

hydrosystem caused mortality at this time. We believe that this is a key question that demands research attention. The EIS should define sources of hydrosystem and natural mortality to better formulate the parameters of the question. For example, are factors attributed to dams, such as increased predation and habitat loss, considered natural or hydrosystem sources of mortality.

49 | 3-50. The EIS states that the effect of the projects on isolating populations and on the genetic fitness of bull trout is unknown. We recommend that NMFS consult with U.S. Fish and Wildlife Service about the proposed actions and their impacts to bull trout. The consultation process should help fill information gaps about bull trout in the project area and the impacts of the dams and their operation on bull trout. The EIS should contain this information. We believe that the best way to ensure the protection and restoration of Mid-Columbia bull trout is to include them as a species of concern in the HCP.

50 | 3-52. The EIS states that reservoir releases are typically cooler in the spring and summer and warmer in the fall and winter. The EIS should also state that dams releases have fewer temperature fluctuations with cool moments for salmon and steelhead to take refuge in during hot periods.

51 | 3-55. The EIS describes sediment deposition. The EIS should state whether sediment deposition behind the Mid-Columbia dams would require dredging, and if so, the frequency of the dredging and the impacts of the dredging to fish species of concern.

3-81. We found the key terms and definitions to be a useful addition for readers who are not familiar with terms associated with water resources.

52 | 3-87. The EIS states that Washington Department of Ecology is not permitting new water rights to withdraw water from several of the Mid-Columbia River tributaries to address dewatering. The EIS should describe the effectiveness of this mitigation measure and the extent that dewatering still affects fish species of concern.

53 | 3-89. The statement that the "Entiat River flows between the Entiat River and Chelan mountains" is confusing. Please clarify or rewrite the description.

54 | 3-95, Last paragraph, first column: "Total dissolved gas supersaturation is the foremost water quality concern in the mid-Columbia River." This statement has not been substantiated. We do not believe that the temperature impacts from these dams and from increasing the length of exposure of juveniles to these temperatures have been adequately evaluated. TDG waivers from water quality standards are granted because it is believed that the risks posed by gas at levels up to 120% are outweighed by the benefits of moving fish downstream. There are no benefits that outweigh the effects of subjecting fish to elevated temperatures with the concurrent hazards of predation for longer periods of time.

55 | 3-97, fourth paragraph, first column. "The very rapid flushing rates.....Water temperatures do not appear to be significantly warmed through the mid-Columbia projects." Neither the flushing rates nor the temperature statements are substantiated with data or analysis. These statements are very important and should be substantiated.

United States Environmental Protection Agency (USEPA)

Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹
1	6	29	5
2	67	30	3
3	18	31	6
4	5	32	51
5	12, 28	33	100
6	1	34	65
7	1	35	55
8	1	36	66
9	49	37	12, 48, 84
10	71	38	5
11	23	39	5
12	6	40	34
13	2	41	5, 56
14	36	42	67
15	26	43	67
16	25	44	33
17	27	45	88
18	12, 28	46	35
19	72	47	68
20	64	48	36
21	13	49	48
22	14	50	69
23	48	51	79
24	2	52	70
25	73	53	99
26	18	54	1, 2
27	18	55	1
28	21		

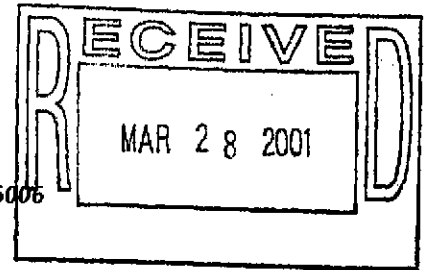
¹ see Appendix C



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

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(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006



March 26, 2001

Mr. Robert Dach
U.S. Department of Commerce
National Oceanic & Atmospheric Admin.
National Marine Fisheries Service
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

Dear Mr. Dach:

WDOE

1

Thank you for the opportunity to comment on the draft environmental impact statement (EIS) for the Habitat Conservation Plan for the Wells, Rocky Reach, and Rock Island Hydroelectric Projects. As the state agency responsible for protecting the waters of Washington State for fish habitat and other uses, we support your ongoing efforts to find improved methods for fish. As you know, one of our responsibilities is to address water quality, and particularly, in this case, temperature.

The draft EIS does not evaluate measures for improving temperatures in the Columbia River. As you know, temperature has a significant impact on fish habitat, rearing and migration. It is possible that changes might be made to improve one or more of the following: the distribution of temperatures within the river, the timing and/or duration of temperatures at critical times and/or critical locations within the river, and the overall temperature of the river. The EIS should evaluate changes to dam operation and/or associated structures that might address this issue.

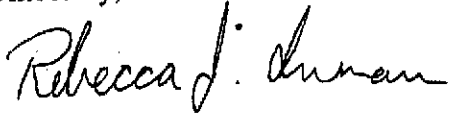
The main impacts to water temperature by dams in a river the size of the Columbia River are through increased solar radiation, caused by reduced speed of water movement down the river and increased overall surface area. Operation of the dam also has modified timing and patterns of water movement down the river. By ponding waters, dams also impact recharge of cooler groundwater to the river.

The EIS should consider modifications that might counter these negative impacts, especially during critical times. Some options to consider: 1) Reservoir drawdown, which might both increase the speed of water movement through the reservoir and reduce surface area exposed to the sun. 2) Modified patterns of turbine operation. 3) Change in the timing of water releases (by days or even by hours). 4) Increased recharge of cooler waters in areas impacted by fluctuating river levels.

Mr. Robert Dach
March 26, 2001
Page 2

Thank you for your considering our comments. If you have any questions, please contact Ms. Pat Irle with our Water Quality Program at (509) 454-7864.

Sincerely,

A handwritten signature in cursive script that reads "Rebecca J. Inman".

Rebecca J. Inman
Environmental Coordination Section

EIS #008657

cc: Steve Hayes, Chelan County PUD
Pat Irle, CRO
Jeff Marti, WR
Debbie Smith, CRO

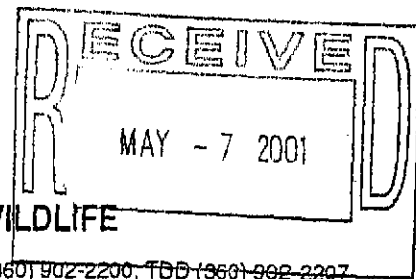
Washington Department of Ecology (WDOE)

Comment #	NMFS Reference #¹
1	1

¹ see Appendix C



State of Washington
DEPARTMENT OF FISH AND WILDLIFE



Mailing Address: 600 Capitol Way N • Olympia, WA 98501-1091 • (360) 902-2200, TDD (360) 902-2207

Main Office Location: Natural Resources Building • 1111 Washington Street SE • Olympia, WA

May 2, 2001

Susan Fruchter
NEPA Coordinator
Director, Office of Policy and Strategic Planning
Room 6117, Herbert C. Hoover Building
U.S. Department of Commerce
Washington, DC 20230

**RE: Draft Environmental Impact Statement for Anadromaous Fish Agreements and
Habitat Conservation Plans for the Wells, Rocky Reach, and Rock Island
Hydroelectric Projects**

Dear Ms. Fruchter:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the subject document and participated in the development of the proposed Habitat Conservation Plans (HCP) and associated appendices. The WDFW appreciates the efforts of the National Marine Fisheries Service (NMFS) and associated preparers to produce a comprehensive and concisely written Draft Environmental Impact Statement (DEIS).

Through our participation in the lengthy process which developed the proposed draft HCPs, we generally accept that the goals and framework of the proposed HCPs should be sufficient to meet our standard of No Net Impact (NNI) regarding the operational impacts of the Wells, Rocky Reach, and Rock Island hydroelectric projects to the anadromous salmonids of the Mid-Columbia River. However, there are specific issues which either were not resolved at the time the draft HCPs were submitted for environmental review or have been brought to light in the course of scoping meetings conducted during the preparation of the draft EIS for the HCPs.

The WDFW has the greatest concern regarding the following issues, and views the satisfactory resolution of these issues as essential for acceptance of the HCPs. These are issues that are germane to the implementation of the HCPs, and are not an attempt to re-negotiate the draft HCPs.

WDFW

Achievement of Survival Standards

- 1 Modification of project operations and/or structures to achieve specific juvenile and adult survival standards associated with passage of the projects during migration is the major objective of the proposed actions. The proposed HCPs are specific regarding the standards of 95% survival at the project for juveniles and 91% total project survival for both juveniles and adults, but there is lack of specificity regarding how to measure the achievement of the standards. In part this was intentional in order to allow for accommodation of new technologies as they might become available. However, to the extent that survival evaluation of specific species or life stages is not practicable in the time frames required under the proposed HCPs a specific methodology needs to be established for using surrogate data to estimate achievement of survival standards. This methodology needs to be developed by the parties to the proposed HCPs and incorporated prior to finalization of the proposed HCPs. Clarification is also necessary to specify that survival standard confirmation is required for each migrant life stage of each plan species. This confirmation must be provided through either direct evaluation or estimates based upon methods and data agreed to by the parties. In addition, the survival standards must be presumed to **not be met** until the specific confirmation as discussed above has been documented and certified by the coordination committee.

Hatchery Compensation Plan

- 2 Since the implementation of juvenile survival improvement measures at the dams is essentially capped at 95% juvenile passage survival, it is imperative that the 7% hatchery based compensation be provided to achieve the overarching goal of No Net Impact for each plan species. WDFW recognizes that there may be situations in specific years where abundance of broodstock and/or logistical constraints associated with broodstock collection preclude the full execution of programs for which the PUD's have provided the facilities and other resources to meet the production goals. However, discussions with NMFS during the course of this NEPA review process have made it clear that NMFS may limit hatchery based production to something less than the 7% levels specified in the Mid-Columbia River Hatchery Program, to avoid conflicts with the recovery of listed species. If such production limitations do occur and are of substantial duration, we need to provide a mechanism for an alternate form of meeting the hatchery based compensation obligation.

Dispute Resolution Process

- 3 Our concern regarding the dispute resolution process relates to the issue of the burden of proof when disputes are brought forward through the Alternative Dispute Resolution Process. We are concerned that there may be the opportunity to assert achievement of the survival goals

based upon inadequate scientific assessment. If other parties chose to dispute the assertion they would appear to have the burden of trying to provide proof without an adequate information having been developed to support the initial assertion. As discussed above, WDFW believes that survival goals should be assumed to not be met until confirmation is achieved via the coordination committee. This status would encourage all parties to work cooperatively to develop appropriate data and data gathering techniques to assure that the HCP measures are meeting the survival goals.

Adult Survival

- 4 | Adult survival associated with passage at the dams is clearly included in the total project survival goal of 91%. However, there is no specific language requiring or specifying a mechanism for assessment of adult passage survival. Adult passage survival must be assessed either directly or indirectly to provide adequate assurance that the 91% total project survival goal is being achieved for each plan species. Assessment of adult passage survival should be added as an additional function of the Coordinating Committee.

System Survival

- 5 | The Quantitative Analytical Report (QAR) as discussed on page 2-28 indicates that passage survival improvement is required at all Mid-Columbia projects as well as Lower Columbia federal projects to achieve an acceptable probability of achieving recovery for the listed populations. The lack of participation by Grant County Public Utility District (PUD) in the HCPs has been a concern to WDFW. We are currently working through the relicensing process for Grant County PUD's Priest Rapids Project to assure survival improvement comparable to the survival goals of the HCPs. We are also working with NMFS through the regional forums established in the 2000 Biological Opinion for operation of The Federal Columbia River Power System to achieve increased survival for plan species at McNary, John Day, The Dalles, and Bonneville Dams. If the survival improvements for these other portions of the system are not achieved, the adequacy of the survival goals of the HCPs may need to be reassessed.

Alternative Selection

- 6 | Due to the substantial unresolved issues discussed above regarding the proposed HCPs and the extreme difficulty for successful implementation which these issues pose, the WDFW recommends that additional consultation and negotiation occur between the potential HCP

Susan Fruchter
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May 2, 2001

parties prior to NMFS selection of Alternative 3 for implementation.. If additional consultation and negotiation do not result in satisfactory resolution of these issues in a timely manner, WDFW will endorse Alternative 2.

Sincerely,



Jeff P. Koenings, Ph.D.
Director

cc: Bob Dach, NMFS, Portland
Dick Nason, Chelan PUD
Bob Clubb, Douglas PUD
Curt Smitch, Office of Financial Management
Bill Frymire, Assistant Attorney General
Mid-Columbia Coordinating Committee

Washington Department of Fish and Wildlife (WDFW)

Comment #	NMFS Reference #¹
1	56
2	15, 40
3	21
4	58
5	30
6	19

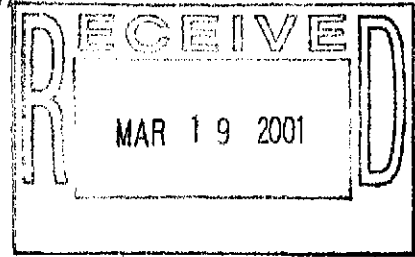
¹ see Appendix C

WASHINGTON GROWERS CLEARING HOUSE ASSN.

PO BOX 2207

WENATCHEE WASHINGTON 98807-2207

PHONE 509-662-6181; FAX 509-664-6670



March 15, 2001

National Marine Fisheries Service
Northwest Region---Hydro Program
525 N. E. Oregon Street, Suite 420
Portland Oregon 97232-2737

The Washington Growers Clearing House is a non-profit tree fruit grower association representing approximately 2,600 tree fruit growers in North Central Washington.

I am writing on behalf of our membership to express our strong support for the Mid-Columbia Habitat Conservation Plan.

This particular plan maximizes the opportunity to create a meaningful salmon and steelhead recovery and protection program while creating the certainty that is necessary to enable the region to remain economically viable.

The economic engine that drives the economy in North Central Washington is the Washington Tree Fruit Industry. The Tree Fruit Industry has been able to offset most of the advantages of our competition because of three factors: 1.) The excellent climate, 2.) Development of an efficient cost effective water delivery system, and 3.) Low electric rates. The low electric rates have enabled individuals to justify the expenditure of billions of dollars on industry and community infrastructure. A reliable supply of low-cost electricity is the key component in ensuring the future economic survival of the Washington Tree Fruit Industry and the economy of North Central Washington.

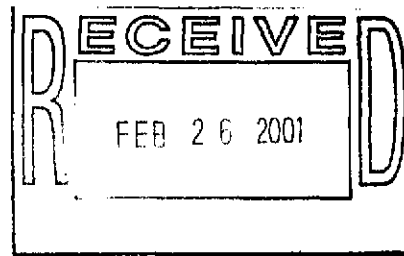
Far too much time, money and effort has been spent on a wide range of scientific based salmon recovery efforts with very little measurable results. This particular Habitat Conservation Plan takes a unique new approach, one that is based not only on local input from all stakeholders, but on measurable results. This Habitat Conservation Plan recognizes that one size does not fit all, and that to be effective a program must be flexible, comprehensive and results oriented. This plan gives the local Public Utility District the flexibility necessary to produce a successful outcome. As situations change it is important that the recovery plan has the flexibility and opportunity to change in an innovative and timely manner.

Another crucial component of this HCP is the creation of an invaluable source of funding to aid local citizen group efforts to protect and improve fish habitat on Columbia River tributaries.

The Habitat Conservation Plan ensures that fish and people can live together and that vital hydroelectric production can continue. The Chelan County Public Utility District has responded to the citizen's demands that they be a good steward of this valley's resources. The Habitat Conservation Plan is another example of the PUD's commitment to the citizens, the environment and the resulting quality of life so highly valued by the citizens of North Central Washington.

Sincerely,

Kirk B. Mayer, Manager



Washington
Public
Utility
Districts
Association

1411 Fourth Ave.
Suite 810
Seattle, WA 98101
206 682-3110
Fax 206 682-3913

February 22, 2001

Mr. Bob Dach
Hydro Division
National Marine Fisheries Service
525 NE Oregon St.
Portland, OR 97232-2737

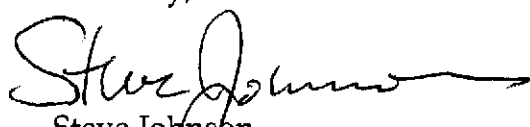
Dear Mr. Dach:

We applaud NMFS, Chelan and Douglas PUDs for their efforts to develop long-term habitat conservation plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects. These plans are an important component in the state of Washington's continuing effort to recover listed anadromous salmonids.

The proposed Anadromous Fish Agreement and Habitat Conservation Plans are particularly timely given the Northwest's present short supply of renewable electric energy. Our region is presently struggling to maintain its economic viability, given recent developments in the wholesale power market. Solutions to these issues must be found through proactive planning and long-term solutions. The proposed HCP represents both of these ideals.

We support the proposed Wells, Rocky Reach and Rock Island HCPs as the preferred alternatives for salmon recovery in the Upper Columbia River. The selection of the long-term HCPs over the alternative of narrowly focused Section 7 consultations will ensure the future viability of anadromous salmonids while maintaining the benefits of clean, renewable hydroelectric power generation. We encourage the fisheries service to select and fully implement Alternative 3 as described in the Draft Environment Impact Statement for the proposed Wells, Rocky Reach and Rock Island Anadromous Fish Agreements and Habitat Conservation Plans.

Sincerely,

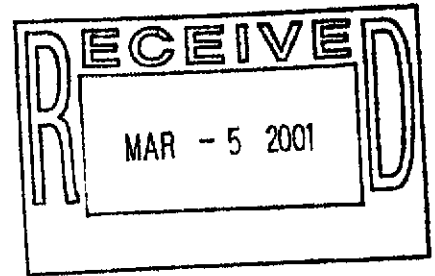

Steve Johnson
Executive Director

SJ/sw



WENATCHEE RECLAMATION DISTRICT

514 EASY STREET
WENATCHEE, WA 98801-9652
(509) 663-0002
FAX (509) 665-0341



March 1, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 N E Oregon Street, Suite 420
Portland, OR 97232-2737

As members of the Wenatchee Reclamation District Board of Directors we are writing to support the Mid-Columbia Habitat Conservation Plan (HCP).

How the precious water resources of this valley are used to benefit people and fish is a major concern for us.

The hydropower produced at Chelan County PUD's dams is vital to the economy of the region. It is affordable, reliable and renewable. The Habitat Conservation Plan ensures that hydropower generation can continue while listed salmon and steelhead stocks are protected.

The parties to the HCP should be applauded for working cooperatively. All too often, the command-and-control approach has led to endless, costly court battles. When that happens, nobody wins.

Specifically, we note that the plan addresses unavoidable losses. The Chelan County PUD will provide both supplementation hatchery production and funding to improve habitat to achieve the "no-net-impact" standard. The fund will likely provide badly needed habitat improvements on the Wenatchee River, as overseen by a committee process. In addition, the habitat fund could provide money for partnership projects with communities and individuals throughout the river system. We wholeheartedly support this concept.

Thank you for the opportunity to comment in support of the Mid-Columbia Habitat Conservation Plan.

Sincerely,

WENATCHEE RECLAMATION DISTRICT

Alan H. Witte, President

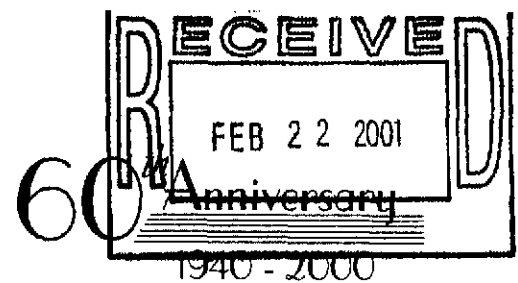
Lynn O. Smith, Director

Donald E. VanWinkle, Director



**Wenatchee
Valley
Clinic**

(509) 663-8711
Fax (509) 664-4860
820 N. Chelan Ave.
P.O. Box 489
Wenatchee, WA 98807-0489



February 16, 2001

National Marine Fisheries Service
Northwest Region – Hydro Program
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737

Dear Sir or Madam:

On behalf of the 1200 physicians and employees of the Wenatchee Valley Clinic, we are writing to endorse the Habitat Conservation Plan of Chelan County PUD.

The Wenatchee Valley Clinic is a growing enterprise headquartered in Chelan County. We are a regional organization with eight clinic locations that offers a comprehensive array of medical and diagnostic services. We serve a geographic area that spans approximately 12,000 square miles; and care for over 125,000 unique individuals annually.

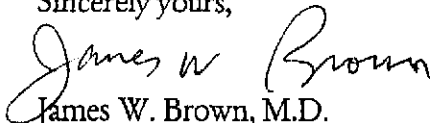
The Chelan County PUD is also a longstanding regional resource. They are a “Good Neighbor” to our region, and have an excellent power generation and delivery system. They are a linchpin in our region’s infrastructure, and have been a strong advocate, and responsible steward, of our area’s natural resources.

Medicine and energy are both industries operating under intense regulatory requirements and scrutiny. We see these parallels between our business and that of the PUD:

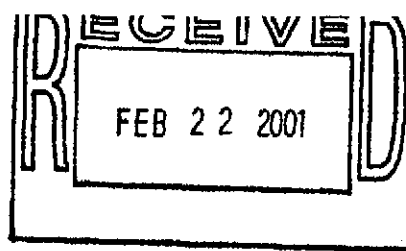
- The PUD is seeking cost-effective means, compatible with its other business needs, to meet regulatory requirements for resource protection
- The PUD knows the region and its business better than others from outside the region, and should be given the opportunity to apply that knowledge toward finding optimal solutions to salmon recovery issues
- The PUD (and the region) need assurances, provided in the Habitat Conservation Plan, that it can continue the business of maintaining an economical and reliable energy supply while working diligently to develop and institute mitigation and enhancement plans.

Chelan County PUD is regarded as an outstanding citizen, and as an integral component, of North Central Washington. The PUD has a long history of providing both a reliable energy supply and protecting our environmental resources. We urge you to continue toward quick adoption of the Habitat Conservation Plan.

Sincerely yours,


James W. Brown, M.D.


Shaun Koos



February 16, 2001

President's Office
1300 Fifth Street
Wenatchee, WA 98801-1799
(509) 664-2553
FAX (509) 664-2552

National Marine Fisheries Services
Northwest Region - Hydro Program
525 NE Oregon St., Suite 420
Portland OR 97232-2737

Gentlemen:

For the past 30 years I have been familiar with the Chelan County PUD stewardship of their three hydro electric projects here in central Washington. I am an avid recreationalist and very active in community development projects. One of those projects was the completion of our Columbia River Loop Trail. Citizens, through an organization known as Complete the Loop Coalition, raised money through private donations and grants to build a six-mile trail on the east shore of the Columbia River so it could be linked to the trails which were built by the Chelan County PUD in connection with the Exhibit R project in the late 1980s. The completed 11-mile loop trail, in my humble opinion, is the diamond in the crown of the many wonderful recreational opportunities created by the PUD here in central Washington.

It was because of the vision of Kirby Billingsly, a former commissioner and manager of Chelan County PUD, that a series of parks line the shore of the Columbia River where hydroelectric reservoirs have been created by the PUD's dams. The financial backing of the PUD and these hydro electric projects made that vision a reality. The PUD's subsequent stewardship through the operation of the parks that have been built has been complimented by museums, fish hatcheries, and educational programs that it has supported. Without question, the PUD has proven to be an excellent steward of the community's resources.

I am currently serving as the president of Wenatchee Valley College. The college looks forward to a close working relationship with the PUD for future educational programs. Some of our students are working on salmon habitat recovery efforts on the Icicle River. Much needs to be done on habitat recovery, and it is frustrating to hear the PUD respond that they cannot spend resources on securing habitat at the present time because the Habitat Conservation Plan (HCP) has not yet been finally approved. There was much fanfare in June of 1998 about the HCP and the recovery efforts, but precious little has been done in the intervening time to initiate the habitat recovery efforts because of the slow, laborious review process for the HCP. It seems to me that a rapid and positive approval of the HCP is exactly what is needed for salmon recovery. Quick action would clear up the confusing and conflicting views and agendas of the many stakeholders in the


salmon recovery process. We need natural habitat restored and protected as rapidly as possible if we, as a nation, are really serious about saving these threatened and endangered species. Acquisition of shoreline and conservation easements is in order.

The public is extremely frustrated with the consequences of legal gridlock, and the provisions of the HCP for dispute resolution and cooperative accountability are refreshing alternate solutions to the agonizing and counterproductive lawsuits that clog our system. I am pleased to see that HCP allows for midcourse corrections.

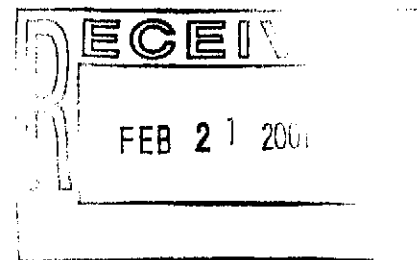
Please consider this an endorsement of the HCP approach and an urgent request for speedy implementation of the HCP. I believe that if the PUD had the confidence that the HCP will be favorably considered by NMFS and the FERC, as well as all the other signatories, they could speed up the process of securing salmon recovery habitat by purchasing options for select parcels of property that are currently for sale in the Wenatchee River and Entiat River tributaries. Please give this serious consideration as it is plain, from preliminary numbers being offered in Washington State legislature, that there will be a tight budget and a probable restriction of other funds available for securing habitat through the Washington Wildlife and Recreation Program.

There is one other unrelated matter that I wish to bring to your attention. As a citizen volunteer, I have been working for five years to get an extension built along the shoreline for the Columbia River Loop Trail referred to in the first paragraph of this letter. This trail extension is proposed to be operated by Washington State Parks and connects the Confluence State Park (built with PUD Exhibit R money) to Lincoln Rock State Park (also built with PUD Exhibit R money). This extension is approximately 4.5 miles long. I am told that all agencies have reviewed and approved the biological assessment prepared by Washington State Parks except for National Marine Fisheries Service. It seems to me to be fundamentally sound logic that a riverfront trail adjacent to the river would be far preferable for salmon habitat than the potential for sprays and fertilizer residue finding its way to the river from adjoining agricultural lands. The biological assessment for this trail has been in NMFS hands for several months. I cannot understand why NMFS has taken so long to review this project and would certainly hope that it would have a positive response when its review is complete.

Very truly yours



Robert L. Parlette
President



February 16, 2001

National Marine Fisheries Service
Northwest Region Hydro Program
525 NE Oregon St., Suite 420
Portland, OR 97232-2737

To whom it may concern:

I am writing to offer my hearty support for the Habitat Conservation Plan for salmon. The plan, developed by Chelan and Douglas public utility districts, is the result of government agencies, tribes and environmental groups working together. It is proof that organizations with opposing views can collaborate to produce a compromise that is beneficial to the environment and that also protects a critical source of renewable energy.

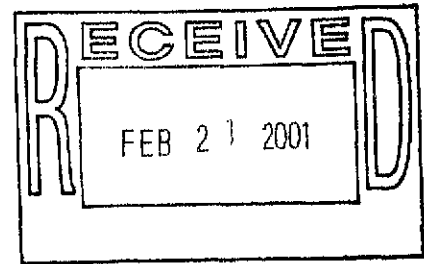
I urge the National Marine Fisheries Service to approve the HCP. This collaborative effort will result in improved fish runs while preserving an important economic resource for the region.

Sincerely,

A handwritten signature in black ink, appearing to read "Wilfred R. Woods". The signature is fluid and cursive, with the first name "Wilfred" being more prominent than the last name "Woods".

Wilfred R. Woods
Chairman of the Board

cc: Roger Braden, Chelan County PUD



February 16, 2001

National Marine Fisheries Service
Northwest Region — Hydro Program
525 NE Oregon St., Suite 420
Portland, OR 97232-2737

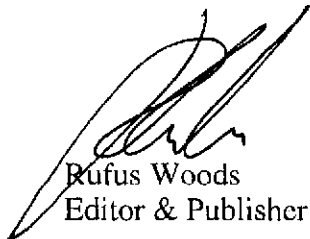
To whom it may concern:

I would like to offer my enthusiastic support for the Habitat Conservation Plan for salmon that has been developed by Chelan and Douglas public utility districts working in collaboration with various government agencies, tribes and environmental groups.

The plan is a model for demonstrating how organizations with opposing viewpoints can come together and develop a compromise that benefits the environment and protects an important source of renewable energy. The HCP is a landmark agreement that also demonstrates conclusively that these decisions can be made without lengthy, costly legal battles.

I would urge the National Marine Fisheries Service to approve the HCP as a step in encouraging collaborative efforts to balance the need for improving fish runs and at the same time preserving an important economic resource for the region.

Sincerely,



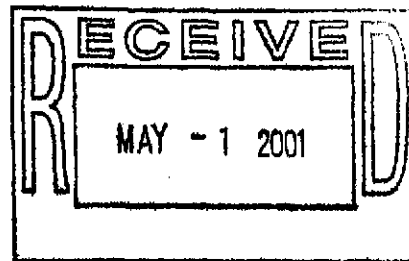
Rufus Woods
Editor & Publisher

cc: Roger Braden, Chelan County PUD

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TIM WEAVER
OF COUNSEL TO:
HOBBS, STRAUS, DEAN & WALKER, LLP

LEGAL ASSISTANT
PATTI MCCOY

May 1, 2001

Mr. Bob Dach
NMFS, NWR, Hydro Program
525 NE Oregon Street, Suite 420
Portland, OR 97232-2737

*Re: Comments of the Yakama Nation on the Draft Environmental Impact
Statement for the "Mid-Columbia Habitat Conservation Plans."*

Dear Mr. ^{Bob}Dach:

The Yakama Nation (hereinafter "YN" or "Tribe") hereby submits its comments on the Draft Environmental Impact Statement (DEIS) prepared by the National Marine Fisheries Service (NMFS) on the Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects (hereinafter "Mid-Columbia HCPs" or "HCPs"). We appreciate the opportunity to provide you with comments pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4322(2)(c).

The NMFS' analysis under this DEIS and the resulting Final Environmental Impact Statement, and its decisions regarding the HCPs, directly affect the Tribe and the Tribe's treaty-reserved rights. The geographic scope of the HCPs falls within the ceded territory of the YN and the operation of the hydroelectric projects at issue in the HCPs affects the treaty fish on which the Tribe relies. In the Treaty with the Yakima Tribe, 12 Stat. 951, Art. 3 (June 9, 1855), the YN reserved the right of "taking fish at all usual and accustomed places in common with citizens of the United States." Retaining the right to continue its traditional fishing practices was a primary objective of the Tribe during treaty negotiations. Tulee v. Washington, 315 U.S. 681, 684-85 (1942); Washington v. Washington State Commercial Passenger Fishing Vessel, 443 U.S. 658, 664-69 (1973).

The treaty guarantees to the Tribe an equitable share of the fish. See United States v. Oregon, 302 F. Supp. 899 (D. Or. 1969) and United States v. Washington, 384 F. Supp. 312 (W.D. Wash. 1974). Anadromous fish and lamprey have significant cultural and religious significance to tribal members, provide members with subsistence for health and well-being, and contribute to a critical share of tribal commerce in an area of limited economic opportunity. Additionally, the YN actively co-manages the fishery resource along with federal and state authorities and is a party to the Mid-Columbia Proceeding before the Federal Energy Regulatory Commission involving the Chelan and Douglas County Public Utility Districts.

As described more fully below, the YN also participated in the negotiations of the HCPs at issue in the DEIS and thus is intimately familiar with the HCPs and issues of importance to the Tribe. The YN believes that the DEIS misrepresents the YN's participation and fails to identify for the public at large the status of the HCPs as being incomplete, the YN's lack of support for the HCPs at this time, and the real reasons for such a lack of support. We discuss this in further detail below.

Below the YN first sets forth its general comments about the DEIS and then provides specific comments related to specific sections of the DEIS. Please note that these are not necessarily set forth in the order of importance to the Tribe and thus all of the Tribe's comments should receive adequate and equal consideration.

GENERAL COMMENTS

YN

The HCPs Are Unfinished, Incomplete, and Thus Not Yet Ready for Environmental Review

1

As the DEIS recognizes, the negotiation of the HCPs was the subject of much debate and controversy. The DEIS is unclear in its explanation of the negotiation process, as it does not adequately discuss either the scope of, or ground rules for, the negotiation. However, these issues surrounding the negotiation process are important to understanding that the HCPs are incomplete and unfinished at this time.

2

The scope of the negotiations was much broader than that which normally occurs within a usual HCP process because the Public Utility Districts, together with NMFS and the United States Fish and Wildlife Service (USFWS), agreed to negotiate not only an HCP, but also a long-term licensing agreement for the Districts' hydroelectric projects under the Federal Energy Regulatory Commission. The ultimate agreement intended to come out of the negotiation was to be not only an HCP providing long-term ESA protection, but also an agreement that would provide the Public Utility Districts an opportunity to renew their hydroelectric dam licenses without opposition from the parties to the negotiation. Those agreements regarding the licenses were no less important to Public Utility Districts than the HCPs.

As a result of this aspect of the negotiation process, the NMFS, USFWS and the Public Utility Districts invited the YN and other non-agency parties to participate. As this was a long-term and potentially contentious negotiation, the Public Utility Districts hired a professional mediator/facilitator to work with the parties. There was one hard and fast rule of the negotiation to which the parties were expected to adhere: the concept of "Conditional Closure." Under

Conditional Closure, the negotiation was to proceed in such a way as to allow the parties to reach agreement on an issue-by-issue basis with the understanding that such issues were only "conditionally closed," such that there would be no binding effect or agreement on any single issue until everyone agreed on the total package. Conceptually, this general rule allowed a party to agree "conditionally" on one issue that it did not completely accept, but the acceptance would be conditioned on receiving a later agreement on other important issues. If the later agreement could not be made, then there was no agreement on any issue.

3

No one involved in the negotiation was mistaken as to the basis upon which it was being conducted. The Conditional Closure ground rule was echoed time and time again by the Director of NMFS and other NMFS staff, the USFWS representative and the facilitators/mediators. Throughout the course of the negotiations, many contentious points were "conditionally closed" only because the parties expected to come to agreement on other issues as well. All parties clearly understood that if one part of the agreement failed, the entire agreement would fail.

The Tribe entered into the negotiation only because of those assurances, and has scrupulously honored its part of the bargain. Until the negotiations simply stopped, with the Public Utility Districts receiving all of their consideration and YN and other non-agency parties receiving virtually none of the theirs, the Tribe relied on the assurances of the federal government and the Public Utility Districts that they would honor their part of the bargain as well. As we discuss further below, the YN has not agreed to the terms of the HCPs because the terms the YN requires to reach such an agreement have been rejected by the other parties. Accordingly, the negotiation—conducted under the Conditional Closure rule—is unfinished and incomplete. As such, the YN cannot support the HCPs as they are drafted.

It is both disheartening and somewhat shocking that the YN must file comments on the DEIS for the "completed" HCPs in light of the clear fact that there is no agreement on the terms of the HCPs and hence no document upon which the DEIS may be based. The YN participated in the HCP process only on assurances from its trustee, the United States, acting through NMFS and USFWS, that there "would be no deal unless everyone agreed to all aspects of the deal." The Tribe expected the United States to fulfill its best and highest fiduciary responsibility to it in making such promises. Unfortunately and shamefully, NMFS and USFWS have turned their backs on the Tribe in favor of the Public Utility Districts, to whom they owe absolutely no obligation.

There is no disagreement among the parties to the HCP negotiation that the YN has not received the benefits for which it bargained. Nevertheless, the representatives of United States and the parties who have received the benefit of their bargain at the expense of the Tribe, have decided in the interests of expediency to push forward regardless. This results in the DEIS being manipulated in the interests of making it appear that there is an agreement despite the fact that no such agreement exists. For instance, at the second scoping meeting on DEIS, held that the West Coast Sea-Tac hotel, a YN representative asked the NMFS representative why NMFS was going forward with environmental review of a non-existent HCP, particularly because NMFS and everyone else involved in the negotiation knew there was no agreement among the parties. The NMFS representative responded that the environmental review will never "see the light of day unless there is agreement" among all the parties. Currently, there is simply no agreement among

the parties, yet the DEIS is in place and the NMFS appears ready to move forward with choosing a preferred alternative.

4 An additional and related problem is that the DEIS implies that the HCPs are at least nominally in place and that the Public Utility Districts are currently operating under the HCPs. See, e.g., DEIS at 2-35, 2-41. However, there is no final agency action under which the Public Utility Districts can be allowed to operate. The DEIS is thus tremendously misleading in light of the fact that there are no agreed to HCPs in place and no awarded Section 10 permits. As a result, the Public Utility Districts are currently taking listed salmon without valid ESA protection in violation of Section 9 of the ESA. Instead of pretending that some sort of agreement exists, the NMFS and Public Utility Districts must face the circumstances as they truly exist and proceed to either finalize a valid HCP agreement or move forward with Section 7 consultations to cover the take of listed species.

5 Based solely on the circumstances surrounding the negotiations, the lack of closure on any agreement to the HCPs, and NMFS' promise that this document would not "see the light of day" without such agreement, the NMFS should immediately withdraw the DEIS and seek other means for supplying ESA coverage for current PUD operation. Additionally, notwithstanding the fact that there is no agreement, the comments that follow provide further reflection that the provisions of the HCPs are seriously broken and badly in need of repair prior to any finalization of such a concept. NMFS should withdraw the DEIS on that basis as well.

The DEIS Inaccurately Portrays the Tribe's Position

6 The DEIS portrays the YN's concern with the HCPs as being based solely on the lack of
7 guarantee for hatchery production. As discussed below, the YN believes that the refusal to guarantee hatchery production has the potential to further depress runs in the mid-Columbia, which provides treaty fishermen with virtually no benefit from the HCPs while allowing the Public Utility Districts virtually unfettered generation at their dams. While hatchery production is an issue of extreme importance to the scientific validity of the entire agreement, particularly because the underlying principle of the HCPs' No Net Impact standard is impossible to achieve without a guaranteed and successful hatchery component, this is not the sole tribal issue to be ignored by the HCP parties and the DEIS drafters.

8 During the HCP negotiations, the Tribe also requested, in return for its agreement to the other provisions of the HCPs, that it would receive its own "no surprises" type assurance. Such a provision was intended to assure that if the HCPs fail to provide adequate protection and recovery of the fish, then tribal harvest or other tribal interests consistent with the YN's treaty rights would not be the first in line to bear the brunt of NMFS' and USFWS' responsibility to make up the difference. See discussion of No Surprises further below. The YN's proposal for such an assurance has been rejected by NMFS on numerous occasions, yet is nowhere mentioned in the DEIS.

9 Of equal importance is a tribal proposal that the HCPs would not be used by NMFS as a defense in any non-HCP related litigation between it and the Tribe. This is an issue of major importance to the YN, as the Tribe is concerned that NMFS will contend in future litigation that

the HCPs satisfy NMFS' treaty obligations to YN and that the YN is estopped from asserting otherwise. The Tribe's proposed language was only intended to make clear that any future litigation "playing field" between it and NMFS would remain level. NMFS rejected this proposal but fails to discuss it in the DEIS.

10 The DEIS ignores the fact that the rejection of these important issues to the YN results in there being no agreement on any of the provisions of the HCP. The YN's inability to obtain agreement on its proposals results in the Tribe withdrawing its agreement to other "conditionally closed" issues. The DEIS ignores the fact that all parties to the negotiation, including NMFS, agreed that this would be the basis on which the HCP was negotiated. The DEIS needs a fair and frank discussion of the rules and terms of the negotiation so that a reader may judge as to whether or not there is in fact any basis for claiming agreement at this juncture.

11 The DEIS treats the Yakama issues as somehow disjointed from the "overall agreement," implying that the other HCP parties may proceed with their part of the agreement while the YN receives nothing in return. Such a proposal has no basis in law, equity or simple justice for a party that negotiated in good faith for nearly three years but now receives nothing. Again, such an interpretation is both highly misleading and violates the understanding between the parties.

12 Despite the total lack of agreement, the DEIS contains several statements that misrepresent that there is tribal consent to certain terms of the HCPs. For example, the DEIS states that the No Net Impact concept was developed "with tribal biologists," DEIS at page 2-35, implying that there is tribal agreement on that concept. Of major importance is the fact that the No Net Impact concept requires that there be the guaranteed 7% hatchery production component. However, the No Net Impact concept has been effectively destroyed by NMFS' position on hatchery production. Accordingly, to imply that tribal scientists still agree with that vastly altered concept is improper.

13 Finally, the DEIS is devoid of any mention of the YN's efforts to resolve these issues. The DEIS should include information regarding tribal efforts to resolve outstanding issues, including numerous meetings with regional NMFS staff and, on at least three occasions, with high-level policy makers for NMFS and the Department of the Interior in Washington D.C. All of these meetings concluded without success. The DEIS should likewise note that the YN and the Confederated Tribes of the Umatilla Indian Reservation formally provided a written request that NMFS remove their names from the DEIS as parties to the HCP, and even that effort was unsuccessful.

The Proposed Action—Alternative 3—Fails to Fulfill Federal Trust Responsibilities

The NMFS and the USFWS, as federal agencies, have a fiduciary trust obligation to Indian tribes, which must be carried out according to a strict fiduciary standard. See United States v. Mason, 412 U.S. 391 (1973); Seminole Nation v. United States, 316 U.S. 286 (1942); Felix Cohen, HANDBOOK OF FEDERAL INDIAN LAW 225 (1982). These trust obligations apply to federal agency actions that affect trust resources. See, e.g., Covello Indian Community v. FERC, 895 F.2d 581, 586 (9th Cir. 1990). The agencies thus have a required duty to protect, maintain and enhance the YN's treaty fishing rights and the fish on which the Tribe rely.

15 The proposed alternative in the DEIS regarding the HCPs fails to meet this strict fiduciary duty for a number of reasons. For example, the HCPs lack certainty for the 7% hatchery compensation levels, which the Tribe believes is a necessary component for rebuilding the Tribe's treaty fish resources. The YN bargained for such hatchery compensation in the negotiations and is unwilling to support the HCPs absent assurances of what the Tribe believes is critical for sustainable populations to fulfill the Tribe's treaty rights to fish. For further details of the Tribe's concerns about this issue, please see our discussion below.

16 Other examples where the agencies would fail to uphold their trust responsibility under the proposed alternative include the No Surprises assurance (please see our specific discussion of this issue in greater detail below); the agencies' unwillingness to include provisions assuring the Tribe that nothing within the HCPs will be used against the Tribe in future litigation matters; and a general failure to guarantee the protection and enhancement of the Tribe's trust resources.

17 Additionally, the proposed alternative requires that the agencies shift management authority to the Public Utility District within the first five (5) years and also may prevent agencies from taking necessary recovery and rebuilding measures in the event that the fishery resource continues to dwindle despite the HCPs.

18 Alternative 3 thus frustrates the NMFS's and USFWS' ability to uphold its strict fiduciary duty to the Tribe, yet these factors are not addressed or weighed within the DEIS. The NMFS must adequately discuss its trust responsibility and explain, in a comparison between the alternatives, the extent to which NMFS and the USFWS are able to completely fulfill their roles as trustees to the Tribe and the Tribe's treaty-reserved resources.

NMFS and USFWS Must Comply with the Secretarial Order

19 A related concern is that the NMFS and USFWS have to date failed to comply with the 1997 Secretarial Order of the Secretaries of Commerce and Interior titled "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act." The Secretarial Order requires the agencies to carry out the Endangered Species Act (ESA) in such a way that harmonizes the Tribe's sovereignty and rights with the Secretaries' duties under the ESA. Section 1. The Secretarial Order also requires that the agencies ensure that the Tribe not bear a disproportionate share of the conservation burden for listed species. Section 5, Principle 3.

20 The DEIS must take the requirements of the Secretarial Order into account. The Tribe finds that the DEIS is deficient of a detailed discussion about how the HCPs and the other alternatives may now, and in the future, be consistent or inconsistent with the Tribe's treaty rights and tribal sovereignty. The DEIS likewise lacks a discussion of whether or not any of the particular alternatives may cause NMFS or USFWS to fail to fully uphold its trust responsibility. Furthermore, under the Secretarial Order, the Tribe has repeatedly asked for a consultation meeting that has not yet taken place. The YN therefore respectfully requests that the NMFS

21 immediately arrange a formal consultation meeting that can take place with the YN's governmental officials and legal counsel on a government-to-government basis. To be

meaningful, such an action must take place *before* the NMFS makes a decision about which alternative to choose as the preferred alternative.

The DEIS Neglects to Address Several Important Legal Issues

22 Discussion and analysis contained within the DEIS are inadequate or completely lacking on several legal matters that the YN believes deserve due attention. For example, the analysis in the DEIS is cast in terms of ESA recovery, but the nature of what Alternative 3 is meant to legally satisfy is such that the analysis must go beyond mere ESA standards. As the DEIS recognizes, the HCPs would constitute long-term settlements under the Federal Power Act, the Fish and Wildlife Conservation Act, the Northwest Power Planning and Coordination Act, and Title 77 of the Revised Code of Washington. DEIS at S-15. However, the DEIS couches its review in ESA terms without analyzing whether the alternatives meet the requirement of these laws or other laws, such as the United States-Canada Pacific Salmon Treaty and tribal treaty rights.

23 As one example, the Public Utility Districts plan for the terms of the HCPs to be wrapped into at least one relicensing process for each of the three hydroelectric projects at issue, though this intent is based on an agreement of the parties to the HCPs that now does not exist. The DEIS contains no discussion or analysis of whether the HCPs would independently satisfy the Federal Power Act (FPA) requirements for equal consideration, protection, mitigation and enhancement, which are all standards that would be need to be addressed at relicensing pursuant to the FPA. See 16 U.S.C. §§ 803(a), 803(j). Additionally, because each of the projects would be relicensed during the term of the HCPs if put into place, and thus would presumably be incorporated into their license terms and conditions, the Public Utility Districts may believe that they will receive 50+ years of protection under the HCPs and similarly long-term licenses. The DEIS must address this with the understanding that the YN would likely insist on a traditional relicensing process and assert that the HCPs fail to satisfy FPA requirements.

25 The proposed HCPs also affect tribal trust resources over a long period of time, so the analysis of impacts on species must also include compliance with treaty reserved rights – including rebuilding to sustainable, harvestable populations over and above what would be required for de-listing under the ESA. As NMFS' own salmon recovery policy provides, "It is our policy that the recovery of salmonid populations must achieve two goals: (1) Restore salmonid populations to the point where they no longer require the protection of the ESA, and
26 (2) restore salmonid populations to a level that allows meaningful exercise of tribal fishing rights. McElhany, P., M.H. Ruckelshaus, M.J. Ford, T.C. Wainwright, and E.P. Bjorkstedt. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-42,156 p. 34 (hereinafter "NMFS VSP"), citing (Garcia 1998). The DEIS therefore must provide analysis of the alternatives under the laws referenced above and examine recovery and rebuilding consistent with the NMFS policy.

The Public Utility Districts also plan for the HCPs to constitute a settlement of the Mid-Columbia Proceeding, which is under the continuing jurisdiction of an administrative law judge of the Federal Energy Regulatory Commission, so the DEIS should take into consideration the opportunities, function and protection provided under the Proceeding and all settlements that

27 have been entered into (the Wells Settlement Agreement, the Rock Island Settlement Agreement, and the past stipulations for Rocky Reach). The existing status of interaction among the parties under the Mid-Columbia Proceeding make up part of the current situation, yet are not thoroughly addressed in the DEIS under the No Action alternative, nor under the other alternatives.

28 The DEIS also neglects to provide sufficient consideration of Clean Water Act requirements for water quality and quantity. Though the DEIS recognizes that the hydroelectric projects at issue have negative impacts on water quality, mainly increased total dissolved gas levels, the DEIS contains minimal discussion of mitigation for such impacts. The only proposed solution that the Public Utility Districts offer is reduced spill. See DEIS at 2-46. The Tribe finds this to be an inadequate solution because spill is one of the most effective methods of safely passing juvenile fish through the projects. Other solutions should be fully explored and addressed across all of the alternatives. The DEIS also recognizes that the projects are exceeding Clean Water Act temperatures, see DEIS at 3-96—3-100, yet the DEIS contains little information about how this problem could be addressed under the alternatives. The DEIS must therefore address Clean Water Act requirements and how such requirements – for both quality and quantity – may be met under the parameters of the HCPs and under the other alternatives.

29 Another legal issue not mentioned in the DEIS is whether or not Section 10 of the ESA is an available option to the Public Utility Districts for Section 9 takings protection or whether Section 7 of the ESA is instead the proper vehicle. When the YN first entered into negotiations with the Public Utility Districts on the HCPs, the Tribe had questions about whether or not Section 10 was an available option, but the Tribe's concern at the time was the substance of the negotiations. The parties never addressed the procedural issue. The YN assumed that if a deal could be negotiated, the parties could find the proper vehicle to make it work. We believe, however, that this stage of environmental review is the appropriate time for such an analysis to be completed.

30 The YN understands that the Section 10 permit process is available to non-Federal entities but is not available to Federal landowners such as the United States Forest Service. As the NMFS' and USFWS' HCP Handbook explains at page 1-4, the HCP process is "designed to address non-Federal land or water use development activities that *do not involve a Federal action* that is subject to section 7 consultation." (emphasis added). Furthermore, it provides, "Federal activities and non-federal activities that receive Federal funding or require a Federal permit (other than a section 10 permit) typically obtain incidental take authority through the consultation process under section 7 of the ESA. *Id.* Hydroelectric projects, though owned by a non-Federal entity, are intertwined with extensive federal actions, including licensing, conditions, rates, and generation. The YN believes that the DEIS must address the applicability of Section 10 to the Public Utility Districts' projects in order to determine whether Alternative 3 may even be chosen as the preferred alternative.

The DEIS Lacks Meaningful Analysis of Survival, Recovery and Rebuilding

31 Under Section 10 of the ESA, an HCP must explain the impact that the proposed take will have on listed species. 16 U.S.C. § 1539(a)(2)(A)(i). See also 50 C.F.R. §§ 17.22(b)(1); 17.32(b)(1); 222.22. Under the National Environmental Policy Act (NEPA), agencies are

required to take a "hard look" at the consequences of their actions before acting. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 249 (1989). This requires more than broad or general statements about risk, especially when more detailed information could be provided. See Neighbors of Cuddy Mountain v. United States Forest Service, 137 F.3d 1372, 1380 (9th Cir. 1998).

32 The YN believes that the DEIS fails to take the required hard look at impacts on
anadromous fish and other trust resources. Neither the HCPs nor the DEIS present adequate
quantitative detail of how listed species would be impacted by the HCPs. Furthermore, the DEIS
33 does not do so under the other alternatives. The DEIS mentions the Quantitative Analysis Report
(QAR) conducted by the NMFS, but does not incorporate the analysis into the alternatives. The
reviewer of the DEIS is left without any idea of how each of the alternatives actually compares
in terms of survival and rebuilding benefits.

34 In the discussion of the No Action alternative, the DEIS states, "[e]xisting measures
however, may not prevent the extinction of listed species." DEIS at 2-49. However, the
discussion of the other alternatives fails to provide analysis of whether or not they will be an
improvement and not also lead to extinction. The DEIS states that implementation of the HCPs
would result in an increase in survival levels, but fails to explain what that means in terms of
ESA standards or FPA requirements. DEIS at 4-39. According to NMFS's own data in the
35 QAR, measures in addition to those set forth in the HCPs will be necessary for recovery, yet
such information is not adequately addressed or analyzed in the comparison of alternatives. The
QAR report at ii states, "Even under the most optimistic scenarios . . . regarding future survival
rates and the effectiveness of supplementation, additional survival improvements beyond those
projected for the draft HCP actions would be necessary to achieve extinction risk/recovery
criteria." This information should be analyzed in the DEIS.

36 The DEIS also does not account for the QAR's statement that meeting the HCP standards
and off-site mitigation "would fall short of meeting survival and recovery criteria under the
assumptions that 1980-present conditions will continue." QAR at iii. Therefore, according to
the QAR, additional measures are going to be required for recovery, but such measures are not
required or allowed by the HCPs. If something more than the HCPs is required, then Alternative
2 would be the only avenue for providing it. The DEIS must address this omission and include
meaningful analysis across all of the alternatives.

37 As NMFS provides in the "Recovery" section of the NMFS VSP, the NMFS, States,
Tribes and many other stakeholders have an interest in the recovery of salmon populations to the
level that the populations can support "sustainable harvest or other 'broad sense' recovery goals."
NMFS VSP at 34. NMFS provides that where a certain level of harvest may have an affect on
the population's sustainability, NMFS could use VSP guidelines "to help determine the
population abundance, productivity, diversity, and structure that would be required." *Id.* The
YN would accordingly like to see the NMFS take into consideration the factors that led to the
initial decline of the salmon and provide analysis that examines the impact that the various
alternatives would have on the sustainability of the salmon populations and the ability of such
populations to meet broad (beyond mere ESA) recovery goals.

The Geographic Scope of the DEIS is Inadequate

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Use of the proper geographic scope in an environmental impact statement is paramount to assuring that the consideration of effects on the environment are adequately considered and addressed. The scope of environmental review is supposed to take into consideration three types of actions: (1) actions that may be connected (includes actions that are closely related, would trigger other actions that require environmental review, or interdependent parts of a larger action); (2) cumulative actions; and (3) other similar actions (those that have reasonably foreseeable similarities, such as timing or geography). 40 C.F.R. § 1508.25. Under this requirement for determining scope, it is apparent that the scope of the DEIS is too limited.

Consistent with the concepts of aquatic systems and the operation of hydroelectric projects, the scope of the environmental review in the DEIS should at least include tributaries in the mid-Columbia Basin, upstream federal projects, the Lake Chelan Dam, downstream projects operated by Grant County Public Utility District, the Vernita Bar, and the Hanford Reach. The three hydroelectric projects at issue cannot be plucked out of the geography and their impacts on downriver systems ignored. Furthermore, power operation upstream of Wells, Rocky Reach and Rock Island affect anadromous fish survival, flow management and water quality at those projects.

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In its scoping comments, the YN advocated that the scope of the review should include the entire mid-Columbia River Basin from the Yakima River to Roosevelt Lake. However, much of the benefit of salmon recovery in the Columbia Basin will accrue to the Columbia River tribes in terms of expanded harvest opportunities at usual and accustomed fishing places in Zone 6 (Bonneville Dam to McNary Dam). Accordingly, the geographic scope of the DEIS should be expanded to account for the relative effects on the proposed alternatives on treaty fisheries in this area. See also discussion of Baseline below.

The DEIS Does Not Adequately Address or Analyze Cumulative Effects

Under NEPA, an environmental impact statement must contain consideration and analysis of cumulative effects. Cumulative impacts are effects from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7.

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The YN, in its Scoping Comments on the HCPs, asked for such consideration and analysis, but the DEIS does not adequately accomplish this. See DEIS at 4-6—4-47. The Tribe believes that the NMFS should have considered factors for decline throughout the entire life histories of each species, including effects that fall outside of the geographic scope of Alternative 3. Furthermore, the analysis should have included cumulative and synergistic impacts from the

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Federal Columbia River Power Systems operations and all five of the mid-Columbia Public Utility District Dams (Wells, Rocky Reach, Rock Island, Priest Rapids, and Wanapum).

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Additionally, the results presented in the DEIS reinforce the YN's concerns that an inability to enforce operations at federal dams or to impose environmental conditions are assumed in the QAR model. Therefore, we fear that the effectiveness of the HCP measures cannot be assured. In order to effectively give consideration to cumulative effects as required by NEPA, the Tribe believes that the NMFS must provide a review and analysis of no less than what we requested in our Scoping Comments.

The DEIS Lacks a "Reasonable Range of Alternatives."

The NEPA requires that environmental review contain a reasonable range of alternatives. See 40 C.F.R. §§ 1502.14. Agencies are required to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4322(2)(E). The discussion of the alternatives is the "heart" of the NEPA process. 40 C.F.R. § 1502.14.

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The DEIS offers as its only alternatives a general Section 7 process and the HCPs (along with the No Action alternative, which we address below). The YN does not find this to be a reasonable range of alternatives to meet NEPA requirements. The YN asked for additional alternatives in the Tribe's Scoping Comments, specifically that the NMFS include as alternatives three options that cannot realistically be pursued under the HCPs: drawdown, dam removal and non-power operations. The DEIS states that these alternatives do not merit further consideration, but offers no satisfactory explanation for why these alternatives were not given analysis. DEIS at 2-45—2-48. This deficiency must be remedied and proper analysis be included in the environmental review, particularly in light of the NMFS' findings, as reported above, that the HCPs fall short of what would be required for ESA survival and recovery, let alone what is required under the United States' trust obligation to the Tribe.

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The No Action Alternative Is Inadequate

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The NEPA requires that a No Action alternative be included in an Environmental Impact Statement. See 40 C.F.R. § 1502.14(d). However, the way in which the No Action alternative is presented in the DEIS misrepresents the existing situation and sets it up so that it cannot be given serious consideration. For example, the discussion of the No Action alternative completely omits statutory authorities at relicensing. This is particularly key relative to the Rocky Reach project, which is currently going through the relicensing process. In addition, Section 1.7.3.1 of the DEIS references the settlement agreements under the Mid-Columbia Proceeding, but the analysis of the No Action alternative does not fully describe the settlements, cross-reference them throughout, or analyze the level of species protection provided through the settlement agreements and coordinating committees. NMFS should reframe the No Action alternative so that it accurately represents the actions that may be taken under the existing license, settlement agreements and statutory authorities.

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By failing to take into consideration the activities of the coordinating committees under the settlement agreements, the No Action alternative and the DEIS in general also fail to adequately consider the interests of the Tribe, to which the NMFS has a trust responsibility. The

47 Tribe is a party to the Mid-Columbia proceeding and has a place in the coordinating committees, which allows the Tribe to exercise its involvement in co-management of the Tribe's trust resources. If the HCPs are put into place, with the idea that the HCPs will supercede these settlement agreements, the fishery-related signatories to the HCPs become a new coordinating committee. See DEIS at 1-9, 1-15. However, if the Tribe is not able to sign the HCPs due to a lack of bargained-for consideration and assurances from the federal government, then the Tribe's participation in co-managing its trust resources may be affected. This should be addressed in the No Action alternative and factored into the comparison of the other alternatives.

The Comparison of Alternatives 2 and 3 Is Inadequate

48 The DEIS creates the illusion that Alternatives 2 and 3 are very much alike and neglects to highlight the very real and substantive differences between them. The DEIS also unfairly downplays certain benefits of Alternative 2 in order to emphasize certain provisions of Alternative 3, making Alternative 3 seem like the better choice even though it may not be.

49 For example, the DEIS states that NMFS would require measures for tributary habitat improvement under Alternative 2 just as such improvement would be required under Alternative 3. See DEIS at 4-32—4-33. (Note that elsewhere in the DEIS it states that tributary enhancement is only provided by Alternative 3. See, e.g., DEIS at 4-77). However, the DEIS provides no analysis of whether the tributary habitat improvements provided through Alternative 3 are even adequate, or whether the funding proposed is adequate to accomplish what is
50 necessary for ESA requirements. The DEIS also does not discuss whether greater protection could be provided under Alternative 2, as it most likely could were it needed to provide a measurable benefit to the fish.

51 The DEIS downplays Alternative 2 and underscores Alternative 3 by asserting that Alternative 2 would only protect ESA-listed fish while Alternative 3 would provide additional protection for non-listed species. However, measurements under Alternative 3 are likely to use target species to represent the level of protection being provided to the other species. See DEIS at 2-41 (discussing the PUDs proposed use of "representative survival studies" on yearling Chinook and steelhead). Given the complications with measuring survival of listed as well as non-listed species, the level of protection provided under either alternative is likely to be gauged off of target species. See discussion of measurement and evaluation below. Furthermore, non-listed species such as lamprey and sturgeon, which are not included in the HCPs, would need to
52 be considered at relicensing under the Federal Power Act and are currently taken into account by members of the Mid-Columbia coordinating committees. Listed species, such as bull trout, are also not covered by the HCPs, but would have to be addressed under Alternative 2, and
53 Alternative 3 would most certainly affect USFWS' ability to meet its federal responsibilities for that and other listed species not covered by the HCPs. Therefore, it is not accurate to assume that Alternative 3 will provide a broader range of protection than the other alternatives.

Another concern that the Tribe has with the DEIS is that it repeatedly asserts that Alternative 2 would be thwarted by indefinite delays. See, e.g., DEIS at 1-15. Because the DEIS uses "the speed at which each alternative could be implemented" as criteria for comparing

54 Alternatives 2 and 3, DEIS at 2-49, it appears that the "indefinite delays" are used to weigh against Alternative 2 in favor of Alternative 3. However, the YN believes that "indefinite delays" under Alternative 2 are theoretical and impracticable, and as such, should not be used to justify a decision in favor of Alternative 3. The absence of protection from the Section 9 takings prohibitions could be a significant motivator for the Public Utility Districts to seek Section 7 protection in the absence of a Section 10 permit. Furthermore, Alternative 3 may likewise suffer theoretical delays if the tools used by the Public Utility Districts in the HCP toolbox fail to provide improvement in survival and recovery or if the Public Utility Districts believe they have met a standard or wish to use a specific tool even though all others disagree,¹ yet such delays are not factored into the analysis of Alternative 3.

55 Finally, the Tribe believes that the DEIS improperly includes drawdown as an option under Alternative 3, which further attempts to blur the distinction between Alternatives 2 and 3, though drawdown is really only an option under Alternative 2. We discuss this further below.

Under Alternative 3, the DEIS Should Address Limits on Statutory Authorities and the Trust Responsibility.

56 The HCPs that make up Alternative 3 may place significant limits on the statutory
57 authorities of federal agencies and on the ability of such agencies to comply with their trust
responsibility to the Tribe, yet the DEIS fails to consider or assess these limitations. For
example, under the dispute resolution provision of the HCPs, the NMFS's decision-making
authority on scientific information is forfeited to a neutral third party. Furthermore, the No
Surprises assurance prohibits NMFS and other agencies from exercising authorities and
responsibilities by pre-determining what measures are required and prohibiting the imposition of
additional mitigation.

58 If NMFS chose Alternative 3 as its preferred alternative, NMFS would predetermine the
operations of the hydroelectric projects before the FERC could determine whether the amended
or new license it issues complies with the Federal Power Act and FERC's trust responsibility. At
relicensing, all of the participating state and federal agencies, such as the Washington
Department of Ecology, FERC, USFWS, and the Bureau of Indian Affairs, would be constrained
from exercising their statutory authorities to require what they believe is necessary for
protection, mitigation and enhancement under the Federal Power Act or for meeting their trust
obligation to tribes. These limitations on the authorities and responsibilities of other agencies
should be addressed in the DEIS.

¹ As a case in point, the Tribe's representatives (and others as well) on the Mid-Columbia Coordinating Committee (MCCC) are currently experiencing difficulty with Chelan Public Utility District, who asserted at an April 2001 MCCC meeting that it can meet a 95% survival rate by operating its bypass system, providing a \$5 million habitat mitigation fund, and generating electricity with water that would otherwise be used for spill. The Tribe's representatives have been given very little to no input on the decision-making and have asserted that there is no scientific information being presented to demonstrate that Chelan has reached a reasonable conclusion. Thus, if history is any indication, Alternative 3 is likely to be thwarted by even greater delays than those imagined under Alternative 2.

The No Surprises Assurance Is Inappropriate for These HCPs

The No Surprises rule was adopted in order to provide certainty for landowners that additional land or other mitigation (financial resources) would not be required of them for the protection of listed species except in "extraordinary circumstances." Instead, the obligation for providing the necessary, additional mitigation would rest with the federal government or other non-federal landowners who lack their own similar assurances under the ESA. For example, if non-federal landowner "A" has an HCP that fails to provide adequate habitat for spotted owls, Landowner A's neighbors, the United States Forest Service and non-federal landowner "B," would have to keep their lands available for the habitat needed by the owls.

In the aquatic situation such as the Mid-Columbia HCPs, however, there are no "neighboring landowners" to be responsible for habitat or other protective needs. For example, even if the federal projects upstream and the non-federal and federal projects downstream of the Chelan and Douglas were required to provide 100% survival in order to make up for declines allowed by the HCPs, the fish and the water nevertheless must pass through the Chelan and Douglas projects. To roughly translate this to the land-based HCP as outlined above, it would be as if Landowner A's HCP allowed him not only to destroy owl habitat, but to shoot at all owls that flew over his property on their way to the habitat being preserved by the United States Forest Service and Landowner B.

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The river and the hydroelectric system are so interconnected that there are not adequate "neighbors" to make up the difference if needed by the anadromous fish. The Tribe is concerned that the application of the No Surprises assurance to a river-based HCP may result in the NMFS seeking to restrict the Tribe's fisheries. However, the Tribe would view this as a breach of fiduciary duty and a violation of federal case law. Therefore, the DEIS should provide an analysis of the feasibility of the No Surprises assurance to the HCPs and the extent to which shortcomings in protective measures could be met, keeping in mind the federally recognized and protected resource rights of the Tribe and the United States' trust responsibility.

No Net Impact Under Alternative 3 is Misrepresented in the DEIS

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The YN believes that the "100% No Net Impact" (NNI) standard of the HCPs in Alternative 3 is misrepresented in the DEIS, which fails to take into account recent scientific information. NNI represents 91% dam passage survival (which includes a 95% juvenile dam passage survival component) and 9% mitigation (7% via hatchery compensation and 2% via tributary improvements). The 100% NNI concept was created with the idea of making the dams "invisible" to the fish. The concern that the Tribe expressed in its Scoping Comments is that the components of NNI do not add up to 100% because the gains in survival may be exponentially additive but not linearly additive, and the components consist of different "currency" by mixing juveniles with adults.

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The 9% mitigation requirement fails to assure the benefits that it is presumed to provide. The parties to the HCPs are not even thinking about measuring the 2% habitat component, but instead plan to just assume that the funds will provide a 2% benefit. There has been no analysis

of whether the proposed funding levels will be capable of providing the presumed benefit. The 2% number is in fact pure fiction. The YN is very concerned that the funding levels are inadequate. The bulk of the funding for the tributary plan was to come from Grant County Public Utility District when it was involved in the HCP negotiations. Once Grant pulled out of the process, the total amount of the tributary fund was greatly reduced, even though it started out much lower than many of the fishery parties thought necessary to confer a 2% benefit.

Subsequently, Douglas County Public Utility District's share of the funds may be reduced in half of what it originally proposed to provide. In the YN's opinion, the tributary fund is thus left much under-funded. In its Scoping Comments, the Tribe requested a watershed analysis to further explore this concern. The DEIS should provide such an analysis in order to determine whether the funding will provide the needed benefit.

There also exists a lack of certainty regarding the 7% hatchery compensation level. If the Public Utility Districts are not allowed to meet the 7% component through hatcheries, then there will be a deficit in the required mitigation. NNI would not be achieved, but the HCPs would allow the hydroelectric projects to continue taking fish. The DEIS takes this in account in some places, but fails to address it in others, and the lack of obtaining the 7% is not factored into any analyses of Alternative 3 that we could locate. The DEIS also fails to provide evaluation of the adequacy of the proposed mitigation plan as the Tribe requested in its Scoping Comments.

Further, there is reason to believe that adult losses are much greater than the 2% estimated, yet the HCPs require mitigation for only 2% through either habitat or hatchery, neither of which are guaranteed. The DEIS should provide analysis of actual adult losses, examine the adequacy of the adult passage plans, and address mitigation for adult losses under the various alternatives.

Despite the lack of analysis and the problems with the concept of 100% NNI, the DEIS frequently states that the HCPs "guarantee 100 percent no net impact for each of the Plan species." See, e.g., DEIS at 2-54 (emphasis added). The DEIS also lacks any analysis as to whether 95%, 91% and 100% NNI will meet ESA requirements and the requirements for protection, mitigation and enhancement under the Federal Power Act. These and other concerns about the NNI standard were set forth in the Tribe's Scoping Comments, but were not considered or analyzed in the DEIS as requested. The Tribe hereby reiterates its request that these NNI issues be addressed in the DEIS, as well as the following:

- Assess potential impacts on species within the first five years of the HCPs, during which time the NMFS and USFWS cannot prescribe or preempt the plans of the Public Utility Districts;
- Analyze and explain the biological basis for the draft HCPs' assumption that 91% survival + 7% hatchery mitigation + 2% tributary mitigation are additive to guarantee zero impact on the species;
- Examine the relationship between the NNI standard and long-term stock viability;

- 71 • Analyze whether or not the proposed measurement of the performance standard for 95% Juvenile Dam Passage Survival, by measuring juvenile survival over only 95% of the run, ensures a juvenile passage mortality of only 5% such that the draft HCPs address full mitigation for take;
- 72 • Examine passage impacts to anadromous fish and lamprey and descaling injuries (particularly on sockeye) if screens are installed and assess whether such impacts are accounted for within the NNI standard;
- 73 • Determine what impacts may occur during the time period that elapses before the Public Utility Districts actually meet the proposed survival requirements and analyze whether those impacts can or will be appropriately mitigated;
- 74 • Determine impacts on the species should the survival goals never be reached during the term of the HCPs;
- 75 • Assess impacts on spring migrating Chinook salmon if exempted from 95% Juvenile Dam Passage Survival as planned (See Wells Agreement at Sec. IV(1)(b)); and
- 76 • Provide an accurate evaluation of losses and determine whether the mitigation proposal is supported by adequate data to ensure no unmitigated take.

SPECIFIC COMMENTS

Drawdown

77 The YN is very concerned about the misrepresentative nature of the DEIS' references to drawdown in the comparison of the alternatives. The DEIS states that the Public Utility Districts, the NMFS and the USFWS can mutually agree to drawdown (or dam removal or non-power operations). See, e.g., DEIS at 2-33. This is true under the HCPs *only if* NNI has not been achieved and maintained after 20 years has elapsed but the Public Utility District is otherwise in compliance with the Section 10 permit. See, e.g., Wells Agreement at Sec. II(2)(a)(ii). Furthermore, the topic of agreement among the Public Utility District, the NMFS and USFWS is not to *implement* drawdown, but to allow the NMFS to pursue such a measure. See id. There is *no* ability to use drawdown even if, though NNI has been achieved, the anadromous fish resource is not rebuilding and the Public Utility Districts' hydroelectric projects are a significant factor in the failure to rebuild. See id. at Sec. II(2)(a)(i).

78 Instead, the HCPs provide, under the Assurances sections, that drawdown is precluded from consideration: "[E]ach Party during the term of this Agreement *will not advocate for or support* additional or different fish protection measures or changes in Project structures or operations other than those set forth in this Agreement. This Agreement *does not include* as Measures: partial or complete *drawdowns*, partial or complete dam removal, and partial or complete non-power operations." See, e.g., id. at Sec. IX(10) (emphasis added). Furthermore, the Public Utility Districts party to the HCP negotiations were adamant that none of the other parties to the HCP negotiations even breathe a word about drawdown, to the extent that the parties joked that they could not say the word "drawdown" at a cocktail party. Thus, based on the intent of the Utility Districts and the language of the HCPs, drawdown is not at all an option under Alternative 3.

79 By lumping drawdown into Alternative 3, even though the HCPs basically forbid its use, and pretending that Alternative 3 is no different on this issue than Alternatives 1 or 2, blurs one of the more substantive distinctions among the alternatives. The YN opposes the NMFS's approach on this issue.

80 Furthermore, the DEIS states that drawdown could not be required under Alternative 2 except at the time of relicensing. DEIS at 4-29. If the NMFS requires drawdown as a reasonable and prudent alternative under the Section 7 process, but the license is not amended to include the drawdown requirement, then the Public Utility Districts would be in violation of the ESA. Perhaps there is a reason why drawdown can be required only at relicensing, but the Tribe is not currently aware of such. The YN thus requests a detailed explanation. Even if the DEIS is correct, the possibility of drawdown exists for each of the three projects under Alternative 2 because all of them will be relicensed at some point during the next 50 years (which would be the term of the HCPs).

81 Drawdown must therefore be given serious consideration under Alternative 2 and should also be analyzed as its own alternative as the Tribe requested in its Scoping Comments. The YN understands that the DEIS finds drawdown to be an unrealistic alternative, DEIS at 2-48, yet such a blanket statement without any discussion or analysis is inadequate. Additionally, the emphasis that the DEIS places on the ability to use drawdown as a tool under Alternative 3 (though false) indicates that it is not as valueless as it is made to seem under the other alternatives. These problems with the approach to drawdown must be accurately resolved in the revisions to the DEIS.

Measurement and Evaluation of the HCP Permit Obligations

The YN believes that the measurement and evaluation provisions of the HCPs are key to determining whether the Public Utility Districts are meeting the permit obligations and what impacts the dams are having on the anadromous fish resource. However, there are no methods to which the parties agreed for measuring the standards or for what species and life histories to study. The DEIS states, "There is currently no methodology that all parties support for determining the survival of adult fish through the projects." DEIS at 2-41.

82 If measurement and evaluation cannot at least initially be decided, it could result in years of delay where the Public Utility Districts fail to actually meet the standard but are allowed to take species nonetheless. Similarly, there is no standard or method for measuring the "steady process" required within the first five years of the HCPs. Due to the uncertainties in measuring
83 the standards, and the assumption of certain components of NNI (see above), it could be next to impossible to determine whether or not the Public Utility Districts are achieving the proposed NNI standard on which the permit would be based. The DEIS should squarely address this issue.

Baseline

84 The YN believes that the DEIS must discuss the impacts that Alternative 3 would have on the Tribe's treaty resources. In order to do so, it is imperative that the baseline from which the improvements or impacts are measured is proper. However, the DEIS uses Alternative 1 as the

baseline condition, DEIS at 2-22, which fails to account for whether existing mitigation or compensation levels are adequate and presupposes that existing degraded conditions do not need to be considered.

The DEIS states,

Mitigation measures for these impacts have already been implemented as part of the existing licenses. Prior activities are not considered an action subject to additional mitigation beyond license requirements unless they are considered to cause a continuing "take" of a listed species as defined under the [ESA]. Existing hatchery production levels are initially assumed to provide adequate compensation for original inundation by the projects. Therefore, the baseline is considered to be the existing conditions. These baseline conditions also form the basis for determining what effect continuation of the existing conditions would have on listed species. The baseline conditions that existed as of January, 1997, would be used to determine if progress were being made to increase the survival of the Plan species through the implementation of the HCPs.

DEIS at 2-23.

- 85 The YN disagrees with the DEIS's assumptions. Use of the currently degraded environment as the measuring stick for determining what harms and benefits the alternatives will have on treaty resources fails to take into consideration the fact that the development of the hydroelectric projects set in motion a decline in fish populations that is still being felt in the Basin and that is still negatively impacting tribal trust resources. Instead, the Tribe requested in its Scoping Comments that the DEIS use a natural river baseline. The 1995-1998 Biological Opinion on the Federal Columbia River Power System, drafted by NMFS, was of the opinion that an accurate baseline relative to considerations about hydroelectric dams examines continuing effects of previous degradations. It defines the environmental baseline as the effects of the proposed action as added to past and present impacts of all Federal, State, and private activities in the action area, which is itself defined as all areas directly or indirectly affected by the federal action and not merely the immediate area involved in the action. See Biological Opinion at 12. As NMFS has done in the past, it should recognize in the DEIS that the nature and extent of ongoing impacts must be analyzed in a systematic way.
- 86

Lamprey and Sturgeon

- 87 The YN believes that lamprey and sturgeon should be given greater consideration in the DEIS. Comments about lamprey and sturgeon are sprinkled throughout the DEIS, but the analysis of the impacts or benefits to these species is inadequate.

- 88 For example, the DEIS states in general terms that lamprey and other species (trout) are "expected to benefit" from the tributary improvements that would take place under the HCPs, but the DEIS contains no data or analysis to support such an assertion. Though not a species listed under the ESA, Alternative 2 may have benefits or impacts on lamprey, which are not mentioned

in the Environmental Consequences discussion about Alternative 2. Because lamprey are an important part of tribal culture and a subject of the federal government's trust responsibility, the Tribe is very concerned that such a species receives so little attention in the analysis.

89 Sturgeon is likewise given very little attention in the DEIS. Though listed as a resident
fish resource, DEIS at 3-47, it is not discussed under the life histories section, DEIS at 3-47—3-
90 52, and is not even cross-referenced in the Environmental Consequences Sections that address
fishery resources under Alternatives 2 or 3. Though little may be known about lamprey and
sturgeon, as the DEIS suggests, DEIS at 4-27—4-28, consideration of the impacts and benefits to
these species, based on analysis, should be included under all of the alternatives.

Long-Term Risks

91 The YN is concerned that not enough deliberation has been given to the long-term risks
of Alternative 3. See DEIS at 4-77. We believe that NMFS should place greater weight on the
risk of uncertainty over the 50-year period of the proposed Section 10 permit, especially because
92 the NMFS recognizes the "limits of existing information." *Id.* NMFS should also assess the lack
of ability to apply greater protective measures relative to long-term risks given the No Surprises
assurance. Even though the HCPs contain adaptive management provisions, the framework of
the HCPs is locked in for 50 years and the federal resource agencies will be prohibited from
requiring higher survival levels if needed and if technology allows.

93 The DEIS also fails to assess the consistency of the alternatives under the concept of a
normative river and multi-species restoration, determine risks posed through a probability of
assumptions being mistaken over long periods of time, address how the alternatives may select
against certain species and life histories, and examine opportunities for and feasibility of
reintroducing Coho. The Tribe requested in its Scoping Comments that these risk issues be
addressed in the DEIS and reiterates its request here.

Measures for Adult Fish

94 The HCPs fail to adequately address adult passage and survival standards and measures,
which are in turn inadequately addressed in the DEIS. The adult anadromous fish issue was a
significant sticking point during the HCP negotiations, with the result being inadequate
provisions for adult in the HCPs. Though the HCPs take into account some adult losses (an
assumed 2% that figures into the 9% mitigation component of No Net Impact), the actual amount
of adult losses has not been quantitatively measured. Such a lack of measurement is likely to
allow the Public Utility Districts to ignore operational and structural fixes under Alternative 3
that could be made at their projects to benefit adults. This factor should be taken into account in
the DEIS analysis and comparison of the alternatives, particularly because returning adults that
make it to the spawning grounds contribute significantly to the next generation of juveniles.
95 Adults must not be forgotten or ignored in the environmental review. Furthermore, under each
of the alternatives, the DEIS should provide a discussion and analysis of measures and standards
that could increase adult passage survival, such as improved passage time, reduction of adult
fallback rates, and limits on power peaking operations.

Summer/Fall Chinook

96 | The Tribe believes that the DEIS should not lump the summer and fall Chinook together as one species. Under the HCPs, at the request of the tribes participating in the negotiations, the parties made a conscious decision to list the species separately. For example, the Wells Agreement defines "Plan Species" as "spring, summer and fall Chinook salmon." Wells Agreement at Sec. XIII(11). The Tribe has previously provided extensive comments to the NMFS on the proposed listing of summer Chinook demonstrating clear distinctions between summer and fall Chinook in run timing, spawning locations and flesh quality. Yakama Nation. 1993. Comments on the Proposed Listing of Mid-Columbia Summer Chinook Salmon Under the Endangered Species Act. Yakama Nation Fisheries Resource Management Program. p. 19. The YN thinks that the analysis contained in the DEIS regarding effects on the species should thus treat each race as independent of the other.

Evolutionarily Significant Units (ESU)

97 | The DEIS fails to clearly identify the standard by which the status of the ESU is
98 | measured. We understand that NMFS has established by rule that the Upper Columbia River
99 | (UCR) spring Chinook ESU is comprised of naturally-spawning spring Chinook returning to
tributaries above Rock Island Dam, and UCR steelhead as those above Priest Rapids Dam. The
DEIS appears to establish separate measures and standards for the recovery of three tributary
populations in the Wenatchee, Entiat, and Methow rivers. The geographic place and biological
terms that will be used to measure progress toward recovery of these ESUs should be clearly
described, along with any applicable law or policy. The YN also requests that the NMFS
provide an explanation of its authority to manage units smaller than the ESUs.

Economic Impacts on Tribes

100 | Section 3.7 of the DEIS addresses socioeconomic impacts on populations, employment
and income. However, the Tribe believes that consideration should be given to the impacts on
Tribes for loss of fishing due to reductions in the Tribe's treaty resource. The wealth of salmon
that the Tribe used to enjoy has been redistributed to non-tribal persons or entities in the form of
irrigation, navigation, and flood control, to name a few. This redistribution has resulted in
significantly high poverty rates and death rates for tribal members above those of the non-Indian
population or non-tribal communities. See CH 2 M Hill. 1999. Human Effects Analysis of the
Multi-Species Framework Alternatives (prepared for the Northwest Power Planning Council).

101 | Specific to the mid-Columbia hydroelectric projects, the dams have been recognized as
taking away sustainable wealth from the tribal people. Id. The YN's tribal members now take
less than 10% of the fish that they used to take in traditional salmon harvests, which significantly
contributes to the YN's low per capita income (43% of that of the State of Washington) and high
poverty levels (42.8% compared to 10.9% in Washington). Id. Every juvenile salmon that
survives the hydroelectric system and returns as an adult brings back to the Tribe some of the
river's wealth for tribal economy and culture. The DEIS alternatives must therefore be evaluated

as to their effects on tribal culture and economics, and their ability to redistribute the river wealth back to tribal peoples.

Scoping Comments

The YN wishes to incorporate by this reference anything not specifically addressed in these comments, but addressed in the Tribe's Scoping Comments filed in conjunction with the Columbia River Inter-Tribal Fish Commission and the Confederated Tribes of the Umatilla Indian Reservation. The comments were filed on February 5, 1999 and are part of the Scoping record. We also point out that the Tribe has not yet received a response from the NMFS on its Scoping Comments, which were never specifically addressed in the scoping meetings.

CONCLUSION

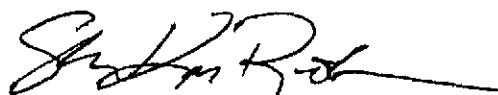
Based on the above comments, the YN believes that the NMFS should immediately withdraw the DEIS. The HCPs need finalization before environmental review should take place. At the least, the DEIS is in need of significant revisions and additions as described above. In the meantime, the YN believes that the only option available is to immediately begin Section 7 consultation in order for the Public Utility Districts to receive protection under the ESA. Furthermore, the stakeholders in the region should be allowed to participate in the relicensing of the Rocky Reach project without the constraint of the HCP, since there is a complete lack of closure and absence of an agreement.

We again thank you for the opportunity to present the comments of the Yakama Nation on the DEIS. If you have any questions, please contact Tim Weaver at 509/575-1500, Starla Roels at 503/242-1745, or Steve Parker or Bob Rose at 509/865-6262.

Sincerely,


by SKR

Tim Weaver, Esq.
Attorney for the Yakama Nation



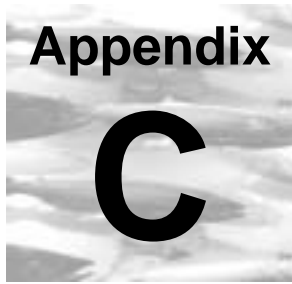
Starla Kay Roels, Esq.
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cc: Randy Settler, YN Executive Committee
Steve Parker, YN Hatcheries Manager
Bob Rose, YN Env'tl. Biologist
Bob Heinith, CRITFC
Susan Fruchter, NEPA Coordinator

Yakama Nation (YN)

Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹	Comment #	NMFS Reference #¹
1	19	37	31, 41	73	22
2	49	38	6	74	22
3	19, 44	39	55	75	28
4	47	40	6	76	41
5	44	41	6	77	24
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¹ see Appendix C



NMFS Responses to Comments

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Appendix C

Response to Comments

Water Quality

Comment 1 *Several commenters questioned the statement that the Mid-Columbia River projects have limited influence over water temperatures in the reach. They requested data to document the potential influence of the projects on water temperature and travel time, as well as monitoring requirements under the action alternatives to determine the potential effects on critical habitat and fish survival. It was also suggested that operational changes or changes to the water release schedule at Grand Coulee Dam could be used to regulate water temperatures.*

Response 1 Statements about the influence of Mid-Columbia River hydroelectric projects on water temperatures were based on literature cited in FEIS Section 3.3.2.1, Project Area. The spatial and temporal distributions of temperatures within the Mid-Columbia River were examined in the Rocky Reach reservoir during the critical period of August 2000 (Parametrix, Inc. and Thomas R. Payne & Associates 2002). Vertical profile measurements in different areas of the reservoir confirmed the absence of thermal stratification, as expected in these run-of-the-river reservoirs. Even in the forebay, the deep waters were no more than 0.3° C cooler than surface waters. Because the Mid-Columbia River reservoirs do not provide storage, the waters are well mixed and temperatures are relatively uniform. Also, the temporal differences between daily minimum and maximum temperatures were rarely more than 1° C. Because of the lack of temperature variability within the reservoirs, modifications to Mid-Columbia River dam operations would not have a substantive effect on the water temperature regime. Although the operation of Grand Coulee Dam is outside the scope of this EIS and the alternatives, revisions regarding Grand Coulee operations and cold water releases were made to FEIS Section 3.3.1.1, Project Area. The greatest degree of modifying dam operations, reservoir drawdown, is addressed under Alternative 2 (FEIS Section 4.3.2.2, Alternative 2), and measurable changes in water temperature were not expected to occur.

There are no reliable pre-dam temperature data to determine if the observed differences are a natural function of solar warming or are in some part attributable to the reservoir operations. Chelan County PUD has recently begun a project to model water temperature conditions in Rocky Reach reservoir to provide more information on this issue. Pre-project temperature conditions will be modeled by re-creating historic width-to-depth ratios for this Columbia River reach and examining the change in topographic shading effects from lower water levels. Water quality monitoring would be the same for all alternatives, as none of the alternatives would affect the requirements of meeting Federal or State water quality standards. Rocky Reach water temperature monitoring data has been added to FEIS Section 3.3.2.1, Project Area.

Flushing rate data were added to FEIS Section 3.2.10.2, Project Area Rearing. Beak Consultants, Inc. and Rensel Associates (1999) reported mean flushing rates of 1.5 days in the Wells Dam reservoir and 1.8 days in the Rocky Reach reservoir. Average travel time in the river without the dams is unknown; however, the increased size of the river cross-section resulting from raising water levels upstream from the dams reduces river velocities. Chelan County PUD (1991) estimated that a 3-foot increase in the Rocky Reach reservoir elevation would result in velocity reductions of 0.04 to 0.06 feet per second, depending on river flows. Therefore, increased travel times through each of the reservoirs since construction of the dams is likely on the order of hours rather than days.

Although there is no ability to spill colder deep waters at Grand Coulee, relatively cool water is released through the turbines, which reduces maximum summer temperatures. However, diverting generation to Grand Coulee is outside the scope of alternatives evaluated in this FEIS. Creating shade at the mouths of tributaries is an option for review by the tributary committees in identifying projects to fund through the Tributary Conservation Plan.

Although the DEIS included a discussion of critical habitat that was designated for spring-run chinook salmon and steelhead in the Mid-Columbia River region, Judge Colleen Kollar-Kelly of the D.C. District Court entered the consent decree resolving claims in the National Association of Homebuilders' litigation regarding critical habitat designations for 19 Evolutionarily Significant Units previously filed with the court. That decree vacated the critical habitat designations and remanded them to NMFS for new rulemaking. As a result, critical habitat designations no longer have independent legal significance. However, if critical habitat is redesignated prior to the full implementation of the HCPs, it will be included in the HCP biological opinions. Therefore, the adverse modification standard for essential features of critical habitat and the analysis of effects on critical habitat have been removed from the FEIS.

Regardless of the legal significance of critical habitat designations, NMFS must consider the effects on the listed species' habitat to determine whether an action is likely to jeopardize the species. In addition, the mainstem Columbia River is considered part of the Essential Fish Habitat for commercially harvested fish species covered by the Magnuson-Stevens Act. Therefore, the potential effects of the FEIS alternatives on anadromous fish habitat in the mainstem Columbia River are addressed in the FEIS.

Unlike the Snake River or lower reaches of the Columbia River, the middle reach of the Columbia River typically does not exceed 15° C prior to mid-June and rarely exceeds 20° C at any time during the summer (Columbia Basin Research 2002). Thus, any deleterious temperature effects on adult or juvenile anadromous fish or resident fish in the mainstem river resulting from the Douglas or Chelan County PUDs' projects are likely non-existent during the spring migration and negligible to extremely small during the summer and fall migrations.

Comment 2 *The EIS should explicitly state that the 120 percent saturation criterion is a special exemption for spilling water to aid in fish passage and that the criterion at all other times is 110 percent, and explain the implications. This waiver is granted because the benefits of moving fish downstream outweigh the potential impacts of total dissolved gas levels of up to 120 percent. Mitigation for the effects of spill on total dissolved gas levels or provisions for gas abatement efforts should be provided. The EIS should include upstream and downstream projects in relation to meeting the total dissolved gas water quality standards. The responsibilities and rights of the regulatory parties to enforce water quality standards under each alternative should be explained.*

Response 2 Pertinent sections of the FEIS were modified to explain the variable total dissolved gas standards (including FEIS Sections 2.3.2.1, Wells Hydroelectric Project; 2.3.2.2, Rocky Reach Hydroelectric Project; and 2.3.3.4, Rock Island Hydroelectric Project). FEIS Section 3.3.2, Water Quality of the FEIS provides more detail on water quality standards, including those for total dissolved gas. The effects of juvenile fish bypass requirements on total dissolved gas levels in the river are common to all alternatives. Neither action alternative relieves or alters any responsibility of the PUDs to meet State or Federal water quality criteria. Compliance with these laws is also a FERC license/relicensing issue, thereby providing other regulatory and management entities the ability to enforce water quality compliance issues under all the alternatives. The HCPs require the signatory parties to work together to address water quality issues (see Section 5 of the Wells HCP [Reservoir as Habitat and Water Quality] and Section 6.3

of the Rocky Reach and Rock Island HCPs [Reservoir Habitat and Water Quality), but do not establish the actions necessary to satisfy the Clean Water Act.

Upstream and downstream dams are considered in the cumulative effects of the alternatives provided in Chapter 5 of the FEIS, which includes total dissolved gas impacts. The PUDs have no control over the operation of upstream Federal projects.

Under the HCPs (Alternative 3), the HCP signatory parties recognize that total dissolved gas supersaturation is a cumulative effect of hydropower operations in the Columbia River and are committed to addressing these issues (see Section 5.3 of the Wells HCP [Reservoir as Habitat and Water Quality] and Section 6.3 of the Rocky Reach and Rock Island HCP s [Reservoir Habitat and Water Quality]). The PUDs and/or the coordinating committees would consider these restrictions when determining the appropriate measures for meeting the fish survival performance standards. Any impacts to fish survival related to exceeding water quality parameters would affect the ability to meet the total project passage survival standards set in the HCPs. In addition, any impacts to fish survival at downstream hydroelectric projects (for example, spill reductions due to increased total dissolved gas levels in the Wanapum Dam forebay) resulting from efforts to meet survival standards at the Douglas or Chelan County PUD projects would be similarly considered.

Turbidity and Erosion Mitigation

Comment 3 *Table S-3 states that if reservoir drawdown occurs, erosion and reservoir turbidity would initially increase over the short term and damage aquatic habitat conditions, with the greatest damage occurring during the first 4 to 7 years. The EIS should identify ways to mitigate these impacts if any exist. The EIS should discuss how the loss of natural turbidity due to the existence of the projects has contributed to the decline of salmon productivity.*

Response 3 The actual amount of erosion and resulting turbidity, and the consequent effects on aquatic habitat, are uncertain and were overstated in the DEIS. This has been revised in the FEIS. Moderate increases in turbidity may not have adverse effects on aquatic habitat in a river that was likely more turbid before upstream dams were built. Some areas of the shoreline are naturally or artificially armored with rock, and little erosion would be expected in those areas. More erosive shoreline areas would be seeded and/or treated with erosion control materials if drawdown occurred and excessive turbidity was predicted.

Although drawdown is identified as a potential option in the FEIS to improve fish survival rates, it is an option common to both action alternatives. As a result, a detailed evaluation of this option would not provide valuable information in the comparison of the alternatives. The FEIS also indicates that the environmental consequences related to a drawdown scenario are significant enough to require a more specific and detailed environmental review and NEPA analysis.

Comment 4 *The EIS should discuss plans to modify the projects or their operations to comply with water quality standards. Consideration of water quality effects, including opportunities for improvements, should be part of all bypass development plans.*

Response 4 None of the FEIS alternatives relieve or alter any responsibility of the PUDs to meet State or Federal water quality criteria. The use of spill may be restricted to meet the total dissolved gas criteria, to the extent necessary to achieve the HCPs' survival standards. Project operational or structural modifications made by the coordinating committees would likely consider potential water quality effects before implementation. Douglas County PUD has developed a bypass

system at the Wells Dam that reduces the amount of spill required to pass substantial numbers of fish and also meets the HCP juvenile project passage survival standard, thereby reducing the total dissolved gas levels downstream. Chelan County PUD is currently constructing a surface bypass system at Rocky Reach Dam that is expected to minimize the amount of spill needed to meet fish passage or fish survival criteria. Section 7 consultation with NMFS for this construction project was completed in 2002 (NMFS 2002a). However, evaluations at Rocky Reach Dam suggest that project operations typically result in little or no increases in total dissolved gas levels as water passes the project (Parametrix 2000b). Spill gate modifications are being evaluated at Rock Island Dam to improve fish passage efficiency while reducing spill volume requirements.

Biological Opinion and its Relationship to the EIS

Comment 5 *Several commenters suggested that the EIS should not be proceeding until the biological opinions are written for the projects. They expressed concern about being able to provide adequate review and comments on the proposed action and its effects unless the alternatives are disclosed in their entirety. If the biological opinion for the preferred alternative contains different or additional mitigation measures than what is provided in the EIS, commenters stated that a supplemental EIS would be required. It was also suggested that, if biological opinions were written for Rock Island and Rocky Reach dams, the framework of the alternatives would likely change.*

Response 5 Actions described in the FEIS represent the most likely measures to be implemented under Alternatives 1, 2, or 3 at this time. However, presupposing all potential measures or combinations of measures is not possible given the available information and the status of existing technologies. New technologies may be developed or a combination of measures not currently considered may eventually prove to be the most effective program for increasing survival of Endangered Species Act-listed or Plan species over the long-term. All of the information utilized by NMFS to reach a decision on issuance of the Section 10 permits has been disclosed in the FEIS.

Biological opinions will be issued for all dams regardless of which alternative is selected (although the biological opinions would be written at different times). The basic content would be similar for both action alternatives because the biological opinions would be based on the best available data. Many issues raised from comments on the DEIS were resolved through subsequent discussions amongst the PUDs, NMFS, and the other Joint Fisheries Parties during the fall/winter of 2001/2002. The resolution of these issues has been fully described in the revised HCPs and FEIS, and adequately identifies the most likely future alternatives for evaluation in both the FEIS and the biological opinions.

Although the additional negotiations did not result in substantial changes to the HCPs, the negotiations resulted in establishment and clarification of specific guidelines to assess and/or monitor the measures implemented at the projects to meet and maintain the standards identified in the HCPs. The negotiations also established additional and specific schedules for assessing the effectiveness of the HCPs for providing the necessary protection for all Plan species. The clarification of these issues was the direct result of comments received during the NEPA scoping meetings and the public comment period for the DEIS. The first page of each chapter in the FEIS provides a synopsis of the changes that were made and the rationale behind the changes.

Cumulative Effects

Comment 6 *The DEIS does not adequately address or analyze (1) connected actions, (2) cumulative actions, and (3) similar actions, as is required under the NEPA process. Some specific information*

requested for inclusion in the cumulative effects section was the effects of smolt outplanting on wild fish, entire life history of each species, navigational channel deepening project, a reach-based perspective, and inclusion of more fish species and more natural resources.

Response 6 The scope of the DEIS includes the three actions as described above in the comment. Connected actions occur within and between the projects. All the fish protection measures at each dam would be considered potentially connected actions and are addressed individually and collectively in the FEIS. Cumulative and similar actions (fish protection measures and environmental factors that could affect the listed species in the Columbia River system) are described in the Quantitative Analysis Report (QAR), a summary of which is included in Appendix E and Chapter 5 of the FEIS. The QAR incorporates the actions expected to occur in the Lower Columbia and Mid-Columbia River reaches (except for the hatchery supplementation provisions of the HCPs), as well as factors that affect the entire life cycle of the fish to assess cumulative and similar actions. Chapter 5 of the FEIS describes the cumulative effects analysis, which includes the hydropower projects throughout the Columbia River and the initiatives developed in the basin to address salmon and steelhead recovery.

Cumulative effects were shown for each resource in Chapter 4 of the DEIS (Environmental Consequences) under sections titled Columbia River System. To ease reader review of the cumulative effects, these individual sections have now been moved to Chapter 5 of the FEIS (Cumulative Effects). The QAR (Appendix E) includes survival through the total life history of the listed species and encompasses the overall geographic and environmental conditions that affect salmon and steelhead. This chapter includes discussions of harvest, hatchery production, habitat quantity and quality, and hydropower within the Columbia River Basin. Note that the mitigation proposed for the tributary habitat improvements represents program funding rather than specific projects. Therefore, a cumulative effects analysis for specific habitat restoration projects is not possible outside of its general benefit of improving overall fisheries habitat within the four tributaries.

Adequacy of HCPs

Comment 7 *The DEIS does not demonstrate that the HCPs are sufficient to protect anadromous fish in the Mid-Columbia River and that recovery will occur.*

Response 7 Text was added to FEIS Section 2.3.3.5, Adaptive Management, that includes a summary of how the projects affect overall survival for listed Upper Columbia River salmonids under Alternatives 1 and 2, and all Upper Columbia River anadromous salmonids under Alternative 3. The Quantitative Analysis Report (QAR) discussed in detail in Chapter 5 of the FEIS indicates that additional survival improvements in the Lower Columbia River, as well as improved egg-to-smolt and smolt-to-adult survival conditions, would be necessary to recover the species. However, QAR results also demonstrated an expectation that substantial survival improvements (16 to 25 percent for steelhead and 21 to 35 percent for spring-run chinook salmon) would occur as a result of meeting the performance standards in the HCPs. The analysis indicated an additional 6 to 10 percent survival benefit from tributary habitat improvements (assuming that the 2 percent mitigation level was achieved). Although the HCPs alone are unlikely to result in the recovery of either listed species, depending on the time period used in the model, the expected survival benefits would not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The HCPs minimize and mitigate the impacts of the taking, to the maximum extent practicable.

Under Alternative 3, the HCP measures (including habitat improvement projects in tributary streams) would be implemented quickly with greater cooperation among the HCP signatory parties, and would additionally cover other unlisted anadromous species. The revised HCPs also establish specific methods that would be used to determine survival. The HCPs include a provision that the coordinating committees would decide on appropriate changes to these methods as assessment technology advances over the 50-year term of the agreements. The revised HCPs now require that a comprehensive analysis be prepared at the direction of the coordinating committees to (1) summarize the current status of each Plan species and (2) determine whether or not the no net impact standard is being achieved for each Plan species in 2013, and every 10 years thereafter (Section 6.9 of the Wells HCP [Progress Reports] and Section 4.9 of the Rocky Reach and Rock Island HCPs [Progress Reports]). If either of these conditions is not being met and the PUDs fail to implement agreed-upon measures to achieve or maintain the no net impact standard, NMFS may revoke the permit (after 2013 for Chelan County PUD and after 2018 for Douglas County PUD) to seek actions for achievement of the no net impact standard (see Section 2.2.1.2 of the Wells HCP [Elective Withdrawal Events Enough Already] and Section 2.1.2 of the Rocky Reach and Rock Island HCPs [Withdrawal From Agreement Enough Already]).

Some actions considered under Alternative 2 may provide similar or greater benefits than under Alternative 3. However, Alternative 2 has a much greater potential for litigation among interested parties, which would likely delay implementation of the measures, perhaps until (or even beyond) the expiration of the current project licenses. In addition, under Alternative 2 it is unlikely that unlisted species would receive the same level of protection as listed species or that tributary improvement projects would be funded.

Fisheries-Related Comments

Comment 8 *Summer and fall chinook salmon should not be considered a single species.*

Response 8 The chinook salmon status review (Myers et al. 1998) describes a variety of characteristics that support NMFS's Evolutionarily Significant Unit delineations for this species, including ecological and life-history parameters. NMFS also assessed available allozyme data for the proposed Evolutionarily Significant Unit and concluded that sufficient genetic similarities existed to include summer and fall chinook in the Upper Columbia River within a single Evolutionarily Significant Unit.

Comment 9 *What is the standard by which the status of the Evolutionarily Significant Unit is measured?*

Response 9 The standard by which the status of an Evolutionarily Significant Unit is measured is defined in law. The Endangered Species Act of 1973 as amended through the 100th Congress defines endangered as meaning "any species which is in danger of extinction throughout all or a significant portion of its range." Similarly, the Endangered Species Act defines threatened as meaning "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

In making its listing determination, NMFS must consider a large body of information relating to the naturally spawned and hatchery populations within an Evolutionarily Significant Unit, such as data on population abundance, recruitment, productivity, escapement, and reproductive success (e.g., spawner-recruit or spawner-spawner survivorship, smolt production estimates, fecundity, and ocean survival rates); historical and present data on hatchery fish releases, outmigration, survivorship, returns, straying rates, replacement rates, and reproductive success in the wild; data on age structure and migration patterns of juveniles and adults; meristic, morphometric, and

genetic studies; and spatial or temporal trends in the quality and quantity of freshwater, estuarine, and marine habitats. After full consideration of this body of evidence, NMFS must make a determination, “solely on the basis of the best scientific and commercial data available,” whether an Evolutionarily Significant Unit should be listed and, if so, whether it should be listed as endangered or threatened, according to the applicable statutory definitions.

Comment 10 *The geographic place and biological terms that would be used to measure progress toward recovery of the chinook salmon Evolutionarily Significant Units should be described.*

Response 10 The scientific team responsible for developing the formal recovery criteria (the Interior Columbia Technical Review Team) was established in October 2001, and is working to provide draft recommendations for recovery criteria. However, adequate technical information is currently available for this Evolutionarily Significant Unit to provide sound preliminary abundance and productivity objectives. NMFS has provided interim targets for the Interior Columbia Recovery Domain to assist subbasin and watershed recovery planning already underway in the Columbia River Basin. NMFS’s interim spawner abundance targets for Upper Columbia River steelhead are 2,500 fish in the Methow, 500 fish in the Entiat, and 2,500 fish in the Wenatchee River. NMFS’s interim spawner abundance targets for Upper Columbia River spring-run chinook salmon are 2,000 fish in the Methow, 500 fish in the Entiat, and 3,750 fish in the Wenatchee River. In addition to these river basins, the potential for naturally spawning aggregations of both Upper Columbia River steelhead and chinook salmon in the Okanogan River will be evaluated by the Interior Technical Recovery Team.

Comment 11 *NMFS should provide an explanation of its authority to manage units smaller than Evolutionarily Significant Units.*

Response 11 The Endangered Species Act authorizes NMFS to regulate threatened and endangered species in a number of different contexts. NMFS’s authorities under the Endangered Species Act are delegated from Congress to NMFS through the Secretary of Commerce. The Secretary’s Endangered Species Act listing decisions are based on the status of distinct population segments (Evolutionarily Significant Units are the equivalent of this designation for Pacific salmon and steelhead). In addition, the Endangered Species Act prohibits the take of listed individuals within an Evolutionarily Significant Unit. Section 10 of the Endangered Species Act grants NMFS the authority to allow direct take of listed individuals for research purposes and the take of individuals incidental to otherwise lawful activities. When evaluating Federal actions pursuant to Section 7 of the Endangered Species Act, NMFS considers the impact of a proposed action on the viability of populations within an Evolutionarily Significant Unit. NMFS recognizes, based on a comprehensive review and synthesis of conservation biology and salmonid literature, that a key consideration in making a jeopardy determination pursuant to Section 7 is how many and which populations are necessary for a sustainable Evolutionarily Significant Unit. In the absence of information indicating which populations are necessary for survival and recovery, NMFS assumes that each population within a given Evolutionarily Significant Unit is essential.

Off-Site Mitigation Plans

Comment 12 *A number of commenters questioned the adequacy, appropriateness, and timing of the off-site mitigation plan. Others questioned the basis for the proposed 7 percent hatchery and 2 percent habitat mix. Data were requested to document that the 2 percent Plan Species Account was adequate, how the compensation could be verified, and how compliance could be assessed. Other commenters requested the identification of specific improvement projects to allow accurate assessments of the alternatives, how the funding process would work, and whether the Plan*

Species Account funding level could be increased with a corresponding decrease in the hatchery compensation level.

Response 12 The tributary and hatchery committees would be formed immediately following permit issuance and FERC orders modifying the project license. The Tributary Conservation Plans and the Hatchery Compensation Plans would occur simultaneously and independently to ensure that both processes are implemented as quickly as possible. Priority reaches would be determined by the tributary committees, following review and evaluation of the proposed restoration measures. The results expected from these efforts would be included in the evaluations.

The approach used to translate 2 percent mitigation into habitat improvements was determined by negotiation among the participants in the development of the HCPs, which included agencies, Tribes, and the applicants. The initial process to determine the appropriate amount of mitigation for the Plan Species Account was to evaluate the types and extent of habitat improvements that would mitigate for the presumed 2 percent adult project mortality, and then proceed to determine the overall cost to conduct these types of improvements. This amount was prorated to each project based on the estimated mortality rates. Therefore, the Plan Species Account funding levels represent compensation relative to the assumed loss of adults at each of the three projects.

Because the funding levels were a negotiated amount, there were no specific evaluations conducted to assess the exact benefits that would result from the funding. In addition, different types of expenditures are expected to have different results over different time periods. For example, buying properties to hold in trust might not show immediate or even short-term benefits, but would have long-term habitat protection benefits. At the same time, allocating money to remove or replace culverts that are partial or complete barriers to fish passage could have immediate benefits associated with opening new spawning and rearing habitat.

Because of the wide range of activities that could be funded by the Plan Species Account, it is not possible to determine the exact benefits that could be expected from the account as a whole. The negotiating parties also agreed that it is not practical or efficient to spend additional funds in an attempt to quantify the results of specific improvements, which often have subtle or long-term benefits. However, the revised HCPs provide additional funding (\$200,000 per project) to assess the general benefits of various types of habitat improvement measures to aid the tributary committees when determining how the Plan Species Account would be used. The mitigation proposed in the FEIS for the tributary improvements is the funding, not the actual projects. Off-site mitigation proposed for the projects includes ongoing hatchery supplementation. The projects to be funded have not yet been identified. The FEIS describes the types of projects likely to be funded but does not select the specific projects. This would be the responsibility of the tributary committees. Therefore, the 2 percent mitigation level and the adequacy of the funding are assumed to be appropriate for the purpose of the HCP process. The revised HCPs also include a Tributary Assessment Program (Sections 7.5 and 7.6 of the Wells, and Rocky Reach and Rock Island HCPs, respectively) to monitor and evaluate the relative performance of projects approved by tributary committees to ensure that the dollars allocated are utilized in an effective and efficient manner. See FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures.

Hatchery compensation is based on an initial estimate of 7 percent juvenile mortality through each individual hydroelectric project. This compensation level can be reduced if evaluations clearly demonstrate that project mortality is less than 7 percent. Initial hatchery production objectives are based on agreed-upon numbers that represent baseline compensation levels for the Mid-Columbia River hatchery program. The *Biological Assessment and Management Plan, Mid-*

Columbia River Hatchery Program (NMFS et al. 1998b) provides a description of the methodology and baseline numbers. In general, the initial compensation levels rely on a formula that applies a 10-year baseline of adult returns from the mid 1970s to early 1980s and historical juvenile-to-adult survival rates to the Mid-Columbia River from existing salmon and steelhead hatcheries in the region. Juvenile-to-adult survival averages encompassed the release years 1980 through 1990 for chinook salmon, 1990 through 1991 for sockeye salmon, and 1984 through 1992 for steelhead (NMFS et al. 1998b, Table 2). Hatchery evaluations will be included to provide up-to-date juvenile-to-adult survival averages. This updated survival information will be applied during the periodic review of the hatchery program to recalculate the compensation level every 10 years, beginning in 2013.

Similarly, the Plan Species Account funding level is fixed at 2 percent, and there is no intention to increase the tributary funding to replace some of the hatchery supplementation. While the additional tributary habitat work would be beneficial, these benefits would likely result in a gradual long-term improvement in fish production and survival. On the other hand, removing funds from the hatchery programs would result in immediate loss of hatchery fish, thereby affecting harvest opportunities. Recent changes to the hatchery programs are expected to minimize the impacts of hatchery fish on wild populations, and possibly increase wild populations with the use of wild broodstock programs. Hatchery programs have a greater potential for achieving short-term gains, while tributary funding provides long-term habitat improvements. Therefore, an appropriate balance is needed to recover the species and also maintain harvest opportunities on hatchery and unlisted stocks.

Both NMFS's 2000 Federal Columbia River Power System biological opinion and the All-H Recovery Plan presume that habitat improvements are not only possible but that they are essential for the recovery of listed Evolutionarily Significant Units of salmon and steelhead. Similar to the HCP, these documents specify the amount of improvement necessary (increase in life-cycle survival) and the timeline to obtain this improvement. It is the best professional judgment of NMFS and the other signatory parties that the Plan Species Account will likely compensate for 2 percent of project-related mortality.

As presently proposed in the HCPs, a comprehensive progress report would be prepared by the PUDs, at the direction of the coordinating committees, assessing the overall status of achieving no net impact in 2013 (2018 for the Wells Project), and every 10 years thereafter. To ensure that the dollars allocated to the Plan Species Account are utilized effectively and efficiently, the tributary committees would oversee tributary assessment programs. Similarly, the hatchery committees would be tasked with developing 5-year monitoring and evaluation plans for the hatchery programs to be updated every 5 years. These additions are intended to ensure that the overall effectiveness of the HCPs (including the habitat conservation and hatchery compensation programs) is periodically evaluated and that the no net impact standard is being met by 2013 (2018 for the Wells Project) and will continue to be met throughout the life of the agreement.

Specific Tributary Habitat Plan Comments

Comment 13 *Several commenters suggested that habitat restoration work be coordinated with other agencies and be consistent with meeting objectives of the Clean Water Act Section 303(d) and total maximum daily load (TMDL) development. Others questioned how the Plan Species Account should be spent, including projects to improve mainstem habitat, and how the tributary committees would function.*

Response 13 The HCPs were not developed to meet requirements of Section 303(d) of the Clean Water Act. However, the proponents would be required to comply with the provisions of the Clean Water Act regardless of which alternative is selected. The primary objective of the tributary committees will be to improve fish habitat, which may simultaneously result in water quality improvements. For example, improving damaged riparian corridors could decrease peak summer water temperatures. However, the first priority for restoration projects will be to identify projects and areas where the greatest improvements can be made in preserving, enhancing, and/or restoring fish habitat, which may not necessarily occur in areas where water bodies are impaired due to water quality issues. See FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures.

It is expected that the tributary committees would work closely with the local entities to coordinate habitat restoration efforts and maximize overall benefits. The mainstem Columbia River is specifically included in the Tributary Conservation Plan (see FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures). However, most of the habitat improvement emphasis would be directed to tributary habitat because of the wider range of restoration and protection opportunities in these tributaries and the potential to specifically benefit the listed species, as well as a greater number of other species. However, this does not suggest that mainstem habitat restoration and protection measures are inappropriate activities to be funded by the Plan Species Account. The tributary committees would determine the projects that would be funded.

Comment 14 *Some commenters requested clarification of how mitigation funding could change for Douglas County PUD and whether this was scientifically justifiable or appropriate. Others questioned how the tributary committees would select projects to fund, how other entities could participate in this process, whether tributary habitat restoration could occur under both action alternatives, and if implementation monitoring will occur.*

Response 14 As currently proposed, Douglas County PUD funding of the Plan Species Account is intended to compensate for up to 2 percent unavoidable adult and/or juvenile project mortality. The account could be reduced only if the coordinating committees determine that the adult project survival rate is equal to or greater than 98 percent and the juvenile project passage survival rate is greater than 93 percent. The signatory parties have agreed that adult survival cannot be conclusively measured at this time. Based on the best available information, the signatory parties have also agreed that Douglas County PUD has achieved the 93 percent juvenile project passage survival rate for Endangered Species Act-listed Upper Columbia River spring-run chinook salmon and steelhead. Therefore, unless new technologies or methodologies become available that would allow for the measurement of adult mortality attributable to project effects alone, Douglas County PUD's funding of the Plan Species Account would remain at full levels.

Should future studies indicate that adult survival is greater than 98 percent and juvenile project passage survival is greater than 93 percent for a given species, mitigation could decrease proportionally. For example, if future studies indicate that the adult survival rate through the Wells Project is 99 percent for steelhead, but 98 percent (assumed level) for spring-run chinook salmon, summer/fall-run chinook salmon, and sockeye salmon (as well as coho salmon should they become established as a viable population), the Plan Species Account would be reduced from a full 8/8ths contribution (2 percent for each of four Plan species) to 7/8ths contribution (2 percent for each of three species and only 1 percent for steelhead) of the Plan Species Account. If a long-term program or threshold population of coho salmon become established within the Mid-Columbia River, then coho salmon will be considered in the reduction in the Plan Species Account (e.g., 10/10ths contribution reduced to 9/10ths based upon the example of 99 percent

adult steelhead survival) (see Section 8.4.5.1 of the Wells HCP [Hatchery Compensation Plan, Production Commitments, Adjust of Hatchery Compensation – Population Dynamics for Coho]).

The current HCPs clearly state that the tributary committees shall select projects based on guidelines set forth in the HCPs (see Section 7.3.7.3 of the Wells HCP [Tributary Conservation Plan Tributary Committee, Plan Species Account Selection of Projects and Approval of Budgets] and Section 7.7.1 of the Rocky Reach and Rock Island HCPs [Tributary Conservation Plan Project Selection Geographic Area and Types of Projects]). These guidelines are further defined in the HCP supporting documents (e.g., Supporting Documents D and A of the Wells HCP). The general principles of the Tributary Conservation Plan include an assessment of all proposed restoration and habitat improvement projects, which would include identifying the status and habitat-limiting factors for the Plan species. Projects could be proposed to the committees, or the committees could also identify projects on their own. All relevant information would be reviewed and used to assess the potential benefits from each project.

The HCPs also require that, whenever feasible, the tributary committees shall (1) take into consideration and be coordinated with other conservation plans or programs when selecting projects, and (2) cost-share with other programs, seek matching funds, and piggy-back programs onto other habitat efforts. All HCP signatory parties would have the opportunity to be represented on the tributary committees. Other entities could work through these representatives to bring potential enhancement projects to the committees for consideration. While non-signatory parties to the HCP have no voting rights in the selection of projects, the tributary committees may invite other expert entities, such as land and water trusts or conservancy groups, to serve as additional, non-voting members of the committees.

Under Alternative 3, the PUDs have committed to provide a specific level of funding immediately upon issuance of the incidental take permit and FERC license articles. Over the 50-year term of the HCPs, the combined funding provided by the PUDs to the Plan Species Account would be over \$46.5 million (in 1998 dollars). PUD-funded tributary habitat improvements are not included in the actions analyzed under Alternative 2 in the FEIS.

Under Alternative 3, a Tributary Assessment Program will be supported by the PUDs separate from the Plan Species Account. This program will be utilized to monitor and evaluate the relative performance of tributary enhancement projects approved by the tributary committees and directly funded by the initial contributions to the Plan Species Accounts (see FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures). The PUDs will develop, in coordination with and subject to approval by the tributary committees, the measurement protocols for the Tributary Assessment Program. The tributary committees would prepare a comprehensive review of the tributary program that will be provided to the respective coordinating committees for inclusion in their comprehensive review report.

Although the Tributary Assessment Program will be funded by the PUDs to determine the relative benefits of the enhancement projects, these assessments are not intended to attempt to quantify the actual benefits of the projects in terms of species status or abundance. The purpose of the Tributary Assessment Program is to verify that appropriate enhancement projects are being funded. The signatory parties agree that, even if it were technically feasible, the cost and time associated with such quantification efforts would likely exceed the costs of actually implementing habitat enhancement projects.

Specific Hatchery Plan Comments

Comment 15 *If the 7 percent hatchery compensation is reduced, how will the no net impact performance standard be met? This appears to be a contradiction of terms.*

Response 15 NMFS has agreed to issue 10-year permits for the HCP hatchery programs. Hatchery compensation levels have been set through 2013. In 2013 or at subsequent 10-year points, should new information become available indicating that these hatchery compensation levels must be reduced (due to larger than expected impact of hatchery fish on wild fish), the coordinating committees will be required to determine which actions will be continued to meet the no net impact performance standard. If a reduction in the HCP hatchery program prevents the attainment of no net impact, a party is able to withdraw from an HCP.

Comment 16 *Explain why the Quantitative Analysis Report (QAR) assumes that the supplementation program would be short-term, while the HCPs assume that the supplementation program would be long-term. The EIS should confirm that the hatchery fish are treaty resources.*

Response 16 The stated purposes of the Endangered Species Act are “to provide a means whereby the ecosystems upon which endangered species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve (these) purposes” (see Section 2(b) of the Endangered Species Act). Over the long term, the ultimate goal of a recovery plan must be to achieve both abundance goals and the conditions necessary for natural production to be self-sustaining. The QAR was designed to provide decision makers with current assessments of the status (population trend, risk of extinction, etc.) of naturally produced Endangered Species Act-listed spring-run chinook salmon and steelhead runs returning to the Wenatchee, Entiat, and Methow River systems. The QAR was a retrospective analysis specifically designed to estimate (1) current extinction risks, (2) survival changes needed to meet alternative risk and recovery criteria, (3) sensitivity of population growth rate to survival changes in different life-history phases, and (4) potential survival changes from the HCP for the naturally produced populations. While NMFS (and the QAR results) recognizes that there is a potential role for carefully designed and monitored supplementation in recovery efforts, and that some level of hatchery production is likely to occur in the foreseeable future, assessing the status of artificially propagated fish in these basins was not the objective of the QAR.

Comment 17 *Hatcheries have not adequately compensated for the initial dam construction, and NMFS supplementation policies add additional blockages to full mitigation and compensation. Clarify how hatchery production for each Plan species will change from current production levels under each of the HCPs. The HCPs should guarantee that only wild broodstock would be used for hatchery production, and production levels should be established for coho salmon.*

Response 17 Current production levels were based on both inundation loss and about 14 percent passage loss. Hatchery production, compensating for inundation effects, is not subject to reduction at any time during the life of the HCPs. The HCPs require the PUDs to reach a combined adult and juvenile project survival level of 91 percent. The remaining 9 percent of unavoidable mortality is split between habitat improvement funding and hatchery compensation. Up to 7 percent mortality at each project would be compensated through hatchery programs. If the PUDs can demonstrate, using survival studies approved by the coordinating committees, that their passage mortality for specific species/life stage is less than 7 percent, then the hatchery production for that species may be reduced accordingly. Chelan County PUD has agreed to maintain the current production levels for ongoing hatchery programs at the 14 percent level (sockeye salmon production is at a

lower level because it is still at a feasibility level, and rearing strategies are being tested) until the first review in 2013. The programs will be reevaluated every 10 years after 2013. Funding for the existing 14 percent hatchery compensation for fish passage losses attributable to the Wells Project, provided by Douglas County PUD, would decrease to a maximum of 7 percent under the HCPs. Douglas County PUD has successfully demonstrated that passage survival for yearling chinook salmon and steelhead releases at Wells Dam is less than 7 percent and their production commitment will be adjusted accordingly. Refer to FEIS Section 4.2.3.1, Threatened and Endangered Species. The PUDs provide funding for the hatchery programs and are currently not directly involved in their operation, but could be in the future. However, because they have major responsibilities for the successful operation of the facilities, the PUDs will become co-permittees with WDFW for the operation of these facilities. The PUDs could also be the permittees for the hatcheries and their agent could operate the hatcheries under the terms and conditions of the permits issued to the PUDs.

The hatchery production levels for all Plan species (including coho salmon) will be based on average adult returns for a baseline period, a 7 percent compensation requirement, and baseline adult/smolt survival rates for existing Mid-Columbia River hatcheries. The hatchery production levels would be periodically evaluated, using these same parameters, to achieve and maintain the no net impact standard (although no more than 7 percent hatchery supplementation compensation would occur). Once this data is available for coho salmon, production levels will be set. As with the other Plan species, hatchery production levels will be reevaluated and adjusted as necessary to maintain the 7 percent compensation level.

The goals and objectives for each hatchery program will be established by the hatchery committees and may change over time depending on the success or failure of particular hatchery programs. To utilize only wild fish for hatchery broodstock may not meet the goals of the hatchery program.

Monitoring Requirements

Comment 18 *Several commenters suggested that the FEIS should explicitly identify the monitoring methods, that actions demonstrated to be sufficient to protect fish be used to measure compliance with the performance standards, and that specific operational criteria be used in lieu of basing success solely on performance standards. Others questioned the availability of methods to evaluate survival rates of all Plan species and life stages.*

Response 18 The methods currently available for monitoring compliance with the HCP (survival for all Plan species and life stages) are summarized in a supporting document to the proposed anadromous fish agreements and habitat conservation plans (see *Briefing Paper Estimating Survival of Anadromous Fish Through the Mid-Columbia PUD Hydropower Projects* by T. Cooney). NMFS readily acknowledges that, for some life-history stages of Plan species (most notably subyearling Upper Columbia River summer/fall chinook salmon and sockeye salmon), there are no technologies currently available to provide either juvenile project or juvenile dam passage survival estimates. Under Alternative 3, the coordinating committees would evaluate new technologies for use in determining the survival of Plan species through the reservoirs and dams.

Predetermining the questions that will need to be answered in the future is not appropriate because it may depend on how close the PUDs are to achieving the performance standards. For example, if the survival rates at a project were substantially lower than the performance standard, specific passage route assessments might be appropriate to determine where the greatest impacts are occurring. However, if the survival rates were close to the performance standard, then more

accurate estimates of total project survival would be suitable. Each of these assessments would use different methodologies. The coordinating committees would be responsible for determining what studies should be conducted at each of the projects.

Defining specific actions or measures (e.g., specific spill programs) to protect fish, in lieu of performance standards, has typically been used in the basin to provide interim levels of protection for anadromous fish. Examples of this approach include the Wells Interim Protection Plan biological opinion (expired), Rock Island Settlement Agreement, and Rocky Reach bypass biological opinion that the PUDs are operating under (e.g., specific spill programs). This general approach is now represented in the FEIS by Alternative 2. A similar approach is likely to be implemented under both action alternatives. For Alternative 3, based on available information, initial operations (e.g., spill levels) have been established that might achieve the pertinent juvenile survival standards for each Plan species. If Phase I studies indicate that performance standards are not being met, the coordinating committees would adjust the protection measures at the projects to meet appropriate survival levels (for example, increase spill levels to meet the juvenile dam survival standard for sockeye salmon). Therefore, both processes are very similar, with the primary differences being how and when the decisions are made. Under Alternative 3, the measures would be implemented immediately and would benefit all Plan species. Under Alternative 2, the measures would likely not be implemented until Endangered Species Act consultations were completed and FERC issued license orders (potentially after all appeal processes have been exhausted) for each project, and the non-listed species would likely not receive the same level of protection as those that are listed. Should litigation ensue, these measures may not be fully implemented for years or even decades.

The HCPs would establish coordinating committees to select and guide the appropriate monitoring and evaluation procedures. The committees are expected to use the best available data to determine if the HCP objectives are being met. However, even under optimal conditions, a number of assumptions are required to estimate project impacts. Due to the complexity of the issues involved, there are frequent disagreements over these assumptions or the results of the data analysis. The HCPs include committees and a dispute resolution process to facilitate appropriate and timely decisions on the adequacy of the data or the need for additional evaluations. In addition, the coordinating committees have the ability to select an independent third party for the purpose of providing an independent scientific review of any disputed survival study results and/or reports. Survival studies would be conducted for all Plan species, except where no appropriate methodology exists.

The provisions of the Endangered Species Act require the use of the best available scientific data. The monitoring and evaluation methods currently being used to evaluate survival at the projects provide the best available data. The same methods of evaluation would likely be used for both action alternatives, and are consistent with monitoring standards throughout the basin. In the future, should newly developed methods be found that provide more accurate results, these new methods would be implemented at the discretion of the coordinating committees during the reevaluation every 10 years (e.g., Rocky Reach HCP Section 5.3.3 [Phase III Standard Achieved]). Due to the considerable expense of conducting survival studies, the limited availability of test fish (particularly for depressed stocks), and the limitations of the assessment techniques, it is not feasible to acquire survival data throughout the entire migration period of all species passing the project. Therefore, it is sometimes necessary to use data from surrogate species or life stages to estimate survival for those species or life stages that cannot be directly evaluated. Although this might not be the ideal monitoring option, this method may provide the only information available.

HCP-Related Questions

Comment 19 *Several commenters requested a better description of the HCP negotiation process, including the number of outstanding issues that have not been satisfactorily resolved for all the parties. They questioned the appropriateness of proceeding with the NEPA review process until these issues are resolved. Some suggested reopener clauses be included in the HCPs to allow some intervention if the species were not recovering.*

Response 19 The original signatory parties began intensive negotiations to resolve outstanding issues raised in comments on the DEIS in September 2001. The outstanding issues were resolved to the satisfaction of NMFS, USFWS, WDFW, the PUDs, and the Colville Tribe, who signed the HCPs pending completion of the regulatory review process. These clarifications have been added to the HCPs for each of the three projects and added to Chapter 2 of the FEIS.

The two basic requirements of NEPA (the premise for preparation of this FEIS) are that (1) the agency considers significant aspects of the *environmental* impacts of a proposed action and (2) the agency informs the public that it has considered *environmental* concerns in its decision-making process. NMFS has encouraged all HCP applicants to invite and include other Federal and State agencies who can utilize their existing authorities, expertise, or lands in support of the HCP development and implementation process. Furthermore, NMFS considers whether the proposed plans might affect Tribal rights to trust and treaty resources. After careful consideration of Tribal concerns, NMFS will clearly state the rationale for the recommended final decision and explain how the decision relates to the government's trust responsibilities. In light of this obligation, it is important that during the planning process, NMFS identifies and evaluates the anticipated effects of a proposed HCP upon Indian treaty and trust resources as provided in the EIS.

In the FEIS, NMFS has indicated that the issuance of Incidental Take (Section 10) permits in support of the HCPs is the agency's preferred alternative. This FEIS constitutes an environmental review of the proposed project. The preferred alternative would then be subject to review in the preparation of a biological opinion. The biological opinion could include additional stipulations than those currently in the HCPs. Therefore, the FEIS does not presume that the HCPs are final, official, and suitable for implementation. However, if NMFS issues a permit with terms and conditions in addition to or different from those set forth in the HCPs, any party, including the PUDs, may withdraw from the agreements within 60 days of the effective date. The FEIS review process fulfills NMFS's NEPA compliance obligations as required for HCPs. Using the NEPA FEIS and biological opinion that would be prepared for the HCP, NMFS will evaluate whether the HCPs meet the requirements of Section 10 of the Endangered Species Act. Although NMFS would prefer that all parties involved in the HCP negotiation process sign the HCPs and participate in HCP implementation through the HCP committees, there is no mandated requirement that all parties sign the HCPs.

FERC has no mandate under the Endangered Species Act other than to consult with NMFS and USFWS (the Services) when their actions have the potential to affect listed species. Therefore, FERC cannot mandate reopener clauses in the HCPs or the incidental take permits. FERC can and has included reopener clauses in their licenses that allow opportunities to reconsider fish and other natural resource issues. However, only a non-signatory party could initiate (at relicensing) the reopener process for the Plan species under Alternative 3. Signing parties enforce compliance with the HCPs, or they may exercise their rights to withdraw from the HCPs. It is also important to note that even the signatory parties can petition FERC during the relicensing process to include

protection provisions for non-Plan species, which are not included in the HCP process. This would include fish species, such as lamprey and bull trout, that could be affected by the projects.

As stated in FEIS Section 2.6.2.3, Alternative 3, as a signatory party to the HCPs, NMFS would not institute any additional action for the Plan species beyond the HCP performance standards under provision of the Endangered Species Act. However, the HCPs have termination provisions (see FEIS Section 2.3.4.2, HCP Term) that allow NMFS to withdraw after 15 years (20 years for the Wells Project) if (1) the no net impact standard has not been achieved or has been achieved but has not been maintained, or (2) the Plan species are not rebuilding and the project is a significant factor in the failure to rebuild. In addition, NMFS may suspend or revoke the incidental take permit in the event that NMFS and the PUD cannot reach agreement on specific measures to remedy the PUD's failure to achieve or maintain the no net impact standard or if the PUD fails to promptly implement measures that are applicable to the PUD (see Section 2.2.1.2 of the Wells HCP [Termination, Elective Withdrawal Events, Enough Already]).

The NMFS "All H" initiative identifies harvest, hatcheries, habitat, and hydropower as the primary means for addressing species recovery in the basin. The HCPs address issues primarily related to hydropower, although there are some habitat and hatchery components in the plans. However, they do not affect NMFS's ability to address recovery through these other issues or processes that have also contributed to the decline of the species.

Effects of HCPs on Other Plans or Processes

Comment 20 *Several commenters requested clarification of how NMFS can satisfy their treaty trust responsibilities to provide Tribal harvest under the proposed HCPs. There were concerns over how NMFS could provide further protection for the listed species if the HCPs do not lead to recovery. Other concerns were that NMFS not use the HCPs as a defense in any non-HCP-related litigation between NMFS and the Tribes, or reduce the existing Tribal influence on management decisions through the Mid-Columbia Coordinating Committee.*

Response 20 These concerns are addressed in FEIS Section 4.12.17, Legislation Pertinent to Tribal Governments. Formal consultation between NMFS and the Tribes on a government-to-government basis will include discussions of these issues, and would occur prior to issuance of a record of decision (ROD) or a final biological opinion on the HCPs. NMFS and USFWS (the Services) can withdraw from the HCPs and revoke the permit even if the no net impact standard has been met, if the Plan species are not rebuilding and the project(s) are a significant factor in the failure to rebuild. The revised HCPs specify that no net impact standards must be achieved by 2013 or 2018 for the Wells Project (see Section 2.2.1.2 of the Wells HCP [Termination, Elective Withdrawal Events, Enough Already]). This allows adequate time to assess the project operation tools used to improve fish survival conditions and to evaluate these improvements over several fish population life cycles. These time periods include 5 years for the PUDs to reach the performance standards, 3 years of evaluation of the juvenile survival metrics (juvenile project survival or juvenile dam passage survival), and about two adult return cycles.

The HCPs by themselves are not recovery plans. In addition to the fish passage conditions at the Mid-Columbia River projects, species recovery is dependent on a number of other factors, including improvements in (1) fish survival conditions in the Lower Columbia River, (2) habitat, (3) hatchery programs, and (4) estuary and ocean survival rates. Fish passage survival rates in the lower river have improved substantially in recent years. Habitat restoration planning and implementation have also intensified, the hatchery programs have improved, and the efforts to reduce avian predation levels in the Columbia River estuary also have the potential to

substantially improve overall recovery. In addition to these improvements within the basin, ocean rearing conditions appear to be shifting to a more favorable status. These improvements will not result in instantaneous species recovery, and will require a number of years to fully evaluate and quantify the benefits. The overall fish survival conditions in the Columbia River Basin appear to be improving and it is unlikely that this trend would be reversed or substantially affected by the 15- or 20-year time period to fully evaluate survival improvements at the PUD projects.

The HCPs continue to include a provision with respect to Indian Tribal treaty or reserved rights claims. Section 12.11 [Indian Tribal Treaty or Reserved Rights] of the HCPs states that “nothing in this Agreement is intended to nor shall it in any way abridge, limit, diminish, abrogate, adjudicate, or resolve any Indian right reserved or protected in any treaty, executive order, statute or court decree.” In addition, the HCPs have been revised to state that “this Agreement will not be utilized against another Party in any manner whatsoever in any legal proceeding other than a legal proceeding to enforce or interpret this agreement” (see Section 12.11 [Indian Tribal Treaty or Reserved Rights] of the HCPs).

The outcome of FERC’s final order approving the HCPs and incorporating them into the project licenses is as follows:

- For Wells: replacing the Wells Settlement Agreement with the HCP, replacing the Interim Protection Plan biological opinion (now expired) with the HCP, and replacing the Settlement Agreement’s Coordinating Committee with the HCP committees.
- For Rocky Reach: settling the Rocky Reach portion of the pending Mid-Columbia Proceeding at FERC, replacing the Mid-Columbia Coordinating Committee with the HCP committees, and replacing the bypass order and biological opinion with the HCP.
- For Rock Island: replacing the Rock Island Settlement Agreement with the HCP, and replacing the Settlement Agreement’s coordinating committee with the HCP committees.

At this point, the Yakama and Umatilla Tribes have not signed the HCPs, and therefore are not entitled to participate directly on the HCP committees, which are limited to signatory parties. While there remains some potential for non-signatory parties who participated in HCP development to participate in the committees as non-voting members, the influence of these non-voting Tribal parties would be exercised through coordination and possibly government-to-government consultation with Federal parties who participate on the HCP committees.

It should be noted that under Alternative 3, should the Permit species fail to rebuild and the projects be determined to be a significant factor in the failure to rebuild, NMFS could withdraw from the HCPs even though the PUDs are meeting the no net impact standard. This provision of the HCPs is consistent with the requirement in the Endangered Species Act that Section 10 permits be issued only if NMFS finds that any incidental taking of species “will not appreciably reduce the likelihood of survival and recovery of the species in the wild.” The HCPs also describe the hatchery mitigation that will occur through 2013, and the process for modifying these mitigation levels thereafter (see Section 8 [Hatchery Compensation Plan] of the HCPs). Under Alternative 2, NMFS would continue to issue permits to the State of Washington for the continued operation of mitigation hatcheries. Both action alternatives would require periodic evaluations to ensure that hatchery mitigation is provided in a manner that minimizes adverse impacts to Endangered Species Act-listed salmon and steelhead. Thus, with respect to the

provision of harvestable fish populations through the term of the HCPs (50 years), there would likely be minimal difference between Alternatives 2 and 3.

Uncertainties Associated with the HCPs

Comment 21 *Several commenters expressed concerns that the risks and uncertainties associated with the HCPs are disproportionately balanced on the resource (salmon and steelhead). Some were concerned over the dispute resolution process in the HCPs, and how it decreases NMFS's regulatory authority by requiring them to provide a preponderance of evidence in a dispute over gaps in the information concerning fish passage and survival. Others suggested that, because the listed species are best suited for the existing survival evaluation methods, Section 7 consultation would provide the same protection level as the HCPs for listed and unlisted species, without having to commit to a 50-year agreement.*

Response 21 The HCPs establish specific survival rate standards for all the Plan species, thereby providing the same level of protection to unlisted species as to listed species. Thus, higher standards are established for the unlisted species than might otherwise be required. The HCP survival standards are also different from the measures required in the biological opinion for the Federal system (NMFS 2000a), which sets operational limits for the projects. These operational measures establish limits on factors such as river flow targets, fish passage efficiency levels, and turbine efficiency operating levels. The operational measures assume that survival benefits will occur, while the HCPs set specific survival standards that must be met by 2013 (2018 for the Wells Project).

The intent of the HCPs is to provide no net impact survival conditions for both listed and unlisted anadromous species through the use of on-site passage survival improvements, off-site production of hatchery fish, and off-site enhancement of tributary habitat. The signatory parties to the HCPs would participate on the coordinating committees and participate in the selection of appropriate monitoring methods for each of the Plan species. However, by signing the HCPs, the signatory parties would forfeit or substantially reduce their rights or authorities to gain additional protection measures for the listed or unlisted Plan species through other laws and statutes, without first withdrawing from the agreements. Under Alternative 3, the PUDs are required to show that the performance standards are met not only at the end of Phases I and II, but also periodically during Phase III. Therefore, as survival estimation techniques are developed over the 50-year HCP terms, these techniques would be incorporated into the monitoring process to demonstrate continued compliance with the performance standards.

The revised HCPs specify the methodologies by which the survival standards shall be measured. The HCP signatory parties have agreed that point estimates of survival measurements from 3 years of valid studies shall be averaged (arithmetic mean), and that this average will be used to compare against the pertinent survival standard. A valid study is one in which the study design, implementation, and criteria are determined to be acceptable by the appropriate coordinating committee, and one in which the study occurs during representative flow conditions and normal project operating conditions consistent with the approved study design (see Section 4.1.4 of the Wells HCP [Passage Survival Plan, Methodologies] and Section 5.2.3 of the Rocky Reach and Rock Island HCPs [Implementation of the Survival Standards, Methodologies]). In addition, NMFS developed a briefing paper that summarizes the strengths and weaknesses of existing technologies for estimating survival standards. This paper was developed to assist the coordinating committees in selecting study methodologies for each of the Plan species (see Supporting Document D of the Rocky Reach and Rock Island HCPs and Supporting Document C of the Wells HCP). The use of a simple average for determining compliance with the survival

standards, as opposed to a statistical mean with confidence intervals, eliminates any possibility of a party claiming that a standard had been met because it did not differ significantly from the survival study estimate.

The signatory parties agree that the HCPs are not intended to create jurisdiction in any court. Any dispute arising in the tributary or hatchery committees would be sent to the appropriate coordinating committee for resolution. Any unresolved disputes within the coordinating committees would be sent to a policy committee for resolution. If no resolution can be reached at the policy committee, then any party may pursue any other right that they might otherwise have. Thus, as revised, the HCP dispute resolution process itself is non-binding and does not significantly reduce NMFS's regulatory authority.

HCP Phases and Testing Criteria

Comment 22 *Several commenters expressed concerns as to whether all five Plan species could be evaluated during a 3-year period, and the potential impacts on a species in the first 5 years of the HCPs when the PUDs have essentially full authority to determine what measures are implemented. Others questioned what the impacts would be if the HCP standards are not met in the 5-year period, or if they are never met. There were requests for additional information concerning the process for moving out of Phase I, and how the different phases would be implemented in the HCPs. There were some concerns that NMFS's Federal responsibility and ability to ensure the survival and utilization of endangered trust resources are effectively and impermissibly transferred to non-Federal parties in the HCPs because the projects are only subject to periodic reviews and NMFS will not be able to require any additional actions.*

Response 22 The signatory parties modified the HCPs to resolve several issues brought to light from DEIS comments. The coordinating committees now have the authority to (1) establish the protocols and methodologies to determine whether or not the survival standards are being achieved for each Plan species, (2) determine the most appropriate standard to be measured for each Plan species (see Figure 2-4 of the FEIS), (3) approve all studies prior to implementation, and (4) provide input to the PUD's choice of measures during Phase I. Thus, while the PUDs maintain the final say over what suite of structural and operational measures will be tested in Phase I of the HCPs, the coordinating committees will determine which survival standard can be appropriately evaluated for each Plan species and the committees have final approval of study plans prior to implementation. The committee decisions will be guided by a white paper, developed by NMFS and incorporated into the HCPs, when making determinations. In addition, NMFS is represented in the coordinating committees, which require a unanimous vote of meeting representatives to make determination decisions. Therefore, the HCPs have been modified to ensure that NMFS's authority is not transferred to a non-Federal entity, and that additional review (and withdrawal/termination) provisions are included. In the event that Phase I studies indicate that a pertinent survival standard is not being met for any or all Plan species, the coordinating committees are authorized to periodically adjust the measures to address survival deficiencies (Phase II). Additional information is provided in FEIS Section 4.2.3.1, Threatened and Endangered Species pertaining to impacts to species within Phase I of HCP implementation.

The required HCP Phase I survival studies should be completed by 2002 at the Wells Project, by 2004 at the Rock Island Project, and by 2006 at the Rocky Reach Project, unless the coordinating committees determine that another year of study is required. The later dates for the Chelan County PUD projects were included in the HCPs for two reasons. First, Chelan County PUD is currently constructing a juvenile fish bypass facility at the Rocky Reach Project. This facility should become operational by April 1, 2003. After 1 year of shake-down studies to assess the

facility and help fine-tune operations, Phase I survival studies would be conducted between 2004 and 2006. Second, Chelan County PUD is coordinating with consultants, NMFS Science Center, and USGS Biological Research Division to design and develop an acoustic tag survival assessment methodology. If successful, this technology would allow for the measurement of the 95 percent dam passage survival standard at the projects, and would produce a better estimate of this survival standard than would a calculation (see Survival Standard Decision Matrix [Figure 2-4 of the FEIS]).

A Survival Standard Decision Matrix (see Figure 2-4 of the FEIS) was incorporated into the HCP to clarify the priority of Phase I survival standard measurements: (1) combined adult and juvenile project survival, (2) juvenile project survival, (3) juvenile dam passage survival, and (4) calculated juvenile dam passage survival. The matrix, along with the accompanying text, more clearly indicates the phase determination that would occur after Phase I studies have been completed (see Section 4.1 of the Wells HCP [Passage Survival Plan, Survival Standards] and Sections 5.1 and 5.2 of the Rocky Reach and Rock Island HCPs [Passage Survival Plan, Survival Standards Decision Matrix and Implementation of the Survival Standards]). This information is summarized in FEIS Section 2.3.4.4, HCP Performance Standards.

The HCPs now explicitly state that the no net impact standard will be met no later than 2013 and that representative species will be chosen by the coordinating committees for additional survival studies in each 10-year period thereafter to ensure that the no net impact standard continues to be met. In the event that the standard is not being met and the PUDs fail to implement agreed-upon measures to achieve or maintain the no net impact standard, or if the Plan species are not rebuilding populations, NMFS may revoke the permit (after 2013 for Chelan County PUD and after 2018 for Douglas County PUD) to seek actions to recover the species (see Section 2.2.1.2 of the Wells HCP [Termination, Elective Withdrawal Events, Enough Already] and Section 2.2.1.2 of the Rocky Reach and Rock Island HCPs [Withdrawal From Agreement, Enough Already]).

Regardless of the alternative selected, the survival rates of listed and/or unlisted species are expected to improve over time as the PUDs attempt to meet the performance standards or other criteria established through the Endangered Species Act consultation process. If the performance standards are not met under Alternative 3, the PUDs will be required to apply additional species-specific protective measures (also referred to as tools in the HCP and FEIS) in an effort to meet the performance standards for all Plan species. If the performance standards cannot be met, and the permit is revoked, the procedures for improving survival rates would be similar to those described in Alternative 2.

Under Alternative 3, after Phase I testing is complete, the coordinating committees are authorized to adjust measures to increase survival for those Plan species that received a Phase II designation. Should a Plan species receive a Phase III (Provisional Review) designation, the PUDs would have a one-time 5-year period to implement additional measures or conduct additional survival studies to more accurately determine whether the pertinent survival standard is being achieved. Should a Plan species receive a Phase III (Additional Juvenile Studies) designation and the coordinating committees approve the use of a new survival methodology, the PUD would have 5 years to conduct the appropriate evaluations, after which the coordinating committees would make a new phase determination for that species, which might require additional measures to be implemented. Thus, both Alternatives 2 and 3 could require additional measures if the available information indicates that existing measures do not adequately meet survival standards. The primary difference is that Alternative 3 will likely generate more survival information in a shorter amount of time and for more species than would Alternative 2 because more species will be evaluated. In addition, because Alternative 3 requires survival standards to be achieved for all Plan species,

rather than just Endangered Species Act-listed species, listed species may actually receive higher protection than would otherwise occur under Alternative 2. For example, if higher spill levels are required to meet the juvenile project survival standard for sockeye salmon, spring-run chinook salmon and steelhead will likely enjoy higher survival than they otherwise may have received. For Alternative 2, refer to FEIS Section 2.3.3, Alternative 2. For Alternative 3, refer to Sections 2.3.4.5, HCP Phases, and 2.3.4.8, HCP Conservation Plan and Compensation Measures.

Compliance with Federal, State, and Local Laws

Comment 23 *Several commenters requested clarification of how the HCPs would satisfy requirements of the Federal Power Act, Clean Water Act, and other Federal and State laws to meet water quality standards and fish protection and Tribal treaty trust responsibilities.*

Response 23 The HCPs were developed as comprehensive settlements between those that sign the Wells, Rocky Reach, and Rock Island HCPs to protect five species of anadromous salmonids under the Endangered Species Act, Federal Power Act, Fish and Wildlife Coordination Act, Pacific Northwest Electric Power Planning and Conservation Act, Essential Fish Habitat provisions of the Magnuson-Stevens Fishery Conservation and Management Act, and Title 77 RCW.

Under Section 10 of the Endangered Species Act, the HCPs would result in incidental take permit applications for each project. If NMFS concludes that the HCPs satisfy the requirements of Section 10 of the Endangered Species Act, NMFS would issue the requested permits. While making this decision, NMFS would also consider the HCPs' effects on habitat under the Magnuson-Stevens Fishery Conservation and Management Act.

The HCPs also constitute the terms, conditions, and recommendations for Plan species under Sections 10(a), 10(j), and 18 of the Federal Power Act and the Fish and Wildlife Coordination Act of the parties that sign, and satisfy any obligations the projects have in relation to game fish under Title 77 of the Revised Code of Washington.

While the HCPs do not expressly settle issues surrounding the Clean Water Act, the parties that sign agree to work cooperatively to address water quality issues. The HCPs do not abridge, limit, diminish, abrogate, adjudicate, or resolve any Indian right reserved or protected in any treaty, executive order, statute, or court decree. Nevertheless, NMFS would consult with the Tribes before taking action on the pending incidental take permit applications.

Refer to FEIS Section 3.3.2, Water Quality for a discussion of how the projects currently meet Clean Water Act requirements and FEIS Section 4.3.2, Water Quality for a discussion of the likelihood that these requirements would be met under the different alternatives. These responsibilities would be considered by the PUDs and the coordinating committees when implementing or recommending specific measures to meet the requirements outlined in the HCPs or Section 7 consultation.

See FEIS Sections 2.6.6.2, Alternative 2 and Section 2.6.6.3, Alternative 3 that discuss the application of the protection provisions of other laws and statutes for the two alternatives. These other laws and statutes would be available to non-signatory parties to the HCPs to seek additional protection for Mid-Columbia River fish stocks.

The HCPs do not mandate or guarantee compliance with laws that establish or mandate regulatory responsibilities to other non-signatory parties. Nor do they limit the discretion of or alter or affect the statutory and other legal rights of these non-signatory parties, including any

rights to legal remedies, or their authorities, responsibilities, or obligations under relevant laws or Federal processes. This includes their responsibilities and legal rights under the Endangered Species Act (outside of the Plan species), Magnuson-Stevens Fishery Conservation Act, Clean Water Act, Federal Power Act, Fish and Wildlife Coordination Act, Pacific Northwest Power Planning and Coordination Act, FERC relicensing process, Tribal treaty rights, Federal trust responsibility, and others. However, NMFS is the only agency with mandatory conditioning authority for the listed anadromous fish species under the Federal Power Act and the Endangered Species Act. Under both action alternatives, NMFS would issue a biological opinion that would identify the recovery measures and approaches to be used for species recovery. See FEIS Sections 1.1, Introduction and Section 4.12, Relationship to Laws and Policies. The action alternatives would conform to pertinent legislation of these laws regarding fish protection measures for the two listed Plan species relevant to the Endangered Species Act and the Magnuson-Stevens Fishery Conservation and Management Act.

Under Alternative 3, the HCPs would supercede the existing FERC license articles for Wells and Rock Island and settle the Mid-Columbia Proceedings for Rocky Reach. NMFS and the other signatory parties expect that FERC would amend the existing licenses to include the provisions outlined in the HCPs and/or the incidental take permit into each of the projects' FERC licenses. The fish protection measures and methodologies proposed under the HCPs would represent long-term settlement agreements under the Federal Power Act and other laws referenced above. As such, they are consistent with provisions in those statutes. However, at relicensing, the HCPs are not automatically reinstated, but the signatory parties to the HCPs have agreed to be supportive of the HCPs during relicensing. FERC is not obligated to incorporate all of the provisions in the HCPs, and can also specify additional mitigation requirements. However, if FERC does not incorporate the HCPs in their entirety or adds terms and conditions that are inconsistent with the HCPs, the parties are allowed to withdraw from the HCPs.

Drawdown, Dam Removal, Non-Power Operations, and Normative River Conditions

Comment 24 *Several commenters suggested that reservoir drawdown options were misrepresented in the DEIS as an available option under Alternative 3. In addition, drawdown, dam removal, and non-power operations should be independent alternatives in the FEIS. Some indicated that NMFS can require a dam removal alternative to be considered in the EIS, and they should also require an alternative that requires additional protection over that proposed under Alternative 3. Others sought clarification of why drawdown or dam removal could only be considered under relicensing if NMFS believed that these options were necessary to meet recovery standards, and why would there be a delay in the implementation of these measures?*

Response 24 Drawdown could be an option under both action alternatives, and the FEIS revisions clarify this point. Note that though the HCPs limit the use of drawdown options to protect the Plan species, the HCPs provide specific language under Section 2.2.1.2 of the Wells HCP Termination, Elective Withdrawal Events Enough Already and Section 2.1.2 of the Rocky Reach and Rock Island HCPs, Withdrawal From Agreement, Enough Already that allows NMFS and USFWS (the Services) to seek drawdown, dam removal, or non-power operations (with or without terminating the agreements or the permits) if the survival standards are not met after 15 years (20 years for the Wells Project). Drawdown can also occur under Alternative 3 by mutual agreement between the parties without requiring the termination of the agreements or the permits. However, the Services can also withdraw from the agreements to pursue drawdown or dam removal options. Although the HCP signatories agree to not advocate drawdown or dam removal during relicensing, non-signatory parties could still pursue these options, and FERC could order

drawdown and dam removal as an option. The environmental effects of drawdown are discussed in Chapter 4 of the FEIS for each resource.

The Services can withdraw from the HCP(s) and revoke the permit(s) (and therefore seek drawdown) even if the no net impact standard has been met, if the Plan species are not rebuilding and the project(s) are a significant factor in the failure to rebuild. This could happen even if the PUDs complied with all of the provisions of the HCP(s). If the Services withdraw from the HCP(s), then Section 7 consultation would be required before FERC takes action on proposals to replace the HCPs. Drawdown could also be an alternative during that consultation process. Therefore, drawdown (or dam removal or non-power operations) is a viable option under both action alternatives. In either case, the Services would need to demonstrate that the project(s) are a significant factor in both the decline and the failure of the species to recover.

Under the HCPs, if the PUDs are unable to achieve the performance standards (Phase II), the coordinating committees will jointly decide what measures must be taken to achieve the pertinent standard. Under Alternative 2, the PUDs would likely be required to meet Section 7 survival standards for Endangered Species Act-listed species only (spring-run chinook salmon and steelhead). The protection for sockeye, coho, and subyearling chinook salmon would likely be less under Alternative 2 because no Section 7 survival standards could be enforced. Any additional protection measures for unlisted species would likely only occur during relicensing or license reopener proceedings.

Under all alternatives, however, drawdown or other non-power options would not be pursued until all other reasonable options to recover the species were exhausted. Therefore, although the HCPs might initially commit the authority of the Services, the agency maintains its ability to pursue dam removal or drawdown over the long term.

The effects of drawdown have been analyzed in the FEIS, and these effects would be similar to a separate drawdown alternative as an additional action alternative. Because these options are available under both action alternatives, it would be redundant to also consider drawdown as an independent alternative because the environmental effects are already displayed in the analysis. Dam removal could be considered under project relicensing by FERC as described in FEIS Section 2.5.1, Dam Removal.

The Quantitative Analysis Report (QAR) analysis indicates that dam removal would not recover the species under all circumstances. Other additional factors (downstream hydroelectric projects, habitat, harvest, and hatcheries) are contributing to species impacts and are affecting the recovery process. Another factor that is suspected of being a substantial influence is ocean and climatic conditions. This is indicated by the near record returns of spring-run chinook salmon and steelhead to the basin in recent years, despite the fact that fish passage conditions have not substantially changed in this same period of time. Therefore, fish passage improvements in the overall hydro system in recent years are unlikely to fully account for these substantial increases in adult returns. Although the majority of these fish are of hatchery origin, they were subject to the same general fish passage conditions as wild fish as they migrated through the Columbia River system. Because there is no clear evidence to suggest that dam removal would substantially improve the recovery process or increase harvestable surpluses, dam removal or decommissioning is unlikely to occur in a timely manner. Even under the relicensing process, drawdown or other non-power options would likely not be exercised until all other reasonable options to recover the species were exhausted. Legal challenges to such an order would likely delay the implementation of these options indefinitely.

Use of Normative River Conditions as Baseline

Comment 25 *Normative river conditions are essential to long-term salmonid survival. Commenters suggested that the EIS should consider normative river and multi-species restoration, the risk of HCP assumptions being incorrect, the potential for the alternatives impacting other species or life stages, and the feasibility of introducing coho salmon. Others suggested that the EIS is speculative regarding the benefits that could occur from minimum operating pools, which haven't been studied at the Mid-Columbia River projects.*

Response 25 According to the *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (USFWS and NMFS 1996), the purpose of the habitat conservation planning process, and subsequent issuance of an incidental take permit, is to “authorize the incidental take of threatened or endangered species, not to authorize the underlying activities that result in the take.” In this instance, the authorization for the activities that result in the take (continued operations of the project) is the responsibility of FERC during the relicensing process. FERC is not required to use normative river conditions as the baseline conditions for their evaluations. Refer to 55 Fed. Reg. 4:8-9 [Jan. 2, 1990]; FERC Stats. and Regs., Regulations Preambles 1986-1990, paragraph 30,869 at p. 31,613 (1989). Therefore, it is not appropriate to use normative river conditions as baseline conditions for the evaluation of the proposed HCPs.

The Mid-Columbia River projects are run-of-the-river facilities, which have limited capacity to change Columbia River flows. The large upstream storage projects are operated to capture spring run-off flows and release the water during otherwise lower flow periods. Therefore, these upstream projects control the ability to reestablish normative river flows in the basin. The normative river flow option available for the Mid-Columbia River projects is simply a drawdown option. (See response to Comment #24 for a discussion of drawdown options and Comment #74 for additional discussion on normative flows.)

Alternative 3 is consistent with the multi-species restoration approach because this alternative includes both listed and unlisted species as Plan species. This provides equal protection requirements for the Plan species (including coho salmon) through the establishment of consistent performance standards. Measures described in Alternative 2 would likely only provide additional protection for the listed species through the Section 7 consultation process (which could coincidentally provide a benefit to some unlisted species as well). Additional protective measures for unlisted species could only be obtained through other processes, such as FERC relicensing. Because of these differences, Alternative 3 is less likely to select for certain species or life stages than Alternative 2.

Although an analysis of the risks that the HCP assumptions are not correct has not been specifically assessed, the primary basis of the HCPs is to establish an adaptive management framework for protecting all of the Plan species. The adaptive management process is an iterative approach that relies on periodic assessments to determine if the existing conditions are improving survival and leading to the recovery of the species. This approach allows for modification to be made to the program to help ensure that adequate protection is provided to the Plan species.

In addition, the revised HCPs provide specific options for NMFS to withdraw from the HCPs if the species are not recovering and the projects are a significant factor in the failure to rebuild, even if the HCPs' no net impact standard has been achieved. This provides adequate protection against the HCP assumptions being wrong.

The Quantitative Analysis Report (QAR) analyzed Upper Columbia River spring-run chinook salmon and steelhead data from three periods: 1960 to 1994, 1970 to 1994, and 1980 to 1994. Because the shorter of these series resulted in the most pessimistic population trends, NMFS focused on this data series as the most conservative estimate of survival improvements that would be necessary to meet extinction risk and recovery metrics. The longer time series require less survival improvement to meet these same metrics. In the event that the HCP standards are not met (i.e., survival is lower than expected) for listed species during Phase I studies or at the 2013 check-in evaluations, extinction risks would increase and the likelihood of recovery would decrease compared to the estimates currently provided by the QAR. The extent of this impact would be dependent upon the size of the discrepancy and the length of time the discrepancy existed, and cannot be assessed at this time. However, the revisions to the HCPs that provide periodic evaluations (on a 10-year basis) are expected to minimize the risks of inadequate HCP standards or of the HCP assumptions being incorrect.

Compared to Alternative 1, actions implemented through Alternative 3 would immediately increase the survival rates of all Plan species. The same is true for Alternative 2. However, because implementation of measures described in Alternative 2 would likely occur only after litigation and appeals processes are exhausted, delays measured in terms of years or decades would be likely before the measures were fully implemented. It is also likely that these measures would be fully implemented to protect listed but not unlisted species or that only partial implementation would be provided for unlisted species (decreased amount or duration of spill programs, for example).

The primary benefit of the minimum operating pool concept is to reduce the cross-sectional area of the river, which would result in an increase in water velocity, and potentially increase juvenile migration speed. The assumption associated with this concept is that increased migration speed results in an increase in survival rate because the migrants would have less exposure time to predators or other river conditions (e.g., temperature) that have been shown to impact survival. However, the theory of increased migration speed with increased water velocities has not been consistently observed for the various anadromous species in the Columbia River Basin. Berggren and Filardo (1993) found a weak or non-existent relationship between migration travel time and river flow for yearling chinook salmon in the Mid-Columbia River reach. Giorgi et al. (1997) found that flow was the best single predictor of travel time for Mid-Columbia River sockeye salmon and steelhead, but not for yearling chinook salmon.

Giorgi et al. (2002) found little evidence supporting a flow survival relationship, based on PIT-tag evaluations conducted between 1993 and 2000. However, low flow conditions in 2001 resulted in a dramatic reduction in juvenile steelhead survival migrating through the Snake and Columbia Rivers (from a typical 90 percent per project survival rate to about a 63 percent survival rate per project). The slow migration speed observed in 2001 and the increased water temperatures during the migration period are considered the causative factors for the dramatic decrease in survival and increased residualization of steelhead.

In addition to inconsistencies in the flow to travel time relationships for different species and between years, there are inconsistencies in the relationship between flow (velocity) and survival. Given a constant flow, drawdown to minimum operating pool would increase water velocities, however slightly. While the benefits of drawdown to minimum operation pool have not been conclusively verified, NMFS continues to support this action in general as one likely to benefit juvenile outmigrants. Additional text was added to FEIS Section 4.2, Fisheries Resources to provide this information.

Comment 26 *What modeling efforts have occurred previously regarding drawdown and juvenile survival?*

Response 26 Although the concept of drawdown to natural river conditions is included as a possible option under the action alternatives, the EIS clearly indicates that a separate analysis would be required if drawdown were to be pursued because of the potential for extensive environmental impacts. Although extensive evaluations have been conducted for the Lower Snake River projects relative to drawdown, no clear-cut results have been produced. In addition, because drawdown is an option for all of the alternatives, it is not an adequate factor for distinguishing between the alternatives. As a result, extensive evaluations or assessments are not conducted as part of this EIS.

However, the Quantitative Analysis Report (QAR) assessed the potential for recovery of the listed species relative to the goals of the HCPs. This assessment indicated that although the HCPs alone would not be adequate to meet the extinction risk criteria, project removal alone would also not meet the criteria. See FEIS Section 4.1.2.1, Project Area.

No Net Impact Standard Elements

Comment 27 *Several commenters requested clarification of the biological and scientific justification for the components of the no net impact standard, and the assumption that these components were additive, even though they are comprised of compensation for impacts to different life stages, and various components are not quantifiable. Others questioned whether the no net impact standard would be feasible if the 7 percent hatchery component was not guaranteed, and whether the standard is consistent with other recovery efforts in the basin.*

Response 27 The performance standards were values negotiated during the HCP development process, which included representatives of the Joint Fisheries Parties. The standards were based on the best available scientific data. As a result, the standards represent the best professional judgment of the negotiating parties. Additional information regarding the biological basis for the overall survival, hatchery compensation, and tributary funding was included in FEIS Section 2.3.4.4, HCP Performance Standards.

These performance standards were evaluated through the Quantitative Analysis Report (QAR) to determine their effects on species recovery and are summarized in Chapter 5 of the FEIS. The report compares the survival benefits of the HCP measures with the survival improvements needed to satisfy long-term recovery risk criteria. The QAR is summarized in Appendix E of the FEIS.

The PUDs committed to provide adequate funding and support to meet the full hatchery supplementation requirement described in the HCPs. Although it is NMFS's intent to allow the PUDs to provide full hatchery production through 2013, this level of production cannot, for various reasons, be guaranteed for subsequent 10-year periods after 2013 and under all possible scenarios (e.g., limitations in broodstock). Because the primary purpose of the HCP process is to protect and lead to the recovery of listed species, this goal must take precedence over the no net impact standard. As such, NMFS may be required, due to concerns about possible negative impacts of hatchery production on the recovery of the natural populations of Endangered Species Act-listed species, to restrict hatchery production to levels that do not threaten the recovery of naturally reproducing listed fish in 2013 or at subsequent 10-year intervals. However, the no net impact standard remains a goal of the HCPs, and the PUDs have guaranteed the appropriate level of hatchery funding to meet the 7 percent hatchery supplementation component of the no net impact standard. The failure to achieve no net impact would be a basis for withdrawal under the

Agreements in 2013 (2018 for the Wells Project). Formal consultation between NMFS and the Tribes on a government-to-government basis would include discussions of the hatchery issue, and would occur prior to issuance of a Record of Decision (ROD) or a final biological opinion on the HCPs.

As revised, the HCPs specify the initial hatchery production levels that will be necessary to meet no net impact. In 2013, and every 10 years thereafter (at the time of the program review), NMFS may determine that the impacts of hatchery production to the wild populations are greater than expected and ultimately require reducing production to acceptable levels (see Section 8.7.1 of the Wells HCP [Hatchery Compensation Plan] Changed Hatchery Policies Under ESA, and Section 8.8.1 of the Rocky Reach and Rock Island HCPs [Hatchery Compensation Plan, Changed Hatchery Policies Under ESA]). Should this scenario occur, the coordinating committees would ascertain the measures required to meet the no net impact standard.

The HCPs are consistent with the other recovery plans in the basin, as they focus on the key components in the recovery process. NMFS has developed guidelines for basin-level, multi-species recovery planning, which encompasses habitat, harvest, hatcheries, and hydropower. This recovery planning analysis is contained in the document entitled *Conservation of Columbia Basin Fish: Final Basinwide Salmon Recovery Strategy* (Federal Caucus 2000). Three of these four components of the recovery planning are primary components of the HCPs (harvest is the exception). Also consistent with these basinwide programs, the HCPs are multi-species programs that encompass multiple life stages.

Comment 28 *Several commenters requested clarification of how a 95 percent survival goal over 95 percent of the migration period corresponds to only a 5 percent juvenile passage mortality. Others questioned the exclusion of spring-run chinook salmon, smaller than 50 mm in length, from the 95 percent juvenile dam passage survival for the full run of that species in the event turbine intake screens are installed. There were also some suggestions for a greater habitat component and a lesser hatchery component than that proposed in the HCPs.*

Response 28 The measurement of the no net impact standard is based on the entire run, although the protection measures implemented at the projects are targeted at 95 percent of the run. Compensation through hatchery and tributary funding measures is based upon calculations derived from the average adult counts effectively representing 100 percent of the runs. Thus, mitigation is provided for 100 percent of the migration periods, but the project operations concentrate on 95 percent of the spring and summer migration periods. Recognizing that some measures are costly per unit time, the signatory parties agreed that juvenile dam passage protective measures would encompass 95 percent of the migration as an objective that could be effectively managed. This applies to the 95 percent juvenile dam passage survival standard and not the 93 percent juvenile project survival measurement. In actuality, because the spring and summer migrations overlap significantly, the juvenile spill program under Alternative 3 will most often be a continuous operation between the spring and summer periods. The spill program will, in most years, actually provide protection to more than 95 percent of the spring and summer migrants. Other measures to improve juvenile survival through the projects (Rocky Reach fish bypass system, predator control programs) are expected to cover an even higher proportion of the migrants. Implementing measures to cover 95 percent of the spring and summer migrations is consistent with the provisions of the biological opinions for the Wells, Rocky Reach, and Federal projects on the mainstem Columbia River (NMFS 2000a,b, 2002a). While the full suite of dam survival improvement measures will not cover all juveniles migrating throughout the year, these protection measures should translate into a significant survival improvement for all Plan species compared to Alternative 1, and for all unlisted species compared to Alternative 2.

The revised HCP does not include a specific exemption for spring-run chinook salmon less than 50 mm in length. However, the signatory parties recognize that some species or life histories cannot be measured with the technologies available at this time. The signatory parties are committed to evaluating the survival of these fish after the technology becomes available. The coordinating committees would be responsible for making the determination and approving an appropriate study prior to implementation.

The approach used to translate 2 percent mitigation into habitat improvements was determined by negotiation among the participants in the development of the HCP, which included agencies, Tribes, American Rivers, the applicants, and the applicants' power purchasers. The tributary habitat improvements are not intended to result in a reduction of hatchery supplementation. The initial process to determine the appropriate amount of mitigation for the tributary habitat improvement fund (Plan Species Account) was to evaluate the types and extent of habitat improvements that would mitigate for 2 percent of project mortality, and then to determine the overall cost to conduct these types of improvements. Mortality was then appropriated by project (Wells, Rocky Reach, and Rock Island), based on the numbers of fish that would be affected by each project, to ensure the appropriate commitment of financial resources. The tributary funding provided by each project represents the tributary habitat improvement mitigation measures. See FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures.

Shifting to a larger compensation level for the habitat component in the no net impact standard could reduce the compensation provided through the hatchery programs. While the additional tributary habitat work would be beneficial, these benefits would likely result in a gradual long-term improvement in fish production and survival. On the other hand, removing funds from the hatchery programs would result in immediate loss of hatchery fish, thereby affecting harvest opportunities. Recent changes to the hatchery programs are expected to minimize the impacts of hatchery fish on wild populations, and possibly increase wild populations with the use of wild broodstock programs. Hatchery programs have a greater potential for achieving short-term gains, while tributary funding provides long-term habitat improvements. The combination of short- and long-term components provides a balanced approach to salmon recovery, which is similar to the approach provided in the biological opinion for the Federal Columbia River Power System (NMFS 2000a).

HCP Uncertainties

Comment 29 *Several commenters expressed concerns that some portions of the standards, particularly the tributary habitat mitigation or delayed mortality, cannot be measured with the existing sampling methods. This raised the issue of whether different standards should be developed, such as project operational criteria.*

Response 29 The stated intent of the HCPs is to achieve the no net impact standard no later than 2013 (2018 for the Wells Project), with the exception of the Tributary Conservation Plan, which is not monitored. The revised HCPs clearly indicate how and when the hatchery production levels will be evaluated and adjusted, as well as the priority of survival standards and the requirements by which survival is measured (see Figure 2-4 of the FEIS). The pertinent HCP definitions clearly note that the survival standards are intended to measure project effects "including direct, indirect, and delayed mortality wherever it may occur and can be measured (as it relates to the projects) given the available mark-recapture technology." It is NMFS's opinion that these standards are most likely to be measured with existing or developing technology.

With respect to the tributary programs, the signatory parties agree that funding-approved habitat restoration and protection projects will constitute compensation for 2 percent unavoidable adult project mortality. They also agree that no effort will be made to determine whether or not the Tributary Conservation Plan is, in fact, increasing the survival of Plan species by 2 percent. Rather, future assessments of this program will be designed to ensure that the Plan Species Account is being utilized in an effective and efficient manner. This agreement recognizes that any statistical estimate of a 2 percent survival increase relative to habitat improvements would be inconclusive. Under even the most exacting experimental design, fluctuations in the natural environment alone would result in error bounds many times larger than the metric to be estimated.

Although it is possible that the standards might not be met for some or all of the Plan species at one project or another, there would be no additional mitigation requirements for not meeting the standards prior to 2013 (2018 for the Wells Project), except as set forth in Phase II, as long as the PUDs comply with HCP permit conditions. In contrast, under Alternative 2, additional mitigation could be required for listed species if new information indicates that the mitigation measures established under the initial Section 7 consultation are not adequate to ensure the continued existence of the listed species. Refer to FEIS Section 2.3.3, Alternative 2 for Alternative 2 and Section 2.3.4.5, HCP Phases and Section 2.3.4.8, HCP Conservation Plan and Compensation Measures for Alternative 3.

Current survival estimates are provided in FEIS Sections 3.2.5, Adult Survival at the Projects and 3.2.6, Juvenile Survival at the Projects at each of the hydroelectric projects. Both action alternatives require, or are expected to require, additional improvements to these survival rates except at Wells Dam where project survival for listed species already exceeds 93 percent. The Endangered Species Act criteria specify that the issuance of a permit should not “appreciably reduce the likelihood of the survival and recovery of the species in the wild” (Section 10) or does not “jeopardize the continued existence of” any Federally listed species (Section 7). There are no provisions that require a net benefit to the affected species or that the proposed action must necessarily result in the recovery of the species.

The Quantitative Analysis Report analyses suggest that the HCPs would not only satisfy the Endangered Species Act requirements, but that the HCPs would increase the probability of the recovery of listed species. However, implementation of the HCPs would not, nor are the HCPs required to, recover these species by themselves. The mitigation requirements under Alternative 2 are expected to be similar to those outlined in the HCPs because the requirements for listed species in both instances would be based on the same baseline information. Under Alternative 2, new information indicating that the measures were inadequate to ensure the continued existence of the species would likely result in reinitiation of consultation to develop additional measures to increase survival of listed species. Under Alternative 3, failure to meet the performance standards (Phase II) would result in the coordinating committees developing measures to meet the HCP survival standards. In addition, in 2013 (2018 for the Wells Project) and every 10 years thereafter, should information indicate that the stocks are not rebuilding, NMFS (after meeting several conditions of the agreement) could withdraw the permit. Thus, while the processes have obvious differences, the outcome under both action alternatives is that listed species will receive adequate protection in the long term. Under Alternative 2, protective measures for unlisted species would be attained through license reopener clauses or through relicensing while under Alternative 3, these species would immediately receive a commensurate level of protection as listed species.

Specific project configuration and operational guidelines have been the standard means of protecting anadromous fish species in the Columbia River Basin in the past. However, such guidelines do not guarantee or mandate the achievement of specific survival rates. Setting a standard for fish passage efficiency (non-turbine passage rates), for example, provides an opportunity for greater survival but does not establish a survival goal. This approach assumes that a certain percentage of the fish will pass through a specific route each year, if the project is operated in a certain manner, and includes a survival rate for that passage route (see Table 3-4 in the FEIS). In addition, this approach often relies on data from various projects or various years (e.g., average turbine passage survival) to determine route-specific survival or passage efficiency rates. As a result, there does not appear to be any more species recovery certainty with that approach compared to having a fixed, results-oriented, project passage survival goal that is measured at each project.

The HCP signatory parties recognize that current methodologies cannot differentiate between sources of adult mortality (included in the 91 percent combined adult and juvenile survival standard) within the project area. Known adult mortalities within a project boundary could be due to natural mortality (i.e., mortalities occur even in fairly pristine river systems without dams), or due to delayed or cumulative effects (e.g., catch and release angling, injuries sustained while escaping commercial or tribal fisheries, downstream Federal project impacts). The HCP signatory parties, recognizing the limitations associated with the best available technology, developed three surrogate standards for assessing the survival of juvenile fish. These are, in order of priority: (1) measured juvenile project survival (93 percent), (2) measured dam passage survival (95 percent), and (3) calculated dam passage survival. The achievement of the HCP survival standards would be determined by averaging the estimates from 3 years of valid studies. Only the survival estimates for species that cannot be measured directly (e.g., sockeye or subyearling chinook salmon) would be based on the lowest priority route-specific methodology or surrogate species (see Figure 2-4 of the FEIS). In addition, as technology advances allow, verification of survival rates measured against a higher priority standard would be required.

Comment 30 *Several commenters requested an analysis to determine whether the proposed funding for off-site mitigation is adequate, particularly because Grant County PUD is no longer part of the HCP process. Others questioned whether Alternative 2 could potentially provide greater tributary habitat improvements than Alternative 3.*

Response 30 Only Alternative 3 includes PUD funding of tributary habitat improvement projects. Funding for tributary habitat improvements is assumed to compensate for 2 percent of unavoidable project mortality. Participatory parties in the development of the HCPs (as described in FEIS Section 1.1, Introduction) worked together in determining funding levels to be provided by each PUD. This effort included an analysis of the cost of habitat easements, property acquisitions, water rights purchases, and specific restoration projects to determine the specific level of funding needed over the next 50 years.

The total amount to be provided to the Plan Species Account was originally based on a compensation level for impacts associated with the five Mid-Columbia River dams. This total amount was allocated to the different projects based on the proportion of their impacts to the stocks. For example, the Wells Project was assigned a smaller proportion of the funding responsibilities than the Rocky Reach Project because the impacts associated with the Wells Project would affect only those fish migrating to or from the Okanogan and Methow Rivers. In addition to impacting these same stocks, the Rocky Reach Project would also impact the Entiat River stocks. Although the overall size of the fund was reduced when Grant County PUD elected to not pursue a Section 10 permit, the compensation level remains unchanged for the remaining

projects. It is assumed that mitigation alternatives resulting from the Section 7 consultation for the Grant County PUD projects will replace the compensation that was lost from the HCP Tributary Fund for the listed species. There is no basis under the Endangered Species Act for Chelan and Douglas County PUDs to be required to mitigate for impacts attributable to the Grant County PUD projects.

Note that hatchery compensation levels determined for each PUD are also independent of the other PUDs, including Grant County PUD. These compensation levels are based on estimates of impacts associated with each individual project and not on a region-wide basis. Therefore, Chelan and Douglas County PUDs would still provide up to 7 percent hatchery compensation for the unavoidable mortality associated with their projects.

An estimate of \$100 million was originally established as the funding level to the Plan Species Account, assuming the participation of all three of the Mid-Columbia PUDs. This was allocated based on the degree of impacts to the species for each project. Because Grant County has opted not to pursue an HCP, the mitigation funding for impacts related to Wanapum and Priest Rapids dams are no longer included in the overall HCP funding. According to the HCP terms and assuming that the performance standards are met, Douglas County would make an initial payment of \$1,982,000 plus \$176,178 annually for 45 years. Chelan County would contribute \$229,800 annually for 50 years for the Rocky Reach Project and \$485,200 annually for 50 years for the Rock Island Project. In addition, the HCPs provide mechanisms for accelerating payments so that more funds are available in the early years of the HCPs. Total funding would be \$46,660,010 in 1998 dollars and the annual payments will be adjusted for inflation. If adult survival through Wells Dam is assessed and determined to be less than 2 percent and the combined adult and juvenile project survival is greater than 91 percent, then the annual funding to the Plan Species Account for the Wells Project would be reduced proportionately (see Example 1, Wells HCP, 2002). Chelan County funding levels would not change whether or not the performance standards are met. Therefore, the current funding level represents a substantial source of habitat improvement funding even without the Grant County portions. Refer to FEIS Section 2.3.4.8, HCP Conservation Plan and Compensation Measures.

In addition, Endangered Species Act Section 7 consultations have been completed for the Lower Columbia River dams (NMFS 2000a) and are in the process of being completed for the Grant County PUD dams (NMFS expects to produce a final biological opinion prior to 2003). Therefore, these projects are, or soon will be, responsible for meeting survival levels to avoid jeopardizing listed species. Under Alternative 3, should the stocks fail to rebuild by 2013 (2018 for Douglas County), NMFS could take steps to withdraw the permit, and would undoubtedly request that Grant County PUD and the Federal operators reinstate consultation on the other four Columbia River projects and four Snake River projects.

It is not practical or efficient to attempt to quantify a 2 percent compensation level for the habitat improvement projects. Even under the most exacting experimental design, fluctuations in the natural environment alone would result in error bounds many times larger than the metric to be estimated. This determination is based on the diversity of potential projects, the varying time frames for the maximum benefit to occur for these different projects, and the overall difficulty and expense of monitoring the benefits. However, each improvement project would be monitored to ensure that the site-specific goals and objectives are obtained. The revised HCPs each contain a Tributary Assessment Program in addition to the tributary funding discussed above. The Tributary Assessment Program will monitor and evaluate the relative performance of the tributary enhancement projects approved by the tributary committees.

Comment 31 *Please confirm that the HCPs and Quantitative Analysis Report require that the performance standards will be applied regardless of cost or drought, and that these factors will not impact improvements to the lower river projects. This should include an assessment of the 2001 water year. The EIS should also assess the level of survival improvement needed to sustain Tribal harvests well above recent restricted levels.*

Response 31 Only one section of the HCP notes conditions under which the PUDs might fail to implement HCP measures. In Section 12.7 of the HCPs [Miscellaneous, Force Majeure], “*force majeure*” is defined as “causes beyond the reasonable control of, and without the fault or negligence of, the PUD or any entity controlled by the PUD, including its contractors and subcontractors.” The HCPs further stipulate that “economic hardship shall not constitute *force majeure* under this Agreement.” Thus, *force majeure* would apply to events such as attacks due to war or terrorism, major equipment failure, or damage from earthquakes or floods; but would not apply to a conscious decision by a PUD to curtail HCP measures to realize economic benefits. This would be cause for withdrawal by the signatory parties. Furthermore, the HCPs are not connected to Endangered Species Act requirements at other hydroelectric projects on the Columbia River and therefore will not affect the implementation of measures at lower river projects to improve juvenile or adult salmon or steelhead survival.

The drought conditions in 2001 resulted in lower spill levels at a number of Columbia and Snake River hydroelectric projects than has been generally stipulated or recommended to aid the downstream migration of anadromous fish in biological opinions. At that time, the Chelan and Douglas County PUDs voluntarily implemented some provisions of the agreements although they were not bound by the terms of the HCPs, although they have voluntarily implemented some provisions of the agreements to enhance the possibilities of meeting the HCP survival standards. The results in 2001 indicate the benefits of the HCPs as strong incentives to maintain fish protection programs. If in future years, should the PUDs fail to meet the requirements of the HCPs, it would provide Signatory Parties cause for withdrawing from the agreement and NMFS cause for withdrawing jeopardize their incidental take permits. Under the existing licenses and operational agreements, which include Section 7 consultations for most of the Columbia and Snake River projects, the incentives are not as strong, as evidenced by the reduced spill levels that were provided in 2001.

Refer to responses to Comments #40 and #52 concerning survival standards, Tribal harvest, and the role of hatchery supplementation in assuring Tribal harvest priorities. However, the provisions of the Endangered Species Act do not require the recovery of the species to harvestable levels. This applies to both action alternatives.

Range of Alternatives

Comment 32 *Several commenters indicated that the EIS does not analyze an adequate range of alternatives, or compares and contrasts these alternatives in a complete and unbiased manner. Others questioned the idea that Alternative 2 could take longer to implement than Alternative 3.*

Response 32 The FEIS includes (1) a no-action alternative (Alternative 1), (2) a hydropower conservation measures alternative (Alternative 2), and (3) proposed habitat conservation plan alternative (Alternative 3). Alternative 1 is based on existing conditions (Wells and Rock Island Settlement Agreements and the Rocky Reach Fourth Revised Interim Stipulation) representing the baseline of comparison for the action alternatives and the position that no action is taken either under Section 7 or Section 10. Alternative 2 represents measures that were considered during the development of the proposed action, as well as certain measures raised in public comments on the

DEIS. Alternative 3 represents measures contained in the proposed HCPs. Some alternatives raised in public comments were discussed but eliminated from detailed study. The three alternatives considered in detail represent the range of actions that could reasonably occur at the three hydroelectric projects. The EIS attempts to present the alternatives without bias; however, there is some overlap of both the protective measures used to lower mortality and their implementation in Alternatives 2 and 3, especially with respect to actions taken to protect listed Plan species. There is some regulatory duplication in the implementation processes of Section 7 and Section 10.

Both action alternatives include a variety of measures to be implemented at the projects for reducing Plan species mortality. The primary differences between the action alternatives are (1) the extent (proportion of juvenile migration covered) and level (percentage of spill) of the spill programs at each project, and (2) the choice of passage route (6,000 cfs sluiceway or juvenile collection and transport system) at Chelan County PUD's Rocky Reach Project. The description of the action alternatives also identifies relative differences with respect to regulatory procedures, the length of time that might be required to implement alternative measures, and the likelihood of implementing the protective measures for listed and unlisted Plan species. Procedural differences are described in FEIS Section 2.6, Alternative Comparison, in Tables 2-7 and 2-8, and in Chapter 4. Table 2-7 compares differences between the procedures for complying with the Endangered Species Act, while Table 2-8 illustrates the environmental differences that would occur from implementation of the alternatives, as well as the no-action alternative. Revisions to the DEIS have been included to more clearly display the differences among the alternatives. All alternatives were given equal weight, consideration, and review for selection of a preferred alternative.

The mitigation measures proposed at the dams under Alternatives 2 and 3 are expected to be similar and yield similar results for listed Plan species. Alternative 3 is expected to provide more protection, compared to Alternative 2, for unlisted Plan species.

The two primary mitigation measures proposed under Alternative 3 are hatchery supplementation (which represents mitigation for 7 percent project mortality), and funding for tributary habitat improvements (which represents mitigation for 2 percent project mortality). It is important to note that the majority of the hatchery production in the Upper Columbia River is designed to compensate for original inundation by the projects. This production is not subject to adjustment through the HCPs. The initial production levels are detailed in Section 8 of the HCPs, Hatchery Compensation Plan. Hatchery production under Alternative 2 would be addressed through the existing settlement agreements or during relicensing, and through the issuance of direct and incidental take permits to WDFW, which operates the PUD-funded hatcheries.

For the Wells Project and existing settlement agreements between FERC and the Douglas County PUD, ongoing hatchery production of spring and summer chinook salmon and steelhead currently mitigates for an assumed 14 percent level of mortality at the project (Alternative 1). Under both Alternatives 2 and 3, the production of yearling (spring) chinook salmon and steelhead would be reduced to 3.8 percent, based on the 3-year average of juvenile project survival studies (96.2 percent). Under Alternative 3, the remaining Permit species will be compensated at the 7 percent level. The need for coho salmon compensation will be assessed in 2006 and will be based upon the development of either a long-term coho salmon hatchery program and/or the establishment of a threshold population of naturally reproducing coho salmon in the Methow Basin. Should coho salmon compensation be warranted, Douglas County PUD would implement a program to provide the equivalent of 3.8 percent juvenile mortality. This level is based on the agreed-upon

interim value for juvenile project survival for coho salmon, which at this time is best estimated by the yearling average chinook salmon and steelhead survival estimates.

For the Rocky Reach and Rock Island projects, under the HCPs, Chelan County PUD would provide the funding and capacity to meet the 7 percent hatchery compensation level necessary to achieve the no net impact standard for all Plan species. However, Chelan County PUD has agreed to continue meeting their existing hatchery obligations through 2013, during which time they will evaluate options for the long-term production of sockeye salmon. Thus, the 7 percent HCP production requirement will be exceeded for some Plan species (steelhead, spring-run chinook salmon) through 2013, but will not be met for other Plan species (sockeye and coho salmon). Hatchery compensation levels for these projects would be adjusted in 2013, including 7 percent hatchery compensation for sockeye salmon (after options have been evaluated) and possibly for coho salmon (compensation timelines and decision points are identical to those identified above for Douglas County PUD).

In summary, for hatchery compensation, Alternatives 1, 2, and 3 are expected to be identical at least through 2013. After 2013, production levels for listed species would likely decrease from this baseline level for both Alternatives 2 and 3. Alternative 3 would provide 7 percent hatchery compensation for sockeye salmon and potentially for coho salmon, which is not contemplated in either Alternative 1 or 2.

The mitigation measures for the tributary habitat improvements under Alternative 3 are represented by the funding levels, rather than specific projects that would be funded. The tributary committees have the responsibility to select the projects to be funded by the Plan Species Account. The tributary committees will consist of representatives from the signatory parties (as voting members). In addition, the tributary committees may select other expert entities (such as land and water trusts or conservancy groups) to serve as additional, non-voting members of the committees. This format ensures that a wide range of perspectives are incorporated and biologically sound decisions are made. Alternative 2 does not include any off-site mitigation in the form of PUD-funded tributary habitat improvement projects (see FEIS Section 2.6.6.2, Alternative 2).

The length of time it has taken for Section 7 consultation from initiation to implementation of conservation measures has averaged over 5 years for Mid-Columbia projects owned by PUDs, due to FERC's current interpretation of their responsibilities under the Endangered Species Act and legal options open to the applicants. Some of these processes have resulted in a biological opinion on interim operations, resulting in consultation reinitiation prior to the expiration date of the interim operations. Section 7 consultation would also be required at relicensing or any license reopener proceedings. During these consultation proceedings, the existing mitigation programs would proceed until final resolutions were reached on additional conservation measures required. As described in FEIS Section 2.6.5, Implementation Schedule, the HCPs were developed to minimize legal options and expedite project actions that directly benefit the Plan species. Actions would be taken from the perspective of cooperation and coordination, rather than a series of independent actions and processes that would be subject to litigation. Compared to Alternative 2, the initial protection measures under Alternative 3 would be implemented immediately. Future implementation of any additional tools needed to meet the survival standards under the HCPs would likely be implemented, for the reasons stated above, in a more timely manner than would be the case under Alternative 2.

No-Action Alternative

Comment 33 *Several commenters questioned the appropriateness of the no-action alternative, particularly since it does not include the normative river as the baseline conditions, and that it omits statutory authorities at relicensing. Others questioned whether the existing mitigation and compensation levels are adequate to mitigate for dam construction and operations.*

Response 33 Alternative 1 (the no-action alternative) represents existing baseline conditions that would occur if neither action alternative were implemented, which is consistent with NEPA requirements. Alternative 1 is evaluated in Chapter 4 of the FEIS (which describes effects of the alternatives), similar to the evaluation of Alternatives 2 and 3. Relicensing is a separate independent action with FERC as the lead agency, and includes more than fish protection measures for listed species. Therefore, Alternative 1 was limited to existing FERC licenses and settlement agreements that govern current operations, with one exception. FERC has amended the Rocky Reach Project license to allow for the construction and operation of a juvenile bypass facility at that project. Since this measure is rightfully considered an element of the HCP, evaluation of the juvenile bypass facility occurs under Alternative 3 rather than under Alternative 1. Alternative 1 also provides a baseline for comparison with the action alternatives.

Long-term settlement agreements have been negotiated for the Wells and Rock Island dams that include the hatchery mitigation provisions as compensation for project inundation and existing ongoing impacts. Although a long-term agreement has not been reached for Rocky Reach, this dam has operated from 1979 to 1997 under various stipulations. Initial inundation losses were established from estimates of spawning habitat loss. The initial inundation compensation did not mitigate for passage loss of juveniles. The long-term settlement agreements at Wells and Rock Island Dams established passage loss rates, thus completing the mitigation package for project impacts to salmonids. Because of these relatively recent reevaluations of the mitigation programs at all three projects, it is reasonable to assume that existing mitigation or compensation levels are adequate to address project inundation, at least for the purposes of comparison within this FEIS.

Action Alternatives

Comment 34 *Several commenters requested clarification of the legal and management authorities associated with Alternative 2 that would not be available under Alternative 3. Several commenters suggested that adaptive management would be more effective under Alternative 2. Other commenters requested additional information in Table 2-8 of the DEIS summarizing the comparisons between alternatives, how the Quantitative Analysis Report (QAR) information is incorporated into the alternatives, and why the HCPs do not consist of an ecosystem approach to recover the species.*

Response 34 The HCPs would not affect the PUDs' responsibilities under other Federal, State, Tribal, or local statutes. In addition, parties that do not sign the HCPs can pursue these Federal, State, or local statutes if they are in disagreement with the PUDs' approach in implementing the mitigation measures associated with the HCPs. However, as a result of an agreement with USFWS, NMFS is the only agency with mandatory conditioning authority for the listed anadromous fish species under the Federal Power Act and the Endangered Species Act. FERC could require additional mitigation measures during relicensing procedures, although if these additional measures were inconsistent with the HCPs, the parties could withdraw from the agreements.

These comments were generally associated with the ability for resource agencies and Tribes to pursue reservoir drawdown, dam removal, or other viable non-power options to recover the

species. See FEIS Section 2.6, Alternative Comparison that discuss the application of the protection provisions of other laws and statutes for the two action alternatives. These other laws and statutes would be available to non-signatory parties to the HCPs to protect Mid-Columbia River fish stocks. See Table 2-8 of the FEIS to reflect the protection provisions of other laws. The results of the analyses conducted for this project indicate that dam removal would not meet the extinction risk criteria if recent environmental conditions continue.

The QAR analyzes the HCP fish protection measures combined with other foreseeable protection measures expected to occur at other Columbia River projects. Because fish protection measures are expected to be similar between Sections 7 and 10 for listed species, the report results describe long-term risks associated with both alternatives. The HCPs are an appropriate vehicle for supporting adaptive management. The HCPs are based on a results-oriented approach that requires an adaptive management approach to reach the survival goals. Alternative 3 provides a systematic and regular process for evaluating and reevaluating survival rates for all Plan species at the projects to facilitate adaptive management opportunities. Under Alternative 2, evaluations would likely be of a similar scope, but would focus primarily on listed species.

The decision not to use an overall ecosystem-based management approach in developing the HCP occurred in the early 1990s, and was not developed in further detail because it was determined to be too difficult and costly to obtain quantitative information on the effects of the projects on all of the fish and wildlife species that occur within the vicinity of the projects. The decision was then made to concentrate on a multi-species level as opposed to an ecosystem level with all species present in the project area. This resulted in focusing on Endangered Species Act-listed anadromous fish species that would be considered under Section 9 of the Endangered Species Act, as well as the unlisted species for which NMFS is the responsible reviewing agency.

Dam Operations-Related Questions

Comment 35 *Several commenters requested clarification on the fish bypass options that could occur under the different alternatives, their potential effectiveness, and their impacts to non-Plan species. These options include turbine intake screens, spill, and surface collection systems.*

Response 35 Bypass options (methods of passing fish using non-turbine routes of passage) include the construction and operation of structures specifically designed to provide safe routes of passage to migrating fish on one end of the spectrum and voluntary release of water through spillways at the other end. Structural remedies (including turbine intake screens and surface collectors) are typically limited by constraints resulting from the unique characteristics of each project, while spill is most often limited by total dissolved gas restrictions. At present, a combination of bypass systems and spill levels appear to provide the most effective fish bypass systems at mainstem Columbia River projects. Furthermore, until issues relating to water quality impacts and the overall effectiveness of spill are resolved and determined, there is no indication that spill will be the only measure to be used to aid in increasing survival rates of juveniles passing the dams.

Bypass systems, spill, or some combination of these measures are currently being used to aid fish passage at the Mid-Columbia River projects, and would therefore likely be required at the PUD projects under either Alternative 2 or 3. Douglas County PUD has already developed a spillway bypass system at the Wells Project that has been in operation for over a decade. Chelan County PUD has recently received a FERC order (issued after consulting with NMFS) allowing the construction and operation of a screened bypass system at the Rocky Reach Project, which is expected to be operational prior to the 2003 migration. Spill is expected to continue at the Rocky Reach Dam to supplement the bypass facility. No bypass system is currently under consideration

for the Rock Island Project, although bypass systems have been tested at both power houses at Rock Island in the past. A bypass system would likely be considered at the Rock Island Project should proposed measures (including a 20 percent spill rate) fail to meet survival requirements under either action alternative.

Protection of non-Plan species (e.g., lamprey, sturgeon, and bull trout) would occur in the same manner under both action alternatives. Section 7 consultation would occur for bull trout under both Alternatives 2 and 3 (as it is a listed species), while protection for other species would occur through compliance with the Federal Power Act.

The FEIS describes procedural differences between the alternatives and how these might differentially affect the Plan species. In addition, survival rates for the various fish passage routes at the projects are discussed, but the fish protection tools that may be used to achieve performance standards are not specified. Under Alternative 2, NMFS would issue FERC a biological opinion on a proposed Federal action. If NMFS determined that the proposed action would jeopardize the continued existence of the listed species, NMFS would provide a reasonable and prudent alternative that describes the fish protection measures necessary to avoid jeopardy. For Alternative 3, the PUDs would select the methods for achieving survival under Phase I. The coordinating committees would select the methods under Phase II. These decisions would likely change over time, depending on subsequent evaluations and the development of new technologies for measuring survival standards.

The benefits and disadvantages associated with installing screens are discussed in FEIS Section 4.2.3.2, Other Plan Species. For Alternative 2, specific protective measures for listed species would likely occur through Section 7 consultations and FERC license amendments. For unlisted species (salmon and other aquatic species), protective measures would be pursued primarily through Federal Power Act processes (relicensing procedures or amendments to the existing licenses). For Alternative 3, the Plan species would be protected by the same no net impact standard as the listed species. This would include satisfying the 95 percent juvenile dam passage, 93 percent juvenile project passage, or 91 percent combined adult and juvenile total project passage survival standards. Under Alternative 3, the protective measures would occur immediately for all species, while under Alternative 2, the protective measures could be delayed through litigation (this is particularly likely in the case of unlisted species). Under Alternative 2, it is also more likely that less protective measures (for example, lower spill levels or a shorter duration of spill) would be implemented for unlisted species than for listed species. Under both alternatives, other species would be protected through other processes, such as FERC relicensing and Endangered Species Act consultation (should the fish species become listed in the future).

Comment 36 *Several commenters requested additional information on recent estimates of juvenile mortality rates specific to passing the projects, as well as the effects of project operations on adult salmonids.*

Response 36 Project survival studies better estimate direct, indirect, and delayed effects than dam passage or passage route-specific studies, because the studies typically span a longer time period and account for some variability in passage conditions through the outmigration season. Passage route-specific evaluations rarely estimate indirect and delayed effects because the evaluations typically occur over a shorter time frame and test specific or limited operational conditions. As a result, these latter evaluations might not be as representative of the typical or average passage conditions experienced by the species. However, for some species it will not be possible to conduct project survival studies due to the limited number of fish available for the studies and their body size

relative to the tagging method required. In these cases, verification would likely be through studies with representative species.

The revised HCPs identify the calculation of dam passage survival (based on assumed passage and survival parameters) as a measurement of last resort. If at all possible, juvenile project survival or dam passage survival of Plan species would be measured through specific survival studies. Of these three options, only by meeting the 93 percent juvenile project survival standard can a PUD receive a Phase III (Standard Achieved) determination. The emphasis has been shifted from dam passage survival (measured or calculated) to project survival estimates (see Table 3-4 of the FEIS). Thus, the verification of survival under either action alternative would likely rely on project survival studies rather than passage route-specific studies.

Turbine survival data do not exist for all species at the PUD projects, and the available data are primarily estimates of direct mortality established through balloon-tag studies. These estimates do not fully take into account indirect or delayed mortality due to potentially increased predation susceptibility resulting from the effects of turbine passage. In addition, some of the data were collected before recent changes at the projects (turbine modifications to increase survival) were completed. Therefore, additional data from other sources were used to establish average baseline conditions. The numbers included in Table 2-4 represent a composite of relevant data for specific projects or similar projects in the basin.

The Federal Columbia River Power System biological opinion (NMFS 2000a) concluded that, although power peaking can affect spawning adults, egg incubation, and fry rearing stages, power peaking alone does not have a significant adverse effect on migrating salmon at the mainstem Federal projects.

Peak turbine efficiency refers to conditions that minimize the turbulence and cavitation of water passing through the turbines, resulting in greater power production. These conditions are believed to produce better conditions for fish passing through the unit by minimizing pressure differences caused by these factors, which can injure or kill fish. References were changed throughout the FEIS to refer to “peak power efficiency” and text was added to FEIS Section 2.2.2, Dam and Reservoir Operations explaining the concept.

Refer to Comment #58 for a discussion of adult passage, adult survival standards, and the effects of project operations on adult passage.

Tribal Issues – Legal Responsibilities

Comment 37 *The HCPs address the Endangered Species Act, but NMFS and other Federal agencies also have duties and obligations to fulfill trust responsibilities toward Tribal trust resources. In particular, the Secretarial Order 3206 also requires that the agencies ensure that the Tribes not bear a disproportionate share of the conservation burden for listed species (Section 5, Principle 3). In addition, the Federal Government’s responsibility to manage trust resources would be transferred to non-Federal entities who are not accountable for breaches of Federal trust and treaty obligations.*

Response 37 The HCPs specifically recognize Federal obligations to protect Tribal treaty/trust resources, and state in the Miscellaneous sections (Section 12.11 [Miscellaneous, Indian Tribal or Treaty Rights] of the HCPs) that “[n]othing in this agreement is intended to nor shall it in any way abridge, limit, diminish, abrogate, adjudicate, or resolve any Indian right reserved or protected in any treaty, executive order, statute or court decree. This Section shall be deemed to modify each and every

Section of this Agreement as if it is set out separately in each Section.” Additional protections are also described in HCP Sections 12.12 and 12.13 [Miscellaneous, U.S. v Oregon and No Precedent/Compromise of Disputed Claims]. Formal consultation between NMFS and the Tribes on a government-to-government basis will include discussion of these issues, which would occur prior to issuance of a Record of Decision (ROD) or a final biological opinion on the HCPs. It is the intent of NMFS that the HCPs will aid in increasing the wild stock of anadromous fish over time, thereby allowing for an increased Tribal take of hatchery fish when the wild stocks reach minimum escapement levels necessary for recovery. The relationship between the proposed HCPs and the Federal Government’s Tribal treaty trust responsibilities is discussed in FEIS Section 4.12.17, Legislation Pertinent to Tribal Governments.

During preparation of the HCPs, the Tribes have been continually informed and invited to participate. The Tribes participate directly and through the Bureau of Indian Affairs and the Columbia River Inter-Tribal Fish Commission. The five principles of the 1997 Secretarial Order #3206 (American Indian Tribes and the Endangered Species Act) have been followed in development of these agreements. These principles are (1) working directly with the Indian Tribes on a government-to-government basis to promote healthy ecosystems, (2) recognizing that Indian lands are not subject to the same controls as Federal public lands, (3) assisting Tribes in developing and expanding Tribal programs so that healthy ecosystems are promoted and conservation restrictions are unnecessary, (4) being sensitive to Indian culture, and (5) making available to Tribes information related to Tribal trust resources and Indian lands and to facilitate the mutual exchange of information.

Principle 3 of Secretarial Order 3206 also includes the following components: (A) the Departments shall take affirmative steps to assist Indian Tribes in developing and expanding Tribal programs that promote healthy ecosystems, (B) the Departments shall recognize that Indian Tribes are appropriate governmental entities to manage their lands and Tribal trust resources, and (C) the Departments, as trustees, shall support Tribal measures that preclude the need for conservation restrictions. Although the HCPs are not Tribal programs, the anadromous fish within the Columbia River are considered a traditional Tribal treaty resource. Implementation of the HCPs is intended to support a comprehensive strategy for protecting and recovering the five Plan species that pass through the three dams (Wells, Rocky Reach, and Rock Island), thereby promoting a healthy ecosystem. The conditional implementation strategy under Alternative 3 was developed to ensure a speedy recovery relative to Alternative 2 (refer to FEIS Section 2.6.5, Implementation Schedule), where lengthy legal proceedings may occur if FERC or the PUDs disagree with NMFS’s decisions on the actions needed to ensure survival and recovery of listed species. Alternative 3 sets specific time limits on decision-making procedures and restricts the abilities of all the signatory parties to seek legal remedies to outstanding issues that may impede decision-making progress and implementation of needed conservation measures to improve survival.

Management of Columbia River Basin listed anadromous fish species would continue to be under the authority of NMFS under all alternatives. The HCPs (Alternative 3) are limited to meeting specific performance standards for the Plan species passing through the hydroelectric structures associated with the Wells, Rocky Reach, and Rock Island dams. As described in the Quantitative Analysis Report (QAR), the actions associated with Alternative 3 are a single component of a series of recovery actions planned by NMFS to recover listed fish species. Implementation of either Alternative 2 or 3, alone, is not expected to recover these fish. All other aspects of the trust responsibilities and treaty obligations are maintained by NMFS.

Comment 38 *If the Permit species continue to decline, and the PUDs are fulfilling their obligations under the HCPs, how will NMFS ensure that the agency fulfills its trust responsibility for providing harvestable fish populations? The EIS should include an analysis of this possibility and the effect of the No Surprises policy on NMFS's trust responsibility.*

Response 38 The revised HCPs acknowledge that the Services (NMFS and USFWS) could withdraw from the HCPs and NMFS could revoke a permit (even if the project has achieved and maintained the no net impact standard) if the Plan species are not rebuilding and the project is a significant factor in the failure to rebuild (see Section 2.2.1 of the Wells HCP [Termination Automatic Termination Events] and Section 2.1 of the Rocky Reach and Rock Island HCPs [Withdrawal From Agreement, Enough Already). This could occur after 2013 at the Rocky Reach and Rock Island projects and after 2018 at the Wells Project.

Comment 39 *Alternative 3 may expose the Federal Government to liability for failing to sufficiently manage and protect the Tribes' treaty-reserved resources because NMFS would be required to carry the burden of proof in a dispute resolution process with time and evidentiary limitations. Alternative 3 effectively and impermissibly transfers NMFS's management authority to project operators, thereby violating its trust responsibility to the Tribes and perhaps exposing the Federal Government to liability for failing to properly manage treaty-reserved resources.*

Response 39 In response to the Tribes' comments, the revised 2002 HCPs deleted the language that was contained in the 1998 HCPs where NMFS or any other party bringing an action to enforce the HCPs had the burden of proof. The entire dispute resolution provision of the revised HCPs was removed, with the exception of a requirement that disputes first be addressed at the technical level in the coordinating committees and then at a policy level in the policy committees prior to bringing forth any legal proceedings. The revised HCPs changed the approach used to make decisions under the HCPs. Decisions are subject to unanimous agreement by all parties to each of the various committees; thus, each party retains the authority to effectively veto any action or decision. If a resulting dispute cannot be resolved through technical and policy level meetings or voluntary, non-binding mediation, any party may exercise whatever right it may otherwise have under applicable law. Furthermore, NMFS has the discretion to enforce compliance with the HCPs and its permits. The HCPs do not limit any responsibility or obligations of NMFS to the Tribes. The revised HCPs state that the withdrawal and termination provisions are not subject to the No Surprises policy.

Tribal Issues – Harvest

Comment 40 *The HCPs lack assurances that the 7 percent hatchery compensation will be achieved or allowed, which is necessary to produce sustainable and harvestable fish populations.*

Response 40 Although the tools used to reduce salmon mortality through the dams under the HCPs (Section 10 [Endangered Species Act Compliance] 10) may be different than those used under Section 7, the overall goals of reducing mortality are the same. Therefore, there are no expected differences in the amount of harvestable fish available to Tribes between the action alternatives. The purpose of either a Section 7 or Section 10 consultation is to allow for the “incidental take” of endangered and threatened species so that an applicant is exempt from take prohibitions under Section 9 of the Endangered Species Act. The PUDs have voluntarily included in the HCPs a commitment to rebuild stocks of unlisted species to sustainable, harvestable populations; however, the utilities are not required to conduct this effort under either Section 7 or Section 10 of the Endangered Species Act.

The HCPs attempt to balance the conservation of Endangered Species Act-listed and unlisted anadromous Plan species with the Federal Government's treaty trust obligations to provide meaningful Tribal harvest, on both a short- and long-term timeframe. This includes the difficulties of providing these harvest opportunities under the harvest rate restrictions for Endangered Species Act-listed species in a mixed stock fishery. The harvest element of the Columbia River Basinwide Salmon Recovery Strategy (Federal Caucus 2000) states that there is "no more important harvest reform than discontinuing the former practice of overfishing natural fish to fully harvest hatchery fish." The strategy further states that, "Unless and until more effective selective fishing techniques are used, it will be difficult or impossible to fully realize the benefits of hatchery programs."

The Columbia River Basinwide Salmon Recovery Strategy recommends that the overall harvest rate of Upper Columbia River spring-run chinook salmon continues to be capped at 6 to 9 percent, depending on the run sizes of natural origin fish. This harvest rate is primarily intended to accommodate a base level fishery for the Tribes. Thus, under this recovery strategy, the Tribal harvest will continue to be limited by the abundance of naturally produced adult fish, unless effective selective harvesting techniques are developed. For example, the harvest of the relatively large runs of hatchery spring-run chinook salmon in the last 2 years has been limited by the relatively low abundance of naturally spawned fish.

The HCPs are intended to protect, enhance, and restore the populations and habitats of not only the Endangered Species Act-listed species but all Plan species for the purpose of establishing and maintaining naturally spawning populations that are capable of supporting a sustainable fishery. Establishing stable, naturally spawning populations capable of supporting a fishery will also allow greater harvest rates on hatchery stocks. Therefore, goals developed to maximize the opportunities to harvest hatchery fish and rebuild the naturally spawning populations are expected to enhance the harvest opportunities for both Tribal and non-Tribal fishers. These goals would satisfy both the specific provisions of the Endangered Species Act and the Federal trust responsibilities.

Balanced with the fundamental need to protect the naturally spawning populations, is the need to compensate for unavoidable mortality associated with the PUD hydroelectric projects. The HCPs propose hatchery supplementation to mitigate for 7 percent unavoidable mortality associated with each project. However, it is unknown at this time whether that level of supplementation will increase harvest opportunities or lead to the recovery of Endangered Species Act-listed species. It is also possible that 7 percent hatchery supplementation will result in the continued decline in natural spawning populations due to the negative influences that hatchery fish can have on wild stock. These negative influences may include competition for food and space, disease transmission, direct predation, and a decrease in genetic diversity.

Many Columbia River hatchery programs were originally started to replace natural production losses associated with hydroelectric development, but not necessarily to protect or rebuild natural populations. Recent changes in the goals and practices of these hatchery programs focus on producing fish that pose a lower risk to natural populations. This is accomplished by either minimizing the negative interactions with natural populations or using natural broodstocks. This has led to an increased reliance on natural broodstocks to fulfill hatchery program needs. Nevertheless, it is recognized that the recovery of natural populations cannot be achieved simply by releasing more hatchery-produced fish, regardless of their ancestry or fitness.

Because of the wide range of scientific and policy opinions regarding the purpose and appropriate use of artificial production in specific circumstances, NMFS recommends a variety of hatchery

strategies, coupled with an adaptive management approach. Therefore, NMFS is unable to guarantee a 7 percent supplementation rate throughout the term of the 50-year agreement, although their goal is to achieve this rate whenever possible. To provide some level of assurance to the Tribes on this issue in the near future, the signatory parties revised several components of the Hatchery Compensation Plan. First, the parties detailed the initial production levels that must be obtained to meet the no net impact standard for each project. Second, the parties agreed that hatchery production commitments, except for original inundation mitigation, shall be adjusted in 2013 and every 10 years thereafter to achieve and maintain no net impact. Thus, production levels, including those initially specified in the HCPs, shall be stable for 10-year intervals. This alteration was made to both provide greater assurances to the Tribes with respect to production levels (and harvest opportunities), and to allow sufficient amounts of time to pass (approximately 2 to 3 generations) to assess the effects of previous changes to the hatchery programs. Furthermore, the supplementation programs contained in the Rocky Reach and Rock Island HCPs through 2013 are double that which is necessary to contribute 7 percent toward no net impact. In addition, in response to requests from the Tribes, the revised HCPs expressly provide for supplementation programs for coho salmon and Okanogan Basin spring-run chinook salmon.

Comment 41 *NMFS should also take into consideration the factors that led to the initial decline of salmon and steelhead, and provide analyses that examine the impacts that the various alternatives would have on the sustainability of the salmon populations and the ability of such populations to meet broad (beyond mere Endangered Species Act) recovery goals. The EIS should include a quantitative analysis of take for listed species under the proposed alternatives and the probability of reaching sustainable populations that provide harvestable surpluses for treaty and non-treaty fisheries. The EIS should include survival, recovery, and delisting goals relative to sustainable and harvestable populations for anadromous fish.*

Response 41 NMFS must comply with NEPA and Council on Environmental Quality (CEQ) regulations in the preparation of this EIS on NMFS's decision to issue the requested permits under Section 10 of the Endangered Species Act. In the context of decisions before NMFS, there is no requirement to evaluate factors for the decline of salmon and steelhead. Such an analysis was conducted by NMFS in its status reviews of Upper Columbia River salmon and steelhead populations, and in its listing decisions for Upper Columbia River steelhead and spring-run chinook salmon.

When conducting the formal consultation on the issuance of the permits described in this FEIS, NMFS is required to analyze the effects of past and ongoing human and natural factors leading to the current status of the listed species, its habitat, and ecosystem, within the action area. In formal consultation pursuant to Section 7(a)(2) of the Endangered Species Act, NMFS must also determine whether or not the proposed action is likely to "jeopardize the continued existence of any listed species," defined as, "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species" (50 CFR Part 402.02 – Definitions). The Quantitative Analysis Report (QAR) analysis was designed specifically to provide NMFS with the necessary information to make such an assessment. The analysis contained in the QAR exceeds the level of detail required by NEPA and CEQ's regulations. A summary of the QAR is attached to the FEIS (Appendix E) and was considered in its preparation.

Harvestable populations cannot be defined adequately for the purpose of conducting a quantitative analysis. Some might argue that, because some level of treaty and non-treaty harvest is currently allowed (varying by year, location, and adult return estimates) even while many populations in the Columbia River Basin are listed, the populations are currently harvestable.

Others might argue that harvestable populations are best defined by population levels equal to historic (pre-European) levels.

When making decisions to correct the decline of salmon and steelhead, NMFS will comply fully with all applicable Federal laws and executive orders. These include trust responsibilities applicable to the unique and longstanding relationship between the U.S. Government and the region's Federally recognized Indian Tribes. The QAR established interim recovery goals for the listed species and determined the probability of achieving these goals with the HCP performance standards (see Chapter 5 of the FEIS and Appendix E). These recovery goals included current harvest levels. NMFS views meeting these standards as a critical step in recovering the listed species to levels that will allow future increases in treaty and non-treaty harvest opportunities. Under Alternative 3, the same performance standards are set for both listed and unlisted Plan species.

Survival rates of juvenile and adult fish passing the projects are estimated in FEIS Section 2.2.3, How the Dams Affect Migrating Fish and Table 3-4 [Calculated Juvenile Fish Passage Survival Estimates by Passage Route], representing the baseline level of "take." Specific performance standards for reducing this take and the methodology for evaluating the level of take over time are set in Alternative 3.

Tribal Issues – No Surprises Policy

Comment 42 *The No Surprises policy should be extended to the Tribes, and provisions should be included in the HCPs to protect the Tribes if future litigation should arise.*

Response 42 The No Surprises policy applies specifically to an applicant who is issued an incidental take permit under Section 10 of the Endangered Species Act, and does not apply to Federal trust or treaty responsibilities. The Tribes have the option of participating in the HCPs as a signatory party. If the Tribes elect to sign the HCPs, then the Tribes directly receive the benefits of the HCPs. Even if a Tribe does not sign the HCPs, the Tribes nevertheless receive indirect benefits as a result of the commitments made by NMFS.

To provide some level of assurance to the Tribes on hatchery production and harvest issues in the near future, the signatory parties revised several aspects of the Hatchery Compensation Plan in the 2002 HCPs. First, the parties detailed the initial production levels that must be obtained to meet the no net impact standard for each project. Second, the parties agreed that hatchery production commitments, except for original inundation mitigation, shall be adjusted in 2013 (2018 for the Wells Project) and every 10 years thereafter to achieve and maintain no net impact. Thus, production levels, including those initially specified in the HCPs, shall be stable for 10-year intervals. This change was made to both provide greater assurances to the Tribes with respect to production levels (and harvest opportunities), and to allow sufficient amounts of time to pass (approximately 2 to 3 generations of fish) to assess the effects of previous changes to the hatchery programs.

NMFS believes that this level of assurance is roughly equivalent to the assurances provided to the applicants in the revised HCPs (i.e., that NMFS may withdraw from the agreements and revoke the permits after 2013 for the Chelan County PUD projects and 2018 for Douglas County PUD's Wells Project) if the stocks are not rebuilding and the projects are a significant factor in the failure to rebuild. Provisions were also included to indicate that the HCPs were not intended to create jurisdiction in any court (see HCP Section 11.3 [Dispute Resolution, No Intent to Create Jurisdiction]) nor in any way "abridge, limit, diminish, abrogate, adjudicate, or resolve any Indian

right reserved or protected in any treaty, executive order, statute or court decree” (Section 12.11 [Miscellaneous, Indian Tribal Treaty or Reserved Rights]), that the HCPs do not change the jurisdiction of the court in U.S. vs. Oregon, 302 F. Supp. 899 (D. OR 1969) or the parties’ positions therein (Section 12.13 [Miscellaneous, No Precedent/Compromise of Disputed Claims]), and that the HCPs are not intended to establish a precedent or be interpreted as the position of any party in any proceeding not dealing specifically with the terms of this agreement (Section 12.12).

Comment 43 *Several commenters questioned the appropriateness and legality of including a No Surprises policy in the HCPs, suggesting that such assurances are inappropriate for HCPs of this type, covering facilities on a public waterway that are inextricably interconnected with other facilities and activities not covered by the HCPs, all of which affect the anadromous fish populations at issue.*

Response 43 In response to the concerns expressed in comments on the DEIS, the withdrawal and termination provisions contained in the HCPs supercede application of the No Surprises policy. In addition, Section 2 (Termination under Wells and Withdrawal from Agreement for Rocky Reach and Rock Island) of the HCPs now define circumstances under which NMFS may withdraw from the agreement and revoke the permits after 2013 for the Rocky Reach and Rock Island projects and after 2018 for the Wells Project, should no net impact not be achieved or the stocks fail to rebuild (see Section 2 of the HCPs).

The HCP handbook (USFWS and NMFS 1996) states that “[t]he Section 10 process is an opportunity to provide species protection and habitat conservation within the context of non-Federal development and land and water use activities ... allowing economic development that will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” Therefore, an HCP can be proposed where a Federal agency is involved in a cooperative planning effort in which both Federal and private lands are addressed under a single HCP but the Federal agency is not the applicant or the primary partner in the plan. For the Wells, Rocky Reach, and Rock Island HCPs, the PUDs are the applicants and project owners.

The No Surprises policy applies to the HCPs for utility-owned dams, rather than the Columbia River. The actions that would be implemented under the HCPs can be implemented independently of actions that occur at other Columbia River dams, hatcheries, or tributary areas. The permits granted with the implementation of the HCPs would cover the incidental take of listed species as a result of project operations, including direct, indirect, and delayed effects wherever they occur. The No Surprises policy applies to the mitigation for that take and not to the overall condition of the resource, or the other factors that can affect the recovery process.

Tribal Issues – Not in Agreement with HCPs

Comment 44 *Several commenters requested that the FEIS clearly indicate that although the Tribes and other resource agencies were involved in the HCP development, it should not be inferred that they agree with the current HCP provisions. The Tribal comments specifically stated that they do not agree with the provisions of the HCPs, because the Tribes have reserved the right to accept the HCPs only if all outstanding issues have been resolved. In addition, the hatchery compensation component of the HCPs is not the only HCP issue that concerns the Tribes. Several commenters indicated that the NEPA review process should be halted until all the HCP issues are resolved to the satisfaction of all the parties involved in the process.*

Response 44 Between September 2001 and March 2002, the parties that developed the 1998 HCPs (including the Tribes) began a round of intensive negotiations to resolve outstanding issues, including those specifically raised from DEIS public comments. A number of additions and revisions were made to the HCPs to address all Tribal concerns brought to the table. All of the negotiating entities (NMFS, USFWS, WDFW, Colville, Chelan and Douglas County PUDs, and Douglas County PUD's power purchasers) (with the exception of the Yakama and Umatilla Tribes and American Rivers) have signed the revised HCPs, signifying that these issues were resolved to their mutual satisfaction. It is NMFS's understanding at this time that the Yakama and Umatilla Tribes have decided not to sign and that American Rivers is still considering whether or not to sign the revised HCPs.

USFWS and NMFS (the Services) encourage all HCP applicants to invite and include other Federal and State agencies who can utilize their existing authorities, expertise, or lands in support of the HCP development and implementation process. Furthermore, the Services will consider whether the proposed HCPs might affect Tribal rights to trust and treaty resources. After careful consideration of the Tribes' concerns, the Services will clearly state the rationale for the recommended final decision and explain how the decision relates to the Federal Government's trust responsibilities. In light of this obligation, it was important that during the planning process, the Services identified and evaluated any anticipated effects of a proposed HCP upon Indian treaty and trust resources.

The EIS review process fulfills NMFS's NEPA compliance obligations as required for HCPs. Using the NEPA FEIS and biological opinion that will be prepared for the HCPs, NMFS will evaluate whether the HCPs satisfy provisions of Section 10 of the Endangered Species Act. Although NMFS would prefer that all parties involved in the HCP negotiation process sign the HCPs and participate in their implementation through the HCP committees, there is no Section 10 requirement that all the resource managers sign the HCPs.

Comment 45 *The DEIS does not mention the Yakama Nation's effort to resolve HCP issues of importance to the Yakama Nation with NMFS.*

Response 45 Prior to issuing the DEIS, NMFS staff had many discussions with staff of the Yakama Tribe and the other Joint Fisheries Parties to better understand and attempt to resolve remaining issues in the HCPs. Since the issuance of the DEIS, NMFS has continued to work with the original parties that developed the HCPs to resolve these issues, as well as additional issues identified in DEIS public comments. This effort culminated in the revised HCPs, which were provided to all potential signatory parties in March of 2002 for their consideration and signature. NMFS believes that the revised HCPs satisfactorily resolve the important issues raised in DEIS public comments or through continued discussions with staff representing the Joint Fisheries Parties. NMFS is fully aware of its trust relationship with the affected Tribes and is committed to working with these entities to protect anadromous fish resources under either action alternative.

Comment 46 *Tribal biologists requested dual complementing components for the no net impact statement that included a fish passage efficiency standard.*

Response 46 The HCP survival standards and Survival Standard Decision Matrix contained in the revised HCPs (see Figure 2-4 of the FEIS) represent a process for measuring the survival of adults and juveniles passing the dams and projects to the greatest extent that available technology allows (see HCP definitions of survival standards). Fish passage efficiency, typically defined as the proportion of juvenile fish passing a project using a non-turbine passage route, is at best an indirect measure of juvenile survival. Intuitively, increasing fish passage efficiency (by

increasing spill for example) should increase juvenile survival rates by reducing the proportion of juveniles passing through turbines—which is often the route of passage having the highest mortality rates. However, many other factors must be considered: high rates of spill might result in (1) gas bubble disease in juvenile and adult anadromous or resident fish, (2) tailrace conditions that decrease juvenile survival and delay adult passage, and (3) increased rates of fallback for adults. Thus, while fish passage efficiencies might be useful in assessing the potential benefits of alternative project operations on juvenile migrants, NMFS believes that the survival standards are the most appropriate for measuring whether or not the no net impact standards are being achieved. Fish passage efficiency estimates were used in the revised Rocky Reach HCP to adjust and set fish spill for the 2004, 2005, and 2006 migrations (see Section 5.4.1.a. [Passage Survival Plan Phase I Plan to Achieve Survival Standards, Juvenile Measures, Adjustment Period] of the Rocky Reach HCP [2002]).

Section 7 Consultation and Endangered Species Act-Related Questions

Comment 47 *Several commenters suggested that Section 7 consultation and relicensing procedures (where appropriate) should not be initiated until the HCP process has reached a satisfactory conclusion. Some concern was also expressed that the “conditional implementation” of the HCPs is resulting in the illegal taking of listed species because there is no Section 7 biological opinion for this action. Full mitigation for both listed and unlisted species has not been provided. Therefore, the HCPs will continue the taking of the species and lead toward their extinction.*

Response 47 Under the FEIS process, different alternatives can be selected for each of the three Mid-Columbia River hydroelectric projects. As a result, the relicensing process for Rocky Reach Dam is continuing on a parallel course, pending the outcome of the HCP. If Alternative 2 is selected for Rocky Reach Dam, Section 7 consultation between NMFS, USFWS, and FERC will satisfy the Endangered Species Act requirements of the FERC relicensing process. Outside relicensing, Section 7 consultations have occurred as a result of Federal actions at the Wells and Rocky Reach projects. Biological opinions for the Wells (NMFS 2000b) and Rocky Reach (NMFS 2002a) projects have been completed, but the biological opinion for the Wells Project has expired. No formal consultation on the Rock Island Project is occurring at this time. Although both Section 7 and Section 10 consultations attempt to minimize or mitigate for take associated with a particular activity, there is no expectation that take will not occur.

Both the Wells and the Rock Island projects are providing full hatchery mitigation for their project impacts as provided under the terms of their respective long-term settlement agreements. These agreements include hatchery mitigation based on an estimated 14 percent fish passage mortality. Because the HCPs permit a maximum of 7 percent mitigation through hatchery production, the hatchery production under Alternative 3 would be decreased compared to existing conditions. However, the revised HCPs allow for greater than 7 percent hatchery mitigation until 2013. Refer to Table 4-1 of the FEIS for specific hatchery production levels under Alternative 3. Under the HCPs, Rock Island hatchery mitigation will continue as part of the Rocky Reach mitigation plan through 2013. Hatchery mitigation for the Wells Project would be adjusted based on survival study results to reflect actual survival for yearling chinook salmon and steelhead and will remain at a full 7 percent for subyearling chinook and sockeye salmon.

NMFS has identified that Alternative 3 is the preferred alternative. Assuming that the HCP meets Section 7 consultation requirements for listed anadromous fish, NMFS would issue the incidental take permits, and FERC would amend the project licenses accordingly. Any HCP-related effects on listed bull trout, bald eagles, and Ute ladies' tresses would be addressed through Section 7 consultations with USFWS. Regardless of the selected action alternative, a biological opinion

supporting either an incidental take statement to authorize any incidental take by the Federal action agency (Section 7) or an incidental take permit that authorizes any incidental take by the Section 10 permittee would be required. See FEIS Section 1.5.2, Overview of Federal Requirements for Species Conservation that explain the PUDs' and FERC's roles and responsibilities in the two permitting processes.

Other Species

Comment 48 *Several commenters requested that lamprey, sturgeon and bull trout be included as Plan species in the HCPs. They also indicated that the FEIS did not give adequate consideration to these species, or detail how one alternative might be better than another for protecting these species.*

Response 48 The decision to include or exclude any species for an HCP is an applicant decision, and there are no provisions in the Endangered Species Act that require that all species affected by an action be included in an HCP. Although NMFS and USFWS (the Services) typically suggest that all listed species that could be subject to a take be included in an HCP, this is not required. Although these species are not included as Plan species, they were discussed and their needs taken into consideration when developing the HCPs. USFWS participated in the development of the HCPs and evaluated the HCPs to ensure that the HCPs posed no obvious problems for the needs of bull trout. The HCPs' effects on bull trout will also be evaluated in a separate Section 7 consultation. The protection of these species is expected to be the same for both action alternatives.

There are limited data concerning the status of lamprey, sturgeon, and bull trout within the project area, including the potential impacts of the Mid-Columbia River projects on these species. Although the FEIS acknowledges that these species could be affected by the projects, there is no known quantitative data available. This lack of information is one reason that the species were not included as Plan species in the HCPs, because no performance standards could be developed. However, protection and mitigation measures for lamprey, sturgeon, and bull trout are expected to occur through FERC relicensing procedures. The PUDs could request an incidental take permit for bull trout from the USFWS once sufficient information is developed.

The potential measures that could be implemented at the projects to improve fish passage are limited. Alternative 2 evaluates alternative protective measures at the projects, including elevated spill levels. It is recognized that full implementation of Alternative 2 measures is less likely for non-listed Plan species and could be substantially delayed for all species through litigation or FERC's relicensing and rehearing processes. Under Alternative 3, the measures would be implemented immediately and should improve the juvenile fish passage conditions for downstream migrating Plan and non-Plan species alike. Other potential impacts to resident fish are expected to be similar for both action alternatives, and are not a significant factor in determining the preferred alternative.

Another difference between the action alternatives with regard to non-Permit or non-Plan species is the provision of a Tributary Conservation Plan under Alternative 3. The goal of the tributary committees is to select and fund ecologically sound tributary improvement projects with the Tributary Enhancement Fund. These projects will be selected by the tributary committees and would focus on Plan species, although the potential benefits and impacts to other species would be considered in any decision. Any project that would directly affect the tributary streams (e.g., culvert removal) would require environmental permits, which would provide another layer of protection for non-Plan species. The Tributary Plan is expected to benefit all native aquatic species that occur in the tributaries. Alternative 2 does not include PUD funding of tributary habitat projects.

Neither action alternative directly addresses lamprey, sturgeon, or bull trout. Under either alternative, the protection of these species would occur through relicensing and other statutes and laws. As a listed species, however, bull trout would be addressed through Section 7 consultation under both of the action alternatives at relicensing or at the time of a Federal action, unless they were addressed through a separate incidental take permit under Section 10.

Information about these species has been added to FEIS Section 3.2.8, Species of Concern. Additional discussions of the potential benefits or impacts to lamprey and sturgeon have also been added to Chapter 4 of the FEIS for each alternative. The HCPs and the FEIS identify specific project modifications and operations that would initially be implemented through 2006 at Rocky Reach to improve fish passage survival. Under Alternative 2, FERC (at the request of the licensees) would select the bypass options or project operations to protect unlisted species at the projects. Under Alternative 3, the HCPs address Plan species, but it is reasonable to assume that they would consider the effects of actions on other species. Note that the exact changes to long-term project operations or modifications under either action alternative cannot be specifically defined, nor the specific habitat improvement projects that might be selected by the tributary committees under Alternative 3. Therefore, the environmental consequences analysis for these species is more qualitative.

Relicensing Issues

Comment 49 *The stakeholders should be allowed to participate in the relicensing of the Rocky Reach Project without the constraint of the HCPs, and the HCPs should match the existing terms of the FERC licenses for the projects. The implementation of Alternative 3 would predetermine the extent of the recovery measures at relicensing and impose conditions on subsequent licenses many years before the relicensing process. Others questioned the 50-year term of the HCPs and whether the terms should be linked to the relicensing schedule.*

Response 49 The 50-year term of the HCPs was selected to coincide to the extent possible with a typical 30- to 50-year term of a FERC license. Chelan County PUD is currently proceeding with the relicensing of Rocky Reach Dam, and the terms of the HCP and the FERC license would likely be similar. The Wells and Rock Island licenses would expire prior to the 50-year term of the HCPs. When this occurs, the PUDs would be required to proceed with the relicensing process. Although the HCPs would form the basis for mitigation measures for anadromous fish during this process, FERC has an obligation to independently ensure that adequate protection of all natural resources is provided in the license terms. Parties that sign the HCPs also commit to supporting the PUDs in the relicensing process by not recommending mitigation measures that are different from those outlined in the HCPs. However, non-signatory parties can petition FERC to have specific measures included in the license terms. Signatory parties can also petition FERC to include license terms for non-Plan species, which might also coincidentally benefit Plan species. In addition, NMFS can terminate the agreements and revoke the permits in 2013 for Rocky Reach and Rock Island and in 2018 for Wells, if the HCPs are not leading to the recovery of the species, or if the PUDs fail to meet or maintain no net impact. At this time, NMFS could seek drawdown, dam removal, or non-power operations or actions for achievement of no net impact. The HCPs would not affect any stakeholder decision to be involved in the Rocky Reach relicensing effort, although the HCPs define the positions that the signatory parties would consider in any relicensing effort.

Other time frames may not be as effective over the long term because of the significant time and effort required to negotiate and consult with the various parties on successive HCPs. For example, these HCPs have been discussed and negotiated since 1993. During this negotiation

process, the HCPs were only conditionally implemented, and this was a voluntary action by the proponents. At a minimum, Alternative 2 would match the terms of the FERC licenses because Section 7 consultation would be required for the FERC action to relicense the projects. FERC has held that absent a Federal action before relicensing, a Section 7 consultation would not commence until each project was relicensed. While Rocky Reach relicensing is commencing, relicensing for Wells is a few years off and Rock Island will not expire until 2029. However, this is mitigated at the Rocky Reach and Wells projects, as their effects on salmon and steelhead are currently addressed through existing biological opinions (though the biological opinion for Wells has expired).

The purpose of Section 10 provisions of the Endangered Species Act is to provide an alternate avenue for addressing Endangered Species Act compliance while allowing some level of certainty to the proponent. If Alternative 3 were restricted to the same time periods for Federal Power Act processes and Endangered Species Act consultations as Alternative 2, there would be little incentive to apply for a Section 10 permit. The HCP process is extremely time-consuming and expensive, and should provide a correspondingly greater level of certainty and cover a longer time period than Section 7 consultation. Although the HCPs are all separate agreements, the intent is to provide a coordinated effort throughout the Mid-Columbia River reach to address recovery issues for the Plan species. Therefore, coordinating the time frames of the HCPs is likely to be more important to the recovery process than coordinating the HCPs to the FERC license schedule. This information has been added to FEIS Section 2.3.4.2, HCP Term.

Endangered Species Act compliance is only one aspect that should be considered during the FERC relicensing process. The action alternatives cover a limited number of species that are or could be affected by the projects. Protection measures for other species would occur through relicensing under all the alternatives. As a Federal agency, FERC is bound by the responsibility to “adequately and equitably protect, mitigate damages to, and enhance, fish and wildlife (including related spawning grounds and habitat)” affected by the project (16 USC § 803(j)(1)). As such, FERC must weigh the opinions and recommendations of all of the resource agencies and stakeholders, as well as other interested parties. Non-signatory parties can raise any issue or concern during the relicensing process to document that the mitigation measures implemented as part of the HCP processes are not adequate to protect the species. The responsibilities of FERC to protect these resources would not be limited by the HCPs, and FERC would have an obligation to condition the license with appropriate mitigation measures. Before adopting the HCPs into the project licenses, FERC would determine if the HCP provisions fulfill their responsibilities, and that additional protection measures were not necessary. FERC is intending to use the FEIS to fulfill NEPA requirements and would consider all comments on the FEIS in their decision.

If salmon and steelhead populations dramatically decline in the future and the projects are determined to be a significant cause of the decline, NMFS would likely pursue significant changes to the projects (e.g., drawdown, dam removal, or non-power operations). NMFS could terminate the agreements and revoke the permits to pursue these types of options in 2013 (2018 for the Wells Project). Overall, the HCPs only affect the mitigation at three of the nine dams on the Columbia River that impact the listed species. Therefore, adequate opportunities are available to protect the species during this initial period, if the species are declining.

Other Existing Agreements

Comment 50 *Several commenters requested clarification on how the action alternatives would affect the ongoing Mid-Columbia Proceedings and agreements that are under jurisdiction of a FERC administrative law judge. There were also some concerns about how they would affect the ability*

of the Joint Fisheries Parties to regulate project operations to protect water quality and aquatic species. Others expressed concern that under Alternative 3, the Joint Fisheries Parties have the burden of proof in the dispute resolution process, while under Alternative 2 this responsibility is shared equally with the PUDs.

Response 50 FEIS Section 2.3.2, Alternative 1 (No-Action) provides detailed descriptions of the current operational requirements of the PUDs under the existing settlement agreements, which are the basis for Alternative 1. Long-term juvenile protection measures have not been established for Rocky Reach. These measures are the subject of a pending proceeding at FERC known as the Mid-Columbia Proceeding. The last interim stipulation to define the project's obligations expired in 1997. Until either a new stipulation is signed or FERC establishes license requirements, Chelan County PUD has agreed to and is currently conditionally implementing many of the agreed-upon provisions of the revised 2002 Rocky Reach HCP (Alternative 3). The Mid-Columbia Coordinating Committee has no jurisdiction absent a stipulation between the parties. The revised 2002 HCP will be presented to FERC as an offer to settle the Rocky Reach portion of the Mid-Columbia Proceeding, including a request that FERC incorporate the HCP as a special license article. The Rock Island and Wells dams have long-term settlement agreements in place, and the respective PUDs have agreed to conditionally implement many of the measures included in the revised 2002 HCPs (Alternative 3).

All three HCPs (Alternative 3) require the signatory parties to work together in addressing water quality issues. Chelan and Douglas County PUDs are also working directly with Ecology to resolve water quality issues. Alternatives 1 and 2 do not address water quality as a specific conservation measure to be implemented. However, analysis of possible spill levels in Alternative 2 does recognize the 120 percent total dissolved gas waiver granted each year at the Columbia River hydroelectric projects for the purpose of improving juvenile salmon and steelhead survival past the dams. (See response to Comment #39 for a discussion of how the burden of proof comments were addressed in the 2002 HCPs.)

FEIS Section 2.3.2, Alternative 1 (No-Action) indicates that the provisions of the existing settlement agreements would also apply under Alternative 2 for unlisted species. However, because the listed species have continued to decline under the framework of these provisions, NMFS would likely require that additional measures be implemented to protect and lead to the recovery of the listed species. In addition to potentially requiring additional measures to improve fish passage conditions at the projects, NMFS is expected to require changes to the hatchery compensation portions of the settlement agreements for spring-run chinook salmon and steelhead. These changes are expected to be similar to those that would occur under Alternative 3. Although additional measures might be required to protect and lead to the recovery of listed species under both action alternatives, the Services would likely continue to use the Mid-Columbia Proceeding's Mid-Columbia Coordinating Committee and the Wells Settlement Agreement's Coordinating Committee processes to solicit input for all major decisions under Alternative 2 (NMFS 2000b, 2002a).

NEPA/EIS-Related Questions

Comment 51 *Several commenters indicated that previous scoping comments were not specifically addressed, and the DEIS did not take a hard look at the environmental information and consequences of each alternative (particularly over the long term). Others requested changes to the Purpose and Needs section of the EIS to give greater importance to the recovery of the listed species than to the generation of electricity.*

Response 51 The purpose of scoping was to obtain information that focused the NEPA analysis on significant issues. Scoping is defined by NEPA regulations (40 CFR 1501.7) as “an early and open process for determining the scope of issues related to a proposed action.” All comments provided during this process were considered in identifying the issues associated with the proposed action (Parametrix 1999b). Generally, letters received during scoping do not receive response letters from the lead agency unless there is a specific request in the comment letter.

Protection of listed species and compliance with the Endangered Species Act is included in the Purpose and Need section (see FEIS Section 1.3, Purpose and Need). The purpose includes ensuring stable power supplies and pricing for the utility’s customers. An additional statement was added to FEIS Section 1.3, Purpose and Need regarding the need to operate for power production while protecting fish.

As a result of the DEIS public review process and subsequent 2002 HCP negotiations, the FEIS was revised to include additional mitigation measures raised during the DEIS public review process for the action alternatives. These two alternatives include a variety of mitigation measures for comparison. In addition, the FEIS notes that the timing and certainty of implementation varies between the two action alternatives. Under Alternative 3, the mitigation measures will be implemented immediately, while under Alternative 2, they might be implemented after several or many years have elapsed, depending upon the likelihood and length of litigation and FERC’s decision and appeal process. Alternative 3 also immediately affords the same protection for unlisted as listed Plan species, which is less likely to occur under Alternative 2 for the same reasons as those mentioned above for listed Plan species.

The FEIS also includes a review of the Quantitative Analysis Report (QAR) (see Chapter 5 of the FEIS and Appendix E) that describes the long-term risks associated with Alternative 3 relative to the recovery of the listed species. Off-site mitigation in the form of PUD funding of tributary enhancement projects is not included under Alternative 2 (see FEIS Section 2.6.6.2, Alternative 2). Hatchery production under Alternative 2 is addressed through the existing settlement agreements or during relicensing, although specific changes to the allowable compensation level could result from the Section 7 consultation. Detailed information about the effects of the alternatives on anadromous fish is presented in FEIS Sections 4.2.2, Alternative 2 and 4.2.3, Alternative 3.

Quantitative Analysis Report

Comment 52 *The Quantitative Analysis Report (QAR) states that additional survival improvements beyond those projected for the draft HCP actions would be necessary to achieve extinction risk/recovery criteria. This information should be analyzed in the FEIS, as well as the potential for enforcing the necessary changes in the Lower Columbia River.*

Response 52 The purpose of the FEIS is to inform the public and decision-makers about the environmental effects of a reasonable set of alternatives. Final determination of whether the selected alternative meets the requirements of the Endangered Species Act or includes all of the necessary mitigation measures for species protection will occur with the issuance of a biological opinion. Under Alternative 2, NMFS would issue a biological opinion to FERC. Under Alternative 3, NMFS would issue a biological opinion to itself (in this instance NMFS would be the action agency proposing to issue a Section 10 permit to the PUDs) and make the finding required by Section 10 of the Endangered Species Act.

In either case, NMFS must ultimately issue a biological opinion determining whether or not the proposed action is likely to jeopardize the continued existence of the listed species. Also in either case, a jeopardy determination would require NMFS to provide the action agency with a reasonable and prudent alternative that includes measures necessary to avoid jeopardizing the listed species. These recommendations may not necessarily be those specified in the HCPs. The determination of Federal Power Act compliance will occur after Section 7 consultation with FERC and the resulting relicensing or license amendment process conducted by FERC.

Section 7 of the Endangered Species Act requires all Federal agencies, in consultation with NMFS and USFWS (the Services), to ensure that any action “authorized, funded, or carried out” by any such agency “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat. Under a jeopardy determination, the Services can specify “reasonable and prudent” alternatives, although the alternatives should be consistent with the intended purpose of the action and economically and technologically feasible. Conversely, Section 10 states that an incidental take permit can be authorized if the activity will not “appreciably reduce the likelihood of the survival and recovery of the species in the wild”, and includes the development of a mitigation program that minimizes and mitigates take “to the maximum extent practicable.” In either case, there is no criteria to recover the species, only a requirement to not “reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild” (50 CFR § 402.02). As indicated in the FEIS, Alternative 2 could potentially provide more opportunities to protect the species because it allows for the reinitiation of consultation at any time if new information indicates that the existing protection measures are not adequately protecting the species. Under Alternative 3, the permits could not be revoked until 2013 (2018 for Wells Dam) and every 10 years thereafter. Nevertheless, the HCPs and permits may be modified by agreement of the parties, consistent with the revised HCPs. The HCPs incorporate NMFS regulations that provide for changes to a permit. However, the HCPs will be adaptively managed by the coordinating committees to take into consideration newly available information—paying special attention to the results of the required survival studies. The revised HCPs clarify how additional measures would be instituted should the results of these studies indicate that the pertinent survival metrics are not being attained. Thus, there is likely to be little, if any, difference between the two action alternatives with respect to the timely implementation of protective measures in response to newly available information.

Revisions to the FEIS discussing the potential shortfall of the HCP measures at reaching the necessary survival levels are found in Chapter 5 and Appendix E. However, the additional measures identified in the QAR consist of lower river survival improvements and a shift in recent climate/environmental conditions, neither of which is under the control or responsibility of the PUDs. The QAR also indicates that, even if the dams were removed, these additional survival improvements would also be needed. The shortfall is more of a system-wide concern than a Mid-Columbia River concern. Therefore, it is unlikely that Alternative 2 would be more protective of listed species than Alternative 3, given the available provisions under the Endangered Species Act. The cumulative effects analysis (Chapter 5) can only project reasonable foreseeable future actions, but cannot enforce those actions that are outside the project applicant’s purview. Therefore, the survival improvements called for in the Federal Columbia River Power System biological opinion (NMFS 2000a) are assumed to be achievable.

Comment 53 *The Quantitative Analysis Report (QAR) has several shortcomings that should be addressed in the FEIS: (1) survival improvements would occur instantaneously, (2) the Priest Rapids Project would achieve a 95 percent survival standard, (3) adequate assessment of the hatchery supplementation program, and (4) assumed survival improvements at other hydroelectric projects that are currently not being met.*

Response 53 Because the QAR is a modeling exercise, there are various constraints and assumptions that are inherent in the process. Some of the assumptions that were necessary were that the survival improvements were instantaneous (survival study information suggests that Rock Island, Wells, and some species at Rocky Reach may already be meeting or exceeding the survival levels assumed in the QAR; see Chapter 3 of the FEIS), and that the Priest Rapids Project would also achieve the same 93 percent project survival which was modeled. Other assumptions were also used that may not either be known or reflect the latest information, but were the best information available at the time of the modeling process. Assuming that the survival improvements were met at other projects was also necessary to determine whether the extinction risks, or the ability to meet the interim recovery levels, were possible with alternatives that are being considered or implemented.

Due to long-term uncertainty associated with the effectiveness of hatchery supplementation, the QAR analyses did not incorporate continued supplementation as envisioned under the proposed HCPs. However, other HCP actions, such as dam passage survival and tributary habitat enhancements, were considered in the QAR analysis. In addition, the QAR also assumed that the survival improvements expected at the three dams and the tributary enhancements would occur instantaneously. However, it may take several years or, in some cases, a decade or more before the survival benefits of certain actions (e.g., habitat improvements) are fully realized.

Comment 54 *The FEIS must discuss that the Quantitative Analysis Report (QAR) indicates a substantial risk of extinction without supplementation. Removal of Mid-Columbia dams would help to increase survival, critical fish habitat, and productivity.*

Response 54 Under NMFS guidelines, hatchery production is explicitly not included in the assessment of long-term sustainability of a stock. However, for Upper Columbia River steelhead, the QAR included an assessment of the relative risks of extinction under alternative assumptions regarding the effectiveness of hatchery origin spawners. NMFS agrees that, in some instances, hatchery supplementation can play a separate and important role in addressing particular Endangered Species Act-listed stock recovery issues.

The FEIS and QAR address extinction risks that would result from removal of the Mid-Columbia dams. Chapter 5 of the FEIS was revised to say: "... the risk of extinction and the probability of reaching the interim recovery goals are dependent on the assumption of future environmental conditions and consequently, which part of the existing data set is used. Also, under the most conservative view of future environmental conditions (using the 1980 to 1994 brood year data set), even dam removal would not allow the achievement of acceptable risk of extinction or meeting the interim recovery goals."

Project Area

Comment 55 *Several commenters suggested that the project area should be enlarged to include both upstream and downstream hydroelectric projects.*

Response 55 The project area defined for this FEIS is based on (1) the regulatory framework necessary for analyzing project effects under the Endangered Species Act, (2) the location of the proposed action (fish protection measures), and (3) the project applicants' ability to control and/or affect the subject of the proposed action. The PUDs do not have the authority to control or affect fish protection measures beyond the project boundaries. The tributary programs of the HCPs extend beyond the project boundaries, but specific programs will not be implemented without the voluntary support of property owners. The upstream projects are Federal projects outside of the

control of Chelan and Douglas County PUDs. The downstream projects (Wanapum and Priest Rapids dams) are owned by Grant County PUD, which has elected to use the Section 7 consultation process to satisfy Endangered Species Act requirements. The Lower Columbia River projects are Federal projects also outside of the control of Chelan and Douglas County PUDs. However, the upstream and downstream hydroelectric projects are considered in the Quantitative Analysis Report (QAR) and in the FEIS's cumulative effects analysis for those actions that can be predicted to occur over the life of the project. See Chapter 5 of the FEIS.

Representative Survival Studies

Comment 56 *Several commenters identified the lack of specific information regarding how performance standards will be measured. Survival evaluations are needed for each migrant life stage of each Plan species. In addition, survival standards must not be presumed to be met until certified by the coordinating committees. The use of surrogate species for survival evaluations was also questioned as inappropriate.*

Response 56 The revised HCPs now include a Survival Standard Decision Matrix (see Figure 2-4 of the FEIS), which identifies the priorities of HCP survival metrics and indicates which phase determinations would be made, given a particular result of the different Phase I survival studies that could be conducted. The HCPs clearly indicate that survival evaluations are required for each Plan species. An important amendment was the addition of 93 percent juvenile project survival measurement. The HCPs also specify that the coordinating committees are responsible for determining the most appropriate standard to be measured for each Plan species, approving studies prior to implementation, establishing the protocol(s) and methodologies to determine whether or not the survival standards are being achieved, and determining whether or not the no net impact standard is being achieved (see Section 6.7 of the Wells HCP [Reservoir as Habitat and Water Quality, Authority], and Section 4.7 of the Rocky Reach and Rock Island HCPs [Coordinating Committee, Authority]). Other clarifications made in the revised HCPs pertaining to the performance standards include explicit criteria (and flexibility around those criteria) for coordinating committee determinations regarding whether or not a study is valid (meets standards for representative flow conditions and statistical accuracy) and the use of an average (arithmetic mean) based on the point estimates from 3 years of valid studies to be used as the metric for comparison against the pertinent survival standard (see Section 4.1.4 of Wells HCP [Passage Survival Plan, Survival Standards, Methodologies] and Section 5.2.3 of the Rocky Reach and Rock Island HCPs [Passage Survival Plan Implementation of the Survival Standards, Methodologies]).

Two exceptions to these conditions pertain to Permit species at the Wells Project. Based on high survival estimates (averaging 96.2 percent) from 3 years of studies at the Wells Project (2 years for steelhead and 1 year for spring-run chinook salmon), the signatory parties have agreed that the project has achieved the 93 percent juvenile project survival standard for these species. After considering the unique design of the Wells Project and its proven ability to efficiently pass juvenile salmon through the modified spill bays, the signatory parties have also agreed that the calculated juvenile dam passage survival of sockeye and subyearling chinook salmon is probably greater than 95 percent (see Section 3.1 of the Wells HCP [Survival Standards and Allocation of Responsibility for No Net Impact]).

Under the revised agreements, Phase III (Standards Achieved) can only be designated for a Plan species if studies conducted in accordance with the approved methodologies and criteria (see above) indicate that either the 91 percent combined adult and juvenile survival standard or the surrogate standard of 93 percent juvenile project survival is being achieved at the project for that

species. The signatory parties recognize that for some species (such as sockeye and subyearling chinook salmon) where measurement of juvenile dam passage survival and juvenile project survival is not yet possible, the juvenile dam passage survival standard will be calculated based on the best available information (including route-specific passage rate and mortality estimates) as determined by the coordinating committees. Unlike the measured standards, however, the calculated standard might utilize off-site information where site-specific information is lacking.

If, at any time during Phase III (Additional Juvenile Studies), the appropriate coordinating committee approves the use of new survival methodologies (to measure a higher-priority survival standard according to the Decision Matrix), the PUD will have 5 years to conduct the appropriate evaluations. Based on the results of these studies, the appropriate coordinating committee will reevaluate the phase determination for the pertinent species. If the coordinating committee agrees (based on the results of these studies) that the applicable standard is met, Phase III (Additional Juvenile Studies or Standard Achieved) status will remain. If the applicable standard is not being met, a Phase II determination would be made and the coordinating committee would determine what additional tools would be implemented to achieve the applicable survival standard.

The methodologies utilized to measure the pertinent survival standards would be similar for both action alternatives (see HCP supporting document on survival estimating), except that these studies would likely only be conducted for listed species under Alternative 2, but would be required for all Plan species under Alternative 3. In addition, for listed species, the use of the juvenile project survival standard as the primary method of ensuring compliance would also be common to both alternatives.

Some methods would provide adequate data for certain species or life stages, but may not be as well suited for other species for a variety of reasons (see HCP supporting document on survival estimating). However, decisions must be made based on the best available scientific data. The methods currently being used to assess project impacts are the best available methods, although they might not provide conclusive results for all species, life stages, or potential project impacts. The survival studies conducted at the PUD projects under Alternative 3 will include the best available techniques and protocols as agreed to by the HCP coordinating committees. These same techniques are expected to be included under Alternative 2 to assess mitigation requirements or performance. However, due to the considerable expense of conducting survival studies, the limited availability of test fish (particularly for depressed stocks), and the limitations of the assessment techniques, it may not be feasible to acquire survival data for each species. Therefore, it may be necessary to use data from surrogate species, populations, or life stages to estimate survival for those species or life stages that cannot be effectively evaluated at the present time. For example, instead of using Endangered Species Act-listed spring-run chinook salmon and steelhead, hatchery or mixed-stock run-of-the-river fish would likely be used in survival evaluations.

Due to the uncertainties associated with any survival estimation technique, there are frequent disputes over the various aspects of the studies or the interpretation of the results. These disputes will likely continue under either action alternative. However, because criteria and methodologies have been substantively agreed upon by the signatory parties in the revised HCPs, the likelihood and magnitude of these disputes is expected to be less under Alternative 3 than under Alternative 2.

Survival Study Uncertainties

Comment 57 *There is a lack of commitment to conduct survival studies on any Plan species, except for those that are also listed. In addition, the practicality of marking large numbers of Plan or Permit species for either Phase I or II evaluation or Phase III monitoring efforts is questionable due to the scarcity of test animals. These limitations could affect the ability to verify meeting the standards. It is also unclear if all the Plan species could be evaluated in 3 years.*

Response 57 Under Alternative 3, the methods used to assess survival rates for each Plan species at the projects would be determined by the coordinating committees in accordance with the requirements of the revised agreements and in consideration of the supporting documents appended to the agreements. The coordinating committees are responsible for determining the most appropriate methodology for each of the Plan species, recognizing that one methodology may not be suitable or appropriate for all the species or life stages. Therefore, survival studies will be conducted for all the Plan species, except where no appropriate methodology exists (see Survival Standard Decision Matrix, Figure 2-4 of the FEIS).

The revised HCPs acknowledge that limitations on the number of fish needed to make accurate survival estimates are an important consideration in determining the most appropriate methodology for assessing the pertinent survival standard (see HCP supporting document on survival estimating). Some methodologies (radio or acoustic tags, for example) may be able to generate sufficiently accurate estimates with relatively small numbers of fish, but these tags have limited longevity, potentially limiting their ability to assess indirect and delayed mortality. In comparison, PIT tags have no longevity limitations, and are therefore more likely to completely assess indirect and delayed effects. However, using this methodology requires tens or hundreds of thousands of tagged fish to generate sufficiently accurate survival estimates. The coordinating committees will be responsible for assessing the available methodologies and determining which can best be used to assess the pertinent survival standard for each Plan species. The revised HCPs also require the coordinating committees to facilitate the availability of test fish for studies, which may include the rearing of additional hatchery fish (e.g., Section 4.10 of the Rocky Reach and Rocky Island HCPs [Coordinating Committee, Methodologies/Test Fish]).

The HCPs contain specific criteria for determining the statistical significance of survival test data. The point estimate should have a standard error of no more than ± 2.5 percent (i.e., 5 percent error) at the 95 percent confidence level. If these criteria are not met, the study results would be rejected and an additional year of testing would be required. However, under conditions specified in the HCP and with unanimous agreement, the coordinating committees could accept the results of a less precise survival study for inclusion in the 3-year average if the standard error does not exceed ± 3.5 percent. If the arithmetic mean (average) of the 3 years of studies is no more than 0.5 percent below the survival standard, the coordinating committees may decide whether an additional year of study is appropriate before making the final phase determination.

The HCPs state that point estimates from at least 3 years of valid studies would be averaged and compared against the pertinent survival standard to determine the phase designation for a Plan species. This does not necessarily require that the testing be conducted in 3 consecutive years or that all of the studies for each Plan species be conducted simultaneously. The phase determination would be identified for each Plan species individually. As such, the determination for one species does not necessarily affect the determination of any other species, unless the coordinating committee agrees that the survival rate for a monitored species likely represents the survival rate for a species that cannot be monitored effectively and accurately.

Under Alternative 3, to receive a Phase III (Standard Achieved) designation for a Plan species by the coordinating committees, the PUDs must achieve the 91 percent combined adult and juvenile survival standard or its surrogate, the 93 percent juvenile project survival standard. The measurement of these standards include direct, indirect, and delayed mortality wherever it may occur and can be measured (as it relates to each project) given the available mark-recapture technology for each Plan species. Under Alternative 2, only the listed species would likely receive this level of protection.

Adult Survival

Comment 58 *Adult passage and survival standards have not been quantitatively measured, and should be addressed in the EIS. A more thorough discussion of adult protection measures should be provided in the EIS analysis, as well as the effects of project operations (e.g., power peaking). The EIS should include recent results from adult radio telemetry studies.*

Response 58 The difficulties of quantifying adult mortality related to project operations are the same for all alternatives. These difficulties relate to the inherent inaccuracies in the available monitoring methods, and the inability to differentiate the cumulative impacts to adults from passing downstream projects with the direct impacts at any one particular upstream project. Furthermore, there is presently no available technology allowing the parties to differentiate hydro-related mortality from natural adult losses, which are known to occur in even the most pristine river systems. Recognizing these difficulties, and based on regional information, the signatory parties agree that adult fish survival is estimated to be 98 to 100 percent at each project. Analysis conducted as part of the 2000 Federal Columbia River Power System biological opinion (NMFS 2000a) and the Rocky Reach biological opinion (NMFS 2002a) provide additional evidence that total mortality rates are likely no more than 2.4 percent for spring-run chinook salmon and 3.2 percent for steelhead. Taking into account natural mortality, which undoubtedly occurs, it is likely that the 2 percent adult mortality resulting from project-related effects is currently being attained, at least for the listed species for which estimates are available. The assumed unavoidable mortality of adults is compensated through funding of the Plan Species Account.

The adult passage plans are similar to those required at downstream Federal projects on the Columbia River. The passage times at the projects covered by the HCPs are within the ranges of those observed at other mainstem hydroelectric projects on the Columbia and Snake Rivers. At other mainstem projects, NMFS has determined that, while delays may occur in passing mainstem projects, adults likely migrate faster in the pools than they did in the free-flowing river (NMFS 2000a). Because these project effects tend to offset each other, the potential effects of project passage delays are likely small and would be equivalent for either action alternative.

The difficulties of interpreting tagging results for adult fish are the primary reason that specific performance standards have not been identified in the HCPs for adult passage. There are a number of reasons for fish to delay passing a project that are not related to passage conditions. For example, fish may mistakenly migrate past their natal tributary stream or hatchery, and as a result, might be more reluctant to pass a project than those that are destined for upstream spawning areas or hatcheries. Passage delays might also be affected by life-history characteristics of Plan species, fish maturation, physical conditions related to the entire migration area, or the tagging and handling process. Note that there are little or no data that accurately estimate the effects of passage delays on spawning success. The estimates of delay provided in the FEIS were included to indicate overall fishway passage conditions and reflect median passage times.

The HCPs require the PUDs to use their best efforts to operate and maintain the adult fishways in accordance with approved Detailed Fishway Operation Plan criteria (or equivalently protective criteria in the case of Wells Dam), and any subsequent revisions to these criteria, which are a component of the provisions in existing settlement agreements and project licenses. These criteria are therefore likely to be part of the requirements under Alternative 2, at least initially. If the criteria are changed as a result of Section 7 consultation under Alternative 2, the criteria could result in a preference for listed species over unlisted species. However, until accurate estimates of impacts to adult fish can be quantified and related to specific project operations, there is no basis for altering the current ladder operating criteria for adult fishway operations at the projects.

In addition to meeting the various adult fishladder operating criteria under Alternative 3, the PUDs also have the 91 percent combined adult and juvenile project survival standard, which includes adults. Therefore, as monitoring methods improve over time, the results would be used to further refine the estimates of adult mortality that would be included in measuring survival against the performance standards. Not achieving the performance standards for all Plan species requires the PUDs to continue to implement tools in an effort to meet the standards.

The Federal Columbia River Power System biological opinion (NMFS 2000a) concluded that, although power peaking can affect spawning adults, egg incubation, and fry rearing stages, power peaking alone does not have a significant adverse effect on migrating salmon.

Comment 59 *The DEIS should include an analysis of adult losses, examine the adequacy of the adult passage plans, and address mitigation for adult losses under the alternatives.*

Response 59 See response to the previous comment.

Evolutionarily Significant Unit Issues

Comment 60 *What is the standard by which the status of the Evolutionarily Significant Unit is measured?*

Response 60 See answer to Comments #8 and #9.

Comment 61 *The geographic place and biological terms that would be used to measure progress toward recovery of the chinook salmon Evolutionarily Significant Units should be described.*

Response 61 See answer to Comment #10.

Conditional HCP Implementation

Comment 62 *Several commenters questioned various aspects of the conditional implementation of the HCPs, including (1) the lack of a signed implementation agreement, (2) the effects that this has on resolving outstanding issues at the projects, (3) whether the steady progress criteria applies during the conditional period, (4) how Chelan County PUD can continue to develop their juvenile bypass system without a signed agreement, and (5) why the PUDs can avoid meeting requirements in the existing settlement agreements. Others questioned how the PUDs could continue to “take” listed species without a Section 7 biological opinion.*

Response 62 Under the original HCPs, the PUDs conditionally implemented the HCPs without a signed implementation agreement and the parties agreed that the monitoring and evaluation components of the HCPs would not begin until the HCPs were signed and Phase I was completed. The primary reason for conditionally implementing the HCPs was because the time frame for Phase I

(1998 through 2003) had already begun, and might not have changed even with delays in approving the HCPs. Therefore, the PUDs would still need to demonstrate that they have achieved the HCP performance standards by the end of Phase I. Also during Phase I, the PUDs were allowed to use any tool or combination of tools in the pursuit of meeting the survival standards.

Discussions amongst the original HCP signatory parties regarding the resolution of outstanding issues nearly broke down in 2001, after the DEIS was released. Chelan County PUD chose, citing emergency conditions in the western energy grid and high costs of replacement energy, to reduce or eliminate spill at their Rock Island and Rocky Reach projects, respectively, to pre-HCP levels. While this almost certainly resulted in a negative impact to Plan species in 2001, Chelan County PUD's actions ultimately provided pressure on the signatory parties (including Chelan County PUD) to resolve outstanding HCP implementation issues as well as issues brought to NMFS's attention through public comments on the DEIS. The signatory parties to the revised HCPs believe that these issues have now been resolved to the mutual satisfaction of all the parties, and will likely provide greater benefits to all Plan species in a shorter period of time than would an Endangered Species Act Section 7 consultation. This is because under Alternative 3, the mitigation measures will be implemented immediately for all Plan species, while under Alternative 2, they might be implemented after several or many years have elapsed, depending upon the likelihood and length of litigation and FERC's decision and appeal process.

All references to "steady progress" have been removed from the revised HCPs. These documents now clearly indicate the signatory parties' expectation that the pertinent survival standards for all Plan species will be met by 2013. Should survival studies indicate that the pertinent survival standard is not being met for one or more Plan species at the end of Phase I, the coordinating committees would determine what additional measures (or tools) would be implemented to meet those standards (Phase II). Additional survival studies would be implemented to ensure that the protective measures were now achieving the pertinent survival standard.

Although the PUDs have voluntarily agreed to conditionally implement the provisions of the HCPs as a good faith effort, this does not minimize or replace their responsibilities established through their existing licenses and agreements, or those required under relicensing. Providing NMFS with Section 10 applications does not allow FERC (and their designated non-Federal representatives—the PUDs) to avoid compliance with the Endangered Species Act through Section 7 consultations. Since the DEIS was released, both the Wells and Rocky Reach projects have undergone Endangered Species Act Section 7 consultation for interim operations (and the construction of a juvenile bypass system at Rocky Reach Dam). Both Section 7 and Section 10 consultations attempt to minimize or mitigate for take associated with a particular activity; however, there is no expectation that take will not occur.

The Rocky Reach Fourth Revised Interim Stipulation states that the main goal is to develop a safe bypass system (less than 2 percent mortality), while the spill program is referred to as an interim protection measure due to its impact on water quality. The intent of the Fourth Revised Interim Stipulation was to develop a bypass system as an alternative to spill. The initial development of the prototype bypass system at Rocky Reach was to meet interim stipulation objectives. In 2002, FERC (and Chelan County PUD) consulted on the operation of Rocky Reach Dam and the construction and operation of a juvenile bypass system. NMFS determined through a Section 7 consultation that the proposed action would not jeopardize the listed species. Thus, the Rocky Reach juvenile bypass system should be considered an integral component of Chelan County PUDs efforts to minimize take under either action alternative. However, the bypass is specifically linked to the HCP. Alternative 2 of the FEIS now evaluates a sluiceway bypass system that could

be recommended by NMFS to protect listed species in the event that the bypass system proves ineffective.

Miscellaneous Comments

Comment 63 *Disclose the potential for an increase in noxious weeds under drawdown.*

Response 63 This discussion was added to FEIS Section 4.4.2.1, Project Area.

Comment 64 *A risk assessment should be completed for the HCPs because they rely too heavily on the adaptive management strategy.*

Response 64 A risk assessment is a quantification of the potential adverse effects that an action can have on a population of organisms. The studies the applicants are completing in determining salmonid mortality through the projects replicate the outcome of a risk assessment. The adaptive management strategy is not related to risk assessments. Adaptive management is a process used to ensure that mitigation measures will be effective in reducing mortality, and if the measures are not effective, then another approach that is more effective would be adopted.

Comment 65 *Provide more information on the amount of energy needed from the three projects, and whether the need is a deficit for the area or a deficit in meeting exporting needs.*

Response 65 FEIS Section 1.6, Background has been revised to include the most recent Federal energy surplus/deficit projections and a description of the energy production and customers for the three dams.

Comment 66 *Identify in the FEIS USEPA's Clean Air Act Section 309 responsibility to review the document.*

Response 66 This information was added in FEIS Section 1.6.2.10, U.S. Environmental Protection Agency.

Comment 67 *Additional diagrams or photos of each dam should be included to illustrate project features identified in Table 2-3 and passage routes with associated survival rates.*

Response 67 This information is provided in Figures 2-1, 2-2, and 2-3 and Table 3-4 of the FEIS. However, route-specific survival estimates are to be used as a last resort under Alternative 3 to assess compliance with the no net impact standard. They are also expected to be used as a last resort of listed species under Alternative 2, given NMFS's opinion that PIT-tag data provide the best estimate of survival because such studies provide a better assessment of direct, delayed, and indirect mortality.

Comment 68 *The EIS should include a table describing research needs and a priority and implementation schedule.*

Response 68 Under Alternative 2, the existing Mid-Columbia, Wells, and Rock Island Coordinating Committees would likely be responsible for assessing and prioritizing data needs. Also under Alternative 2, NMFS can require measures to minimize the incidental take of listed species and reporting and monitoring requirements necessary to ensure that the anticipated level of incidental take is not being exceeded. Under Alternative 3, the HCP coordinating, tributary, and hatchery committees would be responsible for assessing and prioritizing data needs for Plan species. Under Alternative 3, the survival studies would serve as the assessment for determining whether

or not the projects were complying with the anticipated level of incidental take, as well as the extent and nature of additional research needs.

Assessing the survival rates of juvenile and adult fish passing the projects is the most important research need for both action alternatives. The primary focus of the alternatives is to protect the salmon and steelhead species as they pass the projects, and to mitigate for unavoidable mortality. The mitigation goals are determined by the effects of the projects on fish survival. Therefore, to set appropriate mitigation levels, accurate survival estimates are needed. Much of the other research needs are related to the quality of the mitigation that would be used to fine-tune the amount of mitigation required to achieve the mitigation goal. Under Alternative 2, the PUDs would be required to provide the required mitigation, but not necessarily the assessments related to the adequacy of the mitigation. Although this is also the case for some aspects of Alternative 3 (e.g., assessing if the tributary conservation funding provides a 2 percent mitigation level), other aspects are included in the provisions of the HCPs (e.g., survival studies for 3 years for all the Plan species). Although there are a large number of unknowns related to biological functions in the basin, many of these are independent of direct or indirect project effects.

Comment 69 *The EIS should state that dam releases have fewer temperature fluctuations with cool moments for fish refuge during hot periods.*

Response 69 Because of their large reservoirs, mainstem hydroelectric facilities within the Columbia River Basin often act as a thermal buffer—decreasing maximum and minimum variations in water temperature on both a daily and yearly basis. The exact benefit, if any, of this effect to Plan species has not been determined. While a slight reduction of maximum daily temperatures could benefit Plan species that migrate during the summer or early fall, the corresponding increase in minimum daily temperatures could be detrimental. However, the Mid-Columbia River projects are run-of-the-river facilities that have limited ability to manipulate water temperatures in the basin. The large upstream storage reservoirs, which are outside the project area, are thought to have much greater influence over water temperatures in the river.

Comment 70 *The DEIS states that the Washington Department of Ecology is not permitting new water rights to withdraw water from several of the Mid-Columbia River tributaries due to dewatering concerns. The FEIS should describe the effectiveness of this mitigation measure and the extent that dewatering still affects fish species of concern.*

Response 70 Because water rights in the basin are generally over-allocated, not permitting new withdrawals effectively means that there are no changes to existing dewatering conditions. As a result, this restriction is not functioning as a mitigation measure. Conditions of dewatering and effects on fish species are addressed in FEIS Section 3.2.10, Aquatic Habitat.

Comment 71 *Define “some degree of certainty” regarding the long-term operation of the projects, and which elements are subject to future negotiations.*

Response 71 Based on comments on the DEIS, the phrase “some degree of certainty” does not occur within the revised HCPs. Uncertainties relating to long-term operations at the project have also been minimized to the extent practical in the revised HCPs. In addition, with the continued studies and mitigation measures in place at the projects since 1998, the PUDs have obtained a better understanding of which measures are needed to meet the HCP performance standards. The PUDs will be able to more easily track and budget for implementation of these measures over both the short and long term. Effort will be expended in implementing and developing mitigation measures that meet no net impact standards rather than the time-consuming process of negotiating

and consulting with agencies and other entities to develop standards that are agreeable to all parties involved. In the event that the PUD(s) fail to meet pertinent survival standards for Plan species (Phase II designation) after Phase I is complete, the coordinating committees would determine what additional measures are necessary to meet those standards. At this time, NMFS does not know what these measures would be, but the measures could include additional structural modifications (for example, surface collectors or fish bypass systems) or other operational measures (for example, increased spill or altered turbine usage and spill patterns).

Comment 72 *Define “best efforts” in terms of HCP compliance by the PUDs.*

Response 72 The DEIS misrepresented the use of this term. The HCPs only refer to “best efforts” in relation to maintaining and operating the adult fishways according to the current Detailed Fishway Operation Plan, not the performance standards (93 percent juvenile dam passage and 91 percent total project survival standards). The term means that the PUDs will maintain and operate the adult fishways to the established criteria, or a subsequent higher standard. The misuse of the term “best efforts” has been corrected in the FEIS.

Comment 73 *Define and provide examples of “maximum extent practicable” when referring to mitigating the impacts of takings.*

Response 73 This terminology is taken directly from Section 10 of the Endangered Species Act (Section 10(a)(2)(b)(ii)). No specific definition is provided in the Act, although it is assumed to include such factors as physical, economical, and legal constraints.

Comment 74 *The EIS should also consider normative river and multi-species restoration, the risk of HCP assumptions being incorrect, the potential for the alternatives impacting other species or species life histories, and the feasibility of introducing coho salmon.*

Response 74 The normative river concept was advanced by both the National Research Council (1996) and the Independent Scientific Group (1996). Simply put, this concept articulates that on a broad scale, river management strategies and mainstem habitat improvements should emphasize reestablishing key functions or functional attributes of a normative river. The Tribal Plan, Spirit of the Salmon (CRITFC 1996) agreed with this approach, stating that, “To support anadromous fish, mainstem habitat must be returned to natural conditions closer to those that existed prior to construction of the dams.” NMFS also recognizes the importance of this concept, which has been included in the Endangered Species Act Implementation Plan for the Federal Columbia River Power System biological opinion (NMFS 2000a). Consistent with this concept, the fundamental strategy of this plan is to implement recovery actions broadly and comprehensively across all aspects of the salmon life cycle in recovering listed species.

The FEIS considers two action alternatives having different structural and operational measures, different procedural pathways, and different risks in terms of the likelihood or timing of protective measures being implemented. In either case, NMFS would consider the normative river concept when participating in the Mid-Columbia, Rock Island, and Wells coordinating committees (Alternative 2) or in the HCPs’ coordinating committees (Alternative 3). Compared to Alternative 2 (which would primarily focus on listed species), Alternative 3 would likely provide greater opportunities for considering the normative river concept because it applies to all Plan species and establishes a Plan Species Account. These funds could be used to improve habitat conditions within both mainstem and tributary habitats—positively affecting life-history stages in addition to those actions taken at the projects to increase migration survival rates.

Alternative 3 is consistent with the multi-species restoration approach because it includes both listed and unlisted species as Plan species. This provides equal protection requirements for these species (including coho salmon) through the establishment of consistent, measurable performance standards. Alternative 2 would most likely provide a higher level of protection for the listed Plan species than for the unlisted Plan species because NMFS could only obtain protective measures for these unlisted species through litigation or other processes, such as FERC relicensing. Therefore, the potential for implementing protection measures that select only for certain species or life stages is likely greater under Alternative 2 than Alternative 3.

Comment 75 *If the HCPs set an initial 5-year period of evaluations, with up to 3 years of evaluations, then annual payments to the Plan Species Account may not begin until 8 years from the commencement of Phase I. To correct this decrease in funding, the initial payment should be increased.*

Response 75 The initial payment to the Plan Species Account would occur within 90 days of the effective date of the HCPs, and subsequent annual payments would be due on January 31 for each subsequent year. The tributary committees can also request that the PUDs contribute, in advance, any of the annual contributions during the first 15 years (for Chelan County PUD's projects) or 10 years (for Douglas County PUD's Wells Project) of the agreement.

Comment 76 *Missing on page 2-49 (Section 2.6) of the DEIS is a discussion of how the action alternatives lead to an improvement and not an extinction of the affected species.*

Response 76 Section 2.6, Alternative Comparison of the FEIS is a comparison of the affected species under each of the alternatives, and is not meant to be a comparison of the results of implementing any of the alternatives. A discussion of the survival improvements for each of the alternatives is located in FEIS Section 4.2, Fisheries Resources.

Comment 77 *Under Alternative 2, the EIS should discuss the requirement of NMFS and the Tribes to consult under the Secretarial Order. The EIS should confirm that NMFS and the Department of the Interior maintain their authorities under the Federal Power Act.*

Response 77 See FEIS Section 1.1, Introduction regarding other Federal laws, regulations, and statutes and their relation to the HCPs, as well as FEIS Section 4.12.17, Legislation Pertinent to Tribal Governments regarding consultation requirements between NMFS and the Tribes.

Comment 78 *The spill for Wells Dam is not clear; is it a step pool or cascade structure?*

Response 78 Table 2-2 of the FEIS provides a description of each of the projects. The spill gates at Wells Dam are a leaf-gate configuration. Although the gates open from the bottom, the water still plunges into the tailrace, which will result in an increase of total dissolved gas. However, the Wells Dam spillway has been modified into a juvenile bypass system, which is more efficient than an unmodified spillway at passing fish. Substantially greater numbers of fish can be passed at the project with a minimum amount of spill. The reduction in the spill volume also results in minimizing dissolved gas levels downstream when river flows and generation constraints result in involuntary spill.

- Comment 79** *The EIS should state whether sediment deposition behind the dams would require dredging.*
- Response 79** Text was added to FEIS Section 3.2.10.1, Reservoir Habitat explaining that dredging is not part of the routine maintenance at the projects, and reservoir dredging is not necessary to maintain a navigation channel.
- Comment 80** *The EIS should further discuss whether the Rocky Reach bypass system can achieve a 98 percent survival rate, and whether spill should be increased to obtain the HCP performance standards.*
- Response 80** This comment appears to confuse the statement that the Rocky Reach bypass could achieve a 98 percent survival rate, with an overall survival rate for all fish passing the project. The statement is specific to the bypass system, and the bypass survival rate would be factored with the survival rates for other passage routes to determine the calculated dam passage survival rate. Information in the FEIS does not suggest from this data that the performance standards for the HCPs could be achieved with only use of a bypass system. The revised HCPs specifically note that the calculated dam passage survival standard is a measurement of last resort (see Figure 2-4 of the FEIS). The prioritized survival standards for juveniles are measured project passage and measured dam passage. Studies utilizing paired releases of juvenile Plan species would most likely be necessary to measure these standards. In these studies, the overall survival estimate, not the estimated survival rate through a specific route of passage, would be applied to the applicable standard by the coordinating committees when making HCP phase determinations for Plan species.
- Comment 81** *The alternatives were not ranked in their ability to achieve protection and recovery of the Tribal trust property.*
- Response 81** The hydroelectric projects do not occur on Tribal trust property, with the exception of the Wells hydroelectric project. Effects of the alternatives on the Tribal treaty resources (salmon) are described in FEIS Section 4.2, Fisheries Resources regarding impacts and benefits of the action alternatives. Because there are benefits and disadvantages to all of the alternatives (refer to FEIS Section 2.6, Alternative Comparison), a ranking system is inappropriate. It is the responsibility of the reader to assess the information provided in the FEIS to make an informed decision as to the overall benefits of the alternatives.
- Comment 82** *DEIS statements regarding Tribal rights to fish should be corrected.*
- Response 82** See FEIS Section 3.11.3.3, Columbia River System for these changes.
- Comment 83** *The DEIS infers that there was consent by Tribal biologists on the no net impact concept.*
- Response 83** FEIS Section 2.3.4.4, HCP Performance Standards now omits the reference to Tribal biologists with regard to the no net impact concept. Also, see FEIS Section 4.12.17, Legislation Pertinent to Tribal Governments.
- Comment 84** *The EIS should state that the USFWS must identify critical habitat for Columbia River bull trout.*
- Response 84** This information was added in FEIS Section 1.5, Regulatory Framework.
- Comment 85** *Section 7 and Section 10 have substantive and procedural differences that may not be adequately addressed in the DEIS.*

- Response 85** See FEIS Section 2.6.2, Procedural Differences
- Comment 86** *The hatchery compensation plan for Okanogan River sockeye salmon allows for substitution of summer/fall chinook salmon for sockeye salmon. The Colville Tribe opposes this action.*
- Response 86** These substitution practices are provisions in the Wells Settlement Agreement, and will be phased out after 2005 under Alternative 3. Actually, spring-run chinook salmon are being raised as the substituted species by Douglas County PUD at this time, not summer/fall chinook salmon. After 2005, no net impact for Okanogan River sockeye salmon will be accomplished through implementation of a set of options identified in the Sockeye Enhancement Decision Tree (see Section 14 of the Wells HCP, Figure 3).
- Comment 87** *The EIS should discuss the adult survival estimates presented by NMFS and the Idaho Cooperative Fishery Unit.*
- Response 87** NMFS considered all of the available adult passage and survival information pertaining to listed Columbia River Basin salmon and steelhead in the preparation of its 2000 Federal Columbia River Power System biological opinion, including many studies conducted by the Idaho Cooperative Fish and Wildlife Research Unit. NMFS's best estimates of adult survival in the Columbia River Basin are generally summarized in Table 9.7-2 on page 9-189 of this document and in the 2002 Rocky Reach biological opinion (NMFS 2002a). Under the reasonable and prudent alternative, per project survival of Upper Columbia River spring-run chinook salmon and steelhead is estimated at 98.1 percent and 97.3 percent, respectively. Because of the general applicability of these numbers and NMFS's determination that they are the best numbers available, they were applied in the recent Rocky Reach biological opinion (NMFS 2002a). If the information cited above was available prior to 2001, it was considered by NMFS in the 2000 and 2002 biological opinions referred to above. However, this information may not have been included if NMFS determined that it was not the best scientific information available at that time.
- Comment 88** *The EIS should discuss injury and mortality rates due to predation, and the effectiveness of predator control programs.*
- Response 88** There are no estimates of losses due to predation at the projects. However, survival evaluations indicate a 6.1 percent and 2.5 percent loss of steelhead smolts passing through the Rocky Reach and Rock Island reservoirs, respectively. Predation probably constitutes a majority of these losses. The predator control program in the Rocky Reach and Rock Island project areas has removed about 75,000 northern pikeminnow between 1994 and 1999 (BioAnalysts 2000b). Over 17,000 northern pikeminnow were removed from the Wells Project area in 1998 and 1999 (Jerald 1999). Although an accurate estimate of survival benefits derived from these removals is unknown, the populations for northern pikeminnow appear to have declined since the start of the program. Since then, the average number of northern pikeminnow passing through the Rocky Reach fishways (April through November) has dropped from 6,508 to 3,151 fish; the counts at Rock Island have dropped from 24,016 to 7,666 fish.
- Ruggerone (1986) documented substantial bird predation in the Wanapum Dam tailrace. He estimated the number of juvenile salmonids consumed ranged from 50 to 562 fish per hour. The number of salmonids consumed over a 25-day period during the peak salmonid outmigration was estimated to be between 111,750 and 119,250 fish, or about 2 percent of the estimated spring outmigration. Since that time, avian predator control measures have been started or enhanced at all projects. Although these measures have reduced bird predation in the project areas, no assessments were conducted to assess the exact survival benefits.

Substantial avian predation has been documented in the Columbia River estuary (NMFS 2000d). About 16,000 terns nesting on Rice Island consumed about 10.2 million (range: 7.4 to 13.2 million) outmigrating smolts during 1998, or approximately 11 percent (range: 8 to 14 percent) of the estimated 95 million outmigrating smolts (Roby et. al 2000). Following efforts to relocate the terns to other islands where the rate of salmonid consumption is lower, total consumption by Caspian terns in the Columbia River estuary in 2000 was reduced to 7.3 million (range: 5.7 to 9.3 million) smolts. This represents about a 38 percent reduction compared to the 1999 consumption rate.

Comment 89 *The Entiat River spring-run chinook salmon average escapement estimates (redds) based on dam counts (turnoff estimates) are in error and should alternatively rely on spawning ground survey redd count expansions for escapement and population trends.*

Response 89 The inaccuracies of the dam counts relative to expanded redd counts are presented in the FEIS. However, the relevance of this fact depends on the overall use of the data. For example, historical dam counts have been obtained through more uniform and consistent protocols than redd counts in the tributaries. Therefore, when comparing historical escapement trends, it is likely more appropriate to use only the dam counts rather than mixing the estimates.

Comment 90 *Entiat River average monthly flows are incorrect.*

Response 90 The written description of monthly flows in the Entiat River was incorrect in the DEIS. See FEIS Section 3.3.1.2, Associated Tributaries.

Comment 91 *Examine opportunities for coho salmon introductions.*

Response 91 Alternative 3 is consistent with the multi-species restoration approach because it includes both listed and unlisted species as Plan species. This provides equal protection requirements for these species (including coho salmon) through the establishment of consistent performance standards. Alternative 2 would provide additional protection measures for the listed species through the Section 7 consultation process, while other species would be protected through other processes, such as FERC relicensing. The Mid-Columbia River coho salmon are extirpated from the area, and are therefore not subject to protection under the Endangered Species Act. Although the PUDs have included coho salmon as a Plan species with respect to HCP coverage, this coverage would not be specifically required until a naturally producing population is reestablished. Protection for coho salmon under Alternative 2 would be through relicensing or license reopener proceedings, although the extent or mitigation requirements under these processes is unknown.

Comment 92 *The EIS should discuss the effects of elevated temperatures in the Okanogan River on adult sockeye salmon migration.*

Response 92 Although the inundation of the lower reach of the Okanogan River by the Wells Project can result in increased water temperatures in the reservoir, the majority of the temperature increases are the result of conditions in the Okanogan Basin. The naturally shallow lakes in the system, the low river gradient, and low summer flows accentuate the effects of solar radiation on water temperatures in the system. Adult fish have been observed holding in the Wells reservoir until water temperatures in the Okanogan River decrease to acceptable levels, but there is no evidence that suggests that they are holding downstream of the reservoir as a result of overall water temperatures in the reservoir. Water temperatures in the Okanogan River not only affect adult migration rates, but also severely restrict the use of the mainstem as juvenile rearing habitat. Mitigation for the effects of the Wells Project on sockeye salmon is identified in the revised

Wells HCP, which would focus on improving stream flow conditions in the Upper Okanogan watershed rather than hatchery production criteria used in the past.

Comment 93 *Monitoring is needed to address kelt passage and fallback guidance efficiency.*

Response 93 We agree that there are limited data on adult fallback and kelt passage at the projects. Although impacts from adult fallback would be included in the total project passage survival performance standard, there are no specific protocols for incorporating impacts to steelhead kelts in the overall passage survival estimates. However, the HCPs specify that the PUDs will identify adult fallback rates by the end of Phase I, and that the coordinating committees will determine the appropriate protection measures for steelhead kelts. These concerns will also be incorporated into the development and implementation of juvenile and adult passage measures, as well as project operation decisions.

Comment 94 *The juvenile holdover rate of summer chinook salmon is not adequately considered.*

Response 94 We agree that this is an unresolved outstanding issue with regards to the HCP performance standards. Although the subyearling (0-age) chinook salmon might be residualizing in the system, there are no data that suggest that this is a direct result of the Douglas or Chelan County PUD projects. As a result, there is no indication that the juvenile fish protection windows are not adequately protecting these fish. It is also unclear whether the operation of the projects incrementally impacts these fish during their holdover period over natural holdover conditions.

Comment 95 *The EIS should consider the socioeconomic needs of Indian Tribes for fishing and the benefits the Tribes obtain from harvest.*

Response 95 The information requested was added to FEIS Sections 3.7, Socioeconomics and 4.7, Socioeconomics.

Comment 96 *The FERC identifies three separate spring-run chinook salmon populations in the Methow, while the DEIS identifies the spring-run chinook salmon as a composite stock. Which is correct?*

Response 96 This EIS process is to address compliance with the Endangered Species Act. NMFS has determined through genetic evaluations that one Evolutionarily Significant Unit of spring-run chinook salmon occurs in the Upper Columbia River region. However, data for the individual river stocks are usually presented independently in the literature. The Quantitative Analysis Report also analyzed the runs separately.

Comment 97 *The EIS should analyze fish flows for the Columbia River.*

Response 97 As run-of-the-river projects, the PUD dams have limited control over flows in the Columbia River. Modified flows in the Columbia River are primarily the result of operations at large storage facilities in the Upper Columbia River and secondarily from operations to enhance migration conditions for listed fish as specified in the 2000 Federal Columbia River Power System biological opinion.

Comment 98 *The EIS should include steelhead radio-telemetry studies.*

Response 98 See FEIS Section 3.2.5.1, Upstream Migration of Adults that include the radio-telemetry studies.

Comment 99 *A sentence on page 3-89 of the DEIS is confusing.*

Response 99 The sentence has been corrected in FEIS Section 3.1.1.2, Associated Tributaries. The second reference to Entiat River should have been Entiat Mountains.

Comment 100 *Describe in quantitative terms the specific impacts to fish from hydroelectric and irrigation projects; commercial and sport fishing; logging; livestock grazing; water use by farms, cities, and towns; and municipal and industrial pollution.*

Response 100 It is not possible to quantify fish mortality attributable to irrigation projects; commercial and sport fishing; logging; livestock grazing; water use by farms, cities, and towns; and municipal and industrial pollution. However, this specific information is not needed to make an informed decision on selection of the project alternatives. For this FEIS, information that is needed pertains to the mortality through the three hydroelectric projects, and this information is provided in FEIS Sections 3.2.5, Adult Survival at the Projects and 3.2.6, Juvenile Survival at the Projects. For additional information on the effects of fish mortality from other impacts, please refer to *An Ecosystem Approach to Salmonid Conservation* (Spence et al. 1996), and the Federal Caucus's Basinwide Salmon Recovery Strategy (Federal Caucus 2000).

Comment 101 *The discussion of lethal measures used in avian control programs should not be a red-flag issue because shooting is conducted to enhance the scaring efficiency of firearms and pyrotechnics. The avian predator control programs at Wells Dam, Wells Hatchery, and Rock Island and Rocky Reach dams should be included in the EIS.*

Response 101 See FEIS Section 2.2.4.3, Predation. A discussion on shooting and lethal methods was added to this paragraph. Refer to FEIS Sections 2.3.2, Alternative 1 (No-Action) and 2.3.4.8, HCP Conservation Plan and Compensation Measures. Information was added concerning avian predator control programs at Wells Dam, Wells Hatchery, and Rock Island and Rocky Reach dams. Also see FEIS Section 3.2.10.2, Project Area Rearing to include other piscivorous birds; additional references on bird predation were added. Note that very little research on avian predation on fish in the Mid-Columbia River has been conducted, and no studies have quantified the exact amount of predation by birds, other than gulls, at the Wells, Rocky Reach, and Rock Island dams. Chelan County PUD (in conjunction with the University of Washington, WDFW, and NMFS) is currently assessing the impacts of piscivorous birds on juvenile migrating salmonids.

Comment 102 *The EIS does not address fish as a critical cultural resource.*

Response 102 Refer to FEIS Section 4.11, Cultural Resources regarding the importance of fish as a cultural resource.



Chelan and Douglas County PUD Comments and NMFS Responses

Included in this appendix are letters received from the project applicants, Douglas and Chelan County PUDs. Following each letter are responses to their comments.

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NMFS Responses to Douglas County PUD (DCPUD) Comments

- Comment 1** *Page S-15, S.5.3 Alternative 3 (Applicants' Proposed Action – Project HCPs), second Paragraph, last Sentence. We request further clarification regarding the following statement, “(EIS prepared by FERC including a separate Section 7 consultation with NMFS regarding the effects of the agreements on listed species).”*
- This paragraph indicates that FERC needs to prepare a second EIS for implementation of the HCPs. The parties expended considerable effort prior to preparation of the Draft EIS to avoid this unnecessary duplication. There is no rationale for FERC to prepare a separate EIS to implement the HCP.*
- Response 1** The FEIS was edited to reflect the comment in Section 2.3.4, Alternative 3 (Proposed Action – Project HCPs) and the corresponding section in the summary chapter. Although NEPA compliance is required to issue an incidental take permit, it does not necessarily require an EIS. The NEPA process is intended to provide an understanding of the environmental consequences of the proposed action to help a Federal agency make decisions. Although a FERC license action is separate from the NMFS action of issuing the permit, as a cooperating agency, FERC intends to use this EIS to make decisions on subsequent license actions relevant to implementation of the HCPs. In addition, the State agencies intend to use the information generated by this process to satisfy State environmental requirements. See NMFS responses to DEIS public comments, Appendix C, Response #19.
- Comment 2** *Page S-22, Paragraph 1, line 5 and line 11. Please change the following two statements, “If juvenile dam passage survival ...” to “If juvenile project passage survival”*
- Response 2** This language is no longer applicable due to changes in the revised HCPs.
- Comment 3** *Page S-22, Paragraph. 1, line 5. “If juvenile dam passage survival after three years of evaluations remains...” The Wells Implementation Agreement specifically calls for three years of survival studies within the five-year period known as Phase I. Phase I began in 1998.*
- Response 3** This was meant to indicate that 3 years of assessment were required, and not that 3 additional years of study were needed. However, this language is no longer applicable due to changes in the revised HCPs. See NMFS responses to DEIS public comments, Appendix C, Response #57.
- Comment 4** *Page S-29, Table S-2 Alternative Comparisons (Alternative 1). In the section labeled, “Continued Studies to Assess Survival” please clarify that continued survival studies at Wells Dam toward the goal of determining passage survival conditions at Rock Island and Rock Reach dams is not the responsibility of the Wells Project owner.*
- Response 4** Reference to Wells Dam was removed to avoid confusion. See NMFS responses to DEIS public comments, Appendix C, Responses #21 and #22.
- Comment 5** *Page S-35, Second Column, second to last Bullet. “determine whether the species can be expected to survive with an adequate potential for recovery under the proposed action...” Please define “adequate potential” in terms of interim recovery goals and standards. Would a greater than 50 percent probability of recovery be sufficient? How does, “adequate potential for recovery” relate to the “not likely to jeopardize the continued existence” standard spelled out in Section 7(a)(2) of the Endangered Species Act?*

Response 5 Section 1.3.1.1 of the 2000 Federal Columbia River Power System biological opinion describes the general analytical approach that NMFS uses to apply the jeopardy standard in the implementing regulations (Section 402.02 – definition of “jeopardize the continued existence”). This general analytical approach states that, for an action to avoid jeopardy, the mortality of listed salmonids within the different Evolutionarily Significant Units attributable to the action must be low enough to meet the following condition:

When combined with mortality occurring in other life stages, there is a high likelihood of population survival and a moderate to high likelihood of population recovery.

For anadromous fish in the Columbia River Basin, NMFS has chosen the probability that 8-year geometric mean abundance will be greater than or equal to recovery abundance level in 48 years as the most conservative recovery metric. NMFS approximates “moderate to high probability” in its modeling efforts as “50 percent or greater likelihood of meeting the recovery abundance level in the specified time period.” See NMFS responses to DEIS public comments, Appendix C, Responses #41 and #52.

Comment 6 *Page S-38, Table S-3 Environmental Comparison of the Alternatives (Page 3 of 8). Under “Fisheries Resources: Other Plan Species – Adult Reservoir Spawning”, Alternative 1, 2 and 3 are listed as being: “Same as discussed for threatened and endangered species above.” However, under the T & E section (above) there is no discussion of Adult Reservoir Spawning.*

Response 6 The FEIS was revised to reflect that there would be no change from existing conditions for the three alternatives, but that reservoir spawning primarily refers to fall chinook.

Comment 7 *Page S-39, Table S-3 Environmental Comparison of the Alternatives (Page 4 of 8). Under “Tributary Habitat Improvements” for Alternative 1, 2, and 3. Given that this document is intended to evaluate three possible environmental alternatives related to future operation of PUD dams, we are confused by the following statement: “Habitat improvements would occur through the implementation of non-PUD funded projects through Federal, State and local agency funding.” This statement misleads the reviewer to conclude that habitat improvements will take place regardless of the selected alternative. Simply stated, under Alternative 1 and 2 the PUDs would not fund off-site habitat improvements. Under Alternative 3 the PUDs would fund tributary enhancement toward a 2 percent increase in survival per project for Plan species covered by the HCP. Under all three alternatives the agencies may pursue habitat improvements.*

Response 7 The heading titled Tributary Habitat Improvements of Table S-3 has been revised in the FEIS to more clearly indicate that only under the HCP alternative (Alternative 3) are the PUDs expected to provide funding for tributary improvements. However, habitat improvement projects will continue to occur in the Mid-Columbia River area from a variety of sources (e.g., Salmon Recovery Funding Board). This is expected to occur under all three alternatives. The QAR analysis indicates that additional measures will be needed to recover listed species, even if the HCPs are implemented. Therefore, other activities are identified that would aid in the recovery process, as well as assessing the cumulative effects of Alternative 3. Deleting this information from the table would be more confusing because it would give the impression that the HCPs would be the only effort being implemented to recover the species. See NMFS responses to DEIS public comments, Appendix C, Responses #12 through #14 for discussion of off-site mitigation and the Tributary Habitat Plan.

Comment 8 *Page S-40, Table S-3 Environmental Comparison of the Alternatives (Page 5 of 8). Alternative 1, Water Quality, Tributary Water Quality. We suggest removing references to agency-funded*

habitat work. The inclusion of agency funding of habitat projects only confuses the three environmental options being evaluated. Under Alternative 1 and 2 the PUDs would not voluntarily fund improvements in water quality in the tributaries. Under Alternative 3, the PUDs would voluntarily provide direct funding toward the improvement of tributary water quality. This clear distinction needs to be drawn between the three Alternatives.

Response 8 Same as DCPUD Comment #7 (above).

Comment 9 *Page S-40 and S-43. Table S-3 Environmental Comparison of the Alternatives (Page 5, 6, 7 & 8). Actions common to all three alternatives and outside the control of the decision related to the EIS should not be presented in this table. Similarly, the actions referred to under DCPUD comment no. 8 should also be applied to statements contained under subsections: Vegetation (Project Area, Associated Tributaries), Wildlife (Threatened and Endangered Species), Land Use (Associated Tributaries), Economics (Tributary Habitat Improvement), Recreation (Tributary Habitat Improvements, Columbia River System) and Cultural Resources (Tributaries).*

Response 9 Same as DCPUD Comment #7 (above). The EIS must assess cumulative effects of the proposed project. This table summarizes information contained in the EIS, and even if there is no difference between the alternatives, we need to show that this topic was evaluated.

Comment 10 *Page 1-6 and 1-7. 1.5.2.1 Endangered Species Act Requirements for Non-Federal Actions. “The No Surprises Policy and Adaptive Management” These two policies appear to be in conflict when it comes to implementation under the proposed HCP. Please describe how conflicts between the two policies will be mediated during the implementation of Alternative 3.*

Response 10 The No Surprises Policy section states that the regulation means that, “as long as an HCP is being properly implemented, the Section 10 permit is valid and nothing more can be required.” It further indicates that “mitigation will remain as agreed.” Adaptive management is an integral part of the HCPs because some of the mitigation identifies response-based requirements or goals. These goals have been agreed to and will not change, but the measures needed to reach the goals are generally unspecified and will require an adaptive management approach to implement. Other mitigation levels are clearly identified in the HCPs, as well as specifications on how they could be adjusted in the future. The revised HCPs also identify contingency procedures for resolving disputes and define circumstances under which the parties could withdraw from the agreements and/or NMFS could revoke the Section 10 permits. NMFS’s ability to withdraw in certain circumstances, such as a failure of the species to rebuild, is not limited by the No Surprises policy.

Comment 11 *Page 1-16. 1.6.3 Alternative 3 (Proposed Action), first Bullet on Page 1-16. Please modify the following statement: “evaluate project specific survival rates,” to “evaluate project specific juvenile survival rates.”*

Response 11 The text has been revised to be consistent with the revised HCPs and reads as follows: “Evaluate survival rates according to the HCP Survival Standard Decision Matrix.”

Comment 12 *Page 1-32, 1.10 Background Summary, second Paragraph, second Sentence. “Therefore, this EIS is being developed for the purpose...whether or not to issue incidental take permits.” This statement appears to conflict with the statement made on Page S – 15 and Page 2-32. The EIS purpose includes amendment of FERC licenses. For a further description of our concerns please see comment no. 1.*

Response 12 See response to DCPUD Comment #1.

Comment 13 *Page 2-14, Wells Dam, second column of text, last sentence of text in the first partial paragraph. We take issue with the following statement: “Therefore, the total direct and indirect mortality is likely similar to the 2 percent found at the Lower Snake River project bypass systems (NMFS 1998).” We disagree. The Wells bypass system is not similar to the Snake River screen bypass systems. The Wells system performance is superior to those found at the Lower Snake River projects. Survival assigned to this passage route should be similar to the estimated survival assigned to spillway passage routes.*

In contrast, the Snake River screen bypass systems utilize extensive turbine intake screens, small gatewell orifice passages, collection channel dewatering, dewatering in transport pipes, handling and delay in sampling facilities, and reintroduction back into the tailraces through low volume pipes located immediately adjacent to predator-plagued shorelines.

The Wells surface collection system does not utilize massive intake screens, orifice passageways, transportation pipes, handling facilities and low water tailrace discharges. The Wells surface collector guides fish away from the turbines and into the spillways where five high volume non-turbine passage routes are provided through the dam. Fish are introduced back into the tailrace turbine discharge where velocities are sufficiently high to prevent predator accumulation and where gull wires protect fish from avian predators.

We suggest using a combined estimate of direct and indirect mortality that ranges from 0 percent to 1 percent for the Wells surface bypass system.

Response 13 Because the Wells bypass system consists of a modified spillway design, NMFS believes that direct and indirect mortality rates through this route of passage are most likely to range between 1 and 2 percent (2 percent being the most conservative). The FEIS has been revised accordingly. See NMFS responses to DEIS public comments, Appendix C, Response #36 for additional discussion.

Comment 14 *Page 2-17, 2.2.3.2 Adult Passage, second full paragraph, first sentence. Please modify the following statement: “Survival rates of adult salmon and steelhead passing through the Mid-Columbia River has not been estimated due to insufficient radio-telemetry data.” to “Survival rates of adult salmon and steelhead passing through the Mid-Columbia River have not been estimated due to an inability to differentiate tag loss, tag failure and fish loss.” It is not presently possible to estimate adult survival in a statistically defensible manner with the present radio-telemetry technology.*

Response 14 The FEIS was modified to reflect the comment, as well as other comments in the DEIS.

Comment 15 *Page 2-23, Measures Planned, fourth Line. Please replace “negotiations” with “agreements.”*

Response 15 The FEIS was modified as suggested.

Comment 16 *Page 2-23, Measures Planned. 1. Adult Passage.*

c. The Wells Settlement Agreement does not contain language that obligates the District to conduct modeling in the adult fishways.

e. The Wells Settlement Agreement does not include conditions to continuously operate the juvenile surface bypass system from April through August for adult fallback and adult downstream passage.

- Response 16** At this time, NMFS agrees that because FERC never acted upon the Wells biological opinion (which expired in April of 2002), the Wells Settlement Agreement is the controlling document for the purpose of analyzing the no-action alternative (Alternative 1). The FEIS was modified accordingly. See NMFS responses to DEIS public comments, Appendix C, Response #50.
- Comment 17** *Page 2-23, Measures Planned. 2. Juvenile Passage. a. The Wells Settlement Agreement does not contain requirements to operate the turbines at peak efficiency ratings.*
- Response 17** We agree (see response to DCPUD Comment #16 above), and the FEIS was modified accordingly.
- Comment 18** *Page 2-23 and 2-24, Measures Planned. 2. Juvenile Passage. b. Surface Bypass Operation – Please modify the following statement: “Operate at least one spillway bypass, 24-hours per day, throughout the juvenile downstream migration periods” to “Operate at least one spillway bypass, 24-hours per day, throughout 80 percent and 70 percent of the peak spring and peak summer juvenile downstream migration, respectively...”*
- Response 18** We agree that the Wells Settlement Agreement requires Douglas County PUD to operate the bypass system 24 hours per day during 80 percent of the spring and 80 percent of the summer migration (see response to DCPUD Comment #16 above), and the FEIS was modified accordingly.
- Comment 19** *Page 2-24, Measures Planned. 2. Juvenile Passage. c. Predators and d. Gas Abatement. Neither of these actions is outlined in the Wells Settlement Agreement. Please remove the statements from the EIS.*
- Response 19** We agree (see response to DCPUD Comment #16 above), and the FEIS was modified accordingly.
- Comment 20** *Page 2-25, 2.3.1.2 Rocky Reach Hydroelectric Project. Analogous sections are missing under Rocky Reach and Rock Island project descriptions that are present under the Wells Project description. Please add the following Section designations to the Rocky Reach and Rock Island project descriptions to allow a more rigorous comparison of actions proposed at different projects: Adult Fish Passage, Juvenile Fish Passage, Hatchery Based Compensation, and Monitoring and Evaluation.*
- Response 20** These sections have been added to the FEIS as requested.
- Comment 21** *Page 2-28, second full paragraph, fifth Line. The QAR analysis findings that, “even the removal of the Mid-Columbia River dams would not be sufficient to recover these species, if recent total life history survival rates continue,” should be expressed in the Summary on Page S-16, S.5.3.2 HCP Baseline Conditions.*
- Response 21** The summary section is developed by cutting and pasting information directly from Chapters 1 and 2 of the FEIS to maintain consistency. Detailed discussions concerning the QAR are in Chapter 5 of the FEIS and are not discussed in detail in Chapters 1 and 2.

- Comment 22** *Page 2-29, 2.3.2.1 Wells Hydroelectric Project. 3. Hatchery Program – It is important to point out that under Alternative 1, 2 and 3, Douglas County PUD has the ability to reduce hatchery production (including summer and spring chinook, steelhead, and sockeye) based upon the results of survival studies. Also, under Alternative 2 and 3, NMFS has the authority to reduce or modify hatchery production of listed and non-listed species to remain consistent with their long-term recovery strategies for listed Upper Columbia River spring-run chinook and summer-run steelhead.*
- Response 22** We agree that under Alternative 1, Douglas County PUD has the ability to reduce hatchery production based upon the results of juvenile survival studies. Hatchery production under Alternative 2 of the FEIS contemplates hatchery production levels similar to those defined in Alternative 1, except that hatchery production of all species may be modified or reduced to levels consistent with long-term recovery strategies for listed species. The same is true under Alternative 3, except that the revised HCP proposes to not change hatchery production levels until at least 2013. NMFS may require program modifications or reductions in 2013 and every 10 years thereafter.
- Comment 23** *Page 2-35, 2.3.3.5 HCP Performance Standards, third full paragraph, last sentence. “In addition, the 91 percent survival standard also includes reservoir survival and the dam passage survival of returning adults.” This statement is inaccurate as presented. The HCP was set up to measure 91 percent juvenile project passage survival. The 91 percent juvenile number was derived by assuming loss of adults (2 percent), assuming loss through the reservoir (2 percent) in addition to the 5 percent allowed loss at the dam. Further assumptions related to the 91 percent determination included an assumed 2 percent delayed mortality from hydro passage and a 2 percent credit for natural river fish loss.*
- The agreement reached on the HCP does not include measurement of adult survival at a 95 percent CI +/- 5 percent. This is evident from the adult language in the implementation agreement, the timeline for completion of the Phase I studies (5 years) and based upon the knowledge that precise adult survival studies were not statistically or scientifically defensible at the time the Implementation Agreement was negotiated. The PUDs did not sign up to ensure adult survival from tailrace to tailrace at a rate of 98 percent irrespective of natural mortality.*
- It is important to point out that during the negotiations of the HCP, a 2 percent adult mortality figure was discussed. However, the final HCP Implementation Agreement was approved without referencing the measurement of the 2 percent adult mortality figure. The final agreement says “...and a net of 4 percent mortality from all other project effects (including but not limited to reservoir, juvenile delay, and adult mortality with credit for natural mortality).” Please remove all discussion that indicates the HCP has a 2 percent measurable adult mortality component.*
- Response 23** This language is no longer applicable due to changes in the revised HCPs. See NMFS responses to DEIS public comments, Appendix C, Responses #14 and #58.
- Comment 24** *Page 2-41, Verification of Standards. We agree with the statements in the first and second paragraphs of this section related to the verification of standards.*
- Response 24** Comment noted, although changes in the revised HCPs invalidate some of these statements.
- Comment 25** *Page 2-56, Table 2-8 Environmental Comparison of the Alternatives (Pages 1 of 8). Please modify this table per similar concerns expressed in comment no. 7, 8 and 9. The DEIS is intended to compare actions related to the implementation of three environmental alternatives for*

fish mitigation at three FERC licensed projects (no-action, S. 7 and HCP). Descriptions of actions outside those proposed by the PUDs (agency-funded habitat enhancement actions) should be removed from the document.

- Response 25** Agency-funded habitat enhancement projects are likely to occur in tributaries that will positively benefit Plan species under all three alternatives evaluated in the FEIS. The expected effects of these projects are discussed in the cumulative effects section (Chapter 5) of the FEIS and summarized in Table 2-8. Also, see responses to DCPUD Comments #7, #8, and #9.
- Comment 26** *Page 2-56, Table 2-8 Environmental Comparison of the Alternatives (Pages 1 of 8), juvenile migration/survival standards. Please change, “project specific standards” under Alt. 1 to “Project specific fish passage standards.”*
- Response 26** Text was added to the FEIS to reflect the comment.
- Comment 27** *Page 2-59, Table 2-8 Environmental Comparison of the Alternatives (Pages 4 of 8), Drawdown, Alt. 2. It should be mentioned that drawdown under Alternative 2 could only be considered during relicensing of the projects.*
- Response 27** Text was added to the FEIS to reflect the comment. NMFS could also petition FERC to reopen the licenses and seek drawdown through a reopener proceeding. See NMFS responses to DEIS public comments, Appendix C, Response #24.
- Comment 28** *Page 3-10, Figure 3-4 Geology of the Rock Island Dam Area. There are two identical categories for Grande Ronde Basalt. What is the difference between N2 and R2 Units? In the figure, there is no discernable difference between the two geological formations.*
- Response 28** The figure was modified in the FEIS.
- Comment 29** *Page 3-28, Steelhead, Line 2. Please modify the following statement: “Rock Island Dam averaged 2,600 to 3,700 fish” to “Rock Island Dam ranged from 2,600 to 3,700 fish.” The same comment applies to Line 4 of this same paragraph.*
- Response 29** Text was changed in the FEIS as requested.
- Comment 30** *Page 3-28, Sockeye Salmon. Please standardize the years being compared to 10-year intervals. As presented, the intervals appear to be contrived to show a recent decline in numbers of sockeye passing Rock Island Dam.*
- Response 30** Text was modified in the FEIS to reflect the comment.
- Comment 31** *Page 3-29, Coho Salmon, Last sentence. This section should also note the release of millions of coho by Chelan County PUD at the Turtle Rock Hatchery. This facility continued to release coho through the mid-1980’s.*

Note that coho ladder counts at Rock Island totaled only 475 fish between 1933 and 1943 (Mullan, 1983; Mullan et al., 1992). That is an average of less than 48 fish per year. The statement: “After completion of Priest Rapids Dam in 1960, peak escapement estimates probably never exceeded 10,000 fish” is misleading. The statement should be modified to indicate that few coho existed prior to the completion of Grand Coulee and Rock Island dams. The statement subtly implies a cause and effect relationship between the completion of Priest Rapids Dam and

the demise of the coho run. The Upper Columbia River coho salmon run had already been wiped out prior to construction of any mainstem Columbia River dams as is evident from fishway counts immediately following the completion of Rock Island Dam.

Response 31 Text was added to the FEIS to reflect the comment.

Comment 32 *Page 3-29, Table 3-1 Spawning Distribution of Anadromous Fish Species in the Mid-Columbia River Watersheds. Fulton (1968) appears to incompletely describe salmon and steelhead spawning in the Mid-Columbia Region. Please modify Table 3-1 to include the distribution of fish described below.*

Fall Chinook - Please add the Columbia and Methow Rivers to the watersheds utilized extensively by Fall Chinook.

Steelhead - Please add the Twisp and Chewuch Rivers and Libby Creek as being important Methow River tributaries for spawning steelhead. It should be noted that Salmon and Omak Creeks are not presently important steelhead habitats. "Simikameen" is spelled "Similkameen." Also note, steelhead do not have access to the Upper Similkameen River. Instead they only have access to the Lower Similkameen River. Enloe Falls blocks steelhead access to the Upper Similkameen River.

Sockeye – Extensive spawning ground surveys for sockeye have not resulted in documented sockeye spawning in the mainstem Okanogan River. Please remove the reference to the Mainstem Okanogan River as a tributary of the Okanogan River used by spawning sockeye. Please modify the sentence to state that the Osoyoos Lake sockeye population is almost entirely spawned in the Okanogan River, upstream of Osoyoos Lake.

Response 32 The title of the table in the FEIS was changed to indicate primary spawning areas. As such, we have no indication that the Methow River is a primary spawning area for fall chinook salmon. Radio-telemetry analyses (LGL 2001) indicate that less than 5 percent (2 of 44 fish) of the fall chinook salmon that passed Wells Dam were last detected in the Methow River. However, the mainstem Okanogan and the Similkameen Rivers were added for fall chinook salmon. The suggested changes were made for steelhead, although reference to the Salmon and Omak Rivers was deleted rather than modified. The sockeye salmon section was also modified, although the original text was meant to indicate that the primary spawning areas were upstream of Osoyoos Lake, in the Okanogan River and tributaries.

Comment 33 *Page 3-30, 3.2.3 Tributary and Mainstem Development, end of first Paragraph. The last statement in this paragraph is not entirely accurate. Hydroelectric facilities on the Cowlitz, Lewis and Willamette Rivers do not all contain adult fish passage facilities. Some transport fish by truck upstream of the projects and others are migrational blocks to migrating adult salmon and steelhead. Please modify the statement to read: "All mainstem Columbia and Snake river dams downstream of these projects are equipped with facilities to allow ..."*

Response 33 Text was modified in the FEIS as suggested, to clarify the original intent of the statement.

Comment 34 *Page 3.2.4 Hatchery Programs, Page 3-31, First line on page 3-31. Please modify the percent of summer-run chinook salmon that are of hatchery origin in the Mid-Columbia River. 80 percent hatchery composition for this stock is not accurate. The following table indicates the best estimate of hatchery contribution for the watersheds covered by this EIS (Table 1). The hatchery contribution of fall chinook is also closer to 20-30 percent and not 50 percent.*

Table 1: Escapement to the Wenatchee, Methow and Okanogan Rivers of hatchery origin summer chinook (Table adapted from Murdoch and Petersen, 2000).

<i>Return Year</i>	<i>Wenatchee</i>	<i>Methow</i>	<i>Okanogan</i>
1991	2.4	0.0	0.0
1992	1.5	0.0	3.5
1993	5.0	24.0	36.1
1994	12.0	45.0	48.7
1995	9.2	36.9	54.6
1996	4.9	15.8	59.3
1997	8.5	9.2	54.3
1998	10.7	22.2	29.9

Murdoch, A. and K. Petersen. 2000. Survival of sockeye, spring chinook, and summer chinook salmon released from Rock Island Fish Hatchery Complex Facilities, 1989 through 1995 broods. Prepared for Public Utility District no. 1 of Chelan County. Washington Department of Fish and Wildlife, 600 Capitol Way N., Olympia, Washington 98501-1091.

- Response 34** The original DEIS text was referring to the entire Columbia River Basin, not just the Mid-Columbia region. However, the requested information has been added to the FEIS to clarify the issue.
- Comment 35** *Page 3-31, 3.2.4.2 Hatchery Compensation for Mid-Columbia Tributary Losses. There is no plan in place to compensate for Mid-Columbia Tributary Losses. Please replace, “Tributary Losses” with “Mainstem Passage Losses.”*
- Response 35** Text was changed in the FEIS as requested.
- Comment 36** *Page 3-37, Rocky Reach, second Paragraph in section, last Line. There was no sockeye salmon passage study at Rocky Reach in 1993. The 1993 study was a chinook study. There was a sockeye passage study at Wells Dam in 1992. However, this study did not include any monitoring at Rocky Reach Dam. The 14 percent fallback estimate was derived from the 1997 sockeye monitoring effort only (English et al., 1998).*
- Response 36** The between years comparison was intended to be for summer-run chinook salmon. Text was edited in the FEIS to clarify the findings.
- Comment 37** *Page 3-38, Rock Island Dam, second Paragraph, first Line. There was no sockeye study at Rock Island Dam in 1993.*
- Response 37** Text was changed in the FEIS to refer to the 1997 study.
- Comment 38** *Page 3-42, 3.2.6.3 Juvenile Bypass Systems, Wells Dam, second Paragraph, last Sentence. We disagree with the assertion that the Wells bypass system likely has indirect mortality similar to the diversion screen bypass systems located at the Snake River projects. See DCPUD comment no. 13 for the rationale for not comparing the Wells Bypass system to the Snake River bypass systems.*

The Wells bypass system is a highly efficient spill bypass system. Indirect mortality resulting from passage through this system should be compared with indirect mortality estimates derived from spillway survival studies.

- Response 38** See response to DCPUD Comment #13.
- Comment 39** *Page 3-46, Rocky Reach, second Paragraph, last Sentence. The yearling fall-run chinook survival studies cited in this paragraph were conducted in 1998 not 1999. Also, the results from the Eppard et al. (1999) study were not accurately cited. Eppard et al. (1999) provides two estimates of Rocky Reach survival from yearling chinook release in 1998. Table 10, Page 38 of the report states Rocky Reach project survival, depending upon the model selected, as (0.867, $s\hat{E} = 0.065$) based upon the parallel SR Model and (0.859, $s\hat{E} = 0.042$) based upon the PR model.*
- Response 39** Text was added to the FEIS to reflect the comment.
- Comment 40** *Page 3-65, Icicle Creek. The 19 miles of historical habitat is disputed by USFWS personnel stationed in Leavenworth. Radio-telemetry studies conducted in 2000 by the USFWS indicated that a natural obstruction in the river restricted fish access into the upper watershed. The obstruction is located within the first 3 miles of river upstream of the existing barrier dam.*
- Response 40** Text was added to the FEIS to reflect the comment.
- Comment 41** *Page 3-72, Summer/Fall-Run Chinook Salmon, first Paragraph, eighth Line. We suggest the following modification to the defined spawning distribution of summer chinook in the Methow River. Summer chinook have been observed spawning downstream of French Creek near the mouth of the Methow River immediately upstream of the town of Pateros. This expands the spawning distribution from 38 to 42 miles of habitat.*
- Response 41** Text was modified in the FEIS to reflect the comment.
- Comment 42** *Page 3-72, Steelhead, ninth Line. Please modify the following statement, “Spawning occurs primarily in late March, but may extend into July.” to “Spawning is initiated as early as late March and can extend into July.” Based upon surveys conducted in 1999, peak steelhead spawning appears to be taking place in late April rather than late March.*
- Response 42** Text was modified in the FEIS to reflect the comment.
- Comment 43** *Page 3-74, Top of page, first partial Paragraph, last Sentence. The abandonment of planting catchable rainbow was intended to reduce incidental harvest on steelhead smolts although it likely also protects a lesser number of chinook salmon smolts. Please add steelhead smolts to the list of species whose incidental harvest has been reduced by the cessation of planting catchable rainbow trout.*
- Response 43** Text was modified in the FEIS to reflect the comment.
- Comment 44** *Page 3-74, Riparian and Stream Channel Condition, forth Paragraph, second sentence. Please modify the second sentence to state, “Ironically, the areas most susceptible to dewatering by low flow events are often the areas containing the highest...”*
- Response 44** Text was modified in the FEIS to reflect the comment.
- Comment 45** *Page 3-76, Fish Resources, line seven. Observations of bull trout in the Okanogan Watershed have been limited in recent history. We suggest removing bull trout as an “important” fish resource in the Okanogan Basin. This suggested change is consistent with surveys conducted by*

the USFS, Okanogan National Forest and conclusions reached in Washington State, Limiting Factors Analysis for the Okanogan River Watershed.

Response 45 Text was modified in the FEIS to reflect the comment.

Comment 46 *Page 3-77, Habitat Condition, first Paragraph, last Sentence. Please change, “The Wells Dam pool inundates the lower 17 miles of the Okanogan River.” to “The Wells Project boundary includes the lower 17 miles of the Okanogan River.”*

During normal operation, the Wells Project does not inundate the entire 17 miles of the Lower Okanogan River. The Wells Project boundary was drawn to encompass possible inundated lands during a worst-case scenario flood event. In effect Douglas County PUD has the right to inundate the lower 17 miles of the Okanogan River only during times when the Columbia and Okanogan Rivers experience a simultaneous 100-year flood event that for some reason might not be mitigated through storage at Grand Coulee and the Canadian Treaty Storage Projects.

Response 46 Text was modified in the FEIS to reflect the comment.

Comment 47 *3.3.1.1 Project Area, Page 3-83, Wells Dam, Rocky Reach and Rock Island Dam. Please standardize the months that average flows are compared between projects. We would recommend using June and September rather than using a mixture of months. Also note that average September flows referenced for Wells Dam (114,791 cfs) is much higher than the average September flows cited at Rock Island Dam (74,478 cfs). Given that Rock Island Dam is downstream of Wells Dam and that the Chelan, Entiat and Wenatchee Rivers all enter the Columbia River between Wells and Rock Island Dam, these averages appear to be incorrect. Average September flows at Wells Dam should be slightly less than the average September flows at Rock Island Dam.*

Response 47 Text was modified in the FEIS to reflect the comment.

Comment 48 *Page 3-84, Figure 3-5, Average Monthly Flows (cfs) in the Mid-Columbia River at Wells Dam. Average September flows at Wells Dam appear to be less than 80,000 cfs.*

Response 48 Text was modified in the FEIS to reflect the comment.

Comment 49 *Page 3-85 & Page 3-83, Figure 3-6, Average Monthly Flows (cfs) in the Mid-Columbia River at Rocky Reach Dam. According to the Figure, average June flows at Rocky Reach are in excess of 150,000 cfs not 136,147 cfs as cited on page 3-83.*

Response 49 Text was modified in the FEIS to reflect the comment.

Comment 50 *Page 3-87, Wenatchee River, first Paragraph, line 6. The Wenatchee River watershed drains 1,328 square miles not 1.328 square miles.*

Response 50 Text was modified in the FEIS to reflect the comment.

Comment 51 *Page 3-89, Entiat River, second Paragraph, line five. The maximum and minimum average monthly flows for the Entiat River are incorrect. Both numbers presented in the report do not match with USGS information and are highly unlikely given that the reported numbers exceed those of the Wenatchee and Methow Rivers.*

Please see Figure 3-9. The average monthly flows from this figure indicate that the Entiat River in June averages less than 1,800 cfs and in September averages less than 200 cfs. Please reconcile the text and Figure 3-9.

Response 51 Text and figures were modified in the FEIS to reflect the comment.

Comment 52 *Page 3-87, 3-89 & 3-91. Please standardize the average monthly flows being reported for the various tributary streams.*

Response 52 Text was modified in the FEIS to reflect the comment.

Comment 53 *Page 3-91, Okanogan River, second Paragraph, last Sentence. See DCPUD comment no. 46*

Response 53 Text deleted in the FEIS.

Comment 54 *Page 3-97, Wells Dam, first and second Paragraph. The temperature excursion cited at the Columbia River at the Wells Hatchery intake is in error. The water temperatures reported here were not collected at the hatchery intake but were collected from the hatchery spawning channel after water had been held in shallow ponds immediately downstream of the intake of the facility. Also, the readings were not collected from a systematic, calibrated subsurface monitor but were instead collected with a non-calibrated, hand-held thermometer, sporadically used to collect relative water temperatures by fish culture staff stationed at the Wells Fish Hatchery.*

Note that the mainstem Columbia River water quality data collected immediately downstream of Wells Dam (Chelan Falls) does not show water temperature excursions above the criteria established for state waters.

Response 54 The text in the FEIS was revised. See NMFS responses to DEIS public comments, Appendix C, Response #1 for a discussion of the influence of dams on water temperature.

Comment 55 *Page 4-1, 4.1.1.2 Associated Tributaries, first, second and third Paragraphs, (Alt. 1). This entire section should be deleted and re-written with emphasis on contrasting the three proposed environmental alternatives. Describing additional actions outside the three alternatives that may be funded regardless of the outcome of the HCP only confuses readers. This comment is similar to DCPUD comments no. 7, 8 and 9 (above).*

We suggest changing this section to describe the fact that under the No-Action alternative, no PUD tributary enhancement funds would be available. The agencies are free to spend money on habitat improvements common to all three alternatives so this entire section (4.1.1.2) provides no information related to the decision to select one of the three proposed alternatives.

This comment also applies to Page 4-3, 4.1.2.2 Associated Tributaries.

Response 55 See response to DCPUD Comments #7, #8 and #9 (above).

Comment 56 *Page 4-6, second full Paragraph, second Line. It is important to point out that drawdown is not an option under the no-action alternative (Alternative 1). It could be an option that is discussed through relicensing of the projects (Alternative 2) or by unanimous consent of the HCP signature parties under Alternative 3.*

- Response 56** Drawdown is considered an option under Alternatives 2 and 3 because it could occur at relicensing. Text was modified in the FEIS to reflect this comment. See NMFS responses to DEIS public comments, Appendix C, Response #24.
- Comment 57** *Page 4-17, Wells Dam, second bullet. Under Alternative 1, the District is not obligated in the Wells Settlement Agreement to operate the bypass system 24-hours per day during the period that encompasses 95 percent of the downstream migration.*
- Response 57** Text was modified in the FEIS to reflect the comment (see response to DCPUD Comment #16 above).
- Comment 58** *Off-Site Mitigation, Page 4-43, first Paragraph. Please add that the proposed Douglas HCP has a provision that if juvenile project survival is greater than 95 percent, the tributary funding package would be reduced from 2 percent to 1 percent. This comment also applies to the section titled: Tributary Habitat Improvements found on Page 4-43.*
- Response 58** The comment no longer pertains to the revised HCP. The FEIS was modified to reflect the current HCP language. See NMFS responses to DEIS public comments, Appendix C, Response #14.
- Comment 59** *Page 4-65. Please modify “4.9.2.1 Project Are” to “4.9.2.1 Project Area.”*
- Response 59** Text was corrected in the FEIS.

NMFS Responses to Chelan County PUD (CCPUD) Comments

Specific Comments

- Comment 1** *Page S-15, 2-32, Alternative 3 (Applicants' Proposed Action – Project HCPs), 2nd paragraph. The text states that “the EIS required for implementing measures in the HCPs ...” An EIS may not be needed in order to implement measures in the HCPs. In most cases an environmental checklist or an environmental assessment will be sufficient.*
- Response 1** The FEIS text was changed to “NEPA compliance” instead of EIS. See NMFS responses to DEIS public comments, Appendix C, Response #19.
- Comment 2** *Page S-15, 2-32, Alternative 3 (Applicants' Proposed Action – Project HCPs), 2nd paragraph. The text states that “implementing measures in the HCP would be undertaken by FERC with a separate Section 7 consultation with NMFS”. It is the District's understanding that the HCPs will be presented to FERC with a request that they be incorporated into the project licenses. FERC's action may not require a new Section 7 consultation with NMFS and USFWS.*
- Response 2** Consultation is required for all Federal actions. NMFS must consult with itself to ensure that its decision to issue an incidental take permit will not jeopardize the continued existence of the listed species. The amendment of existing licenses by FERC is a separate action from NMFS issuing a permit. Although the EIS is intended to satisfy NEPA compliance requirements for both actions, FERC must consult with NMFS and USFWS (the Services) concerning their action. Depending on the outcome of that consultation, FERC might need additional NEPA compliance documentation. See NMFS responses to DEIS public comments, Appendix C, Response #19.
- Comment 3** *Page S-18, 2-35, last sentence before the start of Section S.5.3.6 and Section 2.3.3.6. The sentence reads “...to achieve 95 percent juvenile dam passage survival and 91 percent project survival.” Replace the “and” between “juvenile dam passage” and “project survival rates” with an “or”. While the word “and” is used in the HCPs, its use was an error. An errata sheet will be prepared for the final HCP on this issue. The intent of the parties was to require the measurement of 95 percent juvenile dam passage survival starting in 2003 as a default. However, the parties desired to leave the coordinating committee the discretion to forgo measurement of 95 percent juvenile dam passage survival and just measure the juvenile component of 91 percent project survival in 2003. There is not an obligation to measure 91 percent project survival in 2003. The coordinating committee will measure 91 percent project survival when a protocol can be developed.*
- Response 3** Text was changed in the FEIS to reflect the comment. However, some of the language suggested in the comment is no longer relevant as a result of changes in the revised HCPs.
- Comment 4** *Page S-23, 2.3.3.11, Project Cumulative Effects. This text attempts to summarize Section V “Reservoir As Habitat” of the HCPs. However, the summary omits an important concept. The District agrees to consider cumulative impacts as part of its land use decision making.*
- Response 4** NMFS concurs that the PUDs agree to consider cumulative impacts as part of their land use decision making. This change has been included in Section 5.1 of the Wells HCP and Section 6.1 of the Rocky Reach and Rock Island HCPs, as well as in Section 2.3.4.11, Project Cumulative Effects of the FEIS.

- Comment 5** *Page S-24, 2-41, “Term of the HCPs”, first paragraph, first sentence. The text states that “the 50-year term of the HCPs would not begin until the incidental take permits are issued.” While correct, this sentence is a bit misleading. The 50 year term of the HCPs starts when the “Agreement is executed by all Parties and regulatory approvals are received...” HCP, Section I “Term of Agreement”. Issuance of the requested incidental take permit from NMFS is only one of the regulatory approvals that must be received in order for the HCPs to become effective.*
- Response 5** This section was deleted from the FEIS. Also see NMFS responses to DEIS public comments, Appendix C, Response #49.
- Comment 6** *Page S-24, 2-41, “Transition Period” mischaracterizes the current HCP activities. The PUDs are not conditionally implementing the HCPs. The PUDs have volunteered to perform activities that are consistent with the HCPs as a sign of good faith. The District is also implementing measures because even though the HCP is not in effect the 2003 deadline is approaching.*
- Response 6** This section was deleted from the FEIS. See response to CCPUD Comment #7.
- Comment 7** *Page S-24, 2-41, “Transition Period” mischaracterizes the interim protection plans. In 1997, with the full support of the NMFS and the USFWS, the PUDs voluntarily filed interim protection plans with the Federal Energy Regulatory Commission. The interim protection plans identified various portions of the HCPs that the District, NMFS and USFWS felt were worthwhile to implement in advance of completing the HCP negotiations. Measures were picked to assist the migration of newly listed Upper Columbia River steelhead. The interim protection plans proposed only a two year plan because the HCPs were expected to be in place within two years. The interim protection plans were informally expanded to include Upper Columbia spring-run chinook salmon upon their listing. The PUDs requested that FERC approve the measures contained in the interim protection plans. FERC initiated consultation with NMFS over this proposed action. The consultation has yet to be completed, and FERC has yet to take action on the plans. Due to the time taken to complete this consultation, the interim protection plans have expired.*
- Response 7** Section 2.1 of the NMFS Biological Opinion on the Rocky Reach Juvenile Bypass System (dated March 11, 2002) provides a history of the interim protection plans. Although Chelan County PUD disagrees with a statement contained in the history indicating that Brian Brown’s letter to Steve Hays (dated April 4, 2002) documented an agreement.
- Comment 8** *Page S-26, 2-43, “Compensation for Unavoidable Project Mortality”, first two sentences. The meaning of the first two sentences is not clear. The District has not modified any portion of the incidental take permit applications that were filed with NMFS.*
- Response 8** This text is correct when referring to the negotiations leading up to the revised HCPs.
- Comment 9** *Page S-26, 2-43, “Hatchery Compensation Plan Issue” and Page 1-12 Section 1.5.2.6 “Federal Trust Responsibilities to Indian Tribes” overstates the issue in dispute. The HCP requires that 7 percent of the “unavoidable project mortality” associated with each project be mitigated through hatchery supplementation. HCP Section III.1. The HCP goes on to define the initial hatchery production commitment (HCP Sections VIII.3. and 4). NMFS is in a position to evaluate the effects of the initial hatchery production commitment. However, hatchery production will vary over time depending upon the size of the runs. NMFS has been unwilling to opine that the hatchery program will always satisfy the Endangered Species Act. Since NMFS has been unwilling to define the hatchery levels that will satisfy the Endangered Species Act it is not*

possible to predict how the hatcheries will be utilized during the term of the HCPs. Hatchery production is a key incentive for the tribes' participation in and support of the HCPs as a comprehensive settlement. Without knowing how the hatcheries will be utilized during the term of the HCPs the tribes cannot effectively evaluate the benefits of the HCPs. As a result of this uncertainty the tribes are not supporting the HCPs.

- Response 9** The FEIS text was modified to reflect the components of the revised HCPs and the agreed-upon solution to the dispute.
- Comment 10** *Page S-29, 2-50, "Endangered Species Act Compliance." It is unknown whether the project's current licenses comply with the Endangered Species Act since they were issued prior to the adoption of the Endangered Species Act. Also, assuming the project licenses do not comply with the Endangered Species Act, under Alternative 1 the District could obtain incidental take permits addressing only listed species.*
- Response 10** The statement is meant to indicate that there would be no future provisions under Alternative 1 to address the Endangered Species Act, and not that there is no compliance. Additionally, Alternative 1 has been changed to include the Rocky Reach biological opinion as existing conditions.
- Comment 11** *Page S-30, 2-51, "Future Provisions for Other Aquatic Species". The table should acknowledge for all three alternatives that the District could submit incidental take permits under Section 10 of the Endangered Species Act as a means of addressing the Endangered Species Act.*
- Response 11** NMFS concurs that, for non-Plan species listed (either currently or in the future) under the Endangered Species Act, the PUDs could, under any of the three alternatives, apply for incidental take permits under Section 10 of the Endangered Species Act as a means of addressing their effects on these listed species. This addition has been incorporated into the corresponding sections of the FEIS. See response to CCPUD Comment #10.
- Comment 12** *Page S-31, 2-52, "Dispute Resolution." The table incorrectly includes "binding arbitration" as a means for resolving disputes. The text on Page S.17 paragraph 2 does a better job of explaining the HCP's dispute resolution process; but, does omit two of the exceptions to utilizing dispute resolution. See discussion above under "The Agreements" for more thorough overview of the HCP's dispute resolution process.*
- Response 12** This comment is no longer relevant due to substantial changes in the dispute resolution process in the revised HCPs. See NMFS responses to DEIS public comments, Appendix C, Response #21.
- Comment 13** *Page S-33, 2-53, Section S.7.2.3 "Alternative 3", first full paragraph, second sentence. The text reads that in part "there is no requirement to provide the benefit of the doubt to the species of concern with respect to gaps in the information base and NMFS has no authority to determine what constitutes the best available information to be utilized in support of any decisions." This sentence infers that the HCP dispute resolution process may not comply with law. Such an inference is not correct. In the HCP, NMFS has expressly reserved its authority to monitor, modify, suspend, revoke and re-instate, and enforce its incidental take permit outside the HCP dispute resolution process. HCP Section X.3-5, and Section XI.1.b. Furthermore, the dispute resolution process will not produce a result that is binding upon NMFS unless NMFS agrees. HCP Section XI.5.c. The dispute resolution process is mediation with a twist. The twist is that the mediator will issue a decision that can be entered into evidence in a later proceeding. HCP Section XI. 5.c. The reason for the decision is to facilitate settlement. No one knows what, if any,*

weight will be afforded the decision. Also, the parties' intent is that once the decision is rendered parties will not feel the need to proceed further. NMFS like any other agency has the authority to enter into dispute resolution processes. 5 USC Section 572(a), and 575(a)(1). Since a party may pursue any remedy available after exhausting dispute resolution it is in full compliance with the law. HCP Section XI. 3.c.

Response 13 This comment is no longer relevant due to substantial changes in the dispute resolution process in the revised HCPs.

Comment 14 *Page S-35, 1-31, Section S.8 "Decision to be Made", second to last paragraph, first sentence. The text states that "NMFS will prepare a biological opinion to determine if the implementation of the HCPs is likely to jeopardize the continued existence of listed species that are likely to occur in the Plan area. ..." The text goes on to discuss issues NMFS will analyze in the biological opinion, and explains actions NMFS may take based upon the results of the biological opinion. The process NMFS describes in the DEIS for evaluating the incidental take permit applications filed by the District are not consistent with Section 10 of the Endangered Species Act. Section 10(a)(2) of the Endangered Species Act defines the process NMFS must follow to evaluate an incidental take permit application. 16 U.S.C. Section 1539(a)(2). This process does not require NMFS to consult with itself under Section 7 of the Endangered Species Act. Section 10 defines the complete process NMFS must follow to evaluate an incidental take permit application.*

Response 14 The Habitat Conservation Planning and Incidental Take Permit Processing Handbook 3.B.2.e (USFWS 1996) specifically states that, "In the case of issuance of a Section 10(a)(1)(B) permit, USFWS or NMFS must conduct an intra-Service (or internal) consultation to ensure compliance of permit issuance with the provisions of Section 7." It goes on to state in Section 3.B.4. that, "Although the provisions of Section 7 and Section 10 are similar, Section 7 and its regulations introduce several considerations into the HCP process that are not explicitly required by Section 10—specifically, indirect effects, effects on federally listed plants, and effects on critical habitat."

Comment 15 *Page S-35, 1-31, Section S.8 "Decision to be Made", second to last paragraph, first sentence. The text states that "if the NMFS' biological opinion finds that the proposed actions are not likely to jeopardize the continued existence of the listed species ..., the permits can be approved." While true, NMFS must also make the findings required by Section 10 of the Endangered Species Act in order to issue the requested incidental take permits.*

Response 15 Text was deleted in the FEIS.

Comment 16 *Page S-41, 2-61, "Land Use, Project Area, Alternative 3". The text does not correctly reflect the HCPs. In the HCPs the PUDs will consider cumulative effects of land use decisions, provide the signatories to the HCPs with opportunity to provide comments on permitting decisions, and notify permit applicants that their proposed use or occupancy of may result in incidental take of listed species and require authorization of NMFS or USFWS. HCP Section V "Reservoir as Habitat".*

Response 16 Text was modified in the FEIS to reflect the comment.

Comment 17 *Page S-42, 2-63, "Economics, Project Area"; also, Page 4-61 Section 4.7 "Socioeconomic". Why is there no analysis of how spill and the other measures in each alternative reduce the generating capacity and energy generated from the projects? This is a very significant effect of all the alternatives given the energy emergencies facing the Western United States, the Northwest, and Chelan County. Reduced generating capacity and reduced energy output have a direct effect on the ability of the projects to meet peak load demands for the District's own loads,*

and to prevent or minimize energy emergencies in the Northwest and Western United States. The failure of the projects to meet peak load demands for the District's own loads exposes the District's loads to the extreme costs of energy in the Northwest and the West, and also to the risk that energy will not be available at any price. These issues vary dramatically between the three alternatives reviewed in the DEIS.

Response 17 Refer to the new Economics sections in Chapters 3 and 4 of the FEIS, Sections 3.8 and 4.8.

Comment 18 *Page 1-1, Key Terms, "No Surprises Policy". The District understands that the term "No Surprises policy" refers to the rules set forth in 50 CFR Section 222.303(g).*

Response 18 Text was modified in the FEIS to reflect the comment.

Comment 19 *Page 1-4, Section 1.5, "Regulatory Framework", third sentence. What does "other Federal laws and regulations" mean?*

Response 19 Although other Federal laws and regulations may require disclosure of the DEIS to the public, NEPA defines the public distribution and comment procedures. Therefore, the reference to "other Federal laws and regulations" was deleted from the FEIS.

Comment 20 *Page 1-9, continuation of Section 1.5.2.4, "FERC Regulatory Requirements", 3rd full paragraph, second sentence. Text reads "These measures will supercede any settlement agreements pertaining to Plan." Insert "Species" after "Plan."*

Response 20 Text was modified in the FEIS to reflect the comment.

Comment 21 *Page 1-10, Northwest Power Act, 1st paragraph, second sentence. The text reads "The Mid-Columbia utilities are subject to the Act". The term "Mid-Columbia utilities" is not defined in the DEIS. This DEIS relates to the projects operated by Chelan and Douglas County PUDs. Also, Chelan and Douglas County PUDs are not subject to the Northwest Power Act. FERC considers the plans developed pursuant to the Northwest Power Act when licensing the projects.*

Response 21 Text was modified in the FEIS to reflect the comment.

Comment 22 *Page 1-11, "Title 77 Revised Code of Washington", First sentence. The sentence addresses "wildlife". This reference is not correct for the purposes of the proposed agreements being reviewed in the DEIS. Relevant for these purposes is the State's responsibility to "preserve, protect, and perpetuate wildlife, fish, and wildlife and fish habitat." RCW 77.04.055(1).*

Response 22 Text was modified in the FEIS to reflect the comment.

Comment 23 *Page 1-13, Section 1.6.1 "Alternative 1 (no-action), 2nd paragraph, 2nd sentence. The text states "...the years to address engineering, bond, and resource related issues...". The inclusion of the term "bond" is not correct in this sentence. The project licenses have not been amended to address the issuing of bonds.*

Response 23 Text was deleted from the FEIS. Descriptions of alternatives are in Chapter 2.

Comment 24 *Page 1-16, 3rd paragraph, last sentence. Text reads "This allows the HCPs to be updated with information received during the comment period...". This sentence incorrectly explains the NEPA process. Comments received by NMFS on the DEIS will be considered by NMFS when*

preparing the FEIS. The HCPs are multiparty, negotiated settlement agreements. The fact that NMFS receives a comment on the DEIS does not mean that the HCPs will be modified.

Response 24 Text was deleted from the FEIS.

Comment 25 *Page 1-17, Section 1.7 “Background”, 4th paragraph. The region faces economic hardship in 2001 as power shortfalls hit the region. The current January-through-July runoff forecast has the region’s water supply at 55 percent of normal, assuming normal precipitation for the March-through-July period. If this year’s water conditions match 1977’s, the lowest on record, the council predicted 2001 shortfalls could approach 8000 MW-months, with the deficit in May reaching 3300 MW-months. If the conditions match 1944 conditions, a year with just slightly higher runoff than the current projection, the total energy deficit across the months of April through August is 5,600 MW-months, with the deficit in May reaching 2,700 MW-months. (The Northwest Power Planning Council, “Northwest Electricity Markets in 2001: Status and Proposed Actions”, March 26, 2001). The report states “it is a virtual certainty that emergency operations will be necessary during spring and summer to keep the electricity system from suffering outages.” (NWPPC, 2001)*

Response 25 Project economics are provided in new sections of the FEIS. Refer to Sections 3.8 and 4.8, Economics.

Comment 26 *Page 1-18, continuation of Section 1.7 “Background”, 1st full paragraph, 1st sentence. Also, Page 6.5, definition of “Mid-Columbia River.” On Page 1-18, the text defines the Mid-Columbia River as “the area of the river between the Chief Joseph Project and the confluence of the Yakima River.” On Page 6.5, the text defines the Mid-Columbia River as “portion of the Columbia River that begins at its confluence with the Snake River up to the Chief Joseph dam.” These two definitions are not consistent. The term “Mid-Columbia River” is not used in the HCPs. However, the HCP’s Tributary Plan’s, Plan Species Account can be spent only on projects “within the Columbia River watershed (from the Chief Joseph tailrace to the Rock Island tailrace), and the Okanogan, Methow, Entiat and Wenatchee River watersheds...”. HCP Section VII.2.*

Response 26 Text was modified in the FEIS to reflect the comment and clarify “Mid-Columbia” and “Plan” areas.

Comment 27 *Page 1-14, Section 1.7.2.2 “National Marine Fisheries Service”, 1st paragraph, 1st sentence. The text reads “Many of NMFS’ past studies, listings, and rules are directly relevant to the Mid-Columbia hydroelectric projects. ...”. The term “directly” is not accurate. The documents discussed in this paragraph are “indirectly” relevant to Chelan and Douglas County PUD’s hydroelectric projects. They are not “directly” relevant to Chelan and Douglas County PUD’s hydroelectric projects because they do not relate to these projects. They relate to the Federal hydroelectric projects on the Columbia River.*

Response 27 Determinations of the direct relevance of data depends completely upon the question being raised, and not necessarily geographical proximity to the projects in question. For example, survival of fish through a large Kaplan turbine would likely be better estimated by studies at other projects with similar configurations (e.g., size of turbine, head, tailrace) no matter where they occur, than by looking at neighboring projects with similar sized Francis turbines or smaller, faster-revolving Kaplan turbines. The term “directly” has been replaced with “relevant” in the FEIS to clarify the intent.

- Comment 28** *Page 1-29, Section 1.7.3.1 “Mid-Columbia PUD FERC Agreements”, 3rd sentence. This sentence refers to the Rock Island Settlement Agreement. The tribes listed in the text are not the only signatories to this agreement. The parties to the Wells Settlement Agreement, while similar to those of the Rock Island Settlement Agreement, are not the same.*
- Response 28** Text was modified in the FEIS to reflect the comment.
- Comment 29** *Page 1-29, Section 1.7.3.2 “Major Bond and Sales Agreements for the Projects”. This text is grossly incorrect. As of March 14, 2001, the District’s total estimated bonds outstanding is \$886,076,000.¹ This indebtedness is secured by the revenue generated by the District’s consolidated hydro system.*
- Response 29** Text was modified in the FEIS to reflect the comment.
- Comment 30** *Page 1-33, continuation of Section 1.10 “Background Summary”, 1st full paragraph, 2nd to last and last sentences. The text reads “Under the agreement, the utilities would have the ultimate authority in the decision making process, as long as the no net impact standards are being met. If all parties agree that the standards have not been achieved, the coordinating committees would have an increased role in the decision making process” These sentences do not correctly summarize the HCPs. For example: the District has the “ultimate decision on pursuit and implementation of Tools during Phase I” of the Juvenile Dam Passage Survival Plan. HCP Section IV.2.a.i. In Phase II of the Juvenile Dam Passage Survival Plan the coordinating committee has the decision making authority. HCP Section IV.a.6 – 8. In Phase III of the Juvenile Dam Passage Survival Plan the coordinating committee has the decision making authority related to continued measurement and evaluation. HCP Section VI.a.11. In the Adult Passage Plan, the agreement lays out the actions to be taken. HCP Section VI.b. With regard to the Hatchery Compensation Plan and the Tributary Compensation Plan the “JFP accepts the responsibility to develop plans and programs necessary to implement the Tributary Conservation Plan and the Hatchery Compensation Plan. HCP Section III.4.*
- Response 30** The revised HCPs changed the roles of the PUDs and the coordinating committees. According to the revised HCPs, the coordinating committees would have the authority to determine the measures to be implemented under all phases of the HCPs. Although the hatchery and tributary committees would have primary responsibility for decisions relative to their respective areas, the coordinating committees would oversee the HCP implementation process.
- Comment 31** *Page 2-2, Section 2.1 “Development of Alternatives”. Throughout the development of the DEIS the District has and still expresses concern about the choice of alternatives in the DEIS. The DEIS has not chosen as alternatives measures or mixes of measures that seek to mitigate the effects of the projects on salmon and steelhead. NMFS chose as alternatives competing legal process for establishing the measures to mitigate the effects of the projects on salmon and steelhead. This is a very unusual, and questionable method for evaluating the environmental effects of the proposed HCPs. The DEIS should be amended to provide more traditional alternatives. Alternatively, the rational and legal authority for this decision is not clearly explained in the DEIS, and should be incorporated into the FEIS.*
- Response 31** As a result of comments received on the DEIS, modifications were made to the HCPs, as well as the EIS alternatives. Alternative 2 now includes a broader range of activities that could be

¹ Official Statement, Public Utility District No. 1 of Chelan County, Washington \$143,995,000 Chelan Hydro Consolidated System Revenue Bonds consisting of \$65,620,000 Series 2001A and \$78,375,000 Series 2001B, page iv (March 1, 2001).

implemented at the three projects, and is not a different legal process. The actions that could occur under each alternative have also been evaluated to determine costs per mitigation measure associated with each action alternative. Refer to Section 4.8, Economics of the FEIS.

Comment 32 *Page 2-2, Section 2.1 “Development of Alternatives”, 5th paragraph, 4th sentence. Text reads “to be in compliance with the take prohibitions of Section 9, FERC would implement the measures” FERC would be in compliance with Section 9 of the Endangered Species Act by implementing the provisions contained in NMFS biological opinion and incidental take statement. However, FERC is not obligated to do so. FERC may take other action as long as it is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is ... critical...”. 16 U.S.C. Section 1536(a)(2); Aluminum Company vs. BPA, 175 F.3d 1156, 4394-4395 (9th Cir. 5/10/99).*

Response 32 Chelan County PUD is correct that FERC or any other Federal agency formally consulting with NMFS or USFWS could disregard the provisions of a biological opinion and proceed with its proposed action, but it does so at its own peril because it will not be covered by the take provisions and may be subject to Section 9 enforcement actions (*Bennett vs. Spear*, 520 U.S. 154, 1997). A biological opinion provides the Federal agencies the Secretary of Interior or Commerce’s expert “opinion, and a summary of the information on which the opinion was based, detailing how the agency action affects the species or its critical habitat. If jeopardy or adverse modification is found, the Secretary shall suggest those reasonable and prudent alternatives which [he] believes would not violate subsection (a)(2) and can be taken by the Federal agency or applicant in implementing the agency action.” 16 USC § 1536(b)(3)(A). If a Federal action agency adopts and implements the Secretary’s biological opinion and incidental take statement, the action agency would no longer be liable for take of listed species associated with the licensed activity.

Comment 33 *Page 2-7 Section 2.2.1.2 “Rocky Reach Dam”, first paragraph, last three sentences. The text describing the rehabilitation work at Rocky Reach is outdated. The following edits are recommended so that the text is current:*

“...Units 1 through 7 are currently vertical shaft Kaplan turbines installed during the original construction in 1962, while fixed-blade propeller units were installed in Units 8 through 11 in 1971. Two of these fixed-blade propeller units have been rehabilitated and replaced with Kaplan turbines. A third unit is currently undergoing rehabilitation and the remaining unit is scheduled to be rehabilitated by June 2002. In addition, all but one of the original Kaplan units have been rehabilitated and replaced with more efficient Kaplan turbines. This turbine work is expected to increase juvenile fish passage survival.”

Response 33 Text was modified in the FEIS to reflect the comment.

Comment 34 *Page 2-11, Table 2-4, and all text that incorporates or explains information conveyed in the table which includes but is not limited to the text in Section 3.2.6.4 and Table 3-3. The juvenile dam passage information included in the table does not take into account project specific information, and when project specific information is reviewed it is dismissed in favor of information developed from other hydroelectric projects without explanation. Set forth in Attachment A is the most project-specific survival information available for both the Rocky Reach and Rock Island projects. This information is primarily based on information collected at these projects through the various studies identified in the references. Copies of the studies are available upon request.*

- Response 34** Table was updated in the FEIS with the most recent data.
- Comment 35** *Page 2-12, 1st paragraph, last sentence. The text reads “the information also indicates that survival is higher through the spillway and bypass system than through the turbine units.” What is the citation for this statement? The statement does not logically flow from the materials cited in the paragraph.*
- Response 35** Text was deleted in the FEIS.
- Comment 36** *Page 2-14, Rocky Reach Dam, 3rd sentence. The text reads “Passage efficiency tests ... and 52 percent of the PIT-tagged steelhead...”. “PIT-tagged” is not correct. These were “radio tagged” steelhead.*
- Response 36** Text was modified in the FEIS to reflect the comment.
- Comment 37** *Page 2-14, Rocky Reach Dam, 5th sentence. The text reads “In 1999, guidance ... 32 percent of the chinook and 53 percent of the steelhead passed ...”. In both cases, these were radio tagged fish.*
- Response 37** Text was modified in the FEIS to reflect the comment.
- Comment 38** *Page 2-15, Rocky Reach Dam, 2nd paragraph, 1st sentence. Text reads “Studies at the dam have shown that between 8 and 18 percent ...” This text is not consistent with the text on page 4-18 which uses 19 percent and not 18 percent. Nineteen percent is the correct number.*
- Response 38** Text was modified in the FEIS to reflect the comment.
- Comment 39** *Page 2-16, Rock Island Dam, 3rd paragraph, 3rd sentence. The text reads “the spill passage rates for other species were estimated at 20, 33, and 35 percent for sockeye, fall chinook and coho salmon in 1998.” What is the citation for this information?*
- Response 39** Text was deleted in the FEIS.
- Comment 40** *Page 2-16, Rock Island Dam, 4th paragraph, 1st sentence. The text reads “A subsequent study indicated that survival rates through modified bay with deeper stilling basins may be near 100 percent” What is the citation for this information?*
- Response 40** Citation was added to the FEIS.
- Comment 41** *Page 2-16, Section 2.2.3.2 “Adult Passage”, 1st paragraph, 5th sentence. The text reads “The delay and stress that adults experience during passage through multiple dams may reduce their spawning success.” Please explain the scientific bases for this information, and provide a citation for the studies relied upon to make this statement.*
- Response 41** The referenced passage does not state that passage through multiple dams reduces spawning success, but that it *may* reduce spawning success. The available technologies cannot directly partition amongst individual hydroelectric projects the effect of passage through multiple dams on the spawning success of salmon and steelhead. However, based on other available information, it is reasonable for NMFS to hypothesize that (1) passage and/or delays through adult fishways can increase stress levels, (2) these stress levels may negatively affect adult fish, and (3) these stresses

are cumulative in nature and could ultimately affect the spawning success of adult salmon and steelhead.

That delayed migration can result in large numbers of pre-spawning mortalities for anadromous fish has been well documented (Godfrey et al. 1954; Gilhousen 1960). Similarly, a large body of scientific information indicates that juvenile fish are stressed while migrating past hydroelectric projects, and that these stresses are cumulative in nature and can result in reduced survival (NMFS 2000a,d). It is therefore reasonable to believe that adults may be similarly stressed while migrating through multiple hydroelectric facilities and that this could ultimately affect pre-spawning mortality rates or spawning success.

Comment 42 *Page 2-17, continuation of Section 2.2.3.2 “Adult Passage”, 3rd paragraph, 1st sentence. The text reads “Survival rates of adult salmon and steelhead passing through the Mid-Columbia River have not been estimated due to insufficient radio-telemetry data.” This is not correct. Currently, technology does not exist to measure adult survival. Therefore a technology limitation, not an insufficiency of radio-telemetry data, is the reason for no survival information.*

Response 42 Text was modified in the FEIS to reflect the comment.

Comment 43 *Page 2-17, Section 2.2.3.3 “Adult Reservoir Passage”, 1st paragraph, 4th sentence. The text reads “However, the reservoirs can increase the potential for wandering or straying (lost orientation), that could lead to higher pre-spawning mortality or reduced spawning success (Volkman 1995).” This conclusion is not contained in Volkman 1995 and cannot be inferred from the radio telemetry data contained in Volkman 1995. No evidence exists to support these statements.*

Response 43 Text was deleted in the FEIS.

Comment 44 *Page 2-27, Section 2.2.3.3 “Adult Reservoir Passage”, 1st paragraph, 5th sentence. The text reads “Higher water temperatures as a result of project reservoirs may also lead to higher prespawning mortality.” What is the citation for this information?*

Response 44 The Environmental Protection Agency summarized a large body of scientific information on the effects of temperature in its 1999 report titled *A review and synthesis of effects of alterations to the water temperature regime on freshwater life stages of salmonids, with special reference to chinook salmon*. This report clearly indicates that prolonged exposure of adults to temperatures in excess of 18 degrees Centigrade is likely to result in some level of pre-spawning mortality or other negative effects such as loss of equilibrium, higher levels of pre-hatch mortality, and higher rates of developmental abnormalities. Temperatures in the Mid-Columbia River often exceed 18 degrees Centigrade during the late summer months when adult summer/fall chinook salmon, sockeye salmon, and steelhead are migrating. A determination with regard to how much the Mid-Columbia hydroelectric projects, Federal projects, and other factors have contributed to this situation is the subject of a total maximum daily load (TMDL), which is expected to be completed in 2002 or early 2003.

Comment 45 *Page 2-27, continuation of Section 2.3.2 “Alternative 2 (Section 7 Consultation)”, 6th paragraph, 2nd sentence. The text reads “Evaluations conducted as part of the Quantitative Analytical Report (QAR) (NMFS 2000b) ...” The QAR is also discussed in detail in Section 4.2.1 “Quantitative Analytical Report”. The QAR has not yet produced a final, peer reviewed document. Furthermore, the document cited at NMFS 2000b is a draft internal NMFS document. NMFS has yet to produce a copy of this document after numerous requests. The District objects to NMFS citing QAR results anywhere in this document or in any other document (yet alone devoting 10*

pages to it in Section 4.2.1, pages 4-6 through 4-16) until the QAR results are made public, finalized and peer reviewed. This comment relates to all references to the QAR in the DEIS. Without a copy of the QAR the District has no way to comment on portions of the DEIS related to the QAR. The District reserves the right to submit comments on the QAR until it receives a copy of the QAR and has had sufficient opportunity to review the QAR. Nevertheless, based upon the information provided in the DEIS and the District's limited knowledge of the QAR, the District objects strongly to NMFS's use of the QAR results. Most of the conclusions relied upon the DEIS are drawn from the portion of the database that dates back to only 1980 (p. 4-7) while the entire database dates back to the 1960s. This misrepresents the long term database. Conclusions based upon long term database shows dramatically different outcomes when compared to the conclusions based upon the short term database. While NMFS acknowledges the existence of data going back to the 1960s, it is dismissed as potentially too "optimistic" without a thorough explanation. (p. 5-11) The best scientific information available is the entire database which takes into consideration ocean cycles that were known to be more productive than the ocean conditions in the 1980's and 1990's. During the 50 year term of the proposed HCPs ocean conditions are likely to cycle back to more productive periods similar to the 1960s. This rational is supported by the current 2000 and 2001 improvement in runs that is attributed to greatly improved ocean conditions.

Response 45 Comment noted. See NMFS responses to DEIS public comments, Appendix C, no. 25.

Comment 46 *Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 1st full paragraph. This paragraph was re-written from its mirror paragraph on page S-18. The text on page S-18 provides a clearer explanation.*

Response 46 Text was modified in the FEIS to reflect the comment.

Comment 47 *Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 2nd full paragraph, 2nd sentence. The text cites to the 1995 Federal Columbia River Power System biological opinion for the Lower Snake and Columbia River projects (NMFS 1995). NMFS 1995 biological opinion has been superceded by its 2000 biological opinion. In 2000, USFWS also issued a biological opinion for bull trout. Therefore, this text should be updated to refer to the current biological opinions.*

Response 47 NMFS's 1995 Federal Columbia River Power System biological opinion has been superceded by the 2000 Federal Columbia River Power System biological opinion. Concurrently, USFWS issued a biological opinion on the Federal Columbia River Power System for Kootenai River white sturgeon and bull trout. The FEIS text was updated accordingly.

Comment 48 *Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 6th full paragraph, last sentence. The text reads "...to achieve 95 percent juvenile dam passage survival and 91 percent project survival." As explained in earlier comments, the coordinating committee will measure only 95 percent Juvenile Dam Passage survival. However, the coordinating committee may elect to measure the juvenile component of 91 percent project survival. If the results of the standard that was measured was not achieved, then the coordinating committee would identify the tool for the District to implement by the next migration. It may be necessary to revise the HCP text to clarify this process.*

Response 48 Text was modified in the FEIS to reflect the comment and based on changes in the revised HCPs.

Comment 49 *Page 2-49 Section 2.6.1 "Alternative 1 (No-Action)". The text under this heading is introductory to all the alternatives, not specific to Alternative 1.*

- Response 49** Text was moved in the FEIS to be located ahead of the Alternative 1 description.
- Comment 50** *Page 3-27, Section 3.2.2.2 “Abundance”. This section should be updated with 2000 fish counts and with projected fish counts for 2001. Fish counts showed a dramatic increase in 2000 and are projected to be even better in 2001. This information is very significant. Without this information the text is misleading.*
- Response 50** Additional information has been included in the FEIS.
- Comment 51** *Page 3-37, Rocky Reach, 3rd paragraph 2nd sentence. The text reads “the cumulative delay at nine dams on the Columbia River likely decreases spawning success.” What is the citation for this information?*
- Response 51** See response to CCPUD Comment #41. The FEIS text was modified to read as follows: “Although any delay related to passage at one dam may not be significant, cumulative delays (should they exist) at nine dams on the Columbia River may decrease spawning success.”
- Comment 52** *Page 3-39, Rocky Reach, 3rd paragraph, 1st sentence. The text reads “Based on juvenile radio-telemetry evaluations conducted in 1998, approximately 49 percent of the radio-tagged steelhead and 61 percent of the radio-tagged spring-run chinook salmon passed the project via the powerhouse (English et al. 1999).” This data is not correct. The correct citation should be English et al. 1998, not English et al. 1999. Also, 49 percent should be 34 percent, and 61 percent should be 51 percent.*
- Response 52** Text was modified in the FEIS to reflect the comment.
- Comment 53** *Page 3-39, Rocky Reach, footnote 2. Footnote 2 reads “Radio-tagged fall chinook obtained from the East Bank Hatchery ... in 1997 and 1998 (e.g., approximately 81 percent powerhouse passage in ... via the powerhouse at significantly higher rates than the ...” The reference to 1997 is not correct and should be deleted. English et al. 1998 related to 1998 and 1997. Also, the use of the term “significantly” is not correct in this sentence. The term “significantly” has a meaning in statistics. The term infers that statistics were used to test a hypothesis. The statement made in the sentence is not the result of a statistical test. Therefore, use of the term “significantly” infers a level of credibility to the sentence that is not correct.*
- Response 53** Text was modified in the FEIS to reflect the comment.
- Comment 54** *Page 3-40 continuation of Rocky Reach Dam, 1st paragraph, 1st sentence. The text reads “Lady et al. (2000) ... and English et al. (1999) estimated that 58 and 40 percent of the radio-tagged...” The estimates of 58 and 40 are not correct. They should be 50 and 30.*
- Response 54** Figure 22 in English et al. (1999) indicated that the 58 and 40 percent values provided in the DEIS are correct.
- Comment 55** *Page 3-40, continuation of Rocky Reach Dam, 2nd paragraph, last sentence. The text reads “Although neither evaluation was able to ... the pilot level survival evaluation conducted using radio-tagged steelhead in 1999 estimated direct and indirect survival at 89.7 percent (Lady et al. 2000), suggesting that the indirect effects associated with turbine passage are more significant than those seen at the bypass system or spillway.” The radio tag study cited in this sentence indicates a lower than desired direct and indirect survival at the project. NMFS should clearly explain why it is appropriate to use the results of a radio-tag study in this instance when the study*

shows low levels of survival, and not use the results of radio tag studies in other instances when the results of radio tag studies show high levels of survival. The District continues to object to NMFS's inconsistent use of study results, and failure to acknowledge the results of studies that show survival levels favorable to the District.

- Response 55** The survival data are used to the extent that their proven reliability will allow. The primary uncertainties related to radio-telemetry survival evaluations are associated with tag detectability, battery life of the tags, and tag failure rates. As a result, these uncertainties might not provide the accuracy level necessary to estimate overall survival, but do allow relative comparisons to be made between groups of fish for which the potential inaccuracies are less important. In this instance, the discussion concerned the relative differences in survival between fish passing the project through the powerhouse units, compared to those passing through the spillway or the juvenile bypass system. Because tag detectability, battery life, and tag failure rates are not expected to vary substantially at particular downstream detection points, based on the passage route of the fish, such comparisons are appropriate. Also see response to CCPUD Comment #34.
- Comment 56** *Page 3-43 Rocky Reach, 1st paragraph 2nd sentence. The text reads: "Passage efficiency tests conducted ... yearling chinook salmon and 51 percent of the PIT-tagged steelhead passed the project via this route (English et al. 1998a)." This sentence is not correct. 51 percent should be 52 percent, and PIT-tagged should be radio tagged.*
- Response 56** Text was modified in the FEIS to reflect the comment.
- Comment 57** *Page 3-43 Rocky Reach, 1st paragraph 4th sentence. The text reads: "Passage efficiencies in 1999 ... 32 percent for chinook salmon, and 11 percent for sockeye salmon (Mosey et al. 2000)." This sentence is not correct. 11 percent should be 16 percent.*
- Response 57** Text was modified in the FEIS to reflect the comment and included additional data.
- Comment 58** *Page 3-43 Rocky Reach, 1st paragraph 5th sentence. The text reads "Radio telemetry evaluations in 1999 also indicated that about 57 percent of steelhead passed the project through the bypass." What is the citation for this information? The District is not aware of any study that produced this information.*
- Response 58** Text was deleted in the FEIS.
- Comment 59** *Page 3-43 Rocky Reach, 1st paragraph, last sentence. The text reads "The combined spillway and bypass ... and between 62 and 64 percent for steelhead (Lady et al. 2000)." This information is not correct. 62 should be 72, and 64 should be 74.*
- Response 59** Text was modified in the FEIS to reflect the comment and included additional data.
- Comment 60** *Page 3-43 Rocky Reach, 2nd paragraph, 1st sentence. The text reads "In both 1997 and 1998...". This is not correct. The evaluation was done only in 1998. The evaluation was not done in 1997.*
- Response 60** Text was modified in the FEIS to reflect the comment.
- Comment 61** *Page 3-43 Rocky Reach, 2nd paragraph, 2nd sentence. The text reads "In 1998, the bypass efficiency for naïve chinook salmon was substantially lower (19 percent) ... (English et al. 1998a)." This is not correct. 19 percent should be 22 percent.*

- Response 61** Page 28 in English et al. 1998a indicates the overall guidance efficiency for East Bank Hatchery chinook salmon at 19 percent.
- Comment 62** *Page 3-43, Rocky Reach, 5th paragraph, 3rd sentence. The text reads “The temporary bypass outfall site, located in front of the turbine unit four upwelling, ...” This is not correct. Unit four upwelling should be replaced with unit three upwelling.*
- Response 62** Text was modified in the FEIS to reflect the comment.
- Comment 63** *Page 3-44, Section 3.2.6.4 “Total Project Survival – Juvenile Migrants”. The discussion of project survival is not correct. The obligation is that “The District shall also achieve and maintain 91 percent project survival ... which means that 91 percent of each Plan Species, juvenile and adult combined, survive project effects, including delayed mortality wherever it may occur.” HCP Section IV.1.a. The first sentence in this section of the DEIS fails to account for the fact that project survival includes “delayed mortality wherever it may occur.” Also, the HCP does not define a protocol for measuring project survival as inferred from the DEIS. The HCP leaves it to the Coordinating Committee to establish the measurement protocols. HCP Section IV.3.c.*
- Response 63** See NMFS responses to DEIS public comments, Appendix C, Responses #29, #36, and #57.
- Comment 64** *Page 3-47 Section 3.2.7 “Overall Fish Passage Survival”. 1st paragraph, 3rd sentence. The text reads “Based on the small amount of information that is available, the average survival of adult spring-run chinook salmon and steelhead is estimated at between 77.8 percent and 88.9 percent for the entire Mid-Columbia River reach...”. What is the cite for this information? The District is not aware of any methodology to measure adult survival.*
- Response 64** The DEIS reports survival estimates derived from adult radio-telemetry studies in the Columbia River upstream of Priest Rapids Dam conducted by Steuhrenburg et al. (1995) in 1993. This information was used to provide survival estimates of 77.8 to 88.9 percent (equating to an average per project survival rate of 95.1 to 97.7 percent) for adult Upper Columbia River spring-run chinook salmon across the five FERC-licensed Mid-Columbia River projects. However, these results are likely biased low because of problems associated with the tags, receivers, and software used at the time (Wainwrite et al. 2001).

Analysis conducted as part of the 2000 Federal Columbia River Power System biological opinion estimated total (natural and project-related) per project survival rates (current and under the reasonable and prudent alternatives outlined in the biological opinion) ranging between 97.6 and 98.1 percent for adult Upper Columbia River spring-run chinook salmon and 96.8 to 97.3 percent for adult Upper Columbia River steelhead. NMFS believes these are the best available estimates and are generally applicable to the FERC-licensed projects on the Columbia River.

NMFS again reviewed the available adult survival and radio-telemetry information pertaining to Upper Columbia River spring-run chinook salmon and steelhead in the 2002 Rocky Reach biological opinion. NMFS concluded that, “due to the limited amount of radio-telemetry information available for the Mid-Columbia River system, the pitfalls associated with utilizing radio-telemetry data to assess site-specific survival, and the environmental and species differences of the natural and impounded river systems evaluated, it is not possible to differentiate between natural and hydrosystem caused mortality at this time” (2002 Rocky Reach biological opinion – Section 6.2.3). Thus, taking into account natural mortality, which

undoubtedly occurs, it is likely that the adult mortality resulting from project-related effects in the Mid-Columbia River is currently less than 2 percent for listed species.

The FEIS text was modified accordingly.

- Comment 65** *Page 3-96, continuation of Section 3.3.2 “Water Quality”, 1st full paragraph, 1st sentence. The text reads “Although extensive evaluations have been conducted under controlled or laboratory conditions, the effects of specific total dissolved gas levels on fish in a river environment is relatively unknown.” This statement is not correct. The effects of total dissolved gas on fish has been extensively studied in the Mid-Columbia as part of the 2000 Federal Columbia River Power System biological opinion.*
- Response 65** NMFS did summarize the total dissolved gas-related physical and biological monitoring studies conducted since 1995 in Appendix E of the 2000 Federal Columbia River Power System biological opinion. The FEIS text was modified accordingly.
- Comment 66** *Page 3-109, Section 3.4.4 “Rare Plants”. The text states that Ute ladies’ tresses (Spiranthes diluvialis) do not occur in or near the immediate project area of the dams. This is not correct. Recently, a Ute ladies’-tresses was determined to be present in the Rocky Reach reservoir shoreline area. This hydrophilic orchid would be affected by drawdown or other actions that would remove its water source. P. Fielder, pers. comm.*
- Response 66** Text was modified in the FEIS to reflect this new data.
- Comment 67** *Page 4-18, continuation of Section 4.2.2.1 “Rocky Reach Dam”, 2nd paragraph, 2nd sentence. The text reads “Survival estimates for steelhead ranged from 87.0 percent to 111.9 percent ...” This is not correct. 111.9 percent should be 101.0 percent.*
- Response 67** Text was modified in the FEIS to reflect the comment.
- Comment 68** *Page 4-18, continuation of Section 4.2.2.1 “Rocky Reach Dam”, 3rd paragraph, 2nd sentence. The text reads “Under Alternative 1 however, there is no requirement to implement these additional measures.” This is not correct. Under alternative 1 fish protection and enhancement measures can be implemented through the pending Mid-Columbia proceeding at FERC, and during relicensing.*
- Response 68** NMFS concurs that, under Alternative 1, some protection and enhancement measures could be implemented through the pending Mid-Columbia Proceeding at FERC and during relicensing. The FEIS text was modified accordingly.
- Comment 69** *Page 4-18, continuation of Section 4.2.2.1 “Rock Island Dam”, 2nd paragraph, 2nd sentence. The text reads “Between 1995 and 1998, over 26,000 predatory ...” This should be updated by replacing 1998 with 2000, and 26,000 with 34,000. West, T. 2001. Northern Pikeminnow (Ptychocheilus oregonensis) Population Reduction Program Rocky Reach and Rock Island Dams.*
- Response 69** Text was modified in the FEIS to reflect the comment and more recent data.
- Comment 70** *Page 4-20 continuation of “Adult Migration/Survival”, 2nd full paragraph, 2nd sentence. The text reads “It is reasonable to assume that some portion of the adult bull trout populations pass through the turbines and spillways, either voluntarily or involuntarily, given their presence in the project area and use of project fishways.” What is the citation for this information? Why is it*

reasonable to assume a correlation between presence of bull trout in the fishway and bull trout passing through turbines and spillways? The District is aware of no evidence supporting this statement.

Response 70 The draft report *Movements of Bull Trout Within the Mid-Columbia River and Tributaries 2001-2001* by Stevenson and Hillman (2002) supports the assumptions made in the EIS.

Comment 71 *Page 4-26, “Rocky Reach Dam”, 2nd sentence. The text reads “As with the fishways at the Wells Dam, there is evidence to suggest that sockeye and summer-run chinook salmon experience passage delays in the fishway entrance pools of the Rocky Reach fishway.” What is the citation for this information? The District is not aware of this information.*

Response 71 The FEIS was changed to cite Stuehrenberg et al. (1994) to support these statements.

Comment 72 *Page 4-27, Section 4.2.2.3 “Pacific Lamprey”, 3rd sentence. The text reads “The only screens that are currently in operation at the Mid-Columbia River dams are at turbine units one through three at the Rocky Reach Dam.” This is not correct. Screens are used only at turbine units one and two at the Rocky Reach Dam.*

Response 72 Text was modified in the FEIS to reflect the comment.

Comment 73 *Page 4-27, Section 4.2.2.3 “Pacific Lamprey”, 4th sentence. Delete the phrase “although additional screens are currently not planned for future installation.”*

Response 73 Text was deleted in the FEIS.

Comment 74 *Page 4-31, “Adult Migration/Survival”, 2nd paragraph last sentence. The text reads “Although the radio-telemetry technique is problematic for addressing adult passage survival, the study results are the best available data for determining potential project related affects.” This sentence is not correct. Radio-telemetry is not a technique for addressing adult passage survival. It is a technique for addressing locations of adult fish. Currently, no protocol exists to measure adult survival. There is no data available to evaluate adult survival.*

Response 74 See response to CCPUD Comment #64.

Comment 75 *Page 4-31, “Adult Migration/Survival”, 4th paragraph, 2nd sentence. The text reads “Based on their presence at the project and their migratory behaviors, it is likely that some portion of the population passes through the turbines and spillways, either voluntarily or involuntarily.” What is the citation for this information? Why is it reasonable to assume a correlation between presence of bull trout in the fishway and bull trout passing through turbines and spillways? The District is aware of no evidence supporting this statement.*

Response 75 The draft report *Movements of Bull Trout Within the Mid-Columbia River and Tributaries 2001-2001* by BioAnalysts, Inc. supports the assumptions made in the EIS.

Comment 76 *Page 4-34, “Rock Island Dam”, 1st paragraph, 1st sentence. Delete “chiwawa hatchery”. Rock Island’s hatchery is referred to as the Eastbank Hatchery Complex.*

Response 76 Text was modified in the FEIS to reflect the comment.

- Comment 77** *Page 4-40 “Rocky Reach Dam”, 2nd paragraph, 3rd sentence, and Page 4-41 “Rock Island”, 2nd paragraph 3rd sentence. The text reads “For Alternative 3, the PUD would have the ultimate authority for determining the appropriate protection measures implemented in Phase I, while the Coordinating Committee would have a greater role during Phase II.” As explained above in relation to other sections, the Coordinating Committee is the decision maker in Phase II. NMFS has retained the authority to enforce the incidental take permit outside the HCPs.*
- Response 77** This comment is no longer relevant with the language in the revised HCPs. See NMFS responses to DEIS public comments, Appendix C, Responses #18 and #22.
- Comment 78** *Page 4-59, Section 4.6.3.1 “Project Area”. This text is not correct. Section V of the HCP titled “Reservoir as Habitat” clarifies the manner in which land use and permitting decisions on project lands occurs.*
- Response 78** Text was added to the FEIS to clarify.
- Comment 79** *Page 4-72, Section 4.10.7 “Indian Trust Assets”, 3rd paragraph, 5th sentence. The text reads “This would then affect whether the 9 percent no net impact would continue over the 50 year HCP terms.” Reduction in use of the hatchery facilities means that the hatcheries would not produce fish to compensate for the full 7 percent of Unavoidable Project Mortality. HCP Section III.1. Nevertheless, No Net Impact can still be achieved as long as the PUDs provide the funding and capacity for the hatcheries. HCP Sections III.3. and 4.*
- Response 79** Text was modified in the FEIS to reflect the comment. See NMFS responses to DEIS public comments, Appendix C, Response #17.
- Comment 80** *Page 4-74, Section 4.10.14.1 “Wild and Scenic River Act”. This section needs to be updated. On June 9, 2000, the Hanford Reach was declared a National Monument. 65 Federal Register 37253 (June 13, 2000).*
- Response 80** Text was added to the FEIS.
- Comment 81** *Page 5-6, Chelan County PUD 2000 reference. The District objects to reference to comments provided to the “Pre-Decisional Review Draft, Biological Opinion, Interim Protection Plans for Operation of the Mid-Columbia River Hydroelectric Projects and Related Activities.” These comments were provided to assist in editing a confidential, pre-decisional review document.*
- Response 81** Text was deleted from the FEIS.
- Comment 82** *Page 6-1 “Glossary”. It is the District’s understanding that the glossary contained in the DEIS is not in any way intended to modify terms that are defined in the Endangered Species Act, NMFS’s regulations, or the HCPs. The District has not reviewed the glossary, and reserves the right to latter object to the manner in which terms are defined in this DEIS.*
- Response 82** Comment noted.
- Comment 83** *Page 7-2, Section 7.3. Add the following local agencies: East Wenatchee Chamber of Commerce, Mayor of the City of Wenatchee, Chelan County Commissioners, and the Douglas County Commissioners.*
- Response 83** The listed local agencies were added to the FEIS.

Comment 84 *Page 7-2, Section 7.4. Replace “Confederated Tribes of the Colville Reservation” with “Confederated Tribes and Bands of the Colville Indian Reservation.” In the Umatilla name add “Indian” between “Umatilla” and “Reservation.” Replace “Yakama Indian Nation” with “Confederated Tribes and Bands of the Yakama Indian Nation.”*

Response 84 Text was modified in the FEIS to reflect the comment.

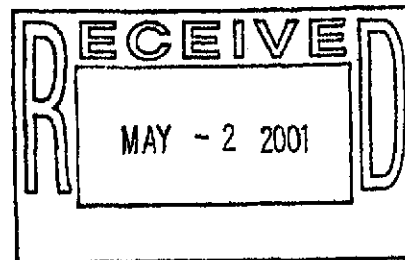
Public Utility District No.1 of Douglas County



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April 30, 2001

Mr. Bob Dach
NMFS, NWR, Hydro Program
525 NE Oregon Street, Suite 420
Portland, Oregon 97232-2737



Re: Draft Environmental Impact Statement regarding the proposed Anadromous Fish Agreements and Habitat Conservation Plans for the Wells, Rocky Reach and Rock Island Hydroelectric Projects.

Dear Mr. Dach:

Public Utility District No.1 of Douglas County, Washington (Douglas PUD) has reviewed the Draft Environmental Impact Statement regarding the proposed Anadromous Fish Agreement and Habitat Conservation Plans (HCPs) for the Wells, Rocky Reach and Rock Island Hydroelectric Projects and provides the attached comments for your consideration.

Douglas PUD appreciates the NMFS collaborative effort to accurately describe the complex set of guidelines established in the Wells Habitat Conservation Plan (HCP) Implementation Agreement. In general, the Draft Environmental Impact Statement (EIS) for the proposed Anadromous Fish Agreements and Habitat Conservation Plans, released on December 29, 2000, is a fair and adequate presentation of the negotiated Wells HCP. Due to the complex nature of this and related documents, it is no surprise that additional comments and suggested revisions are being submitted prior to the adoption of the final Environmental Impact Statement.

If you have any questions concerning Douglas PUD's comments, please feel free to contact me at (509) 884-7191.

Sincerely,


Robert W. Clubb, Ph.D.

Chief of Environmental and Regulatory Services

c. Susan Fruchter, NEPA Coordinator

**Public Utility District No.1 of Douglas County
Comments to Draft Environmental Impact Statement
April 30, 2001**

GENERAL COMMENTS

Douglas PUD appreciates the NMFS collaborative effort to accurately describe the complex set of guidelines established in the Wells Habitat Conservation Plan (HCP) Implementation Agreement. In general, the Draft Environmental Impact Statement (EIS) for the proposed Anadromous Fish Agreements and Habitat Conservation Plans, released on December 29, 2000, is a fair and adequate presentation of the negotiated Wells HCP. Due to the complex nature of this and related documents, it is no surprise that additional comments and suggested revisions are being submitted prior to the adoption of the final Environmental Impact Statement. Specific comments related to the draft EIS are included below.

SPECIFIC COMMENTS

1. **Page S-15, S.5.3 Alternative 3 (Applicants' Proposed Action - Project HCPs), second Paragraph, last Sentence.** We request further clarification regarding the following statement, "(EIS prepared by FERC including a separate Section 7 consultation with NMFS regarding the effects of the agreements on listed species)."

This paragraph indicates that FERC needs to prepare a second EIS for implementation of the HCPs. The parties expended considerable effort prior to preparation of the Draft EIS to avoid this unnecessary duplication. There is no rationale for FERC to prepare a separate EIS to implement the HCP.

2. **Page S-22, Para. 1, line 5 and line 11.** Please change the following two statements, "If juvenile dam passage survival ..." to "If juvenile project passage survival ..."
3. **S-22, Para. 1, line 5.** "If juvenile dam passage survival after three years of evaluations remains..."

The Wells Implementation Agreement specifically calls for three years of survival studies within the five-year period known as Phase I. Phase I began in 1998.

4. **Page S-29, Table S-2 Alternative Comparisons (Alternative 1).** In the section labeled, "Continued Studies to Assess Survival" please clarify that continued survival studies at Wells Dam toward the goal of determining passage survival conditions at Rock Island and Rock Reach dams is not the responsibility of the Wells Project owner.
5. **Page S-35, Second Column, second to last Bullet.** "determine whether the species can be expected to survive with an adequate potential for recovery under the proposed action,..." Please define "adequate potential" in terms of interim recovery goals and standards. Would a greater than 50% probability of recovery be sufficient?

How does, "adequate potential for recovery" relate to the "not likely to jeopardize the continued existence" standard spelled out in Section 7 (a) (2) of the Endangered Species Act?

6. **Page S-38, Table S-3 Environmental Comparison of the Alternatives (Page 3 of 8).** Under *Fisheries Resources: Other Plan Species - Adult Reservoir Spawning*, Alternative 1, 2 and 3 are listed as being: "Same as discussed for threatened and endangered species above." However, under the T & E section (above) there is no discussion of Adult Reservoir Spawning.
7. **Page S-39, Table S-3 Environmental Comparison of the Alternatives (Page 4 of 8).** Under *Tributary Habitat Improvements* for Alternative 1, 2 and 3. Given that this document is intended to evaluate three possible environmental alternatives related to future operation of PUD dams, we are confused by the following statement: "Habitat improvements would occur through the implementation of non-PUD funded projects through Federal, State and local agency funding." This statement misleads the reviewer to conclude that habitat improvements will take place regardless of the selected alternative. Simply stated, under Alternative 1 and 2 the PUDs would not fund off-site habitat improvements. Under Alternative 3 the PUDs would fund tributary enhancement toward a 2% increase in survival per project for plan species covered by the HCP. Under all three alternatives the agencies may pursue habitat improvements.

8. **Page S-40, Table S-3 Environmental Comparison of the Alternatives (Page 5 of 8). Alternative 1, Water Quality, Tributary Water Quality.** We suggest removing references to agency-funded habitat work. The inclusion of agency funding of habitat projects only confuses the three environmental options being evaluated. Under Alternative 1 and 2 the PUDs would not voluntarily fund improvements in water quality in the tributaries. Under Alternative 3, the PUDs would voluntarily provide direct funding toward the improvement of tributary water quality. This clear distinction needs to be drawn between the three Alternatives.
9. **Page S-40 and S-43. Table S-3 Environmental Comparison of the Alternatives (Page 5, 6, 7 & 8).** Actions common to all three alternatives and outside the control of the decision related to the EIS should not be presented in this table. Similarly, the actions referred to under **Comment #8** should also be applied to statements contained under subsections: Vegetation (Project Area, Associated Tributaries), Wildlife (Threatened and Endangered Species), Land Use (Associated Tributaries), Economics (Tributary Habitat Improvement), Recreation (Tributary Habitat Improvements, Columbia River System) and Cultural Resources (Tributaries).
10. **Page 1-6 and 1-7. 1.5.2.1 Endangered Species Act Requirements for Non-Federal Actions. "The No Surprises Policy and Adaptive Management"** These two policies appear to be in conflict when it comes to implementation under the proposed HCP. Please describe how conflicts between the two policies will be mediated during the implementation of Alternative 3.
11. **Page 1-16. 1.6.3 Alternative 3 (Proposed Action), first Bullet on Page 1-16.** Please modify the following statement: "evaluate project specific survival rates," to "evaluate project specific juvenile survival rates."
12. **Page 1-32, 1.10 Background Summary, second Paragraph, second Sentence.** "Therefore, this EIS is being developed for the purpose...whether or not to issue incidental take permits." This statement appears to conflict with the statement made on **Page S - 15** and **Page 2-32**. The EIS purpose includes amendment of FERC licenses. For a further description of our concerns please see Comment No. 1.

- 13. Page 2-14, Wells Dam, second column of text, last Sentence of text in the first partial paragraph.** We take issue with the following statement: "Therefore, the total direct and indirect mortality is likely similar to the 2 percent found at the lower Snake River project bypass systems (NMFS 1998)." We disagree. The Wells bypass system is not similar to the Snake River screen bypass systems. The Wells system performance is superior to those found at the lower Snake River projects. Survival assigned to this passage route should be similar to the estimated survival assigned to spillway passage routes.

In contrast, the Snake River screen bypass systems utilize extensive turbine intake screens, small gatewell orifice passages, collection channel dewatering, dewatering in transport pipes, handling and delay in sampling facilities, and reintroduction back into the tailraces through low volume pipes located immediately adjacent to predator-plagued shorelines.

The Wells surface collection system does not utilize massive intake screens, orifice passageways, transportation pipes, handling facilities and low water tailrace discharges. The Wells surface collector guides fish away from the turbines and into the spillways where five high volume non-turbine passage routes are provided through the dam. Fish are introduced back into the tailrace turbine discharge where velocities are sufficiently high to prevent predator accumulation and where gull wires protect fish from avian predators.

We suggest using a combined estimate of direct and indirect mortality that ranges from 0% to 1% for the Wells surface bypass system.

- 14. Page 2-17, 2.2.3.2 Adult Passage, second full Paragraph, first Sentence.** Please modify the following statement: "Survival rates of adult salmon and steelhead passing through the Mid-Columbia River has not been estimated due to insufficient radio-telemetry data." to "Survival rates of adult salmon and steelhead passing through the Mid-Columbia River have not been estimated due to an inability to differentiate tag loss, tag failure and fish loss." It is not presently possible to estimate adult survival in a statistically defensible manner with the present radio-telemetry technology.
- 15. Page 2-23, Measures Planned, fourth Line.** Please replace "negotiations" with "agreements."

16. Page 2-23, Measures Planned. 1. Adult Passage.

c. The Wells Settlement Agreement does not contain language that obligates the District to conduct modeling in the adult fishways.

e. The Wells Settlement Agreement does not include conditions to continuously operate the juvenile surface bypass system from April through August for adult fallback and adult downstream passage.

17. Page 2-23, Measures Planned. 2. Juvenile Passage. a. The Wells Settlement Agreement does not contain requirements to operate the turbines at peak efficiency ratings.

18. Page 2-23 and 2-24, Measures Planned. 2. Juvenile Passage. b. Surface Bypass Operation - Please modify the following statement: "Operate at least one spillway bypass, 24-hours per day, throughout the juvenile downstream migration periods" to "Operate at least one spillway bypass, 24-hours per day, throughout 80% and 70% of the peak spring and peak summer juvenile downstream migration, respectively..."

19. Page 2-24, Measures Planned. 2. Juvenile Passage.

c. **Predators** and d. **Gas Abatement.** Neither of these actions are outlined in the Wells Settlement Agreement. Please remove the statements from the EIS.

20. Page 2-25, 2.3.1.2 Rocky Reach Hydroelectric Project. Analogous sections are missing under Rocky Reach and Rock Island project descriptions that are present under the Wells Project description. Please add the following Section designations to the Rocky Reach and Rock Island Project descriptions to allow a more rigorous comparison of actions proposed at different projects: Adult Fish Passage, Juvenile Fish Passage, Hatchery Based Compensation, and Monitoring and Evaluation.

21. Page 2-28, second full Paragraph, fifth Line. The QAR analysis findings that, "even the removal of the Mid-Columbia River dams would not be sufficient to recover these species, if recent total life history survival rates continue," should be expressed in the Summary on Page S-16, S.5.3.2 HCP Baseline Conditions.

22. Page 2.29, 2.3.2.1 Wells Hydroelectric Project. 3. Hatchery Program - It is important to point out that under Alternative 1, 2 and 3, Douglas PUD has

the ability to reduce hatchery production (including summer and spring chinook, steelhead, and sockeye) based upon the results of survival studies. Also, under Alternative 2 and 3, NMFS has the authority to reduce or modify hatchery production of listed and non-listed species to remain consistent with their long-term recovery strategies for listed Upper Columbia River spring-run chinook and summer-run steelhead.

- 23. Page 2.35, 2.3.3.5 HCP Performance Standards, third full Paragraph, last Sentence.** "In addition, the 91 percent survival standard also includes reservoir survival and the dam passage survival of returning adults." This statement is inaccurate as presented. The HCP was set up to measure 91% juvenile project passage survival. The 91% juvenile number was derived by assuming loss of adults (2%), assuming loss through the reservoir (2%) in addition to the 5% allowed loss at the dam. Further assumptions related to the 91% determination included an assumed 2% delayed mortality from hydro passage and a 2% credit for natural river fish loss.

The agreement reached on the HCP does not include measurement of adult survival at a 95% CI +/- 5%. This is evident from the adult language in the implementation agreement, the timeline for completion of the Phase I studies (5 years) and based upon the knowledge that precise adult survival studies were not statistically or scientifically defensible at the time the Implementation Agreement was negotiated. The PUDs did not sign up to ensure adult survival from tailrace to tailrace at a rate of 98% irrespective of natural mortality.

It is important to point out that during the negotiations of the HCP, a 2% adult mortality figure was discussed. However, the final HCP Implementation Agreement was approved without referencing the measurement of the 2% adult mortality figure. The final agreement says "...and a net of 4% mortality from all other project effects (including but not limited to reservoir, juvenile delay, and adult mortality with credit for natural mortality)." Please remove all discussion that indicates the HCP has a 2% measurable adult mortality component.

- 24. Page 2.41, Verification of Standards.** We agree with the statements in the first and second paragraphs of this section related to the verification of standards.

25. **Page 2-56, Table 2-8 Environmental Comparison of the Alternatives (Pages 1 of 8).** Please modify this table per similar concerns expressed in comment No. 7, 8 and 9. The DEIS is intended to compare actions related to the implementation of three environmental alternatives for fish mitigation at three FERC licensed projects (No action, S. 7 and HCP). Descriptions of actions outside those proposed by the PUDs (agency-funded habitat enhancement actions) should be removed from the document.
26. **Page 2-56, Table 2-8 Environmental Comparison of the Alternatives (Pages 1 of 8), juvenile migration/survival standards.** Please change, "project specific standards" under Alt. 1 to "Project specific fish passage standards."
27. **Page 2-59, Table 2-8 Environmental Comparison of the Alternatives (Pages 4 of 8), Drawdown, Alt. 2.** It should be mentioned that drawdown under Alternative 2 could only be considered during relicensing of the projects.
28. **Page 3-10, Figure 3-4 Geology of the Rock Island Dam Area.** There are two identical categories for Grande Ronde Basalt. What is the difference between N2 and R2 Units? In the figure, there is no discernable difference between the two geological formations.
29. **Page 3-28, Steelhead, Line 2.** Please modify the following statement: "Rock Island Dam averaged 2,600 to 3,700 fish" to "Rock Island Dam ranged from 2,600 to 3,700 fish." The same comment applies to Line 4 of this same paragraph.
30. **Page 3-28, Sockeye Salmon.** Please standardize the years being compared to 10-year intervals. As presented, the intervals appear to be contrived to show a recent decline in numbers of sockeye passing Rock Island Dam.

31. **Page 3-29, Coho Salmon, Last sentence.** This section should also note the release of millions of coho by Chelan PUD at the Turtle Rock Hatchery. This facility continued to release coho through the mid - 1980's.

Note that coho ladder counts at Rock Island totaled only 475 fish between 1933 and 1943 (Mullan, 1983; Mullan et al., 1992). That is an average of less than 48 fish per year. The statement: "After completion of Priest Rapids Dam in 1960, peak escapement estimates probably never exceeded 10,000 fish" is misleading. The statement should be modified to indicate that few coho existed prior to the completion of Grand Coulee and Rock Island dams. The statement subtly implies a cause and effect relationship between the completion of Priest Rapids Dam and the demise of the coho run. The Upper Columbia River coho run had already been wiped out prior to construction of any mainstem Columbia River dams as is evident from fishway counts immediately following the completion of Rock Island Dam.

32. **Page 3-29, Table 3-1 Spawning Distribution of Anadromous Fish Species in the Mid-Columbia River Watersheds.** Fulton (1968) appears to incompletely describe salmon and steelhead spawning in the Mid-Columbia Region. Please modify Table 3-1 to include the distribution of fish described below.

Fall Chinook - Please add the Columbia and Methow rivers to the watersheds utilized extensively by Fall Chinook.

Steelhead - Please add the Twisp and Chewuch rivers and Libby Creek as being important Methow River tributaries for spawning steelhead. It should be noted that Salmon and Omak creeks are not presently important steelhead habitats. "Simikameen" is spelled "Similkameen." Also note, steelhead do not have access to the Upper Similkameen River. Instead they only have access to the Lower Similkameen River. Enloe Falls blocks steelhead access to the Upper Similkameen River.

Sockeye - Extensive spawning ground surveys for sockeye have not resulted in documented sockeye spawning in the mainstem Okanogan River. Please remove the reference to the Mainstem Okanogan River as a tributary of the Okanogan River used by spawning sockeye. Please modify the sentence to state that the Osoyoos Lake sockeye population is almost entirely spawned in the Okanogan River, upstream of Osoyoos Lake.

33. Page 3-30, 3.2.3 Tributary and Mainstem Development, end of first Paragraph. The last statement in this paragraph is not entirely accurate. Hydroelectric facilities on the Cowlitz, Lewis and Willamette rivers do not all contain adult fish passage facilities. Some transport fish by truck upstream of the projects and others are migrational blocks to migrating adult salmon and steelhead. Please modify the statement to read: "All mainstem Columbia and Snake river dams downstream of these projects are equipped with facilities to allow ..."

34. 3.2.4 Hatchery Programs, Page 3-31, First line on page 3-31. Please modify the percent of summer-run chinook salmon that are of hatchery origin in the Mid-Columbia River. 80% hatchery composition for this stock is not accurate. The following table indicates the best estimate of hatchery contribution for the watersheds covered by this EIS (Table 1). The hatchery contribution of fall chinook is also closer to 20-30% and not 50%.

Table 1: Escapement to the Wenatchee, Methow and Okanogan rivers of hatchery origin summer chinook (Table adapted from Murdoch and Petersen, 2000).

Return Year	Wenatchee	Methow	Okanogan
1991	2.4	0.0	0.0
1992	1.5	0.0	3.5
1993	5.0	24.0	36.1
1994	12.0	45.0	48.7
1995	9.2	36.9	54.6
1996	4.9	15.8	59.3
1997	8.5	9.2	54.3
1998	10.7	22.2	29.9

Murdoch, A. and K. Petersen. 2000. Survival of sockeye, spring chinook, and summer chinook salmon released from Rock Island Fish Hatchery Complex Facilities, 1989 through 1995 broods. Prepared for Public Utility District No. 1 of Chelan County. Washington Department of Fish and Wildlife, 600 Capitol Way N., Olympia, Washington 98501-1091.

35. Page 3-31, 3.2.4.2 Hatchery Compensation for Mid-Columbia Tributary Losses. There is no plan in place to compensate for Mid-Columbia Tributary Losses. Please replace, "Tributary Losses" with "Mainstem Passage Losses."

36. Page 3-37, Rocky Reach, second Paragraph in section, last Line. There was no sockeye salmon passage study at Rocky Reach in 1993. The 1993

study was a chinook study. There was a sockeye passage study at Wells Dam in 1992. However, this study did not include any monitoring at Rocky Reach Dam. The 14% fallback estimate was derived from the 1997 sockeye monitoring effort only (English et al., 1998).

37. Page 3-38, Rock Island Dam, second Paragraph, first Line. There was no sockeye study at Rock Island Dam in 1993.
38. Page 3-42, 3.2.6.3 Juvenile Bypass Systems, Wells Dam, second Paragraph, last Sentence. We disagree with the assertion that the Wells bypass system likely has indirect mortality similar to the diversion screen bypass systems located at the Snake River projects. See Comment No. 13 for the rationale for not comparing the Wells Bypass system to the Snake River bypass systems.

The Wells bypass system is a highly efficient spill bypass system. Indirect mortality resulting from passage through this system should be compared with indirect mortality estimates derived from spillway survival studies.

39. Page 3-46, Rocky Reach, second Paragraph, last Sentence. The yearling fall-run chinook survival studies cited in this paragraph were conducted in 1998 not 1999. Also, the results from the Eppard et al. (1999) study were not accurately cited. Eppard et al. (1999) provides two estimates of Rocky Reach survival from yearling chinook release in 1998. Table 10, Page 38 of the report states Rocky Reach project survival, depending upon the model selected, as (0.867, $SE = 0.065$) based upon the parallel SR Model and (0.859, $SE = 0.042$) based upon the PR model.
40. Page 3-65, Icicle Creek. The 19 miles of historical habitat is disputed by USFWS personnel stationed in Leavenworth. Radio-telemetry studies conducted in 2000 by the USFWS indicated that a natural obstruction in the river restricted fish access into the upper watershed. The obstruction is located within the first 3 miles of river upstream of the existing barrier dam.

41. Page 3-72, Summer/Fall-Run Chinook Salmon, first Paragraph, eighth Line. We suggest the following modification to the defined spawning distribution of summer chinook in the Methow River. Summer chinook have been observed spawning downstream of French Creek near the mouth of the Methow River immediately upstream of the town of Pateros. This expands the spawning distribution from 38 to 42 miles of habitat.
42. Page 3-72, Steelhead, ninth Line. Please modify the following statement, "Spawning occurs primarily in late March, but may extend into July." to "Spawning is initiated as early as late March and can extend into July." Based upon surveys conducted in 1999, peak steelhead spawning appears to be taking place in late April rather than late March.
43. Page 3-74, Top of page, first partial Paragraph, last Sentence. The abandonment of planting catchable rainbow was intended to reduce incidental harvest on steelhead smolts although it likely also protects a lesser number of chinook salmon smolts. Please add steelhead smolts to the list of species whose incidental harvest has been reduced by the cessation of planting catchable rainbow trout.
44. Page 3-74, Riparian and Stream Channel Condition, forth Paragraph, second sentence. Please modify the second sentence to state, "Ironically, the areas most susceptible to dewatering by low flow events are often the areas containing the highest..."
45. Page 3-76, Fish Resources, line seven. Observations of bull trout in the Okanogan Watershed have been limited in recent history. We suggest removing bull trout as an "important" fish resource in the Okanogan Basin. This suggested change is consistent with surveys conducted by the USFS, Okanogan National Forest and conclusions reached in *Washington State, Limiting Factors Analysis for the Okanogan River Watershed*.
46. Page 3-77, Habitat Condition, first Paragraph, last Sentence. Please change, "The Wells Dam pool inundates the lower 17 miles of the Okanogan River." to "The Wells project boundary includes the lower 17 miles of the Okanogan River."

During normal operation, the Wells Project does not inundate the entire 17 miles of the lower Okanogan River. The Wells Project boundary was drawn to encompass possible inundated lands during a worst-case scenario flood event. In effect Douglas PUD has the right to inundate the lower 17 miles of the Okanogan River only during times when the Columbia and Okanogan rivers experience a simultaneous 100-year flood event that for some reason might not be mitigated through storage at Grand Coulee and the Canadian Treaty Storage Projects.

47. **3.3.1.1 Project Area, Page 3-83, Wells Dam, Rocky Reach and Rock Island Dam.** Please standardize the months that average flows are compared between projects. We would recommend using June and September rather than using a mixture of months. Also note that average September flows referenced for Wells Dam (114,791 cfs) is much higher than the average September flows cited at Rock Island Dam (74,478 cfs). Given that Rock Island Dam is downstream of Wells Dam and that the Chelan, Entiat and Wenatchee rivers all enter the Columbia River between Wells and Rock Island Dam, these averages appear to be incorrect. Average September flows at Wells Dam should be slightly less than the average September flows at Rock Island Dam.
48. **Page 3-84, Figure 3-5, Average Monthly Flows (cfs) in the Mid-Columbia River at Wells Dam.** Average September flows at Wells Dam appear to be less than 80,000 cfs.
49. **Page 3-85 & Page 3-83, Figure 3-6, Average Monthly Flows (cfs) in the Mid-Columbia River at Rocky Reach Dam.** According to the Figure, average June flows at Rocky Reach are in excess of 150,000 cfs not 136,147 cfs as cited on page 3-83.
50. **Page 3-87, Wenatchee River, first Paragraph, line 6.** The Wenatchee River watershed drains 1,328 square miles not 1,328 square miles.
51. **Page 3-89, Entiat River, second Paragraph, line five.** The maximum and minimum average monthly flows for the Entiat River are incorrect. Both numbers presented in the report do not match with USGS information and are highly unlikely given that the reported numbers exceed those of the Wenatchee and Methow Rivers.

Please see Figure 3-9. The average monthly flows from this figure indicate that the Entiat River in June averages less than 1,800 cfs and in September averages less than 200 cfs. Please reconcile the text and Figure 3-9.

52. Page 3-87, 3-89 & 3-91. Please standardize the average monthly flows being reported for the various tributary streams.
53. Page 3-91, Okanogan River, second Paragraph, last Sentence. Please see Comment No. 46.
54. Page 3-97, Wells Dam, first and second Paragraph. The temperature excursion cited at the Columbia River at the Wells Hatchery intake is in error. The water temperatures reported here were not collected at the hatchery intake but were collected from the hatchery spawning channel after water had been held in shallow ponds immediately downstream of the intake of the facility. Also, the readings were not collected from a systematic, calibrated subsurface monitor but were instead collected with a non-calibrated, hand-held thermometer, sporadically used to collect relative water temperatures by fish culture staff stationed at the Wells Fish Hatchery.

Note that the mainstem Columbia River water quality data collected immediately downstream of Wells Dam (Chelan Falls) does not show water temperature excursions above the criteria established for state waters.

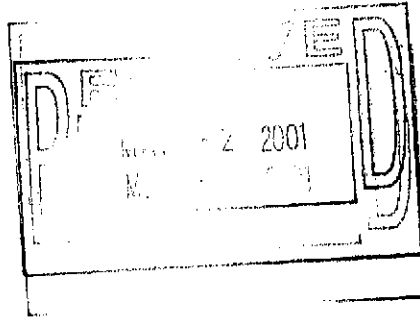
55. Page 4-1, 4.1.1.2 Associated Tributaries, first, second and third Paragraphs, (Alt. 1). This entire section should be deleted and re-written with emphasis on contrasting the three proposed environmental alternatives. Describing additional actions outside the three alternatives that may be funded regardless of the outcome of the HCP only confuses readers. This comment is similar to Comments No. 7, 8 and 9.

We suggest changing this section to describe the fact that under the No-Action alternative, no PUD tributary enhancement funds would be available. The agencies are free to spend money on habitat improvements common to all three alternatives so this entire section (4.1.1.2) provides no information related to the decision to select one of the three proposed alternatives.

This comment also applies to Page 4-3, 4.1.2.2 Associated Tributaries.

56. **Page 4-6, second full Paragraph, second Line.** It is important to point out that drawdown is not an option under the No Action Alternative (Alternative 1). It could be an option that is discussed through relicensing of the projects (Alternative 2) or by unanimous consent of the HCP signature parties under Alternative 3.
57. **Page 4-17, Wells Dam, second bullet.** Under Alternative 1, the District is not obligated in the Wells Settlement Agreement to operate the bypass system 24-hours per day during the period that encompasses 95% of the downstream migration.
58. **Off-Site Mitigation, Page 4-43, first Paragraph.** Please add that the proposed Douglas HCP has a provision that if juvenile project survival is greater than 95%, the tributary funding package would be reduced from 2% to 1%. This comment also applies to the section titled: **Tributary Habitat Improvements** found on Page 4-43.
59. **Page 4-65.** Please modify "4.9.2.1 Project Are" to "4.9.2.1 Project Area."

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April 30, 2001

National Marine Fisheries Service
Northwest Region, Hydro Program
525 NE Oregon Street, Suite 420
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Re: Draft Environmental Impact Statement (DEIS) for the Habitat Conservation Plans proposed for Public Utility District No. 1 of Douglas County, Washington, and the Public Utility District No. 1 of Chelan County, Washington, 65 *Federal Register* 82976 (Dec. 29, 2000), as amended by 66 *Federal Register* 2903 (Jan. 12, 2001)

Dear NMFS:

Public Utility District No. 1 of Chelan County, Washington (the "District") appreciates this opportunity to comment on the Draft Environmental Impact Statement for the Habitat Conservation Plans proposed for Public Utility District No. 1 of Douglas County, Washington, and Public Utility District No. 1 of Chelan County, Washington (the "DEIS").¹

We appreciate this first major step in the regulator review of the District's incidental take permit applications.² However, we have a number of concerns. First, we are very disappointed in the amount of time it has taken to reach this step. The District's incidental take permit applications were filed with NMFS on July 30, 1998. At NMFS instance, the District along with Public Utility District No. 1 of Douglas County have funded Parametrix, Inc. since 1998 to expedite NMFS' regulatory review of the incidental take permit applications. The District promised a two-year regulatory review

¹ 65 *Federal Register* 82976 (Dec. 29, 2000), as amended by 66 *Federal Register* 2903 (Jan. 12, 2001).

² Application for Individual Incidental Take Permit for the Rocky Reach Hydroelectric Project, FERC No. 2145 (July 30, 1998); Application for Individual Incidental Take Permit for the Rock Island Hydroelectric Project, FERC NO. 945 (July 30, 1998).

process in consideration for funding NMFS' contractor. We have not received expedited treatment.

Second, the DEIS does provide a clear explanation of the Anadromous Fish Agreements and Habitat Conservation Plans (the "Agreements") upon which the incidental take permit applications are based. As a result the Agreements cannot be fully compared with the other alternatives, and the analysis of the Agreements is not complete or accurate. To address the second problem, the District's comments start with a summary and interpretation of the Agreements. In this section the District provides, for the benefit of NMFS and the general public, a general summary of how the Agreements should be interpreted.

Third, as pointed out in the Specific Comments, there are several instances where NMFS misstates data. This provides a skewed view of how the Agreements will work, and how the Agreements compare with other alternatives. Of greatest concern is NMFS continued reliance upon the Quantitative Analytical Report (the "QAR"). The QAR is another processes the District and Public Utility District No. 1 of Douglas County, Washington were forced to fund to expedite review of the Agreements. In consideration for funding the QAR, NMFS promised that the QAR would be a fair, open and scientific process.

The QAR should not be included in the DEIS. NMFS has kept the QAR internal to NMFS. The QAR is not final or peer reviewed. The District has not had an opportunity to view the QAR, yet NMFS heavily relies upon the QAR throughout the DEIS. As a result, neither the District nor the public can evaluate the DEIS with the QAR. Furthermore, based upon the District's limited knowledge of the QAR the QAR is severely mischaracterized in the DEIS.

Fourth, again as pointed out in the Specific Comments, the District continues its objection to NMFS' choice of alternatives. NEPA requires an environmental impact statement to review the proposed action with other measures. It is not appropriate for NMFS to compare regulatory review processes as alternatives in a DEIS.

It is the District's hope that NMFS will address the concerns we raise in these comments and amend the DEIS accordingly.

Summary of the Agreements

On July 30, 1998, the District submitted incidental take permit applications to NMFS for the Rocky Reach and Rock Island Hydroelectric Projects (the "Projects"). The incidental take permit applications are based upon proposed Anadromous Fish Agreements and Habitat Conservation Plans (the "Agreements"). The Agreements are

“intended to constitute a comprehensive and long term adaptive management plan for Plan Species³ and their habitat as affected by the Projects.”⁴ They are unlike any other habitat conservation plan ever filed with the United States Fish and Wildlife Service or the National Marine Fisheries Services.

The Agreements are revolutionary due to their scope and management plan. The Agreements are titled Anadromous Fish Agreements and Habitat Conservation Plans and not just habitat conservation plans because they address more than just the Endangered Species Act. They also address Federal Power Act, the Fish and Wildlife Coordination Act, the Pacific Northwest Electric Power Planning and Conservation Act, the Clean Water Act and Title 77 of the Revised Code of Washington in one comprehensive agreement for each Project.

Because the Agreements are comprehensive settlements, they propose a standard greater than that required under the Endangered Species Act. The Agreements establish a survival standard of 100% No Net Impact (“NNI”) which means that the Projects appear invisible to the species migrating past the Projects. There are two basic components of NNI. First, to protect the species migrating past the Projects, the Agreements establish a series of performance standards based upon the actual survival of the species, not simply measures to be implemented regardless of their actual benefit to the species. Second, all unavoidable mortality is mitigated. This occurs through tributary habitat improvements and through state of the art hatchery supplementation. Central to the Agreements are the processes for making decisions and resolving disputes. All the stakeholders that sign the Agreements make the decisions, and disputes can be resolved in as little as 16 days. These Agreements actually protect the survival of the salmon and restore their habitat.

The level of protection afforded in the Agreements is provided to not just listed Upper Columbia River steelhead and Upper Columbia River spring chinook. It also protects all other species of salmon migrating past the Projects; even coho salmon which are extinct from the Upper Columbia River, but are being re-introduced by the Confederated Tribes and Bands of the Yakama Indian Nation (the “Yakama Indian Nation”).

The Agreements are the result of an extensive collaborative process dating back to 1993, and represent the collective wisdom and professional judgment of the scientists and regional policy makers of the NMFS, the United States Fish and Wildlife Service, the Washington Department of Fish and Wildlife, the Confederated Tribes and Bands of the

³ Plan Species are defined as spring, summer and fall chinook salmon (*Oncorhynchus kisutch*), sockeye salmon (*O. nerka*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss*). Rocky Reach at Section XII.11; Rock Island at Section XII.11.

⁴ Rocky Reach, Introduction, Paragraph A.; Rock Island, Introduction, Paragraph A.

Colville Indian Reservation, the Yakama Indian Nation, the Confederated Tribes of the Umatilla Indian Reservation, and American Rivers, Inc. participating in the process.

The Agreements

To assist in understanding the Rocky Reach and Rock Island Anadromous Fish Agreements and Habitat Conservation Plans, the District provides the following summary and interpretation of the Agreements.

What species are protected?

The Agreements apply to anadromous salmonids, known as the "Plan Species."⁵ Plan Species are defined as spring, summer and fall chinook salmon (*Oncorhynchus kisutch*), sockeye salmon (*O. nerka*), coho salmon (*O. kisutch*), and steelhead (*O. mykiss*).⁶ However, since coho salmon are extinct in the portion of the Columbia River affected by the Projects, the District did not request that the incidental take permit apply to coho salmon. The sub-set of the plan species for which the incidental take permits are requested are referred to in the Agreement as the "Permit Species."

What is the biological plan? (the standards)

The Survival Standards. The objective of the Agreements is to achieve 100% No Net Impact for each Plan Species affected by the Projects.⁷ NNI consists of two components: (1) 91% Project Survival achieved within the geographic area of each Project by project improvement measures, including an independent standard of 95% Juvenile Dam Passage Survival; and (2) 9% compensation for Unavoidable Project Mortality provided through hatchery and tributary programs, with 7% compensation provided through hatchery programs and 2% compensation provided through tributary programs.⁸ NNI will be maintained for the duration of the Agreement for each Plan Species affected by the Project. A coordinating committee composed of each entity that signs the Agreements will ensure the NNI is achieved and maintained by: (1) overseeing monitoring and evaluation, and (2) periodically adjusting the measures being implemented to address actual project survival and compensate for all unavoidable project mortality.⁹

⁵ Anadromous Fish Agreement and Habitat Conservation Plan Rocky Reach Hydroelectric Project, FERC No. 2145 (Rocky Reach), Section XII.1; Anadromous Fish Agreement and Habitat Conservation Plan Rock Island Hydroelectric Project, FERC No. 943 (Rock Island), Section XII.1.

⁶ Rocky Reach at Section XII.11.; Rock Island at Section XII.11.

⁷ Rocky Reach, Introduction, Paragraph B; Rock Island, Introduction, Paragraph B.

⁸ Rocky Reach at Section III.1.; Rock Island at Section III.1

⁹ Rocky Reach at Section III.2.; Rock Island at Section III.2.

To achieve NNI, the District is obligated to achieve and maintain 91% Project Survival, which means that 91% of each Plan Species, juvenile and adult combined, survive Project effects, including delayed mortality wherever it may occur.¹⁰ However, recognizing that the impacts associated with hydroelectric projects are focused at the concrete (the Dam) the Agreements require the District to achieve and maintain 95% Juvenile Dam Passage Survival, which means that 95% of the juvenile Plan Species over 95% of each species' migration survive the journey through the forebay, dam, and tailrace of each Project.¹¹

There is one exception to the 95% Juvenile Dam Passage Survival standard. Provided that turbine intake screens are installed at the Dam, spring-migrating chinook salmon (*Oncorhynchus tshawytscha*) smaller than 50 mm in length will be excluded from 95% Juvenile Dam Passage Survival, but not from 91% Project Survival for the full run of that Plan Species.¹² This exception is necessary to account for the competing needs between species and choosing a way to best protect all the species.

The Project Survival standard must be achieved for juvenile and adult Plan Species. However, current technology does not exist to measure adult survival. But, during the term of the Agreements, the parties that developed the Agreements felt very comfortable that technology would be developed, sooner rather than later, to measure adult survival. Since the District was obligated to achieve and maintain the standard, all signatories to the Agreements have the incentive to develop the technology and have it implemented as soon as possible.

Until adult survival can be measured, to insure that adults received the maximum protection practicable in a way that can be measured, the Agreements' Adult Passage Plan defines actions to be taken by the District to protect adults. The Agreements give high priority to adult survival in the achievement of 91% Project Survival for each Plan Species.¹³ This means that the District must provide for adult as well as juvenile survival. The District has a variety of tools it may use to achieve the targeted survival rate. These tools include, but are not limited to, a requirement that adult passage systems at the Project will be maintained and operated according to the detailed fishway operating plan identified in the Agreements or to criteria developed through the coordinating committee.¹⁴ Spill and turbine units will be operated in a manner that provides for adult passage while meeting the 95% Juvenile Dam Passage Survival rate.¹⁵ Areas within the adult fish passage system which are identified by the coordinating committee as either

¹⁰ Rocky Reach at Section IV.1.a.; Rock Island at Section IV.1.a.

¹¹ Rocky Reach at Section IV.1.a.; Rock Island at Section IV.1.a.

¹² Rocky Reach at Section IV.1.b.; Rock Island at Section IV.1.b.

¹³ Rocky Reach at Section IV.2.b.; Rock Island at Section IV.2.b.

¹⁴ Rocky Reach at Section IV.2.b.i.; Rock Island at Section IV.2.b.i.

¹⁵ Rocky Reach at Section IV.2.b.ii.; Rock Island at Section IV.2.b.ii.

consistently out of criteria or where significant delay occurs will be modified as soon as feasible by the District.¹⁶ The District will use best efforts to eliminate identified sources of adult injury and mortality during adult migration through the Dam.¹⁷ In addition, the District will identify adult fallback rates at the dam, and the coordinating committee will identify a method to protect steelhead kelts at the Dam, and a reduction in fallback rates, mortalities, and protection of kelts will be factored into juvenile bypass and adult passage development and implementation and into Project operation decisions.¹⁸

If the District is unable to achieve 91% Project Survival, including achievement of 95% Juvenile Dam Passage Survival, then the District is obligated to consult with the coordinating committee to jointly seek a solution.¹⁹ If a solution cannot be identified to achieve the standards, then any Party may take action to withdraw from the Agreements on the basis that it is impossible to achieve the standards in the Agreement, or take action under any other provision of the Agreement.²⁰

Unavoidable Project Mortality. Since hydroelectric projects obstruct the waterways the salmon use to migrate there is some mortality that just cannot be eliminated. This mortality is addressed in the Agreements as “Unavoidable Project Mortality.” Unavoidable Project Mortality is initially assumed to be 9%, based on several assumptions regarding Project impacts.²¹ The word “initially” is very important. It is currently not possible to measure Unavoidable Project Mortality. The biologists and policy makers that developed the Agreements’, in their best professional judgment, assumed juvenile dam passage mortality to be 5% and a net of 4% mortality for all other project effects. These include, but are not limited to, reservoir, juvenile delayed, and adult mortality with credit for natural mortality.²² Since Unavoidable Project Mortality is an assumption, it is implicit within the Agreements that once technology is developed to measure these numbers it will be accurately established.²³ Since the Agreements do not assign responsibility to any one party to take on this responsibility, the responsibility lies with the coordinating committee as a whole. Since the Agreements provide for the assumption to be verified all signatories to the Agreements have the incentive to develop the technology and have it implemented as soon as possible. In the event Unavoidable Project Mortality is proven to be something other than 9%, then the coordinating committee must decide what action should be taken.²⁴

¹⁶ Rocky Reach at Section IV.2.b.iii.; Rock Island at Section IV.2.b.iii.

¹⁷ Rocky Reach at Section IV.2.b.iv.; Rock Island at Section IV.2.b.iv.

¹⁸ Rocky Reach at Section IV.2.; Rock Island at Section IV.2.

¹⁹ Rocky Reach at Section III.3.; Rock Island at Section III.3.

²⁰ Rocky Reach at Section III.3.; Rock Island at Section III.3.

²¹ Rocky Reach at Section XII.19.; Rock Island at Section XII.19.

²² Rocky Reach at Section XII.19.; Rock Island at Section XII.19.

²³ Rocky Reach at Sections III.2. and XII.19.; Rock Island at Section III.2. and XII.19.

²⁴ Rocky Reach at Section III.; Rock Island at Section III.

Until Unavoidable Project Mortality can be established, 9% Unavoidable Project Mortality is assumed to be correct.²⁵ Unavoidable Project Mortality is addressed through hatchery and tributary compensation, with 7% compensation provided through hatchery programs and 2% compensation provided through tributary programs²⁶

Hatchery Compensation Plan. Hatchery compensation is provided by the Agreements' Hatchery Compensation Plan. The District will provide the necessary funding and capacity to meet the 7% hatchery compensation level set by the NNI, and operate the hatchery according to the terms developed by the other signatories to the Agreement (the "JFP" or "Joint Fisheries Parties"), the NMFS Section 10 incidental take permit, and in consultation with the Hatchery Committee.²⁷ The JFP are responsible for developing the plans and programs necessary to implement the Hatchery Compensation Plan.²⁸ This allocation of responsibility is significant in that NMFS's policy decisions regarding management of "wild" fish under the Endangered Species Act may not allow full utilization of the hatchery capacity provided by the District. If this occurs, then as long as the District has provided the hatchery capacity and remains able to fund hatchery operations, the District will be in full compliance with the Agreement and its incidental take permit. However, under the Agreement, hatchery production will never be reduced to zero without action by the Federal Energy Regulatory Commission because the Agreement allows for the production of hatchery fish to compensate for original Project inundation.²⁹

The fact that NMFS can reduce hatchery capacity is the reason the tribes do not currently support the Agreements. This is where it is important to recognize the fact that the Agreements are comprehensive settlement agreements. The tribes' current position is that they require a guarantee from NMFS that throughout the term of the Agreements the hatcheries will be fully utilized before they are willing to resume support of the Agreements. It is only through increased numerical abundance of the Plan Species that the tribes can fully realize the value of their fishing rights. The tribes dispute NMFS' policy decision to treat hatchery fish differently from wild fish. In addition, the tribes argue that the numbers of fish to be produced by the Projects' hatcheries is so small they will not appreciably reduce the likelihood of the survival and recovery of the Plan Species in the wild. This view is shared by the District and many other parties that developed the Agreements. Nevertheless, since NMFS and the other parties that developed the Agreements are situated differently than the tribes, they can continue to support the Agreements in light of this objection.

²⁵ Rocky Reach at Section XII.19.; Rock Island at Section XII.19.

²⁶ Rocky Reach at Sections III.1. and III.2.; Rock Island at Section III.1. and III.2.

²⁷ Rocky Reach at Section VIII.2.; Rock Island at Section VIII.2.

²⁸ Rocky Reach at Section III.4.; Rock Island at Section III.4.

²⁹ Rocky Reach at Section VIII.3.; Rock Island at Section VIII.3.

The initial estimated hatchery production capacities for Plan Species needed to provide compensation for Unavoidable Project Mortality are based on a variety of factors. Those include average adult returns of plan species for a baseline period, a 7% compensation requirement, and baseline adult/smolt survival rates for existing mid-Columbia River hatcheries. The estimated initial production capacity will be adjusted over time to help achieve and maintain NNI. As changes occur in the average adult returns of Plan Species, and in adult/smolt survival rate from the hatchery production facilities the production capacity will change. However, as described above, the original inundation mitigation will not be reduced.³⁰

Tributary Conservation Plan. The Tributary Plan will compensate for 2% of Unavoidable Project Mortality.³¹ The Tributary Conservation Plan consists of the Agreement and Exhibit B "Tributary Compensation Plan Species Account Project Selection, Implementation, and Evaluation Plan."³² Under the Tributary Plan, the District will provide a Plan Species Account to fund projects for the protection and restoration of Plan Species' habitat within the Columbia River watershed, and the Okanogan, Methow, Entiat and Wenatchee River watersheds.

The Tributary Plan will be managed by a Tributary Committee composed of one representative from each party that signs the Agreement. In order to achieve minimum costs and maximize the monies in the Plan Species Account, there will be one Tributary Committee that manages the Tributary Plans for the Wells, Rocky Reach and Rock Island Hydroelectric projects.³³ In addition, to assure that the maximum amount of money will be spent on actual projects, committee overhead costs cannot exceed \$80,000 without the unanimous vote of the Tributary Committee.³⁴ Whenever feasible, projects selected by the Tributary Committee shall "take into consideration and be coordinated with other conservation plans or programs", and "whenever feasible, the Tributary Committee shall cost-share with other programs, seek matching funds, and 'piggy-back' programs onto other habitat efforts."³⁵ The District has spoken with the staff of the Northwest Power Planning Council and the Governor's Locke's Salmon Recovery Task force, and many other entities. All are eager to coordinate their habitat programs with the Agreements' Tributary Programs.

Land Use Decisions. When the District makes land use or related permit decisions on Project lands that affect reservoir habitat, the District must consider the cumulative

³⁰ Rocky Reach at Section VIII.3.; Rock Island at Section VIII.3.

³¹ Rocky Reach at Section VII.2.; Rock Island at Section VII.2.

³² Rocky Reach at Section VII.1.; Rock Island at Section VII.1.

³³ Rocky Reach at Section VII.3.; Rock Island at Section VII.3.

³⁴ Rocky Reach at Section VII.4.a.; Rock Island at Section VII.4.a.

³⁵ Rocky Reach at Section VII.3.e.; Rock Island at Section VII.3.e.

impact effects in order to meet the conservation objectives of the Agreement, requirements of the FERC license, and other applicable laws and regulations. The District will also notify and consider comments from the Parties to the Agreement regarding land use permit application on Project owned lands.³⁶ Applicants to use or occupy Project lands or waters must be informed by the District that such use or occupation may result in an incidental take of an endangered or threatened species under the ESA, and may require advance authorization from NMFS or USFWS.³⁷

Early Termination Mitigation. Lastly, if the incidental take permit issued by NMFS is terminated early, NMFS may require the District to mitigate for any past incidental take that has not been sufficiently mitigated prior to the termination of the permit. NMFS would require the District to continue relevant mitigation measures of the Agreement for some or all of the time period covered by the permit as originally issued.³⁸

Thus, the combination of the Juvenile Dam Passage Survival and Project Survival standards coupled with the required spill for juveniles and the required measures for adults, the standards that must be satisfied for land use and permitting decisions on Project lands, and the requirement to mitigate for any past incidental take that was not sufficiently mitigated in the event the incidental take permit is terminated early provides each Plan Species with the maximum protection practicable and minimizes and mitigates the impacts of any taking as is required by Section 10 of the Endangered Species Act. Furthermore, in order to make sure that everything is being done to protect, restore and increase the abundance of the Plan Species and their habitat, the Agreements mitigate for all the unavoidable mortality associated with the Projects through the Tributary Conservation Plan and the Hatchery Compensation Plan. Therefore, the 100% No Net Impact standard of the Agreements is truly revolutionary in salmonid management on the Columbia River.

How are the standards measured?

Survival Standards. Measurement and evaluation of the 95% Juvenile Dam Passage Survival will commence by the 2003 juvenile migration unless agreed to otherwise by the coordinating committee. However, the 2003 date was established under the assumption that the regulatory review process for the Agreement would take no more than 18 months from the date the Agreements were filed with NMFS in 1998. Due to the fact that regulatory review process has taken longer than anyone ever expected, it may be necessary to revisit the 2003 date.

³⁶ Rocky Reach at Section V.1.; Rock Island at Section V.1.

³⁷ Rocky Reach at Section V.2.; Rock Island at Section V.2.

³⁸ Rocky Reach at Section X.6.; Rock Island at Section X.6.

The completion of measurement and evaluation is expected to take three years.³⁹ The 91% Project Survival measurement may also occur by 2003 juvenile migration should the coordinating committee elect.⁴⁰ The intent of the language addressing “95% Juvenile Dam Passage Survival and 91% Project Survival”⁴¹ is to expressly allow the coordinating committee to measure juvenile survival through the reservoir, forebay, dam, and tailrace as opposed to just measuring juvenile survival through the forebay, dam, and tailrace. The parties wanted to allow this option because it is easier to measure survival through the reservoir, forebay, dam and tailrace, than just through the forebay, dam, and tailrace. The parties intended to require only the measurement of 95% Juvenile Dam Passage Survival by the 2003 juvenile migration.

The parties did not intend to require the measurement of 91% Project Survival on any certain date. The reason is that technology does not currently exist to measure the adult component of 91% Project Survival. This is explained in greater detail above in the section “What is the biological plan? (the standards), *The Survival Standards.*”

The Agreements do not contain the protocol to be used to measure 95% Juvenile Dam Passage survival because in 1998, when the Agreements were developed, the parties thought that the regulatory approval process would be completed within 18 months of filing. The parties felt that this level of detail was not necessary for the Agreements and would simply slow down the implementation process. Therefore, the parties established a process to create the protocol, with general parameters for the protocol.⁴² The Agreements required the coordinating committee to develop the protocol by March 1, 2001. This provided a grace period of two years before the protocol would be needed to work out any disagreements. Since March 1, 2001 has arrived before regulatory review process for the Agreements has been completed the parties need to revise this date.

Tributary Conservation Plan. The purpose of the Tributary Plan is to create and fund projects for the restoration and protection of Plan Species habitat. This will provide 2% compensation for the Unavoidable Project Mortality. The Tributary Plan, however, does not require the Parties to actually measure whether the Tributary Plan compensates for exactly two percent Unavoidable Project Mortality.⁴³ The parties that developed the Agreements made this decision based upon the fact that it was unlikely that measurement could occur, and that if it could occur, the cost and time associated with measurement would outweigh any benefit it could possibly produce. However, the individual tributary projects and budgets that make up the Tributary Plan will be evaluated by the Tributary

³⁹ Rocky Reach at Section IV.3.b.; Rock Island at Section IV.3.b.

⁴⁰ Rocky Reach at Section IV.3.b.; Rock Island at Section IV.3.b.

⁴¹ Rocky Reach at Section IV.3.b.; Rock Island at Section IV.3.b.

⁴² Rocky Reach at Section IV.3.c.; Rock Island at Section IV.3.c.

⁴³ Rocky Reach at Section VII.2.; Rock Island at Section VII.2.

Committee.⁴⁴ The Tributary Committee will select projects that work toward furthering the purpose of the Tributary Plan for Plan Species.⁴⁵

Hatchery Compensation Plan. The Hatchery Compensation Plan will provide 7% compensation for the Unavoidable Project Mortality. Measurement and evaluation of the Hatchery Program is explained above in the section “What is the biological plan? (the standards), Hatchery Compensation Plan.”

Unavoidable Project Mortality. The measurement and evaluation of Unavoidable Project Mortality is explained above in the Section “What is the biological plan? (the standards), Unavoidable Project Mortality.”

What happens if juvenile survival results fall short of expectations?

Measurement and evaluation of 95% Juvenile Dam Passage Survival or the juvenile component of 91% Project Survival at the end of Phase I will begin by the 2003 juvenile migration unless this date is revised. The process is expected to take three years. Thus, there is a three year window where the parties do not know whether or not the survival standard has been achieved. In order to insure the protection of the Plan Species the Agreements contain a process which can be used to provide an interim evaluation of the Projects' survival and, as necessary, require the implementation of additional interim measures.⁴⁶

If measurement and evaluation of 95% Juvenile Dam Passage Survival or the juvenile component of 91% Project Survival at the end of Phase I of the Juvenile Passage Survival Plan has not been achieved, then the coordinating committee will decide on additional “tools”⁴⁷ to implement to achieve the survival standard. The District will implement the tools selected by the coordinating committee before the next migration period. These tools, which could include Trading⁴⁸ and additional spill, will be selected by the coordinating committee based on technical feasibility, availability, and adherence

⁴⁴ Rocky Reach at Section VII.3.a.; Rock Island at Section VII.3.a.

⁴⁵ Rocky Reach at Section VII.4.c.; Rock Island at Section VII.4.c.

⁴⁶ Rocky Reach at Section IV.3.a.iii.; Rock Island at Section IV.3.a.iii.

⁴⁷ The term “tools” is a defined term in the Agreements to mean “any action, structure, facility or program (on-site only) at the Project, except those prohibited in Section IX.10 ‘Drawdowns/Dam Removal/Non-Power Operations’ that are intended to improve the survival of Plan Species migrating through the Project. Tools do not include fish transportation unless otherwise agreed by the Coordinating Committee. This term is a sub-set of Measures”. Rocky Reach at Section XII.17; Rock Island at Section XII.17.

⁴⁸ The term “trading” is a defined term in the Agreements to mean “the allocation of the net survival benefits in excess of 95% Juvenile Dam Passage Survival and 91% Project Survival from a downstream Dam or Project to an upstream Dam or Project, or on a stock specific basis, from an upstream Dam or Project to a downstream Dam or Project in lieu of offsite compensation measures for the affected stocks.” Rocky Reach at Section XII.18; Rock Island at Section XII.18.

to the total dissolved gas requirements.⁴⁹ The coordinating committee must jointly decide which additional tools will allow the District to achieve 95% Juvenile Dam Passage Survival or 91% Project Survival. The following criteria will be used: likelihood of biological success; time required to implement; and cost-effectiveness of solutions. The balancing of a tool's cost-effectiveness will only take place where two or more alternatives are comparable in their biological effectiveness.⁵⁰

A cycle of implementation of additional tools and measurement is repeated until the survival standards are achieved.⁵¹ If a solution cannot be identified to achieve the standards, then any Party may take action to withdraw from the Agreements on the basis that it is impossible to achieve the standards in the Agreements, or take action under any other provision of the Agreements.⁵²

How do disagreements get resolved?

Rule. A central feature of the Agreements is the process for resolving disputes. All disputes under the Agreements are resolved according to the Agreements' dispute resolution process. This includes those disputes involving the Passage Survival Plan, the Hatchery Plan, the Tributary Plan, and compliance with the NNI standard and its component survival standards for the Dam, Project, and Unavoidable Project Morality.⁵³

Exceptions. There are three circumstances where disputes are not required to be resolved through the Agreements' dispute resolution process. NMFS has reserved the right to use its enforcement powers and remedies of the ESA without first resorting to the Agreements' dispute resolution process.⁵⁴ While NMFS intends to utilize the Agreements' dispute resolution process and has the authority to agree to alternative dispute resolution, NMFS' reserved this right to insure that it was not delegating away its authority.

In addition, neither the Agreement nor the dispute resolution process can be used to abridge, limit, diminish, abrogate, adjudicate, or resolve any Indian right reserved or protected in a treaty, executive order, statute or court decree.⁵⁵

Lastly, any Party can require the matter to be decided at FERC or in a court of competent jurisdiction. However, disputes must proceed through Stage 1 and 2 of the

⁴⁹ Rocky Reach at Section IV.6.; Rock Island at Section IV.6.

⁵⁰ Rocky Reach at Section IV.7.a-c.; Rock Island at Section IV.7.a-c.

⁵¹ Rocky Reach at Section IV.3.10.; Rock Island at Section IV.3.10.

⁵² Rocky Reach at Section III.3.; Rock Island at Section III.3.

⁵³ Rocky Reach at Section XI.1.a.; Rock Island at Section XI.1.a.

⁵⁴ Rocky Reach at Section XI.1.b.; Rock Island at Section XI.1.b.

⁵⁵ Rocky Reach at Section XI.1.c.; Rock Island at Section XI.1.c.

dispute resolution process before a Party invokes the jurisdiction of FERC or a court.⁵⁶ The Agreement, however, is not intended to create jurisdiction in any court.⁵⁷

Dispute Resolution Process:

Stage 1: Coordinating Committee

Any matter, which involves compliance with the Agreement, is first referred to the respective committee dealing with that issue. That committee has twenty days to resolve the dispute. If there is no resolution within twenty days the matter may proceed to the next stage in the dispute resolution proceeding.⁵⁸

Stage 2: Policy Committee

Any Party may refer the dispute to the Policy Committee, who shall have thirty days to convene and consider the dispute. If there is no resolution at the end of thirty days any Party may either proceed to the next stage or invoke FERC jurisdiction.⁵⁹ If a Party decides to invoke the FERC process or proceed to a court of competent jurisdiction then the dispute resolution procedure is terminated.⁶⁰ Provided a Party wishes to continue the dispute resolution proceeding, a party may seek to have the issue mediated by the Third Stage.

Expedited Process. If an issue must be resolved within 30 days, and does not involve a total estimated cost of \$325,000 in 1998 dollars, then an expedited procedure is used. All Parties are given notice that the coordinating committee will have the matter finally resolved at an identified coordinating committee meeting.⁶¹ If the coordinating committee does not reach a consensus, then any Party may refer the matter to dispute resolution under Stage 3 by giving notice.⁶² The mediator has 15 days from the date selected to hear and resolve the dispute.⁶³ While the mediation decision is not binding, it may be admitted as evidence in any action to resolve the dispute.⁶⁴ The mediator's decision, however, must be implemented immediately.⁶⁵

⁵⁶ Rocky Reach at Section XI.3.c.; Rock Island at Section XI.3.c.

⁵⁷ Rocky Reach at Section XI.1.d.; Rock Island at Section XI.1.d.

⁵⁸ Rocky Reach at Section XI.3.a.; Rock Island at Section XI.3.a.

⁵⁹ Rocky Reach at Section XI.3.b.; Rock Island at Section XI.3.b.

⁶⁰ Rocky Reach at Section XI.3.c.; Rock Island at Section XI.3.c.

⁶¹ Rocky Reach at Section XI.7.a.; Rock Island at Section XI.7.a.

⁶² Rocky Reach at Section XI.7.b.; Rock Island at Section XI.7.b.

⁶³ Rocky Reach at Section XI.7.d.; Rock Island at Section XI.7.d.

⁶⁴ Rocky Reach at Section XI.7.d.; Rock Island at Section XI.7.d.

⁶⁵ Rocky Reach at Section XI.7.e.; Rock Island at Section XI.7.e.

Standard Mediation Timing. Under the standard mediation procedure, the Parties shall agree on a mediator within 10 days of the date mediation was first requested.⁶⁶ The mediator shall have control over the process of mediation, however, it must be completed within 30 days of the date the mediator is selected.⁶⁷ If the Parties do not come to an agreement, then the mediator may prepare, within 45 days, an opinion on how the decision should be resolved.⁶⁸

Expedited Dispute Resolution Timing. The expedited procedure can result in the issuance of a mediation decision sixteen days from a coordinating committee impasse.⁶⁹ This assumes that the Chief Judge can be contacted in one day, and the Chief Judge appoints the mediator that day. According to the expedited procedure, if the Parties are unable to agree on a single mediator within ten days of the mediation request, then the Chief Judge of the United States District Court for the Eastern District of Washington shall appoint the mediator.⁷⁰

Dispute Resolution Twists. If the Parties do not select a mediator within ten days of the date that mediation is requested, the Chief Judge of the U.S. District Court for the Eastern District of Washington appoints the mediator.⁷¹ While mediation is non-binding, the mediator will issue a decision. This decision can be introduced as evidence at FERC or Court.⁷² The purpose of the mediation decision is to create a dynamic where the parties will stop fighting. The Parties have found after working together for many years that there are times when they just want to argue the merits of their position to a neutral third party and have a decision rendered. Once the decision is rendered it will not likely be appealed. As an incentive not to appeal, and to make sure that the dispute resolution process was not a waste of time, the Parties agree that they will allow the mediation decision to be entered into evidence upon appeal. The Parties intentionally did not decide the weight that should be given to the decision. This way each side could argue for or against the opinion without knowledge of the weight FERC will give to the decision. This dynamic coupled with the fact that the Party bringing the issue to dispute resolution must prove their case by a preponderance of the evidence should prevent most appeals.⁷³

What is the term of the Agreements?

⁶⁶ Rocky Reach at Section XI.3.d.i.(1).; Rock Island at Section XI.3.d.i.(1).

⁶⁷ Rocky Reach at Section XI.3.d.i.(4).; Rock Island at Section XI.3.d.i.(4).

⁶⁸ Rocky Reach at Section XI.3.d.ii.; Rock Island at Section XI.3.d.ii.

⁶⁹ Rocky Reach at Section XI.7.d.; Rock Island at Section XI.7.d.

⁷⁰ Rocky Reach at Section XI.3.d.2.; Rock Island at Section XI.3.d.2.

⁷¹ Rocky Reach at Section XI.3.d.2.; Rock Island at Section XI.3.d.2.

⁷² Rocky Reach at Section XI.7.; Rock Island at Section XI.7.

⁷³ Rocky Reach at Section XI.1.e.; Rock Island at Section XI.1.e.

The Agreements will remain in effect 50 years from the date the Agreements are executed by all Parties and regulatory approvals are received.⁷⁴

How do people get out of the Agreements?

Triggers

There are several ways the Agreements will terminate automatically. The first way is at the end of the fifty-year term of the Agreements, as seen in Section I. The second way is if the FERC issues the District a non-power license for the Project. The third option is in the event the FERC orders removal of the Project. The fourth reason is if FERC orders drawdown of the Project. If the District's FERC license is terminated or transferred to another entity than the District's obligations under these Agreements are terminated. The Parties agree, however, that the terms of these Agreements are binding on their respective successors and assigns.⁷⁵

A party may withdraw from the Agreements when fifteen years have elapsed from March 1, 1998 provided that NNI has not been achieved and maintained, or the Project has achieved and maintained NNI but the Plan Species are not rebuilding and the Project is a significant factor in the failure to rebuild.⁷⁶ The reason for this provision is that the Juvenile Passage Plan requires a cycle of implementing and testing measures to achieve 95% Juvenile Dam Passage Survival. As long as the District implements the measures required by the coordinating committee it is not in violation of the Agreements if 95% Juvenile Dam Passage Survival is not achieved. Since this process could go on throughout the term of the Agreements, an opportunity was provided to allow a Party to withdraw; hence the section is titled "Enough Already". Since the only restrictions on the measures the coordinating committee can recommend are drawdown, non-power operations, or dam removal, theoretically the only reason to withdraw would be to advocate for the implementation of one of these measures. But, a Party will hopefully feel that the Agreements provide the best process possible for managing salmon issues at the Projects, and not choose to withdraw from the Agreements.

This "Enough Already" provision applies to NMFS and USFWS differently than any other Party to the Agreements. NMFS or USFWS may not elect to withdraw unless they intend to explicitly seek drawdown, dam removal, or non-power operations. But, under these circumstances NMFS and the District may agree to allow NMFS to pursue

⁷⁴ Rocky Reach at Section I.; Rock Island at Section I.

⁷⁵ Rocky Reach at Section II.1.; Rock Island at Section II.1.

⁷⁶ Rocky Reach at Section II.2.a.i.; Rock Island at Section II.2.a.i.

drawdown, dam removal, or non-power operations and keep NMFS in the Agreements and keep NMFS from terminating the incidental take permit.⁷⁷

A Party to the Agreements, other than the District, may withdraw at any time based on non-compliance of the District to the provisions of the Agreements. The District cannot use its own failure to comply with the Agreements as a basis for withdrawal. However, out of fairness the District may withdraw from the Agreements if another Party to the Agreements is failing to comply with the Agreements.⁷⁸

A Party may withdraw from these Agreements if a regulatory entity takes action that is detrimental to the achievement of the obligations each Party is given by these Agreements, and the regulatory entity's actions materially alter or are contrary to the terms of these Agreements.⁷⁹ For example, if NMFS revokes the incidental take permit required to implement the Agreements, then a Party may withdraw from the Agreements.⁸⁰

In the event that all Parties agree in writing that the obligations imposed by these Agreements are impossible to achieve, then a Party may withdraw from the Agreements.⁸¹

Because a Party may withdraw from the Agreements, the Parties created a process to try to resolve their issue so that they would not withdraw. In the event a Party decides to withdraw from the Agreements, it shall provide all other Parties with notice, unless it is withdrawing due to non-compliance. After receipt of a notice to withdraw, the other Parties shall have 120 days from the date of the notice to provide notice of their intention to withdraw or the right to withdraw will be deemed waived. The notices are required to be in writing and either served in person or provided by U.S. Mail with a return receipt requested.⁸² The Party seeking to withdraw must make itself available for at least one policy meeting where other Parties may attempt to persuade the Party not to withdraw. The policy meeting will take place within the sixty days after notice is given or the right is waived.⁸³

In the event a Party does withdraw from the Agreements, there are no further restraints placed upon the withdrawing Party. Thereafter the withdrawing Party is not bound by the Agreements, and all rights and remedies of a non-Party are available to the

⁷⁷ Rocky Reach at Section II.2.a.ii.; Rock Island at Section II.2.a.ii.

⁷⁸ Rocky Reach at Section II.2.b.; Rock Island at Section II.2.b.

⁷⁹ Rocky Reach at Section II.2.c.; Rock Island at Section II.2.c.

⁸⁰ Rocky Reach at Section II.2.e.; Rock Island at Section II.2.e.

⁸¹ Rocky Reach at Section II.2.d.; Rock Island at Section II.2.d.

⁸² Rocky Reach at Section II.f.; Rock Island at Section II.f.

⁸³ Rocky Reach at Section II.3.; Rock Island at Section II.3.

withdrawing Party. The rights of a withdrawing Party is modified as set forth in Section II.5, Section IX.3.a and c, and Section X.5.⁸⁴

In the event the Agreements are terminated, voided, or determined to be unenforceable then the District shall continue to implement the last measures agreed upon until FERC orders them to behave differently. The Parties, however, are not restrained from advocating to FERC measures to replace the Agreements. The exceptions to this rule are set forth in Section VII.4.f, Sections IX.3.a and c, Section X.5 and Section X.6.⁸⁵

Specific Comments

1. Page S-15, 2-32, Alternative 3 (Applicants' Proposed Action – Project HCPs), 2nd paragraph. The text states that “the EIS required for implementing measures in the HCPs ...” An EIS may not be needed in order to implement measures in the HCPs. In most cases an environmental checklist or an environmental assessment will be sufficient.
2. Page S-15, 2-32, Alternative 3 (Applicants' Proposed Action – Project HCPs), 2nd paragraph. The text states that “implementing measures in the HCP would be undertaken by FERC with a separate Section 7 consultation with NMFS”. It is the District's understanding that the HCPs will be presented to FERC with a request that they be incorporated into the project licenses. FERC's action may not require a new Section 7 consultation with NMFS and USFWS.
3. Page S-18, 2-35, last sentence before the start of Section S.5.3.6 and Section 2.3.3.6. The sentence reads “...to achieve 95 percent juvenile dam passage survival and 91 percent project survival.” Replace the “and” between “juvenile dam passage” and “project survival rates” with an “or”. While the word “and” is used in the HCPs, its use was an error. An errata sheet will be prepared for the final HCP on this issue. The intent of the parties was to require the measurement of 95% juvenile dam passage survival starting in 2003 as a default. However, the parties desired to leave the coordinating committee the discretion to forgo measurement of 95% juvenile dam passage survival and just measure the juvenile component of 91% project survival in 2003. There is not an obligation to measure 91% project survival in 2003. The coordinating committee will measure 91% project survival when a protocol can be developed.
4. Page S-23, 2.3.3.11, Project Cumulative Effects. This text attempts to summarize Section V “Reservoir As Habitat” of the HCPs. However, the summary omits an

⁸⁴ Rocky Reach at Section II.4.; Rock Island at Section II.4.

⁸⁵ Rocky Reach at Section II.5.; Rock Island at Section II.5.

important concept. The District agrees to consider cumulative impacts as part of its land use decision making.

5. Page S-24, 2-41, "Term of the HCPs", first paragraph, first sentence. The text states that "the 50-year term of the HCPs would not begin until the incidental take permits are issued." While correct, this sentence is a bit misleading. The 50 year term of the HCPs starts when the "Agreement is executed by all Parties and regulatory approvals are received..." HCP, Section I "Term of Agreement". Issuance of the requested incidental take permit from NMFS is only one of the regulatory approvals that must be received in order for the HCPs to become effective.
6. Page S-24, 2-41, "Transition Period" mischaracterize the current HCP activities. The PUDs are not conditionally implementing the HCPs. The PUDs have volunteered to perform activities that are consistent with the HCPs as a sign of good faith. The District is also implementing measures because even though the HCP is not in effect the 2003 deadline is approaching.
7. Page S-24, 2-41, "Transition Period" mischaracterize the interim protection plans. In 1997, with the full support of the NMFS and the USFWS, the PUDs voluntarily filed interim protection plans with the Federal Energy Regulatory Commission. The interim protection plans identified various portions of the HCPs that the District, NMFS and USFWS felt were worthwhile to implement in advance of completing the HCP negotiations. Measures were picked to assist the migration of newly listed Upper Columbia River steelhead. The interim protection plans proposed only a two year plan because the HCPs were expected to be in place within two years. The interim protection plans were informally expanded to include Upper Columbia spring chinook upon their listing. The PUDs requested that FERC approve the measures contained in the interim protection plans. FERC initiated consultation with NMFS over this proposed action. The consultation has yet to be completed, and FERC has yet to take action on the plans. Due to the time taken to complete this consultations, the interim protection plans have expired. <
8. Page S-26, 2-43, "Compensation for Unavoidable Project Mortality", first two sentences. The meaning of the first two sentences is not clear. The District has not modified any portion of the incidental take permit applications that were filed with NMFS.
9. Page S-26, 2-43, "Hatchery Compensation Plan Issue" and Page 1-12 Section 1.5.2.6 "Federal Trust Responsibilities to Indian Tribes" overstates the issue in dispute. The HCP requires that 7 percent of the "unavoidable project mortality" associated with each project be mitigated through hatchery supplementation. HCP Section III.1. The HCP goes on to define the initial hatchery production commitment. HCP Sections

VIII.3. and 4. NMFS is in a position to evaluate the effects of the initial hatchery production commitment. However, hatchery production will vary over time depending upon the size of the runs. NMFS has been unwilling to opine that the hatchery program will always satisfy the Endangered Species Act. Since NMFS has been unwilling to define the hatchery levels that will satisfy the Endangered Species Act it is not possible to predict how the hatcheries will be utilized during the term of the HCPs. Hatchery production is a key incentive for the tribes' participation in and support of the HCPs as a comprehensive settlement. Without knowing how the hatcheries will be utilized during the term of the HCPs the tribes cannot effectively evaluate the benefits of the HCPs. As a result of this uncertainty the tribes are not supporting the HCPs.

10. Page S-29, 2-50, "Endangered Species Act Compliance." It is unknown whether the Project's current licenses comply with the Endangered Species Act since they were issued prior to the adoption of the Endangered Species Act. Also, assuming the Project licenses do not comply with the Endangered Species Act, under Alternative 1 the District could obtain incidental take permits addressing only listed species.
11. Page S-30, 2-51, "Future Provisions for Other Aquatic Species". The table should acknowledge for all three alternatives that the District could submit incidental take permits under Section 10 of the Endangered Species Act as a means of addressing the Endangered Species Act.
12. Page S-31, 2-52, "Dispute Resolution." The table incorrectly includes "binding arbitration" as a means for resolving disputes. The text on Page S.17 paragraph 2 does a better job of explaining the HCP's dispute resolution process; but, does omit two of the exceptions to utilizing dispute resolution. See discussion above under "The Agreements" for more thorough overview of the HCP's dispute resolution process.
13. Page S-33, 2-53, Section S.7.2.3 "Alternative 3", first full paragraph, second sentence. The text reads that in part "there is no requirement to provide the benefit of the doubt to the species of concern with respect to gaps in the information base and NMFS has no authority to determine what constitutes the best available information to be utilized in support of any decisions." This sentence infers that the HCP dispute resolution process may not comply with law. Such an inference is not correct. In the HCP, NMFS has expressly reserved its authority to monitor, modify, suspend, revoke and re-instate, and enforce its incidental take permit outside the HCP dispute resolution process. HCP Section X.3-5, and Section XI.1.b. Furthermore, the dispute resolution process will not produce a result that is binding upon NMFS unless NMFS agrees. HCP Section XI.5.c. The dispute resolution process is mediation with a twist. The twist is that the mediator will issue a decision that can be entered into evidence in a later proceeding. HCP Section XI. 5.c. The reason for the decision is to facilitate

settlement. No one knows what, if any, weight will be afforded the decision. Also, the parties' intent is that once the decision is rendered parties will not feel the need to proceed further. NMFS like any other agency has the authority to enter into dispute resolution processes. 5 USC Section 572(a), and 575(a)(1). Since a party may pursue any remedy available after exhausting dispute resolution it is in full compliance with the law. HCP Section XI. 3.c.

14. Page S-35, 1-31, Section S.8 "Decision to be Made", second to last paragraph, first sentence. The text states that "NMFS will prepare a biological opinion to determine if the implementation of the HCPs is likely to jeopardize the continued existence of listed species that are likely to occur in the Plan area. ..." The text goes on to discuss issues NMFS will analyze in the biological opinion, and explains actions NMFS may take based upon the results of the biological opinion. The process NMFS describes in the DEIS for evaluating the incidental take permit applications filed by the District are not consistent with Section 10 of the Endangered Species Act. Section 10(a)(2) of the Endangered Species Act defines the process NMFS must follow to evaluate an incidental take permit application. 16 U.S.C. Section 1539(a)(2). This process does not require NMFS to consult with itself under Section 7 of the Endangered Species Act. Section 10 defines the complete process NMFS must follow to evaluate an incidental take permit application.
15. Page S-35, 1-31, Section S.8 "Decision to be Made", second to last paragraph, first sentence. The text states that "if the NMFS' biological opinion finds that the proposed actions are not likely to jeopardize the continued existence of the listed species ..., the permits can be approved." While true, NMFS must also make the findings required by Section 10 of the Endangered Species Act in order to issue the requested incidental take permits.
16. Page S-41, 2-61, "Land Use, Project Area, Alternative 3". The text does not correctly reflect the HCPs. In the HCPs the PUDs will consider cumulative effects of land use decisions, provide the signatories to the HCPs with opportunity to provide comments on permitting decisions, and notify permit applicants that their proposed use or occupancy of may result in incidental take of listed species and require authorization of NMFS or USFWS. HCP Section V "Reservoir as Habitat".
17. Page S-42, 2-63, "Economics, Project Area."; also, Page 4-61 Section 4.7 "Socioeconomic". Why is there no analysis of how spill and the other measures in each alternatives reduce the generating capacity and energy generated from the projects? This is a very significant effect of all the alternatives given the energy emergencies facing the Western United States, the Northwest, and Chelan County. Reduced generating capacity and reduced energy output have a direct effect on the ability of the projects to meet peak load demands for the District's own loads, and to

prevent or minimize energy emergencies in the Northwest and Western United States. The failure of the projects to meet peak load demands for the District's own loads exposes the District's loads to the extreme costs of energy in the Northwest and the West, and also to the risk that energy will not be available at any price. These issues vary dramatically between the three alternatives reviewed in the DEIS.

18. Page 1-1, Key Terms, "No Surprises Policy". The District understands that the term "no surprises policy" refers to the rules set forth in 50 CFR Section 222.303(g).
19. Page 1-4, Section 1.5, "Regulatory Framework", third sentence. What does "other Federal laws and regulations" mean?
20. Page 1-9, continuation of Section 1.5.2.4, "FERC Regulatory Requirements", 3rd full paragraph, second sentence. Text reads "These measures will supercede any settlement agreements pertaining to Plan." Insert "Species" after "Plan."
21. Page 1-10, Northwest Power Act, 1st paragraph, second sentence. The text reads "The Mid-Columbia utilities are subject to the Act". The term "Mid-Columbia utilities" is not defined in the DEIS. This DEIS relates to the projects operated by Chelan and Douglas PUDs. Also, Chelan and Douglas PUDs are not subject to the Northwest Power Act. FERC considers the plans developed pursuant to the Northwest Power Act when licensing the projects.
22. Page 1-11, "Title 77 Revised Code of Washington", First sentence. The sentence addresses "wildlife". This reference is not correct for the purposes of the proposed agreements being reviewed in the DEIS. Relevant for these purposes is the State's responsibility to "preserve, protect, and perpetuate wildlife, fish, and wildlife and fish habitat." RCW 77.04.055(1).
23. Page 1-13, Section 1.6.1 "Alternative 1 (No Action)", 2nd paragraph, 2nd sentence. The text states "...the years to address engineering, bond, and resource related issues...". The inclusion of the term "bond" is not correct in this sentence. The project licenses have not been amended to address the issuing of bonds.
24. Page 1-16, 3rd paragraph, last sentence. Text reads "This allows the HCPs to be updated with information received during the comment period...". This sentence incorrectly explains the NEPA process. Comments received by NMFS on the DEIS will be considered by NMFS when preparing the FEIS. The HCPs are multiparty, negotiated settlement agreements. The fact that NMFS receives a comment on the DEIS does not mean that the HCPs will be modified.

25. Page 1-17, Section 1.7 “Background”, 4th paragraph. The region faces economic hardship in 2001 as power shortfalls hit the region. The current January-through-July runoff forecast has the region’s water supply at 55 percent of normal, assuming normal precipitation for the March-through-July period. If this year’s water conditions match 1977’s, the lowest on record, the council predicted 2001 shortfalls could approach 8000 MW-months, with the deficit in May reaching 3300 MW-months. If the conditions match 1944 conditions, a year with just slightly higher runoff than the current projection, the total energy deficit across the months of April through August is 5,600 MW-months, with the deficit in May reaching 2,700 MW-months. (The Northwest Power Planning Council, “Northwest Electricity Markets in 2001: Status and Proposed Actions”, March 26, 2001). The report states “it is a virtual certainty that emergency operations will be necessary during spring and summer to keep the electricity system from suffering outages.” (NWPPC, 2001)
26. Page 1-18, continuation of Section 1.7 “Background”, 1st full paragraph, 1st sentence. Also, Page 6.5, definition of “Mid-Columbia River.” On Page 1-18, the text defines the Mid-Columbia River as “the area of the river between the Chief Joseph project and the confluence of the Yakima River.” On Page 6.5, the text defines the Mid-Columbia River as “portion of the Columbia River that begins at its confluence with the Snake River up to the Chief Joseph dam.” These two definitions are not consistent. The term “Mid-Columbia River” is not used in the HCPs. However, the HCP’s Tributary Plan’s, Plan Species Account can be spent only on projects “within the Columbia River watershed (from the Chief Joseph tailrace to the Rock Island tailrace), and the Okanogan, Methow, Entiat and Wenatchee River watersheds...”. HCP Section VII.2.
27. Page 1-14, Section 1.7.2.2 “National Marine Fisheries Service”, 1st paragraph, 1st sentence. The text reads “Many of NMFS’ past studies, listings, and rules are directly relevant to the Mid-Columbia hydroelectric projects. ...”. The term “directly” is not accurate. The documents discussed in this paragraph are “indirectly” relevant to Chelan and Douglas PUD’s hydroelectric projects. They are not “directly” relevant to Chelan and Douglas PUD’s hydroelectric projects because they do not relate to these projects. They relate to the Federal hydroelectric projects on the Columbia River.
28. Page 1-29, Section 1.7.3.1 “Mid-Columbia PUD FERC Agreements”, 3rd sentence. This sentence refers to the Rock Island Settlement Agreement. The tribes listed in the text are not the only signatories to this agreement. The parties to the Wells Settlement Agreement, while similar to those of the Rock Island Settlement Agreement, are not the same.
29. Page 1-29, Section 1.7.3.2 “Major Bond and Sales Agreements for the Projects”. This text is grossly incorrect. As of March 14, 2001, the District’s total estimated bonds

outstanding is \$886,076,000.⁸⁶ This indebtedness is secured by the revenue generated by the District's consolidated hydro system.

30. Page 1-33, continuation of Section 1.10 "Background Summary", 1st full paragraph, 2nd to last and last sentences. The text reads "Under the agreement, the utilities would have the ultimate authority in the decision making process, as long as the no net impact standards are being met. If all parties agree that the standards have not been achieved, the coordinating committees would have an increased role in the decision making process" These sentences do not correctly summarize the HCPs. For example: the District has the "ultimate decision on pursuit and implementation of Tools during Phase I" of the Juvenile Dam Passage Survival Plan. HCP Section IV.2.a.i. In Phase II of the Juvenile Dam Passage Survival Plan the coordinating committee has the decision making authority. HCP Section IV.a.6 – 8. In Phase III of the Juvenile Dam Passage Survival Plan the coordinating committee has the decision making authority related to continued measurement and evaluation. HCP Section VI.a.11. In the Adult Passage Plan, the agreement lays out the actions to be taken. HCP Section VI.b. With regard to the Hatchery Compensation Plan and the Tributary Compensation Plan the "JFP accepts the responsibility to develop plans and programs necessary to implement the Tributary Conservation Plan and the Hatchery Compensation Plan. HCP Section III.4.
31. Page 2-2, Section 2.1 "Development of Alternatives". Throughout the development of the DEIS the District has and still expresses concern about the choice of alternatives in the DEIS. The DEIS has not chosen as alternatives measures or mixes of measures that seek to mitigate the effects of the projects on salmon and steelhead. NMFS chose as alternatives competing legal process for establishing the measures to mitigate the effects of the projects on salmon and steelhead. This is a very unusual, and questionable method for evaluating the environmental effects of the proposed HCPs. The DEIS should be amended to provide more traditional alternatives. Alternatively, the rational and legal authority for this decision is not clearly explained in the DEIS, and should be incorporated into the FEIS.
32. Page 2-2, Section 2.1 "Development of Alternatives", 5th paragraph, 4th sentence. Text reads "to be in compliance with the take prohibitions of Section 9, FERC would implement the measures ..." FERC would be in compliance with Section 9 of the ESA by implementing the provisions contained in NMFS biological opinion and incidental take statement. However, FERC is not obligated to do so. FERC may take other action as long as it is not likely to jeopardize the continued existence of any

⁸⁶ Official Statement, Public Utility District No. 1 of Chelan County, Washington \$143,995,000 Chelan Hydro Consolidated System Revenue Bonds consisting of \$65,620,000 Series 2001A and \$78,375,000 Series 2001B, page iv (March 1, 2001)

endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is ... critical...". 16 U.S.C. Section 1536(a)(2); Aluminum Company v. BPA, 175 F.3d 1156, 4394-4395 (9th Cir. 5/10/99).

33. Page 2-7 Section 2.2.1.2 "Rocky Reach Dam", first paragraph, last three sentences. The text describing the rehabilitation work at Rocky Reach is outdated. The following edits are recommended so that the text is current:

"...Units 1 through 7 are currently vertical shaft Kaplan turbines installed during the original construction in 1962, while fixed-blade propeller units were installed in Units 8 through 11 in 1971. One Two of these fixed-blade propeller units has have been rehabilitated and replaced with a Kaplan turbines unit. A third unit is currently undergoing rehabilitation and the other three remaining units are scheduled to be replaced-rehabilitated by June 20032002. In addition, all but one of the original Kaplan units have been rehabilitated and replaced with more efficient Kaplan turbines, which. This turbine work is are expected to increase juvenile fish passage survival."

34. Page 2-11, Table 2-4, and all text that incorporates or explains information conveyed in the table which includes but is not limited to the text in Section 3.2.6.4 and Table 3-3. The juvenile dam passage information included in the table does not take into account project specific information, and when project specific information is reviewed it is dismissed in favor of information developed from other hydroelectric projects without explanation. Set forth in Attachment A is the most project-specific survival information available for both the Rocky Reach and Rock Island Projects. This information is primarily based on information collected at these Projects through the various studies identified in the references. Copies of the studies are available upon request.

35. Page 2-12, 1st paragraph, last sentence. The text reads "the information also indicates that survival is higher through the spillway and bypass system than through the turbine units." What is the citation for this statement? The statement does not logically flow from the materials cited in the paragraph.

36. Page 2-14, Rocky Reach Dam, 3rd sentence. The text reads "Passage efficiency tests ... and 52 percent of the PIT-tagged steelhead...". "PIT-tagged" is not correct. These were "radio tagged" steelhead.

37. Page 2-14, Rocky Reach Dam, 5th sentence. The text reads "In 1999, guidance ... 32 percent of the chinook and 53 percent of the steelhead passed ...". In both cases, these were radio tagged fish.

38. Page 2-15, Rocky Reach Dam, 2nd paragraph, 1st sentence. Text reads “Studies at the dam have shown that between 8 and 18 percent ...” This text is not consistent with the text on page 4-18 which uses 19 percent and not 18 percent. Nineteen percent is the correct number.
39. Page 2-16, Rock Island Dam, 3rd paragraph, 3rd sentence. The text reads “the spill passage rates for other species were estimated at 20, 33, and 35 percent for sockeye, fall chinook and coho salmon in 1998.” What is the citation for this information?
40. Page 2-16, Rock Island Dam, 4th paragraph, 1st sentence. The text reads “A subsequent study indicated that survival rates through modified bay with deeper stilling basins may be near 100 percent” What is the citation for this information?
41. Page 2-16, Section 2.2.3.2 “Adult Passage”, 1st paragraph, 5th sentence. The text reads “The delay and stress that adults experience during passage through multiple dams may reduce their spawning success.” Please explain the scientific bases for this information, and provide a citation for the studies relied upon to make this statement.
42. Page 2-17, continuation of Section 2.2.3.2 “Adult Passage”, 3rd paragraph, 1st sentence. The text reads “Survival rates of adult salmon and steelhead passing through the Mid-Columbia River have not been estimated due to insufficient radio-telemetry data.” This is not correct. Currently, technology does not exist to measure adult survival. Therefore a technology limitation, not an insufficiency of radio-telemetry data, is the reason for no survival information.
43. Page 2-17, Section 2.2.3.3 “Adult Reservoir Passage”, 1st paragraph, 4th sentence. The text reads “However, the reservoirs can increase the potential for wandering or straying (lost orientation), that could lead to higher pre-spawning mortality or reduced spawning success (Volkman 1995).” This conclusions are not contained in Volkman 1995 and cannot be inferred from the radio telemetry data contained in Volkman 1995. No evidence exists to support these statements.
44. Page 2-27, Section 2.2.3.3 “Adult Reservoir Passage”, 1st paragraph, 5th sentence. The text reads “Higher water temperatures as a result of project reservoirs may also lead to higher prespawning mortality.” What is the citation for this information?
45. Page 2-27, continuation of Section 2.3.2 “Alternative 2 (Section 7 Consultation)”, 6th paragraph, 2nd sentence. The text reads “Evaluations conducted as part of the Quantitative Analytical Report (QAR) (NMFS 2000b) ...” The QAR is also discussed in detail in Section 4.2.1 “Quantitative Analytical Report”. The QAR has not yet produced a final, peer reviewed document. Furthermore, the document cited at NMFS 2000b is a draft internal NMFS document. NMFS has yet to produce a copy of this

document after numerous requests. The District objects to NMFS citing QAR results anywhere in this document or in any other document (yet alone devoting 10 pages to it in Section 4.2.1, pages 4-6 through 4-16) until the QAR results are made public, finalized and peer reviewed. This comment relates to all references to the QAR in the DEIS. Without a copy of the QAR the District has no way to comment on portions of the DEIS related to the QAR. The District reserves the right to submit comments on the QAR until it receives a copy of the QAR and has had sufficient opportunity to review the QAR. Nevertheless, based upon the information provided in the DEIS and the District's limited knowledge of the QAR, the District objects strongly to NMFS' use of the QAR results. Most of the conclusions relied upon the DEIS are drawn from the portion of the database that dates back to only 1980 (p. 4-7) while the entire database dates back to the 1960s. This misrepresents the long term database. Conclusions based upon long term database shows dramatically different outcomes when compared to the conclusions based upon the short term database. While NMFS acknowledges the existence of data going back to the 1960s, it is dismissed as potentially too "optimistic" without a thorough explanation. (p. 5-11) The best scientific information available is the entire database which takes into consideration ocean cycles that were known to be more productive than the ocean conditions in the 1980's and 1990's. During the 50 year term of the proposed HCPs ocean conditions are likely to cycle back to more productive periods similar to the 1960s. This rationale is supported by the current 2000 and 2001 improvement in runs that is attributed to greatly improved ocean conditions.

46. Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 1st full paragraph. This paragraph was re-written from its mirror paragraph on page S-18. The text on page S-18 provides a clearer explanation.
47. Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 2nd full paragraph, 2nd sentence. The text cites to the 1995 Federal Columbia River Power System biological opinion for the lower Snake and Columbia River projects (NMFS 1995). NMFS 1995 biological opinion has been superceded by its 2000 biological opinion. In 2000, USFWS also issued a biological opinion for bull trout. Therefore, this text should be updated to refer to the current biological opinions.
48. Page 2-35, continuation of Section 2.3.3.5 "HCP Performance Standards" 6th full paragraph, last sentence. The text reads "...to achieve 95 percent juvenile dam passage survival and 91 percent project survival." As explained in earlier comments, the coordinating committee will measure only 95% Juvenile Dam Passage survival. However, the coordinating committee may elect to measure the juvenile component of 91% Project Survival. If the results of the standard that was measured was not achieved, then the coordinating committee would identify the tool for the District to

implement by the next migration. It may be necessary to revise the HCP text to clarify this process.

49. Page 2-49 Section 2.6.1 "Alternative 1 (No-Action)". The text under this heading is introductory to all the alternatives, not specific to Alternative 1. See page S-28.
50. Page 3-27, Section 3.2.2.2 "Abundance". This section should be updated with 2000 fish counts and with projected fish counts for 2001. Fish counts showed a dramatic increase in 2000 and are projected to be even better in 2001. This information is very significant. Without this information the text is misleading.
51. Page 3-37, Rocky Reach, 3rd paragraph 2nd sentence. The text reads "the cumulative delay at nine dams on the Columbia River likely decreases spawning success." What is the citation for this information?
52. Page 3-39, Rocky Reach, 3rd paragraph, 1st sentence. The text reads "Based on juvenile radio-telemetry evaluations conducted in 1998, approximately 49 percent of the radio-tagged steelhead and 61% of the radio-tagged spring-run chinook salmon passed the project via the powerhouse (English et al. 1999)." This data is not correct. The correct citation should be English et al. 1998, not English et al. 1999. Also, 49 percent should be 34 percent, and 61% should be 51%.
53. Page 3-39, Rocky Reach, footnote 2. Footnote 2 reads "Radio-tagged fall chinook obtained from the East Bank Hatchery ... in 1997 and 1998 (e.g., approximately 81% powerhouse passage in ... via the powerhouse at significantly higher rates than the ..." The reference to 1997 is not correct and should be deleted. English et al. 1998 related to 1998 and 1997. Also, the use of the term "significantly" is not correct in this sentence. The term "significantly" has a meaning in statistics. The term infers that statistics were used to test a hypothesis. The statement made in the sentence is not the result of a statistical test. Therefore, use of the term "significantly" infers a level of credibility to the sentence that is not correct.
54. Page 3-40 continuation of Rocky Reach Dam, 1st paragraph, 1st sentence. The text reads "Lady et al. (2000) ... and English et al. (1999) estimated that 58 and 40 percent of the radio-tagged..." The estimates of 58 and 40 are not correct. They should be 50 and 30.
55. Page 3-40, continuation of Rocky Reach Dam, 2nd paragraph, last sentence. The text reads "Although neither evaluation was able to ... the pilot level survival evaluation conducted using radio-tagged steelhead in 1999 estimated direct and indirect survival at 89.7 percent (Lady et al. 2000), suggesting that the indirect effects associated with turbine passage are more significant than those seen at the bypass system or

spillway.” The radio tag study cited in this sentence indicates a lower than desired direct and indirect survival at the project. NMFS should clearly explain why it is appropriate to use the results of a radio-tag study in this instance when the study shows low levels of survival, and not use the results of radio tag studies in other instances when the results of radio tag studies show high levels of survival. The District continues to object to NMFS’s inconsistent use of study results, and failure to acknowledge the results of studies that show survival levels favorable to the District.

56. Page 3-43 Rocky Reach, 1st paragraph 2nd sentence. The text reads: “Passage efficiency tests conducted ... yearling chinook salmon and 51 percent of the PIT-tagged steelhead passed the project via this route (English et al. 1998a).” This sentence is not correct. 51 percent should be 52 percent, and PIT-tagged should be radio tagged.
57. Page 3-43 Rocky Reach, 1st paragraph 4th sentence. The text reads: “Passage efficiencies in 1999 ... 32 percent for chinook salmon, and 11 percent for sockeye salmon (Mosey et al. 2000).” This sentence is not correct. 11 percent should be 16 percent.
58. Page 3-43 Rocky Reach, 1st paragraph 5th sentence. The text reads “Radio telemetry evaluations in 1999 also indicated that about 57 percent of steelhead passed the project through the bypass.” What is the citation for this information? The District is not aware of any study that produced this information.
59. Page 3-43 Rocky Reach, 1st paragraph, last sentence. The text reads “The combined spillway and bypass ... and between 62 and 64 percent for steelhead (Lady et al. 2000).” This information is not correct. 62 should be 72, and 64 should be 74.
60. Page 3-43 Rocky Reach, 2nd paragraph, 1st sentence. The text reads “In both 1997 and 1998...”. This is not correct. The evaluation was done only in 1998. The evaluation was not done in 1997.
61. Page 3-43 Rocky Reach, 2nd paragraph, 2nd sentence. The text reads “In 1998, the bypass efficiency for naïve chinook salmon was substantially lower (19 percent) ... (English et al. 1998a).” This is not correct. 19 percent should be 22 percent.
62. Page 3-43, Rocky Reach, 5th paragraph, 3rd sentence. The text reads “The temporary bypass outfall site, located in front of the turbine unit four upwelling, ...” This is not correct. Unit four upwelling should be replaced with unit three upwelling.
63. Page 3-44, Section 3.2.6.4 “Total Project Survival – Juvenile Migrants”. The discussion of project survival is not correct. The obligation is that “The District shall

also achieve and maintain 91% Project Survival ... which means that 91% of each Plan Species, juvenile and adult combined, survive Project effects, including delayed mortality wherever it may occur.” HCP Section IV.1.a. The first sentence in this section of the DEIS fails to account for the fact that project survival includes “delayed mortality wherever it may occur.” Also, the HCP does not define a protocol for measuring project survival as inferred from the DEIS. The HCP leaves it to the Coordinating Committee to establish the measurement protocols. HCP Section IV.3.c.

64. Page 3-47 Section 3.2.7 “Overall Fish Passage Survival”. 1st paragraph, 3rd sentence. The text reads “Based on the small amount of information that is available, the average survival of adult spring-run chinook salmon and steelhead is estimated at between 77.8 percent and 88.9 percent for the entire Mid-Columbia River reach...”. What is the cite for this information? The District is not aware of any methodology to measure adult survival.
65. Page 3-96, continuation of Section 3.3.2 “Water Quality”, 1st full paragraph, 1st sentence. The text reads “Although extensive evaluations have been conducted under controlled or laboratory conditions, the effects of specific total dissolved gas levels on fish in a river environment is relatively unknown.” This statement is not correct. The effects of total dissolved gas on fish has been extensively studied in the Mid-Columbia at as part of the 2000 Federal Columbia River Hydro-System biological opinions.
66. Page 3-109, Section 3.4.4 “Rare Plants”. The text states that Ute ladies’ tresses (*Spiranthes diluvialis*) do not occur in or near the immediate project area of the dams. This is not correct. Recently, a Ute ladies’-tresses was determined to be present in the Rocky Reach reservoir shoreline area. This hydrophilic orchid would be affected by drawdown or other actions that would remove its water source. P. Fielder, pers. comm.
67. Page 4-18, continuation of Section 4.2.2.1 “Rocky Reach Dam”, 2nd paragraph, 2nd sentence. The text reads “Survival estimates for steelhead ranged from 87.0 percent to 111.9 percent ...” This is not correct. 111.9 percent should be 101.0 percent.
68. Page 4-18, continuation of Section 4.2.2.1 “Rocky Reach Dam”, 3rd paragraph, 2nd sentence. The text reads “Under Alternative 1 however, there is no requirement to implement these additional measures.” This is not correct. Under alternative 1 fish protection and enhancement measures can be implemented through the pending Mid-Columbia proceeding at FERC, and during relicensing.
69. Page 4-18, continuation of Section 4.2.2.1 “Rock Island Dam”, 2nd paragraph, 2nd sentence. The text reads “Between 1995 and 1998, over 26,000 predatory ...” This

should be updated by replacing 1998 with 2000, and 26,000 with 34,000. West, T. 2001. Northern Pikeminnow (*Ptychocheilus oregonensis*) Population Reduction Program Rocky Reach and Rock Island Dams.

70. Page 4-20 continuation of "Adult Migration/Survival", 2nd full paragraph, 2nd sentence. The text reads "It is reasonable to assume that some portion of the adult bull trout populations pass through the turbines and spillways, either voluntarily or involuntarily, given their presence in the project area and use of project fishways." What is the citation for this information? Why is it reasonable to assume a correlation between presence of bull trout in the fishway and bull trout passing through turbines and spillways? The District is aware of no evidence supporting this statement.
71. Page 4-26, "Rocky Reach Dam", 2nd sentence. The text reads "As with the fishways at the Wells Dam, there is evidence to suggest that sockeye and summer-run chinook salmon experience passage delays in the fishway entrance pools of the Rocky Reach fishway." What is the citation for this information? The District is not aware of this information.
72. Page 4-27, Section 4.2.2.3 "Pacific Lamprey", 3rd sentence. The text reads "The only screens that are currently in operation at the Mid-Columbia River dams are at turbine units one through three at the Rocky Reach Dam." This is not correct. Screens are used only at turbine units one and two at the Rocky Reach Dam.
73. Page 4-27, Section 4.2.2.3 "Pacific Lamprey", 4th sentence. Delete the phrase "although additional screens are currently not planned for future installation."
74. Page 4-31, "Adult Migration/Survival", 2nd paragraph last sentence. The text reads "Although the radio-telemetry technique is problematic for addressing adult passage survival, the study results are the best available data for determining potential project related affects." This sentence is not correct. Radio-telemetry is not a technique for addressing adult passage survival. It is a technique for addressing locations of adult fish. Currently, no protocol exists to measure adult survival. There is no data available to evaluate adult survival.
75. Page 4-31, "Adult Migration/Survival", 4th paragraph, 2nd sentence. The text reads "Based on their presence at the project and their migratory behaviors, it is likely that some portion of the population passes through the turbines and spillways, either voluntarily or involuntarily." What is the citation for this information? Why is it reasonable to assume a correlation between presence of bull trout in the fishway and bull trout passing through turbines and spillways? The District is aware of no evidence supporting this statement.

76. Page 4-34, "Rock Island Dam", 1st paragraph, 1st sentence. Delete "chiwawa hatchery". Rock Island's hatchery is referred to as the Eastbank Hatchery Complex.
77. Page 4-40 "Rocky Reach Dam", 2nd paragraph, 3rd sentence, and Page 4-41 "Rock Island", 2nd paragraph 3rd sentence. The text reads "For Alternative 3, the PUD would have the ultimate authority for determining the appropriate protection measures implemented in Phase I, while the Coordinating Committee would have a greater role during Phase II." As explained above in relation to other sections, the Coordinating Committee is the decision maker in Phase II. NMFS has retained the authority to enforce the incidental take permit outside the HCPs.
78. Page 4-59, Section 4.6.3.1 "Project Area". This text is not correct. Section V of the HCP titled "Reservoir as Habitat" clarifies the manner in which land use and permitting decisions on project lands occurs.
79. Page 4-72, Section 4.10.7 "Indian Trust Assets", 3rd paragraph, 5th sentence. The text reads "This would then affect whether the 9 percent no net impact would continue over the 50 year HCP terms." Reduction in use of the hatchery facilities means that the hatcheries would not produce fish to compensate for the full 7 percent of Unavoidable Project Mortality. HCP Section III.1. Nevertheless, No Net Impact can still be achieved as long as the PUDs provide the funding and capacity for the hatcheries. HCP Sections III.3. and 4.
80. Page 4-74, Section 4.10.14.1 "Wild and Scenic River Act". This section needs to be updated. On June 9, 2000, the Hanford Reach was declared a National Monument. 65 *Federal Register* 37253 (June 13, 2000).
81. Page 5-6, Chelan County PUD 2000 reference. The District objects to reference to comments provided to the "Pre-Decisional Review Draft, Biological Opinion, Interim Protection Plans for Operation of the Mid-Columbia River Hydroelectric Projects and Related Activities." These comments were provided to assist in editing a confidential, pre-decisional review document.
82. Page 6-1 "Glossary". It is the District's understanding that the glossary contained in the DEIS is not in any way intended to modify terms that are defined in the Endangered Species Act, NMFS' regulations, or the HCPs. The District has not reviewed the glossary, and reserves the right to latter object to the manner in which terms are defined in this DEIS.
83. Page 7-2, Section 7.3. Add the following local agencies: East Wenatchee Chamber of Commerce, Mayor of the City of Wenatchee, Chelan County Commissioners, and the Douglas County Commissioners.

84. Page 7-2, Section 7.4. Replace "Confederated Tribes of the Colville Reservation" with "Confederated Tribes and Bands of the Colville Indian Reservation." In the Umatilla name add "Indian" between "Umatilla" and "Reservation." Replace "Yakama Indian Nation" with "Confederated Tribes and Bands of the Yakama Indian Nation."

Conclusion

The District appreciates the opportunity to comment on the Draft Environmental Impact Statement for the incidental take permit applications proposed for the District's Rocky Reach and Rock Island Projects. The District encourages NMFS to expedite its processing of the incidental take permit applications, and authorize the issuance of the requested permits

Sincerely,



Malcolm C. McLellan
Attorney for
Public Utility District No. 1 of Chelan County

Attachments

cc: NEPA Coordinator
U.S. Department of Commerce
Room 6117, Herbert C. Hoover Building
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Dick Nason, CPUD
Jim Vasile, CPUD
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Doug Ancona, GPUD
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Tim Welch, FERC
Keith Brooks, FERC
Jim Hastreiter, FERC

ATTACHMENT A

SURVIVAL ESTIMATES

FOR THE

ROCK ISLAND HYDROELECTRIC PROJECT

AND THE

ROCKY REACH HYDROELECTRIC PROJECT

Rock Island
Estimate of Juvenile Dam Passage Survival

FORMULA: The formula to estimate Juvenile Dam Passage Survival equals the route specific survival rate multiplied by the route specific passage rate for each passage route past the project.

Calculation of Juvenile Dam Passage Survival

Species	Powerhouse #1		Powerhouse 2		Spill		JDPS
	Survival Rate Of Turbines ¹	% of Fish using Turbines	Survival Rate Of turbines ¹	% of Fish using turbines	Survival Rate Of Spill	% of Fish using Spill	
Steelhead	.927	.051 (2 yr avg)	.942	.655 (2 yr avg)	.99	.295 (2 yr avg)	.956
Yearling Chinook ²	.927	.087	.942	.671	.99	.242	.952
Sub-yearling Chinook ³	.927	.091 (2 yr avg)	.942	.482 (2 yr avg)	.99	.437 (2 yr avg)	.971
Sockeye	.927	.134 (2 yr avg)	.942	.599 (2 yr avg)	.99	.269 (2 yr avg)	.955

Authority for Data

Species	Powerhouse 1		Powerhouse 2		Spill		JDPS
	Survival Rate Of turbines	% of Fish using turbines	Survival Rate Of turbines	% of Fish using turbines	Survival Rate Of Spill	% of Fish using Spill	
Steelhead	Tab 1	Tab 2	Tab 3	Tab 4	Tab 5	Tab 6	Tab 7
Yearling Chinook ²	See Tab 1	Tab 8	See Tab 3	Tab 9	See Tab 5	Tab 10	Tab 11
Sub-yearling Chinook ³	See Tab 1	Tab 12	See Tab 3	Tab 13	See Tab 5	Tab 14	Tab 15
Sockeye	See Tab 1	Tab 16	See Tab 3	Tab 17	See Tab 5	Tab 18	Tab 19

Turbine survival adjusted to include 2% indirect mortality and is based upon Muir et al as cited in the Biological Assessment submitted by FERC to NMFS as part of Sec. 7 consultation

² Yearling chinook means wild and hatchery spring chinook, and hatchery summer/fall chinook

³ Sub-yearling means wild and hatchery summer/fall chinook

Index of Authorities

Tab	Reference
Tab 1	.946*.98=.927. .946 is based upon the average of PH 1 estimates from Turbine passage survival of chinook salmon smolts (Normandeau and Skalski, 1997). .98 is based upon Muir et al as cited in the Biological Assessment submitted by FERC to NMFS as part of Sec. 7 consultation
Tab 2	A pilot study to estimate route specific survival and passage probabilities of Steelhead smolts at RR and RI, 1999. (Lady et al. 2000)
Tab 3	A study to estimate route specific survival and passage probabilities of Chinook and Steelhead at RR and RI. (Skalski et al in prep)
Tab 4	.961*.98=.942 .961 is based upon the estimate of turbine passage survival of chinook salmon smolts at RI PH 2 (Normandeau and Skalski, 1997). .98 is based upon Muir et al as cited in the Biological Assessment submitted by FERC to NMFS as part of Sec. 7 consultation
Tab 5	A pilot study to estimate route specific survival and passage probabilities of Steelhead smolts at RR and RI, 1999. (Lady et al. 2000)
Tab 6	A study to estimate route specific survival and passage probabilities of Chinook and Steelhead at RR and RI. (Skalski et al in prep).
Tab 7	Calculation based on information from Tab 1 through Tab 6 ((.927*.051)+(.942*.655)+(.990*.295))=.956
Tab 8	A study to estimate route specific survival and passage probabilities of Chinook and Steelhead at RR and RI. (Skalski et al in prep.)
Tab 9	A study to estimate route specific survival and passage probabilities of Chinook and Steelhead at RR and RI. (Skalski et al in prep.)
Tab 10	A study to estimate route specific survival and passage probabilities of Chinook and Steelhead at RR and RI. (Skalski et al in prep.)
Tab 11	Calculation based on information from Tab 8 through Tab 13 ((.927*.087)+(.942*.671)+(.990*.242))=.952
Tab 12	Hydroacoustic evaluation of notched surface flow spill gates and overall fish passage at RI, 1997. (Iverson and Keister, 1997)
Tab 13	Hydroacoustic evaluation of spill effectiveness at Rock Island Dam spring and summer, 1998. (Iverson and Birmingham, 1998)
Tab 14	Hydroacoustic evaluation of notched surface flow spill gates and overall fish passage at RI, 1997. (Iverson and Keister, 1997)
Tab 15	Hydroacoustic evaluation of spill effectiveness at Rock Island Dam spring and summer, 1998. (Iverson and Birmingham, 1998)
Tab 16	Calculation based on information from Tab 12 through Tab 14. ((.927*.091)+(.942*.482)+(.990*.437))=.971
Tab 17	Hydroacoustic evaluation of notched surface flow spill gates and overall fish passage at RI, 1997. (Iverson and Keister, 1997)
Tab 18	Hydroacoustic evaluation of spill effectiveness at Rock Island Dam spring and summer, 1998. (Iverson and Birmingham, 1998)
Tab 19	Calculation based on information from Tab 16 through Tab 18. ((.927*.134)+(.942*.599)+(.990*.269))=.955

Literature Cited

- Iverson, T. K., and J. E. Keister, 1997. Hydroacoustic evaluation of notched surface flow spill gates and overall fish passage at Rock Island Dam in 1997. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.
- Iverson, T. K., and A. G. Birmingham, 1998. Hydroacoustic evaluation of spill effectiveness at Rock Island Dam during spring and summer, 1998. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.
- J. Lady, J. R. Stevenson, J. R. Skalski, and A. E. Giorgi. 2000. A pilot study to estimate route-specific survival and passage probabilities of steelhead smolts at Rocky Reach and Rock Island Dams, 1999. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.
- Skalski, J. R., A. E. Giorgi, J. Lady, J. R. Stevenson, R. Townsend, K. K. English. In prep. A study to estimate route-specific survival and passage probabilities of chinook salmon and steelhead smolts at Rock Island Dam, 2000. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.
- Muir, W. D., S. G. Smith, R. N. Iwamoto, D. J. Kamikawa, K. W. McIntyre, E. E. Hockersmith, B. P. Sanford, P. A. Ocker, T. E. Ruehle, J. W. Williams and J.R. Skalski. 1995. Survival estimates for the passage of juvenile salmonids through Snake River dams and reservoirs, 1994. Annual report to Bonneville Power Administration, Portland, Oregon and U. S. Army Corps of Engineers, Walla Walla, Washington. 187 pp.
- Normandeau Associates, Inc., and J. R. Skalski. 1998. Turbine Passage survival of chinook salmon smolts at the Rock Island Dam Powerhouse I and II, Columbia River, Washington. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.
- Normandeau Associates, Inc., and J. R. Skalski. In prep. 1999 spillway passage survival investigation of juvenile chinook salmon at Rock Island Dam, Washington. Report to Public Utility District No. 1 of Chelan County, Wenatchee, Washington.

Rocky Reach **Estimate of Juvenile Dam Passage Survival**

FORMULA: The formula to estimate Juvenile Dam Passage Survival equals the route specific survival rate multiplied by the route specific passage rate for each passage route past the project.

Calculation of Juvenile Dam Passage Survival

Species	Bypass		Turbine		Spill		JDPS
	Survival Rate Of Bypass	% of Fish using Bypass	Survival Rate Of turbines ⁴	% of Fish using turbines	Survival Rate Of Spill	% of Fish using Spill	
Steelhead	0.980	0.523 (3 yr avg)	0.931	0.357 (3 yr avg)	0.990	0.120 (3 yr avg)	0.964
Yearling Chinook ⁵	0.980	0.310 (3 yr avg)	0.931	0.550 (3 yr avg)	0.990	0.140 (3 yr avg)	0.954
Sub-yearling Chinook ⁶	0.980	0.240 (2 yr avg)	0.931	0.625 (2 yr avg)	0.990	0.135 (2 yr avg)	0.951
Sockeye	0.980	0.090 (3 yr avg)	0.931	0.697 (3 yr avg)	0.990	0.213 (3 yr avg)	0.948

Authority for Data

Species	Bypass		Turbine		Spill		JDPS
	Survival Rate Of Bypass	% of Fish using Bypass	Survival Rate Of turbines	% of Fish using turbines	Survival Rate Of Spill	% of Fish using Spill	
Steelhead	Tab 1	Tab 2	Tab 3	See Tab 2	Tab 4	See Tab 2	Tab 5
Yearling Chinook ²	See Tab 1	See Tab 2	See Tab 3	See Tab 2	See Tab 4	See Tab 2	Tab 6
Sub-yearling Chinook ³	See Tab 1	Tab 7	See Tab 3	See Tab 7	See Tab 4	See Tab 7	Tab 8
Sockeye	See Tab 1	See Tab 2	See Tab 3	See Tab 2	See Tab 4	See Tab 2	Tab 9

⁴ Turbine survival adjusted to include 2% indirect mortality and is based upon Muir et al. (1995) as cited in the Biological Assessment submitted by FERC to NMFS as part of the Section 7 consultation.

⁵ Yearling chinook means wild and hatchery spring chinook, and hatchery summer/fall chinook

⁶ Sub-yearling means wild and hatchery summer/fall chinook

Index of Authorities

Tab	Reference
Tab 1	Survival estimates for the passage of yearling chinook salmon and steelhead through Snake River dams and reservoirs, 1995. (Muir et al. 1996)
Tab 2	Evaluation of juvenile spring chinook, steelhead, and sockeye migratory patterns at Rocky Reach Dam using radio-telemetry techniques, 1998-2000. (English et al. 1998; English et al. 1999; English et al. in prep)
Tab 3	$0.950 * 0.980 = 0.931$. 0.950 is based upon 1996 measured survivals of 0.950 and 0.958 for new (unit 6) and original (unit 5) Kaplan turbines, respectively. (Normandeau and Skalski, 1996). 0.980 is based upon Muir et al. (1995) as cited in the Biological Assessment submitted by FERC to NMFS as part of the Section 7 consultation.
Tab 4	Survival of juvenile coho salmon passing through the spillway at Rocky Reach Dam. (Heinle and Olson, 1981)
Tab 5	$(0.980 * 0.523) + (0.931 * 0.357) + (0.990 * 0.120) = 0.964$
Tab 6	$(0.980 * 0.310) + (0.931 * 0.550) + (0.990 * 0.140) = 0.954$
Tab 7	Evaluation of juvenile sub-yearling chinook migratory patterns at Rocky Reach Dam using radio telemetry techniques, 1998 – Technical memorandum to Mid-Columbia Coordinating Committee (Mosey and Murdoch, 1999). Evaluation of juvenile spring chinook, steelhead, and sockeye migratory patterns at Rocky Reach Dam using radio-telemetry techniques, 1999. (English et al. 1999)
Tab 8	$(0.980 * 0.240) + (0.931 * 0.625) + (0.990 * 0.135) = 0.951$
Tab 9	$(0.980 * 0.090) + (0.931 * 0.697) + (0.990 * 0.213) = 0.948$

References

- English, K. K., T. C. Nelson, C. Sliwinski, J. R. Stevenson, and T. R. Mosey. 1998. Evaluation of Juvenile Spring Chinook, Steelhead, and Sockeye Migratory Patterns at Rocky Reach Dam Using Radio-telemetry Techniques, 1998. Report prepared by LGL Limited for Public Utility District No. 1 of Chelan County, Wenatchee, WA.
- English, K. K., R. C. Bocking, C. Sliwinski, J. R. Stevenson, and T. R. Mosey. 1999. Evaluation of Juvenile Spring Chinook, Steelhead, and Sockeye Migratory Patterns at Rocky Reach Dam Using Radio-telemetry Techniques 1999. Report prepared by LGL Limited for Public Utility District No. 1 of Chelan County, Wenatchee, WA.
- English, K. K., C. Sliwinski, J. J. Smith, J. R. Stevenson, and T. R. Mosey. In prep. Evaluation of Juvenile Spring Chinook, Steelhead, and Sockeye Migratory Patterns at Rocky Reach Dam Using Radio-telemetry Techniques, 2000. Report prepared by LGL Limited for Public Utility District No. 1 of Chelan County, Wenatchee, WA.
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- Muir, W. D., S. G. Smith, R. N. Iwamoto, D. J. Kamikawa, K. W. McIntyre, E. E. Hockersmith, B. P. Sanford, P. A. Ocker, T. E. Ruehle, J. W. Williams, and J. R. Skalski. 1995. Survival estimates for the passage of juvenile salmonids through Snake River dams and reservoirs, 1994. Annual report to Bonneville Power Administration, Portland, Oregon and U.S. Army Corps of Engineers, Walla Walla, Washington. 187 pp.
- Muir, W. D., S. G. Smith, E. E. Hockersmith, S. Achord, R. F. Absolon, P. A. Ocker, B. M. Eppard, T. E. Ruehle, J. G. Williams, R. N. Iwamoto, and J. R. Skalski. 1996. Survival estimates for the passage of yearling chinook salmon and steelhead through Snake River dams and reservoirs, 1995. Annual report to Bonneville Power Administration, Portland, Oregon and U.S. Army Corps of Engineers, Walla Walla, Washington. 150 pp.
- Normandeau Associates and J. R. Skalski. 1996. Relative survival of juvenile chinook salmon (*Oncorhynchus tshawytscha*) in passage through a modified Kaplan turbine at Rocky Reach Dam, Columbia River, Washington. Report prepared by Normandeau Associates for Public Utility District No. 1 of Chelan County, Wenatchee, WA.



Quantitative Analysis Report Executive Summary

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Executive Summary

The Upper Columbia Quantitative Analysis Report (QAR) process was established to provide decision makers with current assessments of the status of spring-run chinook salmon and steelhead runs returning to the Wenatchee, Entiat, and Methow River systems. Production of spring-run chinook salmon and steelhead from these three tributaries, along with the Okanogan River, constitutes the Upper Columbia River spring-run chinook salmon and the Upper Columbia River summer steelhead Evolutionarily Significant Units, respectively.¹ Upper Columbia River steelhead and spring-run chinook salmon were listed as endangered in 1997 and 1998, respectively. The purpose of this report is to provide hypothetical estimates of the relative risks of extinction under a range of alternative management and climatic/environmental scenarios and to estimate the survival gains necessary to meet interim recovery levels (IRLs) and reduce the risk of extinction to acceptable levels.

Simple population dynamics models were developed for Upper Columbia River spring-run chinook salmon (Wenatchee, Entiat, and Methow populations) and summer-run steelhead (Wenatchee/Entiat and Methow populations). Reconstructed spawner to spawner return ratios for historical years, estimated age at return data, and estimates of recent spawning escapements were used as input into a stochastic cohort run reconstruction (CRR) statistical model. The model was designed to generate hypothetical time trends in return levels and the effect of survival changes on those trends. Alternative assumptions regarding the effects of alternative future environmental conditions are analyzed for spring-run chinook salmon and the effectiveness of hatchery origin spawners are considered in the analysis for steelhead. Model development, assumptions, and simulations were reviewed by an analytical team consisting of representatives from Chelan, Douglas, and Grant County Public Utility Districts (PUDs); Bonneville Power Administration; Washington Department of Fish and Wildlife; Columbia River Inter-Tribal Fish Commission; and Columbia Basin Fish and Wildlife Authority.

The proposed Mid-Columbia Habitat Conservation Plan (HCP) incorporated a framework designed to address project impacts on migrating salmon and steelhead through the objective of no net impact.² The focus of the analyses described in this report is on identifying levels of life cycle survival improvements necessary for the two Endangered Species Act-listed stocks to be self-sustaining. The report includes specific assessments of the potential benefits of meeting the passage survival and habitat objectives of the proposed HCP for each of the five Mid-Columbia projects.³ In the longer term, achieving conditions that result in survival levels high enough to support self-sustaining natural production is an important objective under the Endangered Species Act. The hatchery mitigation component of the HCP is

¹ The QAR Biological Requirements Workgroup identified three independent, viable populations of spring-run chinook salmon and steelhead in the Upper Columbia Basin (Wenatchee, Entiat, and Methow populations). Because of data limitations, Entiat and Wenatchee steelhead were modeled as a single group. Recovery goals for steelhead in the Okanogan system are deferred to the Upper Columbia Recovery Team.

² No net impact consists of two components: (1) 91% combined adult and juvenile project survival achieved by project improvement measures implemented within the geographic area of the project, and (2) 9% compensation for unavoidable project mortality provided through hatchery and tributary programs, with 7% compensation provided through hatchery programs and 2% compensation provided through tributary programs.

³ While Grant County PUD is not part of the HCPs, for the purposes of assessing cumulative effects for this model, similar survival assumptions were made for each of the two Grant County PUD dams.

essential for achieving the mitigation objective of no net impact as a result of the Mid-Columbia hydropower projects.

Under National Marine Fisheries Service (NMFS) guidelines, hatchery production is explicitly not included in the assessment of long-term sustainability of a stock. However, hatchery supplementation can play a separate and important role in the overall approach to addressing particular Endangered Species Act-listed stock recovery issues. In the short term, hatchery supplementation can bolster weak stocks while survival improvement measures are implemented and play a major role in speeding up the rebuilding process.

The population models of Upper Columbia River spring-run chinook salmon and steelhead were used to explore five basic questions:

1. What are the relative risks of extinction to Upper Columbia River spring-run chinook salmon under alternative assumptions about future environmental conditions?
2. What are the relative risks of extinction to Upper Columbia River steelhead under alternative assumptions about the effectiveness of hatchery origin spawners?
3. How much improvement in survival across the life history of a particular run is necessary to meet extinction risk criteria and interim recovery levels?
4. What benefits in terms of life cycle survival would be gained by meeting the specific survival improvement goals in the Mid-Columbia HCP?
5. Assuming that the survival objectives set forth in the proposed Mid-Columbia HCP and the Federal Columbia River Power System Biological Opinion are met, would the cumulative improvement in survival meet or exceed population-specific survival improvement needs?

It is important to note that although the proposed Mid-Columbia HCP is intended to improve the survival of Upper Columbia River chinook salmon and steelhead, it is not intended, by itself, to be the only action responsible for meeting Evolutionarily Significant Unit recovery objectives. In determining whether or not a particular action jeopardizes the continued existence of a listed Evolutionarily Significant Unit, NMFS determines "...whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the effects of the environmental baseline, and any cumulative effects, and considering measures for survival and recovery specific to other life stages."⁴

Because future environmental/climatic conditions cannot be accurately predicted, information was used from three different sets of years within the chinook salmon data series to capture a possible range of future conditions. Spawner-return data for the Upper Columbia River spring-run chinook salmon runs date back to about 1960. Annual spawner return rates were generally higher for broods originating in the 1960s than in later years. Return levels for broods originating in the early 1990s included several of the lowest rates in the historical time series. Model runs using three different sets of spawner return data

⁴ 2001 Federal Columbia River Power System Biological Opinion, Section 1.3.

from the historical series were used to characterize the relative extinction risks and survival needs under alternative environmental conditions.

Model runs incorporating the average and variance in spawner return rates across the entire historical series (1960 to 1994 brood years) represent an assumption that future environmental conditions are best represented by the longest historical series that can be generated and will result in some good survival years (similar to those observed in the 1960s) and some poor survival years (similar to the 1980s through the mid-1990s). This scenario would encompass assumptions that salmon survivals are strongly influenced by long-term (30- to 50-year) cycling in ocean/climatic conditions. Model runs incorporating the 1980 to 1994 period capture a time of relatively poor environmental/climatic conditions. If one assumes that these poor environmental/climatic conditions will continue into the future (a conservative view), then results based on the time series 1980 to 1994 would be most applicable. The period 1970 to 1994 may reflect an average condition that falls between the poor conditions represented by the 1980 to 1994 data series and the better conditions of the 1960 to 1994 series. The spawner-return data series for Upper Columbia River steelhead is relatively short (1976 to 1994); therefore, no attempt to generate alternative future survival and extinction risks for steelhead was made for spring-run chinook salmon.

The results from these simulations should not be viewed as specific predictions of future conditions or stock status. Rather, these models are tools intended to illustrate the potential response of the population to a range of future scenarios given a set of assumptions regarding population dynamics. While those assumptions are based on the best available information, there is considerable uncertainty associated with many of the estimates. This report includes sensitivity analyses designed to illustrate the influence of uncertainty in selected key assumptions on model results.

Current Extinction Risks

The CRR model estimated the relative risk of extinction of spring-run chinook salmon populations at 24, 48, and 100 years and for steelhead at 25, 50, 75, and 100 years.⁵ The majority of the extinction risk assessments described in this report are expressed in terms of absolute extinction—defined as the probability that chinook salmon or steelhead populations fall to one or fewer spawners in 5 or more consecutive years. Given the uncertainty associated with productivity at extremely low levels of escapement, quasi-extinction risk assessments were also applied to chinook salmon model populations. Quasi-extinction risk was estimated as the probability that chinook salmon runs would fall to 50 or fewer spawners in the Methow and Wenatchee Basins and 30 or fewer in the Entiat Basin for 5 or more consecutive years.⁶ For each scenario analyzed, the model was run for 1,000 iterations. Relative extinction risk at each of the selected time intervals was expressed as the percentage of 1,000 runs projected to be at or below the selected extinction level.

Extinction risk assessments based on simple population models are sensitive to assumptions regarding the average and distribution of spawner return rates and to the starting population size. Spawner return

⁵ Estimated returns of chinook salmon to the Upper Columbia tributaries were based on annual redd counts dating back to the late 1950s and early 1960s. Estimated returns of steelhead were based on dam counts.

⁶ The risk criteria are described in the QAR Biological Requirements Report (Ford et al. 2001).

rates (geometric mean and variances) were calculated for the alternative time series described above. Two alternative estimates of starting population size were used. Under the first approach, recent (1995 to 1999) average spawning escapement estimates were used as the basis for starting population size. Projections of the trend in spawning escapements from the initial level were generated by the simple population model using the spawner return rate estimates as a basis for generating production from each spawning year. A second starting point was used to simulate extinction risks given initial achievement of recovery abundance levels as a result of supplementation, but without long-term improvement in mean spawner to spawner return levels. Under this set of scenarios, the starting point for the analyses were initial spawning escapements at the IRLs recommended for each of the listed Upper Columbia River populations.⁷

Spring-Run Chinook Salmon Extinction Risks

Extinction risks varied among the three Upper Columbia River spring-run chinook salmon population areas. In general, the modeling analysis indicated that the Wenatchee River population has the highest current risk of extinction of the three populations analyzed. Extinction risk levels were sensitive to the time period used to derive survival/production characteristics.

Annual return rates since 1980 have been highly variable, and until brood year 1995, have included the lowest estimated return per spawner rates in the record. Assuming that conditions into the future will continue at levels associated with the 1980 to 1994 brood year data series results in high probabilities of extinction in 50 to 100 years for all Upper Columbia River spring-run chinook salmon stocks (Table 1).

TABLE 1. PROBABILITY OF EXTINCTION (ZERO FISH) FOR UPPER COLUMBIA RIVER SPRING-RUN CHINOOK AT 24-, 48-, AND 100-YEAR INTERVALS¹

POPULATION	BASE PERIOD	EXTINCTION RISK AT:		
		24 YEARS	48 YEARS	100 YEARS
Wenatchee	1960-1994	0%	0%	2%
	1970-1994	1%	19%	73%
	1980-1994	15%	57%	98%
Entiat	1960-1994	0%	0%	0%
	1970-1994	2%	10%	47%
	1980-1994	16%	83%	99%
Methow	1960-1994	0%	0%	5%
	1970-1994	2%	24%	72%
	1980-1994	1%	15%	50%

¹ This analysis assumed that environmental conditions would be similar to those experienced during three base periods (1960-1994, 1970-1994, and 1980-1994).

⁷ Interim Recovery Levels are described in the QAR Biological Requirements Report (Ford et al. 2001).

Assuming that future conditions are best represented by the historical series extending back to brood year 1970 generally reduces extinction risks in the Wenatchee and Entiat analyses. For the Methow analysis, extending the series back to 1970 did not substantially change the projected extinction risk. Spawning escapements for spring-run chinook salmon in years 2000 and 2001 indicated relatively high return rates for the 1995 and 1996 brood years. Incorporating these brood years into the extinction analysis resulted in projections similar to those of the 1970 to 1994 data set. Assuming future conditions would include survivals like those observed in the early 1960s results in a large decrease in extinction risks relative to the assumption that survivals will remain at the lower levels seen since 1980. However, to meet extinction risk criteria, improvements in average population growth rate would still be necessary.

The extinction risk projections described above were generated assuming that the geometric mean return per spawner and the observed level of year to year variation about that mean for each historical series would continue to apply into the future. There is uncertainty associated with the estimates of trend. A simple modeling analysis using the Wenatchee spring-run chinook salmon data series was conducted to assess the effect of uncertainty in the trend estimate on the projected extinction risk. Assuming that the estimated geometric mean trend continues, the point estimate of extinction risk using the 1980 to 1994 Wenatchee data series was 98 percent at 100 years. Incorporating uncertainty in the historical trend estimate generated a range about that point estimate, but a high proportion of the results projected relatively high risks of extinction. For example, 90 percent of the runs based on the 1980 to 1994 data set incorporating uncertainty projected 100-year extinction probabilities of 31 percent or higher. Using the 1970 to 1994 data set, approximately 75 percent of the runs projected 100-year extinction rates of 31 percent or higher.

Steelhead Extinction Risks

As described above, more limited trend data are available for Upper Columbia River steelhead. The parameters for the steelhead extinction risk model were derived from the 1986 to 1992 brood year data sets for the Wenatchee/Entiat and Methow steelhead runs. A significant proportion of returns to these areas are of hatchery origin. The relative effectiveness of hatchery origin spawners is a key scientific uncertainty. Extinction risk estimates were generated for a range of possible relative effectiveness values for naturally spawning fish of direct hatchery origin. As was the case with spring-run chinook salmon, the extinction risk assessments for steelhead were designed to evaluate the potential for runs to sustain production if hatchery supplementation were to be discontinued. The level of extinction risk was substantially influenced by assumptions regarding the historical effectiveness of hatchery contributions relative to spawners of natural origin. Extinction risk projections at 100 years were estimated to be approximately 28 to 35 percent under the assumption of low (25 percent) relative effectiveness of spawners. Under the assumption that the relative effectiveness of hatchery spawners is 50 percent or greater relative to wild fish, the projected extinction risks at 100 years for both groups was 99 to 100 percent (Table 2).

TABLE 2. PROBABILITY OF EXTINCTION (ZERO FISH) FOR UPPER COLUMBIA RIVER SUMMER-RUN STEELHEAD AT 25-, 50-, 75-, AND 100-YEAR INTERVALS¹

POPULATION	THEORETICAL SPAWNER EFFECTIVENESS	EXTINCTION RISK AT:			
		25 YEARS	50 YEARS	75 YEARS	100 YEARS
Wenatchee/Entiat	25%	0%	0%	8%	35%
	50%	0%	26%	99%	100%
	75%	0%	80%	100%	100%
	100%	0%	99%	100%	100%
Methow	25%	0%	3%	11%	28%
	50%	0%	60%	97%	99%
	75%	3%	96%	100%	100%
	100%	10%	99%	100%	100%

¹ This analysis assumes that (1) hatchery augmentation is immediately discontinued, (2) survival conditions experienced during the 1976-1992 base period continue for the next 100 years, and (3) theoretical hatchery spawner effectiveness was 25, 50, 75, or 100 percent of naturally produced spawners.

Supplementation Scenarios

Simplified supplementation scenarios for Upper Columbia River spring-run chinook salmon were evaluated with the CRR model. Supplementation has the potential to accelerate the return of spawning numbers to IRLs. Under the assumption that the Evolutionarily Significant Units should be capable of sustaining themselves without supplementation, model runs were made under the assumption that run sizes were boosted to the IRL through the use of supplementation and then supplementation was discontinued and the risk of extinction was calculated as described above. Under the conservative assumption that population survival rates similar to those observed in the 1980 to 1994 data set continues, longer-term (e.g., 100-year) risks were nearly as high for the Wenatchee and Entiat populations as for the runs starting from recent averages. However, the long-term (100-year) risks for the Methow populations were substantially reduced (less than 21 percent) when starting the population at the IRL.

Survival Changes Needed to Meet Extinction Risk and IRL Criteria

The CRR model was also used to generate estimates of the average change in survival over the life cycle⁸ needed to meet specific extinction risk criteria (e.g., less than a 5 percent risk of extinction as a result of year to year environmental variability and meeting IRL escapement objectives). Meeting the recommended IRL escapement criteria requires a larger increase in survival than meeting the direct

⁸ Changes necessary to meet particular risk criteria are expressed in terms of survival in this paper. These increments can be translated into changes in population growth rate, λ , using an estimate of average generation time for the particular population of interest.

extinction risk criteria for all of the populations. The objective of maintaining average escapements at IRL or above is to provide protection against demographic, environmental, and genetic risk factors.

Spring-Run Chinook Salmon

Assuming that background survival rates were to continue at the relatively poor rates observed during the 1980 to 1994 period (the most conservative assumption), the modeled Wenatchee spring-run chinook salmon population would need a survival improvement of 75 percent to reduce the projected extinction risk at 100 years to below 5 percent. The necessary survival improvement using the 1970 to 1994 data series is 35 percent, and no improvement is necessary to meet this metric using the 1960 to 1994 data series. To meet the recovery escapement criteria (IRL) at 48 years, a survival improvement of 170 percent would be needed for this population using the 1980 to 1994 data series. Meeting the IRL criteria at 100 years would require a survival increase of 155 percent under the 1980 to 1994 assumptions. If long-term background survivals are similar to the 1970 to 1994 series, the requirements would drop to 92 percent and 110 percent to meet IRL criteria at 48 and 100 years, respectively. Assuming that the distribution of future survival is represented by the longest time series (the range observed since 1960), required survival increases of 40 percent and 15 percent would be needed to meet IRL criteria for the 48-year and 100-year time periods (Table 3).

Model runs based on the Methow spring-run chinook salmon data set indicated that similar levels of improvement would be required. Assuming that the long-term series of spawner/return estimates (1960 to 1994 brood years) represents future conditions, a 19 percent increase in life cycle survival would be required to reduce the projected extinction risk at 100 years to below 5 percent. A 48 percent increase in survival would be needed to meet and maintain IRL criteria within 100 years, and a 52 percent increase would be needed to meet IRL criteria within 48 years. Assuming that the relatively poor survival conditions indicated by the 1980 to 1994 data series are representative of the future, meeting the 100-year extinction risk criteria would require a 32 percent increase in life cycle survival, and meeting the IRL levels would require an increase of 95 percent (within 100 years) or 105 percent (within 48 years). Results for the Methow using the intermediate 1970 to 1994 time series were similar to the 1980 to 1994 results (see Table 3).

Projections based on the Entiat spring-run chinook salmon data set followed similar patterns. Under the assumption that the longer-term data set (1960 to 1994 brood years) is representative of future environmental conditions, no additional survival improvements would be required to reduce the projected extinction risk to 5 percent. IRL levels would be achieved with increases of 22 percent (48-year target) or 17 percent (100-year target). Assuming that the 1980 to 1994 data series is most representative of future conditions, model projections indicate that a survival improvement of 57 percent is needed to reduce the 100-year extinction risk to 5 percent. Survival improvements of 95 percent or 105 percent would be required to meet IRL objectives at 100 years or 48 years, respectively. Using the 1970 to 1994 data to represent future conditions results in a projected survival improvement requirement of 18 percent to meet extinction risk criteria at 100 years. Meeting IRL levels under this scenario requires life cycle survival improvements of 52 percent (100-year target) or 62 percent (48-year target) (see Table 3).

TABLE 3. PROJECTED CHANGE IN SPAWNER TO SPAWNER SURVIVAL RATES FOR UPPER COLUMBIA RIVER SPRING-RUN CHINOOK SALMON NEEDED TO REDUCE THE PROBABILITY OF EXTINCTION TO LESS THAN 5 PERCENT AND TO HAVE A GREATER THAN 50 PERCENT PROBABILITY OF EXCEEDING THE INTERIM RECOVERY LEVEL WITHIN 100 YEARS¹

POPULATION	BASE PERIOD	SURVIVAL INCREASE REQUIRED TO REDUCE EXTINCTION RISK TO LESS THAN 5% AT:		SURVIVAL INCREASE REQUIRED TO HAVE A GREATER THAN 50% PROBABILITY OF EXCEEDING IRL AT:	
		24 YEARS	100 YEARS	48 YEARS	100 YEARS
Wenatchee	1960-1994	0%	0%	40%	15%
	1970-1994	0%	35%	110%	92%
	1980-1994	7%	75%	170%	155%
Entiat	1960-1994	0%	0%	22%	17%
	1970-1994	0%	18%	62%	52%
	1980-1994	12%	57%	112%	100%
Methow	1960-1994	0%	19%	52%	48%
	1970-1994	0%	34%	100%	95%
	1980-1994	0%	32%	105%	95%

¹ This analysis assumed that environmental conditions would be similar to those experienced during three base periods (1960-1994, 1970-1994, and 1980-1994) and that the population started at recent average (1980-1994) escapement levels.

The improvement levels necessary to meet short-term risks to extinction due to the compound effects of year to year environmental variation are less than the levels required to meet IRLs for each model population. In general, the survival improvements to meet 48-year and 100-year extinction risk criteria are approximately one-third to one-half of the improvement levels required to meet IRL criteria.

Steelhead

The CRR model was used to estimate the improvement in life cycle survival needed to meet the basic extinction risk criteria described above. The results were substantially influenced by assumptions regarding the effectiveness of hatchery spawners in contributing to natural production. Model runs incorporating the Methow steelhead data series required the highest levels of improvement in life cycle survival to meet the extinction risk criteria.

Under the assumption that hatchery steelhead spawners have been contributing equally with natural returns to production, the Methow model runs indicated that an increase of 152 percent in survival over the life cycle would be required to meet the 100-year extinction risk criteria, and an improvement of 265 percent⁹ would be needed to achieve the IRL criteria at 100 years. Assuming that hatchery spawners

⁹ For the steelhead model runs, recent average escapement levels (including hatchery fish) have been relatively high. There was little difference in the projected survival increases to meet IRL levels at 48 years versus 100 years.

were 25 percent as effective as returning adults of natural parentage, the survival change needed to meet the 100-year direct extinction risk criteria was 15 percent, and the change needed to meet IRL objectives was 55 percent. The survival changes needed to meet the 100-year risk criteria under the 50 percent and 75 percent effectiveness assumptions were 70 percent and 115 percent. Meeting the IRL targets under the 50 percent and 75 percent effectiveness assumptions required improvements of 135 percent and 200 percent, respectively (Table 4).

TABLE 4. PROJECTED CHANGE IN SPAWNER TO SPAWNER SURVIVAL RATES FOR UPPER COLUMBIA RIVER STEELHEAD NEEDED TO REDUCE THE PROBABILITY OF EXTINCTION TO LESS THAN 5 PERCENT AND TO HAVE A GREATER THAN 50 PERCENT PROBABILITY OF EXCEEDING THE INTERIM RECOVERY LEVEL WITHIN 100 YEARS¹

POPULATION	THEORETICAL SPAWNER EFFECTIVENESS	SURVIVAL INCREASE REQUIRED TO REDUCE EXTINCTION RISK TO LESS THAN 5% AT:		SURVIVAL INCREASE REQUIRED TO HAVE A GREATER THAN 50% PROBABILITY OF EXCEEDING IRL AT:	
		24 YEARS	100 YEARS	48 YEARS	100 YEARS
Wenatchee/ Entiat	25%	0%	12%	50%	50%
	50%	0%	45%	95%	95%
	75%	0%	67%	120%	120%
	100%	0%	87%	160%	160%
Methow	25%	0%	15%	55%	55%
	50%	0%	70%	140%	135%
	75%	0%	115%	210%	200%
	100%	0%	152%	265%	265%

¹ This analysis assumed that (1) hatchery augmentation is immediately discontinued, (2) survival conditions experienced during the 1976-1992 base period continue for the next 100 years, and (3) theoretical hatchery spawner effectiveness was 25, 50, 75, or 100 percent of naturally produced spawners.

Projected survival improvements for the Wenatchee/Entiat population grouping were lower, but were still substantial. Meeting the direct extinction risk criteria of 5 percent risk or less by 100 years required 87 percent improvement in life cycle survival under the assumption that hatchery spawners were equally effective as naturally produced spawners. Meeting the IRL targets with this assumption required a 160 percent improvement in survival. Under the assumption that hatchery spawners were only 25 percent as effective as naturally produced spawners, the survival improvements needed to meet the 100-year extinction risk criteria and the IRL level were 12 percent and 50 percent, respectively. Assuming intermediate hatchery effectiveness assumptions of 50 percent and 75 percent, an additional survival improvement of 45 percent and 67 percent would be necessary to meet the 100-year risk criteria and improvements of 95 percent and 120 percent would be necessary to meet the IRL targets, respectively (see Table 4).

Upper Columbia River steelhead returns have been predominantly of hatchery origin since at least the late 1970s. The relative reproductive effectiveness of hatchery spawners versus returning adults from

naturally spawning parents is unknown for Upper Columbia River steelhead. Results of the modeling exercise support the contention that the relative effectiveness of hatchery spawners is a key scientific uncertainty relative to the level of survival improvements necessary to meet extinction risk and recovery criteria for the wild populations.

Sensitivity Analyses

The spring-run chinook salmon version of the CRR model was used in a series of analyses to probe the sensitivity of results (extinction risks and the life cycle survival improvement necessary to meet IRL criteria) to key assumptions.

Incorporating Preliminary Estimates of 1999 to 2001 Returns

Preliminary estimates of 1999 to 2001 returns were used to expand the 1980 to 1994 brood year data series to include brood years 1995 and 1996 for the Wenatchee and Methow spring-run chinook salmon data sets. Returns from these two brood years were significantly higher than for the recent series. The expanded data sets were analyzed with the CRR model. Extinction risks and the incremental improvements in survival necessary to meet survival and IRL criteria were reduced to approximately the same levels as were indicated by analyses of the 1970 to 1994 data sets. This analysis supports the idea that the results of the 1980 to 1994 data series analysis should be viewed as the most conservative of the three data series analyzed.

Carrying Capacity

The estimated increase in survival is sensitive to assumptions regarding carrying capacity of the systems. If carrying capacity is substantially higher than the IRL level, the survival improvement required to rebuild from recent average escapements to IRL would be lower. For example, the requirement to meet the IRL escapement criteria for the Wenatchee (assuming future survivals are represented by the conservative 1980 to 1994 data series) would be 170 percent assuming that maximum smolt production is reached at an escapement of 4,000 (approximately equal to the IRL level of 3,750). The survival improvement necessary to reach IRL criteria would drop below 100 percent if the carrying capacity is roughly double the IRL level (7,500). If the carrying capacity (spawning level producing maximum smolt output) is very high relative to the IRL, the required survival improvement would be reduced to approximately 75 percent.

Stock-Recruit Model

The population modeling described in this paper was based largely on a simple ‘broken stick’ model relating productivity to spawning population size. Under this approach, production per spawner is constant up to a carrying capacity threshold. At escapements above that threshold, average production is constant. An alternative population function, the Ricker spawner/recruit function, has been fit to historical data from the Upper Columbia stocks (Schaller et al. 2000). The CRR model was modified to implement the Ricker function derived from the 1970 to 1994 brood year spawner/return series. Using the Ricker function resulted in lower projected extinction risks relative to the broken stick model assuming the 1970 to 1994 average survivals would continue. Reducing survivals to the equivalent of the more conservative 1980 to 1994 levels resulted in high extinction risk probabilities, similar to the broken stick model. Achieving the IRL levels took higher increments of survival improvements than were required using the broken stick model.

Survival Changes at Different Life History Phases

The sensitivity of average annual population growth rate to changes in mortality at specific phases in the life cycle showed a similar pattern to Snake River analyses, with a couple of exceptions. The Snake River populations and the Upper Columbia populations exhibit high mortality rates in the egg to smolt and the estuary to ocean adult phases. Shift of 10 percent mortality to survival could theoretically increase survival rates 2 to 3 times. However, the resulting survivals would be higher than smolt production rates that are associated with relatively healthy stocks. The feasibility of particular actions to achieve survival increases that are mathematically and biologically possible is a third important consideration.

Potential Survival Change from HCP

Projecting survival changes associated with achieving the HCP survival goals depends on assumptions regarding historical passage survival through the projects. Little direct information on historical reach survival is available. Study groups released in the mid-1980s were used to calibrate a simple model of passage survival to estimates of annual arrival timing and spill at each project. Assuming base period survival rates similar to those reported during the system survival studies conducted in the 1980s resulted in estimates of per project survival of 86 to 88 percent. Achieving the HCP goals (91 percent combined adult and juvenile project survival) would increase average juvenile passage survival to 93 percent per project, or 16 to 25 percent for steelhead and 21 to 35 percent for spring-run chinook salmon (range is for three to five projects).¹⁰

Potential Survival Change from Dam Removal

For comparison purposes, an estimate of what juvenile survivals may have been through the Mid-Columbia reach in the absence of the hydroelectric dams was generated (assuming that dams were either not built in the first place or were removed without any negative environmental consequences). Passive integrated transponder (PIT) tag survival data from Snake River studies (e.g., Smith et al. 1998) were used to estimate downstream migration mortality rates for juvenile spring-run chinook salmon and steelhead migrating through free-flowing reaches within the Snake River system. The results were applied to each population grouping by multiplying the number of kilometers from the tributary of origin to the Priest Rapids Dam site against the per kilometer survival rate from the Snake River studies. Estimated survivals to a point below the present Priest Rapids Dam varied from a low of 93 percent (Methow steelhead) to a high of 97 percent (Wenatchee River spring-run chinook salmon). This range represents a 40 to 84 percent increase in survival over the base periods used in this analysis.

Under the assumption that the 1980 to 1994 survival conditions continue, achievement of the survival improvements, up to the level estimates for free-flowing conditions (i.e., if the dams were removed), would not meet the IRL criteria for any of the three spring-run chinook salmon stocks. Assuming that the equivalent of free-flowing passage through the Mid-Columbia reach is achieved and that the 1970 to 1994 survival conditions continue, the IRL criteria would be met for the Entiat spring-run chinook

¹⁰ Upper Columbia River Evolutionarily Significant Units are more responsive to changes in passage survival at the series of mainstem dams due to the reliance on in-river migration since barging from McNary was curtailed in 1995.

salmon population but not for the Wenatchee and Methow spring-run chinook salmon populations. Assuming that the 1960 to 1994 survival conditions continue, the 100-year IRL criteria would be met for all populations of Upper Columbia River chinook salmon.

Summary: Potential Survival Improvements Versus Requirements

The estimated improvements in passage survival associated with achieving the objectives expressed in the proposed Wells, Rocky Reach, and Rock Island HCPs are directly comparable to the projected life cycle survival improvement requirements generated by the historical analyses described above.

Spring-Run Chinook Salmon

For spring-run chinook salmon, achieving the HCP objectives would result in sufficient survival improvements to meet the projected needs under the assumption that future return per spawner patterns are represented by the 1960 to 1994 brood year series, with the possible exception of meeting IRL criteria for the Wenatchee (0 to 14 percent projected improvement needed after HCP contribution).

Projections based on the Wenatchee spring-run chinook salmon data set indicate that even under the most optimistic scenarios modeled regarding future survival rates and the effectiveness of supplementation, additional survival improvements beyond those projected for proposed HCP actions would be necessary to achieve extinction risk/recovery criteria if the conditions observed during the 1980 to 1994 data series continue. Under these assumptions, an additional increase in life cycle survival of approximately 37 percent would be required to meet the 5 percent extinction risk threshold at 100 years. Increasing geometric mean escapements to IRL levels would require an additional survival improvement of 30 to 54 percent, depending upon assumptions and time frames.

Model runs based on the Methow spring-run chinook salmon data sets projected that the estimated survival improvements attained by meeting the proposed Mid-Columbia HCP objectives exceeded the required improvements to reduce direct extinction risks below the 5 percent level at 100 years under all three assumptions about future conditions. If future conditions are represented by the 1960 to 1994 data series, achieving the survival improvements associated with the HCP criteria would also cover the improvements needed to meet IRL objectives. However, meeting the longer-term IRL criteria at 48 or 100 years would require additional survival improvements beyond those associated with meeting the Mid-Columbia HCP passage objectives under the remaining future scenarios. Under the assumption that the relatively low return rates observed for 1980 to 1994 broods are representative of the future, additional survival improvements of 31 to 38 percent would be needed. Similar improvement levels would be required if the 1970 to 1994 data series is assumed to be representative of future conditions (Table 5).

For the Entiat spring-run chinook salmon population, achieving the potential survival improvements associated with meeting the proposed HCP objectives would cover the projected improvements required to reduce direct extinction risks to below 5 percent at 100 years under the 1960 to 1994 and the 1970 to 1994 future scenarios. An additional improvement in life cycle survival of approximately 12 percent would be required to meet the 5 percent extinction risk criterion under the more conservative 1980 to 1994 projections. Achieving the survival improvements associated with the proposed HCP objectives would also meet IRL requirements under the assumption that 1960 to 1994 population return per spawner rates are representative of the future. Using the 1970 to 1994 series, an additional survival increment of 9 to 16 percent would be required to meet IRL levels. If the 1980 to 1994 data series is

TABLE 5. PROJECTED CHANGE IN SPAWNER TO SPAWNER SURVIVAL FOR UPPER COLUMBIA RIVER SPRING-RUN CHINOOK SALMON REMAINING TO REDUCE THE PROBABILITY OF EXTINCTION TO LESS THAN 5 PERCENT AND TO HAVE A GREATER THAN 50 PERCENT PROBABILITY OF EXCEEDING THE INTERIM RECOVERY LEVEL WITHIN 100 YEARS¹

POPULATION	BASE PERIOD	SURVIVAL INCREASE REQUIRED TO REDUCE EXTINCTION RISK TO LESS THAN 5% WITH:			SURVIVAL INCREASE REQUIRED TO HAVE A GREATER THAN 50% PROBABILITY OF EXCEEDING IRL WITH:		
		No ACTION	HCP	HCP + FEDERAL BIOLOGICAL OPINION	No ACTION	HCP	HCP + FEDERAL BIOLOGICAL OPINION
Wenatchee	1960-1994	0%	0%	0%	15%	0%	0%
	1970-1994	35%	5%	0%	92%	48%	36%
	1980-1994	75%	37%	31%	155%	99%	83%
Entiat	1960-1994	0%	0%	0%	17%	0%	0%
	1970-1994	18%	0%	0%	52%	9%	0%
	1980-1994	57%	12%	7%	100%	43%	31%
Methow	1960-1994	19%	0%	0%	48%	0%	0%
	1970-1994	34%	0%	0%	95%	31%	20%
	1980-1994	32%	0%	0%	95%	31%	20%

¹ This analysis assumed that (1) environmental conditions will be similar to those experienced during three base periods (1960-1994, 1970-1994, and 1980-1994), (2) the population started at recent average (1980-1994) escapement levels, and (3) delayed mortality from Federal transportation would be 20 percent (D = 0.8). Three action alternatives were evaluated, including (1) No Action, (2) HCP, and (3) HCP plus Federal biological opinion actions.

more representative of the average and range of future conditions, improvements of approximately 43 percent and 51 percent would be required to meet IRL targets at 100 years and 48 years, respectively (see Table 5).

In summary, if future environmental conditions resemble the longer 1960 to 1994 or 1970 to 1994 data sets rather than the more conservative 1980 to 1994 data set, then the levels of additional survival needed for recovery metrics are reduced substantially or eliminated in certain scenarios. For spring-run chinook salmon, the addition of 2000 and 2001 adult returns (1995 and 1996 brood years) to the 1980 to 1994 brood year data yielded mean spawner/return rates similar to those of the 1970 to 1994 data series. This suggests that the 1970 to 1994 data set may best represent future environmental conditions for predicting extinction risks and the probability of achieving IRL criteria.

Steelhead

For both of the modeled steelhead populations (the Wenatchee/Entiat and the Methow), gaining the survival improvements associated with meeting the proposed HCP objectives would cover the required changes for the 100-year extinction criteria only under the assumption that hatchery effectiveness was 0.25 or less. Model runs incorporating the 0.5, 0.75, and 1.0 effectiveness assumptions all predict that

additional improvements in survival would need to be realized to meet the 100-year risk criteria. Additional survival improvements would also be required to meet IRL levels under any of the assumptions regarding hatchery effectiveness (Table 6).

TABLE 6. PROJECTED CHANGE IN SPAWNER TO SPAWNER SURVIVAL FOR UPPER COLUMBIA RIVER SUMMER STEELHEAD REMAINING TO REDUCE THE PROBABILITY OF EXTINCTION TO LESS THAN 5 PERCENT AND TO HAVE A GREATER THAN 50 PERCENT PROBABILITY OF EXCEEDING THE INTERIM RECOVERY LEVEL WITHIN 100 YEARS¹

POPULATION	THEORETICAL HATCHERY EFFECTIVENESS	SURVIVAL INCREASE REQUIRED TO REDUCE EXTINCTION RISK TO LESS THAN 5% WITH:			SURVIVAL INCREASE REQUIRED TO HAVE A GREATER THAN 50% PROBABILITY OF EXCEEDING IRL WITH:		
		NO ACTION	HCP	HCP + FEDERAL BIOLOGICAL OPINION	NO ACTION	HCP	HCP + FEDERAL BIOLOGICAL OPINION
Wenatchee/ Entiat	25%	12.0%	0.0%	0.0%	50.0%	22.0%	23-20%
	50%	45.0%	18.0%	24-21%	95.0%	59.0%	61-54%
	75%	67.0%	36.0%	58-51%	120.0%	79.0%	82-72%
	100%	87.0%	52.0%	86-76%	160.0%	111.0%	116-102%
Methow	25%	15.0%	0.0%	0.0%	55.0%	12.0%	13-11%
	50%	70.0%	23.0%	19-16%	135.0%	70.0%	73-64%
	75%	115.0%	56.0%	33-37%	200.0%	117.0%	122-108%
	100%	152.0%	83.0%	54-48%	265.0%	164.0%	171-151%

¹ This analysis assumed that (1) hatchery augmentation is immediately discontinued, (2) survival conditions experienced during the 1976-1992 base period continue for the next 100 years, and (3) historical hatchery spawner effectiveness was 25, 50, 75, or 100 percent of naturally produced spawners. Three action alternatives were evaluated, including (1) No Action, (2) HCP, and (3) HCP plus Federal biological opinion actions. The latter is expressed as a range reflecting alternative assumptions regarding the relative survival of transported fish ($D = 1.0$ or 0.8).

Meeting Mid-Columbia HCP and Federal Columbia River Power System Objectives

The draft Federal Columbia River Power System Biological Opinion calls for implementation of an aggressive set of improvements to in-river survival at lower river projects affecting the Upper Columbia River. The extent to which those improvements in survival represent a net increase in survival over the average for the base periods used in these assessments is dependent upon assumptions regarding delayed mortality of transported fish.¹¹ The draft Federal Columbia River Power System Biological Opinion also characterizes the level of off-site mitigation by the Federal action agencies given the continuing survival impacts of operating the hydropower system.

¹¹ Before 1995, a portion of the smolt run arriving at McNary was collected and transported to below Bonneville Dam.

Spring-Run Chinook Salmon

Achieving the combined survival improvement increments associated with the proposed HCP and the Federal Columbia River Power System Biological Opinion (direct and off-site mitigation changes) would exceed the changes needed to meet the 100-year extinction risk criteria for all three stock groupings with two exceptions. Under the most conservative data set (1980 to 1994 brood years), the Wenatchee and Entiat spring-run chinook salmon populations are projected to need an additional 31 percent and 7 percent increase, respectively, in survival to meet this criteria. The combination of improvements would similarly exceed the projected requirements to meet IRL objectives for each of the populations assuming that 1960 to 1994 environmental conditions persist into the future. Under the assumption of 1970 to 1994 conditions, an additional 0 to 36 percent increase in survival would be required to meet the 100-year IRL criteria. Under the most conservative assumption of future environmental conditions (1980 to 1994 brood years), an additional 20 to 83 percent improvement in survival would be required to meet the criteria for each of the modeled populations.

Steelhead

Again, assumptions regarding the relative effectiveness of hatchery origin fish in contributing to natural production have a significant impact on the results. The combined improvements from achieving the proposed HCP and Federal Columbia River Power System objectives would exceed the requirements to meet the 100-year extinction risk criteria for both stock groupings if hatchery spawner effectiveness has been 0.25 that of naturally produced spawners. Additional survival improvements would be necessary to reduce the risk to 5 percent or less if hatchery effectiveness is assumed to be 0.5 to 1.0. The additional survival needed to meet these criteria for Wenatchee/Entiat and Methow steelhead ranges from 21 to 86 percent and from 16 to 54 percent, respectively.

Model runs representing both of the stock groupings indicate that, even with the assumption that the HCP and Federal Columbia River Power System survival improvements are fully realized, additional survival improvements would be needed to achieve the 48- and 100-year IRL criteria for any of the hatchery spawner effectiveness scenarios. For Wenatchee/Entiat steelhead, additional survival improvements of 20 percent to 116 percent would be necessary to achieve the 100-year IRL criteria. An additional survival improvement of 11 percent to 171 percent would be required to achieve the 100-year IRL criteria (see Table 6).



Economic Figures

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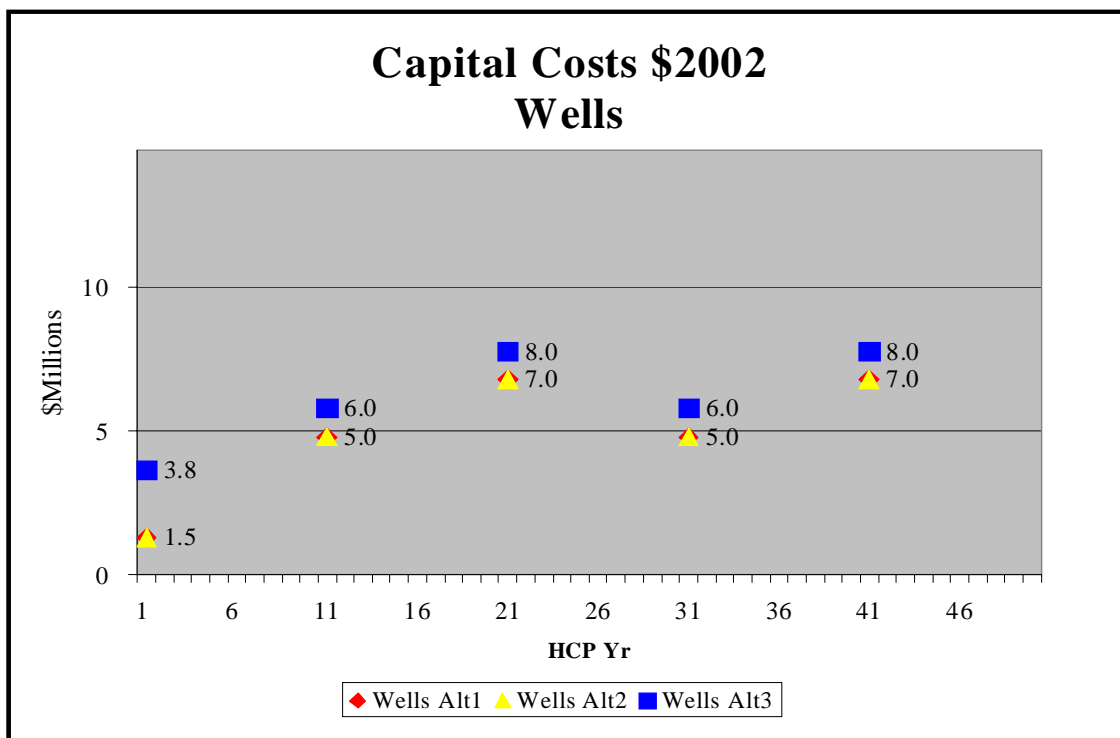


Figure F-1. Capital Costs – Wells Project

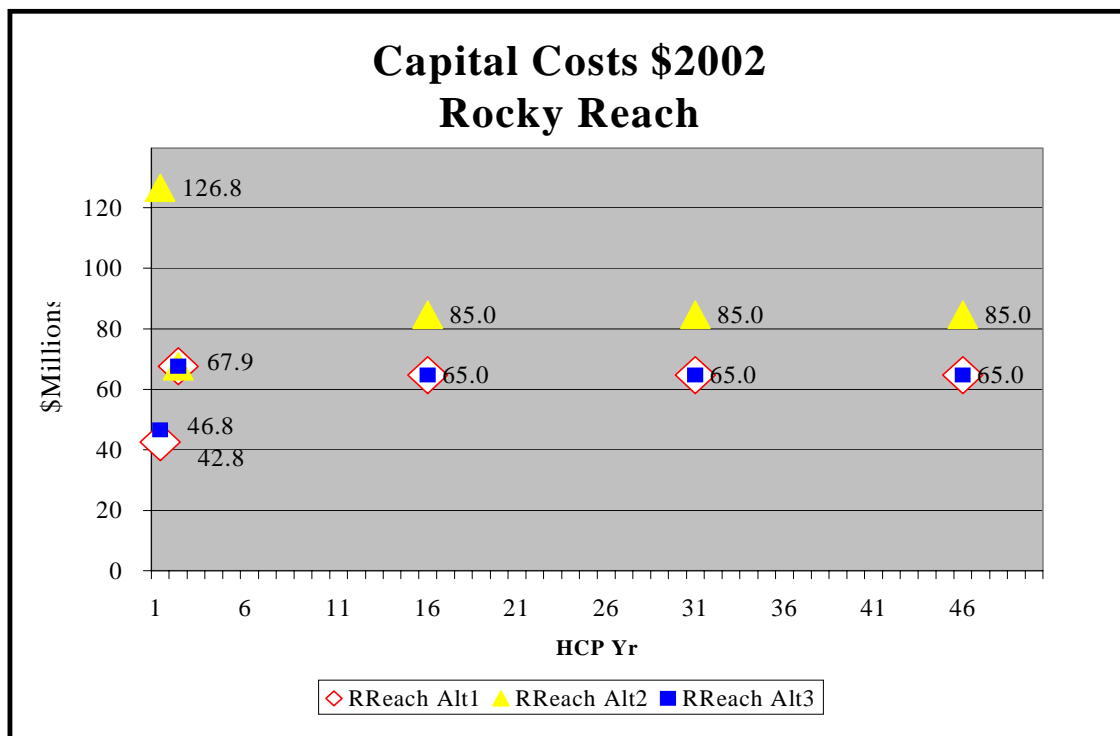


Figure F-2. Capital Costs – Rocky Reach Project

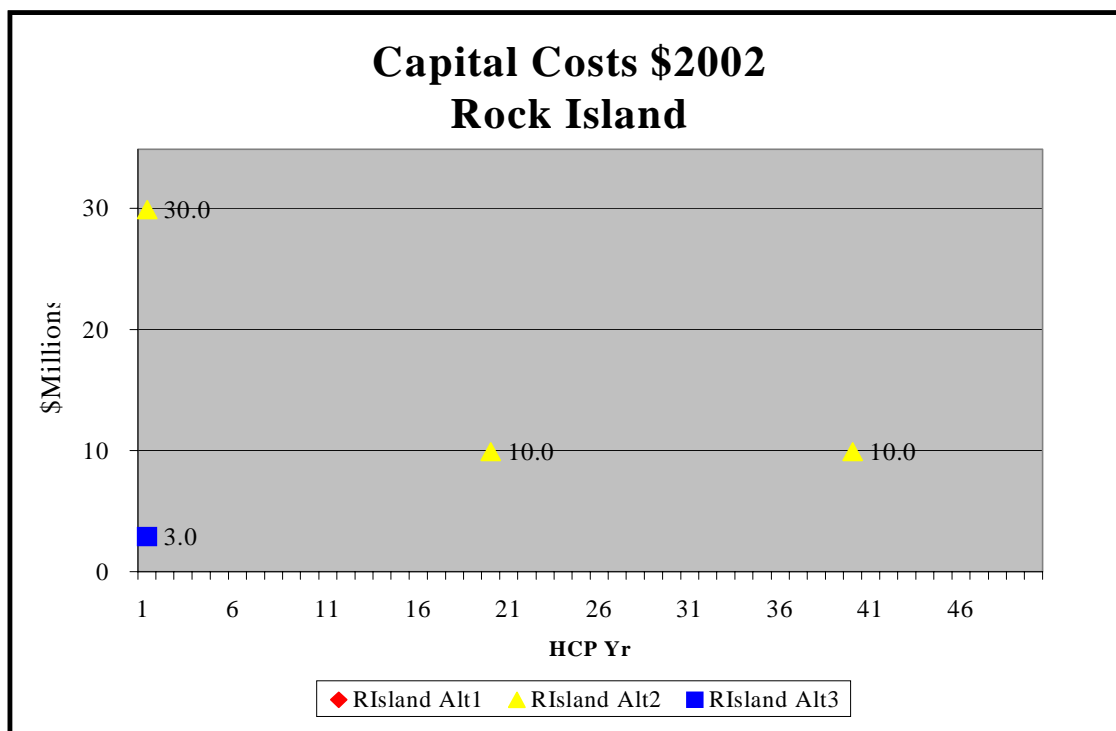


Figure F-3. Capital Costs – Rock Island Project

Note: There are no capital costs associated with Alternative 1.

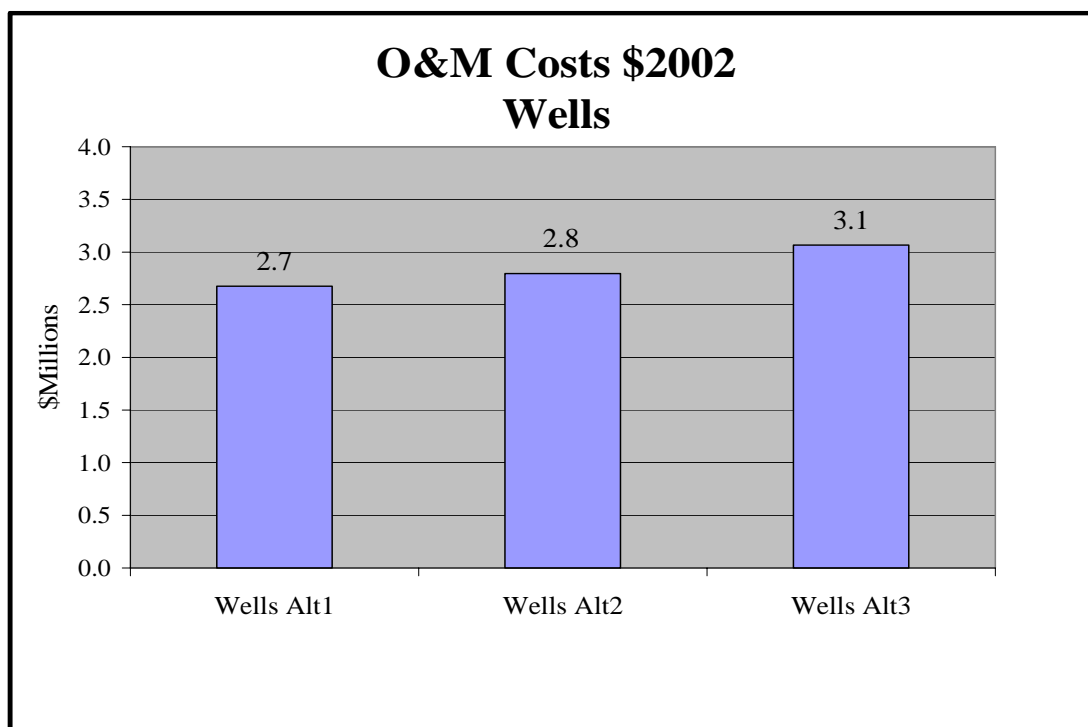


Figure F-4. Annual Operation and Maintenance Costs – Wells Project

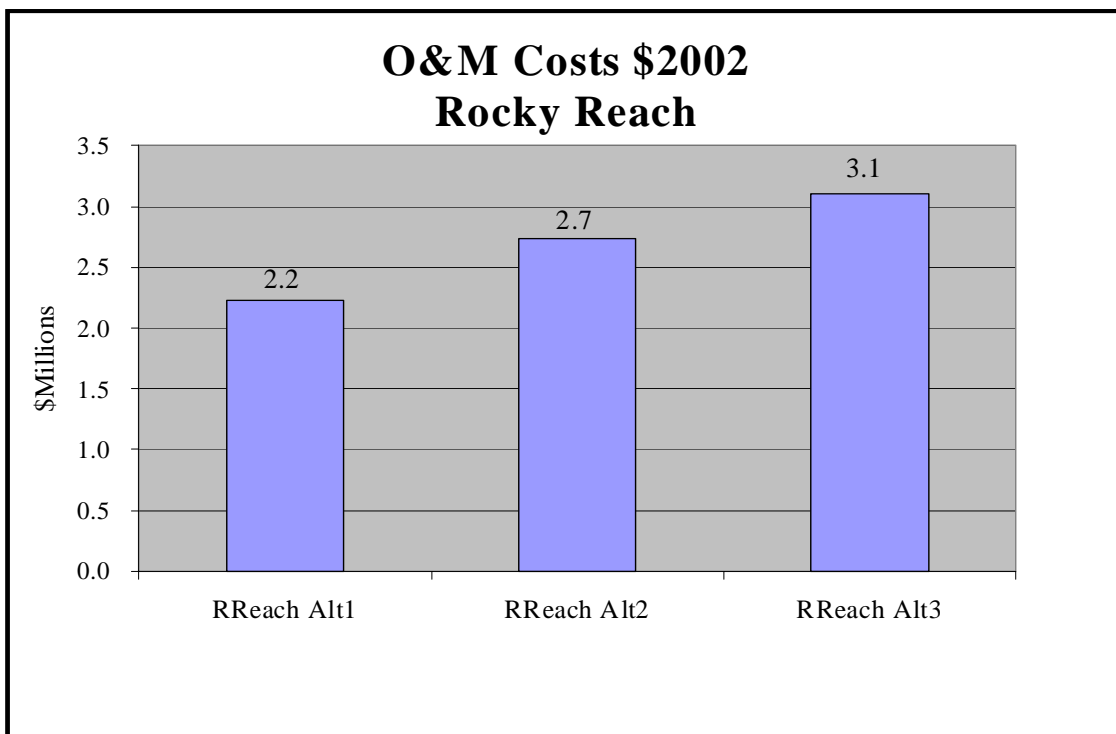


Figure F-5. Annual Operation and Maintenance Costs – Rocky Reach Project

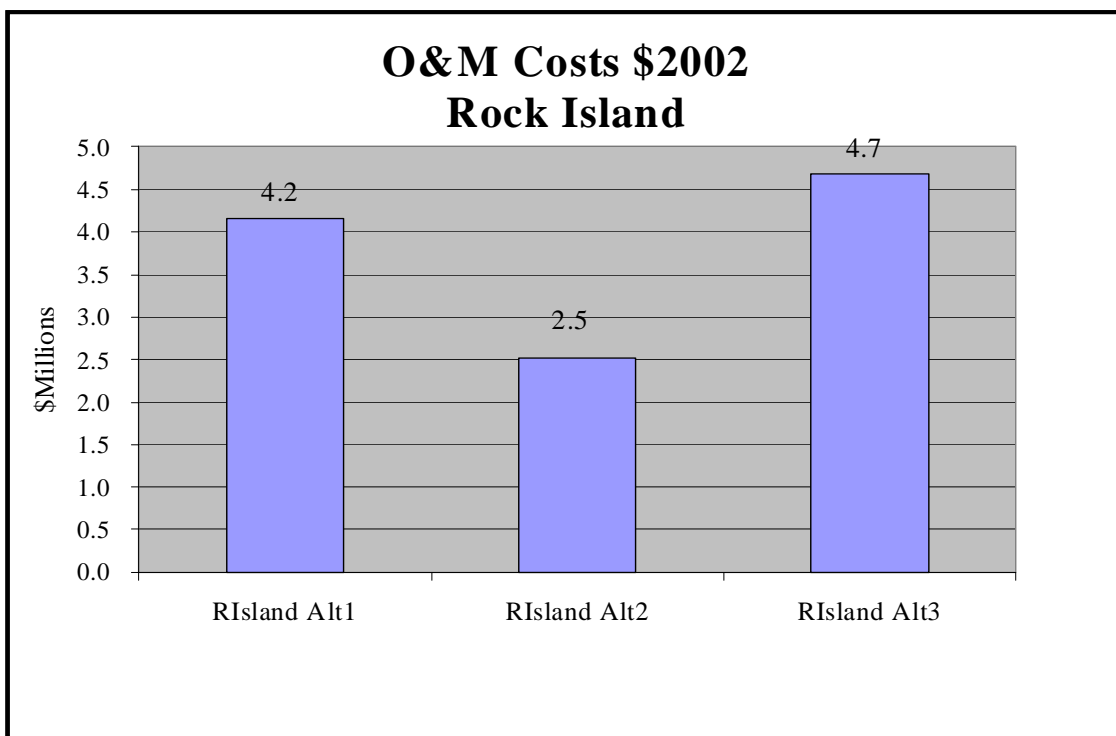


Figure F-6. Annual Operation and Maintenance Costs – Rock Island Project

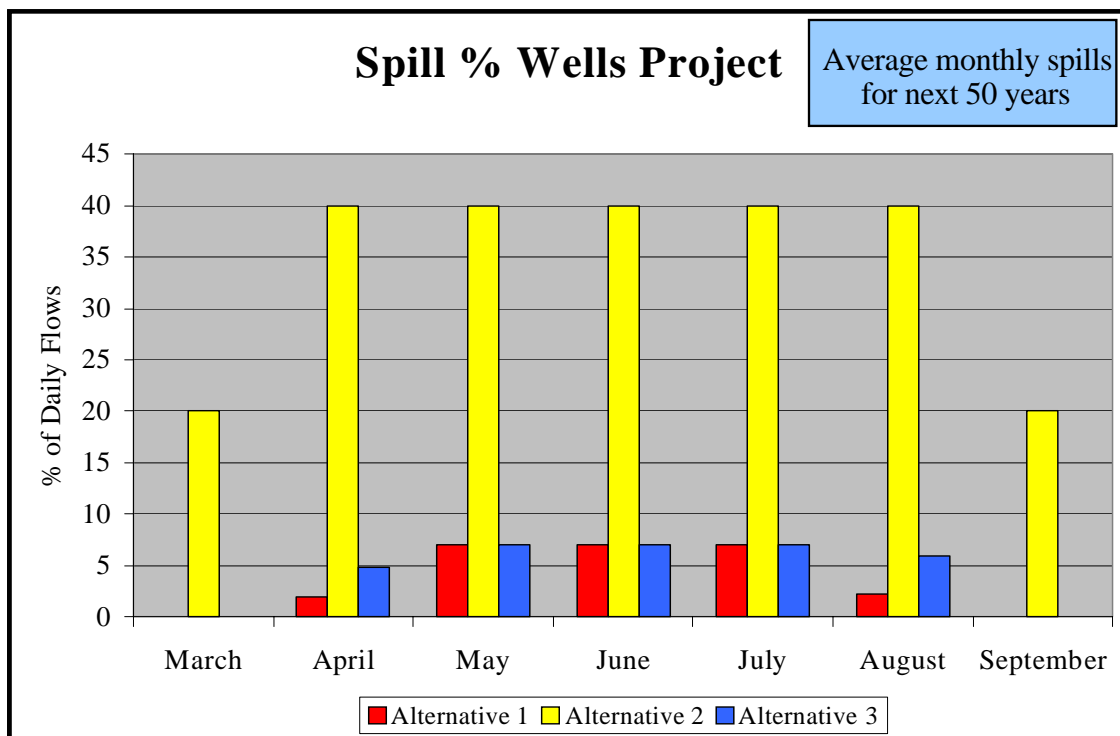


Figure F-7. Spill Percentage at Wells Project on a Monthly Basis

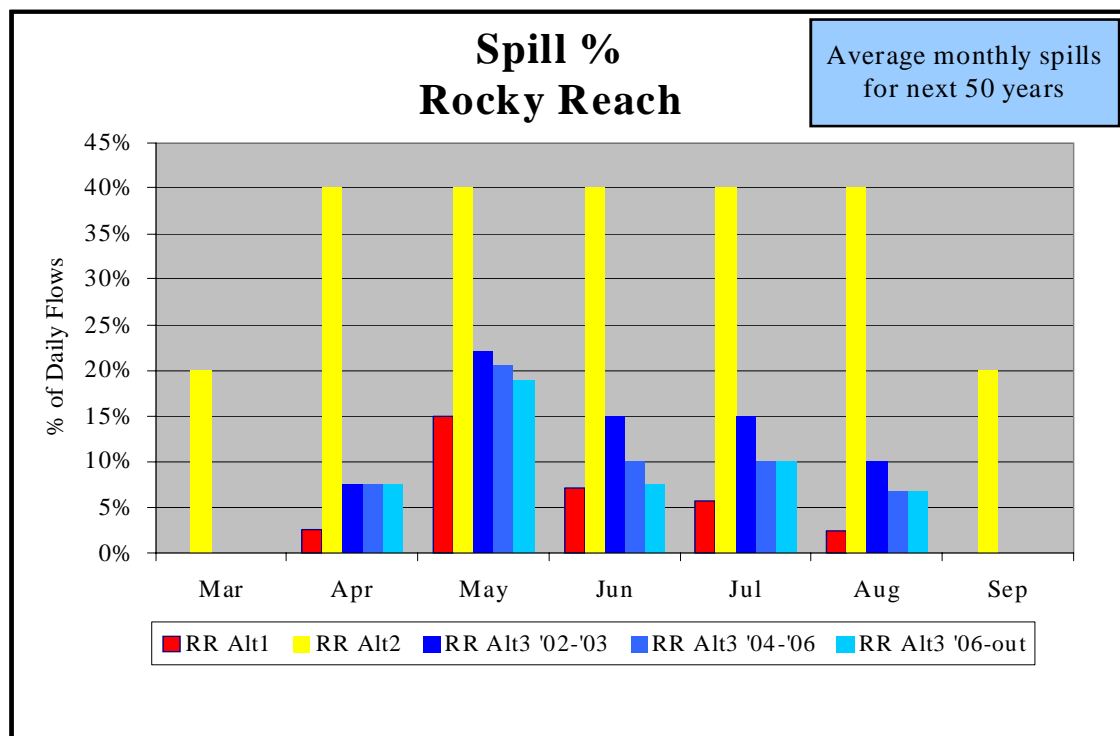


Figure F-8. Spill Percentage at Rocky Reach Project on a Monthly Basis

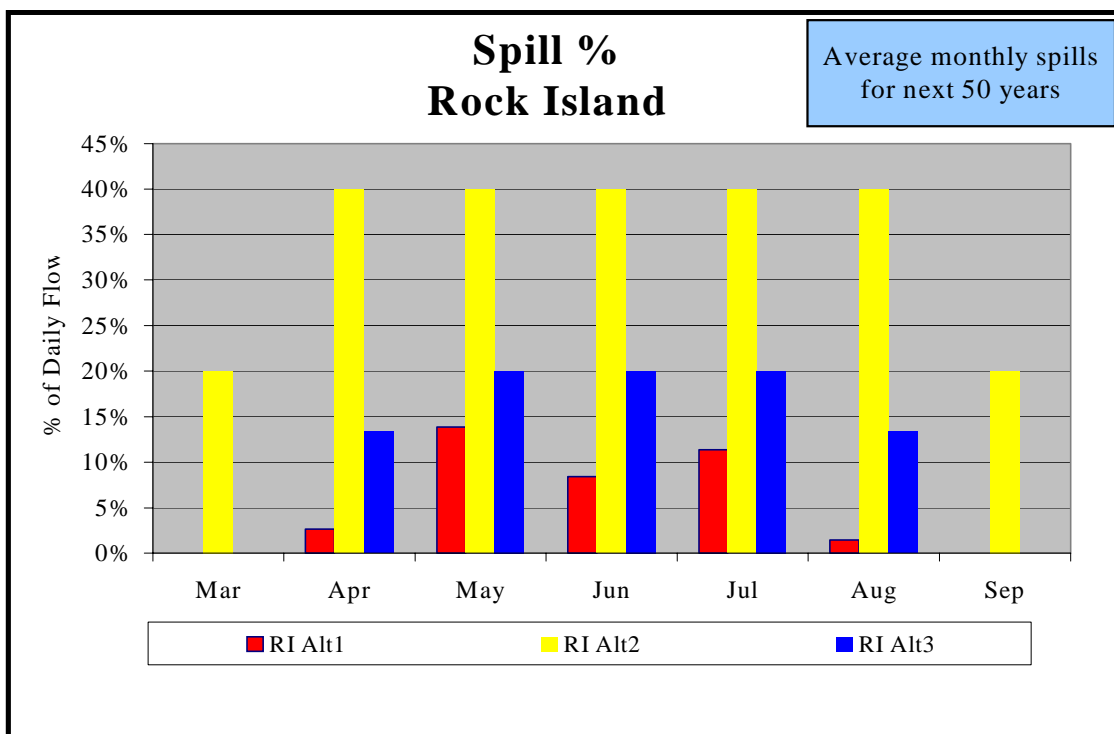


Figure F-9. Spill Percentage at Rock Island on a Monthly Basis

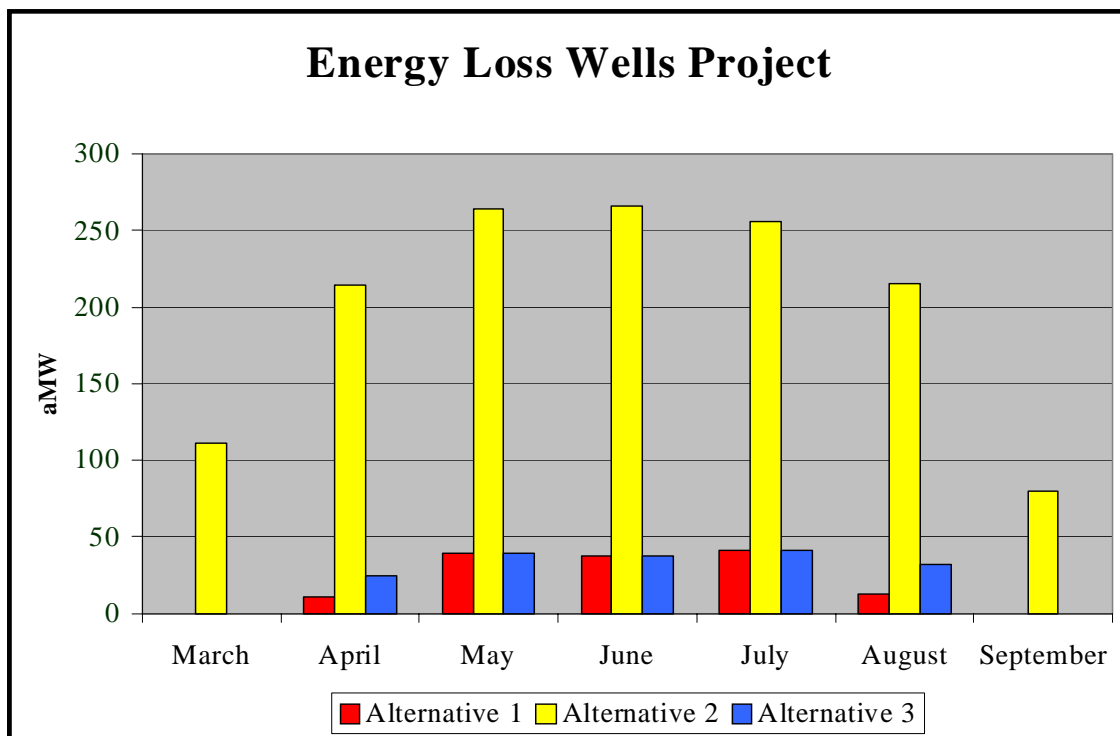


Figure F-10. Energy Loss on a Monthly Basis – Wells Project

Given the forecasted relatively flat spill characteristics throughout the day, lost capacity is approximately equal to the lost energy in aMWs. For example, it would require 100 megawatts of capacity generating 100 percent of the time to generate a block of energy of 100 aMW. The average spill for Alternative 2 for Wells, Rocky Reach, and Rock Island represents a 40 percent spill from March 15 through September 15.

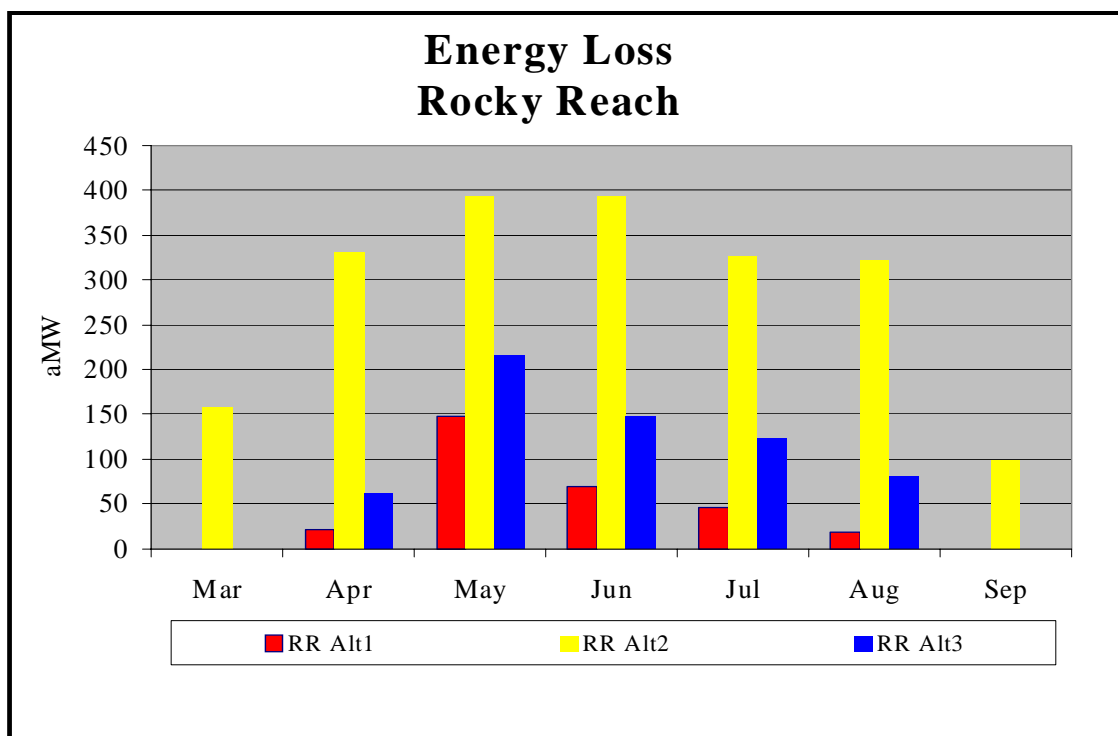


Figure F-11. Energy Loss on a Monthly Basis – Rocky Reach Project

By 2006, the energy due to spill for Alternative 3 decreases by 14 percent in May, 50 percent in June, and 33 percent for July to September. Given the forecasted relatively flat spill characteristics throughout the day, lost capacity is approximately equal to the lost energy in aMWs. For example, it would require 100 megawatts of capacity generating 100 percent of the time to generate a block of energy of 100 aMW. The average spill for Alternative 2 for Wells, Rocky Reach, and Rock Island represents a 40 percent spill from March 15 through September 15.

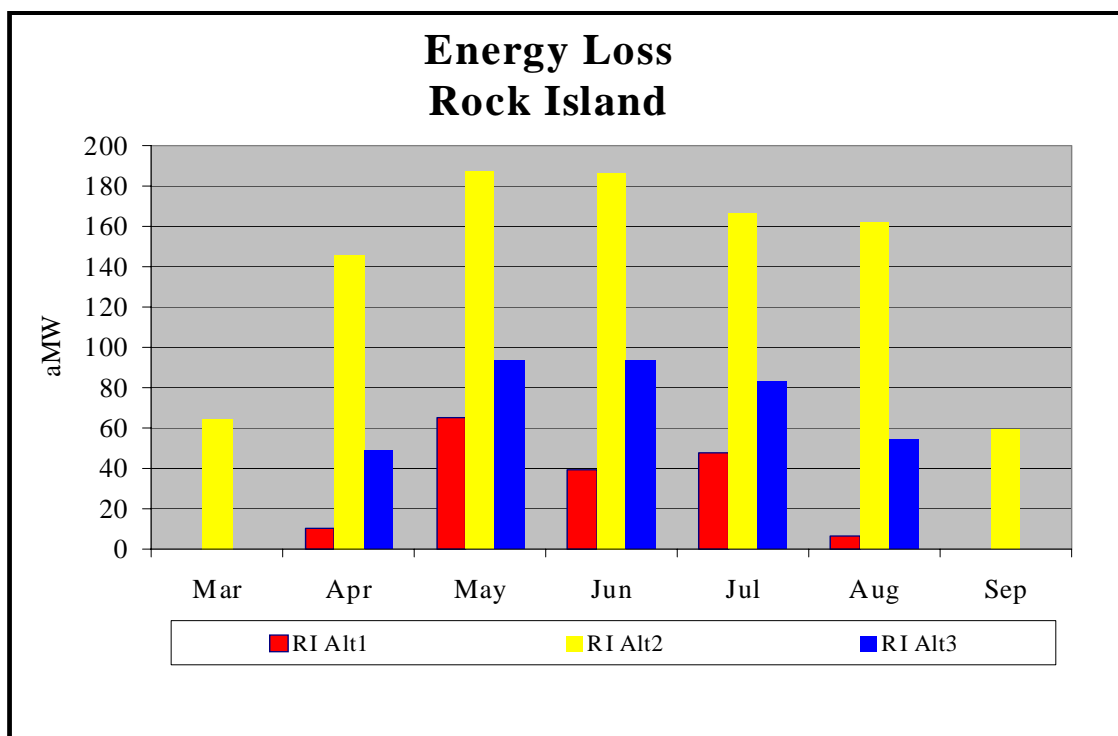


Figure F-12. Energy Loss on a Monthly Basis – Rock Island Project

Given the forecasted relatively flat spill characteristics throughout the day, lost capacity is approximately equal to the lost energy in aMWs. For example, it would require 100 megawatts of capacity generating 100 percent of the time to generate a block of energy of 100 aMW. The average spill for Alternative 2 for Wells, Rocky Reach, and Rock Island represents a 40 percent spill from March 15 through September 15.

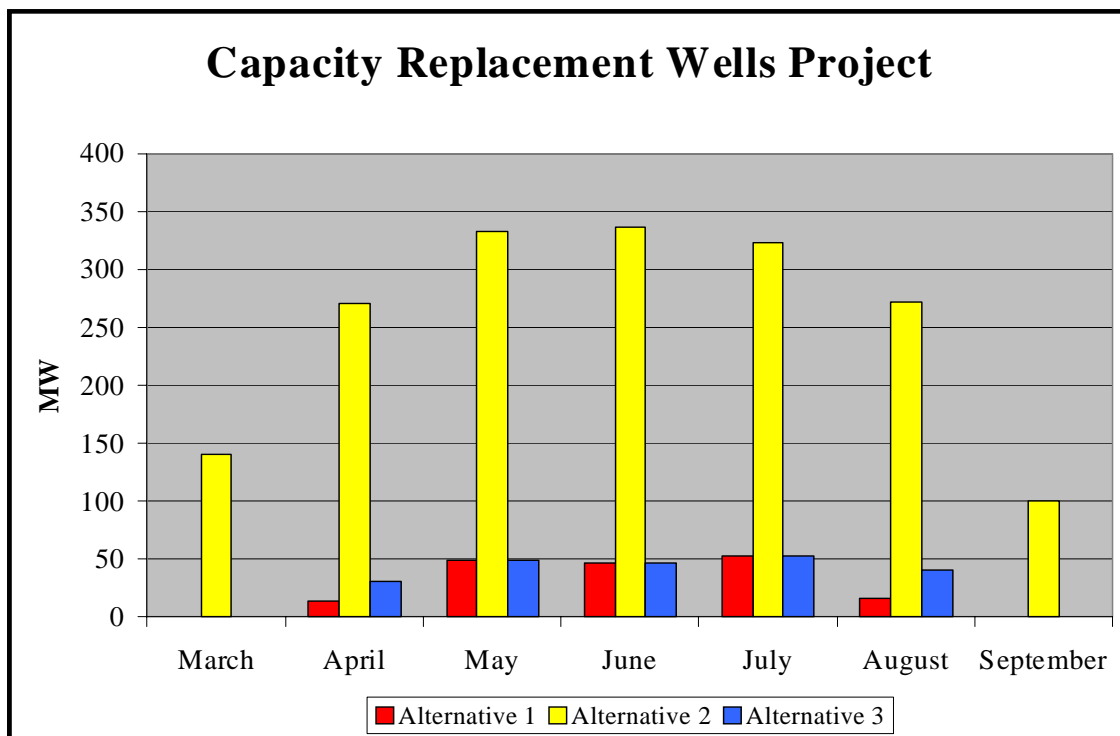


Figure F-13. Capacity Replacement – Wells Project

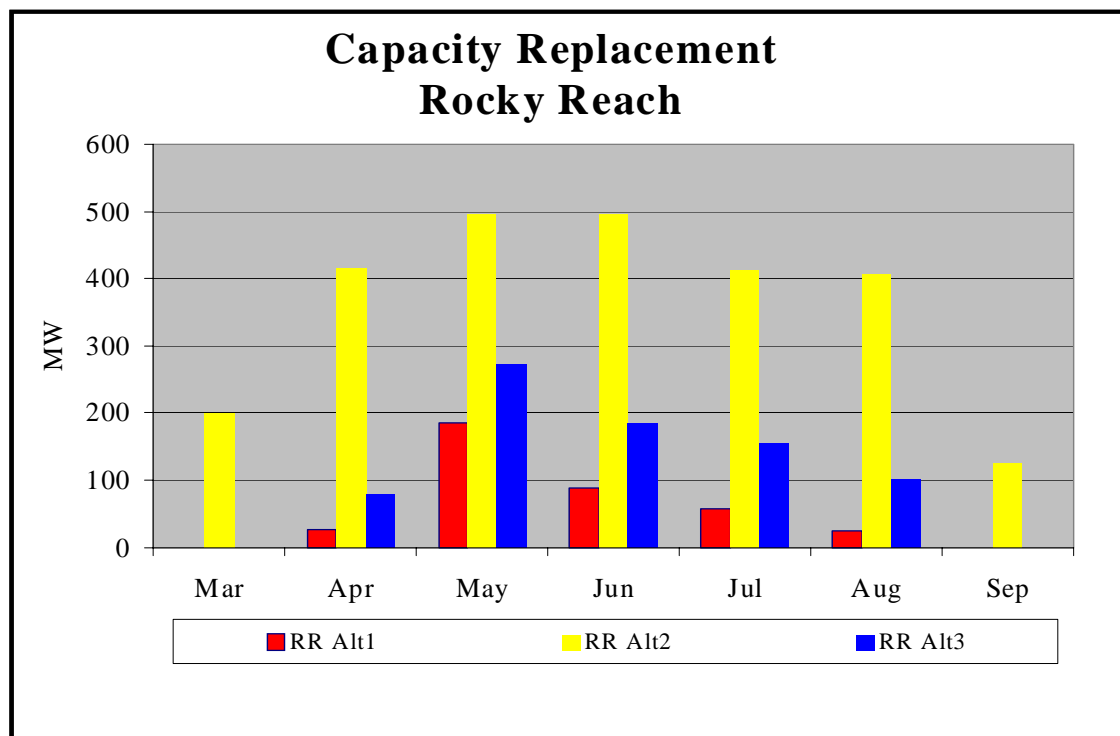


Figure F-14. Capacity Replacement – Rocky Reach Project

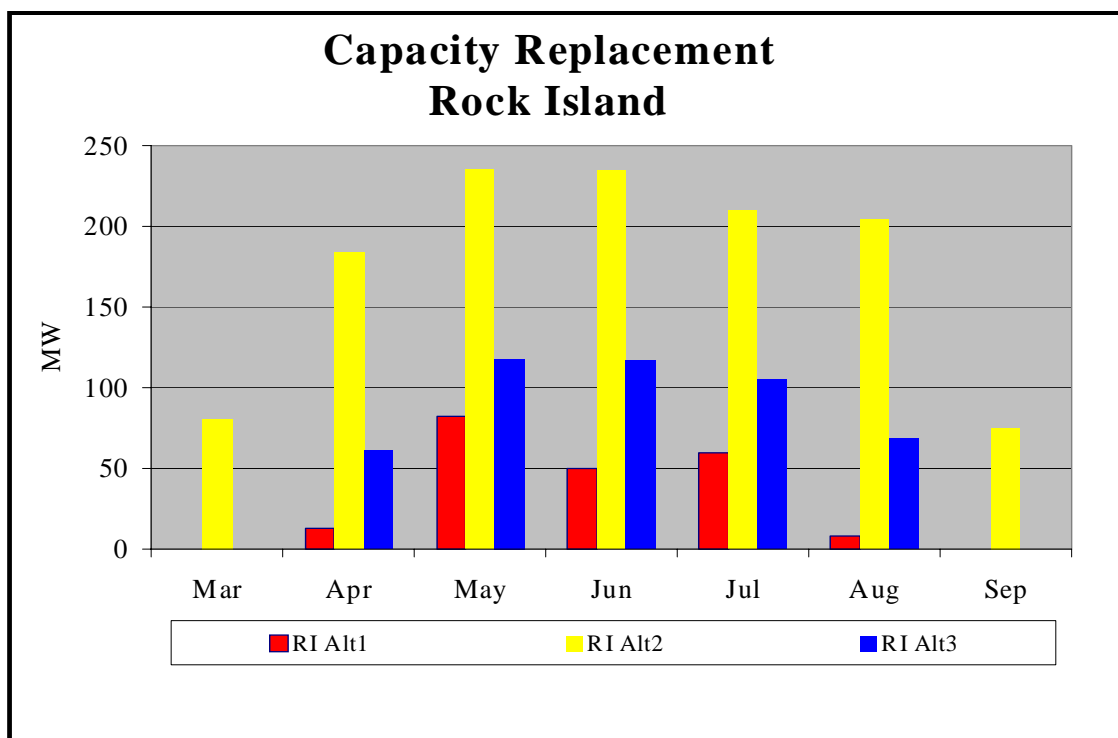


Figure F-15. Capacity Replacement – Rock Island Project