Rocky Reach Fish Forum

Wednesday, 5 July 2017
9:00 a.m. – 4:00 p.m.
Grant PUD, 11 Spokane St., Suite 205B
Wenatchee, WA

Meeting called by Steve Hemstrom
Notes taken by Katja Gottbrecht

Chairperson, Tracy Hillman

Attending Representatives:

Hemstrom, Steve	Chelan PUD	(509) 661-4281	steven.hemstrom@chelanpud.org
Rose, Bob*	YN	(509) 865-5121	rosb@yakamafish-nsn.gov
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Verhey, Patrick	WDFW	(509) 754-4624	Patrick.verhey@dfw.wa.gov
Lewis, Steve	USFWS	(509)665-3508 x14	stephen.lewis@fws.gov

Attending Participants:

Clement, Mike	Grant PUD	(509) 754-5088	Mclemen@gcpud.org
Dennis, Michelle	Chelan PUD	(509) 661-4066	michelle.dennis@chelanpud.org
Gottbrecht, Katja	Chelan PUD	(509) 661-4601	katja.gottbrecht@chelanpud.org
Hillman, Tracy	BioAnalysts	(208) 321-0363	tracy.hillman@bioanalysts.net
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* Joined via phone.

Meeting Minutes

I. Welcome and Introductions

Tracy Hillman welcomed everyone to the Rocky Reach Fish Forum (RRFF or Forum) meeting. Participants introduced themselves. This meeting was held jointly with the Priest Rapids Fish Forum (PRFF).

II. Agenda Review

The agenda was reviewed and approved.

III. Approval of Meeting Minutes

The June RRFF meeting minutes were reviewed and approved.

IV. Review Action Items

- Alene Underwood will provide the RRFF with a revised copy of the Tumwater Dam Lamprey Passage Feasibility Study. **The study is in executive review and Steve Hemstrom is working on a biological expectations document - Ongoing**
- Ralph Lampman will provide a concise summary of the PIT-tagged lamprey releases from/within Tumwater Dam and the 2016 Wenatchee release by the August RRFF meeting. **Ongoing**
- The RRFF will send comments to Steve Hemstrom on anything they see in the 2016 study that should be included in the 2017 study. **Complete**
- Steve Hemstrom will look at lamprey counts at The Dalles Dam and compare those to counts at Rocky Reach Dam. **Ongoing**
- Steve Hemstrom will provide the RRFF with data on the weekly fishway count passage numbers compared to weekly flows. **Complete**
- RD Nelle will look at the movements of adult lamprey released upstream and downstream of a diversion dam on the Yakima River. **Complete**
- Steve Hemstrom will compile data to look at the natural downstream movement behavior of Pacific lamprey in natural rivers to use in fishway passage estimates. **Complete**
- Mike Mackey from the Weed Board will send literature that evaluates effects of the herbicide on lamprey and other fish species to Marcie Clement who will share it with the RRFF. **Complete**
- Steve Lewis will follow up on any historical studies evaluating the effects of herbicide on lamprey and other fish species. **Ongoing**
- Chad Jackson will provide a map showing the locations for sturgeon larvae collections in the Columbia River. **Complete; Chad provided the map following the meeting.**

- Steve Hemstrom or Lance Keller will check with Thad Mosey on the accuracy of adult lamprey counts at Rock Island Dam. **Ongoing**
- Steve Hemstrom will check to see if Chelan PUD did anything at Rocky Reach Dam to improve fish counts beginning in 2006. **Ongoing**
- Steve Lewis will review 2005 and 2006 HCP Annual Reports to see if there were any changes in operations at Wells and Rocky Reach dams. **Complete - There were no major changes but Steve Lewis will follow up with Tom Kahler (Wells HCP Coordinating Committee member) regarding Wells Dam spill playbook changes.**

V. Sturgeon Updates

Broodstock Collection and Spawning

Chris Mott reported the joint Grant/Chelan PUD broodstock collection was conducted 30 May to 14 June 2017. He said it was a challenging but successful effort. The team delivered a 6x6 broodstock matrix to the hatchery (Marion Drain) and these fish were spawned on Friday, 16 June. A 6x6 spawning was attempted but one female underperformed; the group ended up with a 5x6 and a 1x3 for a total of 33 families (instead of the goal of 36 families).

Lance Keller added that the fertilized eggs from the underperforming female had a very low hatch rate. In order to get an estimate of how many fish are on station at Chelan Hatchery, Chelan PUD requested an estimate from Donella of how many eggs per ml were in the post-fertilization egg samples (Bob Rose will email Donella for this info). Lance noted that it will be difficult to represent all of the females proportionately because of the one female with the low hatch rate. Chelan PUD is eager to know how many fish they have on station in part because last year they came up short and had to secure surplus fry from the Douglas PUD program.

Chris Mott reported that Grant PUD continued exploratory fishing for a week downstream from Rock Island Dam. Lance Keller reported Chelan PUD will conduct a one-day exploratory fishing event on 6 July downstream from Priest Rapids Dam. The following week they will conduct another exploratory fishing event for two days in several locations downstream from Priest Rapids Dam (e.g., tailrace at Priest, White Bluffs, etc.).

Action Item:

- **Bob Rose will email Donella Miller asking her for the number of eggs per ml in the post-fertilization egg samples.**

Larvae Collection

Chad Jackson reported that in addition to the map showing the location of sturgeon larvae collection, he will send out a descriptive summary of larval sampling by week and effort. Since the effort began, WDFW has captured hundreds of larvae – over the last 1.5 weeks, most of the catch has been yolk sac larvae and not free-feeding larvae. Chad clarified they have only fished downstream from McNary Dam,

not at the Dalles or John Day. Bob Rose asked how many hours the team has been fishing. Chad responded it's been hundreds of hours, but he'll include this info in the summary. He noted that collection efforts have been much better than in the previous two years, but captures are slow-going and far from where they want to be. The current fishing location is easier to fish and staff are not nearly as affected by wind conditions.

Action Item:

- **Chad Jackson will send out a descriptive summary of how many and what kind of larvae WDFW is collecting downstream from McNary Dam.**

Diet Sampling

Mike Clement reported sturgeon diet sampling is ongoing. Grant PUD has collected 15 or 16 sturgeon so far and will fish a few more days in the next week (mostly in the Upper Wanapum Reservoir). Mike did not have any results to share at this time. Patrick Verhey asked if anyone had considered stable isotope analysis as a method to evaluate sturgeon diets. Patrick attended the Yakama Fish Management Workshop on Lake Cle Elum a few weeks ago and thought one of the presenters, Dave Beauchamp, had an interesting presentation that related to diet analyses. Patrick emailed Dave about the possibility of presenting to the Forums but has not yet heard back from Dave. Lance Keller added that the group that makes up the White Sturgeon Recovery Initiative in the Upper Columbia Trans-boundary area is also looking at muscle-plug samples for stable isotope analysis to try and get answers to the same questions (that study is in its infancy but Chelan PUD is following its development).

Lance Keller reported that Chelan PUD and Blue Leaf Environmental will conduct seasonal diet sampling in each section of Rocky Reach Reservoir during the week of 17 July. Lance confirmed Chelan PUD is still using the gastric lavage method.

Action Item:

- **Patrick Verhey will coordinate with Tracy Hillman on the possibility of Dave Beauchamp presenting to the Forums on stable isotope analysis for assessing White Sturgeon diets.**

VI. Adult Pacific Lamprey Passage Success

Rocky Reach Tagging Study

Julie Maenhout, Blue Leaf Environmental, reported that the latest PTAGIS query was done on 15 June. There were two new tags detected, both going up the Wenatchee River, and 10 more tags detected this spring (not new tags but detected again this spring); one at Wells Dam, eight at the lower Entiat River array, and one at the Middle-Harrison side channel array in the Entiat (a different fish than the one detected last year). Eleven of those had previously been detected and passed Rocky Reach Dam. There were no new detections at Rocky Reach, but two new detections going up the Wenatchee. These

numbers do not change any of the Rocky Reach Fishway passage efficiency calculations. Julie indicated that this will not be the last query.

Steve Hemstrom will enter these detections into the 2016 report. Steve Hemstrom and Blue Leaf will continue to track tag detections. There will be a 2017 study and report as well. Steve Hemstrom envisions an appendix where additional tag detections from the 2016 study will be recorded. Steve Lewis asked if additional detections from the 2016 lamprey releases would further boost the Chelan PUD metric if detected in 2017. Steve Hemstrom responded that if more fish are detected and pass this year at Rocky Reach that weren't detected before, he'd propose that Chelan PUD could still use the data, it just wouldn't be noted in the 2016 final report. Steve Hemstrom noted that lampreys can be around for two to three years and what he envisions is if Chelan PUD gets new 2016 tag detections, he would add a section to the 2017 study. It may or may not change the passage success portion for the 2016 study.

Julie Maenhout reported that one fish detected on 15 August 2016 at Rocky Reach was detected at Wells Dam on 10 June 2017.

Calculation of Fishway Passage Success

Tracy Hillman reviewed a question that arose at the last joint meeting of the Forums but was not resolved. He asked, if an adult lamprey enters the fish ladder, but then turns around and exits the fish ladder moving downstream and is later detected somewhere else (such as a spawning area), would this fish be included in the calculation of fishway passage efficiency?

Tracy, based on his action item from the last joint meeting, began the discussion by summarizing Karl English's studies with steelhead tagging efforts in the early 2000s. In English's 2001 report, of the 42-tagged fish that did not return to Priest Rapids after release, 27 were tracked to known spawning areas in the Snake River. In total, 22% of the radio tagged steelhead assigned to the tributary stock were tracked upstream to their spawning destinations. One wandering steelhead was tracked past each of the five mid-Columbia dams during the spring migration to the Okanogan River where it remained from about 16 November 1999 to 24 February 2000. This fish then migrated downstream through all five mid-Columbia dams during the no-spill period between February and March and then ended up upstream past three Snake River Dams to be recovered in the Lower Granite trap on 30 March. This is just one of 37 fish (14%) tracked to multiple spawning areas with 22 of these fish migrating into the Okanogan River.

Tracy noted that English's 2003 report showed similar results – of the 30-tagged fish that did not return to Priest Rapids after release, seven were removed by fishers before the fish could spawn and five were tracked to known spawning areas in the Snake River. Five of 30 fish went downstream, almost every stock that had some individuals that were tracked upstream to the spawning destination, in total 18% of the radio tagged Steelhead. English's 2016 publication reported that of the summer-run steelhead, the mid-Columbia River stocks had the highest proportion of tagged fish that resumed their upstream migration after release and remained upstream through the spawning period; 80-87% compared to 45-

73% for British Columbia rivers, which have no dams. An additional 5% of fish tagged and released in the Mid-Columbia migrated upstream shortly after release but later migrated downstream to spawn in areas downstream from the release site. In summary, the work of English indicates about 5% of tagged steelhead that were supposed to go upstream ended up going downstream. Thus, steelhead, like adult lamprey, move both upstream and downstream before they spawn.

Steve Lewis wondered if Karl English characterized the fish that migrated downstream as failed passage events, even though they went to spawning grounds. Mike Clement responded that English was describing the migration behavior of adult steelhead. Bob Rose asked if finding a lamprey in a tributary is different than finding it in the mainstem? Mike Clement noted it's hard to answer because lamprey do not demonstrate high site fidelity like salmonids do.

Ralph Lampman said that if a fish touches the dam, it meant to pass the dam. Bob Rose agreed and added that if a fish entered the project area, which extends 1/4 mile below the dam, the fish intended to pass the dam. Tracy Hillman referred members to the August 2016 final PRFF/RRFF Pacific lamprey subgroup meeting notes, specifically the section on within-fishway passage efficiency, which states: "*An important assumption is that adult lamprey captured and tagged within the fishway desire to pass the project. Results from recent tagging studies indicate that adult lamprey can move through various projects multiple times before entering a downstream tributary, reservoir, or tailrace to spawn. This means that not all adult lamprey that enter a fishway intend to pass the dam. Rather, these fish may interact with the fishway but ultimately move downstream of the dam and reproduce successfully. Thus, it is important to track these fish for at least two years to determine their final location if they spawn downstream from the project. Within-Fishway Passage Efficiency can then be adjusted based on these results.*" Thus, the subgroups considered this issue and offered a recommendation.

Tracy asked if members agreed with the recommendation from the subgroups. Some members indicated that the number of adult lamprey that turnaround in the fishway and move downstream is small and therefore insignificant. Others commented that this could be an issue if large numbers demonstrate this behavior. Kirk Truscott suggested that this may be an issue if the percentage becomes larger, but if you're getting a low number consistent with what you see in an un-dammed system (e.g., the Smith River study with 3-4% of adult lamprey moving downstream with no in-river projects there), then the fish could be removed from the calculation. Mike Clement noted that for Grant PUD, the hard line is the Section 18 prescriptions, which indicate that once a fish enters the concrete, it gets a pass or a fail for passage, not both. Thus, fish that enter the fishway and turnaround and move downstream are included in the calculation.

Tracy polled the group and each member present agreed with the definition provided by Mike. That is, adult lamprey that enter a fishway and turn around and move downstream are included in the calculation of fishway passage efficiency.

VII. Adult Lamprey Passage Rate Target

What is NNI Meant to Do?

Tracy Hillman began the NNI discussion by posing the question, "what is NNI meant to do?" Bob Rose responded: "to mitigate for unavoidable project effects." Mike Clement said that with regard to salmonids in the Priest Rapids Project Area, the NNI goal consists of eliminating project effects to the greatest practical extent and then mitigating for any remaining project effects through hatchery supplementation and habitat mitigation. Bob Rose responded that the NNI definition for salmonids is too narrow and prescriptive for lamprey, because there is no habitat fund or hatchery for lamprey. Steve Hemstrom refined Bob's definition by stating that NNI is meant "to mitigate for unavoidable operational project effects," which includes only those project effects since the last dam relicense that result from operation of the project. Based on that definition, Tracy asked if that means the presence or existence of the reservoir is considered part of the baseline condition. Steve Hemstrom said yes.

Bob Rose indicated that under Steve Hemstrom's definition, loss of lamprey in the reservoir would be part of baseline condition and the PUDs would not have to mitigate for it as a project effect. Mike Clement responded that there is no clear or measurable way to determine the effect of anything that is happening in the reservoir. Mike reiterated that the existing project conditions are FERC and ESA baseline. Steve Lewis added that existing baseline does not have to do with defined mortality in the reservoir, it's just the existence of the reservoir. If there were a modification to the operation of the reservoir, then the impact of that modification would need to be mitigated. Steve Hemstrom added because the Forums have not identified possible operational effects that could harm adult lamprey in the reservoirs, he does not see how adult lamprey not making it to or passing Wells Dam could be a Rocky Reach operational effect.

Bob Rose disagreed with the definition of "unavoidable project effects" as those relating only to operations. Using that logic, he said if fish weren't able to pass through existing fishways, that would be a baseline condition. Mike Clement clarified that he's not saying the project as-is creates a no-effect situation. The project affects lamprey, but it's not clear what those effects are other than on passage efficiency. Steve Hemstrom added that Section 18 of the Federal Power Act deals with fish passage, no matter how many relicenses are issued. Fishways have a different governing authority depending on the fish species. Bob said he is aware of this, but is more interested in what the PUDs' responsibilities are; that is, do they have a responsibility for loss in the reservoirs? Bob said he understands the difficulty in measurement but thinks that's where adaptive management comes into play. Mike Clement responded that it is Grant PUD's position that they must understand and clearly measure what those operational effects are in the reservoir in order to inform any mitigation. He thinks the ambiguity is the definition of "adaptive management." Bob believes that the license indicates it is understood that our knowledge will change and allows for changes to the management plan without needing to go back to FERC to be reviewed as a substantial or significant change.

Mike Clement stated that he does not believe technology exists to understand what is going on in the reservoirs. Bob Rose said the group should not wait for technology to appear before trying something. Bob is concerned that the things going on in the reservoir won't be included in the NNI conversation because they can't be measured, and will therefore be abandoned altogether. Bob thinks there are tags and technologies that can be used and there is an obligation for the PUDs to try something. Mike Clement responded that those technologies do not measure natural reproduction or predation. Patrick Verhey added that if a study did occur (say, for example, a stable isotope study), would the study results have to be compared with data before the last license to show that an operational change (and operational effect) had occurred, linking the impact to operations before it could be considered NNI? Patrick added that if an impact was identified, it would likely be hard to connect to an operational impact.

Steve Hemstrom remarked that no one has suggested any hypotheses that link the operations of Rocky Reach Dam to changes in the reservoir operations that would cause death of adult lamprey. Steve stated it is not Chelan PUD's responsibility to investigate every unknown lamprey movement or lamprey fate (this requirement is not in the license). Steve maintained that no one has identified a reservoir effect to study. Steve Lewis indicated that this was how it was stated for salmon and steelhead in other agreements, so why wouldn't we include the reservoir in NNI? Steve Hemstrom responded that if you could identify a reservoir effect and study it, he thinks it could be included in NNI, but that there's not a defined responsibility to study something in order to find an effect when none are likely and none have been hypothesized. Kirk Truscott disagreed with Steve Hemstrom's definition of project effects as only project operational effects. Kirk asked is it reasonable to expect a creature that evolved in a free-flowing river system to experience no negative effects in a largely reservoir system? Kirk and Patrick Verhey wonder if the situation would be different if there was imminent listing of Pacific lamprey, rather than the current situation of declining populations. Steve Hemstrom disagreed that populations are declining and noted that the populations are increasing. He added that the Sacramento Delta is being repopulated and that there are anticipated to be over 80,000 adult lampreys over Bonneville Dam this year. Mike Clement asked what members thought the PUDs should be doing differently, beyond what they are currently doing, if listing was imminent. Bob Rose responded they would bump up the intensity and wouldn't be discussing whether or not to employ adaptive management.

Steve Hemstrom thinks the group is focusing on the wrong area and suggested that Douglas PUD do some translocation studies. If Douglas PUD were to find out it was a pheromone issue or a thermal problem from the Tripod fire, and not a Rocky Reach Reservoir effect impacting lamprey, what would be done with NNI? Bob Rose maintained that this conversation happened several years ago, and suggested it may be time to engage policy-level staff to frame some of these questions in the face of a dwindling population of lamprey. Steve Hemstrom responded that lamprey populations are higher now than 12 – 15 years ago and there is no way of knowing what the historical levels of lamprey passage were. Bob Rose said he is concerned that Steve is using 2008 (the last relicense, when lamprey populations were tanking) as baseline.

Steve Hemstrom asked if Chelan PUD is being too demanding by asking the Forum to identify what the Rocky Reach Reservoir project effect is that keeps adult lampreys from passing Wells Dam. Bob Rose responded that he realizes these are currently unanswerable questions, so why do we keep asking them? In the meantime, there are still problems and Bob would like to do something modest and substantive for the lamprey population. Steve Lewis asked if Bob is suggesting bypassing studies to determine project effects and going directly to mitigation. Bob indicated there is still an obligation to study, but in the meantime, why not do translocations to provide value to the whole system and possibly to PUD studies? Bob added that he's delighted Chelan PUD has met a nearly 100% passage standard for adult lamprey at Rocky Reach, but the reservoir questions are just as important as dam passage, because they have exactly the same effect; that is, fish aren't getting to the tributaries, which is the goal of the Yakama Nation. Bob said this is his understanding of the management agreements and why there is adaptive management to make this happen. Bob Rose suggested the group write up a few statements and go to dispute resolution at the policy level.

Mike Clement agreed that dispute resolution may be an option, considering there has been little progress. Mike thinks that asking the PUDs to measure and study the effects of things that aren't feasible or linked to project operations is unreasonable. Kirk Truscott thinks dispute resolution would be a battle of attorneys interpreting FERC language. Kirk maintained that the lamprey plan says to mitigate for project effects (the fact that the reservoir is not a free-flowing river) and not project operational effects as Steve Hemstrom has suggested. Kirk added that current Grant PUD acoustic tags already show fewer and fewer fish are converting upriver (for instance, not moving past Goosetail Island). Steve Hemstrom added that if it were a reservoir effect, he would expect to see similar passage issues in the reservoir between Rock Island and Rocky Reach dams, but that's not occurring (even though Rock Island Reservoir is even faster-flowing than Rocky Reach Reservoir between Rocky Reach and Wells dams).

Tracy Hillman suggested that being unable to reach a consensus on the definition of certain terms such as NNI, project effects or project operation effects, and baseline conditions, may be precluding the Forums from moving forward, and may be outside a technical-level discussion. He said he understands the struggles of the different parties. From the PUDs' perspective, following the FERC definition of baseline, any proposed study would have to be linked to project operations with the existence of the reservoir included as baseline. If the Forums propose a study that is mostly exploratory or descriptive (e.g., why do several adult lamprey remain within the reservoir?) without first linking it to an operation, it may not be acceptable to PUD management. On the other hand, some parties are saying there is a project effect, because so few adult lamprey convert between certain dams, but we do not know how it is linked to the projects because we are not conducting studies to determine possible linkages. Tracy continued that some parties suggest conducting tagging studies, but these are questioned because the technology may not be adequate to answer the question. In addition, we have not done our due diligence to identify testable hypotheses that link project operations to possible fates of adult lamprey in the reservoirs. Steve Hemstrom added that his managers would first ask what the problem is, then they would look at the Pacific Lamprey Management Plan, and then they would ask if the reservoir passage issue is linked to Rocky Reach operations or is it a Wells Dam passage problem. Steve noted it's not in

the Rocky Reach Lamprey Plan for Chelan PUD to study unknown, unidentified, reservoir effects when none can be identified. Thus, management will ask what the project effect is and what does the management plan say about it.

Tracy Hillman suggested that if the Fish Forums can come up with some plausible, testable, hypotheses on effects of reservoirs on adult lampreys, it would be easier for the PUD technical reps to convince their upper management that this is a worthwhile study. According to the Management Plans, the Forums are supposed to identify possible project effects, study them, determine what can be done, and then calculate unavoidable effects to address NNI. Steve Hemstrom added that if we cannot link it to a project operation, then it's not part of NNI. What the Fish Forums would need to do is come up with specific hypotheses that are linked to project operations. Tracy said the Forums seem to be getting hung up on definitions and maybe we need the policy group to define terms for us.

Mike Clement suggested we have a workshop on identifying possible effects and hypotheses could be explored, and how those effects could be measured. Tracy agreed, but added that a fruitful discussion will rely on us all having a common understanding or definition of baseline condition. If baseline includes the presence of the reservoir and we only focus on project operations, then the number of testable hypotheses we come up with will be limited (e.g., hypotheses associated with flow fluctuations, velocities through the reservoir as a result of operations, and maybe predators). Steve Lewis added that FERC baseline for environmental analysis is the ongoing effects of the operation of the reservoir, not the existence of the reservoir. Bob Rose and Kirk Truscott said they believe the definition of baseline should be what it was like for lamprey when there was no dam (i.e., a free-flowing river system).

Tracy Hillman said he can try to convene the policy group to define terms for us, or we can try to come to consensus on definitions, or, as an alternative, the Forums may elect to negotiate what they think NNI would look like, in the absence of accurate and precise estimates of unavoidable effects. Tracy said we started down the path of negotiating project effects several years ago but ran into several road blocks. Given our understanding of lamprey now, perhaps the issue of negotiating effects is more ripe for discussion. Tracy took a poll and all members present were open to this suggestion. Tracy recalled during discussions on this topic several years ago that the Colvilles would not agree to reopening signed agreements. Steve Lewis added that he would be willing to entertain such a negotiation but could not ignore reservoir effects. Tracy clarified that he is not suggesting ignoring any reservoir effects. Rather, parties would negotiate possible mitigation measures even though we have not, or maybe cannot, measure all possible project effects. Tracy suggested the Forums (1) identify testable hypotheses that link project operations to the fate of adult lamprey within reservoirs, (2) begin negotiating project effects without measuring all the effects (which Tracy noted was not consistent with the Management Plan but doable if all parties agreed to it), or (3) a combination of both.

Bob Rose indicated the solution will be a combination. Bob is concerned that the PUDs will want to constrain certain parameters (whether in the negotiations or outcomes; for instance, not wanting to include juvenile lamprey), and the rest of the group may not want to be so constrained. Kirk Truscott said he is unsure why, in the absence of a defined or measured effect, the PUDs would be willing to

entertain an NNI negotiation but not a study on potential reservoir effects because both will result in some financial burden to the PUDs. He added that he is willing to consider a negotiation, but just wants to do something good for struggling lamprey.

Steve Hemstrom asked Tom Skiles if he could think of a possible project operational effect in Rocky Reach Reservoir that would keep 3,000-5,000 lampreys from moving upstream and over Wells Dam. Tom thinks Brian McIlraith may have some ideas. Tom will check with Brian and respond to Tracy Hillman.

Tracy Hillman suggested having separate meetings of the RRFF and PRFF in August. He will include time on the agendas to identify and discuss testable hypotheses and time to discuss terms of a negotiation. Tracy also asked Forum members to read the Pacific Lamprey Management Plans and to talk with their policy staff to see if a negotiation might be possible. He also encouraged them to start thinking about plausible hypotheses that link project operations to lamprey "fate" in reservoirs. Patrick Verhey offered to find a table the Forum generated a few years ago that lists potential project impacts on lamprey (pressure changes, going through turbines, predation, impacts to juveniles, etc.).

Action Items:

- **Steve Lewis will ask USFWS policy staff for their definition of baseline conditions and provide that answer to the Forums.**
- **The RRFF/PRFF will think about plausible hypotheses regarding linkages between operational project effects (avoidable or unavoidable) and adult lamprey fate in reservoirs.**
- **Tom Skiles will talk with Brian McIlraith regarding linkages or hypotheses that would explain operational project effects, how the operation affects the reservoir, and how the reservoir affects conversion to Wells project area and the tributaries.**
- **Forum technical representatives will talk to their policy staff about an NNI negotiation.**
- **Patrick Verhey will provide the Forums with a table on potential project effects on lamprey.**

VIII. Next Meeting

The next meeting of the RRFF is scheduled for Wednesday, 2 August 2017 from 1:00 to 4:00 p.m. and will be held at the Chelan PUD office in Wenatchee at 327 N. Wenatchee Avenue (2nd Floor Conference Room).