



Grant County  
**PUBLIC UTILITY DISTRICT**  
*Excellence in Service and Leadership*

Priest Rapids Coordinating Committee  
**FINAL MEETING AGENDA**

Friday, December 15, 2015  
Grant PUD Wenatchee Office  
9:30 am

**PRCC REPRESENTATIVES**

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Scott Carlon, Justin Yeager (Alt), NMFS  
Bob Rose, YN  
Jeff Korth, C. Andonaegui (Alt), P. Verhey (Alt), WDFW  
Curt Dotson, Tom Dresser (Alt), GCPUD  
Denny Rohr, D. Rohr & Assoc., Facilitator

Jim Craig, USFWS  
Kirk Truscott, CCT  
Tom Skiles, CTUIR  
Orlene Hahn, GCPUD, Executive Assistant

**MEETING ATTENDEES**

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Scott Carlon, NMFS (via phone)  
Kirk Truscott, CCT  
Curt Dotson, Tom Dresser, GCPUD  
Denny Rohr, D. Rohr & Assoc., Facilitator  
Leah Sullivan, Blue Leaf Environmental (via phone)  
Bob Rose, YN (via phone)

Jim Craig, USFWS  
Tom Skiles, CTUIR  
Orlene Hahn, GCPUD, Executive Assistant  
Mark Timko, Blue Leaf Environmental  
John Skalski, UW

**Action Items from December 4, 2015 PRCC meeting**

1. **Meeting Minutes Approval** – Rohr to send e-mail out to get approval from the Committee for the October 28, 2015 and November 17, 2015 meeting minutes. Discussed during today's meeting.

**FINAL MINUTES**

- I. **Welcome and Introductions**
- II. **Agenda Review** (D. Rohr)
- III. **Meeting Minutes Approval** – October 28, 2015; November 17, 2015. (D. Rohr) – Skiles and Rose will approve via email.
- IV. **2015 Juvenile Steelhead and Sockeye Survival & Behavior Evaluation** (C. Dotson) – Prior to the PRCC meeting, Rohr sent the PRCC a “white paper” that Dotson put together, as requested at the Dec. 4<sup>th</sup> PRCC meeting, that discusses the “hows & whys” that took place to initiate the re-analysis of the 2015 study data. John Skalski from UW presented a PowerPoint entitled “Revisiting the Spring 2015 Survival Results for Steelhead at Wanapum and Priest Rapids Dams”. Hard copies of the presentation were handed out to the committee prior to the presentation. Discussion took place regarding the results of the 2015 study and focused on the methods/assumptions associated with the conducting of the study. What was seen in the 2015 steelhead data (and to a lesser extent in the 2014 data) was that not enough time in the river was allowed for the handling effects in the R<sub>3</sub> release group to play out before they reached the final study detection site; and, that by “moving” the

study's final detection site to the Hanford 1 & 2 arrays, the data shows that most of the handling effects have manifested themselves and resulting in a much better comparison of the three release groups of fish – thus giving a more representative estimate of steelhead smolt survival through the Priest Rapids Project. The original survival summary for 2015 for Steelhead was reexamined (0.8664 (0.0169)). The cumulative survival curve patterns in 2015 R<sub>3</sub> for sockeye showed parallel and above. For Steelhead in 2015, R<sub>3</sub> showed below and not parallel – showing that something (i.e. handling effects) was still being manifested in the R<sub>3</sub> group but already fully manifested in the R<sub>1</sub> and R<sub>2</sub> groups. The survival probability per mile curves for 2015 showed Sockeye at the same rates for R<sub>1</sub>-R<sub>3</sub> except when passing through the dams. Steelhead 2015 survival probability per mile were also at the same rates but only at the end of the study area. The question was asked about river miles 408-397 in R<sub>2</sub> and is this showing the same problem. Both controls are showing somewhat of an effect. Additional comparisons were reviewed: Cumulative Survival Curve Pattern 2014 – yearling Chinook salmon 2014 and steelhead 2014 evidence showed they were experiencing the same thing in 2014; however the degree of effect for yearling Chinook was considerably less than for steelhead. There was the need to compensate for longer equilibration time by using further downstream detection arrays. In 2014 it appears that the Steelhead had a delayed effect of the handling, but not as dramatic as seen in the 2015 study data. The Chinook appeared to shake off those effects right away. It was mentioned that even though it appears that the Steelhead were somewhat unhealthy, it still took longer for them to show the tagging effects. All fish are experiencing something but at what rate or effect is questionable. There appears to be a significant problem and it is basically the same problem in 2014 and 2015. It seems like we have an imbalanced study. Further down towards Hanford, we have extra downstream arrays which show that downstream the two groups do equilibrate. Something is significantly happening between mile markers 388 and 369. Part of it is where the pictures are being taking. The closer arrays are picking up micro processes that get sorted out downriver. Rose asked the question if in past studies, do we know for sure that dead fish are not being detected at the downstream detection arrays? Mark Timko said that this scenario is tested every year, by releasing dead fish in the fly tanks, and there have not been any show up downstream. It was suggested to compensate for longer equilibration time by using further downstream detection arrays. There was a question about travel time. It is 21 hours from Wanapum Dam (WD) to Priest Rapids (PR) and from WD to Mattawa it is 3 hours. It is felt that maybe the detections are being done too soon by using the upper arrays for the R<sub>3</sub> fish.

Steelhead Survival – Priest Rapids Development – the previous estimate was 86% and the revised estimate using lower reaches was 94%; the precision is less downstream.

Revised Estimates – Survival Summary for 2015 PR development is 94%, standard error 0.0278 and WD development is 80%, standard error 0.0284. The recommendations for future survival studies are: 1) Eliminate Vernita Bridge array; 2) Add an additional array between White Bluffs and Hanford #1; 3) Move Hanford #2 further downriver; 4) Increase nodes at Hanford #1 and #2 to increase tag detection efficiency; and 5) Increase tag-release numbers (sample size) to compensate for more mortality to final arrays, thus also increasing the precision of the survival estimate. How many more tags would be required? John Skalski felt at least 50% more. Mark Timko and Leah Sullivan didn't think it would take that many. Skalski and Blue Leaf will look further into the exact number of tags to be released to meet the stated objective. (Side note: The day after the PRCC meeting (12/16), Grant PUD was informed that an additional 100 tags would be needed). Putting in an extra node is less expensive than more tags. Maybe then only 25% more on tags. What do we lose if we remove the Vernita array which is the first detection point below PRD? That array would show dam passage effects. We may lose the discernment of where the action is, but we could eliminate it as the finish

line of the survival studies. John Skalski stated we don't want to do another year of picking and matching. Dotson stated that based on John Skalski's presentation it is the recommendation of Grant PUD, for the 2016 survival study, to move the "finish line" (i.e. last detection site for the study) downstream to Hanford 1 & 2. For the 2015 study use Hanford 1 & 2 as well for calculating the PR Project survival estimate, and for the 2014 study, re-calculate the PR Project survival estimate by having the same finish line at Hanford 1 & 2. We have the data set for 2014 and could recalculate, plus use Hanford 1 & 2 for 2015 and for 2016. Dotson stated it comes down to a three year average. **Dotson suggested using the Hanford 1 & 2 detection arrays for the 2016 study and also use them (Hanford 1 & 2) for the analysis of the 2014 and 2015 studies' data sets.** Rohr submitted these recommendations and asked the committee members individually for their thoughts. Scott Carlton was uncomfortable with changing the study parameters but after hearing John Skalski and Curt Dotson's explanations, he is okay with doing it. Tom Skiles was in support of moving to the Hanford detection array in 2016. He has questions with moving it for 2014 and 2015 due to the SE being greater than 0.025 for the survival estimate that would be generated. Dotson stated that in the 2008 survival study there were some bad tag lots and the PRCC amended the 2008 study based on having these "bad tags" removed from the study's data set. By doing this, the survival estimate was 0.8276 with a standard error (SE) of 0.0305, and the Committee accepted those study results realizing the standard error of 0.0305. Dotson stated that he was relating this as an example where the PRCC has allowed a greater SE than what is stated in the documents (i.e. 0.025) under certain, case-by-case circumstances, so what is being proposed today isn't anything "new" to come before the PRCC. Dresser asked John Skalski what he would rather have, a study that doesn't violate the study assumptions or precision of the study's estimate. John Skalski stated accuracy in conducting the study is your #1 priority. Dotson mentioned the Salmon/Steelhead Settlement Agreement (4.2) says to use the best available scientific information in conducting studies. Skalski stated precision is noise and accuracy reflects how true. Kirk Truscott was on board for moving to Hanford 1 and Hanford 2 for 2016 as well as for 2015. He was less onboard for 2014 with the WD reservoir drawdown. His concern would be to look at total project survival and use that as one of the three years for the average. He was wondering if we can we really use 2014 with the WD reservoir making that year an anomaly. He was agreeable to calculating a reanalysis for 2014. Jim Craig was okay with the same logic that motivates us to move the arrays downstream for 2016, and also do it for 2014 and 2015. With Skalski's help and Blue Leaf's help there is sufficient information to do this. Skiles asked about NNI. NNI is locked in until the Spring of 2017. Rose supported the recommendations completely. He did recommend to Skalski to do the calculations to get us as close to the 100% detection efficiency and quite a bit below the 2.5% standard error of the survival estimate so that we are not in an awkward position next year. Skalski stated we are shooting for something less than the 2.5% and adjusting the sample sizes Skiles supported the recommendations. Korth was not in attendance at the meeting but Rohr was to contact him after the meeting. Rohr felt that he would have some answers from Korth by the end of the week. Dotson stated that he needs to know about how many tags are needed to be ordered very soon.

**15 vs. 20 KCFS thru the WAN Bypass** Kirk was concerned that if we add more blocks to the study, would we eliminate or remove some fish, due to the "transition time between treatments", thus reducing our sample size of test fish. We want to make sure that is taken into account for the tags for 2016. Skalski felt that we are going to have more than enough fish. The power calculations took this into account. Skiles stated that if we detect a difference in FPE, then we detect more fish going through the turbines. Skalski stated that we are going to have to make judgments on the parts in the process, but that we can get a relative benefit. The difference between FPE and relative survival was discussed. The WD bypass started in 2008. Truscott asked what the variability is. Dotson took 2014 out. Dotson spoke about the Excel spreadsheet regarding Steelhead – passage route efficiency

updated on 10/28/14. Truscott wanted to bring forward the discussion of the variability. Dotson stated that the idea of 15 kcfs and 20 kcfs can be discussed at the next meeting. The number of JSATS tags needed has to be decided soon. Carlon was not comfortable with the whole idea to get down to 15 kcfs, yet the science suggests no difference between 15 kcfs or 20 kcfs. Carlon would prefer that Grant PUD stay at 20 kcfs, but he is okay with moving forward with the test. Rose stated the same thing as Carlon. Rose also stated that he did not appreciate Grant bringing this conversation before the Committee at this time. He stated that he would like it if steelhead survival numbers were brought up to where they should be at 20 kcfs before changing anything. At the next meeting the dialogue and discussion will be continued regarding 15 kcfs and 20 kcfs.

- V. **DRAFT 2016 Juvenile Steelhead Survival Evaluation Study Plan** (C. Dotson) – An amended 2016 study plan will be sent out.
- VI. **2016 Study Proposal – “Evaluation of Caspian Tern Management to Reduce Predation on ESA-Listed Salmonids in the Columbia Plateau Region”** (C. Dotson) – Carlon is for the study but uncomfortable with the cost. Dotson feels the 2016 study is important to achieve a comparison of Caspian Tern Predation rates on steelhead smolts, plus information regarding the unmanaged tern colonies. Last year satellite tags showed two different new locations. From Grant’s standpoint, having the satellite tags helped. The cost is \$1,000 per bird for satellite data gathering for a total of \$60,000. Regarding the Active Nest Dissuasion level of effort, Goose Island hazing was paid for by NNI. Action agencies were not going to do anything (i.e. in-depth monitoring) at Twinning and Blalock Islands as far as additional monitoring in 2015, based on their “pre-set” scope of work for OSU/RTR. The in-depth information (i.e. predation rates, number of nests, productivity rate, etc.) on Blalock Islands was conducted via funding from PRCC. Regarding the 2016 nesting season, Dotson posed the question “If the water is raised (at Blalock Island) then where will the birds go?” Dotson is thinking they will go to Twinning Island, and we need to monitor that movement and to provide data to hold the action agencies to their management plan for terns in the Columbia Plateau. Regarding Columbia Plateau Caspian Tern Colonies 2013-2015, Banks Lake had 52+ nests, Lake Lenore 17+, Sprague 6+, Goose Island 340, Crescent -400 and Blalocks +624. Dresser stated that Grant has support from senior management to go forward one more year, and then talking points are to be put together and given to senior management. After next year’s information data is collected there will be visits to policy folks. Rose wanted to add to the game plan. He would like to add that his agency is pretty much done funding this project and they are pretty uncomfortable with funding this thing. Rohr stated we will revisit the issue of funding in 2017 at another meeting in line with what Dresser just shared. The document was agreed upon and the agencies are not holding up their end of the deal. We know what they are going to do in 2016 but they have not been awarded yet. Truscott stated that quite a bit of last year’s report dealt with avian predation, including gulls. We have no certainty that these birds are foraging at this site. The question was asked how much additional cost is associated in this proposal with monitoring predators other than terns? The Corps is looking at those birds too. Grant’s position was in favor for the \$980,033 (comes out of NNI fund 601) as presented for 2016 – Rose, Skiles, Craig, Truscott, Carlon are in support. This will be subject to Korth’s agreement. Dotson to notify the proposers once he hears from Rohr after Rohr speaks with Korth.
- VII. **Next Regular Meeting – January 27, 2016**

**Action Items from December 15, 2015 PRCC Meeting:**

1. **2015 Juvenile Steelhead and Sockeye Survival & Behavior Evaluation** – Korth was not in attendance at the meeting but Rohr was to contact him after the meeting regarding his concurrence with the committee members' decisions. Rohr hoped to have some answers from Korth by the end of the week.
2. **2016 Study Proposal – “Evaluation of Caspian Tern Management to Reduce Predation on ESA-Listed Salmonids in the Columbia Plateau Region”** – The Study Proposal was approved by the committee, subject to agreement from Korth. Rohr will contact Korth after the meeting. Dotson to notify the proposers once he hears from Rohr after Rohr speaks with Korth.