



Priest Rapids Fish Forum

Wednesday, July 01, 2009

9:00 a.m. – 4:00 p.m.

Grant County PUD Natural Resources Office
Conference Room “C”

Members

Stephen Lewis, USFWS
Bob Rose, YN
Keith Hatch, BIA
Marcie Mangold, WDOE

Patrick Verhey, WDFW
Carl Merkle, CTUIR
Joe Peone, CCT
Mike Clement, GCPUD

Attendees

Patrick Verhey, WDFW
Brad James, WDFW (on phone)
Keith Hatch, BIA
Steve Lewis, USFWS
Bryan Nass, LGL
Lela Buck, Wanapum
Ben Lenz, GCPUD
Debbie Williams, GCPUD

Molly Hallock, WDFW
Bob Rose, YN
Marcie Mangold, WDOE (on phone)
RD Nelle, USFWS
Chris Peery, Kramer Fish Sciences
Mike Clement, GCPUD
Ross Hendrick, GCPUD
Kevin Malone, Facilitator

Action Items:

- 1. Clement will talk to Nass, Peery and Nicholls regarding trapping efficiencies and potential locations for lamprey ladder evaluations. This information will be included in the final study plan.**
- 2. Peery will report what is going on with the US. Corp lamprey study at Bonneville and how the PIT-tag detection system efficiency at entrances relates to PRD and WAN entrances.**
- 3. Clement/Nass will schedule a trip to evaluate Bonneville PIT-tagging and fish handling techniques.**
- 4. Comments on equipment placement, methodologies and other issues related to the 2010 study should be provided to Mike Clement by August 5th**
- 5. Clement will research the use of clove oil vs. MS222 for handling lamprey.**
- 6. Nass will provide PRFF members a list of identified areas of the 2001-02 study and provide explanation of how those areas will be measured at the September PRFF meeting.**

7. **Provide all Lamprey Study Plan comments regarding equipment needs and placement to Clement and Nass by the next meeting, August 5, 2009.**

Meeting Minutes

- I. **Welcome and Introductions** – Kevin Malone welcomed the Priest Rapids Fish Forum (PRFF) and asked attendees to provide self introductions.
- II. **Agenda Review** – No additional items were added to the agenda.
- III. **Action Item Review**
 - A. Brad James provided genetic history of the WDFW sturgeon source population to PRFF members.
 - B. On June 5, 2009, Malone requested an official vote of approval for the Lamprey Ladder Modification Designs. The PRFF approved the designs.
 - C. Clement has not yet received any Lamprey Study plan ideas/agendas from PRFF Members.
 - D. On June 5, 2009, Malone requested an official vote of approval for the Bull Trout Hydrologic and Water Quality Plan (BTHWQP). It was subsequently e-mail approved by all PRFF members except Heinith. On June 5, 2009 Heinith requested and received a summary of water quality studies related to past, present and future temperature data from Ross Hendrick, Grant PUD Limnologist. Some of the data requested will be covered in the DO, pH and Temperature in Shallow Water Habitat Plan. The information provided by Hendrick will be inserted into the BTHWQP.

Clement explained that PRFF members, other than Heinith have approved the BTHWQP, and that Grant PUD would like all voting members to reach a consensus vote prior to sending the plan to Ecology. Malone, Lewis and Clement have attempted to contact Heinith regarding his vote, with no success. Members discussed how to move forward with a plan if no response is received from a PRFF member. Malone noted that the protocols state an issue can continue to be discussed indefinitely if consensus can't be reached, until a PRFF member abstains, or the issue goes to dispute resolution. PRFF members suggest Malone send an email to Heinith requesting he take action on the BTHWQP within two weeks. Any further concerns from Heinith will be addressed at the next PRFF meeting. Within the next month, Grant PUD would like to distribute the BTHMP to Washington Department of Ecology (WDOE) so it can be approved and sent to FERC.

Hendrick discussed the upcoming water quality monitoring plans related to questions that arose related to the BTHMP. The studies will include DO, pH, and temperature monitoring and temperature modeling throughout the Project Area.

Hendrick explained that six years after receipt of the new license (2013), the MASS 1 model will be rerun using new data. The last MASS 1 model covered data from 1973 to 2000. He noted that if the water supply is modified in the PR Ladder, a Temperature Study would be conducted at that time.

Temperature data was collected from 2000 to 2003 in the PR ladder, which would be used as baseline data for comparison with new data collected after/if the attraction source water is modified (to make sure there are no negative impacts to temperatures). The new attraction water source would likely use new pumps so the Gravity Intake Gate (GIG) can be removed.

Hendrick hopes to have the second draft of the Aquatic Invasive Species (AIS) Plan ready for distribution to WDOE, WDFW, and the PRFF by September 2009. Rapid response and monitoring methods will be discussed in the plan.

- E. The United Airlines Moses Lake flight schedule was sent to members.

IV. PRFF Protocol Discussion

- A. **Review of CRITFC Protocols Update** (Bob Heinith edits) – Members reviewed protocol comments made by Heinith. PRFF members agreed that based on discussion, formal decision motions should be made and seconded. If the motion is not seconded, the action/issue will be tabled. Stakeholders and a voting member can participate on a technical subcommittee. A voting member can ask that a technical person attend and participate. PRFF members had previously agreed to not have a formal approval of meeting minutes. Comments to the minutes will be attached to the draft and posted to the Grant PUD PRFF website. Meeting location, date or time can be altered by consensus vote of members. Thirty (30) days, instead of sixty (60) days will be provided for meeting notification. Meetings will be held the first (1st) Wednesday of each month.

Malone will make edits to the protocols, distribute them to members, and request an email vote of approval. PRFF Protocols are a living document that can be changed at any time by consensus vote of PRFF members.

- B. **Attachment A** – PRFF Subcommittee Protocols address issues sent to dispute resolution. Members decided these protocols

won't be revisited until a dispute is called. PRFF members will provide guidance as to what biological success means. The definition of cost effectiveness was discussed at the February meeting. Grant PUD will be involved in determining cost effectiveness criteria.

C. **Consensus Vote on Protocols** – A vote was not taken.

V. **White Sturgeon Update** – The White Sturgeon Management Plan was submitted to FERC for approval on April 13, 2009. Grant PUD continues to wait for FERC approval of the plan. White Sturgeon Hatchery engineering designs are expected to be complete by the end of 2009.

- **Cranbrook Field Trip** – Ben Lenz, Mike Clement, Mike Nicholls, and Kevin Malone will be traveling to Cranbrook, B.C. on July 14th to volunteer during sturgeon spawning.
- **Egg collection at Coulee** – WDFW provided Lenz with a summary of the Lake Roosevelt sturgeon egg collection procedures and protocols that will be used to collect eggs for Yakama Nation (YN) stocking purposes. Lenz noted he was comfortable with the genetic background and collection protocols because they are the same that Grant PUD uses. He questioned what the YN intends on doing with the eggs.

Verhey explained that WDFW and YN discussed what to do with the fish once they're raised. They agreed the discussion regarding release locations should be held with the individual PUD's that are proposed to have fish released in their Project area. Verhey noted the YN hasn't reached an internal decision as to where the fish would be released.

A viable egg take of 10,000 to 20,000 eggs has been discussed. Three weeks ago, 3 females and 5 males were on station. James wasn't aware of the current status, but thinks the program is moving forward without difficulties. It is WDFW's intent that the Columbia Hatchery be used to raise sub-yearling sturgeon for long term supplementation of Lake Roosevelt, explained James.

VI. Bull Trout Hydrologic and Water Quality Plan

- **ACTION ITEM:** Vote to approve Bull Trout Hydrologic and Water Quality Study Plan – No action was taken. See discussion above under III, D.

VII. Pacific Lamprey Study Plan

A. Group Discussion of Methods and Performance Criteria

On June 24, 2009, the PRCC approved lamprey ladder modification designs. A contract is currently being developed for the pre-fabrication of parts.

Bryan Nass, LGL and Chris Peery, Kramer Fish Sciences have been working on the development of an Adult Lamprey Study Plan that will take place in August 2010.

Members discussed the proposed study plan outlined by Grant PUD's lamprey team. The following topics were discussed.

- The proposed monitoring season would be from August 01, 2009 through October 01, 2009.
- Fish would become part of the treatment or control scenario to measure passage efficiency upon entering the fishway.
- Peery indicated a reduction of flows isn't conclusive for improved success of passage but it will be measured by individuals entering the fishways during these treatments.
- Current flows are approximately 8 ft per second, which would be reduced to 3 ft per second for testing as an experimental test. If nighttime flow reduction should be utilized. During the study, if it is concluded that lamprey don't find the ladder because of flow reductions, Clement will contact all PRFF members to see if this portion of the study should be stopped. Clement explained that NOAA is comfortable with a reduction in fishway flows. However, if early results indicate that because fishway flows are reduced and lamprey have a difficult time finding the fishways, Clement will contact PRFF members prior to abandoning the treatment.
- Members agreed the study must be flexible enough to handle situations that arise unexpectedly.
- Further investigation of, if possible the amount of time fish spend in the collection channel and bifurcation pool.

- Can it be identified when a fish comes into the fishway and drops back? Clement/Nass explained that any fish that enters the fishway/entrance and drops back will be measured at the entrance or if it occurs further up in the ladder, will be detected at the next downstream detection location. If detection locations are going to be added, clearly define why you think they should be placed in each location.
- Data collected will determine if improvements from the 2001-02 study were sufficient. Grant PUD has changed operation of the lower fishway since then.
- Grant PUD is in the process of determining if a baseline adult salmonids study should be conducted during the summer of 2010 to look at adult salmonid passage, should a decision be made to test a shut down of the collection channel? This is related to the FERC License requirement to explore tailrace pumping options. The PRFF would need to make a recommendation to NOAA in order to move forward with collection channel closures if a high amount of time is being spent in the collection channel by lamprey. Grant PUD is hopeful that fixing differentials in the collection channel will improve passage. The collection channel was not identified as a problem in the 2001 study but by excluding fish from this area, should decrease overall passage time.
- The study will determine passage efficiency, based on the proportion of fish that make it to a monitoring location at the ladder exit. Success is defined by the number of detected lamprey that exits the fishway, divided by the number of detected lamprey that enters the fishway. Kevin Malone asked if a fish is detected at the top of the ladder, but not at the bottom is it deemed a success? Peery believes a fish must be detected at the entrance and exit in order to be included in the passage efficiency test. He noted there could be a number of fish detected at upstream sites that weren't detected at the fishway entrance, biasing passage estimates. The ability to determine the tag detection efficiency of the antenna will be important. The results from the Bonneville study will provide initial data on what detection efficiencies are in a ladder. Perry noted that multiple antennas could be placed at the entrance and exit to ensure that all tags are detected. This is the approach used for PIT tag detectors located at Columbia River dams.

- Trap and haul. Effective at collecting lamprey where they congregate. Priest Rapids doesn't offer a location to trap unless an orifice is closed off. That method doesn't offer volitional passage.
- Passage efficiencies will include data of support showing how long it takes a lamprey to pass through each fishway. However, fish passage efficiency does not have a time component associated with it. If fish are tagged and choose to overwinter between dams, the fish could be detected the following year.
- Peery indicated that HD tags, a physiological study hasn't been done to determine negative tag effect on swim performance. When compared to a run at large, lamprey match up well with fish upstream. Recent studies in the lower Columbia indicate that PIT-tagged fish perform better than radio tagged fish. Once a fish makes it into the ladder entrance (i.e. detected), it becomes part of the sample. Fish not detected at the ladder entrance are not included in the sample. HD tags are 65-80% effective at detecting fish in a large opening. Higher in the ladder, they become 95% effective at detecting fish.
- Passage efficiency criteria need to be calculated using the same methods for all dams on the river. Passage efficiency for the Priest Rapids Project needs to be defined by the PRFF. Clement cautioned the group that based on lamprey life history, the potential for overwintering during migration, and because dam fishways are not the same, passage efficiency should be entrance to exit, measuring the dams efficiency to pass fish.
- Hatch explained that BIA would like to see 80% passage effectiveness. He showed a table of passage efficiencies for each of the dams on the Columbia. Verhey suggested a regional context discussion be had.
- Fish release: Sample size of 300 is being proposed. However, sample size will be dependent on the precision required around the passage efficiency estimate and the detection efficiency of the antennas. Sample size and precision justification will be provided in the study plan. Option of releasing test lamprey downstream of Priest Rapids (PR), or a split release below and above PR. Peery recommends releasing all fish below PR. For evaluation, a velocity test wouldn't be necessary at Wanapum. In 2001, fish were released below PR. Very few fish made it to the fishway, likely due to large tags.

In 2002 tag size was much smaller and fish were released in closer proximity to the ladder entrance, which resulted in more fish entering the ladder. That study was more successful. Nass recommends fish be released at this location again. Nass suggests using two traps on each ladder to trap fish for the study. Recaptured fish would give you a lot of information that you wouldn't otherwise gather. Members prefer fish be trapped lower in the Priest Rapids ladder. **Clement will talk to Nass, Peery and Nicholls regarding trapping efficiencies and impacts to migrating fish.**

- The group asked if there is a size difference in lamprey that goes over a weir wall vs. going through an orifice. No data to date suggest this is the case.
- **Peery will report what is going on with the US. Corp study at Bonneville at a future meeting of the PRFF.**
- Members discussed whether radio tags (RT) should be used to help determine entrance efficiencies and fish behavior. Clement explained that isn't part of this study and the requirement is to measure passage efficiency and test the modifications made to ladder. He suggested the use of radio tags would be of little benefit for measuring passage efficiency because of the known tag affect. If PRFF members determine there is a need to use RT or acoustic tags, it can be explored as an option. Fish entrances will be evaluated because HD Pit-tag detection will be located at each fish ladder entrance and will measure fall back if it occurs. Clement explained that he was not comfortable using a larger tag that would compromise and affect the swim performance of lamprey. He is concerned that studies performed recently showed a significant decrease in performance of lamprey that were tagged with radio tags vs. those tagged with HD PIT-tags. Clement explained that he would prefer to use a detection method that is representative of a non-tagged lamprey and that is why the Grant PUD lamprey team is proposing the use of underwater video vs. radio tags to measure lamprey behavior relative to the ladder modifications (i.e., plating, count stations).
- **Clement/Nass will research Bonneville fish handling techniques.**
- Group discussion on different types of data analysis: Examples include: Compare passage efficiency from 2001-02 to now. Regression Analysis or Survival Analysis could be used. Determine the probability of a

fish passing the dam in one day if they entered a low (reduced flow) vs. high velocity condition in the ladder.

- Underwater Video – Camera location and placement will be conducted by Nass and crew. They plan on having multiple moveable cameras. Engineering is planning on 87 days for installation of all plating. **Provide all Lamprey Study Plan comments regarding equipment needs and placement to Clement and Nass by the next meeting, August 5, 2009. Comments on other aspects of the study can be submitted later.**
- Mangold explained that clove oil is not lawful to use for putting fish to sleep. **Clement will research the use of clove oil vs. MS222 for handling lamprey**
- **Nass will provide PRFF members a list of identified problems of the 2001-02 study.** Attending Voting Members are comfortable with the objective of the study as outlined by Nass and Peery.

VIII. Additional Items – No discussion took place.

IX. Next Meeting: August 5, 2009 at 10:00 a.m. at the Grant PUD Natural Resources Office, Ephrata, WA.