



# Colville Confederated Tribes Fish and Wildlife Department M E M O R A N D U M



January 28, 2014

To: Members of the Priest Rapids and Rocky Reach Fish Forums

From: Colville Confederated Tribes

Subject: 2014 White Sturgeon Stocking in the Project Pools

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Recently, Tracy Hillman requested that the Colville Confederated Tribes (CCT) develop a written rationale for the proposed approach of pro-rating release numbers of white sturgeon juveniles into the Priest Rapids and Rocky Reach project reservoirs in 2014. The impetus for this request stems from a stalemate over release numbers in both the Rocky Reach Fish Forum (RRFF) and Priest Rapids Fish Forum (PRFF). In response to this stalemate, the members of the respective forums agreed to convene an “expert panel” to discuss the science associated with the proposed release strategies. The Yakama Nation (YN) distributed a position paper to the members of both forums on January 21, 2014 outlining their alternative rationale for releasing the maximum 6,500 fish as defined in the respective White Sturgeon Management Plans (WSMP). In turn, the CCT would like to take this opportunity to provide our rationale for supporting a pro-rated stocking proposal (4,332 fish; see equations 1 and 2), summarize how that proposal originated, and discuss our concerns with the YN position paper related to the 2014 stocking proposals for the Priest Rapids and Rocky Reach project reservoirs.

The CCT rationale for supporting a pro-rated release recommendation for both projects is based on concerns over potential genetic risks that are generally recognized by conservation aquaculture programs (Hallerman and Kapuscinski 2003; KTOI 2007; Neff et al. 2007). Specifically, we are concerned with the potential for future inbreeding depression that may limit the success of the programs in establishing naturally reproducing populations in project reservoirs. As well, there is potential for substantial entrainment of released fish into downstream reservoirs that could result in reduced effective breeding populations in those areas. It is our contention that equalizing family (cross) sizes in a broodstock based stocking program will reduce these risks over the long-term. This approach is consistent with that of the Upper Columbia white sturgeon conservation aquaculture program. Please note that we have provided this same rationale in both forums and it should be captured in the meeting notes.

The CCT wishes to remind the members of the respective forums as to how the pro-rated proposal originated. We originally suggested pro-rating during a discussion within a PRFF meeting (November 6, 2013) as a compromise between a proposed reduced stocking number (3,245; not developed by the CCT) and the YN proposal of the maximum possible release number (6,500). We believe this compromise is reasonable as it addresses concerns related to potential genetic risks as well as the YN desire to release greater numbers of fish. During a subsequent Rocky Reach Fish Forum (RRFF) meeting, (November 6, 2013) the facilitator suggested that the members consider consistent approaches to stocking between the projects and the CCT was asked to describe the pro-rated approach and the rationale, which we did.

The CCT would also like to remind members of the PRFF - and inform members of the RRFF - that all PRFF members, with the exception of the YN and Umatilla Tribes, supported the pro-rated stocking alternative. While we have no problem describing our rationale for supporting pro-rating, we believe all voting members should be responsible for providing rationales that support their alternative of choice. In short, we do not want this to be construed as a YN versus CCT issue and want to be clear that this is a forum specific issue related to the potential genetic risks associated with the respective aquaculture programs and how heavily these concerns are weighed against other aspects of the mitigation program – primarily monitoring and evaluation (M&E) and future harvest opportunity.

Unlike the YN, we do not believe that any potentially deleterious impacts resulting from a non-pro-rated release strategy would be easily reversible. Indeed, the YN does not specify how a reversal of poor outcomes would be achieved. Nor do we believe that other aspects of the mitigation program, such as M&E and future harvest opportunities, out-weigh the potential genetic risks. With regard to M&E, we contend that it is unrealistic to expect that carrying capacity (density dependent) related effects will become manifest over the course of a three to four year stocking program regardless of release number. The carrying capacity question can likely only be answered over the longer-term, and even then we contend that it is unlikely to be observed with any degree of statistical power. Thus, we fail to see how a pro-rated release strategy in 2014 would limit the ability to answer that question over the life of the respective FERC licenses and associated mitigation programs.

The YN position paper describes their preferred 2014 release numbers for the Priest Rapids, Rocky Reach, and Wells project reservoirs. However, the bulk of the position paper, including rationale points, is directed at contrasting the potential genetic outcomes resulting from the wild larvae and broodstock (direct gamete take) collection approaches, which is not relevant to the stocking of Priest Rapids and Rocky Reach project reservoirs in 2014. We want to be clear that the CCT has not in any way suggested that 2014 stocking of Priest Rapids and Rocky Reach

project areas include fish other than those produced from wild caught broodstock spawned at Marion Drain Hatchery.

As currently organized, we believe that the YN position paper confuses the issues at hand. We recommend that the YN revise their position paper, so that it clearly separates the issues related to the 2014 stocking proposals for the Priest and Rocky Reach projects from the Wells project. Similarly, the expert panel discussion being organized by the PRFF and RRF should confine itself to addressing potential genetic risks associated with the 2014 stocking proposals for those specific project reservoirs. While we would support convening an expert panel to discuss the relative merits and risks associated with the direct gamete take and wild larvae approaches for future consideration by the PRFF and RRF, this should occur separately from the 2014 stocking discussion. In addition, we believe there should be a candid discussion regarding conflict of interest when developing the list of expert invitees.

Another point of clarification is that the respective WSMP's, approved by the respective forum members, specifically state that stocking levels will be "up to" the levels put forth in the YN position paper. A stocking proposal that is less than the maximum target does not deviate from either of the WSMP's. Furthermore, the Priest Rapids WSMP provides an explicit broodstock spawning target of two 3x3 factorial mating that results in a total of 18 crosses. The Rocky Reach Project WSMP does not explicitly identify a goal for broodstock collection, but instead describes mating scenarios based on the number of broodstock available for spawning. In addition, the Rocky Reach Project WSMP discusses balancing the need to equalize family sizes with the need to release enough fish to meet other objectives, such as monitoring and evaluation (M&E) goals. However, it does not provide specific guidance as to how that balance should be accomplished. There is no language in any of the WSMPs (including the Wells WSMP) regarding whether or not each project should be treated independently with regard to broodstock collection goals; it is inconsistent to treat project specific release goals independently, but not the broodstock utilized.

In summary, the CCT is willing to continue working toward a consensus solution to the white sturgeon stocking levels in the Priest Rapids and Rocky Reach project reservoirs. This includes participation in a discussion with an expert panel specific to the 2014 Priest Rapids and Rocky Reach projects white sturgeon stocking alternatives. We reiterate the need to separate the wild larvae/direct gamete take approaches from this discussion. However, we are supportive of a separate expert panel discussion regarding the relative merits of the wild larvae/direct gamete take approaches.

**Equation 1** – number of fish per family based on the maximum release and spawning goals

6,500 fish in maximum release goal ÷ 18 target number of crosses (two 3x3 matings) = 361 fish/cross

**Equation 2** – pro-rated release number based on number of crosses achieved relative to the goal.

361 fish/cross x 12 crosses achieved in BY2013 = 4,332 fish

### **Literature Cited**

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