PRCC Hatchery Subcommittee Meeting

Thursday, January 16, 2013

Wenatchee, Washington

Meeting Summary

PRCC HSC Members

Bill Gale, USFWS
Lynn Hatcher, NOAA
Keely Murdoch, Yakama Nation
Todd Pearsons, GPUD
Mike Tonseth, WDFW
Kirk Truscott, CCT

Other Participants

Joy Evered, USFWS (via phone)**
Mike Ford, NMFS (via phone)*
Andy Goodwin, USFWS (via phone)**
Peter Graf, GPUD
Susan Gutenberger, USFWS (via phone)**
Tom Kahler, DPUD*
John Kerwin, WDFW (via phone)**
Eric Lauver, GPUD (via phone)
Shannon Lowry, GPUD
Greg Mackey, DPUD*
Chris Moran, WDFW (via phone)
Shawn Narum, CRITFC (via phone)*
Mary Peters, USFWS (via phone)**
Bob Rogers, WDFW (via phone)**
Ken Warheit, WDFW (via phone)*
Catherine Willard, CPUD (via phone)
Amilee Wilson, NMFS (via phone)*

Elizabeth McManus, Facilitator
Andy Chinn, Facilitator

* For agenda item II only
** For agenda item III only

Decisions

A. Approved the November 2013 conference call summary, November 2013 meeting summary, and December 2013 conference call summary.
B. Approved the expanded SOW for the reproductive success study.

Actions

1. Ross Strategic will revise and circulate the December HSC meeting notes to reflect HSC input.
2. NMFS will continue to advance internal discussions around options for the White River captive brood, with the suggestion to terminate the remaining fish.
3. USFWS will contact Rob Jones at NMFS to detail the HSC's discussions around fish health concerns with the White River captive brood.
4. USFWS will send written confirmation to GPUD that the USFWS position is that spawning the

remaining White River captive brood fish is not an option.

5. USFWS/WDFW fish health staff will draft a document with: 1) Current fish health status, 2) likely ELISA values of captive brood fish at spawning, and 3) risk associated with transfer of potential progeny to Eastbank.
6. WDFW will reexamine the biological opinion to confirm that CPUD can produce additional Chiwawa fish under GPUD's obligation and permit, and will confirm that this interpretation is consistent with NOAA's interpretation.
7. YN will coordinate participation of rotary trap staff during the February HSC meeting.
8. Upon receipt of an Okanogan steelhead HGMP from CCT, NMFS will issue an HGMP concurrence letter for CCT's proposed strategy for Wells broodstock replacement, and a letter to GPUD and CCT stating that formal consultation has been initiated on the Okanogan HGMP.
9. GPUD will provide more detail on the proposed volitional release evaluation at Carlton during the February HSC meeting.
10. HSC will discuss the mating study results and discussion topics during the February HSC meeting.
11. Ross Strategic will schedule an HSC conference call prior to the February HSC meeting, to discuss upper Wenatchee basin juvenile monitoring.

HSC Meeting Summary

I. Updates and Meeting Summary Review

A. Fall Chinook Working Group – The Fall Chinook Working Group is drafting a report on density dependence in the Hanford Reach. FCWG has also hired a contractor to study predation in McNary Pool.

B. Meeting Summary Review – HSC members approved the December 2013 conference call summary as amended. HSC members deferred approval of the December 2013 meeting summary pending further revision by Ross Strategic. WDFW approved the November 2013 meeting summary and November 2013 conference call summary (other HSC members approved both documents during the December meeting).

II. Nason Creek Fish Genetics

A. Results from Sampling – Ken Warheit (WDFW) summarized the findings of his report on genetic analysis of Nason Creek samples. One of the most significant issues discussed in the report is identification of an appropriate baseline, as there are several possible baseline methodologies (and associated years of available data). For this report, WDFW used a modified baseline consisting of wild (unmarked) Chiwawa fish, Nason Creek fish, and White River fish from 2005 and 2006. The baseline also includes some Leavenworth Hatchery fish, for Carson stock analysis. Using this baseline, principle component analysis indicates some variation in White River fish, considerable overlap for White River, Nason Creek, and Chiwawa fish, and complete overlap of Nason Creek and Chiwawa fish. Other analysis details include:

- Leavenworth Hatchery fish assignment was approximately 27%. Although

Leavenworth fish are from out-of-basin Carson stock, they are still upper Columbia spring Chinook (and therefore have a recent common ancestry with upper Wenatchee spring Chinook). Also, the effect of Carson lineage fish on the Upper Wenatchee population is not known.

- Given the significant annual variance that occurs, it is not surprising that a high degree of variance would result from using an older baseline.
- Fish collected during September tangle netting are presumptive natural fish spawning in Nason Creek; 31% of those fish were genetically typed to Nason Creek, 41% were genetically typed to Leavenworth, and 0 were typed to Chiwawa.

B. Discussion of Results

- YN asked if use of a genetic method to identify Nason Creek fish would result in propagation of specific genetic traits, and if so whether this direction is genetically desirable.
    - WDFW's geneticist clarified that fish assigned to Nason Creek are not necessarily genetic outliers; however, if genetic methods are used with a stringent threshold, the managers will be selecting for certain alleles, which is a concern.
- WDFW noted that PIT tags from the proposed expansion of the Wenatchee basin reproductive success study will provide information on the tributaries in which the parents of PIT tagged fish spawned; this would essentially serve the same function as a weir system.
    - NMFS's geneticist commented that although this approach is conceptually sound, there is a lack of data on parental spawning location for each fish. Additionally, the logistical hurdles of real time genotyping at Tumwater are significant.
- YN commented that the genetic analysis points to a single interbreeding population with no history of genetic distinction; given the wide variability of genetic results in Nason Creek and the logistical difficulty of sampling and holding fish, using a composite population collected at Tumwater to meet mitigation requirements should be the priority. Compositing does not have to include all of the upper Wenatchee, and could include a separate Nason Creek broodstock.
    - WDFW's geneticist clarified that there are subtle genetic differences in spawning areas; mitochondrial analysis shows haplotypes in Nason Creek and White River samples that might point to distinct maternal lineages.
    - CRIFTC's geneticist added that the genetic analysis presented to the HSC in 2012 concluded that low divergence and weak population structure indicated gene flow and genetic drift between tributaries.
- YN noted that it does not support tangle netting as a routine collection method, as it overly harasses fish and sets up a situation where mitigation is not met.
- NMFS commented that even with the current lack of genetic distinction, if the hatchery straying issue is dealt with then over time the sub-population genetic

profiles could begin to reemerge. At the same time, NOAA acknowledged its trust responsibility to the tribes to meet abundance goals, and these goals were not met in 2013.

- WDFW stated that it supports both the diversity and abundance criteria of the recovery plan, but if the focus begins with abundance, diversity will not be achieved. WDFW conceded the possibility that collecting broodstock from individual tributaries will not necessarily result in genetic divergence, but genetic divergence must be allowed to occur regardless. Tributary broodstock collection, either with a weir or temporary structure, is the most realistic method for meeting diversity and abundance goals.
- YN noted that several years prior, at a meeting between WDFW, NOAA, and YN to discuss spring Chinook, the participants agreed that Nason Creek and Chiwawa fish could be composited on the condition that White River fish were kept separate. However, following the meeting WDFW developed the PBT methodology with the understanding that if the methodology could keep the three spawning aggregates separate, that was the preferred path - but if not, compositing remained an option. All three parties agreed with this plan.
    - USFWS commented that it did not participate in the aforementioned spring Chinook meeting. USFWS is open to compositing and if broodstock collection is to occur in Nason Creek it would prefer tangle netting as opposed to a weir, to minimize impacts on bull trout. USFWS has doubts about the value of genotyping at a central location.
- CCT commented that the management plan's fallback compositing position was contingent on inability to selectively collect broodstock by spawning aggregate.
    - YN responded that it does not believe it is possible to collect broodstock by spawning aggregate.
- WDFW's geneticist reminded the HSC that compositing is not a temporary condition; once compositing occurs, genetic mixing increases beyond what is currently occurring. However, it is possible to be creative about egg take and acclimation.
    - USFWS and YN noted that the data indicate at least 10 – 15 years of straying has occurred from Chiwawa into other basins, and the population was itself already a composite of fish trapped at Rock Island Dam.
- WDFW and CRITFC geneticists noted that in order to respond to the HSC's questions in the best possible manner, more time and resources are required.
- HSC members discussed the assignment of fish to the Leavenworth Hatchery:
    - Geneticists expressed caution at interpreting Leavenworth assignments at face value, as Carson stock have been in the system at least since the Grand Coulee mitigation project.
    - Any 2013 fish assignment to Leavenworth would have to be checked for scale data to determine if they are F1 or if they are natural origin fish now

installed in the basin as part of the long-standing Leavenworth legacy program.

- The HSC recently implemented actions to reduce Leavenworth hatchery origin fish escapement above Tumwater; these actions were not in place for 2005 and 2006.

III. White River Spring Chinook Issues

A. Captive Brood Status – As of 1/16 there were 91 F1 adults remaining. Most of the remaining fish were developing lesions and were hemorrhaging. Mortalities are averaging between 1 and 3 fish per day due to BKD and secondary fungal infection. Approximately 79% of the fish have died, and at the current rate there will be a single fish remaining by August. Based on past experience, any remaining fish at spawning would be high-BKD.

B. Fish Health Recommendations – Fish health staff from USFWS and WDFW noted that pathogen presence and mortality rates currently occurring within the captive brood exceed the criteria for an epizootic (WDFW and NMFS definition of an epidemic is occurrence of an infectious disease that results in average mortality of 0.1% for five consecutive days).

- USFWS noted that in the past, fish have been maintained in this program under conditions that would not normally be acceptable under other programs; however, in the past the fish were always maintained for a specific purpose. Fish health staff do not support movement of the captive brood fish into the White River, USFWS is not interested in spawning the fish, and there likely will not be any fish remaining due to the level of BKD currently observed. Therefore, there is no value in keeping these fish.
- Fish health staff commented that previous experience with BKD does not indicate a decrease in mortality over time; fish continue to die of BKD until spawning. At this time of year, fish health staff would normally expect to see problems with gill copepods, and BKD mortality closer to spawning; it is unusual to see an outbreak of BKD at this point in time.
- ELISA results for the most recently spawned brood year: Of 157 fish, 21 were at reasonable (non-detectable or low level), while 97% were at high level.
    - WDFW noted that for anadromous-based conservation programs, standard policy is to cull progeny of any female fish with an ELISA level of 0.2 or higher. WDFW would not support transfer to Eastbank for spawning, as there would be no viable product resulting from such an action.

C. GPUD Mitigation Credit

- GPUD put forward the possibility of full mitigation credit (i.e., the program was originally intended to produce 75,000 fish).
- CCT requested clarification on the difference between GPUD receiving mitigation credit as opposed to reporting to FERC what occurred with the White River captive

brood. This would be the same as previous FERC reports where mitigation was not achieved.

- GPUD responded that the report would include what was actually produced but would include HSC acknowledgement of the efforts made to produce other fish.

- YN noted that the approach to mitigation is agreed upon in the HSC and memorialized in SOAs. Since the SOAs state that whatever mitigation is not achieved for White River will be raised in Nason Creek, no credit is needed because there is now sufficient time to collect broodstock to meet mitigation.
  - GPUD responded that it is important to collect Nason Creek broodstock, but CPUD's Chiwawa permit only allows for certain capacity which might be insufficient to meet 2014 brood year needs.
  - WDFW noted that the effects analysis that was done under the biological opinion was based on a combined release of Nason Creek and Chiwawa fish, even though there are two programs; there should be some latitude within the permit conditions, provided the aggregate is met.
- YN advocated providing mitigation credit to GPUD for whatever fish are collected and spawned in 2014.

D. Path Forward and Next Steps

- NMFS will continue to advance internal discussions around options for the White River captive brood, with the suggestion to terminate the remaining fish.
- USFWS will contact Rob Jones at NMFS to detail the HSC's discussions around fish health concerns with the White River captive brood.
- USFWS will send written confirmation to GPUD that the USFWS position is that spawning the remaining White River captive brood fish is not an option.
- USFWS/WDFW fish health staff will draft a document with: 1) Current fish health status, 2) the likely ELISA values of the captive brood fish at spawning, and 3) the risk associated with transfer of potential progeny to Eastbank.
- WDFW will reexamine the biological opinion to confirm that CPUD can produce additional Chiwawa fish under GPUD's obligation and permit, and will confirm that this interpretation is consistent with NOAA's interpretation.

IV. Wenatchee Implementation Plan

A. Summary of Discussions To-Date

- GPUD stated its preference to have difficult conversations within the HSC rather than have smaller groups establish positions prior to HSC discussions. GPUD noted that it has brought forward three versions of the implementation plan, all of which have been considered insufficient by other HSC members. GPUD is interested in a negotiated outcome but believes this is unlikely to occur if other HSC members have established positions.
- USFWS noted that given the contracting deadlines and urgency behind approval of

the draft implementation plan, the willingness to debate/negotiate is diminished. This is why USFWS advocates maintaining current monitoring for the time being in order for the HSC to have a discussion, without the pressure of a looming deadline.

- YN commented that it has fully considered GPUD's proposals but prefers a proof-of-concept study before abandoning current monitoring work.
- NMFS also advocated the proof-of-concept approach, and added some concerns about the workload and time associated with re-opening consultations.
- CCT commented that each successive iteration of the draft plan put forth by GPUD appeared less robust than the previous.
- GPUD reiterated that approval of expenditures requires justification, and when there is apparent redundancy, a high level of justification is needed.

B. Juvenile Monitoring

- JFPs proposed the minimum 2014 monitoring strategy as: Continuation of rotary trapping in Nason Creek and White River, in addition to WDFW's proposed fall parr PIT tagging in Nason Creek, to fill data gaps.
- YN noted the rotary trap efficiency model improves each year, and in the absence of a proven alternative, rotary trapping should continue. Rotary trapping will reveal significant declines in productivity as well.
    - GPUD commented that it has several concerns with the ability of rotary trap data to provide a useful estimate of juvenile abundance. GPUD provided handouts that provided data and statements from M&E reports about the shortcomings of the White River trap to achieve Objective 2 of the M&E plan.
    - WDFW noted that rotary trap data provide the only available White River abundance and productivity estimate, and there have been no data presented to date that would indicate a mark-recapture approach would provide the necessary data.
    - USFWS commented that rotary traps and mark-recapture are used in the Entiat for hatchery program and habitat effectiveness monitoring. This provides two methods that can be compared against each other. This redundancy provides greater confidence in the data underlying management decisions.
    - CCT added that if rotary trapping were abandoned in 2014, and mark-recapture yields few (or zero) fish, then there will be no 2014 data at all.
    - GPUD asked how long it would take and what standards would apply to establish a new method that would replace an existing method.
- YN noted that its PRCC representative suggested forwarding the juvenile monitoring question to the PRCC for dispute resolution.
    - USFWS suggested forwarding the issue to dispute resolution if it remains unresolved by the end of the February HSC meeting.

C. Path Forward and Next Steps

- GPUD will consider the HSC's suggestions for minimum juvenile monitoring methods to achieve objective 2 of the Wenatchee M&E plan.
- YN will coordinate participation of rotary trap staff during the February HSC meeting.

V. Reproductive Success Study

A. Proposed Expansion to Scope of Work – WDFW noted that this request is to approve an expanded scope of work to include hatchery adults in genetic analyses through 2018 and juvenile genetic analyses through 2020. WDFW will revise the SOW to include edits discussed during the 1/19 HCP-HC meeting. Funding for the work in the expanded SOW is from BPA; PUD funding is to collect spawning ground data as part of the implementation plan.

B. Voting – HSC members voted to approve the revised reproductive success study SOW.

VI. Wells Hatchery Broodstock

A. CCT Strategy for Wells Broodstock Replacement – This request was initially put forward during the December HSC meeting.

- NMFS agreed with CCT's evaluation and analysis and noted that if further coordination is needed the agency will issue an HGMP sufficiency letter, and a letter indicating degree of coverage and that GPUD and CCT are in formal consultation.
- GPUD indicated its support for CCT's approach, provided that NMFS issues the aforementioned documentation.

B. Path Forward and Next Steps

- NMFS will issue an HGMP sufficiency letter for CCT's proposed strategy for Wells broodstock replacement, and a letter indicating degree of coverage and that GPUD and CCT are in formal consultation.

VII. Carlton Acclimation

A. Volitional Release Evaluation – GPUD is designing an evaluation of two methodologies for fish release (box and coil) and will have more detail to discuss during the February HSC meeting.

B. Path Forward and Next Steps

- GPUD will provide more detail on the proposed volitional release evaluation at Carlton during the February HSC meeting.

VIII. Priest Rapids Hatchery

A. Alternative Mating Study Results – GPUD reviewed results of the pilot study conducted in 2013 and posed two topics for consideration during the February HSC meeting:

- Cease or continue ABC and OLAFT broodstock collection?
- Alternative mating strategies and pNOB calculation (e.g., Spawn 250 males from the alternative broodstock collection (high proportion of NORS) that have >20 ml milt

with 4 females (instead of two) and split the milt in half. Use normal spawning protocols except combine buckets from different males).

B. Path Forward and Next Steps

- HSC will discuss the mating study results and discussion topics during the February HSC meeting.

IX. American Fisheries Society

A. Symposium in Vancouver – GPUD is coordinating a symposium on carrying capacity during the Washington-British Columbia chapter AFS meeting in Vancouver, WA (March 24 – 27). GPUD invited any HSC members to nominate agency representatives to participate on the panel.

X. Wrap Up and Next Steps

A. Next Meeting: Thursday, February 20, 2014

B. Potential December Meeting Agenda Items

- Wenatchee implementation plan
- White River spring Chinook spawning
- CAF volitional release evaluation
- Priest Rapids hatchery mating study

Meeting Materials

The following documents were provided to HSC members in advance of this meeting:

- Draft and Final Agenda
- NMFS geneticist response to HSC questions
- December White River report from LWSNFH
- December PRH M&E report