

Rocky Reach Fish Forum

Wednesday, 2 April 2014

1:30 – 4:00 p.m.

Chelan PUD Second Floor HR Conference Room

Wenatchee, WA



Meeting called by Steve Hemstrom

Notes taken by Teneille Hatmaker

Chairperson, Tracy Hillman

Attending Representatives:

Hemstrom, Steve	Chelan PUD	(509) 661-4281	steven.hemstrom@chelanpud.org
Irle, Pat (phone)	Ecology	(509) 454-7864	pir1461@ecy.wa.gov
Kerec, Matt (phone)	Alcoa	(412) 553-4361	matthew.kerec@alcoa.com
Rose, Bob (phone)	YN	(509) 865-5121	rosb@yakamafish-nsn.gov
Verhey, Patrick	WDFW	(509) 754-4624	patrick.verhey@dfw.wa.gov

Attending Participants:

Hatmaker, Teneille	Chelan PUD	(509) 661-4758	teneille.hatmaker@chelanpud.org
Hillman, Tracy	BioAnalysts	(208) 321-0363	tracy.hillman@bioanalysts.net
Hodgson, Suzanne	Chelan PUD	(509) 661-4758	suzanne.hodgson@chelanpud.org
Jackson, Chad (phone)	WDFW	(509) 754-4624 x250	chad.jackson@dfw.wa.gov
Keller, Lance	Chelan PUD	(509) 661-4299	lance.keller@chelanpud.org
Miller, Donella (phone)	YN	(509) 945-0132	mild@yakamafish-nsn.gov

Meeting Minutes

I. Welcome and Introductions

Tracy Hillman welcomed everyone to the Rocky Reach Fish Forum (RRFF) meeting and made known that voice recording of the meeting was initiated for note-taking purposes.

II. Review of Agenda

The draft agenda was reviewed and approved.

III. Review and Approval of Meeting Minutes

Minutes from the 5 March 2014 meeting were reviewed and approved with edits from Steve Hemstrom and Pat Irle.

IV. Pacific Lamprey

Dryden Canal Diversion Juvenile Lamprey Recovery

Steve Hemstrom provided an overview on the recovery of juvenile lamprey from sediments removed from the intake (forebay) to the Dryden Canal. On 1-3 April, crews removed sediments from the Dryden Irrigation Canal intake. The intake is a depositional area where fine sediments and debris settle. Roughly 36 cubic yards are removed from the intake every few years to prevent blockage of flow into the canal. Dredge material was placed into a truck where a crew sifted through the sediments by hand to rescue juvenile lamprey. Crews recovered about 1,211 juvenile lamprey. Of those, 327 ammocoetes were provided to the Yakima Nation for testing and use in research by the U.S. Geological Survey on irrigation screen development. The remainder of the ammocoetes was released back to the river in a depositional area. Few ammocoetes died and crews identified no macrophthalmia. U.S. Fish and Wildlife Service staff weighed and measured a sample of the ammocoetes; all were identified as Pacific lamprey. Thad Mosey, Chelan PUD, is preparing a report on the recovery of juveniles. The report should be available soon. Bob Rose asked about the general condition of the lamprey. Steve responded that they varied widely in size (~1.5-5.0 inches) and that few were crushed or maimed during the recovery process. The Yakima Nation requested to retain the dead fish to examine them for potential contaminants.

Rocky Reach Project Effects (No Net Impact)

Bob Rose gave a presentation on lamprey assessments and recovery actions (see Attachment 1). Bob provided an overview of the monthly timeframe that was discussed during the March RRFF. The presentation outlined the importance in establishing premises and identifying focal objectives for future years. The proposed framework would focus on adults first and juveniles later. The presentation highlighted the urgency to obtain an agreement and the need for completing a forward-looking plan. The potential for a ten-year agreement was considered. Artificial propagation was discussed including the potential to use juvenile lamprey tags as a means to study and track fish. Bob asked that this topic (artificial propagation) be included on future agendas for further discussion. He also recommended that a meeting be arranged with Chelan PUD to continue these discussions.

Steve Hemstrom explained that it is not the intent of Chelan PUD to take no action; however, without the important tag components that are necessary in studying juveniles, it is difficult to make progress. Steve cited Section 4.2.3 in the Agreement, "measure the type and magnitude of effect." He explained that this requires an active form of tracking. Chelan PUD will comply with the plan, but until the tag is made available, he struggles to see how a solid method could be used to decipher project effects. Chelan PUD is determining what the best course should be to meet the settlement agreement

obligations. Steve said that more time is needed for Chelan PUD to discuss the options internally.

Action Items:

- **Steve Hemstrom will meet with Keith Truscott and they will arrange a conference call with other parties to discuss NNI.**
- **Tracy Hillman will add Artificial Propagation as an agenda item for upcoming RRFF meetings.**
- **Bob Rose will speak with Steve Lewis to ensure his concurrence on the information contained in the presentation.**

RR Pacific Lamprey Five-Year Adaptive Management Status Report

During the last meeting, some members of the RRFF stated that they were displeased with not being able to review and comment on the Lamprey Status Report that was submitted to FERC. Although the report did not require RRFF review, Chelan PUD agreed that the Forum should have an opportunity to provide comments on the report. Therefore, the RRFF will have 30 days to review and submit comments on the Pacific Lamprey Five-Year Adaptive Management Status Report. Steve Hemstrom explained that once they receive the comments, Chelan PUD will respond to the comments and include them in a table within the report. An addendum will be created and submitted to FERC. Additionally, Steve assured the group that in the future Chelan PUD will include a review timeline for the report. This will allow time for the Forum to review and edit the report before submittal to FERC.

Action Item:

- **The RRFF will have 30 days to review and submit comments on the Pacific Lamprey Five-Year Adaptive Management Report.**

Pacific Lamprey at Tumwater Dam

There were no updates to report. However, Steve Hemstrom took the opportunity to clarify a discussion that took place during the March RRFF meeting regarding licensing agreements and the Tumwater fishway. After further review, it was concluded that the Tumwater fishway and trap are part of the Rocky Reach Project's facilities under the License.

Regional Implementation Planning Process

RD Nelle was not in attendance but before the meeting he provided Tracy Hillman with an update. Tracy noted that the Regional Implementation Planning Meetings will be scheduled in April and May. There will likely be four or five days of meetings for the Columbia River and tributaries in the area upstream from the confluence with the Snake River. Meetings will be combined geographically to minimize the number of meeting days. Thus, the Entiat and Wenatchee group could meet in the morning, while the Columbia River from Rock Island to Rocky Reach group could meet in the afternoon. More information will be provided in the future.

Future Planning, Potential Juvenile Lamprey Measures, Timeframe and Budgeting

There was nothing to report.

V. White Sturgeon

WDFW Standardized WSIV Protocol

Chad Jackson presented the White Sturgeon Health Plan that WDFW will be implementing (see Attachment 2). This plan will be applied to all white sturgeon culture programs at WDFW-owned and operated facilities. WDFW is extending the opportunity for parties to review and provide comments. Chad Jackson asked that all questions and comments be forwarded to him directly. He asked that the Forum take 30 days to review and provide comments. Chad explained that the plan is made up of 12 elements and he briefly summarized those elements.

Action Items:

- **The RRF will review the White Sturgeon Health Plan and submit comments to Chad Jackson by the end of April.**
- **Chad Jackson will send the White Sturgeon Health Plan to Alene Underwood.**

Juvenile Rearing and Health

Lance Keller updated the group on juvenile white sturgeon. He said that last month juvenile sturgeon from both the Columbia Basin and Chelan Fish hatcheries were tested for white sturgeon iridovirus and all tests came back negative. Crews have been marking and tagging fish at both hatcheries. Lance noted that a total of 3,865 fish were marked at the Columbia Basin Hatchery. No fish died or shed their tags during the period of marking. Columbia Basin Hatchery will continue to monitor for shed PIT tags and will conduct a pre-scan before the fish are stocked. In addition, a total of 1,145 fish were tagged at Chelan Hatchery. Thus, a total of 5,010 fish were marked and tagged.

A brief discussion took place regarding the remaining fish on station at Chelan hatchery. There are an estimated 2,300 fish currently at Chelan hatchery that need to be removed. Lance Keller reported that he and Alene Underwood, Chelan PUD Hatchery Program Manager, asked for guidance from the RRF on what to do with the extra fish. Chad Jackson said that these fish should not be planted in local lakes or other parts of the Columbia River, but that efforts should be made to find out if these fish can be used for study or research purposes.

Action Items:

- **Lance Keller will send the marking and tagging information to Chad Jackson.**
- **Bob Rose and Donella Miller will identify options for the surplus fish at Chelan Hatchery.**

Juvenile Release

Lance Keller is preparing the juvenile release schedule and will make this available as soon as possible. Releases will likely occur sometime between late April and early May, but not during high flow. He stated that there are three potential release sites including the Entiat boat launch, the historical site, and Daroga Park. LGL will determine the final release locations. About 1,666 juvenile sturgeon will be released at each site. He stated that Grant PUD intends to release fish on 6 May.

After the fish are released into the Rocky Reach Project Area, the Columbia Basin and Chelan Hatchery crews will begin preparing the hatcheries to receive eggs following adult brood collection. Lance explained that more time is needed between releasing the fish and receiving the eggs.

Action Item:

- **Lance Keller will put together a juvenile sturgeon release schedule and distribute it to the RRFF.**

Juvenile Monitoring

Lance Keller was unable to finalize the annual monitoring report from Blue Leaf Environmental. He intends to submit the report to the RRFF by the end of the month.

Action Item:

- **Lance Keller will submit the annual monitoring report to the RRFF by the end of the month.**

Phase 2 Sturgeon Conservation Program

The agreement to release 5,000 juvenile sturgeon in 2014 ended the first phase of the sturgeon conservation program. Tracy Hillman said that the RRFF now needs to discuss the second phase of the program. He noted that during the discussions on how many fish to release in 2014, both the Yakama Nation and the Colville Confederated Tribes identified issues that require further discussion. Tracy suggested that the RRFF follow the advice offered by Bob Rose during the Juvenile Sturgeon Workshop in February that these issues be addressed by the white sturgeon subcommittee. This group can meet to identify what elements should be considered when identifying release numbers during the second phase of the program. They can develop and implement a Multi-Criteria Decision Analysis (MCDA) approach, which allows different elements to be weighted according to their importance. The group agreed to refer this to the sturgeon subcommittee. The following individuals were identified as technical members of the subcommittee: Pat Irle, Donella Miller, Lance Keller, Jason McLellan, Lance Keller, and Chad Jackson. In addition, Lance Keller suggested inviting Corey Wright from Blue Leaf to participate. Bob Rose asked if Chelan PUD would welcome representatives from Douglas PUD and Grant PUD to participate on the subcommittee. Patrick Verhey mentioned that he thought a broad consensus with other entities would be valuable. Chelan PUD agreed to extend the invitation to Andrew Gingerich (Douglas PUD) and Mike Clement (Grant PUD).

Donella Miller asked Lance Keller to discuss plans for 2014 broodstock collections. Lance explained that they plan to mirror the efforts in 2013. That is, Blue Leaf will collect broodstock following the same protocols and timeframes as last year.

Action Items:

- **Tracy Hillman will send a doodle poll to the white sturgeon subcommittee to identify a meeting date. Tracy will invite Mike Clement and Andrew Gingerich to participate on the subcommittee.**
- **Lance Keller will send an email or doodle poll to RRF members asking for volunteers to help collect sturgeon broodstock.**

VI. Bull Trout

No update to report.

VII. Rocky Reach Five-Year Biological Objectives Status Report

Steve Hemstrom said that he received just over 100 comments on the Five-Year Biological Objectives Report. Chelan is addressing all the comments and will respond to them in a table. The final report was due on 30 March 2014. Steve asked for a 15 day extension, which was granted by Ecology and the RRF. Therefore, the final report will be due on 15 April 2014. The extra time is needed to adequately address all the comments on the report.

VIII. Update on City of Entiat Proposal for 65-slip Boat Marina

No updates to report.

IX. Next Steps

The next RRF meeting is scheduled for Wednesday, 7 May 2014 from 1:30 to 4:00 p.m. in the Chelan County PUD Second Floor Conference Room.

Attachment 1

Presentation by Bob Rose on Pacific Lamprey Assessments and Recovery Actions

Pacific Lamprey Assessments and Recovery Actions in the Mid-Columbia River

February Meeting 2014: Recap of process

March – provide basic framework

April – provide basic components of framework

May – provide substantial details of components

June – provide draft implementation plan

July – provide a final draft implementation plan

August – have SOA moving forward

Premises

- Settlement Agreements understood all Project Effects not known – and through Adaptive Management – Settlements obligate investigation where there is probable cause.
- The Settlement Agreement obligates **all Parties** to move forward with reasonable progress towards reasonable actions.
- PUD contributions to NNI and/or Regional Participation is anticipated in the Settlement Agreements and is part of the Settlement Agreements intent to Protect, Mitigate, Enhance and Monitor.
- Forward looking plan is central towards certainty and steady progress.
- Cumulative effect of passage and reservoir “losses” reduces population abundance and spatial diversity above Priest Rapids Dam.
- Supplementation is the only near-term “certainty” to rebuilding adult abundance – and presumably juvenile abundance in the UC. It is not the longer-term solution.

General Framework – (potentially) 10 Year Agreement

- *Emphasize* adult passage and life stages in first five years.
 - Does not mean exclude juveniles first five years
 - *Emphasize* juvenile life history second five years.
 - Does not mean exclude adults second five years
- Translocation a strong component to get the fish back to the headwaters.
- Implies adequate monitoring will proceed to indicate benefits/risks of translocation and begin determining juvenile “capacity” within tributaries.
- Art Prop: in preparation for juvenile studies, (relative to Chelan PUD)
 - we shall measure the type and magnitude of any ongoing Project impacts on the downstream passage of juvenile lamprey using appropriate and reasonable methods....and shall develop the means to provide sufficient numbers of juvenile lamprey for these evaluations.
 - Consistent with findings from both technical documents developed and accepted by the RRF.

Focal Objectives 2015 - 2017

- 1. [Mainstem Fishway Entrance, Passage and Exit Efficiency](#)
 - 2. [Proportion of Adults Ascending Tributaries](#)
 - 3. [Fate of Adults in Reservoirs](#)
- Mainstem Adults**
- 4. [Predation on Juveniles in Tailrace](#)
 - 5. [Juvenile Occupancy and Use of Reservoir Habitat](#)
- Mainstem Juveniles**
- 6. [Regional Establishment Baseline / Status and Trend Information](#)
 - 7. [Adult Passage in Tributary Streams](#)
 - 8. [Juvenile Entrainment: Dryden Ditch / Other Irrigation Structures](#)
- Tributary**
- 9. [Adult Translocation Research](#)
 - 10. [Artificial Propagation Research](#)
- Supplementation**

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Focal Objectives 2018 - 2021

- 1. [Mainstem Fishway Entrance, Passage and Exit Efficiency](#)
 - 2. [Proportion of Adults Ascending Tributaries](#)
 - 3. [Fate of Adults in Reservoirs](#)
- Mainstem Adults**
- 4. [Predation on Juveniles in Tailrace](#)
 - 5. [Juvenile Occupancy and Use of Reservoir Habitat](#)
- Mainstem Juveniles**
- 6. [Regional Establishment Baseline / Status and Trend Information](#)
 - 7. [Adult Passage in Tributary Streams](#)
 - 8. [Juvenile Entrainment: Dryden Ditch / Other Irrigation Structures](#)
- Tributary**
- 9. [Adult Translocation Research](#)
 - 10. [Artificial Propagation Research](#)
- Supplementation**

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Focal Objectives 2022 - 2025

- Refinements in actions to achieve biological objectives.
- Continue monitor / supplementation program.
- other

Attachment 2

WDFW White Sturgeon Fish Health Plan



State of Washington

DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 600 Capitol Way N, Olympia, WA 98501-1091 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

WDFW WHITE STURGEON FISH HEALTH PLAN

Draft-March 6th, 2014

- 1.) Fish health sampling and testing protocols described in this plan will be applied to all White Sturgeon culture programs at WDFW owned and operated hatcheries.
- 2.) WDFW in coordination with the appropriate Co-Managers will modify this plan, if necessary, as new information becomes available.
- 3.) WDFW will notify the appropriate external entities (e.g., PUDs, fish forum/work group memberships, etc.) in advance of annual White Sturgeon Iridovirus (WSIV) sampling and testing activities and/or proposed changes to the plan. Annual test results will be made available as soon as available.
- 4.) White Sturgeon imported into WDFW owned and operated hatcheries will be sampled and tested for WSIV.
- 5.) At this time, WDFW will not include White Sturgeon Herpesvirus (WSHV) sampling and testing as part of this fish health plan.
 - a. WSHV is an endemic pathogen to the Columbia River System.
 - b. WSHV is known to affect all life stages of White Sturgeon
 - c. WSHV has been detected less frequently than WSIV in White Sturgeon culture programs.
 - d. WSHV requires lethal sampling to accurately detect the virus through cell culture and histology.

- e. WSHV may be detected in the same fish health samples used for WSIV testing.
 - f. There is currently no description of WSHV asymptomatic infection.
 - g. WSHV can be detected by cell culture using appropriate cell lines if clinical disease symptoms and/or overt mortality attributable to the virus are observed.
- 6.) There are three diagnostic tests used to detect WSIV in cultured White Sturgeon that include cell culture, PCR, and histology.
- a. Cell culture has proven to be the least reliable diagnostic test to detect WSIV. The main problems with cell culture are finding a cell line (i.e., healthy fish tissues) sensitive enough to detect all strains of the virus and the prolonged incubation times.
 - b. PCR testing is promising because of its high sensitivity detecting the DNA of target pathogens. However, this test is still relatively new at detecting WSIV and currently cannot detect all known strains of the virus.
 - c. Histological examination of epithelial tissues (e.g., skin, gills, fins, etc.) is the most accepted diagnostic test because changes to cell structure caused by WSIV are visually observed and counted in the laboratory.
- 7.) Based on its general acceptance and reasonable accuracy for detecting the virus, WDFW will use histology as the primary diagnostic test to detect WSIV in wild-origin White Sturgeon imported into a hatchery.
- a. WDFW will contract with an appropriate laboratory (e.g., USFWS Idaho Fish Health Laboratory in Orofino, ID) to perform histological testing of wild-origin White Sturgeon.
 - b. Sponsors of each White Sturgeon culture program will fund WDFW fish health sampling and testing annually.
 - c. WDFW will no longer use cell culture to detect WSIV.
 - d. PCR samples may be taken concurrently during histology sampling and archived for later use (i.e., confirmation testing), if necessary. Sponsors will fund this testing.
- 8.) WDFW will collect non-lethal histology samples (pectoral fin tissue clips) from only juvenile White Sturgeon to test for WSIV.
- a. WDFW will no longer sample or test brood stock for WSIV. WSIV can be difficult to detect in brood stock due to their large body size and the small amount of tissue used to detect the virus. There have been instances in other White Sturgeon culture programs where the brood stock tested negative for WSIV, but the virus was later detected in the progeny.
 - b. Testing juvenile White Sturgeon is the most appropriate method to detect WSIV.
- 9.) WDFW will sample and test unique lots of fish for WSIV.
- a. Brood stock origin juvenile fish-A unique lot of fish is defined as all progeny produced

from an independent spawning event. An independent spawning event constitutes a group of brood stock held in a common holding tank(s) and spawned together in one or more factorial matings within a 1-3 day time period. A WDFW fish health specialist will review brood stock collection and spawning records and at his/her discretion will determine how many unique lots of fish exist and sample accordingly.

- b. Larval origin juvenile fish-A unique lot of fish is defined as all larvae collected from a single Columbia River pool. Multiple collection events from the same Columbia River pool do not require separate fish health sampling and testing. For example, the total number of White Sturgeon larvae collected from Lake Roosevelt and Wanapum Pool and imported into the hatchery would represent two unique lots of fish requiring fish health sampling and testing.

10.) WDFW will sample unique lots of fish at the 5% Assumed Pathogen Prevalence Level (APPL).

- a. Sampling rates applied here were taken from the WDFW Fish Health Manual (2010).
- b. Sampling at the 5% APPL equates to collecting 60 fish health samples from each unique lot of fish with $\geq 2,000$ individuals. For unique lots of fish with $< 2,000$ individuals, sampling rates will decrease as described in the below table.

APPL = 5%					
Lot Size	Sample	Lot Size	Sample	Lot Size	Sample
30	25	54	36	150	49
32	26	56	37	160	50
34	27	58	38	200	51
36	28	60	39	250	52
38	29	65	40	300	53
40	30	70	41	400	54
42	31	80	42	500	55
44	32	85	43	800	56
46	33	90	44	1,000	56
48	34	100	45	$\geq 2,000$	60
50	35	120	47		
52	35	125	48		

- c. If a unique lot of fish is held at more than one hatchery, the total number of fish health samples required may be collected equally across all facilities.

11.) WDFW will sample and test unique lots of fish for WSIV biannually, unless more intensive sampling is warranted.

- a.** Samples for histological examination will be collected from each unique lot of fish 1-2 months post-hatch and/or importation into the hatchery.
 - i.** This amount of time allows juvenile White Sturgeon to grow large enough to collect an adequate sized tissue sample.
 - ii.** If juvenile White Sturgeon are infected with WSIV, initial rearing in the hatchery environment should cause enough stress for the virus to express itself in epithelial tissue.
 - b.** Another set of histology samples will be collected from each unique lot of fish 1-1.5 months pre-release. This sampling event will most likely occur during PIT and acoustic tagging.
 - i.** These samples will be used to determine if detection of WSIV has changed over the course of the culture cycle.
 - ii.** Literature suggests that as cultured White Sturgeon increase in size/age, detection of WSIV decreases significantly suggesting a potential immunological response to the virus.
- 12.)** Release of hatchery raised White Sturgeon infected with WSIV into waters of the State.
- a.** WDFW authorizes the release of hatchery raised White Sturgeon infected with WSIV provided they remain asymptomatic throughout the entire culture cycle and barring any new and compelling technical information that leads WDFW to believe asymptomatic fish are no longer suitable for stocking.
 - b.** If an epizootic (WSIV or other pathogens) occurs in one or more unique lots of fish, WDFW will immediately sample and test fish for causative agents. An epizootic is defined as the occurrence of an infectious disease which results in a daily mortality of at least 0.1% of an entire group of fish held in one or more rearing vessels for five consecutive days. Concurrently, WDFW will convene and determine an appropriate path forward for these fish, which might include denying their release and/or euthanasia.
 - c.** WDFW will consult with the appropriate Co-Managers first to reach concurrence on a path forward before addressing the affected PUD fish forum/work group memberships.