# Rocky Reach Fish Forum

**Tuesday, 21 January 2014**
**1:00 – 4:00 p.m.**
**Chelan PUD Second Floor HR Conference Room**
**Wenatchee, WA**

Meeting called by Steve Hemstrom — RRFF Chair, Tracy Hillman
Notes taken by Suzanne Hodgson

### *Attending Representatives:*

| | | | |
|---|---|---|---|
| Hemstrom, Steve | Chelan PUD | (509) 661-4281 | steven.hemstrom@chelanpud.org |
| Lewis, Steve | USFWS | (509) 665-3508 x14 | Stephen_lewis@fws.gov |
| Rose, Bob (phone) | YN | (509) 865-5121 | rosb@yakamafish-nsn.gov |
| Verhey, Patrick | WDFW | (509) 754-4624 | patrick.verhey@dfw.wa.gov |
| Vradenburg, Keith | City of Entiat | (509) 784-1500 | Kvradenburg.city@entiat.org |

### *Attending Participants:*

| | | | |
|---|---|---|---|
| Clement, Mike (phone) | Grant PUD | (509) 754-5088 x2633 | mclemen@gcpud.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 |
| McLellan, Jason (phone) | CCT | (509) 263-1082 | Jason.mclellan@colvilletribes.com |
| 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 agenda was approved with one change – moving the City of Entiat marina proposal to the beginning of the agenda to accommodate Keith Vradenburg's schedule.

## III. Review and Approval of Meeting Minutes

Minutes from the 10 December 2013 meeting were reviewed and approved with minor edits.

## IV. City of Entiat Proposal for 65-Slip Boat Marina, RR Reservoir, near Entiat

Keith Vradenburg presented waterfront plans and a concept map of a proposed 65-slip marina near Entiat. Keith noted that the city has been working on this project for about three years, and has involved numerous outside agencies, including the tribes, in its planning. He added that the State plans to build an $11-million traffic roundabout going to the north end of the new PUD Park. Keith noted that the proposed marina location near a CCPUD-owned island is ideal, because of the slight current there and the fact that very little dredging will be needed. Keith said that the city is waiting for permitting on the project from the Army Corp of Engineers. The Colville Tribes have endorsed the plan.

Keith noted that the channel on the right side of the island is an old railroad bed approximately 8 to 15 feet deep. Keith explained that a marina is needed due to heavy boat usage along the Entiat sand bar, and a lack of gas and dumping facilities in the area. Patrick Verhey asked about marina usage and long term plans. Keith stated that the marina will be day-use only, and that the city wants to have all public access and no private property on the river inside city limits. Steve Lewis asked about the need for so many slips and Keith replied that the number is based on a usage study and a Chelan PUD 2001 recreation needs study. Steve Hemstrom asked about the possibility of waterfront and the marina ever shifting to private ownership. Keith indicated that the city is working to keep it public for as long as possible, but he could not guarantee it in perpetuity. Bob Rose asked about getting an electronic version of the map and Keith said that he would send it to Tracy Hillman for distribution. Bob Rose stated that he was unaware of this project and that he would like to talk with the representative from the Yakama Nation who was involved earlier in the planning process. Keith stated that he will get that information to Bob.

Keith stated that the city's waterfront plan, master plan, recreation plan, and development plan are on the city's website. Patrick asked about the plan's anticipated impacts to fish. Keith noted that Bob Steele, WDFW, conducted fish studies and that some fish mitigation was proposed upstream and down of the proposed site. He noted that tench were found in project area, a fish he had never seen before. Patrick asked about dredging impacts and Keith stated that very little dredging will be required because the channel is virtually devoid of vegetation, possibly due to the presence of the railroad bed. Keith noted that the proposed location is a little over a mile upstream from the Entiat River. Steve Hemstrom asked about the Biological Assessment prepared by the consultant, Grette Associates, and Steve Lewis stated that his agency has received this document from the city. Keith said that he has no date for expected completion. Steve Lewis asked why such a large facility is necessary. Keith replied that the project was developed from the recreation plan and the waterfront master plan that were conducted earlier. He also stated that 480 lots are planned for development in the city over the next few years,

effectively doubling the size of Entiat. Keith also reported that he has received notice of additional needs for waterfront use by skiers, fishermen, and other recreational users. Steve Hemstrom asked about estimated use percentages of that number of docks at the marina. Keith replied that projections show 60% usage mid-week and 90% on weekends. Keith added that no boat launch will be built at this location.

Steve Lewis expressed concern about the project and stated that he would talk to others in his agency. He asked about other locations on the reservoir for a fueling and pump-out station and Keith replied that the city of Entiat could not be involved in a location outside of their boundaries. He added that the proposed location is one of the few publicly owned areas on the reservoir. Steve Lewis asked how the Colvilles were involved. Keith noted that Entiat's Chief Sillikasaskwa was connected to the Colville Tribes.

- **Action items: Keith Vradenburg will send the maps to Tracy Hillman for distribution along with the web address for the city's plans and earlier biological studies. Keith will send the name of the Yakama representative involved earlier in the planning process to Bob Rose. Tracy Hillman will keep this topic on the agenda.**

## V. Pacific Lamprey

### Rocky Reach Project Effects (No Net Impact)

Bob Rose stated that the Yakama Nation met recently with Chelan PUD representatives and that he and Steve Hemstrom would continue working together to fill in some of the blanks in the NNI document. Tracy Hillman asked about the timeline for this work and Bob Rose and Steve Hemstrom replied that they will be working on a conceptual framework over the next few weeks. Bob noted that there is nothing pressing at this time. Steve Hemstrom added that he thought that the meeting between CCPUD and the Yakamas had gone well and that he was encouraged.

- **Action item: Bob Rose and Steve Hemstrom will continue working on the NNI conceptual framework document.**

### Adult HD PIT Monitoring

Steve Hemstrom reported that adult lamprey detections have slowed down and that there were no detections in November. Steve added that he had sent a summary of monitoring efforts to Tracy Hillman for distribution. Steve noted that last month he incorrectly reported 2013 detections of fish that had also been detected in 2012. He added that this error was because of some data filing problems. Steve stated that the spreadsheet that was distributed to the RRFF included raw 2013 data on detections, detection location, dates, and whether or not the fish passed the dam. He added that the highest detection point, RR07, is located 80 feet from the exit, making it difficult to be sure if passage has occurred. Lance Keller added that RR07 cannot be moved closer to the exit because of the full duplex antenna's location. Steve added that the Word document distributed to the RRFF is the 2013 Rocky

Reach Adult Lamprey HDPIT Detection Summary Report, which is the written summary of the raw data (see Attachment 1). He noted that in 2013, 27 fish were detected at Rock Island Dam and passed there. He added that two additional fish were detected at Rocky Reach Dam that had not been detected at Rock Island Dam, somehow avoiding detection at Rock Island. At Rocky Reach Dam, 13 fish were detected and six passed with "passage" being defined as detected at RR07 and not detected again. Steve added that he needs to calculate passage times.

### Lamprey Five-Year Fishway Counts

Steve Hemstrom pointed out that 2013 Rocky Reach Adult Lamprey HD PIT Detection Summary Report (Attachment 1) is based on window counts, which in 2013 were 1,625 fish at Rocky Reach and 2,155 at Rock Island, resulting in a 75.4% conversion from Rock Island to Rocky Reach Dam. Steve stated that more HD tagged fish will be needed to improve the estimates and that the Corp is planning to tag more fish at McNary Dam next year. He stated that the last table in the report looks at passage from Rocky Reach to Wells, which is almost none.

Bob Rose agreed that more tagged fish are needed and said that he would be happy to help with that. He added that he would rather not wait for the Corp to act. Steve Hemstrom stated that he and Lance Keller have discussed possibly converting some full duplex readers and antennas on the Wenatchee and the Entiat to HD. Bob Rose asked when Steve Hemstrom might have more information on this and Steve stated that CCPUD is gathering information now but he doubts if anything would be installed during 2014. Steve Hemstrom recommended that questions on this topic be directed to him and Tracy Hillman.

### 2013 Turbine Intake Screen Monitoring Report

Steve Hemstrom reported that screens in units 1 and 2 at Rocky Reach Dam were monitored for juvenile lamprey impingement in 2013 (see Attachment 2). He noted that screens cover only the upper one-third of the intake slot and that the screens guide juvenile salmon and lamprey into the juvenile fish bypass system. He stated that the question is whether screens are a factor in juvenile lamprey loss. He added that in 2013, Thad Mosey observed two possible juvenile lampreys on the screens while studying video tape of screen cleaning. Steve stated that screens were monitored and cleaned on 13, 17, 23, 28 and 31 May and 7 and 14 June for a total of 15.25 hours of screen impingement monitoring. Steve Hemstrom asked whether monitoring should continue to occur every other year. The next monitoring event would be in 2015. Discussion took place around past numbers of detections at the screens and past nighttime observations.

- **Action item: Steve Hemstrom will send the 2013 Turbine Intake Screen Monitoring Report to Tracy Hillman for inclusion in the meeting notes (see Attachment 2).**

### Regional Implementation Planning Process

Tracy Hillman reported that during the last RRFF meeting, RD Nelle was looking for volunteers to help populate the lamprey templates. Tracy asked if there were any updates on the planning process. No one

had any updates. Steve Lewis offered to check with RD Nelle on updates.

- **Action item: Steve Lewis will follow up with RD Nelle on updates to the Regional Implementation Planning Process and report back to the RRFF.**

## VI. Bull Trout

### Bull Trout and Tumwater Dam

Steve Lewis had no updates at this time. He stated that his agency is still working on the HGMP biological opinion and that he would like to keep this topic on future agendas.

## VII. Resident Fish

There were no resident fish updates provided during the meeting.

## VIII. White Sturgeon

### Juvenile Rearing and Health

Lance Keller reported that that juvenile sturgeon at Columbia Basin and Chelan Falls hatcheries are doing well. Chad Jackson reported that more sampling has been done for iridovirus and that his agency is now able to conduct the PCR testing in-house. He added that WDFW Fish Management Hatchery and Health staff recently agreed that infected fish are fit for release if they do not show symptoms of the virus. WDFW will collect histology samples during tagging (1-1.5 months pre-release) to test for iridovirus infection rates. Chad noted that they want to collect histology samples on these fish to provide more information about the virus. For example, WDFW wants to determine if iridovirus infection rates decrease with size/age as suggested in the literature.

### Juvenile Monitoring

Lance Keller was hoping to have the 2013 draft M&E report out by now, but it will take a few more weeks. He will send it out as soon as he receives it from Blue Leaf.

- **Action item: Lance Keller will provide the draft juvenile monitoring report to the RRFF when he receives it.**

### Release Number for 2014

Tracy Hillman stated that he received the rationale for releasing 6,500 juvenile sturgeon into the project area from the Yakama Nation this morning. He will distribute the paper to the RRFF following the meeting. Tracy also reported that the Priest Rapids Fish Forum (PRFF) asked if the RRFF would be

interested in having a joint meeting to discuss 2014 release numbers and to invite some sturgeon experts into the discussion. Lance Keller stated that he sees value holding a joint meeting and including sturgeon experts in the discussion. Tracy noted that the following experts had been identified during the PRFF meeting: Paul Anders, Ray Beamesderfer, Andrea Schreier, James Crossman, Ken Scribner, Jim Powell, and Larry Hildebrand. Tracy stated that the proposed joint meeting could replace the February RRFF meeting and that it could take place the week of Feb. 10th or Feb. 17th (save Presidents Day). Tracy added that he could put together a summary of the sturgeon management plans and the two proposed stocking numbers. **The RRFF members present approved the plan to meet with the Priest Rapids Fish Forum to discuss the 2014 White Sturgeon release number. They also agreed to the identified experts and to have Tracy draft a summary of the two release strategies.** Tracy added that he would like to receive feedback from Pat Irle on these decisions. Tracy will send out a doodle poll to find a date for the joint meeting. The group approved holding the meeting at Chelan PUD's auditorium. The meeting time will likely be from 10:00 am to 4:00 pm.

- **Action Items: Tracy Hillman will send out the rationale paper prepared by the Yakama Nation. He will also summarize the two different release strategies for the Forum's review. He will then send a doodle poll to find a date for the joint RRFF/PRFF meeting.**

## IX. Biological Objectives Report

Steve Hemstrom reported on the draft biological objectives report due 31 January to the RRFF and the Department of Ecology. He stated that this is a 401 water quality certification report. He noted that he sent to the group an outline of the report, along with the list of objectives (see Attachment 3). Steve added that the report is composed mainly of factual information and that several people at Chelan PUD are working on the report. Steve Hemstrom pointed out to Steve Lewis that the table showing take-limits for bull trout is from the USFWS's 2004 Biological Opinion, which is based on a percentage. Steve Hemstrom added that they are proposing instead to use numbers from the 2008 biological opinion. Steve Lewis agreed that the PUD should follow the 2008 biological opinion. Steve Hemstrom would like to let Pat Irle know about that change prior to moving forward. He added that the final report is due on 30 March. Steve Hemstrom stated that the Pacific Lamprey NNI Report is due to FERC and the RRFF on 19 February, and that this is a five-year report. Finally, Steve Hemstrom stated that he plans to include some information on the work that the RRFF has been doing lately on Pacific Lamprey.

- **Action items: Steve Hemstrom will check with the Department of Ecology on the change to 2008 bull trout take numbers for the Biological Objectives Report. Tracy Hillman will send the biological objectives report and the lamprey NNI report to the RRFF for comments via email.**

## X. Rocky Reach Large Turbine Unit Repair Update

Lance Keller reported on the series of events that led up to the temporary shut-down of units C-8

through C-11 at Rocky Reach Dam. He stated that unit C-11 has been put back into service temporarily with blades fixed at 30.65 degrees, as opposed to the Kaplan style of variable pitch blades. He added that so far the unit is running more smoothly with fixed blades. He reported that unit C-9 is being tested with fixed blades and should be back in temporary service on 31 January. He noted that C-8 should be back in temporary service with fixed blades on 28 February. Lance noted that C-10 will receive a permanent repair, taking it back to full Kaplan blades, with an estimated return to service on 31 August. He added that permanent, Kaplan-style fixes on all four units should be done by spring of 2019. Lance noted that Chelan's Fish and Wildlife staff have been involved in the decision-making process on repairs, helping to ensure that the needs of fish are met. He added that C-2's scheduled spring maintenance will be moved back to July allowing it to provide the necessary level of attraction for fish during spring migration.

## XI. Next Steps

The February meeting of the RRFF will be a joint meeting with the Priest Rapids Fish Forum to discuss the 2014 White Sturgeon release numbers. This meeting will take place during the second or third week of February. Tracy Hillman will notify the RRFF of the exact date and time.

The next regular meeting of the RRFF will be Wednesday, 5 March 2014 from 1:00 to 4:00 p.m. in the Chelan PUD Second Floor Conference Room.

# ATTACHMENT 1

## DRAFT

## Rocky Reach

## 2013 Adult Pacific Lamprey

## HD PIT Detection and Passage Summary Report

This report summarizes half-duplex (HD) PIT tag detections for adult Pacific lamprey at Rocky Reach Dam (RRH) for the calendar year 2013. The HD detection arrays (all seven sites) were installed and fully operational on 1 June, 2012. The purpose of the HD PIT tag monitoring is to evaluate the improvements made (2011-2012) to the Rocky Reach fishway by Chelan PUD to aid upstream lamprey passage. This monitoring effort is per License Article 5-a(5) of the Pacific Lamprey Management Plan. The Rocky Reach Fish Forum (RRFF) will use monitoring results for an appropriate period of time to determine the effectiveness of the improvements for lamprey passage, such that for Rocky Reach:

> …*lamprey passage at the Project is similar to the best passage rates found at other hydroelectric projects on the mainstem Columbia and Snake rivers.* [Pacific Lamprey Management Plan, Article 5, a(5) Evaluation of upstream passage modifications]

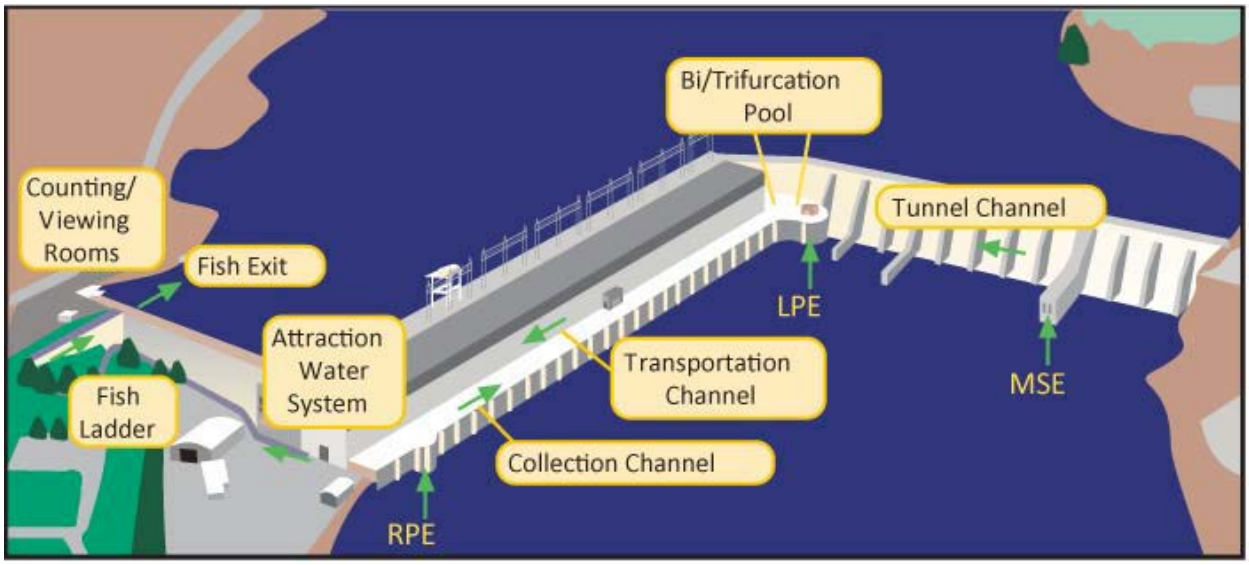
**RRH HD PIT Detection Sites**

HD detection sites within the Rocky Reach fishway are described in Table 1 and Figure 1. A total of seven sites (Table 1) wired with HD antennas have been monitored continuously during t the period April through December, 2013. Detection sites include three main fishway entrances and four internal locations. These sites were reviewed and approved by the RRFF in 2011.

Table 1. HD PIT tag antenna site numbers and descriptions of antenna locations at Rocky Reach.

| HD Detection Site | Antenna Site Description | Number of Antennas |
|---|---|---|
| RRH(01) | Entrance, Left Powerhouse (LPE) | 1 |
| RRH(02) | Entrance, Main Spillway (MSE) | 2 |
| RRH(05) | Entrance, Right Powerhouse (RPE) | 2 |
| RRH(03) | Internal, trifurcation pool | 2 |
| RRH(04) | Internal, transportation channel | 2 |
| RRH(06) | Internal, beginning of pool and weir ladder | 2 |
| RRH(07) | Internal exit, fishway exit to forebay | 2 |

Figure 1. Rocky Reach Dam adult fishway system showing main entrance locations (RPE, LPE, and MSE), channel features, and fishway exit to forebay.




All adult lampreys detected at Rocky Reach 2013 were tagged in the lower Columbia River at Bonneville Dam by the US Army Corps (tag year not verified). From July through October 2013, 13 PIT tagged adult Pacific lampreys were detected at Rocky Reach Dam (Table 2). The first and earliest detection occurred on 30 July, while the latest first-time detection occurred on 3 October. Six of the 13 fish (46.2%) are assumed to have passed Rocky Reach, as each was last detected at the fishway exit antenna (RRH 07) with no subsequent detections. No fish detected at RRH in 2012 were detected in 2013.

Table 2. Detection timeline for HD PIT tagged lamprey at Rocky Reach Dam, 2013.

| HD Tag Code | First Detect Date | First Detect Location | First Detect Time | Last Detect Date | Last Detect Location | Last Detect Time | Date Passed |
|---|---|---|---|---|---|---|---|
| A326D65 | 30 July | RRH(07) | 3:23:25 | 30 July | RRH(07) | 3:55:37 | 30 July |
| AECBEFC | 6 Aug | RRH(03) | 20:37:00 | 7 Aug | RRH(07) | 0:43:08 | 7 Aug |
| AECC5BB | 15 Aug | RRH(03) | 4:12:43 | 15 Aug | RRH(07) | 4:12:56 | 15 Aug |
| AECC355 | 19 Aug | RRH(02) | 23:02:46 | 20 Aug | RRH(07) | 4:50:30 | 20 Aug |
| AECC36F | 20 Aug | RRH(03) | 2:40:32 | 20 Aug | RRH(07) | 7:17:22 | 20 Aug |
| AEBB9B5 | 31 Aug | RRH(06) | 21:35:20 | 1 Sept | RRH(07) | 1:01:08 | 1 Sept |
| AEBB952 | 7 Sept | RRH(01) | 23:22:30 | 7 Sept | RRH(01) | 23:22:30 | - |
| AEBB9E1 | 15 Sept | RRH(01) | 21:41:29 | 12 Dec | RRH(03) | 20:37:35 | - |
| AECBEC0 | 11 Sept | RRH(01) | 1:53:46 | 11 Sept | RRH(01) | 1:53:46 | - |
| AEBB942 | 22 Sept | RRH(02) | 23:19:47 | 9-Nov | RRH(06) | 0:33:16 | - |

| HD Tag Code | First Detect Date | First Detect Location | First Detect Time | Last Detect Date | Last Detect Location | Last Detect Time | Date Passed |
|---|---|---|---|---|---|---|---|
| AECBF0A | 22 Sept | RRH(06) | 23:16:00 | 23 Sept | RRH(03) | 0:44:36 | - |
| ABAC50E | 25 Sept | RRH(06) | 22:04:49 | 26 Sept | RRH(04) | 3:08:05 | - |
| AECC3AF | 3 Oct | RRH(07) | 5:29:03 | 27 Oct | RRH(04) | 22:27:05 | - |

Upstream fishway passage counts for Pacific lamprey from 2008 through 2013 are shown for Rocky Reach Dam (Table 3) Rock Island Dam (Table 4). Determination of conversion rates using count data is not strongly quantitative because of unknown rates of fallback at Rock Island and Rocky Reach, and unknown escapement to the Wenatchee. However, a comparison of lamprey passage counts for the two Projects over the last five years generally shows a higher conversion ratio since fishway improvements were made at Rocky Reach. The four-year mean conversion (2008-2011) prior to fishway improvements at Rocky Reach is 67.5% while the two-year mean post-improvement is 76.1%.

Table 3. Rocky Reach fishway window counts of Pacific Lamprey by month, 2008-2013.

| Year | June | July | August | September | October | November | RRH Total | Conversion RIS-RRH |
|---|---|---|---|---|---|---|---|---|
| 2008 | 0 | 11 | 161 | 188 | 8 | 0 | 368 | 41.8% |
| 2009 | 1 | 13 | 155 | 105 | 4 | 0 | 278 | 74.1% |
| 2010 | 0 | 6 | 126 | 110 | 26 | 0 | 268 | 84.3% |
| 2011 | 0 | 0 | 85 | 482 | 51 | 0 | 618 | 69.8% |
| 2012 | 0 | 5 | 251 | 496 | 53 | 0 | 805 | 76.8% |
| 2013 | 0 | 37 | 577 | 1000 | 11 | 0 | 1625 | 75.4% |

Table 4. Rock Island fishway counts of Pacific Lamprey by month window counts, 2008-2013.

| Year | June | July | August | September | October | November | RIS Total |
|---|---|---|---|---|---|---|---|
| 2008 | 1 | 39 | 435 | 387 | 18 | 0 | 880 |
| 2009 | 0 | 20 | 213 | 138 | 4 | 0 | 375 |
| 2010 | 0 | 8 | 139 | 138 | 33 | 0 | 318 |
| 2011 | 0 | 2 | 172 | 642 | 70 | 0 | 886 |
| 2012 | 0 | 9 | 329 | 662 | 48 | 0 | 1,048 |
| 2013 | 4 | 47 | 761 | 1,281 | 62 | 0 | 2,155 |

# ATTACHMENT 2

**2013 Diversion Screen and Vertical Barrier Screen (VBS) monitoring for juvenile lamprey impingement Units 1 and 2 at Rocky Reach Dam**

Steve Hemstrom, Fisheries Biologist, Chelan PUD, 16-December, 2013

From April through August 2013 during the operation of the RR Juvenile Fish Bypass System, the Diversion screens system in units 1 and 2 are cleaned at least once per week. The diversion screens are positioned at 45 degree angles within the intakes and cover only the upper one-third of the intake slot. The screens guide juvenile fish into the Rocky Reach Juvenile Bypass system. Within each of the intake slots, diversion screens cover a depth between 71-88 (17') and feet below the surface elevation of the forebay at 707 ft msl.

The frequency of diversion screen cleaning increases when debris loads increase, monitored by water level differentials. The screen cleaner consists of a brush car that is deployed via cables from a stationary frame on the transformer deck. The brush car is fitted with brushes that move vertically up and down the surface of the VBS screens. Approximately 30 minutes are required to complete the cleaning cycle in each intake slot (three slots per unit) of Units 1 and 2. Video cameras are mounted on the north and south ends of the brush car. Video is captured and recorded by DVD recorders for each pass of the brush car up and down the screens.

During the 2013 screen-monitoring period for juvenile lamprey (mid-May through mid-June), the screens in both units were cleaned a total of seven times (13 May, 17 May, 23 May, 28 May, 31 May, 7 June, and 14 June). The total video footage time for the seven cleaning events in 2013 was 15 hours, 45 minutes. Chelan PUD fisheries biologist (Thad Mosey) reviewed the video recording of these cleaning events. No juvenile lampreys were confirmed to be impinged on screens. For the entire period, only two individual "shapes" were reported as possible juvenile lamprey, but determination was inconclusive and described by the reviewing biologist as 50/50 at best.

Monitoring conducted in 2011 also found no juvenile lamprey impinged on diversion or VBS screens. Based on bi-annual monitoring approved by the RRFF, the next screening monitoring year will be 2015 at Rocky Reach.

ATTACHMENT 3

# ROCKY REACH BIOLOGICAL OBJECTIVES 2013 STATUS REPORT

**LICENSE ARTICLE ---**

**Draft**

**ROCKY REACH HYDROELECTRIC PROJECT**

**FERC Project No. 2145**

**February 1, 2014**

**Public Utility District No. 1 of Chelan County**

**Wenatchee, Washington**

**SECTION 1: INTRODUCTION**

**SECTION 2: HABITAT CONSERVATION PLAN (HCP)**

2.1 HCP Plan Species 91% Project Passage Survival

2.2 HCP Plan Species NNI Hatchery Production

2.3 HCP Tributary Fund Implementation

2.4 HCP Plan Species Adult Passage Survival

**SECTION 3: BULL TROUT**

3.1 Take Not Exceeded Adult Upstream Passage

3.2 Take Not Exceeded Adult Downstream Migration

3.3 Take Not Exceeded For Predator Control Programs

3.4 Take Not Exceeded Sub-Adult Downstream Migration

3.5 Take Not Exceeded Sub-Adult Rearing in Reservoir

**SECTION 4: WHITE STURGEON**

4.1 Natural Reproduction Potential

4.2 Supplementation commensurate with Habitat Carrying Capacity

4.3 Population with Stable Age-Structure Allowing Limited Harvest

**SECTION 5: PACIFIC LAMPREY**

5.1 Adult Upstream Passage Success

5.2 Juvenile Volitional Downstream Passage

5.3 Pacific Lamprey Rearing Habitat

5.4 No Net Impact

**SECTION 6: RESIDENT FISH**

6.1 No Negative Impacts on Native Resident Fish

| Design | Designated Use | Biological Objective | Evaluation Timeframe | Actions if Objective Achieved | Alternative Management Actions | Fish Management Plan Action |
|---|---|---|---|---|---|---|
| Migration | Salmonid Migration | HCP Plan Species (Chinook, Steelhead, Sockeye, Coho) 91% Project Passage Survival | By 2013 | Maintain Action. | Additional Tools (bypass modifications, spill, other) | HCP Sections 3 and 5 |
| Bull Trou | Salmonid Harvest | HCP Plan Species NNI Hatchery Production Achieves 7% | By 2013 | Maintain Action. Adjust 7% Production Level Every 10 Years | Modify hatchery facilities or use other method for artificial production (lake outplants) | HCP Sections 3 and 8 |
| White Stu Natural R | Salmonid Rearing | HCP Plan Species Tributary Fund Implements Habitat Improvements For NNI | By 2013 | Maintain Action. | Modify type of projects funded | HCP Sections 3 and 7 |
| White Stu Population Carrying | Salmonid Spawning | HCP Plan Species Adult Passage Survival Included in 91% Project Passage Survival. | By 2013 | Maintain Action. | Additional Tools | HCP Sections 3 and 5 |
| White Stu Harvest | Bull Trout Adult Upstream Passage | Take does not exceed 2% through the upstream fishway. | 2005-2008 | Maintain Action. Continue appropriate monitoring and the adaptive management process. | Develop and implement a plan, in consultation with the RRFF, to address identified problems. | Bull Trout Plan Sections 4.1.1-4.1.3 |
| Pacific La Adult Up Downstre Migration | Bull Trout Adult Downstream Migration | Take does not exceed 5% passing through turbines; 2% passing through spillways; and 2% passing through the downstream bypass. | 2005-2008 | Maintain Action. Continue appropriate monitoring and the adaptive management process. | Develop and implement a plan, in consultation with the RRFF, to address identified problems. | Bull Trout Plan Section 4.1.2 |
| Pacific La Juvenile Downstre Migration | Bull Trout Adult Rearing in the Reservoir | Take does not exceed 2 fish for the fish predator control program. | 2005-2008 | Maintain Action. Continue appropriate monitoring and the adaptive management process. | Develop and implement a plan, in consultation with the RRFF, to address identified problems. | Bull Trout Plan Section 4.1.2 |
| Pacific La Rearing | Bull Trout Sub-adult Downstream | Take does not exceed limits when established by USFWS. | As recommended by the RRFF. | Maintain Action. Continue appropriate monitoring and the | Pursue feasibility of Project operations of fishway/bypass if migration problems are identified | Bull Trout Plan Sections 4.1.1-4.1.3 |

| Designated Use | Biological Objective | Evaluation Timeframe | Actions if Objective Achieved | Alternative Management Actions | Fish Management Plan Action |
|---|---|---|---|---|---|
| Pacific Lamprey Overall Combined Goal | No Net Impact | TBD by RRFF | Maintain Action. Continue appropriate monitoring and the adaptive management process. | Develop and implement a plan, in consultation with the RRFF, to address identified problems. | Pacific Lamprey Section 4 |
| Native, Non-Stocked Resident Fish Species | No negative impacts caused by ongoing Project operations. | Years 1-2, with subsequent surveys determined by RRFF | Maintain Action. Continue appropriate monitoring and the adaptive management process. | Develop and implement a plan, in consultation with the RRFF, to address identified problems. | Resident Fish Plan Section 4.2 |