

# Rocky Reach Fish Forum

Wednesday, 6 August 2014

1:00 – 4:00 p.m.

Chelan PUD Second Floor 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	Ecology	(509) 454-7864	pir461@ecy.wa.gov
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
Jackson, Chad	WDFW	(509) 754-4624 x250	chad.jackson@dfw.wa.gov
Keller, Lance	Chelan PUD	(509) 661-4299	lance.keller@chelanpud.org
McLellan, Jason	CCT	(509) 263-1082	Jason.McLellan@colvilletribes.com
Miller, Donella	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 no changes.

### III. Review and Approval of Meeting Minutes

All members except Pat Irle approved the draft June and July meeting minutes. Pat asked for an additional day to review the draft notes.

#### Action Item:

- **Pat Irle will review the draft June and July meeting minutes and send her edits/comments to Tracy Hillman by the end of the week.**

### IV. Rocky Reach Five-Year Biological Objectives Status Report

Last month, Chelan PUD sent the Final Rocky Reach Five-Year Biological Objectives Status Report to Ecology. As part of the discussion last month, Pat Irle asked that Chelan PUD also file the report with FERC. To that end, Chelan PUD's Licensing Department reviewed the process to request that FERC modify its order to require the Biological Objectives Status Report be a submission requirement to FERC. According to FERC, because the Five-Year Status Report is a Department of Ecology requirement in the Rocky Reach License, only Ecology can make the request to FERC and it must be in writing. Pat Irle asked if Chelan PUD could send the report to FERC as a courtesy copy. Steve Hemstrom stated that there is nothing that prevents Chelan PUD from sharing this report with FERC and they will do so.

#### Action Item:

- **Michelle Smith will share a copy of the Five-year Biological Objectives Status Report with FERC.**

### V. Pacific Lamprey

#### Update from Pacific Lamprey Subcommittee

Bob Rose gave a brief update on the two Pacific Lamprey Subcommittee meetings that took place last week. Bob indicated that they were good meetings and focused on adult passage. Bob noted that a small sample size of marked or tagged fish has prevented us from making strong conclusions about overall passage efficiency in the future. The subcommittee discussed different sampling methods and equipment that could be used to assess passage efficiencies and the opportunities that can be gained from radio telemetry and other technologies including acoustics.

Steve Hemstrom reported that with the increased number of adult lamprey being tagged this year with HD PIT tags, we should get much more information on overall dam passage efficiency for adult lamprey. Steve indicated that Chelan PUD is working closely with Grant PUD and that there is free information exchange resulting in a common understanding of fish numbers and transport schedules. Patrick Verhey

noted that the subcommittee discussed the possibility of installing an HD PIT tag interrogation system in the lower Entiat River. Among other things, this will improve the calculation of conversion rates between Rocky Reach and Wells dams.

### **Rocky Reach Pacific Lamprey Five-Year Adaptive Management Status Report**

Steve Hemstrom reported that the Final Rocky Reach Pacific Lamprey Five-Year Adaptive Management Status Report was submitted to FERC on 5 August 2014. The only commenter was the Yakama Nation, who provided a three-page written letter. The final report contains the Yakama's letter and Chelan PUD's responses and changes to the report.

### **Grant PUD Adult Trap and Haul: 2014 Plan to Increase HD PIT Tag Numbers for Rocky Reach Fishway Evaluation**

Steve Hemstrom said that Grant PUD is currently trapping and hauling adult lamprey and transporting them to Kirby Billingsley Park where they are releasing them into the Rock Island Reservoir. To date, Grant PUD has transported and released 150 untagged adult Lamprey.

Steve Hemstrom indicated that Chelan PUD has a contract with Blue Leaf Environmental to transport and PIT tag lamprey for the Rocky Reach evaluation; Blue Leaf is tagging adult lamprey that are collected at Priest Rapids and Wanapum dams. The fish are being tagged with HD PIT tags. The goal is to tag 150-200 adult lampreys. The tagged fish are being released at Confluence Park, which is near but upstream of the mouth of the Wenatchee River. Steve reported that as of 6 August 2014, there have been two releases totaling 74 adult tagged Lamprey. The goal is to release 25 to 40 tagged adult lamprey per week for a four to five week period. Steve said that he will develop a study plan summary and share it with the RRF.

Steve Hemstrom noted that Chelan PUD is measuring the dorsal fin gap on the tagged adult lamprey. This is the distance between the two dorsal fins and is measured in millimeters. This distance is believed to be correlated with maturation. This measurement is not related to sex or age. Steve has a publication (Clemens et al. 2013) on this measurement that he will share with the RRF. Steve reminded the RRF that the main focus of the tagging study is to examine passage efficiency, not entrance efficiency.

Steve Hemstrom commented that a conference call has been scheduled between Grant, Douglas, and Chelan PUDs to discuss these efforts further.

#### **Action Items:**

- **Steve Hemstrom will write a study plan summary that will describe how the HD tagged lamprey will be used to address passage efficiency.**
- **Steve Hemstrom will provide the RRF with the publication that describes the relationship between dorsal fin gap and maturation. Here is the link to the Clemens et al. paper:**  
[http://www.google.com/url?url=http://www.researchgate.net/profile/Benjamin\\_Clemens2/pub](http://www.google.com/url?url=http://www.researchgate.net/profile/Benjamin_Clemens2/pub)

[lication/258113764](https://www.fishbase.org/species/Entosphenus%20tridentatus/258113764) [Maturation characteristics and life-history strategies of the Pacific lamprey Entosphenus tridentatus/links/02e7e527077c00457e000000&rct=j&frm=1&q=&esrc=s&sa=U&ei=5GDhU7jXFML2oATG5YK4Ag&ved=0CBQQFjAA&usg=AFQjCNEExRDvT1pILZQ0kvTLEEkVkJ0Kjg](#)

### **Pacific Lamprey at Tumwater Dam**

There are no updates to report.

### **Regional Implementation Planning Process**

There are no updates to report.

### **Wanapum Response: Rock Island Lamprey Passage Structures**

Lance Keller reported that all three denil structures are in place at Rock Island and all have adult lamprey passage structures in them. Everything was installed on the right bank before the first of June. Installation on the left bank was completed by mid-June. Efforts were made to get these installed as quickly as possible to allow the structures to season (i.e., to take on the odors of the river).

River flows are beginning to fluctuate and denil operations are being seen during the morning period. The fishway attendants are monitoring the tailrace elevations.

Before the meeting, Tracy Hillman distributed the Interim Fish Passage Plan (IFPP) summary for the month of August to the RRF. Lance Keller said that July was the first month where denil operations were observed. As noted above, denil operations are brief, but with the flows continuing to drop, Lance believes they will see more frequent use in August.

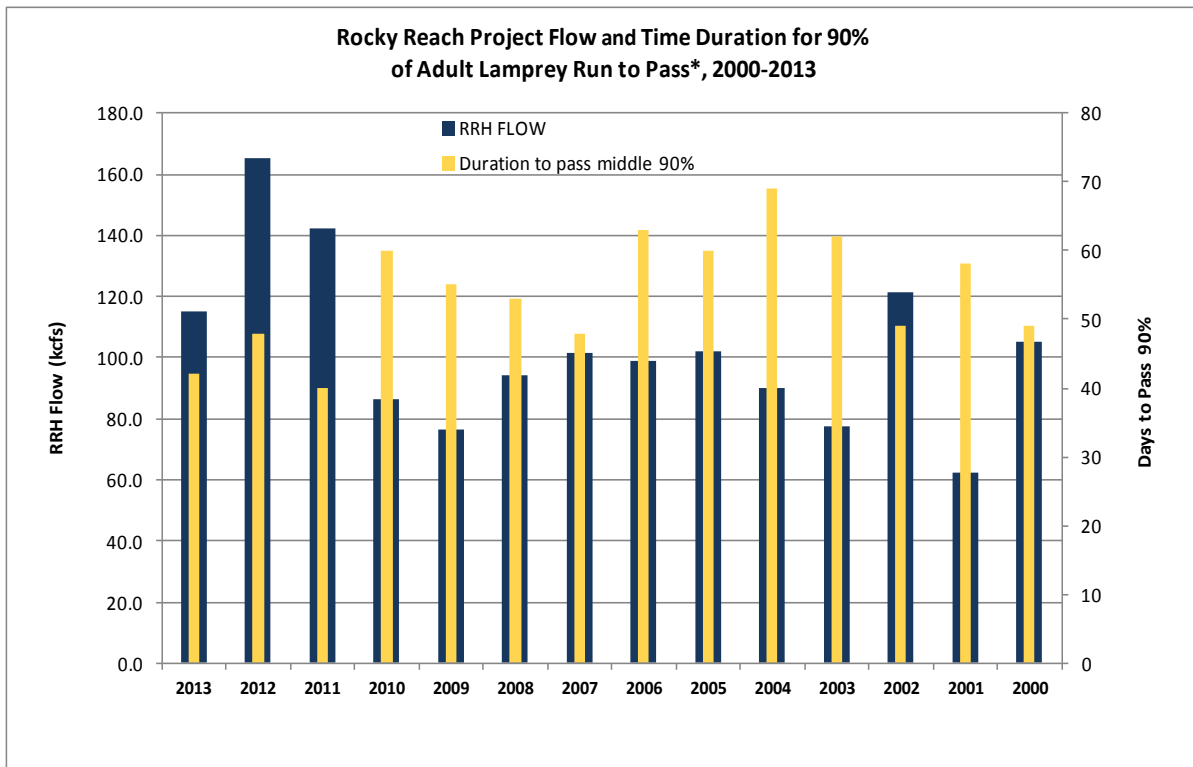
When questioned about flows in the denils, Lance Keller explained that the water provided to the denils is from existing gravity flow from the ladders and overflow from the bypass system. No pumps are used to water the fishway or denils.

Lance Keller indicated that a PIT-tag antenna was relocated, installed, and is now operational. There is now a temporary array above the counting window in the right-bank ladder. About five feet from the exit is a PIT-tag array that reads both full duplex and half duplex.

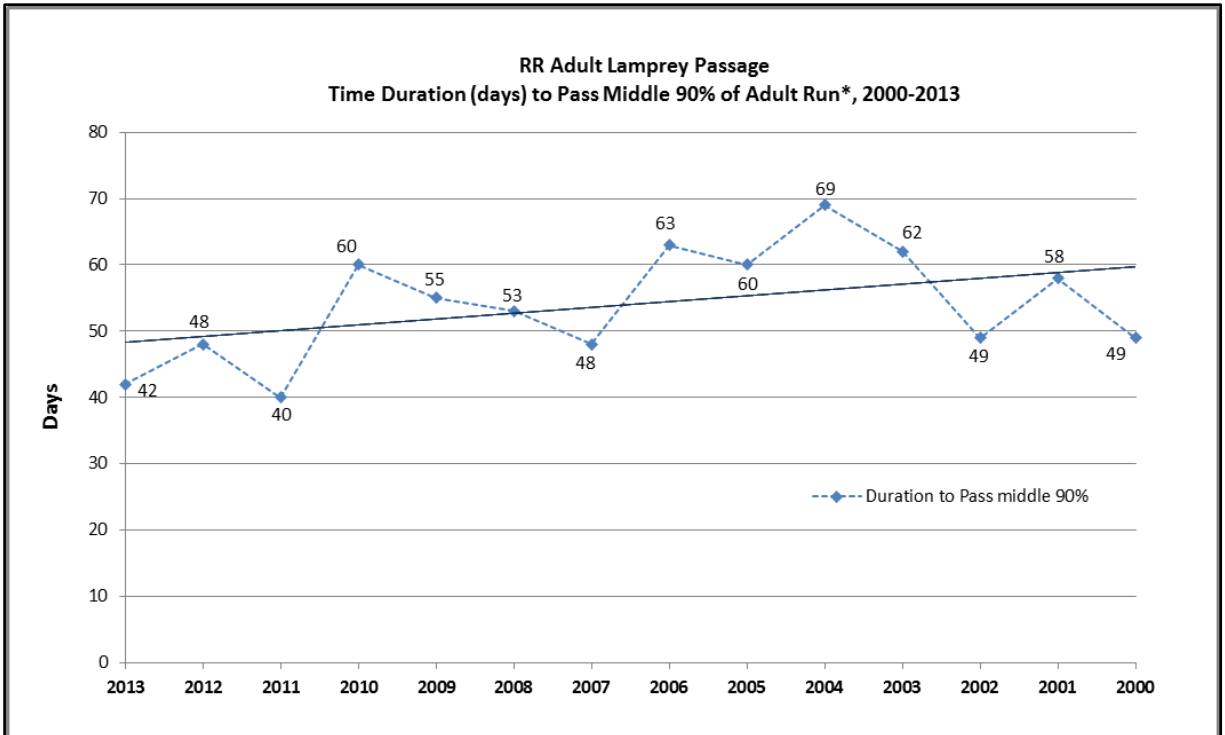
### **Rocky Reach Pre and Post Fishway Modifications: Lamprey 90% Passage Duration and Window Count Conversion Rates**

Steve Hemstrom passed out copies of graphs he prepared for Forum members on adult lamprey adult passage conversion rates, dam passage counts, and passage durations for the middle 90% of the adult lamprey run to pass Rocky Reach. Steve explained that in the past, not enough PIT tagged adult lamprey have made it to Rocky Reach Dam from the lower Columbia in order to assess passage efficiency and benefits associated with modifications to the adult fish ladders. Therefore, Steve has been looking at

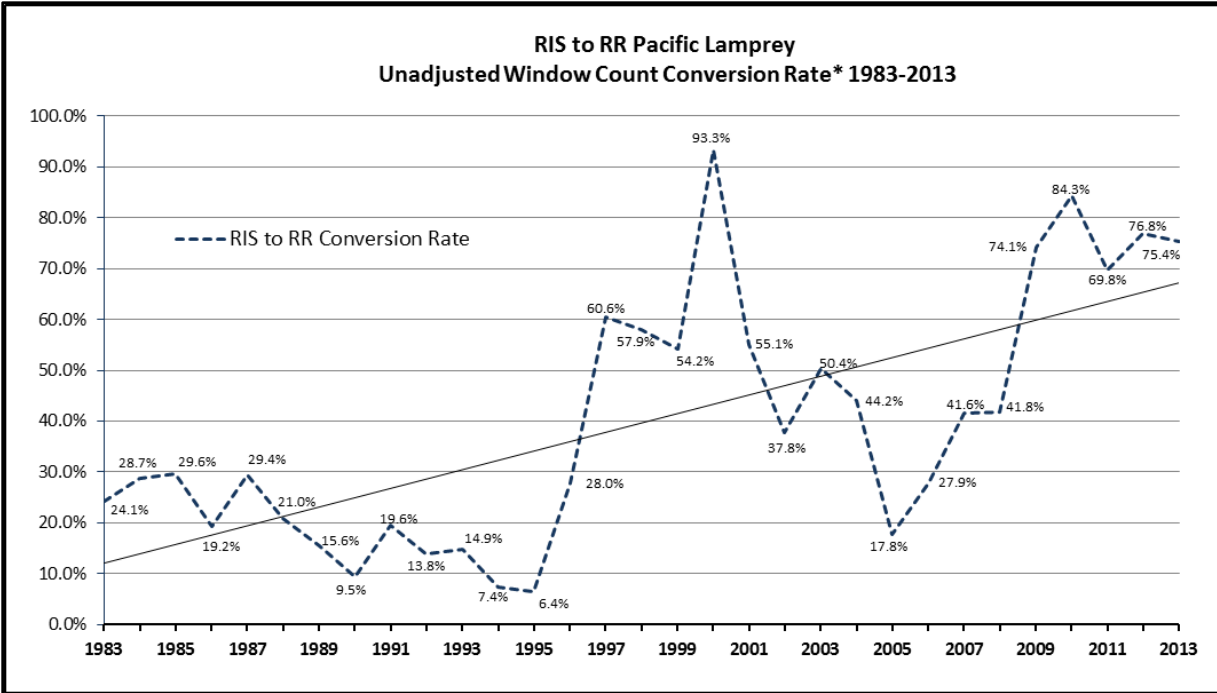
alternative data to evaluate passage. Steve talked briefly about the following seven figures, which show mid-Columbia Pacific lamprey window count conversion rates, the duration of time, with flow, to pass the middle 90% of the adult lamprey run at Rocky Reach based on fishway counts, and adult lamprey counts at Bonneville Dam in comparison with same-year counts at Rock Island, Rocky Reach, and Wells dams. Steve noted that conversion rates for the years following fishway improvements averaged 74% and that the time duration for the passage of the middle 90% of the adult lamprey run past Rocky Reach averaged 43 days, which is shorter than other years before modifications were made.



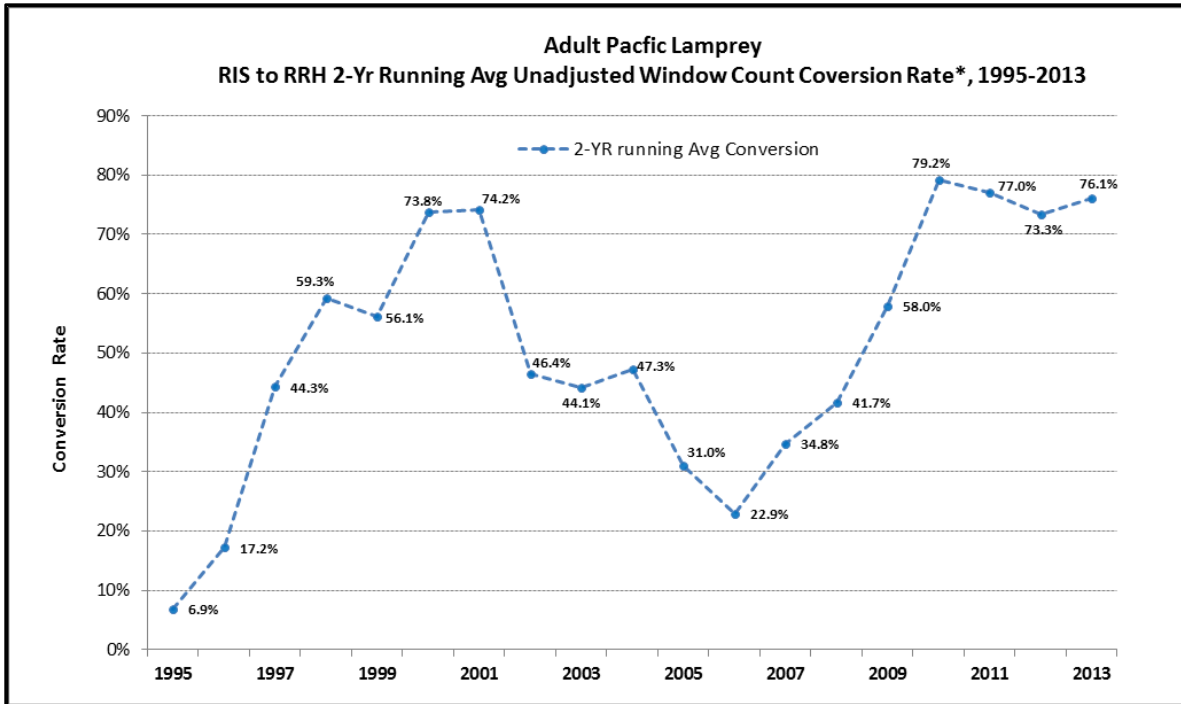
\*Duration of time for the middle 90% of the entire adult lamprey run to pass based on the season-wide total lamprey count at Rocky Reach Dam.



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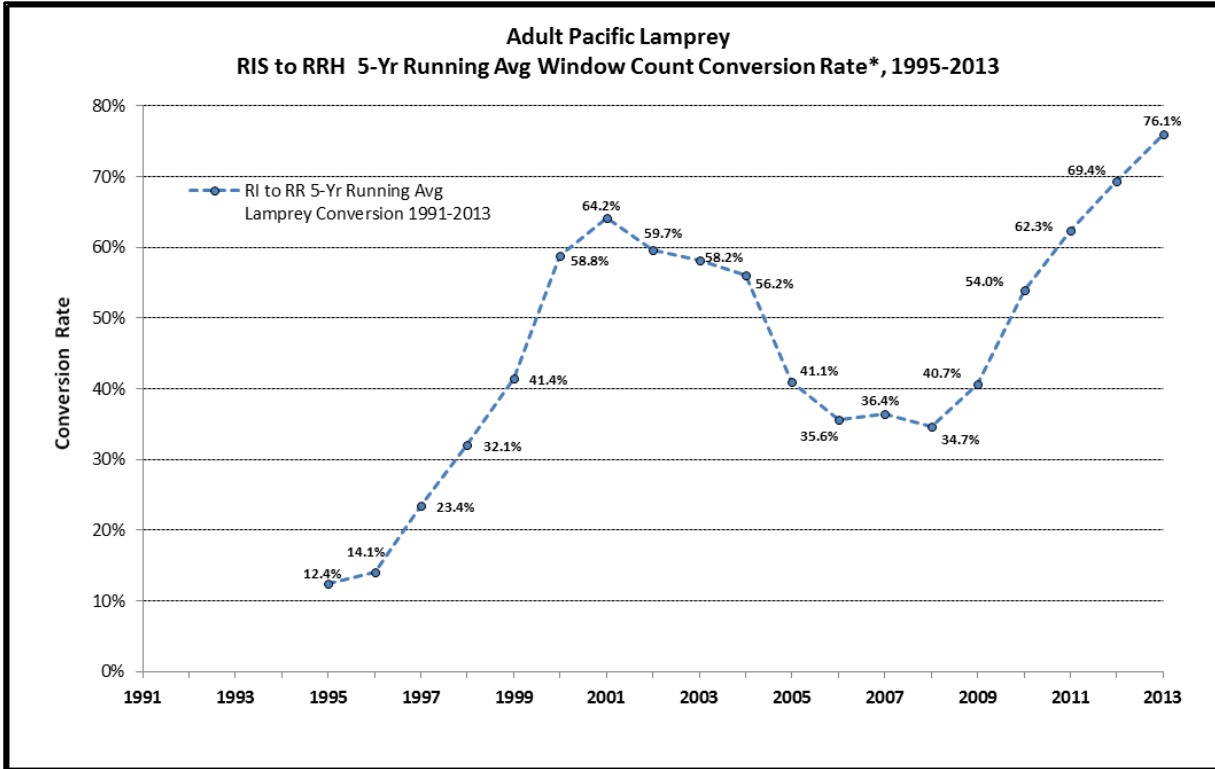


\*Conversion Rate is the ratio of the total number of fish counted at the RRH fishway exit to the total counted at the RIS fishway exit, unadjusted for fall back or escapement of adult lamprey into the Wenatchee River.

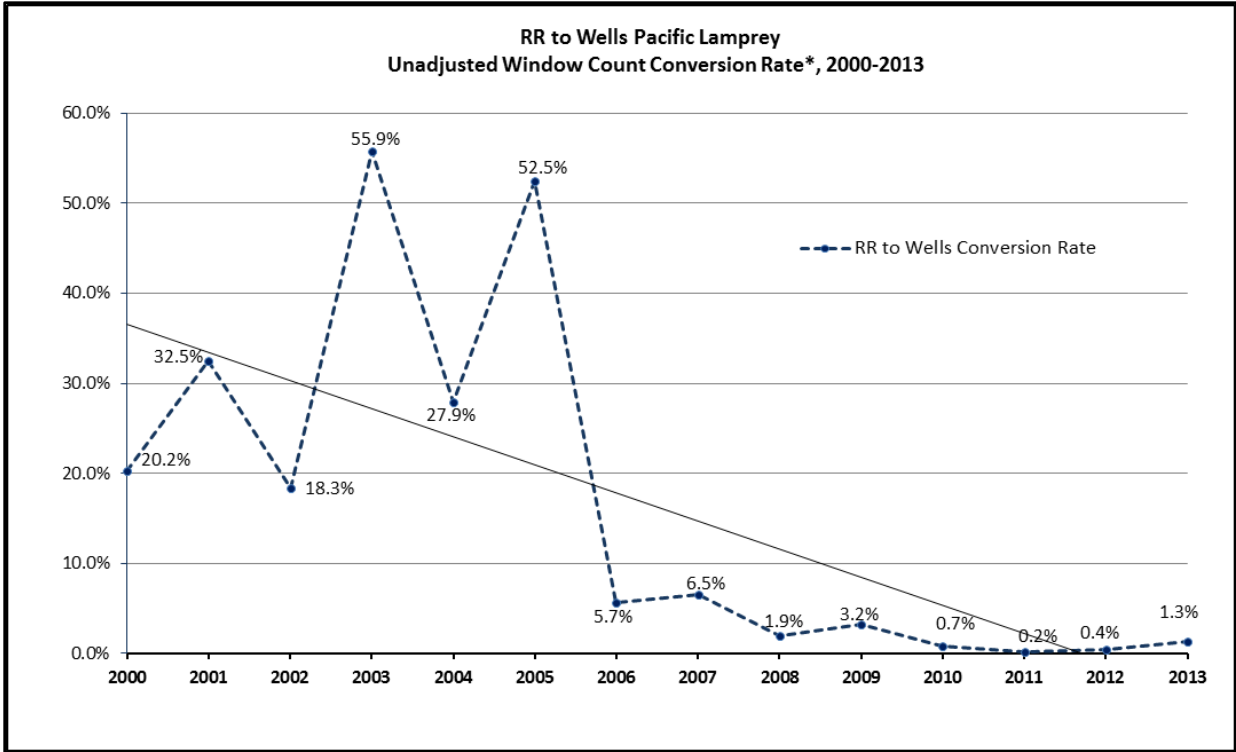


\*Conversion Rate is the ratio of the total number of fish counted at the RRH fishway exit to the total counted at the RIS fishway exit, unadjusted for fall back or escapement of adult lamprey into the Wenatchee River.

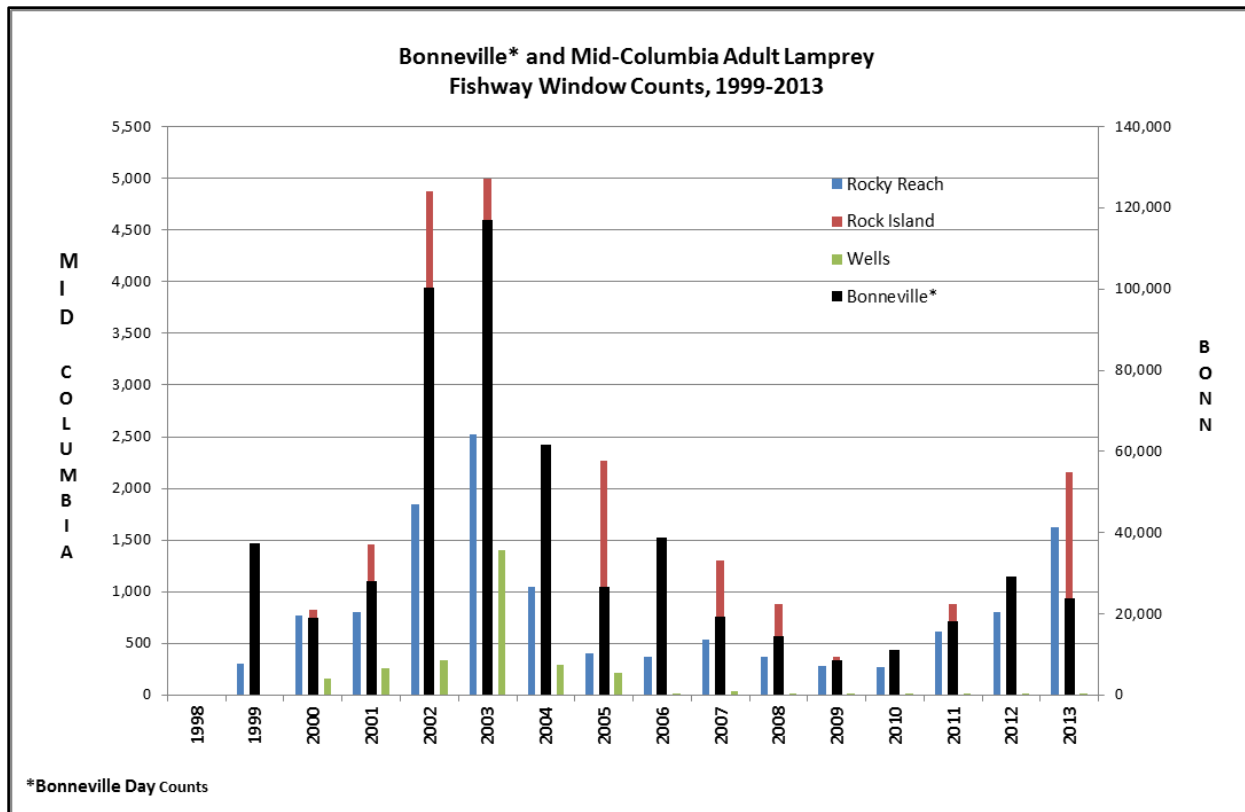




\*Conversion Rate is the ratio of the total number of fish counted at RRH fishway exit to the total counted at the RIS fishway exit, unadjusted for fall back or escapement of fish into the Wenatchee River.



\*Conversion Rate is the ratio of the total number of fish counted at the Wells fishway exit to the total number counted at the RRH fishway exit, unadjusted for fall back or escapement of adult lamprey into the Entiat River.



**Action Item:**

- Steve Hemstrom will forward the graphs to Tracy Hillman, who will include them in the draft meeting minutes.

**Modeling Lamprey and Sturgeon Interactions**

During the Pacific Lamprey Subcommittee meetings last week, members discussed sturgeon and lamprey predator-prey interactions and what steps could be taken to begin evaluating and assessing these interactions. Steve Hemstrom indicated that there is concern that the stocking of large numbers of sturgeon could eventually reduce the survival of Pacific lamprey in the project area through predator-prey interactions. He thought that these interactions could possibly be explored through modeling (e.g., bioenergetics modeling).

Tracy Hillman noted that this type of modeling can be challenging if empirical data are lacking, such as carrying capacities, diet, foraging behavior, habitat use, distribution, encounter rates, etc. Nevertheless, it is a potential concern and should be scoped. The group agreed that Tracy Hillman should put together a brief bioenergetics paper describing the model and what data are needed to populate it.

Chad Jackson encouraged the group to move ahead with this exercise. He stated that if the ecosystem-based model from the University of British Columbia is used to estimate numbers of juvenile sturgeon to

release during Phase II of the supplementation program, there are energetics and interaction components in the model that may be used to address not just lamprey but other species too. Chad thought that this information may be valuable for many different reasons as we develop recovery and carrying capacity estimates.

**Action Item:**

- **Over the next couple months, Tracy Hillman will put together a brief summary of the information needed to run the bioenergetics model.**

## VI. Bull Trout and Tumwater Dam

There are no updates to report.

## VII. White Sturgeon

### Rearing Update

Donella Miller reported that spawning at Marion Drain is complete and was successful. She noted that the fish have hatched and are feeding. Lance Keller stated that Chelan PUD eggs from the first egg take went to Columbia Basin Hatchery and eggs from the second take went to the Chelan Hatchery. Columbia Basin Hatchery has a bigger capacity and therefore was a logical choice for the first egg take because those eggs resulted from a 5x5 cross. The development and growth of fish at Chelan Hatchery are about a month behind those at the Columbia Basin Hatchery. However, all are growing and doing well. Chad Jackson said that the Chelan Hatchery is planning to do their first cull and grade towards the end of August. Columbia Basin Hatchery plans to do their cull and grade this week. The first round of disease sampling will be done next month.

Lance Keller noted that there are 38 to 40 families that will be included in the juvenile release in 2015. The second spawn was a 2x5 matrix with an additional female that they were able to get enough eggs to obtain a 1x3 cross. Those eggs stayed at Marion Drain and Chelan Hatchery. Chelan Hatchery has 40 families, which exceeds the 6x6 target matrix. Based on that, Lance proposed to use the prorated approach for equal family representation, which was the approach developed by the Sturgeon Subcommittee in April and will result in the release of 6,500 juvenile sturgeon into the project area in 2015.

Pat Irle questioned the release number that the Sturgeon Subcommittee had agreed to for 2015. Chad Jackson clarified that the Subcommittee agreed on a white sturgeon stocking and release strategy for 2015 (see May Meeting Notes and Attachment 2 in the May Meeting Notes), but the Subcommittee would likely take the remainder of 2014 to develop a strategy for juvenile releases in 2016 and beyond. The RRF determined that although the Sturgeon Subcommittee approved a plan for the release of

juveniles in 2015, a formal vote by the RRF is needed to finalize the release strategy for 2015. Pat Irl asked that advance notice be given to members so they have an opportunity to study the recommendation from the Sturgeon Subcommittee. The group agreed that a formal vote will be taken during the September RRF meeting. Tracy Hillman will send an email to all members describing the upcoming vote. He will also provide members with the report from Chad Jackson on results from the White Sturgeon Subcommittee Meeting on 28 April 2014 (Attachment 2 in the May Meeting Notes) and the discussion on this issue by the RRF during the May meeting. Members asked that everyone involved in the 28 April Subcommittee meeting be identified in the report from Chad.

**Action Item:**

- **Tracy Hillman will send the RRF the report from Chad Jackson on results from the White Sturgeon Subcommittee Meeting on 28 April 2014 (Attachment 2 in the May Meeting Notes) and the discussion on this issue by the RRF during the May meeting (excerpt from the May Meeting Minutes), and provide the forum with notice of the upcoming vote in September.**

### Monitoring Update

Lance Keller said that Blue Leaf and Columbia Research are gearing up to conduct the 2014 monitoring and indexing efforts this September and October. This will include fish that were released this year plus all fish tagged and released previously. Last month, Steve Hemstrom reported that four adults had been implanted with acoustic tags, each with a battery life of ten years. Blue Leaf and Columbia Research are currently trying to increase this number of tagged fish. There are three additional tags left that can be put into adults. In addition, Blue Leaf and Columbia Research will relocate a receiver closer to Wells Dam in order to collect more data. Receivers are also being downloaded as part of M&E efforts.

During the July RRF meeting, members asked about the location where the four sturgeon were captured, tagged, and released. Lance Keller responded that single set lines were fished above BeeBe Bridge. This is where the fish were captured. They were then tagged and released in the same location.

### Phase 2 Sturgeon Conservation Program

Lance Keller did not have time to contact the University of British Columbia (UBC) to get more information on the ecosystem-based model (Ecopath/Ecosim Model) they use for calculating numbers of juvenile sturgeon to release. He will try to contact them this week.

**Action Item:**

- **Lance Keller will check with UBC on their Ecopath/Ecosim Model and report back to the RRF next month.**

## VIII. Next Steps

The next regular meeting of the RRFF will be Wednesday, 3 September 2014 from 1:00 to 4:00 p.m. in the Chelan PUD Second Floor Conference Room.