

Sokolowski, Rosana

From: Hemstrom, Steven
Sent: Monday, April 20, 2015 2:57 PM
To: 'Stephen Lewis'
Cc: Osborn, Jeff; Sokolowski, Rosana; Smith, Michelle; Underwood, Alene; 'Craig, Jim'
Subject: Revised Chelan PUD 2015 Report: Rocky Reach Project Observations and Incidental Take of Bull trout 2014
Attachments: Final Rocky Reach Bull Trout Observations and Incidental Take Report 4-15-15.pdf

Hello Steve. Thanks for your comments on the 2014 Rocky Reach bull trout incidental take report for Rocky Reach.

Attached is the revised report incorporating responses to your thoughts and comment. A summary of that information is below.

Comment #1:

["This cites to a potential problem which is discussed here. Are there ways to minimize encounters in the future by involving more personnel in the dewatering process and/or changing some of the dewatering protocols. If so, it should be discussed here."]

-Chelan PUD is very, very careful in its process to dewater the Rocky Reach fishway and rescue fish. We employ a large team (18-20 people) of fish biologists, full-time expert fishway attendants, and mechanics crews to capture, transport and release all of the fish that are in the fishway when de-watering begins.

Caution to minimize incidental take is of the utmost importance to Chelan PUD given the probability that three ESA listed salmonid species (bull trout, UCR spring Chinook and steelhead) could still be present in the fishway. That we know of, this is the first ever lethal take of any bull trout during the annual fishway maintenance work. Over the last 15 years (2000-2014) **2,541 bull trout** have been counted passing through the Rocky Reach fishway; de-watering and maintenance takes place every year with just this one bull mortality ever documented. We attribute this success to the large team of skilled folks who conduct this activity and a very diligent, stepwise procedure to de-water and safely capture and remove any fish. Chelan PUD feels that it has incorporated every possible take minimization measure possible to conduct safe fishway capture of listed species during de-watering. We will be vigilant to identify any possible option(s) that are not already in place to ensure that future Take does not occur for this action.

Comment #2:

["Is there a reason as to why the video counting system doesn't pick up these additional bull trout. This seems like a large discrepancy??"]

- At Tumwater during the salmon/steelhead trapping operations using the fishway trap, none of the fish that are trapped can swim by the counting window, including incidental bull trout. So these fish can't be video-counted. The 151 bull trout reported here were all direct-counted (as captures) by WDFW. These fish are then released into the forebay; the additional 78 fish that did pass the fishway window and were video-counted, making the sum total of 229 bull trout enumerated in 2014.

Comment #3:

[“Please update this chart to reflect the one incidental capture and release.]

- The data in Table 5 is correct. No bull trout were incidentally caught by the USDA pikeminnow anglers in 2014. The text erroneously noted one incidental capture in 2014; the text is now revised. The capture of one fish occurred in 2013 and that take was reported in the 2013 report (Chelan PUD, June 6, 2014).

Comment #4:

[“Any latest movement on Chelan County's herbicide proposal for Eurasian milfoil??”]

- That we are currently aware, the County (not the PUD) has not yet obtained the necessary environmental permits to conduct this milfoil work in Rocky Reach Reservoir, but is still waiting and hopes to receive permits by this fall to go ahead with that application. That’s all we know at the moment.

Comment #5:

[Please update this table to reflect the one incidental capture and release.”]

- Table 6 is correct in the report. USDA caught no bull trout in the 2014 pikeminnow control work.

Thanks Again Steve.

Steve

Steve Hemstrom

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**Observations of Bull Trout
During Implementation of the
AFA/HCP and Bull Trout Management Plan
and
FERC License Activities
for the Rocky Reach Project**

**Annual Summary Report
2014 Bull Trout Observations and Incidental Take at the
Rocky Reach Project**

**ROCKY REACH HYDROELECTRIC PROJECT
FERC Project No. 2145**

**Final Report
April 15, 2015**



**Public Utility District No. 1 of Chelan County
Wenatchee, Washington**

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INTRODUCTION

Under the Federal Energy Regulatory Commission (FERC) operating license for the Rocky Reach Project (FERC 2009), Public Utility District No.1 of Chelan County (Chelan PUD) prepares an annual report detailing the number of bull trout observed or incidentally taken during activities associated with the Rocky Reach Hydroelectric Project (Project) (FERC No. 2145). This includes the implementation of the Rocky Reach Anadromous Fish Agreements and Anadromous Habitat Conservation Plan (collectively termed AFA/HCP), the Bull Trout Management Plan (BTMP), the Pacific Lamprey Management Plan, the White Sturgeon Management Plan, the Resident Fish Management Plan, the Water Quality Management Plan, and the Aquatic Invasive Species Monitoring and Control Plan. Additionally, Chelan PUD reports the number of bull trout using the adult fishway to pass Rocky Reach Dam each year, as verified by video monitoring. Information in this report satisfies license requirements for bull trout at Rocky Reach Project per the requirements of the U.S Fish and Wildlife Service (USFWS) Incidental Take Authorization issued to Chelan PUD by the USFWS Biological Opinion (2008) for the Project License.

2014 ROCKY REACH ANADROMOUS HCP AND BTMP ACTIVITIES

Rocky Reach Bull Trout Management Plan

Chelan PUD conducted no in-water work that could affect bull trout in 2014 under the the Bull Trout Management Plan. Observations of bull trout during fish counting and fishway passage activities were documented in 2014 and any incidental take is noted in this report for those activities.

Rocky Reach Juvenile Fish Bypass System

Chelan PUD operated the Juvenile Fish Bypass System (JFBS) and the bypass sampling facility in 2014 from 1 April to 31 August, as specified in the Juvenile Fish bypass System Operations Plan (Keller 2014). In 2014, no sub-adult (≤ 305 mm) or adult bull trout (>305 mm) were captured or observed during daily sampling between 0800 and 1130 hours, April through August. This is unchanged from in 2013. As no fish were observed, no injury or mortality was known to have occurred to any bull trout in 2014.

Adult Fishway Video Monitoring and Fish Counts

Chelan PUD enumerates both anadromous and resident fish passing through the Rocky Reach Dam fishway from April 14 through November 15 each year. Every adult and juvenile bull trout is counted (Table 1) and video-photographed (Figure 1) as it passes the counting window before exiting the fishway into the forebay. In 2014, a total of 158 bull trout utilized the adult fishway at Rocky Reach Dam to pass upstream. Of the fish passing in 2014, 149 fish were visually estimated to be greater than 305 mm (12 inches) in length and 9 fish were estimated at less than 305 mm in length (Table 1). The USFWS estimates that bull trout under 305 mm in length are juvenile and sub-adult fish. Fish counting personnel use markers on a backboard behind the fish counting window to estimate fish lengths as they pass by the counting window (Figure 1). No bull trout mortalities or injuries were observed in the adult

fishway at Rocky Reach Dam during the 2014 fish counting operations or during the 2014 annual fishway maintenance period (Mosey 2014).

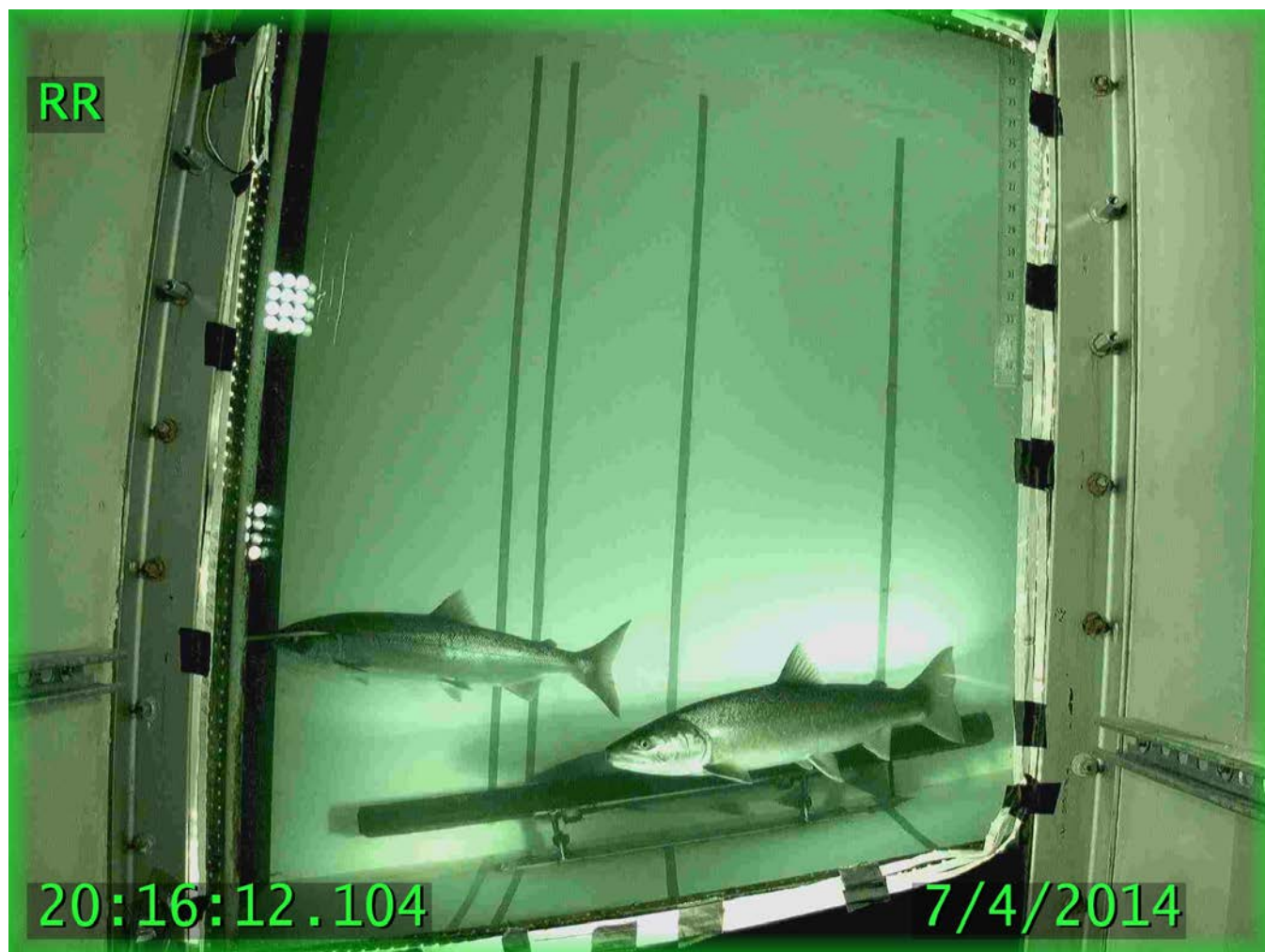


Figure 1. Adult bull trout (behind) and a Columbia River sockeye salmon, (front) passing by the Rocky Reach fishway counting window on July 4, 2014.

Table 1. Number of adult bull trout (≥ 305 mm) and subadult bull trout (< 305 mm) passing Rocky Reach fishway in 2014 and the number of observed injuries or mortalities during active fish passage counting between April 14 and November 15, 2014.

Month	Bull Trout ≤ 305 mm	Bull trout > 305 mm	Total	Observed Injuries	Observed Mortality
April	0	1	1	0	0
May	1	55	56	0	0
June	0	70	70	0	0
July	0	12	12	0	0
August	2	3	5	0	0
September	0	0	0	0	0
October	1	0	1	0	
November	5	8	7	0	0
Total	9	149	158	0	0

2014-15 Rocky Reach Dam Adult Fishway Maintenance

Chelan PUD performs maintenance work on the Rocky Reach fishway during off-season periods each year, December-February. In 2015, the ladder was de-watered on January 6-7, 2015. Three bull trout were recovered in the ladder by Chelan PUD fish crews during dewatering fish recovery. Two subadult fish were released in good condition into the tailrace, and one subadult bull trout was recovered dead on January 7. This fish was retained as required and Chelan PUD notified the Redmond, WA, USFWS Law Enforcement Office, and the USFWS Wenatchee ES field office on January 8 within 48 hours to report the discovery of the fish mortality. The 2015 maintenance was performed through February 24 and water-up was completed on Thursday, February 26. This is the first observed lethal incidental take of any bull trout in the Rocky Reach fishway for more than 12 years. Chelan PUD believes this was a very rare and isolated incident. Fishway de-watering and safe fish capture (Take minimization) is taken very seriously by a team of biologists and fishway attendants.

Table 2. Bull trout and other fish captured and released during the 2014-15 Rocky Reach end of season fishway dewatering recovery for maintenance.

Species	Age	Number of fish	Condition Upon Release	Take Non-Lethal	Take Lethal
Mountain whitefish	(Juvenile) (Adult)	(66) (1)	All very good	0	
Rainbow/steelhead	Juvenile Ad-present	24	All very good	0	
Rainbow/steelhead	Juvenile Ad-clipped	2	All very good	0	
Bull trout	Subadult*	3	2 very good	2	1

* All bull trout recovered in the Rocky Reach fishway in 2014 were 305 mm or less in length.

Dryden and Tumwater Fishway Broodstock and Adult Management

The anadromous broodstock traps and fishways at Tumwater and Dryden dams are part of the Rocky Reach Project as included by the USFWS' 2008 Biological Opinion for FERC relicensing of the Rocky Reach Project (USFWS 2008). The traps are located in the adult fishways of Tumwater and Dryden dams. Fishways at both facilities are open year-around, except during extremely high river flow events and off-season maintenance periods. The traps at both facilities are operated exclusively by Washington Department of Fish and Wildlife (WDFW) whose staff also counts (enumerates) bull trout and other species passing through the fishways in the course of conducting work on behalf of Chelan PUD and others. WDFW staff also uses video to provide counts at Tumwater when the fishway trap is not in operation. In conjunction with anadromous broodstock collection in 2014, WDFW and NOAA also utilized the Tumwater trap to carry out their eleventh year (2004-2014) of trapping for an Upper Columbia Spring Chinook Reproductive Success Study (RSS). This is a separate joint research program (WDFW-NMFS) conducted with contract funds provided by BPA. All spring Chinook are trapped for this study from May through July annually.

WDFW has ESA Section 6 coverage for bull trout in order to collect adult anadromous broodstock and conduct the RSS study in the same time period utilizing Chelan PUD's Tumwater fishway trap as capture facility. As the lead researcher conducting this activity, WDFW reports any bull trout take to the USFWS under WDFW's ESA Section 6 Cooperative Agreement Report.

In 2014, WDFW video counted 78 bull trout passing through the Tumwater Dam fishway between the dates of March 8, 2014 and December 10, 2014 (N. Dietrich, WDFW, personal communication of unpublished data, 2015) (Table 3). An additional 151 bull trout were trapped and released between April 15, 2014 and September 6, 2014 (Table 3). Trapped fish do not pass by the fishway counting window (in ladder) and so are direct-counted. During trapping for brood and RSS study purposes, WDFW removes any captured bull immediately from the trap (N. Dietrich, WDFW, personal communication 2015) via dip net and places the fish in a separate release vessel with direct connection to the forebay when the slide-gate is opened, allowing the fish to exit upstream volitionally. This release method reduces potential for bull trout to re-contact the trap if fish were re-released into the ladder itself. In this manner, bull trout are not retained or anesthetized, and handled minimally to avoid any additional effects.

At the Dryden Dam fishway trap in 2014, WDFW trapped and released 14 bull trout (Table 4) from July through September (C. Moran, WDFW, personal communication 2015). No bull trout were encountered in October or November. WDFW reported that no bull trout mortalities were observed during 2014 operations at the Dryden fishway broodstock trap.

Table 3. Number of bull trout video counted passing through the Tumwater fishway or trapped and released and by WDFW in 2014*.

Month	Bull trout trapped and released	Bull Trout passage fishway count	Total
February	0	0	0
March	0	2	2
April	1	0	1
May	2	1	3
June	48	0	48
July	99	70	169
August	0	2	2
September	1	0	1
October	0	1	1
November	0	1	1
December	0	1	1
Total	151	78	229

* 2014 data provided by N. Dietrich, WDFW

Table 4. Number of bull trout number trapped and released by WDFW at the Dryden fishway during anadromous trapping operations in 2014* from July through November 12, 2014

Month	Bull trout trapped and released	Bull trout observed not trapped	Total	Bull trout Mortalities
July	8	0	8	0
August	5	0	5	0
September	1	0	1	0
October	0	0	0	0
November	0	0	0	0
Total	14	0	14	0

* 2014 data provided by C. Moran, WDFW

2014 Pikeminnow Control Programs

In 2014, Chelan PUD removed 74,857, northern pikeminnow (*Ptychocheilus oregonensis*) from the Rocky Reach and Rock Island reservoirs using four control methods. Of that total, 55,180 fish (73.7%) were harvested from Rocky Reach Reservoir (Table 5). Control programs ran from February through October. No fishway trapping was conducted by Chelan PUD for pikeminnow in 2014. No bull trout were incidentally captured by USDA hook-and-line anglers or by any of the other control programs during the predator control work in 2014 (Table 5).

Table 5. Number of Northern pikeminnow harvested and incidental bull trout captures during 2014 pikeminnow predator control programs in the Rocky Reach Project.

Program	Pikeminnow Removed	Bull trout Incidental Captures	Bull trout Mortalities
USDA Hook & Line	38,101	0	0
Columbia Res Set Lining	15,420	0	0
Rotary Club Derby*	1,281	0	0
Chelan PUD Hook and Line	378	0	0
Total	55,180	0	0

*Chelan PUD contributes \$10,000 to Rotary Club pikeminnow fishing derby. All anglers must possess a valid WA State fishing license

2014 Water Quality and Aquatic Invasive Species Management Plans

In 2014, no bull trout were observed, captured, or handled in Rocky Reach Reservoir during implementation of the Rocky Reach Water Quality Management Plan (WQMP) or Aquatic Invasive Species Monitoring and Control Plan.

Activities performed in 2014 under the Aquatic Invasive Monitoring and Control Plan included visually monitoring aquatic invasive plant species at boat Rocky Reach boat launches and parks. No bull trout were observed or harassed. Chelan PUD also conducted Eurasian Milfoil control (mechanical cutting and harvest). This activity is not a Water Quality Management Plan (WQMP) or a FERC license requirement, but was conducted by Chelan PUD in August 2014 at select recreation sites and public access points in within the Project boundary. No bull trout were observed. Milfoil control at all of these sites was permitted through a Washington Department of Fish and Wildlife WDFW Hydraulic Project Approval (HPA) Permit (expires June 2016) held by Chelan PUD.

Chelan PUD did not conduct AIS fish species monitoring in 2014, but did conduct horizontal and vertical tow samples at Lincoln Rock and Daroga State Parks, and Chelan Falls Park to monitor for the presence of zebra and quagga mussels. These tow samples are taken at depths of 15-20 feet when transect depth allows. No invasive mussels were identified and no bull trout were captured or observed during this monitoring. Sampling occurred August 27 and September 10 and 25, 2014.

2014 Pacific Lamprey Management Plan

No in-water work occurred under the Pacific Lamprey Management Plan (PLMP) in 2014. No bull trout were observed, captured or handled in 2014 for PLMP activities.

2014 White Sturgeon Management Plan

No bull trout were observed, captured, or handled during white sturgeon supplementation work associated with the Rocky Reach White Sturgeon Management Plan (WSMP) in 2014. In April 2014,

Chelan PUD released 5,000 PIT tagged and acoustic tagged juvenile white sturgeon by boat at several release sites within Rocky Reach Reservoir.

2014 Resident Fish Management Plan

Washington Department of Fish and Wildlife conducted no field work for resident fish monitoring in Rocky Reach Reservoir in 2014. The next resident fish study to evaluate predator abundance, resident species composition, and presence-absence of exotic species will take place in 2023.

CONCLUSIONS

In 2014, lethal take of a single (1) bull trout occurred during Chelan PUD’s Rocky Reach fishway maintenance program. This mortality was a subadult bull trout that occurred February 26, 2015 during the end of season maintenance (2014-2015) of the fishway during dewatering. Non-lethal take of two additional bull trout occurred the same day in the fishway. These fish captured were released in good condition in the tailrace to avoid potential fallback from release in the forebay. During all other License and HCP activities at the Rocky Reach Project, no other injuries or lethal incidental take of bull trout occurred in 2014. Table 6 summarizes 2014 bull trout Take for License activities specified in Ordering Paragraph G, Appendix D of the Rocky Reach FERC License.

Table 6. Summary of observations and incidental take of bull trout for the Rocky Reach AFA/HCP and other Rocky Reach License activities during 2014.

RR License Activity	# Bull trout observed	# Bull trout handled	Lethal Incidental take
Bull Trout Management Plan	0	0	0
Rocky Reach Fish Bypass System	0	0	0
Rocky Reach Adult Fish Counting	158	0	0
Rocky Reach Fishways Operation/Maintenance	3	3	1
Predator Control Programs	0	0	0
Water Quality Management Plan	0	0	0
Pacific Lamprey Management Plan	0	0	0
White Sturgeon Management Plan	0	0	0
Resident Fish Management Plan	0	0	0
Totals	161	3	1

Literature Cited

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