# Final Completion Summary

Bull trout were listed as threatened under the Endangered Species Act in 1998 due to declining populations. Spawning survey data is important for determining relative abundance and distribution trends in bull trout populations. Without adequate funding, it has been difficult to find sufficient numbers of experienced bull trout surveyors and packers for surveys in the back-country, and to obtain adequate supplies to get the work accomplished. OWEB funding supported the continued survey of bull trout spawning areas in years 2016 through 2018 in the Grande Ronde and Imnaha drainages of northeast Oregon. Surveys were conducted by fisheries consultants, the Service, Nez Perce Tribe, the Oregon Department of Fish and Wildlife, U.S. Forest Service, Freshwater Trust, Wallowa Resources, Anderson Perry, Inc., Grande Ronde Model Watershed, and volunteers. Timing of spawning, total redds, redd sizes, and redd locations are documented in the attached report. In 2016-2018, surveys were located on the Lostine and Imnaha Rivers, and Big Sheep and Bear Creeks. In addition, the Upper Minam and Wenaha were surveyed in 2018. OWEB funding helped to accomplish a total of 43.3, 41.1, and 71.7 stream miles surveyed in 2016, 2017, and 2018, respectively.

# Background

Bull trout were listed as threatened under the Endangered Species Act in 1998 due to declining populations. The U. S. Fish and Wildlife Service (Service) recommends monitoring populations in subbasins where little is known, including the Grande Ronde and Imnaha subbasins. Spawning survey data is important for determining relative abundance and distribution trends in bull trout populations. Without adequate funding, it has been difficult to find sufficient numbers of experienced bull trout surveyors and packers for surveys in the back-country, and to obtain adequate supplies to get the work accomplished. OWEB funding was requested to support the continued survey of bull trout spawning areas in years 2016 through 2018 in the Grande Ronde and Imnaha drainages of northeast Oregon.

## Work Done

Bull trout spawning surveys have been conducted on similar index areas for selected Grande Ronde and Imnaha River streams from 1999 to 2018. These surveyed streams are located within the Wallowa River/Minam River, Lookingglass Creek/Wenaha River and Imnaha River bull trout core areas. In 2018, the Wenaha, Minam and additional locations on Big Sheep were added to the regular annual redd surveys. Surveys in 2018 were conducted by the Nez Perce Tribe (NPT), the Oregon Department of Fish and Wildlife (ODFW), the Service, U.S. Forest Service (USFS), Anderson Perry, Inc., and fisheries consultants. Objectives of the survey included: (1) locate bull trout spawning areas; (2) determine redd characteristics; (3) determine bull trout timing of spawning; (4) collect spawning density data; (5) determine and compare the spatial distribution of redds along the Lostine River in 2006 through 2018; document redd

locations on the Wenaha, Upper Minam, Imnaha, Big Sheep, and Bear Creek in 2018, and (6) over time use all of the data to assess local bull trout population trends and the long-term recovery of bull trout. Timing of spawning, total redds, redd sizes, and redd locations are documented in the report. The local bull trout populations were relatively stable for the survey period (1999-2018). There was a decrease in redd numbers in Big Sheep Creek in 2017 compared to 2016. In 2018, there was a greater redds per mile, compared to 2016 and 2017, but the data is not comparable to past years due to new survey reaches and a partial survey of Lick Creek. There was an increase in redd numbers on the Imnaha River, the Lostine River, and Bear/Goat Creek in 2017 and 2018 compared to 2016. The increases were not significant for the Imnaha, the redd numbers were still low compared to 2014 and previous years. However, the increases were significant for the Lostine and Bear/Goat Creek. The Imnaha population is one of the strongholds within the Imnaha Subbasin. The Wenaha system is known to contain a healthy population of bull trout but has had, previous to 2018, limited spawning data, due to its remoteness. In 2018, the Wenaha surveys documented 294 redds in 22.4 total miles surveyed, 13.1 redds/mile. The Minam is another Grande Ronde system that has little previous bull trout data, due to its remoteness. In 2018, Minam surveys documented 41 redds for 6.9 miles of survey, or 5.9 redds per mile. Big Sheep Creek and Little Sheep Creek populations within the Imnaha River core area are of concern for long-term viability due to issues with stream flows, fish passage, and connectivity. In 2018, surveys on Big Sheep were extended above the canal (resident fish) and below the 39 Road to the mouth of Lick Creek as per recommendation from Phil Howell (pers. comm. 2018). The Lostine River and Bear Creek contain brook trout and hybridization is likely occurring. In 2010 and 2012, bull trout and brook trout were documented paired up for spawning on the Lostine River.

## Changes from Proposed

In 2018, we added the Minam and Wenaha Rivers, an additional 28.4 miles and changes to Big Sheep Survey, for a total of 72.6 miles of survey. This did not cost any additional OWEB funding, due to partners assistance.

#### Public Awareness or Education

No outreach activities were conducted for this project.

#### Lessons Learned

This project would not have been successful without the OWEB funding, USFWS recovery funding supporting Nez Perce Tribe involvement, and our experienced and dedicated local surveyors and packers. Overall, future needs for this project include continued funding from USFWS recovery funding (which will occur in 2019) and support from all involved parties

(Service, Nez Perce Tribe, the Oregon Department of Fish and Wildlife, U.S. Forest Service, private land owners, volunteers, and others) for conducting and reporting bull trout redd counts in the Wallowa Mountains. The Service and partners support continuing to build on the existing long-term bull trout spawning survey data set as these long-term data sets are limited in bull trout recovery units, including the Mid-Columbia Recovery Unit (refer to report results, discussion, and conclusion for additional details on lessons learned).

### Recommendations

Skilled surveyors will continue to be needed for future redd surveys. Several studies point out the importance of using skilled surveyors to reduce measurement error. Training and retaining skilled surveyors to conduct these surveys has been a challenge and will likely remain a challenge into the future.

Future needs for this project or similar projects include continued funding from USFWS Recovery and potential OWEB and support from all involved parties (Service, Nez Perce Tribe, the Oregon Department of Fish and Wildlife, U.S. Forest Service, private land owners, volunteers, and others) for conducting and reporting bull trout redd counts in the Wallowa Mountains.

The Service plans to meet, prior to field season, with the local partner agencies that assist with the bull trout redd surveys and strategize location and intensity of spawning surveys to be conducted in the next several years in the above core areas, as well as a larger discussion on a demographic monitoring strategy in the upper grande Ronde, Little Minam, Wallowa/Minam, and Imnaha Core Areas with the help of Phil Howell and others working on this draft strategy (refer to report for more information).

## Special Conditions

1. Not applicable as part of implementation, not reporting.

2. No equipment was purchased for this project. The funds were spent on contracted services, materials and supplies, and indirect cost.

3a. Final report summarizing monitoring data is attached.

Russ Westlake was volunteer in 2018. 3, 8 hr days.

3b-d. Final online completion report and attached data summary report are provided which includes map.

3e. Completion report -Protocols - page 7 and 8

Sampling design - pages 6-8

Graphs, etc are in report.

Monitoring objectives were met.

1)Establish long term relative abundance and trend data sets for bull trout populations in the selected streams. Yes - refer to pages 13-20 in report.

2)Establish spawning distributions for bull trout populations in the selected streams - yes, refer to pages 24-31. 3) Share data with partners, yes, annual reports shared, data on our website, includes ODFW. local offices and Corvallis.

Funding Sources					
Source	Identifier	Cash	Inkind Type	Inkind	
Anderson Perry, Inc.	non government	\$0.00	Labor	\$1,520.00	
Freshwater Trust	Non Government	\$0.00	Labor	\$600.00	
Grande Ronde Model WS Foundation	non government	\$0.00	Labor	\$376.00	
Nez Perce Tribe	Non Government Entity	\$0.00	Labor	\$34,164.00	
ODFW	State agency	\$0.00	Labor	\$6,129.00	
OWEB	216-5042- 12451	\$24,255.00		\$0.00	
US Fish and Wildlife Service	Government	\$0.00	Labor	\$18,600.00	
USDA Forest Service	Government	\$0.00	Labor	\$6,330.00	
USDA Forest Service	volunteer/non -government	\$0.00	Volunteers	\$300.00	
Wallowa Resources	non government	\$0.00	Labor	\$312.00	

Totals					
OWEB Amount	Non OWEB Cash	Inkind Total	Non OWEB	OWEB Match	Total Project Cost
\$24,255.00	\$0.00	\$68,331.00	\$68,331.00	282.0%	\$92,586.00

Uploaded Files				
Image Type	File Name	Description		
Мар	2018_OR_BullTrout_S treamReachesMap_Ov erview_BTannualRepo rt_UFWS.jpg	Map 1 of Survey Locations		
Мар	2018 _WA_BullTrout_Strea mReachesMap_Overvi ew_BTannualReport_ UFWS.jpg	Map 2 of Survey Locations		

Final Metrics	Metrics-O-Monitoring- 2018 oweb 216-5042- 12451doc	Metrics-o- monitor form 216-5042-12451
Final Monitoring Analysis Report	OWEB Project Number 216_5042_12451 final report_ Phase 4_Wallowa Mts bull trout monitoring.pdf	OWEB Project Number 216-5042-12451 Final Monitoring Report
Data Submission Confirmation	ODFW data clearninghouse submission.pdf	ODFW data submission clearinghouse