Project Manager Report Approval Form

Purpose: Document public dollar investment to protect and restore healthy watersheds and natural habitats that support thriving communities and strong economies.

Date of Report: 10-1-2019 **Grant #** 217-5028 **Project Manager** Coby Menton

Report type: PISR # 1 Progress # Quarterly # Other:

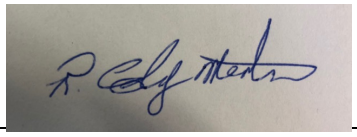
CHECK LIST	If NO, Explain
1. Review requirements noted in Special Conditions (Exh B) of the grant agreement to identify additional and/or different reporting requirements. Did Grantee meet these requirements? ☒ Yes ☐ No ☐ N/A	☐ **Progress Report** indicates grantee will not be able to meet project objectives described in grant scope of work. ☐ **PISR** special conditions were not met. ☐ **Other:** **Explain Why:**
2. Review PISR requirements noted in Exhibit D of the grant agreement. Did Grantee meet these requirements? ☒ Yes ☐ No ☐ N/A	☐ **PISR report** does not provide sufficient documentation to determine the status of OWEB investment. ☐ **Other:** **Explain Why:**
3. Photo points: Did Grantee fulfill the requirements for photo point monitoring (i.e. before and after photos located at consistent photo points, including a current photo)? ☒ Yes ☐ No ☐ N/A	☐ Photo points do not include all major project components. ☐ Photo points do not include project locations on each landowner site. ☐ Grantee is unable to locate photo point(s). ☐ Grantee is unable to access photo point location. ☐ Other: **Explain Why:**
4. Other requirement(s):	**Explain Why:**

REPORT APPROVAL

☐ **Progress report** demonstrates a trajectory for success in meeting project objectives. If not, report sufficiently indicates Grantee is taking action to increase likelihood for project success.

☒ **PISR** sufficiently describes project status to determine OWEB investment is in place and functioning as intended. If not, report sufficiently documents why, so as to inform future OWEB decisions.

Justification: Briefly explain how you resolved issues documented in the checklist and/or attach relevant communications. If you need more room, continue on reverse side.

Report Approved By:  Digitally signed by Coby Menton Date: 2019.10.02 08:50:28 -07'00' **Date**

Project Manager Signature

Lostine River/Tulley-Hill Fish Passage Improvement
Post Implementation Status Report

OWEB Project # 217-5028-14142
Restoration

Performance Period April 26, 2017 to October 31, 2019

Photo 1. Photo taken upstream of the project reach looking downstream through the roughened channel.

Submitted by Montana Pagano, Nez Perce Tribe
On behalf of Grande Ronde Model Watershed
September 2019

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An assessment of whether the Project continues to meet the goals specified in the Grant Agreement (Exhibit D #1).

Objective: Restore fish passage at the Tulley-Hill diversion and fish ladder such that both State and Federal fish passage criteria are met as currently applied.

2-years post project implementation this objective continues to be realized. The roughened channel remains intact and despite scour of surface fines multiple fish passage pathways remain evident in the project reach. Fish passage criteria as currently applied requires a jump height of no greater than 6-inches for juvenile salmonids and 12-inches for adult salmonids. Flow velocity criteria requires no more than 2-feet per second for juveniles and no more than 4-feet per second for adults. This jump height criteria is clearly met as through the project reach no jump heights exceed 6-inches. While no empirical data exists regarding flow velocity post project, the condition of the roughened channel suggests velocity is not an issue except for the highest flows, spring runoff. The coarseness of the channel offers flow velocity diversity through the roughened channel.

Objective: Improve hydraulic complexity and sediment transport throughout the project reach.

Compared to pre-project conditions hydraulic complexity and sediment transport is significantly improved over the previous log weir and rock weir structures. These structures offered limited hydraulic complexity and sediment transport with significant head cuts creating pools and constrained flow paths/hydraulic diversity. The roughened channel provides significant flow velocity diversity with the course substrate installed at construction. Improved hydraulic complexity and flow velocity diversity improves fish passage capability through the project reach. Proper sediment transport is important for moving spawning gravels into and through the site as well as flushing fines.

Objective: Enhance stream habitat characteristics throughout the project reach.

The eight log structures which were keyed into each bank throughout the project appear to be functioning as intended by way of providing resting locations for adult migrating fish. NPT staff have observed adult Chinook salmon holding in the large pool at the bottom end of the project during the summer of 2018.

To the project sponsor's knowledge, all but one structure has performed as designed by providing bank stabilization. After a high flow event in the spring of 2018, a log apparently dislodged from the upper-most left bank large wood structure and was later observed approximately 7/10 of a mile downstream of its original location. Due to the dislodging of the log and resulting weak point in the bank, bank erosion occurred at the structure, as well as between the next two log structures downstream. At that point the landowner contacted the

project sponsor regarding his concerns about the erosion continuing to deteriorate the road prism. The project sponsor quickly addressed his concern by hiring a contractor to install rip rap at the two locations through a DSL emergency authorization permit (see Exhibit D #4 narrative below for details). During high flows in June, 2019, the second and final log from the upper-most left bank large wood structure dislodged from the bank and was captured in the large wood structures just downstream. The structure that trapped this log has acquired a fair amount of other drift wood, significantly increasing its size since its placement in 2017 (Photo 2). The same can be said for the two left and right bank wood structures immediately downstream located in the large pool. These increases in large wood accumulation on these structures is a positive result further enhancing their benefits to fish habitat.

In lieu of the upstream most left bank large wood structure providing bank stability, the recently installed riprap rock and the well-established and rapidly growing willow plantings are expected to maintain bank stability in this area of the project.

Photo 2. Photo taken June 4, 2019 showing increased size of second and third large wood structures on river left due to naturally occurring racking.

Information or materials required by the Grant Agreement Exhibit B Conditions of Agreement (Exhibit D #2).

- State if the diversion continues to function as designed (Exhibit B #3 (a)).

The restored diversion continues, two years post-implementation, to function as designed. Although the low flow channel has shifted toward river left in the bottom 1/3 of the project reach as a result of a gravel bar formation adjacent to the large wood structure in Photo 2, this action does not appear to have impacted the overall performance of the roughened channel. It is obvious that some boulders have shifted slightly during high flow events, and some settling has occurred around the four upper grade control structures, jump height is not an issue and multiple flow paths exist for fish passage, even at low-flow. This assumption is also supported by data collected through the Nez Perce Tribe's adult Chinook radio telemetry data (see Figure 1). Additionally, the associated head gate is still operating properly and, to our knowledge, with minimal maintenance required by the irrigator.

- Provide photos taken from the five (5) photo points (Exhibit B #3 (b)).

Photo 3. March 23, 2016 photo point #1 (before) looking downstream at the diversion and head gate.

Photo 4. October 12, 2017 photo point #1 (after) looking downstream at the diversion and head gate.

Photo 5. August 28, 2019 photo point #1, 2-years post project completion.

Photo 6. May 8, 2017 photo point #2 (before) from river right looking upstream through diversion, mid-project.

Photo 7. October 12, 2017 photo point #2 (after) from river right looking upstream through diversion, mid-project.

Photo 8. August 28, 2019 photo point #2, 2-years post implementation.

Photo 9. April 22, 2015 photo point #3 (before) from river right looking upstream from the bottom of the project reach.

Photo 10. October 4, 2017 photo point #3 (after) from river right looking upstream from the bottom of the project reach.

Photo 11. August 28, 2019 photo point #3 2-years post implementation.

Photo 12. May 5, 2017 photo point #4 (before) from river left looking upstream, mid-project.

Photo 13. October 4, 2017 photo point #4 (before) from river left looking upstream, mid-project.

Photo 14. August 28, 2019 photo point #4, 2-years post implementation.

Photo 15. August 20, 2012 photo point #5 (before) from river right looking across the river below the head gate.

Photo 16. October 4, 2017 photo point #5 (before) from river right looking across the river below the head gate.

Photo 17. August 28, 2019 photo point #5, 2-years post implementation.

- Provide any collected data on fish passage or other benefits as a result of Project implementation (Exhibit B #3 (c)).

Data provided by Nez Perce Tribe, fisheries research, Joseph Field Office.

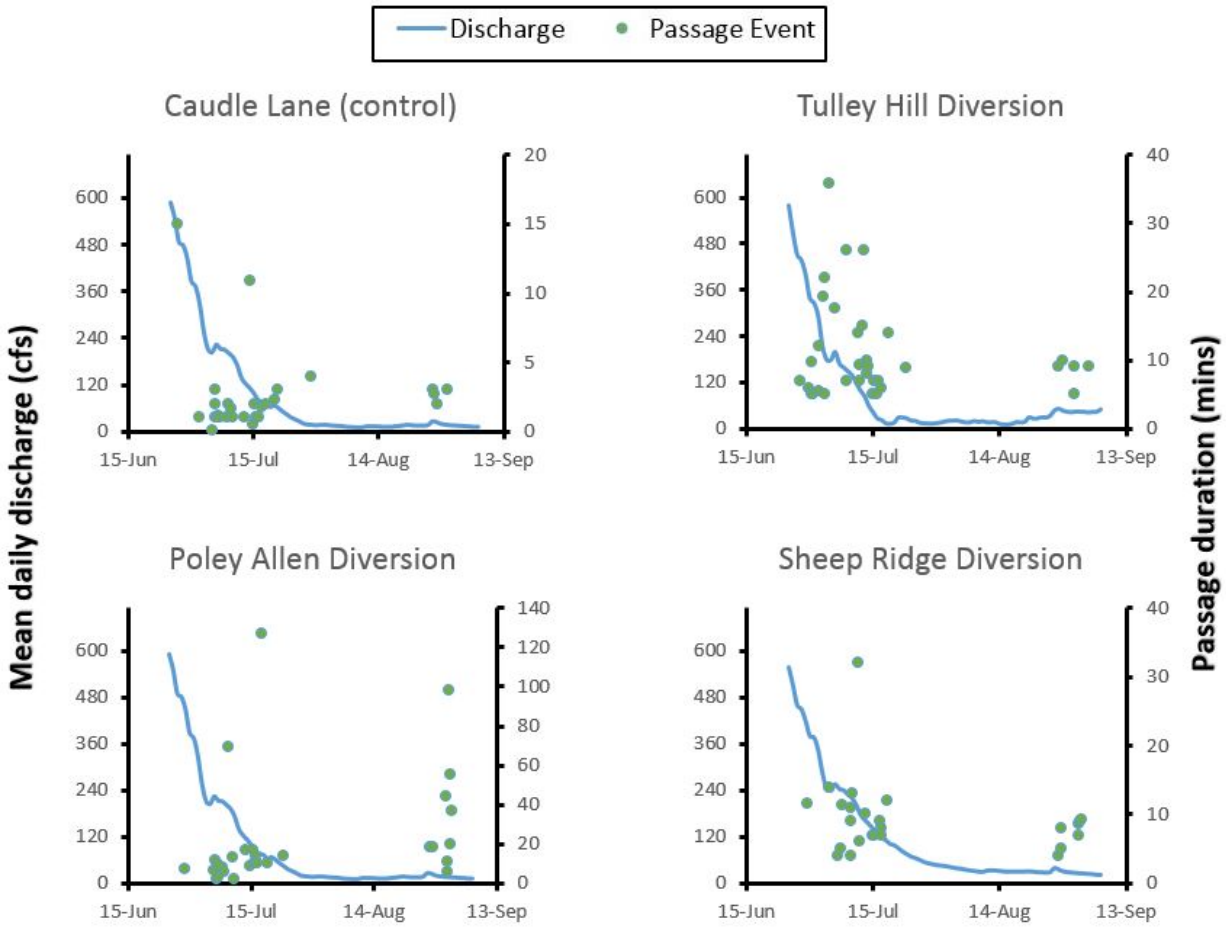

Figure 1. Discharge versus passage duration at 2018 fixed antenna sites. Green circles represent date and duration of individual passage events. Blue lines represent mean daily discharge over time.

Restoration Monitoring

Restoration at Tulley Hill Diversion was completed in 2017. Median passage duration at Tulley Hill was 25 minutes pre-restoration and 9 minutes post-restoration. In comparison, median passage duration at the control site was 2 minutes during both pre- and post-restoration monitoring (Table 2). Monitoring of Tulley Hill Diversion will continue in 2019 - 2020.

A description of any maintenance or modifications made since Project completion or since the last Status Report, whichever was last (Exhibit D #4).

In June, 2018, after discovering evidence of wildlife browse on some of the plantings, the project sponsor placed approximately two dozen donated plant cages around those plants that were being grazed the heaviest. Cages were secured with a combination of T-posts and fiberglass stakes.

Also in June of 2018, the landowner of the west bank of the project reach contacted the project sponsor with concerns about erosion that was visible in two locations following a high flow event. He had concerns about the erosion continuing to work material out of the left river bank, cutting into the road prism on his private roadway. Upon further inspection by the project sponsor, it was determined that the scour was occurring at the location of the upstream-most large wood structure and also just upstream of the next structure down. The sponsor promptly applied for and was granted an emergency authorization from DSL on August 30, 2018. Jones Excavation completed the erosion fill, in which some excavation of material occurred and additional large rock was added in and around the two erosion locations. This work was completed on October 25, 2018.

An accounting of any costs associated with Project maintenance and reporting to the Board (Exhibit D #5).

$2,454.00 was paid to Jones Excavation for the erosion fix. Reporting is documented as cost share.

A summary of any public awareness activities related to the Project undertaken since Project completion or since the las Status Report, whichever was last (Exhibit D #5).

No public awareness activities beyond those described in the project completion report.

Lessons learned, if any, from the Project (Exhibit D #6).

The biggest lessons learned on this project were associated with the bank erosion/large wood structure avulsion and lack of plant protection and maintenance required by the planting plan. In the future greater attention to detail will be given to both large wood structure design and especially on-the-ground installation of these structures, ensuring proper alignment for maximum retention in the bank(s). Greater attention to detail will also be paid to the planting plan, to include strategies for plant protection from browse following implementation. It would also behoove the project sponsor to be present on site while contracted planting and seeding is taking place. This will ensure the greatest level of quality control is achieved related to seed distribution rates and all other aspects of planting plan implementation.

Color photographs of all project elements (plantings) (Exhibit D #7).

Photo 18. March 2016 photo (before) of the top end of the irrigation ditch.

Photo 19. April 2018 photo (after) of the top end of the irrigation ditch following planting and seeding.

Photo 20. March 2016 photo (before) from river right looking upstream, above the head gate and diversion.

Photo 21. April 2018 photo (after) from river right looking downstream, above the head gate and diversion following planting and seeding.

Photo 22. March 2016 photo (before) from river right looking downstream from mid-project reach.

Photo 23. April 2018 photo (after) from river right looking downstream from mid-project reach following planting and seeding.