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**PROJECT: 19-1545 MON,RCH, ASOTIN IMW MONITORING PSMFC 2019**

Sponsor: Eco Logical Research Inc. Program: Pacific States Projects Status: Active  
Project Start Date: 07/01/2019 Agreement End Date: 12/01/2021

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Final Report Status: Accepted 03/22/2022

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## Description

### PROJECT AGREEMENT DESCRIPTION

This project is a continuation of the Asotin Creek multi-year IMW project. The project is an Intensively Monitored Watershed monitoring project. The project focuses on three tributaries to the Asotin Creek in Southeast Washington. The tributaries are: Charley Creek, North Fork Asotin Creek, and South Fork Asotin Creek. The purpose of the project is to link salmon and steelhead responses to specific mechanisms related to habitat restoration. The fundamental approach is to treat restoration as an experiment and concentrate a large restoration effort in order to increase the likelihood of detecting a population increase. This type of project will increase our understanding of what restoration activities are most effective, demonstrate how changes in habitat influence survival of various life stages of salmon and steelhead, determine what magnitude of restoration is required to cause a significant population response, and ultimately provide information to better evaluate the efficacy of habitat restoration. The restoration effort is focused on summer run steelhead habitat. The funds for this grant award will focus on continuing the IMW effort in the Asotin. This phase will include:

- 1) Continue baseline monitoring of 12 permanent sites for fish abundance and habitat condition,
- 2) Implement restoration treatment plan based on approval of the plan by the Regional Technical Team
- 3) Monitoring a wide variety of response variables

### FINAL PROJECT DESCRIPTION

We completed our 14th season of monitoring for the Asotin Creek IMW under this project (2008-2021). Due to a large fire in Asotin Creek we were unable to complete a full summer fish survey and PIT tagging. We completed surveying in Charley Creek and then had to leave the study area until the fire was contained in late September so we were unable to survey North Fork and South Fork fish sites. However, all fish sites and streams were surveyed in the fall and we completed a complete annual rapid habitat survey in the fall as usual. Under project 17-1304 we were able to complete restoration maintenance this year on over 4km of restoration treatments, focusing on Charley Creek and North Fork Creek, and we updated the data summary and analysis of smolt and juvenile steelhead migration from the IMW tributaries. Temperature and discharge databases were also revised and updated and we began monitoring the North Fork discharge by re-occupying a decommissioned USGS discharge gage (USGS 1334450).

## Narrative

We mostly caught up on data management and analysis and demonstrated that post-assisted log structures (PALS) have promoted geomorphic responses (erosion and deposition) in all the treatment sites and that large woody debris, pools, bars and geomorphic diversity have all increased in treatment compared to control sections of the IMW experiment. We also demonstrated that juvenile steelhead have responded positively to the restoration treatments. Abundance (fish/km), biomass (g/km), production (g/km/season), and smolts (migrants from IMW tributaries) have all increased in treatment sections compared to control sections. Growth (g/season) and survival (season) did not change. Our preliminary conclusions were that PALS created more diverse in-channel conditions which led to increases in egg to fry and/or fry survival which increase abundance, biomass, production, and productivity. We continued to implement our adaptive management plan to determine if increases in floodplain connection and low flow inundation will lead to greater increases in fish responses.

# Final Report, Project 19-1545

## Worksites

### Worksite #1: Asotin

Worksite Address (Optional)

Street Address

City

State, Zip

## Worksite Details

### Worksite #1: Asotin

Worksite Name Asotin

#### WORKSITE DESCRIPTION

Asotin creek basin

#### Geographic Coordinates

From mapped point: Latitude 46.324916 Longitude -117.213842

For Directions: Latitude 46.324820 Longitude -117.213677

#### SITE ACCESS DIRECTIONS

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## Monitoring/Research Metrics

	Current Agreement	Final
<b>Worksite: Asotin (#1)</b>		
Targeted salmonid ESU/DPS (A.23)	<input type="checkbox"/> No Salmon ESU or Steelhead DPS <input type="checkbox"/> Chinook Salmon-Snake River Spring/Summer-run ESU <input type="checkbox"/> Chinook Salmon-unidentified ESU <input checked="" type="checkbox"/> Steelhead-Snake River DPS <input type="checkbox"/> Steelhead/Trout-unidentified DPS	<input type="checkbox"/> No Salmon ESU or Steelhead DPS <input type="checkbox"/> Chinook Salmon-Snake River Spring/Summer-run ESU <input type="checkbox"/> Chinook Salmon-unidentified ESU <input checked="" type="checkbox"/> Steelhead-Snake River DPS <input type="checkbox"/> Steelhead/Trout-unidentified DPS
Targeted species (non-ESU species)	None <input checked="" type="checkbox"/> Unknown Brook Trout Brown Trout Bull Trout Cutthroat Forage Fish Kokanee Lamprey Rainbow Searun Cutthroat	None <input checked="" type="checkbox"/> Unknown Brook Trout Brown Trout Bull Trout Cutthroat Forage Fish Kokanee <input checked="" type="checkbox"/> Lamprey Rainbow Searun Cutthroat
Priority in Recovery Plan	yes	Not Collected at Closure
Number of Reports Prepared (E.0.e.1)	1	1

## Final Report, Project 19-1545

Name Of Report (E.0.e.2)	Asotin Creek Revised IMW Study Plan, Bennett et.al. 2015 and subsequent annual reports to RCO <b>Note:</b> This document is the most recent and comprehensive of compilations to date for this project (7/13/15). It has served as foundation for the SRFB Monitoring Panel and their review process as well for reporting progress to the PSMFC, and addressing specific needs for the regional monitoring and IMW treatment programs supported by the SRFB for the 2015 grant round	Asotin Creek Intensively Monitored Watershed: Annual Progress Report 2008-2021 Data Summary and Adaptive Management Plan.
Project Identified in a Plan or Watershed Assessment (E.0.c)	Snake River Recovery Plan	Snake River Recovery Plan
Number of Cooperating Organizations (E.0.d.1)	3	6
Name Of Cooperating Organizations (E.0.d.2)	RTT, WDFW, SRSRB	RTT, WDFW, SRSRFB, Asotin County Conservation Board, USFS, Nez Perce Tribe
Complement Habitat Restoration Project (E.0.b)	Asotin IMW complex	Asotin IMW complex

### Monitoring

Acres of watershed area monitored (E.1.b.2)	1.0	900.0
Record Name Of Strategy/Program (E.1.d)	Asotin	Bennett S, Bouwes N. 2009. Southeast Washington Intensively Monitored Watershed Project: Selection Process and Proposed Experimental and Monitoring Design for Asotin Creek. State of Washington, Recreation and Conservation Office, Olympia, Washington.
Stream Miles Monitored (E.1.b.1)	1.00	22.00
<b>Intensively monitored watershed (E.1.c.15)</b>		
Total cost for Intensively monitored watershed	\$244,014	<i>Not Collected at Closure</i>
# acres (to nearest 0.1 acre) Intensively monitored watershed (E.1.c.15.c)	1.0	81,000.0
# miles (to nearest 0.01 mile) Intensively monitored watershed (E.1.c.15.a)	1.00	50.00

# Final Report, Project 19-1545

## Overall Metrics

	Current Agreement	Final
<b>Completion Date</b>		
Projected date of completion	06/30/2020	12/01/2021

## Project Goals

Goals, purpose, and expected benefits (A.17)	This project supports and continues the baseline monitoring of 12 permanent sites for fish abundance and habitat condition in the Asotin intensively monitored watershed (IMW) complex, located in the Snake River salmon recovery region.	This project supported and continued the baseline monitoring of 12 permanent sites for fish abundance and condition in the Asotin Creek IMW complex located in the Snake River Salmon Recovery Region. The goal was to test the effectiveness of low-tech process-based restoration actions at increasing habitat complexity and floodplain connection and abundance and productivity of juvenile steelhead.
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## Monitoring/Research Costs

		<i>Date of Last Released Billing 11/18/2021</i>
	<b>Proposed</b>	<b>Final</b>
<b>Worksite: Asotin (#1)</b>		
	SPLIT OUT FINAL TOTAL BELOW	
	\$244,014	\$494,357
Monitoring Costs (E.1.a)	\$244,014	\$494,357
		<b>Note:</b> this project will close < \$400 short
	Difference	\$0

## Billed Summary

Date of Last Released Billing 11/18/2021

Category	Project Agreement		Totals To Date		
	RCO	Total	Expended	Non Reimbursable	Total Billed
Non-Capital					
Non-Capital Costs			494,357.43		494,357.43
Non-Capital Total	494,681.00	494,681.00	494,357.43		494,357.43
Total	494,681.00	494,681.00	494,357.43		494,357.43

# Final Report, Project 19-1545

## Sponsor Match

	Proposed	Final
<b>Project Funding</b>		
Federal Funds	\$494,681.00	\$494,357.43
State Funds (A.11)		


## Match Details

## Attachments

PHOTOS (JPG, GIF)  
Photos (JPG, GIF)

### PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	03/21/2022	Final project report	AsotinIMW_AnnualProgressReport_2021.1	StephenB	AsotinIMW_AnnualProgressReport_2... 505043 Final Report, 03/22/2022, Accepted	✓

## Certify & Submit

### Status History

Report Status	Date	User	Note
Accepted	03/22/2022	Keith Dublanica	thanks for submitting this final report as we prep for project to close "short" ~ \$350
Submitted	03/21/2022	Stephen Bennett	grant manager comments addressed
Returned	03/21/2022	Keith Dublanica	plz see my comments for tense and \$
Submitted	03/21/2022	Stephen Bennett	
Draft	01/18/2022	Keith Dublanica	