
PROJECT: 15-1321 RST, ASOTIN INTENSIVELY MONITORED WATERSHED RESTORATION

Sponsor: Dept of Fish & Wildlife Program: Salmon Federal Projects Status: Active
Project Start Date: 12/09/2015 Agreement End Date: 12/31/2017

Final Report Status: Accepted 04/26/2018

Description

PROJECT AGREEMENT DESCRIPTION

WA Dept of Fish and Wildlife seeks funding for maintenance and increased restoration actions in support of the Asotin Creek Intensively Monitored Watershed project (IMW) southeast of Clarkston, WA. The IMW was started in 2008 and is expected to run until 2019. Funds are being requested to maintain previous restoration projects (SRFB #11-1573 and 12-1637) implemented between 2012 and 2014 that used post assisted log structures (PALS) to add large woody debris (LWD) to SF Asotin Cr (2012), Charley Cr (2013) and NF Asotin Cr (2014). We also propose to add a new restoration treatment in the lower 2-4 km of SF Asotin Creek to increase the overall treated length to 14-16 km in the IMW to maximize the potential for detecting fish responses. We propose to review the current status of all PALS restoration in 2015 and add LWD where needed to maintain or enhance levels of LWD in the treatment sections as per our restoration plan. It is critical at this stage in the Asotin IMW to maintain the high levels of LWD to ensure that the goals of the IMW can be completed: namely, to determine the effectiveness of LWD restoration methods, determine the causal mechanisms of habitat and fish responses, and to provide recommendations for implementing LWD restoration in other watersheds. The maintenance and additional restoration treatment proposed is expected to benefit ESA listed steelhead as well as Chinook Salmon and Bull Trout.

FINAL PROJECT DESCRIPTION

WA Dept of Fish and Wildlife (WDFW) constructed new wood structures and supplemented the amount of wood in existing wood structures in three streams within the Asotin Creek Intensively Monitored Watershed (IMW) project in southeast Washington. The goal of the IMW is to determine the effectiveness of restoration using large woody debris (LWD) at increasing the productivity and capacity of Snake River Evolutionary Significant Unit (ESU) wild steelhead. We conducted pre-restoration monitoring of fish and habitat from 2008 to 2012. The experimental design has three 4 km long sections in each of three streams: Charley, North Fork, and South Fork. Fish and habitat monitoring takes place in each section. We initiated a trial of the restoration method in 2011 by installing five post-assisted log structures (PALS) in the three streams. After assessing the trial structures, full implementation of restoration began in 2012. Using funding from SRFB #11-1573 and 12-1637, we restored one 4 km treatment section in South Fork (2012), one 4 km treatment section in Charley Creek (2013), and one 4 km treatment section in North Fork Creek (2014). Using the current grant, WDFW constructed 116 PALS in an additional 2 km of South Fork Asotin Creek and added approximately 400 pieces of LWD to previously treated sections of North Fork Asotin Creek, 400 pieces of LWD to South Fork Asotin Creek, and 200 pieces of LWD to Charley Creek. We also acquired a permit from WDFW to fell 50 live trees into the streams to increase wood densities. The added wood is expected to increase channel width and bed variability, fish cover, pool frequency and depth, sediment sorting, and floodplain connection to benefit ESA listed steelhead as well as Chinook Salmon and Bull Trout.

Monitoring funded by the IMW shows that the existing and new restoration structures are producing positive habitat responses. The structures are forcing floodplain connection, creating pools, backwaters, sediment deposition, gravel bars, and recruiting trees as the channel increases in sinuosity. We will continue to monitor and analyze fish and habitat responses of these restoration actions as part of the Asotin Creek IMW. We expect to continue the effectiveness monitoring for the IMW until at least 2021 through Pacific States Marine Fisheries Commission (PSMFC) and SRFB funds.

Narrative

Summary We constructed 116 post-assisted log structures in 2016 to extend the treated section of South Fork Asotin Creek by 2 km (Figure 1-3). In 2017, with remaining funds, we added more wood to the sections of the IMW project that had been previously treated in order to maintain high levels of large woody debris (LWD) in treatment sites compared to control sites (Figure 4). We also acquired a permit from WDFW to fell live trees along each treatment section to increase wood densities (Figure 5). We added approximately 400 pieces of LWD to both North Fork and South Fork Asotin Creek and 200 pieces of LWD to Charley Creek. Monitoring funded by the IMW shows that the existing and new restoration structures are producing positive habitat responses. The structures are forcing floodplain connection, creating pools, backwaters, sediment deposition, gravel bars, and recruiting trees as the channel increases in sinuosity (Figure 6-9). We will continue to monitor and analyze fish and habitat responses of these restoration actions as part of the Asotin Creek IMW.

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Worksites

Worksite #1: Asotin Intensively Monitored Watershed Project

Worksite Address (Optional)

Street Address

City

State, Zip

Worksite Details

Worksite #1: Asotin Intensively Monitored Watershed Project

Worksite Name Asotin Intensively Monitored Watershed Project

WORKSITE DESCRIPTION

The project site is located on the WDFW Asotin Wildlife Management Unit in upper Asotin Creek. The project area in the Asotin Creek Intensively Monitored Watershed Study Area. See attached map 1 and 2 for location of IMW study area. Maintenance on existing treatments (Map 2) and a new 2 km long treatment on South Fork Asotin Creek (rKM 2-4) will be completed in 2016. All treatments/maintenance include addition of LWD and construction of post assisted log structures (PALS).

Geographic Coordinates

From mapped point: Latitude 46.267479 Longitude -117.292234

For Directions: Latitude 46.270385 Longitude -117.291974

SITE ACCESS DIRECTIONS

From the town of Asotin, take the Asotin Creek Road up Asotin Creek. Stay right when approaching the George Creek turn off, then turn left onto the SF Road. Lower 12 km of Charley Creek, North Fork Asotin Creek, and South Fork Asotin Creek are within the Asotin IMW study area.

Properties

Worksite #	Worksite Name	Property Name	Sponsor Verified	RCO Verified	RCO Verified Map
1	Asotin Intensively Monitored Watershed Project	Asotin Wildlife Area	✓	✓	N/A
1	Asotin Intensively Monitored Watershed Project	US Forest Service <i>This property has been removed from this project.</i>			N/A

Restoration Metrics

Worksite: Asotin Intensively Monitored Watershed Project (#1)

Targeted salmonid ESU/DPS (A.23)

The salmon ESU (Evolutionarily Significant Unit) or steelhead DPS (Distinct Population Segment) name that the project is targeting. For species where ESU/DPS name is not known or determined, use the species name with unidentified ESU (e.g., Chinook salmon - unidentified ESU).

Current Agreement

Final

No Salmon ESU or Steelhead DPS

Chinook Salmon-Snake River Fall-run ESU

Chinook Salmon-Snake River Spring/Summer-run ESU

Chinook Salmon-unidentified ESU

✓ Steelhead-Snake River Basin DPS

Steelhead/Trout-unidentified DPS

No Salmon ESU or Steelhead DPS

Chinook Salmon-Snake River Fall-run ESU

Chinook Salmon-Snake River Spring/Summer-run ESU

Chinook Salmon-unidentified ESU

✓ Steelhead-Snake River Basin DPS

Steelhead/Trout-unidentified DPS

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Targeted species (non-ESU species)

Select one or more of the fish species that this project will benefit.

None	None
Unknown	Unknown
Brook Trout	Brook Trout
Brown Trout	Brown Trout
Bull Trout	✓ Bull Trout
Cutthroat	Cutthroat
Kokanee	Kokanee
✓ Rainbow	✓ Rainbow
Searun Cutthroat	Searun Cutthroat

Miles of Stream and/or Shoreline Treated or Protected (C.0.b)

2.49

2.49

The total length of freshwater stream, side channel, and/or marine shoreline treated or protected at the project worksite (to the nearest 0.01 mile). Multiple treatments in the same stretch of stream, side channel, or shoreline should only be "counted" once, so that the total reflects actual stream, side channel, or shoreline length subjected to treatments regardless of how many treatments were applied. This is a meander measurement of the portion of the stream treated by the project area. Include the stream adjacent to riparian project areas. This does not include "miles of stream made accessible," which is an "effect" not a treatment. Use the minimum measurement of 0.01 miles for barrier removal projects involving a single barrier.

Project Identified In a Plan or Watershed Assessment (C.0.c)

Name of the Recovery Plan that identifies the need or justification for conducting this project. If not identified in Recovery Plan, name the watershed assessment or other plan which justifies the need for the project. Use endnote citation format (Author, date, title, source, source address). If project was not identified in a plan, enter "none." (500 characters max).

Snake River Salmon Recovery Board (2011 Version). Snake River Salmon Recovery Plan for SE Washington. Dayton, WA. Snake River Salmon Recovery Board (2013 Version). Snake

Not Collected at Closure

Type Of Monitoring (C.0.d.1)

Type of project monitoring that occurs at the worksite during the project period. If the project has no monitoring, report 'None'.

✓ Implementation Monitoring
None
Dayton, WA.

✓ Implementation Monitoring
None

Monitoring Location (C.0.d.2)

If monitoring is a component of the project worksite, select one or more of the following descriptors on the location of the monitoring: onsite; upstream; downstream; or, upslope.

No monitoring completed
Downstream
✓ Onsite
Upslope
Upstream

No monitoring completed
Downstream
✓ Onsite
Upslope
Upstream

Instream Habitat Project

Projects implemented to increase or improve the physical conditions within the stream environment (below the ordinary high water mark) that support increased populations of salmonids.

Total Miles Of Instream Habitat Treated (C.4.b)

2.49

2.49

The length of stream or side channel treated (to the nearest 0.01 mile). This is a meander measurement of the portion of stream treated at the project worksite. Multiple treatments in the same stretch of stream would only be "counted" once, so that the total reflects actual stream length subjected to treatments regardless of how many different treatments were applied.

Channel structure placement (C.4.d.1)

Placement of large woody debris, rocks/boulders (including deflectors, barbs, weirs) to collect and retain gravel for spawning habitat; deepen existing resting/jumping pools; create new pools above and/or below the structure; trap sediment; aerate the water; channel roughening; or, promote deposition of organic debris. This includes floodplain roughening or fencing.

Total cost for Channel structure placement

\$125,626

Not Collected at Closure

Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.

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Material Used For Channel Structure (C.4.d.2)

Types of material used for channel structure.

Deflectors/Barbs

Flood Fencing

Gabions

Individual Logs
(Anchored)

✓ Individual Logs
(Unanchored)

✓ Logs Fastened Together
(Logjam)

Other Engineered
Structures

Rocks/Boulders (Fastened
Or Anchored)

Rocks/Boulders
(Unanchored)

Stumps With Roots
Attached (Rootwads)

Weirs

Deflectors/Barbs

Flood Fencing

Gabions

Individual Logs
(Anchored)

✓ Individual Logs
(Unanchored)

✓ Logs Fastened Together
(Logjam)

Other Engineered
Structures

Rocks/Boulders (Fastened
Or Anchored)

Rocks/Boulders
(Unanchored)

Stumps With Roots
Attached (Rootwads)

Weirs

Miles of Stream Treated for channel structure placement (C.4.d.3)

2.49

2.49

Number of miles (to the nearest 0.01 mile) of stream or side channel treated. If work occurred in the floodplain, enter the adjacent stream miles.

Acres Of Streambed Treated for channel structure placement (C.4.d.4)

1.8

1.8

Number of acres of streambed treated (to nearest 0.1 acre).

Pools Created through channel structure placement (C.4.d.5)

75

85

Number of pools to be created.

Yards Of Average Stream-Width At Mid-Point Of Worksite (C.4.d.6)

2

2

Number of yards of average stream-width at mid-point of worksite.

Number of structures placed in channel (C.4.d.7)

150

166

Number of structures placed in channel.

Note: 116 PALS and 50 whole trees

Cultural Resources

Activities that provide a report on a systematic set of field investigations that determine the presence or absence of cultural resource material.

Cultural resources

Activities that provide a report on a systematic set of field investigations that determine the presence or absence of cultural resource material. Often involves the services of a professional archaeologist, a literature review, site surface survey, small excavations, site monitoring, and photographic (and related) documentation of the resource.

Cultural resource work completed

Enter the amount of cultural resource work completed in your project (If none, enter zero).

Collected at Closure

Number

Acres excavated

Hours of
monitoring
required

Number of
structures
documented

Total cost for Cultural resources

\$4,000

Not Collected at Closure

Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.

Acres surveyed for cultural resources

6.00

Number of acres surveyed for cultural resources (to nearest 0.01 acre).

Permits

Project Permitting

Obtain permits

Total cost to Obtain permits

\$1,000

Not Collected at Closure

Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.

Number of permits required for implementation of project

4

Number of Permits required.

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Architectural & Engineering

Administrative, architectural, and engineering services.

Architectural & Engineering (A&E)

Administrative, architectural, and engineering services related to the development/restoration activities.

Total cost for Architectural & Engineering (A&E)

\$20,000

Not Collected at Closure

Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.

Did A&E costs exceed billed amount (Yes/No)

Collected at Closure

No

Did you spend more on architectural costs than you billed to RCO.

Agency Indirect Costs

Funding provided for approved agency indirect costs.

Agency Indirect

Indirect costs based on approved rate.

Total cost for Agency Indirect

Not Collected at Closure

Enter your estimated indirect costs (if applicable). Note: If your project has more than one worksite, you should only complete this for the first worksite.

Overall Metrics

	Current Agreement	Final
Completion Date		
Projected date of completion	12/7/2018	12/31/2017
Estimated date the scope of work will be completed.		
Project Goals		
Goals, purpose, and expected benefits (A.17)	To maximize the potential for detecting fish responses to the addition of wood in the stream. To maintain the high levels of LWD in	To maximize the potential for detecting fish responses to the addition of wood in the stream. To maintain the high levels of LWD in
Short description of the goals and purpose of the project and how it is expected to benefit salmonids or salmonid habitat.		

Restoration Costs

	Proposed	Final
Worksite: Asotin Intensively Monitored Watershed Project (#1)		
SPLIT OUT FINAL TOTAL BELOW	\$150,626.00	\$150,626.00
Instream Habitat Costs (C.4.a)	\$125,626	\$139,654
Cultural Resource Costs	\$4,000	\$0
Permits Costs	\$1,000	\$0
Architectural & Engineering Costs	\$20,000	\$10,972
Agency Indirect Costs		\$0
Difference		\$0

*Final amounts include a pending billing
Date of Last Released Billing 06/23/2017*

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Billed Summary

*Final amounts include a pending billing
Date of Last Released Billing 06/23/2017*

Category	Project Agreement		Totals To Date		
	RCO	Total	Expended	Non Reimbursable	Total Billed
Restoration					
Construction	108,945.48	130,626.00	114,653.57	25,000.00	139,653.57
AA&E	16,680.52	20,000.00	10,972.43		10,972.43
Restoration Total	125,626.00	150,626.00	125,626.00	25,000.00	150,626.00
Total	125,626.00	150,626.00	125,626.00	25,000.00	150,626.00

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Sponsor Match

	Proposed	Final
Project Funding		
PCSRF Federal Funds (A.10)	\$125,626.00	\$113,063.40
State Funds (A.11)		
Pending Billing - RCO Share Approved		\$0.00
Retainage - RCO amount retained		\$12,562.60
Sponsor Match: Monetary Funding		
Amount of other monetary funding (A.12)	\$0	\$0
Source of other monetary funding (A.12.a)	n/a	n/a
Sponsor Match: Donated Un-paid Labor (volunteers)		
Value of Donated Unpaid Labor (Volunteers) (A.13.a.2)	\$0	\$0
Source of Donated Un-paid labor contributions (A.13.a.4)	n/a	n/a
Number of hours volunteers contributed to the project (A.13.a.1)	Collected at Closure	0
Describe how the value of the volunteers was determined (A.13.a.3)	Collected at Closure	n/a
Sponsor Match: Donated Paid Labor		
Value of Donated Paid Labor (A.13.b.1)	\$0	\$0
Source of Donated Paid Contributions (A.13.b.2)	n/a	n/a
Sponsor Match: Other In-kind Contributions		
Value of Other In-Kind Contributions (A.13.c.1)	\$25,000	\$25,000
Source of Other In-Kind Contributions (A.13.c.3)	US Forest Service (\$20,000). Snake River Salmon Recovery Board (\$5,000)	US Forest Service (\$20,000). Snake River Salmon Recovery Board (\$5,000)
Description of other In-Kind contributions (A.13.c.2)	Post Pounder and LWD Materials	Post Pounder and LWD Materials
Amount Total	\$150,626	\$150,626
Total Billed		\$150,626
Difference		\$0

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Attachments

PHOTOS (JPG, GIF)



331501 Primary



331502 Secondary



331503

FILES AND PHOTOS

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	03/19/2018	Photo	sfork2 IMW 2016.jpg	DavidK	sfork2 IMW 2016.jpg, 331503 Final Report, 04/26/2018, Accepted	✓
	03/19/2018	Photo	sforkIMW2016.jpg	DavidK	sforkIMW2016.jpg, 331502 Final Report, 04/26/2018, Accepted	✓
	03/19/2018	Photo	Sfork IMW2016.jpg	DavidK	Sfork IMW2016.jpg, 331501 Final Report, 04/26/2018, Accepted	✓
	03/19/2018	Stewardship plan	Stewardship.docx	DavidK	South Fork Asotin Creek 15-1321 Stewardship.docx, 331500 Final Report, 04/26/2018, Accepted	✓
	03/19/2018	Design document (as built)	SouthForkTreatment Location Info 2016	DavidK	Copy of SouthForkTreatment2016_Section1_I... 331499 Final Report, 04/26/2018, Accepted	
	01/11/2018	Progress report	Final Project Report December2017.pdf	StephenB	AsotinIMW_RestorationFinalReport_D... 325691 Final Report, 04/26/2018, Accepted	✓

Certify & Submit

Status History

Report Status	Date	User	Note
Accepted	04/26/2018	Kay Caromile	Thanks for working with me to complete the final report and project documentation. I appreciate all your work on this. Cheers, Kay
Submitted	04/26/2018	David Karl	Thanks Kay
Returned	04/26/2018	Kay Caromile	Please look over the revised project description and corrected structure numbers, correct as needed, and re-submit.
Submitted	03/19/2018	David Karl	Hi Kay, I think everything is here. Thank You for your patience and help, as always. Cheers, Dave
Draft	01/11/2018	Stephen Bennett	

PROJECT: 15-1321 RST, ASOTIN INTENSIVELY MONITORED WATERSHED RESTORATION

Sponsor: Dept of Fish & Wildlife Program: Salmon Federal Projects Status: Active
Project Start Date: 12/09/2015 Agreement End Date: 12/31/2017

PROPERTY: Asotin Wildlife Area (1: Asotin Intensively Monitored Watershed Project)

Property Basics

Acquisition ☐ Restoration ☒

Property Location

Property Name Asotin Wildlife Area

Property Description Wildlife Area managed by WDFW.

Property Address
(optional)

Associated Worksite Asotin Intensively Monitored Watershed F

City

State **Zip**

Landowner

Landowner Name Department of Fish and Wildlife (WDFW)

Address
(optional) PO Box 43200

City Olympia

State WA **Zip** 98504-3200

Landowner Type State

Control and Tenure

Instrument Type Sponsor owned property (deed)

Timing Existing

Term Type Perpetuity

Yrs

Expiration Date

Note

Parcel Numbers

County Name	Parcel Number	Mapped	Notes (optional)
No parcels			

Recording Numbers

Instrument Type	Recording Number	Notes
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Sponsor Clarification

☒ The above information is correct and complete

RCO Notes

☒ Property data verified by RCO Staff

Property Report: Asotin Wildlife Area (Worksite #1: Asotin Intensively Monitored Watershed Project)

Attachments

PHOTOS (JPG, GIF)

FILES AND PHOTOS

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
No attachments match filter criteria						

PROJECT: 15-1321 RST, ASOTIN INTENSIVELY MONITORED WATERSHED RESTORATION

Sponsor: [Dept of Fish & Wildlife](#) Program: Salmon Federal Projects Status: Active
Project Start Date: 12/09/2015 Agreement End Date: 12/31/2017

PROPERTY: US Forest Service (1: Asotin Intensively Monitored Watershed Project)

Note: This Property has been removed from this project.

Property Basics

Acquisition ☒ Restoration

Property Location

Property Name US Forest Service

Property Address
(optional)

City

State Zip

Property Description

Associated Worksite Asotin Intensively Monitored Watershed F

Landowner

Landowner Name USFS UNF Pomeroy RD

Address
(optional) 71 W Main St

City Pomeroy

State WA Zip 99347

Landowner Type Federal

Control and Tenure

Instrument Type Landowner Agreement

Timing Proposed

Term Type Fixed # of years

Yrs 10

Expiration Date

Note

Parcel Numbers

County Name

Parcel Number

Mapped Notes (optional)

No parcels

Recording Numbers

Instrument Type

Recording Number

Notes

No recordings

RCO Notes

Property data verified by RCO Staff

Attachments

PHOTOS (JPG, GIF)

FILES AND PHOTOS

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
No attachments match filter criteria						