
PROJECT: 13-1112 PLN, CRESCENT HARBOR CREEK RESTORATION DESIGN & PERMIT

Sponsor: Skagit River Sys Cooperative Program: Puget Sound Acq. & Restoration Status: Active
Project Start Date: 03/01/2014 Agreement End Date: 06/30/2017

Final Report Status: Accepted 10/17/2017

Description

PROJECT AGREEMENT DESCRIPTION

We propose to use SRFB funds to develop a preliminary restoration design and acquire construction permits for lower Crescent Harbor Creek, a tributary to the Crescent Harbor Salt Marsh restoration site on northern Whidbey Island. The project is intended to restore the historic floodplain alignment, reduce stream velocity to increase fish access and improve water quality, and restore native wetland hydrology in lower Crescent Harbor Creek.

Goals for the project are to:

1. Sustainably restore natural stream and floodplain processes, conditions, functions, and biological responses.
2. Restore riparian and scrub-shrub wetland habitats.
3. Restore non-natal stream channel rearing capacity and freshwater nearshore inputs for ESA-listed juvenile Chinook salmon during the early phases of their oceanward migration.
4. Restore channel spawning habitat capacity for adult coho salmon.
5. Restore estuarine and wetland habitat conditions for other native fish and wildlife species.
6. Improve water quality conditions within lower Crescent Harbor Creek and the Crescent Harbor Salt Marsh, a 206 acre SRFB- and ESRP-funded estuary restoration site located at the mouth of Crescent Creek.

Matching funds, in the form of staff time for design review and for securing the permits necessary for project construction, will be provided by the US Navy.

FINAL PROJECT DESCRIPTION

SRFB funds were used to complete a preliminary restoration design for Crescent Harbor Creek, including a design report and a detailed plan set. SRSC hired project engineer Paul Tappel of Fisheries Engineers, Inc to complete the work. Design work began with detailed site surveys to collect information on site topography and features using a total station and other survey equipment. Data collected included natural slope contours and topography, alignment and grade for the existing ditched creek channel, dimensions and elevations for the existing culvert, streambank and streambed characteristics. Additionally, rainfall and basin size data were used to estimate low fish passage flow, high fish passage flow, and 100 year flood flows for Crescent Harbor Creek.

These data were used to develop a design for a gradually meandering channel that roughly follows the historic alignment of Crescent Harbor Creek between Crescent Harbor Road and the estuary at the creek mouth. The existing ditched channel is about 1,000 feet long with an overall slope of 1.4%. The design channel is 1,420 feet long, with riffle slopes varying from 1% to 4%, and with pool depths varying from 2-4 feet. The design calls for a roughened boulder channel for 40 feet below the culvert as a means of maintaining fish passage through the moderately undersized (though passable) culvert. Channel slopes in this reach were adjusted to eliminate any potential backwater effects. Below this reach, rootwad and log placements were included in the design to increase in-stream habitat diversity and complexity, and scissor log weirs were included just upstream of pools to increase pool-maintaining velocities during high flows. The stream channel alignment will bypass an existing anthropogenic wetland created by a low berm crossing the historic channel alignment in order to avoid adverse impacts to wetland vegetation and aquatic life. The existing wetland does not appear to receive flow from the ditch, and the design channel would not discharge into the wetland. The design report includes construction cost and materials quantity estimates. Environmental staff from Naval Air Station Whidbey Island have reviewed and approved the preliminary design.

Narrative

This project proved to be difficult to design due to the ruggedness of the scrub-shrub vegetation that has grown into a dense thicket of brambles around the existing straightened ditch/channel. Cutting transects through this dense thicket was challenging and destructive by the nature of the work. We made every attempt to minimize the level of disturbance while obtaining the necessary data for design. As usual Tappel Engineering was creative and agile in adapting to field conditions and design needs. Navy staff continued to also provide essential support and technical capacity. Overall the project team provided the needed information for the least cost possible for the project to move to the construction phase.

Final Report, Project 13-1112

Worksites

Worksite #1: Lower Crescent Harbor Creek Property

Worksite Address (Optional)
Street Address
City
State, Zip

Worksite Details

Worksite #1: Lower Crescent Harbor Creek Property

Worksite Name Lower Crescent Harbor Creek Property

WORKSITE DESCRIPTION

The lower Crescent Harbor Creek worksite is located on Naval Air Station Whidbey Island, and is owned by the United States Navy. The site consists of a diked and straightened stream channel that is bordered by pastureland to the west and riparian/scrub-shrub wetland and pastureland to the east. The overall restoration project will involve restoring the stream to its historic channel alignment, floodplain regrading, and native vegetation planting. For the design and permitting work proposed as part of this application, work on the site will involve topographic, geotechnical, utility, cultural resource, and vegetation surveys.

Geographic Coordinates

From mapped point:	Latitude	48.306385	Longitude	-122.619987
For Directions:	Latitude	48.307685	Longitude	-122.618773

SITE ACCESS DIRECTIONS

From I-5 at Burlington, travel east on SR20 towards Anacortes. After 11.8 miles, turn left (south) to stay on SR20 towards Oak Harbor. After about 15 miles, just before reaching Oak Harbor, veer slightly onto NE Regatta Way. After 0.3 miles, veer left again onto Torpedo Road. After 0.4 miles, turn left onto W Crescent Harbor Road. Look for a dirt driveway and parking area on the right after about 0.5 miles.

Properties

Worksite #	Worksite Name	Property Name	Sponsor Verified	RCO Verified	RCO Verified Map
1	Lower Crescent Harbor Creek Property	P43358		✓	N/A

Planning Metrics

Current Agreement

Final

Worksite: Lower Crescent Harbor Creek Property (#1)

Final Report, Project 13-1112

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).

No Salmon ESU or Steelhead DPS	No Salmon ESU or Steelhead DPS
✓ Chinook Salmon-Puget Sound ESU	✓ Chinook Salmon-Puget Sound ESU
✓ Chinook Salmon-unidentified ESU	✓ Chinook Salmon-unidentified ESU
Chum Salmon-Puget Sound/Strait of Georgia ESU	Chum Salmon-Puget Sound/Strait of Georgia ESU
Chum Salmon-unidentified ESU	Chum Salmon-unidentified ESU
✓ Coho Salmon-Puget Sound/Strait of Georgia ESU	✓ Coho Salmon-Puget Sound/Strait of Georgia ESU
✓ Coho Salmon-unidentified ESU	✓ Coho Salmon-unidentified ESU
Pink Salmon-Odd year ESU	Pink Salmon-Odd year ESU
Pink Salmon-unidentified ESU	Pink Salmon-unidentified ESU
Steelhead-Puget Sound DPS	Steelhead-Puget Sound DPS
Steelhead/Trout-unidentified DPS	Steelhead/Trout-unidentified DPS

Area Encompassed (acres) (B.0.b.1)

Acres of land area affected by the planning and assessment activities (to nearest 0.1 acre).

30.0

30.0

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 Affected (B.0.b.2)

The miles of stream affected (to the nearest 0.01 mile).

0.28

0.28

Design for Salmon restoration

Projects include complete engineering or preliminary design.

Final design and permitting

Final design and permitting for restoration projects.

Total cost for Final design and permitting

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

Not Collected at Closure

Final Report, Project 13-1112

<p>Project Identified in a Plan or Watershed Assessment.</p> <p>Name of the Plan, Watershed Assessment or Recovery Plan that identifies the need or justification for conducting this project. (Author, date, title, source, source address. Endnote citation format). If project was not identified in a Plan, enter "None".</p> <p>Priority in Recovery Plan</p> <p>Priority in Recovery Plan. How is the project prioritized or justified by the above plan? (i.e. addresses a priority action, occurs in a priority area, or targets a priority species). Include page reference. If project was not identified in a Plan, enter 'None'</p> <p>Preliminary design</p> <p>Preliminary engineering/design work for restoration projects.</p> <p>Total cost for Preliminary design</p> <p>Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.</p> <p>Project Identified in a Plan or Watershed Assessment.</p> <p>Name of the Plan, Watershed Assessment or Recovery Plan that identifies the need or justification for conducting this project. (Author, date, title, source, source address. Endnote citation format). If project was not identified in a Plan, enter "None".</p> <p>Priority in Recovery Plan</p> <p>Priority in Recovery Plan. How is the project prioritized or justified by the above plan? (i.e. addresses a priority action, occurs in a priority area, or targets a priority species). Include page reference. If project was not identified in a Plan, enter 'None'</p>	<p>Draft Puget Sound Salmon Recovery Plan, Several Authors, June 30, 2005 - revised December 2005, http://www.psp.wa.gov/SR_map.php</p> <p>The 212 miles of shoreline in Island County provide marine, shoreline, estuary, and coastal stream habitats supporting chum and coho salmon and resident coastal cutthroat populations. Juvenile Puget Sound Chinook</p> <p>\$169,275</p> <p>watersheds frequent Island County shoreline and marine habitats. Habitat factors include</p> <p>Recovery Plan, Several Authors, Note: the Puget Sound Recovery Project was developed as part of a freshwater entering the marine area, and food web interactions. Geographic areas with valuable habitats like mud flats, marshes, and pocket estuaries, sand flats, and sand or gravel beaches used by juvenile chinook salmon in Skagit Bay, Port Susan, Saanichton, Passages, Rosses Spit, and the abutment of the Strait of Juan de Fuca. Locally important populations of chinook salmon are found in the lower Puget Sound and in the Strait of Juan de Fuca. The Puget Sound Recovery Plan includes a list of priority areas for restoration, including the lower Puget Sound and the Strait of Juan de Fuca. The Puget Sound Recovery Plan also includes a list of priority areas for restoration, including the lower Puget Sound and the Strait of Juan de Fuca.</p>	<p>Draft Puget Sound Salmon Recovery Plan, Several Authors, June 30, 2005 - revised December 2005, http://www.psp.wa.gov/SR_map.php</p> <p>The 212 miles of shoreline in Island County provide marine, shoreline, estuary, and coastal stream habitats supporting chum and coho salmon and resident coastal cutthroat populations. Juvenile Puget Sound Chinook and wild cutthroat salmon watersheds frequent Island County shoreline and marine habitats. Habitat factors include</p> <p>Recovery Plan, Several Authors, Note: the Puget Sound Recovery Project was developed as part of a freshwater entering the marine area, and food web interactions. Geographic areas with valuable habitats like mud flats, marshes, and pocket estuaries, sand flats, and sand or gravel beaches used by juvenile chinook salmon in Skagit Bay, Port Susan, Saanichton, Passages, Rosses Spit, and the abutment of the Strait of Juan de Fuca. Locally important populations of chinook salmon are found in the lower Puget Sound and in the Strait of Juan de Fuca. The Puget Sound Recovery Plan includes a list of priority areas for restoration, including the lower Puget Sound and the Strait of Juan de Fuca.</p>
<p>Cultural Resources</p> <p>Activities that provide a report on a systematic set of field investigations that determine the presence or absence of cultural resource material.</p> <p>Cultural resources</p> <p>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.</p> <p>Total cost for Cultural resources</p> <p>Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.</p> <p>Acres surveyed for cultural resources</p> <p>Number of acres surveyed for cultural resources (to nearest 0.01 acre).</p>	<p>Double Bluff, Tien, Seagrass, and other habitats. A habitat factors in salmon habitat with potential to the ecosystem, the finding of quality of freshwater that is important to the ecosystem and the population of salmon. The cost of the project is \$15,000. The project is to be completed by June 30, 2015. The project is to be completed by June 30, 2015.</p>	<p>Double Bluff, Tien, Seagrass, and other habitats. A habitat factors in salmon habitat with potential to the ecosystem, the finding of quality of freshwater that is important to the ecosystem and the population of salmon. The cost of the project is \$15,000. The project is to be completed by June 30, 2015. The project is to be completed by June 30, 2015.</p>
<p>Overall Metrics</p> <p>Completion Date</p> <p>Projected date of completion</p> <p>Estimated date the scope of work will be completed.</p> <p>Project Goals</p> <p>Goals, purpose, and expected benefits (A.17)</p> <p>Short description of the goals and purpose of the project and how it is expected to benefit salmonids or salmonid habitat.</p>	<p>Current Agreement</p> <p>6/1/2015</p> <p>The goal of this project is to develop a preliminary restoration design and acquire construction permits for the lower Crescent</p>	<p>Final</p> <p>06/30/2015</p> <p>Develop preliminary design for a stream restoration project benefitting multiple salmon species.</p>

Final Report, Project 13-1112

Planning Costs

Final amounts include a pending billing
Date of Last Released Billing 06/16/2017

Proposed

Final

Worksite: Lower Crescent Harbor Creek Property (#1)

SPLIT OUT FINAL TOTAL BELOW

	\$207,775.00	\$70,025.66
Design for Salmon restoration Costs	\$169,275	\$69,026
Cultural Resource Costs	\$15,000	\$1,000
Difference		\$0

Billed Summary

Final amounts include a pending billing
Date of Last Released Billing 06/16/2017

Category	Project Agreement		Expended	Totals To Date	
	RCO	Total		Non Reimbursable	Total Billed
Non-Capital					
Non-Capital Costs			55,141.66	14,884.00	70,025.66
Equipment					
Non-Capital Total	99,939.00	117,576.00	55,141.66	14,884.00	70,025.66
Total	99,939.00	117,576.00	55,141.66	14,884.00	70,025.66

Final Report, Project 13-1112

Sponsor Match

	Proposed	Final
Project Funding		
PCSRF Federal Funds (A.10)	\$99,939.00	\$54,197.70
State Funds (A.11)	\$0.00	\$0.00
Pending Billing - RCO Share Approved		\$943.96
Sponsor Match: Monetary Funding		
Amount of other monetary funding (A.12)	\$0	\$0
Source of other monetary funding (A.12.a)	N/A	NA
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	NA
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	NA
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	NA
Sponsor Match: Other In-kind Contributions		
Value of Other In-Kind Contributions (A.13.c.1)	\$0	\$14,884
Source of Other In-Kind Contributions (A.13.c.3)	United States Navy	U.S. Navy
Description of other In-Kind contributions (A.13.c.2)	Design Review; Permit Preparation	Design review and permit preparation.
Amount Total	\$99,939	\$70,026
Total Billed		\$70,026
Difference		\$0

Final Report, Project 13-1112

Attachments

PHOTOS (JPG, GIF)

FILES AND PHOTOS

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	10/17/2017	Design document	CHC Design Report 04-15-16	SteveH	CrescentHarborCreekDesignReport4_... 320362 Final Report, 10/17/2017, Accepted	

Certify & Submit

Status History

Report Status	Date	User	Note
Accepted	10/17/2017	Marc Duboiski	Sweet! Thank you.
Submitted	10/17/2017	Steve Hinton	
Draft	10/03/2017	Marc Duboiski	

PROJECT: 13-1112 PLN, CRESCENT HARBOR CREEK RESTORATION DESIGN & PERMIT

Sponsor: Skagit River Sys Cooperative Program: Puget Sound Acq. & Restoration Status: Active
Project Start Date: 03/01/2014 Agreement End Date: 06/30/2017

PROPERTY: P43358 (1: Lower Crescent Harbor Creek Property)

Property Basics

Acquisition ☒ Planning

Property Location

Property Name P43358

Property Address
(optional)

City

State Zip

Property Description The lower Crescent Harbor Creek worksite is located on Naval Air Station Whidbey Island, and is owned by the United States Navy. The site consists of a diked and straightened stream channel that is bordered by pastureland to the west and riparian/scrub-s

Associated Worksite Lower Crescent Harbor Creek Property (1

Landowner

Landowner Name United States Navy
Address 3730 North Charles Porter Avenue
(optional)
City Oak Harbor
State WA Zip 98278-5000
Landowner Type Federal

Control and Tenure

Instrument Type
Timing Proposed
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
-----------------	------------------	-------

RCO Notes

☒ Property data verified by RCO Staff

Property Report: P43358 (Worksite #1: Lower Crescent Harbor Creek Property)

Attachments

PHOTOS (JPG, GIF)

FILES AND PHOTOS

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	11/17/2016	Amendment request	Final Design Amend Request 06-2016	MarcD	13-1112- Crescent Creek Amendment Request DRAFT.docx, 288218 Property: P43358	✓
	02/02/2016	Map: Planning Area	Crescent Harbor-Creek Vicinity Map-Ortho	MarcD	Crescent Harbor-Creek Vicinity Map-Ortho.pdf, 248981 Property: P43358	✓