PROJECT: 16-1306 REST, SEAHORSE SIESTA BARGE REMOVAL

Sponsor: NW Straits Marine Cons Found Program: Puget Sound Acq. & Restoration Status: Active

Project Start Date: 01/19/2018 Agreement End Date: 12/31/2022

Final Report Status: Accepted 03/10/2023

Description

PROJECT AGREEMENT DESCRIPTION

Remove 136 feet of armor (in the form of an old barge and 70-100 cubic yards of vertical concrete wall) from the toe of a high feeder bluff at the Seahorse Siesta Community Beach in Langley, Island County. The community association is supportive of this project. The bulkhead extends 98 feet (FT) out on the beach from the toe of the bluff on the no side and 62 FT on the south side.The main elements of the designs for coastal habitat enhancement and feeder bluff restoration are full armor removal which includes bulkhead barge, and fill removal and lower bluff grading to maintain the existing beach access.

FINAL PROJECT DESCRIPTION

Removed 136 feet of armor (in the form of an old barge and 70-100 cubic yards of vertical concrete wall) from the toe of a high feeder bluff at the Seahorse Siesta Community Beach in Langley, Island County. The community association is supportive of this project. The bulkhead extended 98 feet (FT) out on the beach from the toe of the bluff on the north side and 62 FT on the south side. Coastal habitat enhancement and feeder bluff restoration were accomplished through full armor removal which included bulkhead, barge and fill removal and lower bluff grading to maintain the existing beach access.

This project was awarded FY17-19 Puget Sound Restoration and Acquisition program funds, FY17-19 Estuary and Salmon Restoration Program funds, and 2016 and 2019 Sal Recovery Funding Board funds. The 2016 Salmon Recovery Funding Board funds were fully spent within the grant reporting period.

Narrative

Methods
The project was identified through an assessment of opportunities to restore feeder bluff processes and functions in Island and Jefferson counties funded by the Estuary Salmo Restoration Program. Initial coordination, feasibility, preliminary design, and permitting was funded through the Marine and Nearshore Grant Program (EPA/WDFW/DNR).

Additional funds for implementation were provided by the Puget Sound Acquisition and Restoration fund.

Final Design and Contractor Selection
Following completion of the permitting process NWSF contracted with Coastal Geologic Services to develop the final design and refine estimated quantities to be removed.

NWSF developed bid documents and project specifications and advertised the project through legal notices in the Whidbey News Times/South Whidbey Record and through Skagit Publishing. Bid information was also posted and updated as needed on Builders Exchange of Washington an on-line plan center. Bid advertisements included a project summary, pre-bid meeting information, and instructions for bidding.

The project was initially bid in July 2019, however no qualified bidders submitted for consideration. Under Washington State public works laws, the use of public funding require that contracts are awarded to the qualified lowest bidder. Qualifications are defined in the bid documents to ensure bidders and contractors have successfully completed projec that incorporated similar scope, habitats, permitting requirements, size and value, and methods.

NWSF contacted several marine contractors following the failed bid effort. It was determined the project location presented several challenges given the marine construction ma at the time. Many companies have sold their smaller barges due to a lack of barge ramps that could support those vessels. Restoration and remediation over several years resul in a reduction of available sites. The Seahorse Siesta site is very shallow with an extensive tidal flat and eelgrass beds so barge size was limited to those with minimal draft.

The project was re-bid in June 2020. Three bidders submitted proposals. Quilceda Excavation was the low bidder and was issued the contract with an original cost of $415,406.

Construction Implementation/Oversight
NWSF and Coastal Geologic Services provided construction and engineering oversight. Forage fish surveys were completed by Saratoga Environmental.

Challenges
The project encountered several challenges from the start. The contractor delayed the start date by over a month, pushing the work into the late fall when the likelihood of weath and tides could stop work. Once they did begin, they had conflicts regarding their designated site for loading equipment and offloading debris for disposal. This caused the proj to be stopped after the first week of work. Work did not resume until January 2021.

Once excavation within the barge began, it was determined that engineering calculations of the volume of fill inside the barge were grossly underestimated. Original assumptions were that the majority of the barge segment of the site consisted only of the wooden barge structure plus a minor amount of fill.

Coastal Geologic Services calculated approximately 400 tons of potentially creosote-treated material that would need to be removed from the barge and hauled offsite for uplanc disposal. The entirety of the barge area was filled with sandy sediment likely to also contain creosote due to the deterioration of the wooden structure over time. The new estima assumed over 2,500 tons of material present within the barge. Due to the potential for creosote contamination, these materials could not be used as beach nourishment, resultin the need for additional sediment testing resulting in export of more sediment than planned and a large increase in the project budget.

Project outcomes
The project was completed on March 1, 2021. NWSF requested an extension of the work window from WDFW in order to ensure completion. Due to weather and tide condition over the last week of work, Quilceda rushed the finish resulting in scattered concrete debris left behind. They returned on November 1, 2021, to remove the remaining debris.

NWSF staff and community volunteers completed the riparian planting on March 15, 2021, installing 650 bare root, live stake, and potted plants. The Seahorse Siesta communit created a gravity fed watering system to provide adequate moisture to the new plants through the extremely hot summer months. They also added fencing around individual plan to protect from deer browse.

As-Built Surveys
Coastal Geologic Services completed an as-built survey in March 2021, following completion of construction.

Monitoring Effectiveness Monitoring
NWSF partnered with Washington Department of Fish and Wildlife for pre- and post-construction effectiveness monitoring. WDFW along with University of Washington has be identifying and monitoring armor removal sites to assess the effects of shoreline restoration through armor removal – both the near-term responses of habitat to restoration effo and, with continued funding, long-term effects over the course of several years. Therefore, the goal is to identify and field survey restoration projects both before and after (de)construction. Field monitoring includes profile elevation, photogrammetry, wrack, log, backshore vegetation, sediment grain size composition and forage fish surveys.

Monitoring methods and protocols were developed based on the Shoreline Monitoring Toolbox and have been used across recent past and current restoration projects to allow f comparable datasets across project sites. Pre-construction monitoring occurred in the summer of 2016 and late spring 2017, led by Hannah Faulkner, Nearshore Biologist with WDFW's Habitat Science Team. Year-One post-construction was completed in Summer 2021, but the data is still being compiled.

Forage Fish Spawning Surveys
Island County Marine Resources Committee volunteers collected forage fish spawning samples in 2019 and 2020 prior to construction. Sand lance eggs were detected in six samples and surf smelt eggs were found in one sample. We are still awaiting post-construction sampling results.

Worksites

Worksite #1: Seahorse Siesta

Worksite Address (Optional)

Street Address 4654 Strawbridge Lane
City Langley
State, Zip WA 98260

Worksite Details

Worksite #1: Seahorse Siesta

Worksite Name Seahorse Siesta

WORKSITE DESCRIPTION

The Seahorse Siesta site is a community owned beach and feeder bluff located north of Langley, Whidbey Island. Tidelands waterwater of MHHW are state-owned aquati lands. A large derelict barge and bulkhead extends 98 feet out onto the beach from the toe of the bluff covering 10,800 square feet of intertidal habitat. The project will rem the barge and bulkhead to restore feeder bluff and nearshore processes. Pre and post construction biological and physical monitoring will be included to assess the impac of shoreline armor and removal.

Geographic Coordinates

From mapped point:	Latitude	48.043424	Longitude	-122.424250
For Directions:	Latitude	48.042112	Longitude	-122.424687

SITE ACCESS DIRECTIONS

From Langley, WA: Head northwest on 1st Street/Langley Loop toward Wharf Street. Turn left onto DeBruyn Ave. Turn right onto Saratoga Road. Turn right onto S. Strawbridge Lane.

Properties

Worksite #	Worksite Name	Property Name	Sponsor Verified	RCO Verified	RCO Verified Map
1	Seahorse Siesta	Seahorse Siesta Community	✓	✓	N/A

Restoration Metrics

	Current Agreement	Final

Worksite: Seahorse Siesta (#1)

Targeted salmonid ESU/DPS (A.23)	☐ No Salmon ESU or Steelhead DPS ✓ Chinook Salmon-Puget Sound ESU ☐ Chinook Salmon-unidentified ESU ✓ Chum Salmon-Puget Sound/Strait of Georgia ESU ☐ Chum Salmon-unidentified ESU ✓ Coho Salmon-Puget Sound/Strait of Georgia ESU ☐ Coho Salmon-unidentified ESU ✓ Pink Salmon-Odd year ESU ☐ Pink Salmon-unidentified ESU ✓ Steelhead-Puget Sound DPS ☐ Steelhead/Trout-unidentified DPS	☐ No Salmon ESU or Steelhead DPS ✓ Chinook Salmon-Puget Sound ESU ☐ Chinook Salmon-unidentified ESU ✓ Chum Salmon-Puget Sound/Strait of Georgia ESU ☐ Chum Salmon-unidentified ESU ✓ Coho Salmon-Puget Sound/Strait of Georgia ESU ☐ Coho Salmon-unidentified ESU ✓ Pink Salmon-Odd year ESU ☐ Pink Salmon-unidentified ESU ✓ Steelhead-Puget Sound DPS ☐ Steelhead/Trout-unidentified DPS
Targeted species (non-ESU species)	✓ None ☐ Unknown ☐ Brook Trout ☐ Brown Trout ☐ Bull Trout ☐ Cutthroat ☐ Forage Fish ☐ Kokanee ☐ Lamprey ☐ Rainbow ☐ Searun Cutthroat	None Unknown Brook Trout Brown Trout Bull Trout Cutthroat ✓ Forage Fish Kokanee Lamprey Rainbow Searun Cutthroat
Miles of Stream and/or Shoreline Treated or Protected (C.0.b)	0.02	0.02
Project Identified In a Plan or Watershed Assessment (C.0.c)	None	*Not Collected at Closure*
Priority in Recovery Plan	WRIA 6 (Whidbey & Camano Islands) Multi-Species Salmon Recovery Plan, May 2005, Nearshore Restoration, page 60.	*Not Collected at Closure*
Type Of Monitoring (C.0.d.1)	✓ Implementation Monitoring None	✓ Implementation Monitoring None
Monitoring Location (C.0.d.2)	☐ No monitoring completed ☐ Downstream ✓ Onsite ☐ Upslope ☐ Upstream	☐ No monitoring completed ☐ Downstream ✓ Onsite ☐ Upslope ☐ Upstream

Estuarine / Nearshore Project

Total Amount Of Estuarine / Nearshore Acres Treated (C.9.b)	0.3	0.3
Shoreline armor removal or modification (C.9.k.1)		
Total cost for Shoreline armor removal or modification	$403,298	*Not Collected at Closure*
Miles of Shoreline Treated for armor modification/removal (C.9.k.2)	0.02	0.02
Acres of Shoreline Treated for armor modification/removal (C.9.k.3)	0.3	0.3

Cultural Resources

Cultural resources

Cultural resource work completed	*Collected at Closure*	Number Acres excavated 0 Hours of monitoring required Number of structures documented
Total cost for Cultural resources	$15,000	*Not Collected at Closure*
Acres surveyed for cultural resources	0.30	0.30 **Note:** Cultural resources assessment completed prior to permitting. No construction oversight or surveys were required.

Architectural & Engineering

Architectural & Engineering (A&E)

Total cost for Architectural & Engineering (A&E)	$30,075	*Not Collected at Closure*
Did A&E costs exceed billed amount (Yes/No)	*Collected at Closure*	No
Percent architectural & engineering	*Collected at Closure*	7.00

Agency Indirect Costs

Agency Indirect

Total cost for Agency Indirect	$44,837 **Note:** 10% deminimus on TMDC	*Not Collected at Closure*

Overall Metrics

	Current Agreement	Final
Completion Date		
Projected date of completion	6/30/2019	3/15/2021
Funding not reported to RCO		
Provide the dollar amount spent to complete the scope of this project identified in PRISM that was not included in the grant or as match to the grant in the project agreement.	*Collected at Closure*	$0
Nearshore		

Primary nearshore process	☐ Sediment supply and transport ☐ Beach erosion and accretion ☐ Detritus recruitment and retention ☐ Distributary channel migration ☐ Exchange of aquatic organisms ☐ Freshwater input ☐ Solar radiation ☐ Tidal channel formation and maintenance ☐ Tidal hydrology ☐ Wind and waves	☑ Sediment supply and transport ☐ Beach erosion and accretion ☐ Detritus recruitment and retention ☐ Distributary channel migration ☐ Exchange of aquatic organisms ☐ Freshwater input ☐ Solar radiation ☐ Tidal channel formation and maintenance ☐ Tidal hydrology ☐ Wind and waves
Secondary nearshore process	☐ Beach erosion and accretion ☐ Detritus recruitment and retention ☐ Distributary channel migration ☐ Exchange of aquatic organisms ☐ Freshwater input ☐ Sediment supply and transport ☐ Solar radiation ☐ Tidal channel formation and maintenance ☐ Tidal hydrology ☐ Wind and waves ☐ None	☑ Beach erosion and accretion ☐ Detritus recruitment and retention ☐ Distributary channel migration ☐ Exchange of aquatic organisms ☐ Freshwater input ☐ Sediment supply and transport ☐ Solar radiation ☐ Tidal channel formation and maintenance ☐ Tidal hydrology ☐ Wind and waves ☐ None
Shoreforms	☐ Barrier Embayments ☐ Beaches ☐ Coastal Inlets ☐ Deltas ☐ Rocky shores	☐ Barrier Embayments ☑ Beaches ☐ Coastal Inlets ☐ Deltas ☐ Rocky shores

Planned Operation & Maintenance Costs

Estimated FTE's	*Collected on Application*	*Not Collected at Closure*
Estimated O&M Costs	*Collected on Application*	*Not Collected at Closure*
O&M Funding Source(s)	*Collected on Application*	*Not Collected at Closure*
O&M Activities	*Collected on Application*	*Not Collected at Closure*

Project Goals

Goals, purpose, and expected benefits (A.17)	To restore a nearshore beach to natural conditions providing forage fish habitat, which ESA-listed Chinook and steelhead prey on.	1. Improved exchange of terrestrial and aquatic nutrients insects, invertebrates, and organic material due to restore cross shore connectivity. 2. Increased availability of spawning habitat for surf smelt and sand lance to benefit salmonids.

Restoration Costs

Final amounts include a pending b
Date of Last Released Billing 04/19/2

Worksite: Seahorse Siesta (#1)

		Proposed	Final
	SPLIT OUT FINAL TOTAL BELOW	$493,210	$822,844
Estuarine / Nearshore Costs (C.9.a)		$403,298	$764,761
Cultural Resource Costs		$15,000	$1
Architectural & Engineering Costs		$30,075	$57,341
Agency Indirect Costs		$44,837	$741
	Difference		$0

Billed Summary

Final amounts include a pending billi
Date of Last Released Billing 04/19/20

Category	Project Agreement RCO	Project Agreement Total	Totals To Date Expended	Totals To Date Non Reimbursable	Totals To Date Total Bille
Restoration					
Construction	671,675.45	752,115.18	704,379.42	61,123.31	765,502.7
AA&E	67,167.55	70,727.82	34,463.58	22,877.84	57,341.4
Restoration Total	**738,843.00**	**822,843.00**	**738,843.00**	**84,001.15**	**822,844.1**
Total	738,843.00	822,843.00	738,843.00	84,001.15	822,844.1

Sponsor Match

	Proposed	Final
Project Funding		
Federal Funds	$218,000.00	$193,283.18
State Funds (A.11)	$520,843.00	$510,843.00
Pending Billing - RCO Share Approved	*Collected at Closure*	$0.00
Retainage - RCO amount retained	*Collected at Closure*	$34,716.82

Match Details

Match Category	Match Type	Proposed	Final
Converted Match	Converted Matching Share		
Amount		$73,982.00	$0.00
Other Monetary Funding	Grant - Other		
Amount		*N/A*	$76,367.35
Funding Organization			Western Washington US Fish Wildlife Service Office (USFW
Grant Program			USFWS17SEA
Donated Unpaid Labor	Donated General Labor		*Unable to tie Billed match t Proposed match.*
Amount		*N/A*	$7,633.80
Funding Organization			Coastal Geologic Services
Number of Hours		*Collected at Closure*	424.10
Valuation Method		*Collected at Closure*	✓ RCO Standard Labor Rate

Project Funding Total	$738,843.00	90.90 %	$738,843.00	89.79 %
Sponsor Match Total	$73,982.00	9.10 %	$84,001.15	10.21 %
Project Total	$812,825.00	100.00 %	$822,844.15	100.00 %
Total Billed			$822,844.15	
Difference			$0.00	

Attachments

PHOTOS (JPG, GIF)

Photos (JPG, GIF)


542755


542756

PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Sh
	11/28/2022	Photo	SHS_Post-Restoration2_20220613.jpeg	LisaK	SHS_Post-Restoration2_20220613.jpeg, 542756 Final Report, 03/10/2023, Accepted	
	11/28/2022	Photo	SHS_Post-Restoration_20220613.jpeg	LisaK	SHS_Post-Restoration_20220613.jpeg, 542755 Final Report, 03/10/2023, Accepted	

Certify & Submit

Status History

Report Status	Date	User	Note
Accepted	03/10/2023	Bridget Kaminski	
Submitted	12/19/2022	Lisa Kaufman	
Draft	11/28/2022	Lisa Kaufman	

WASHINGTON STATE Recreation and Conservation Office

Property Report

PROJECT: 16-1306 REST, SEAHORSE SIESTA BARGE REMOVAL

Sponsor: NW Straits Marine Cons Found Program: Puget Sound Acq. & Restoration Status: Active
Project Start Date: 01/19/2018 Agreement End Date: 12/31/2022

PROPERTY: Seahorse Siesta Community (1: Seahorse Siesta)

Property Basics

Acquisition ✓**Restoration**

Property Location

Property Name Seahorse Siesta Community
Property Address (optional)
City
State **Zip**

Property Description Barge/bulkhead are located at the base of a feeder bluff within a drift cell which begins 1.4 miles to the NW and continues 2.4 miles east. The work includes: removal of the barge/bulkhead; 2,000 CY of fill; construction of rockery for beach access.
Associated Worksite Seahorse Siesta (#1)

Landowner

Landowner Name Seahorse Siesta Club
Address (optional) 4654 Strawbridge Lane
City Langley
State WA **Zip** 98260
Landowner Type Private

Control and Tenure

Instrument Type Landowner Agreement
Timing Existing
Term Type Fixed # of years
 # Yrs 2
Expiration Date 01/04/201
Note Current landowner agreement is for design and permitting services. An updated agreement will be completed for construction and monitoring.

Parcel Numbers

County Name	Parcel Number	Mapped	Notes (optional)
Island	R330332154300	Not applicable	

Recording Numbers

Instrument Type	Recording Number	Notes
No recordings		

Sponsor Clarification

✓**The above information is correct and complete**

RCO Notes

✓**Property data verified by RCO Staff**

Property Report: Seahorse Siesta Community (Worksite #1: Seahorse Siesta)

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
	02/13/2018	SRFB Review Panel Comment Form	Final SRFB RP Comment Form	MarcD	Seahorse SRFB RP Comment Form.pdf, 328773 Property: Seahorse Siesta Community	✓