WASHINGTON STATE Recreation and Conservation Office

Final Report

Project #08-1864, Ala Spit Restoration

Submitted by Lori Clark on 01/03/2013 Accepted by Mike Ramsey on 01/03/2013

CONTACTS

Primary Sponsor: Island County Health Dept

Lead Entity: Island County LE

Managing Agency: Rec. and Conserv. Office

Project Contact: Lori Clark
l.clark@co.island.wa.us

Alt Project Contact: Jill Wood
JillW@co.island.wa.us

RCO Grant Manager: Mike Ramsey
mike.ramsey@rco.wa.gov

DESCRIPTION OF THE COMPLETED PROJECT

Project Start Date: 02/01/2009 **FundingEnd Date:** 06/30/2012 **RCO Closure Date:**

Ala Spit is located in Island County (Water Resources Inventory Area 6), on the northeast shore of Whidbey Island, Washington. Ala Spit has a pocket estuary that is located less than three miles from the Skagit River delta. It provides vital rearing and cover habitat for endangered species act (ESA) listed Chinook and other salmonid species as they transition from their freshwater habitats in the Skagit River to the Pacific Ocean. The project addressed a priority action (preservation of habitat for Chinook and other salmon species) and in a priority area (i.e., pocket estuary accessible to Skagit River juvenile salmon), and targeted priority fish species (i.e., Skagit Chinook salmon).
In 1995, Island County successfully acquired two grants to purchase Ala Spit, which was at risk of being developed. The property purchase included 5 acres of uplands and 8 acres of spit. The site became a very popular area for a variety of recreational activities including birding, clamming, fishing, and walking trails. After Island County purchased the land in 1995, it was recognized that erosion along the southern end of the spit was threatening to create a breach point that would result in habitat degradation and a loss of pedestrian access. A feasibility study to evaluate the geologic processes causing thinning of the spit and the environmental impacts from the potential loss in habitat would be required for the restoration of the site. Island County completed the feasibility study (Phase I) and 30% of the design for remediation in 2006.

Island County was a successful recipient of Salmon Recovery Funding Board (SFRB) money for Architectural/Engineering Services to complete the proposed design and construction (Phase II) for removing the riprap revetment. The riprap revetment removal was proposed as the most cost effective approach for increasing total habitat area, restoring physical processes, and protecting habitat functions critical for the survival of Chinook and other salmon species as well as forage fish and other marine species and their habitat, while maintaining the current use of Ala Spit County Park by the public. To this end, final engineering design plans, specifications, and cost estimate (PS&E); a performance monitoring plan (currently being implemented); and bid documents were prepared and permits were obtained for the removal of the riprap and bulkhead sections. In October of 2011, the restoration work of removing riprap was successfully completed. Department of Ecology match funding was utilized by Island County staff for project management to oversee design and construction of Ala Spit. The value of the SRFB grant is $ 267,538 and Island County was responsible for a 15% ($47,199) match. The total project was $ 314,737.

A Monitoring Plan was developed to determine to which extent the primary goal of the project is achieved and to assess to which extent the salmon and forage fish habitat is restored through the project implementation. ICPH has contracted with Washington State University Beach Watchers (WSUBW) to conduct physical monitoring twice per year for a minimum of three years to observe the changes to the spit and monitor progress.

An intpretive sign was installed at Ala Spit to educate patrons on the natural beach process and the importance of this site to juvenile salmon. A dog-waste station was also installed to prevent bacterial contamination from dog waste into the surronding waters.

SITE LOCATION

General Area of Project: Northern Whidbey Island, Ala Spit

Waterbodies: Puget Sound

Cong District:	02
Cong District 2012:	02
County:	Island
HUC:	KITSAP
Leg District:	10
Leg District 2012:	10
Salmon Recov Reg 05:	Puget Sound
Section:	32
Township/Range:	T34NR02E
WAU:	WHIDBEY IS

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

PROJECT NARRATIVE

The Ala Spit's pocket estuary is located less than 3 miles from the Skagit River delta which provides valuable habitat for migrating juvenile salmonids. The Island County Salmon Recovery Plan (SRP) describes Ala Spit as a pocket estuary accessible to salmon, characterized by a sediment deposition zone, an eelgrass meadow, kelp beds, and forage fish spawning area. The SRP values the Ala Spit nearshore and pocket estuary areas as a high protection priority for juvenile salmon and very high protection priority for forage fish based on the habitat functions these areas provide. Research has demonstrated this site's importance as a rearing habitat for ESA listed Chinook and other salmonid species and forage fish (Beamer 2007).

Ala Spit was previously identified as a location for restoration due to noted erosion of both the neck of the spit and pocket estuary habitat. In 2005, as a part of the Ala Spit Phase 1 restoration project, a feasibility study evaluated the anthropogenic features (including the bulkhead, rock groin, and a private bulkhead approximately 1,200 feet to the south) based on their potential contribution to thinning the neck of the spit (PRISM #05-1491 "Ala Spit Feasibility Assessment"). Herrera Environmental Consultants (Herrera 2008) performed a geomorphic and nearshore habitat assessment, which considered the impacts of human modifications to the nearshore and their impact on resident and migratory fish populations. The Feasibility Assessment took into account sea level rise due to climate change and incorporated necessary modifications to the assessment as well as into the final design and specifications. Beach seining fish surveys were conducted in 2007 (along the spit and within the pocket estuary), and the nearshore fish assemblage at Ala Spit was studied by the Skagit River System Cooperative (Beamer 2007) in collaboration with Herrera (Herrera 2008).

The investigation and alternative analysis identified significant impacts resulting from riprap and concrete debris placed along the neck of spit which was causing increased wave reflection and cutting off sediment supply to the pocket estuary. Based upon a conceptual geomorphic model of the spit, costs per habitat area gained were calculated to determine the most cost effective alternative. The actions proposed in Phase 2 of restoration (removal of the riprap revetment) was the most cost effective at increasing total habitat area, restoring physical processes, and protecting habitat functions critical for the survival of Chinook and other salmon species as well as forage fish and other marine species and their habitat, while maintaining the current use of Ala Spit County Park by the public. To this end, as part of the SRFB funded Ala Spit Phase 2 Restoration project (SRFB 08-1864R), final engineering design plans, specifications, and cost estimate (PS&E); a performance monitoring plan (currently being implemented); and bid documents were prepared and permits were obtained for the removal of the riprap and bulkhead sections. Herrera Environmental Consultants prepared the following for the Ala Spit Restoration project: the final engineering design plans, specifications, and cost estimate (PS&E); a performance monitoring plan (currently being implemented); bid documents; and permits.

Island County prepared and submitted press releases and created a website to keep the public informed of restoration plans and activities. Island County staff also hosted an on-site open house for the public to attend and get infomation on the project. Nordland construction fumished all material, labor, tools, equipment, apparatus,facilities, etc., necessary to perform and complete construction work for the Ala Spit Restoration project. Herrera Environmental Consultants and Island County staff provided construction oversight and supervision according to the design plan. Herrerra Environmental Consultants conducted the final close-out inspection on the final day of construction to ensure the work was conducted according to the plans and specs.

In October of 2011, the restoration work of removing riprap was successfully completed. However, the removal of the bulkhead sections was not feasible due to insufficient construction funds to complete this task at that time. Island County is currently seeking funding to complete this phase of restoration work (275' bulkhead removal), as well as a feasibility study to evaluate options for the rock groin removal and final bulkhead section removal (160 feet).

Island County has presented public events and hosted post-restoration informational site visits for the Washington State University Beach Watchers, Island County Marine Resource Committee, and the Island County Water Resource Advisory Committee. Positive feedback has been documented from various sources (citizens, politicians, scientists, etc.) in support of restoration work at this park. Island County Public Health continues to maintain updates to an Ala Spit Restoration Project webpage to keep the public apprised of project updates. An interpretive sign is being developed and will be placed on site to educate the public on the importance of restoration projects for pocket estuaries.

As a part of the restoration project, a Monitoring Plan was developed to determine to which extent the primary goal of the project is achieved and to assess to which extent the salmon and forage fish habitat is restored through the project implementation. ICPH has contracted with Washington State University Beach Watchers (WSUBW) to conduct physical monitoring twice per year for a minimum of three years to observe the changes to the spit and monitor progress. The first monitoring event occured on May 2012, and concluded that the project was sucessful. Hundreds of juvenile salmon were observed in the pocket estuary during the monitoring events.

Preliminary analysis of the performance monitoring showed the spit has moved approximately between 10 and 50 feet further west as result of last winter's storms (attached; also attached is a side-to-side comparison of the map base photograph [2010] and a photograph taken by Gregg Ridder). As can also be seen in the shoreline map, the spit (even those portions that were unaffected by the project) migrated more during this last winter than during any comparable period since the 1950s. Most of the movement occurred at the ends of the spit with the middle moving very little. The middle portion of the spit (promontory) did not move; however, it is not uncommon for portions of the shoreline to react differently to different events. Over the long term it is expected that the promontory will begin to move as well. This has already begun to occur during the large wind event in February, as erosion was concentrated during this event at the northern edge of the southern end of the spit.
The movement of the beach meant that the storms eroded a large volume (about 1274 cubic yards) of material from the beach. Roughly speaking, a slightly greater volume was deposited in the splay deposits, indicating that the beach is roughly in equilibrium and not sediment starved. Despite the dramatic changes to the beach, only about a third of the placed material was remobilized. Notwithstanding the large volume of material that was placed on the beach (1296 cubic yards), almost four times that amount was found to have accumulated over the project site as a whole. This means that 3209 cubic yards (more than 300 dump trucks!) was in the net deposited in the project site over the last winter. It is unclear the origin of this material, but the average size of most of this material (gravel) indicates that either came from erosion of the former terrace or from the bluffs south of the project site. Most of the material (more than half) that deposited on the spit as a whole has deposited in the area in front of the bulkhead south of the parking area, though the sediment supply to the spit as a whole is clearly sufficient leave the remainder of the spit in relative equilibrium. Below is a summary table of various volumes calculated from the repeated survey of the spit.

Approximate Quantities

Location	Volume (cy)
Net amount added due to construction	1296
Deposition in front of bulkhead	1896
Eroded from beach in project site	1274
Remaining from construction	894
Splay deposits	1527
Total deposition on spit	4505
Inferred input from outside project site	3209

ICPH is committed to continuing restoration efforts to completely restore the nearshore beach at Ala Spit. A Feasibility Assessment will be conducted in 2013 to evaluate options for bulkhead removal and rock groin removal.

AMENDMENTS

#	Type	Applied Date	Description
3	Time Extension	02/08/2012	The project period of 02/01/2009 to 03/31/2012 is extended to allow the contracting party until 06/30/2012 to complete the project.
2	Time Extension	12/05/2011	The project period of 02/01/2009 to 01/31/2012 is extended to allow the contracting party until 03/31/2012 to complete the project.
1	Time Extension	11/16/2010	The project period of 02/01/2009 to 01/31/2011 is extended to allow the contracting party until 01/31/2012 to complete the project.

OVERALL PROJECT COSTS

Funding Formula:	Requested		Original		Final	
Salmon Federal Projects:	$0.00	(0%)	$267,538.00	(85%)	$252,490.70	(84%)
Salmon State Projects:	$267,538.00	(85%)	$0.00	(0%)	$0.00	(0%)
Sponsor Match:	$47,199.00	(15%)	$47,199.00	(15%)	$49,190.74	(16%)
Total:	$314,737.00	(100%)	$314,737.00	(100%)	$301,681.44	(100%)

Paid To Date:	$252,490.70			**Last Released Billing:**	09/28/2012
Remaining RCO Funds:	$0.00			**Pending Billing:**	No
Advance Balance:	$0.00	**Match Bank:**	$4,646.38	**Number of Billings:**	10
Admin Limit:	$0.00	**Admin Spent:**	$0.00		
A&E Limit:	$69,618.20 (30.00%)	**A&E Spent:**	$71,736.87 (23.77%)		

Billed Cost Summary:	Original Agreement	Expended	Non-Reimbursable	Total Billed
Restoration				
Construction	$242,106.00	$193,553.10	$36,391.47	$229,944.57
A&E	$72,631.00	$58,937.60	$12,799.27	$71,736.87
Restoration Total	$314,737.00	$252,490.70	$49,190.74	$301,681.44
Total	$314,737.00	$252,490.70	$49,190.74	$301,681.44

Project Cost Metrics:	Original Agreement	Final
PCSRF Federal Funds:		$252,490.70
State Funds:		
Pending Billing - RCO Share Approved:		
Retainage - RCO amount retained:		$0.00
Amount of other monetary funding:		$49,190.00
Value of Donated Unpaid Labor (Volunteers):		$0.00
Value of Donated Paid Labor:		$0.00
Value of Other In-Kind Contributions:		$0.00
Project identifier for the other monetary funding:		N/A
Source of In-Kind contributions:		N/A
Source of other monetary funding:		N/A
Number of hours volunteers contributed to the project:		0
Describe how the value of the volunteers was determined:		N/A
Description of other In-Kind contributions:		N/A

PROJECT METRICS

	Original Agreement	Final
Completion Date		
Projected date of completion:		06/29/2012
Project Goals		
Goals, purpose, and expected benefits:		The goal of the project is to restore channel meander migration patterns within the estuary. The objective of the project is to restore the flood plain meander functions, sediment transport functions, dissipation, and water storage in the estuary. The goal of the project is to restore estuarine and nearshore conditions and processes in the marine environment. The objective of the project is to restore beach sand transport processes.

WORKSITE #1: Ala Spit

Worksite Description: Northern Whidbey Island

Driving Directions: From Coupeville, WA (Island County seat):
- North on WA Highway 20
- Right (east) on Frostad Road
- Left (north) on Dike Road
- Right (east) on Jones Road
- Right into Ala Spit County Park

Coordinates for Worksite Directions - Latitude: 0.00 **Longitude:** 0.00

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

WORKSITE #1 COSTS

Worksite Billed Cost:	Estimated	Expended	Non-Reimbursable	Total Billed
A&E	$72,631.00	$58,937.60	$12,799.27	$71,736.87
Construction	$242,106.00	$193,553.10	$36,391.47	$229,944.57
Worksite Total	$314,737.00	$252,490.70	$49,190.74	$301,681.44

Worksite Costs by Category:	Original Agreement	Final
Estuarine / Nearshore Funding:		$16,254.00
General Restoration Activity Funding:		$213,690.00
Architectural & Engineering Funding:		$71,737.00

WORKSITE #1 METRICS

	Original Agreement	Final
Targeted salmonid ESU/DPS:		Chinook Salmon-Puget Sound ESU
Targeted species (non-ESU species):		Cutthroat
Miles Of Stream Treated/Protected:		0.15
Project Identified In a Plan or Watershed Assessment:		The project area is identified as a priority in the WRIA 6 Salmon Recovery Plan. The Skagit Chinook Recover Plan also identifies this area as a priority for early rearing of wild fry migrant Chinook.
Type Of Monitoring:		Implementation Monitoring
Monitoring Location:		Onsite
Estuarine / Nearshore Project		
Total Amount Of Estuarine / Nearshore Acres Treated:		1.70
Creation of new estuarine area		
Acres of Estuary Created:		1.7
Estuarine plant removal / control		
Acres of Estuary Treated for plant removal/control:		0.0
Species (Scientific) Name(s) Of Estuarine Plants Removed:		N/A - The decision was to allow the site to revegetate naturally.
Shoreline armor removal or modification		
Miles of Shoreline Treated for armor modification/removal:		0.15
Acres of Shoreline Treated for armor modification/removal:		0.2
General restoration activities		
Restoration signs		
Number of signs installed:		1
Architectural & Engineering		
Architectural & Engineering (A&E)		

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

PROPERTY DESCRIPTION (Ala Spit Park)

Activity: Restoration

Control & Tenure:

Instrument Type: Sponsor owned property

Timing: Existing

Term Length: Perpetuity **# yrs:**

Expiration Date:

Landowner Type: Local **Note:**

Sponsor Clarifications:

Sponsor verified the above information is correct and complete.

Sponsor Clarifications:

SPONSOR CERTIFICATION

[X] I certify that this project has been completed in accordance with the project agreement.

[X] I certify that, to the best of my knowledge, the information in the Final Report is true and correct.

Submitted by Lori Clark on 01/03/2013