

PROJECT: 15-1048 PLAN, CAMANO IS STATE PARK TIDAL MARSH FEASIBILITY

Sponsor: Skagit River Sys Cooperative Program: Salmon Federal Projects Status: Active Project Start Date: 12/09/2015 Agreement End Date: 06/30/2019

Final Report Status: Accepted 09/25/2019

Description

PROJECT AGREEMENT DESCRIPTION

This project intends to evaluate potential actions and design alternatives for restoring natural hydrological processes to the unique shoreline land form located at Camano Island State Park. This project's goal will determine the feasibility of restoring natural processes to the site given modern land use constraints. If an action is deemed feasible, we will develop a preliminary design in a manner consistent with natural habitat processes, and the recreational and educational uses of the park envisioned by Washington State Parks staff and citizen user groups. Any restoration outcome would target feeding and rearing habitat improvements for out-migrating juvenile Chinook salmon.

FINAL PROJECT DESCRIPTION

Four conceptual design alternatives were developed and include configurations with a tidal channel to the north and south of the site. The advantages (benefits) and disadvantages of each of the four alternatives are listed in Table 2 of the Design Report. However, analysis of nearshore processes indicate that all of the concepts will require some extent of protective berms to maintain existing park benefits and ongoing maintenance.

The first alternative (Figure 13 in the report), similar to the original concept has a tidal channel to the north of the site, but proposes to outlet the channel north of the existing boat launch. There are a number of benefits to this design alternative. Grain size distribution of the sediment in the north of the site indicates a lower energy regime with less annual transport and therefore less likelihood of the tidal channel filling with sediment. The boat launch would act as a groin and maintenance on the ramp could support maintenance of the spit seaward of the channel and parking lot. This configuration would likely reduce the potential for natural wood accumulation within the tidal channel. Access to the channel for maintenance could be done when boat ramp maintenance is completed to reduce costs.

Potential negatives for this design alternative are that northern facing channels in the Whidbey Basin tend to become filled with sediment and potentially close off after time. This channel configuration may lead to scour at the base of the bluff. The turn around and parking area would likely lose space in this configuration and require additional fill to prevent frequent flooding. The access road would need to be elevated, including a bridge over the stream crossing. Two pedestrian bridges would also be required. The perennial marsh would still be disconnected from tidal influence in this alternative.

The other three alternatives evaluated a channel to the south with varying degrees of inundation of the park. All three of these alternatives take advantage of the low-lying marsh on the south side of the park which already experiences regular flooding from storm surge overwash of the barrier beach. The narrowest portion of the barrier beach is on the south side of the park indicating this is a transport zone and accumulation rates are lower so material can move across the beach and not deposit on the beach or in the new tidal channel. A channel on the south side of the park is away from major infrastructure, such as the boat launch, parking, turnaround, and smaller restroom so the channel can be wider and allow for natural channel adjustment. A channel on the south end of the park might be able to connect perennial stream to the new salt marsh. The three alternatives for the south tidal channel are summarized as follows:

A. Alternative 2A (Figure 14) provides a minimal tidal marsh (approximately 2.5 acres) which is confined by a protective berm to the south of the picnic shelter. This option would not require any additional infrastructure changes, but provides the smallest net ecological benefit. In addition, tidal currents will be lowest because of smallest tidal prism which will present challenges for maintaining an open tidal channel.

B. Alternative 2B (Figure 15) provides a larger tidal marsh (approximately 4.4 acres) and flushing of the marsh on the east side of the road. This option can combine the changes to the road with a protective berm to reduce the potential for flooding of the road. While this option provides a larger net ecological benefit, the tidal currents may still be reduced as compared to Alternative 1 or 2c.

C. Alternative 2C (Figure 16) maximizes the ecological benefits while decreasing the changes to the park infrastructure as compared to Alternative 1. The marsh area for this alternative is approximately 8 acres. The existing perennial marsh is closest to the shoreline in the south of the site and may be able to connect to tidal channel in this configuration. The existing spit is narrowest at this location, indicating sediment accumulation rates are lower, so the channel may stay open for longer periods without maintenance. This configuration would place the channel farthest away from existing infrastructure, thus less impact to existing recreation at the site. There are some potential design constraints with this alternative, including the need for creating a sharp turn in the channel to avoid the roadway while connecting the channel to Puget Sound. Also, southerly facing channels allow for wood and other debris to enter estuary and accumulate as can be seen in reference sites (Figures 4 to 7).

Our analysis showed that of the four alternatives developed, alternative 2C has the highest likelihood of maintaining a tidal channel opening through natural processes, but it would still require a significant amount of construction of new infrastructure to minimize potential flooding. While the report highlights this alternative for the conceptual design, SRSC is recommending WA State Parks consider an in-depth analysis if SLR impacts to the future viability of the Park before proceeding with a restoration alternative that makes public investment where those investments would be at risk and on going maintenance of any action will be required.

Narrative

This project would have benefited from having more initial data collection conducted during the scoping phase. A more prudent investment of limited resources on sediment core data would have gone along ways to inform the study prior to having to secure additional resources. In prioritizing these needed studies we were able to quickly determine any restoration action on the site would require maintenance over time. Which, from the perspective of SRSC, makes the project less desirable when confronted with limited resources. The inability of the channel to sustain itself was primarily a function of 1) the land form itself and its orientation to natural processes, and 2) the project constraints dictated by current land use.

The alternative advanced had some likelihood of maintaining a tidal channel opening through natural processes, but it would still need maintenance at some point in its evolution. While the report highlights this alternative for the conceptual design, SRSC is recommending WA State Parks consider an in-depth analysis if SLR impacts to the future viability of the Park before proceeding with a restoration alternative that makes public investment where those investments would be at risk and on going maintenance of any action will be required. SRSC believes the risk to the public investment is too high, and gains too dependent on future investments to merit construction at this time.

As a result of our early findings we concluded further investment in additional studies and design we not merited without first reporting these limitations to the viability of the project over time. We did advance an alternative that could be constructed with the least cost given site constraints. However, given the limits to its long term viability, SRSC is not comfortable advancing this design further into the design process. We believe the more prudent investment would be in understanding the long-term viability viability of the Park itself given accelerating SLR impacts.

Worksites

Worksite #1: Camano Island State Park

Worksite Address (Optional) Street Address 2269 Lowell Point Rd City Camano Island State, Zip WA 98282

Worksite Details

Worksite #1: Camano Island State Park

Worksite Name Camano Island State Park

WORKSITE DESCRIPTION

The project will take place in the area encompassing a historic pocket estuary at Lowell Point, part of Camano Island State Park. Project activities will include cultural, utilities, topographic, soils, and vegetation surveys that will be used to inform an assessment of the feasibility of implementing activities to reconnect the pocket estuary to tidal inundation and fish access.

Geographic Coordinates

From mapped point:	Latitude	48.124191 Longitude	-122.494255
For Directions:	Latitude	Longitude	

SITE ACCESS DIRECTIONS

From I-5, take exit 212 and travel west on WA-532/Stanwood Bryant Rd for approx 10 miles. This will turn into NE Camano Dr. Follow NE Camano Dr for approx. 6 miles, then turn right (west) onto E Monticello Dr. After 1.9 miles, turn left (south) onto SW Camano Dr. Follow this for 1.3 miles, then turn right onto Lowell Point Rd. After 0.7 miles, the park entrance will be on the right. Follow the signs for the boat launch to reach the project site.

Properties

Worksite #	Worksite Name	Property Name	Sponsor Verified	RCO Verified	RCO Verified Map
1	Camano Island State Park	Camano Island State Park		\checkmark	N/A

Planning Metrics

Current	Agreement	
ounone	Agreement	

Worksite: Camano Island State Park (#1)

Final

Targeted salmonid ESU/DPS (A.23) The salmon ESU (Evolutionarily Significant Unit) or steelhead DPS (Distinct Population Segment)		No Salmon ESU or Steelhead DPS		No Salmon ESU or Steelhead DPS
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).	√	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	1	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
Targeted species (non-ESU species)		None		None
Select one or more of the fish species that this project will benefit.		Unknown		Unknown
		Brook Trout		Brook Trout
		Brown Trout		Brown Trout
	\checkmark	Bull Trout	\checkmark	Bull Trout
		Cutthroat		Cutthroat
		Kokanee		Kokanee
		Rainbow		Rainbow
	\checkmark	Searun Cutthroat	\checkmark	Searun Cutthroat
Area Encompassed (acres) (B.0.b.1) Acres of land area affected by the planning and assessment activities (to the nearest 0.1 acre). For design projects, this is the project footprint. For assessments, this is the area to be assessed.		4.4		4.4
Miles of Stream and/or Shoreline Affected (B.0.b.2) The miles of freshwater stream and/or marine shoreline affected by the planning and assessment activities (to the nearest 0.01 mile). For design projects, the miles in the project footprint. For assessments, the miles to be assessed.		0.10		0.10

Restoration Planning And Coordination Project Projects that develop, maintain or coordinate implementation of Recovery Plans, restoration plans, subbasin plans, and monitoring/sampling plans. This includes support to Watershed Councils, local restoration entities, and tribes; designing and evaluating restoration plans; conducting feasibility studies; developing action plans; and management/enforcement of habitat protection ordinances and regulations.

Conducting habitat restoration scoping and feasibility studies (B.1.b.8)

Conducting habitat restoration scoping, and feasibility studies.

Total cost for Conducting habitat restoration scoping and feasibility studies Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.	\$202,760	Not Collected at Closure
Project Identified in a Plan or Watershed Assessment (B.1.b.8.a) Name of the Recovery Plan that identifies the need or justification for conducting this project not identified in Recovery Plan, name the watershed assessment or other plan which justifies need for the project. Use endnote citation format (Author, date, title, source, source address project was not identified in a plan, enter "none." (500 characters max).	2005 Puget Sound Chinook t. If Recovery Plan, Island County the Chapter.	Puget Sound Chinook Recovery Plan, 01-19-07, Skagit Chapter, pages 175-189.

Priority in Recovery Plan (B.1.b.8.b) (1211) 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'	Deliverables for the project will include a report with analysis of key feasibility criteria, presentation and discussion of preliminary design alternatives, and, should the project be deemed feasible, selection of a preferred alternative, cost estimates, and a suggested roadmap for next steps, including final design, permitting, construction, and monitoring.	Loss of pocket estuary and nearshore habitat connection is identified as a limiting factor in the PSCRP above.
Name and Description of Plan (2299)	Camano Island State Park Tidal	Camano Island State Park Tidal
Name and brief description of the plan that was developed. If no plan was developed, enter	Marsh Reconnection Feasibility	Marsh Reconnection Feasibility
"None".	Study.	Study.

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.		
Total cost for Cultural resources Enter the cost (to the nearest dollar) of this work type, as close as you can reasonably get it.	\$15,000	Not Collected at Closure
Acres surveyed for cultural resources Number of acres surveyed for cultural resources (to nearest 0.01 acre).	4.40	4.40

Overall Metrics

	Current Agreement	Final
Nearshore		
Primary nearshore process Select one primary nearshore process.	Sediment supply and transport	Sediment supply and transport
	Beach erosion and accretion	Beach erosion and accretion
	Detritus recruitment and retention	Detritus recruitment and retention
	Distributary channel migration	Distributary channel migration
	Exchange of aquatic organisms	Exchange of aquatic organisms
	Freshwater input	Freshwater input
	Solar radiation	Solar radiation
	Tidal channel formation and maintenance	 Tidal channel formation and maintenance
	Tidal hydrology	Tidal hydrology
	Wind and waves	Wind and waves
Secondary nearshore process Select one secondary nearshore process. If there is not a secondary process, select none.	Beach erosion and accretion	Beach erosion and accretion
	Detritus recruitment and retention	Detritus recruitment and retention
	Distributary channel migration	Distributary channel migration
	Exchange of aquatic organisms	Exchange of aquatic organisms
	Freshwater input	Freshwater input
	Sediment supply and transport	 Sediment supply and transport
	Solar radiation	Solar radiation
	Tidal channel formation and maintenance	Tidal channel formation and maintenance
	Tidal hydrology	Tidal hydrology
	Wind and waves	Wind and waves
	None	None
Shoreforms	Beaches	✓ Beaches
Select one or more shoreforms.	Deltas	Deltas
	Embayments	 Embayments
	Rocky shores	Rocky shores
Completion Date		
	0/00/0010	00/00/001/
Estimated date the scope of work will be completed.	6/30/2016	06/30/201
Project Goals		
Goals, purpose, and expected benefits (A.17) Short description of the goals and purpose of the project and how it is expected to benefit salmonids or salmonid habitat.	To conduct a feasibility study identifying the preferred restoration alternative for reconnecting tidal marsh habitat benefitting juvenile Chinook salmon.	To conduct a feasibility study identifying the preferred restoration alternative for reconnecting tidal marsh habitat benefitting juvenile Chinook salmon.

Planning Costs

		Final amounts include a pending b Date of Last Released Billing 12/03/		
		Proposed	Final	
Worksite: Camano Island State Park (#1)				
	SPLIT OUT FINAL TOTAL BELOW	\$217,760.00	\$74,794.99	
Planning/Coordination Costs (B.1.a)		\$202,760	\$72,795	
Cultural Resource Costs		\$15,000	\$2,000	
	Difference		\$0	

Billed Summary

Final amounts include a pending billing Date of Last Released Billing 12/03/2018

	Project Ag	greement	Totals To Date		
Category	RCO	Total	Expended	Non Reimbursable	Total Billed
Non-Capital					
Non-Capital Costs			74,794.99		74,794.99
Equipment					
Non-Capital Total	117,760.00	117,760.00	74,794.99		74,794.99
Total	117,760.00	117,760.00	74,794.99		74,794.99

Sponsor Match

		Proposed		Final
Project Funding				
PCSRF Federal Funds (A.10)		\$33,0	50.00	\$31,392.29
State Funds (A.11)		\$84,7	10.00	\$25,664.82
Pending Billing - RCO Share Approved				\$17,737.88
Sponsor Match: Monetary Funding				
Amount of other monetary funding (A.12)		\$2	2,664	\$0
Source of other monetary funding (A.12.a)		Swinomish Indian Tribal Community: \$10,000		RCO ESRP funds as match.
		Cash: \$12,664		
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 Close	ure	0
Describe how the value of the volunteers was determined (A.13.a.3)		Collected at Close	ure	NA
Sponsor Match: Donated Paid Labor				
Value of Donated Paid Labor (A.13.b.1)		\$1	0,000	\$0
Source of Donated Paid Contributions (A.13.b.2)		Washington State Parks		NA
Sponsor Match: Other In-kind Contributions				
Value of Other In-Kind Contributions (A.13.c.1)			\$0	\$0
Source of Other In-Kind Contributions (A.13.c.3)		N/A		NA
Description of other In-Kind contributions (A.13.c.2)		N/A		NA
	Amount Total	\$15	0,424	\$74,795
	Total Billed			\$74,795
	Difference	<u>)</u>		\$0

Attachments

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

PROJEC Project I	T DOCUMEN Documents	ITS AND PHOTOS and Photos				
File Type No atta	Attach Date achments r	Attachment Type natch filter criteria	Title	Person	File Name, Number Associations	Shared

Certify & Submit

Status History					
Report Status	Date	User	Note		
Accepted	09/25/2019	Marc Duboiski	Thank you.		
Submitted	09/25/2019	Steve Hinton			
Returned	09/25/2019	Marc Duboiski	Somehow you were able to submit the final report without completing the narrative tab. Now I can't accept it without that tab filled out. Please complete and resubmit. Also, do you have a construction cost estimate for the preferred alternative (2B)? I did not see it in the Blue Coast report. Thank you!		
Submitted	09/25/2019	Steve Hinton			
Draft	08/07/2019	Marc Duboiski			



PROJECT: 15-1048 PLAN, CAMANO IS STATE PARK TIDAL MARSH FEASIBILITY Sponsor: Skagit River Sys Cooperative Program: Salmon Federal Projects Status: Active Project Start Date: 12/09/2015 Agreement End Date: 06/30/2019

PROPERTY: Camano Island State Park (1: Camano Island State Park)

Property E	Basics
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Acquisition ✓ Planning

Property Location

Property Name Property Address (optional)	Camano Island State Park	Property Description	The property is a 134-acre Washington State Park in Island County (Camano Island State Park). Work will include physical, biological, infrustructure, and cultural surveys intended to gather data for use in evaluating the feasibility of conducting a proje	
State	Zip	Associated Worksite	Camano Island State Park (#1)	
Landowner		Control and Tenure		

Landowner

Landowner Name	Washington State Parks and Recreation (Instrument Type	Public Use Agreement
Address	PO Box 42650	Timing	Proposed
(optional)	Olympia	Term Type	Perpetuity
City	Olympia	# Yrs	
State	WA Zip 98504-2650	Expiration Date	
Landowner Type	State	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

Attachments

PHOTOS (JPG, GIF) Photos (JPG, GIF) PROJECT DOCUMENTS AND PHOTOS Project Documents and Photos File Attach File Name Number

Туре	Date	Attachment Type	Title	Person	Associations	Shared
No attachments match filter criteria						