2013 Project Proposal for Planning Projects (Assessment, Design, and Study) and Combination Planning and Acquisition Projects, Excluding Barrier Inventories

RCO *Manual 18, Salmon Recovery Grants* section and appendix references are available at www.rco.wa.gov/doc_pages/manuals_by_number.shtml.

Submit this proposal as a PRISM attachment titled "Project Proposal."

1. **Problem Statement**

   Provide an overview of fish resources, current habitat conditions, site or reach conditions, gaps in knowledge, and other key salmon recovery problem(s) in the watershed that this project is intended to address.

   Crescent Harbor Creek is a small stream located on Whidbey Island just north of Crescent Harbor, on Naval Air Station Whidbey Island (NASWI). The stream drains into the northwestern edge of the Crescent Harbor Salt Marsh, a 206 acre tidal channel wetland that was the site of a large SRFB- and ESRP-funded restoration project that was completed in 2009. Monitoring of the restoration project has included the lower 1,200 LF of Crescent Harbor Creek, documenting usage of stream channel habitat by juvenile Chinook and coho salmon, as well as by other native fish species.

   The stream channel in this reach has been diked and diverted from its historic alignment into an incised ditch, reducing channel length and increasing flow velocity. The deeply incised ditched channel is much lower in elevation than the historic channel thalweg, and groundwater monitoring wells on the site have indicated that the diked stream is altering the hydrology of adjacent forested and scrub-shrub wetlands. Additionally, the creek is a 303d listed waterway for fecal coliform and dissolved oxygen.

   Lower Crescent Harbor Creek was the subject of a restoration feasibility study conducted by consultants to the Navy for the purpose of mitigating for wetland impacts from a nearby runway expansion (EDAW et al. 2008). Though the use of the site for mitigation purposes is no longer required, the feasibility study represents a detailed basis for developing a final project design. We propose to use SRFB funds to refine the conceptual design proposed by EDAW et al. into a preliminary restoration design that will 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. 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.

A. **State the project goal(s).**

The overall goals for the Lower Crescent Harbor Creek Restoration Project are to:

1. Sustainably restore natural stream and floodplain processes, conditions, functions, and biological responses by restoring a more natural stream corridor to a diked and straightened section of stream.

2. Restore riparian and surrounding 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.

B. **List the project's objectives.**

Project objectives for restoration at the site extend from the project goals and include:

1. Construct 316 LF of new channel to allow connection to an existing culvert at the upstream end of the project site.

2. Regrade 1,160 LF of the historic channel and floodplain alignment in places where it has been filled or the grading has been altered from the original configuration to increase habitat area and water quality, decrease velocity, and improve connectivity to the downstream salt marsh restoration site.

3. Restore native riparian forest and scrub-shrub wetland vegetation to the site to support riparian functions and detrital food chains for juvenile salmonids and marsh birds.

For the design and permitting phase of the project proposed for funding here, we will be using detailed topographic and vegetation survey data to develop and refine a final restoration design and secure permits that will

be used to support restoration work targeted at achieving these goals and objectives.

2. Project Context

A. **Describe the location of the project in the watershed, including the name of the water body(ies), upper and lower extent of the project (if only a portion of the watershed is targeted), and whether the project occurs in the near-shore, estuary, main stem, tributary, off channel, adjacent uplands, or other location.**

The Crescent Harbor Creek project site is situated at the lower end of the Crescent Harbor watershed, one of the largest watersheds on Whidbey Island. The northern end of the site is located at a culvert outfall beneath Crescent Harbor Road and the southern boundary is located at the MHHW elevation (+9.45′ NAVD88) of the salt marsh into which Crescent Harbor Creek drains. The project site is bordered to the east and west by former agricultural fields and pasture land, now laying fallow and owned by the Navy. No large water bodies exist in the watershed, though several agricultural ponds are located upstream of the project site (Mickelson 2009).

List the fish resources present at the site and targeted by this project.

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	ESA Coverage (Y/N)	Life History Target (egg, juvenile, adult)
Chinook	Juvenile	Decline	Y	Juvenile
Coho	Juvenile, poss. Egg and Adult	Decline	N	Egg, Juvenile, Adult
Cutthroat Trout	Poss. Egg, Juvenile, Adult	Decline	N	Egg, Juvenile, Adult
Other Native Salmonids	Juvenile	Decline/Stable	N	Juvenile

B. **Discuss how this project fits within your regional recovery plan and local lead entity's strategy to restore or protect salmonid habitat in the watershed**

This project will support Goals 1 (achieve a net increase in salmon hbitat) and 4 (cultivate a supportive environment for salmon recovery through cross-sector and other partnerships) of the WRIA 6 (Island County)

Salmon Recovery Vision and Goals. Crescent Harbor Creek is located within Geographic Area 2 of WRIA 6, a medium priority protection area. The lower portion of Crescent Creek is a key component of the Crescent Harbor Pocket Estuary, providing important freshwater inputs and rearing habitat for juvenile Chinook and coho salmon and potential spawning habitat for coho salmon and coastal cutthroat trout. These species and habitats are considered high priorities for protection and restoration in WRIA 6.

C. **Explain why it is important to do this project now instead of at a later date.**

SRSC has developed and maintained a solid working relationship with NASWI personnel through the construction and monitoring of the SRFB-funded Crescent Harbor Salt Marsh Restoration project. Currently, NASWI leadership is suportive of the Crescent Harbor Creek Restoration Project (see attached letter from the NASWI Commanding Officer). However, leadership on the base changes on a regular basis, so future support, though likely, is not guaranteed. It is therefore important to capitalize on current support for the project to build momentum towards completing restoration at the site. Additionally, pocket estuary restoration sites with a single supportive landowner are relatively rare within Island County and have a higher probability of successful completion.

D. If any part or phase of this project has previously been reviewed or funded by the SRFB, please fill in the table below.

This project was not previously reviewed or funded by the SRFB, though the connected Crescent Harbor Salt Marsh restoration project was completed using SRFB funds, and is included in the table below. Additionally, habitat monitoring of habitat and fish has also included lower Crescent Harbor Creek and has documented use of creek habitat by juvenile Chinook and coho salmon.

Project # or Name	Status	Status of prior phase deliverables and relationship to current proposal?
Crescent Harbor Salt Marsh Restoration (06-NP-04-001)	☐ **Completed**	All deliverables have been completed. This project is directly connected to lower Crescent Harbor Creek and would benefit from restoration of the creek.
Crescent Harbor Salt Marsh- Follow-up Monitoring (06-RMM-02-001)	☐ **In Process**	Habitat and fish use monitoring is currently in process. Monitoring has documented the use of lower Crescent Harbor Creek by juvenile Chinook and coho salmon.

3. Project Description

A. **Provide a detailed description of the proposed project and how it will address the problem described above**.

Our proposal includes the following data collection, design, and permitting components:

1. *Site Survey*- data collection to assist with completion of preliminary project design

    a. *Topography* - a detailed topographic survey will be conducted by SRSC staff using a total station and/or RTK-GPS units. All elevations will be referenced to the NAVD-88 datum. The survey will capture details of overall site topography, including culvert outfalls as well as channel and dike dimensions around the existing and proposal channel alignments.

    b. *Vegetation*- a survey of existing vegetation and wetland composition will be used to to characterize current vegetation conditions in order to assist with determining areas where invasive species control or planting will be required, and to help to refine channel alignment to minimize impact to intact native vegetation communities.

    c. *Geotechnical*- a qualified geotechnical consultant will be used to conduct a geotechnical survey to determine sub-surface soil conditions throughout the project site.

d. *Utility*- though there is no evidence of utilities located within the project site, a utility survey will be used to confirm this.

e. *Cultural Resources*- Prior to design work and permit preparation, a culutural resources survey will be conducted by a qualified archaeologist to determine whether artifacts are present within the project boundaries. If so, the project design may be altered to avoid disturbances to the artifacts, and bid specifications will include any required discovery protocols and construction protocols determined to be necessary by the archaeologist.

2. *Develop Construction Plans, Cost Estimates, and Specifications*

   a. *Grading*- Grading plans and specifications will include grading associated with preparing the historic channel for re-occupation, construction of a new connection to the existing Crescent Harbor Road culvert, filling of the existing channel, removal of the existing dike, and grading of other onsite fill areas. The final design will attempt to balance cut and fill volumes to minimize the need import or export fill.

   b. *Dewatering and Flow Bypass*- a sequenced construction plan for transferring flows from the current to the restored channel alignment will be developed. The plan will take into account site constraints, permit requirements, and will seek to minimize impacts to fish, plants, and wildlife to the greatest extent possible.

   c. *Scour Protection at the Existing Culvert*- the existing culvert outfall has inadequate protection from scour during high flow events. The restoration design will include scour protection elements to remedy this.

   d. *Planting and Maintenance*- Vegetaton survey data will be used along with construction plans to inform a planting design for the site that serves to control erosion along waterways as well as encourage the success of native vegetation communities on the site.

3. *Permitting*- Staff from NASWI's Environmental Affairs program will handle permitting for the project once a design has been completed.

a. *JARPA*- A Joint Aquatic Resources Permit Application (JARPA) will be prepared and submitted in order to obtain Section 404 and 401 permits, shorelines and critical areas permits, and cultural resources permits.

b. *NEPA*- Compliance would likely take the form of a short Environmental Assessment (EA), including Land Use, Water Quality and Hydrology, Vegetation and Wetlands, Fish and Wildlife, Endangered and Sensitive Species, Recreation, Environmental Justice, Cultural Resources, and Cumulative Impacts.

B. **Clearly list and describe all products that will be produced (i.e., project deliverables).**

Project deliverables will include:

1. Design Report
2. Construction Plans and Sequencing, including volume and cost estimates as well as a planting and erosion control plan.
3. Construction Permits

C. **If the project will occur in phases or is part of a larger recovery strategy, describe the goal of the overall strategy, explain individual sequencing steps and which steps are included in this application.**

The proposed project will occur in a single phase, with data collection, design, and permitting components. As noted in Section 3-2 (above), the project will begin with detailed topographic, geotechnical, wetland, cultural, and habitat surveys, which will be used to support the development of a Preliminary project design per SRFB guidance, along with permit documents. Once a design has been developed, permits will be secured to allow construction of the project.

D. If your proposal includes an assessment or inventory (NOTE: project may extend across a wide area and cover multiple properties):

No assessment or inventory work is proposed.

E. If your proposal includes developing a design:

i. **Will the project design be developed by a licensed professional engineer?**

Our project will be designed by a professional engineer with support from SRSC staff, who have a great deal of experience with topographic, vegetation, and habitat surveys, with CAD drafting, construction sequencing, and preparation of bid documents for a wide range of stream and lagoon habitat restoration projects. Consultation with engineers will be requested for specific project components. This will include review by NASWI staff, who have extensive experience with project permitting, and previously were responsible for securing permits, reviewing plans and preparing an EA for the Crescent Harbor Salt Marsh Restoration Project.

ii. For final design projects, if you do not intend to apply for permits as part of this project's scope of work, please explain why and when permit applications will be submitted.

We intend to apply for construction permits as part of this project's scope of work.

iii. **Has Washington Department of Natural Resources confirmed that your project is or is not on state-owned aquatic lands?**

This project will not occur on state-owned aquatic lands.

iv. **For design projects intending to provide no match, verify you meet ALL of the following eligibility criteria.** [Answer: n/a, Yes, or No]

Match will be provided for this project.

F. If your proposal includes a fish passage or screening design:

This project does not include a fish passage or screening design.

G. Describe other approaches and design alternatives that were considered to achieve the project's objectives and why the proposed alternative was selected.

Alternatives that involved reshaping the streambed along its existing alignment were rejected because achieving a proper stream gradient is problematic within the deeply incised existing channel corridor. Additionally, achieving a stream channel length equivalent to the historical channel alignment would involve a great deal of excavation that would need to be transported offsite.

H. Describe your experience managing this type of project.

SRSC has expertise managing a number of stream channel restoration projects, including a very similar project at Lone Tree Creek/Lagoon in Skagit County, alluvial fan restoration projects at Johnson Creek and Sandy Creek in Skagit County, and has ongoing floodplain/channel realignment projects taking place at Illabot Creek, Red Creek, and Barnaby Slough, also in Skagit County. SRSC was also responsible for data collection and design, along with engineering staff from the Whidbey Conservation District, for the Crescent Harbor Salt Marsh Restoration Project.

I. Explain how the project's cost estimates were determined.

Cost estimates were prepared based on experience managing similar projects.

J. **List Project Partners and their role and contribution to the project.**

The United States Navy is partnering with SRSC for permit preparation and design review.

K. **List all landowner names**.

The United States Navy is the sole owner of the property proposed for restoration.

L. Contingency Planning: State any constraints, uncertainties, possible problems, delays, or additional expenses that may hinder completion of the project. Explain how you will address these issues as they arise and their likely impact on the project.

Possible problems or delays may center around unforeseen discovery of cultural resources, utilities, etc, although the previously completed feasibility study indicates that this is unlikely. Our response to the problems will depend upon the nature of the problem, but we strive for a data-centered adaptive management approach so that decisions by project managers, landowners, and partners can be supported by information.

M. List and describe the major tasks and schedule you will use to complete the project. (Planning projects should typically be completed within two years of funding approval).

1. *Spring/Summer 2014*- Data Collection

    a. *Topographic Survey:* Total station surveys will be conducted as early in the spring as weather permits to allow a greater

chance of leaf-off conditions so that important landscape features can be more easily identified and surveyd.

b. *Vegetation Survey:* Surveys to map vegetation community composition will occur during the summer, after leaves have filled in.

c. *Utility and Cultural Resources Surveys*: Surveys to determine whether utilities or cultural artifacts are present will be conducted by qualified contractors during spring/summer, as scheduling permits.

2. *Summer/Fall 2014- Initial Design:* Survey data will be processed and used to produce an initial set of project design alternatives for review by SRSC and NASWI staff. Revisions to the design may be made based upon concerns and issues that arise during the review process.

3. *Winter 2014- Preliminary Design Report:* Once a preferred design has been determined, a Preliminary Design Report detailing the preferred alternative will be prepared. Construction plans and specifications will be included as well as rationale for the selection of the preffered alternative will be prepared with support from consulting engineers.

4. *Winter 2014/Spring/Summer 2015- Permitting:* NASWI staff, with support from SRSC, will prepare and submit all necessary permit applications, including a JARPA and an EA for submittal as part of the NEPA process.