

County: Skagit

Grant No: SEANWS-2015-SkCoPW-00001

PROJECT TITLE: Northwest Straits Project: Skagit MRC Operations and Projects

TASK NUMBER: 6.2

DELIVERABLE: Nearshore Monitoring Final Report

PERIOD COVERED: Oct 1, 2015 – September 30, 2016

DATE SUBMITTED: September 30, 2016



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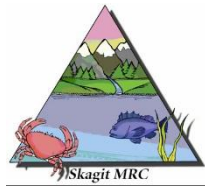
Nearshore Restoration Monitoring



Prepared for Skagit County Marine Resources Committee

Prepared by Northwest Straits Marine Conservation Foundation

Skagit County Contract #C20160049



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Northwest Straits Foundation
Nearshore Monitoring
Final Report for Skagit County Contract Number C20160049
September 21, 2016

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Project Background, Scope, and Objectives

The Northwest Straits Foundation (NWSF) and Skagit County Marine Resources Committee (MRC) proposed to continue biological and physical monitoring at nearshore restoration sites in Skagit County including Bowman Bay and Shannon Point.

Data collected will be consistent with and promote the goals of the Northwest Straits Initiative's Science benchmark and will also provide information towards the Marine Life protection and restoration and Education and Outreach benchmarks. The Science benchmark calls for developing protocols, identifying and filling in data gaps, and consistent collection and coordination of data. A trained group of volunteers will collect data at all sites, thereby ensuring consistency of collection methods from site to site. Quality assurance and control will be conducted periodically to ensure protocols are being followed.

Specific objectives of the monitoring program are: 1) to train and engage a dedicated group of volunteers in habitat monitoring data collection; 2) to assess the changes in conditions from pre-project to post restoration by collecting and analyzing monitoring data; and 3) to make recommendations for future projects or management actions as applicable based on monitoring results.

Summary

Monitoring of restoration sites at Bowman Bay and Shannon Point has been a successful and collaborative effort of training and engaging citizens in collection and management of data for use in evaluating the physical and biological responses of the Skagit MRC's nearshore restoration projects. Regional interests in the evaluation of shoreline armoring removal projects have formed strong partnerships for this monitoring project and include the NWSF, Northwest Straits Commission, Skagit MRC, Island County MRC, Washington Department of Fish and Wildlife (WDFW), University of Washington (UW), Padilla Bay Coastal Volunteer Partnership, RE Sources for Sustainable

Connections, and Samish Indian Nation Department of Natural Resources. We have worked closely with project partners to develop protocols, monitoring plans, a Quality Assurance Project Plan, and implementation of monitoring activities.

Citizen volunteers have played a large role in successful implementation of monitoring plans, establishing baseline data and collecting year one post-construction data at Bowman Bay. Forty-one volunteers have contributed 500 hours to conducting monitoring activities, coordination, construction and maintenance of field equipment, and data entry. In addition to hours spent completing the previously mentioned activities, citizen volunteers have completed several trainings in monitoring protocols including beach seining and intertidal surveys. A list of volunteers is provided in Appendix A.

The Bowman Bay Restoration Project was completed in fall 2015, with year one post-construction monitoring commencing in December 2016. Pre-restoration monitoring continued at Shannon Point through June 2016. It was determined at that point that the restoration project would be cancelled due to property permissions as the City of Anacortes wishes to build a trail over the existing bulkhead. Monitoring activities at Shannon Point have ceased at this time.

Data collected during the contract period is currently being compiled and analyzed and will be provided in a follow up report by December 31, 2016. WDFW and UW will provide support in the processing and analyzing of monitoring data.

Tasks and Deliverables

Task 6.1: Provide training, coordination, and oversight for citizen scientists to collect baseline and post-construction data.

Training:

Classroom and field training sessions were completed for beach seine and intertidal surveys. The beach seine training was organized and conducted in partnership with the Island County Marine Resources Committee. Thirty-six volunteers attended the training which included a classroom session on protocols and species identification, and a field session during which the class was split up into smaller groups to conduct practice beach seine surveys.

The intertidal survey training was coordinated and led by ReSources, with support for the field session from the NWSF. The classroom session focused on protocols and species identification, and the field session included demonstrations and mock surveys performed by smaller groups.

Coordination and oversight:

NWSF coordinated and led beach seine and intertidal surveys, and coordinated and provided oversight of large woody debris, beach wrack, insect fallout, and beach profile surveys with project partners WDFW and UW. The Skagit MRC has continued to lead forage fish surveys under the guidance of the NWSF. The MRC schedules and completes surveys, with the NWSF coordinating training opportunities and handling data management tasks.

Task 6.2: Collect, maintain, and analyze monitoring data

All monitoring data has been collected, however the bulk of it is currently in the data entry, quality control, and analysis stage. WDFW and UW recently completed their field season and are in the process of compiling their 2016 field data. NWSF is awaiting receipt of last quarter's forage fish data for processing, and beach seining data is currently under quality control review. All intertidal survey data has been processed and is attached to this report.

The NWSF is currently funded to continue monitoring efforts through December 2016 and will continue processing data during that time. All data and an additional summary report will be provided by December 31, 2016.

Task 3.3: Communication

Jason Morgan and Skagit MRC project lead Jamey Selleck have communicated throughout the contract period to discuss monitoring program needs and logistics, and to provide project updates during the monthly MRC meetings. Jamey Selleck is assisting NWSF staff with preliminary data analysis and will present a summary of the monitoring project at the September Puget Sound Ecosystem Monitoring Program Nearshore Workgroup meeting. MRC coordinator Tracy Alker has been informed of all monitoring activities and MRC representatives are actively involved in monitoring efforts and have been present for all training and monitoring activities. NWSF project lead Jason Morgan will provide a summary presentation at the October MRC meeting.

Appendix A: Volunteers

Chris Brown
Kurt Buchanan
Catherine Carter
Bill Clark
Don Coleman
Karl Feil
Susan George
Jim Gleeson
Val Gleeson
Anna Hallingstad
Laura Hannah
Pete Hasse
Peter Heffelfinger
Jan Hersey
Shirley Hoh
Yvonne Houppermans
Wayne Huseby
Pattie Hutchins
Chris Jacobsen
Michael Kyte
Hal Lee
Hella Lee
Bob Lemmon
Diane Melvin
Jack Middleton
Casey Palmer-McGee
Debra Paros
Lynne Pendleton
Scott Peterson
Tom Richards
Elizabeth Richards
Maddie Rose
Ben Saan
Cori Schleich
Jim Somers
Gordon Sjogren
Dennis Tucker
Charlette Turma
Toshi Watanabee
Bob Weathers
Sarah Wheatley

Appendix B: Photos



Catherine Carter and Don Coleman surveying an intertidal quadrat at Shannon Point



Volunteers conducting intertidal survey at Shannon Point



September Bowman Bay seining crew



Volunteers process the catch during a seining survey at Bowman Bay



Chinook salmon captured at Bowman Bay



Tadpole sculpin captured at Bowman Bay



Chris Brown, Hal Lee, Jim Somers, Don Coleman, Tom Richards, and Anna Halingstad haul in a net at Bowman Bay



WDFW and UW crews conduct large woody debris, beach wrack, and beach profile surveys on the left while volunteers conduct intertidal surveys on the right