Exxon Valdez Oil Spill
NOAA Harbor Protection Program Final Report

NOAA Harbor Protection Program/Project Management

Exxon Valdez Oil Spill Trustee Council Project 16120112
Final Report

Laurel Jennings
Erika Ammann
David Landsman

NOAA Restoration Center
7600 Sand Point Way NE
Building 1
DARC
Seattle, WA 98115

August 2018

Exxon Valdez Oil Spill
NOAA Harbor Protection Program Final Report

NOAA Harbor Protection Program/Project Management

Exxon Valdez Oil Spill Trustee Council Project 16120112
Final Report

Laurel Jennings
Erika Ammann
David Landsman

NOAA Restoration Center
7600 Sand Point Way NE
Building 1
DARC
Seattle, WA 98115

August 2018

NOAA Harbor Protection Program/Project Management

Exxon Valdez Oil Spill Trustee Council Project 16120112

Final Report

Study History: In 2011, the National Oceanic Atmospheric Administration Restoration Center was selected to work with local communities affected by the *Exxon Valdez* oil spill to develop restoration projects that were supported by the communities and would improve water quality and benefit habitats and species affected by the spill. After working with these communities, proposals were submitted to the *Exxon Valdez* Oil Spill Trustee Council for review and ranking. Following this process, two projects were selected; one by the Native Village of Eyak and one by the Copper River Watershed Project. Both projects were located in Cordova, Alaska. The National Oceanic Atmospheric Administration Restoration Center occupied the project management role for these projects.

Abstract: The National Oceanic and Atmospheric Administration Restoration Center served as the Project Manager in the implementation of two projects in Cordova, Alaska. The projects under this management were Mitigating Storm Water Run-off in Cordova through Snow Management Analysis, by The Copper River Watershed Partnership—project 15120112-C, and Cordova Harbor Water Quality Improvement Project, by The Native Village of Eyak—project 18120112-A.

Key Words: best management practices, Cordova, harbor, storm water runoff, water quality

Project Data: The data under this project will come under the individual projects: Mitigating Storm Water Run-off in Cordova through Snow Management Analysis, by The Copper River Watershed Partnership—Project 15120112-C, and Cordova Harbor Water Quality Improvement Project, by The Native Village of Eyak—Project 18120112-A.

Citation

Jennings, L., E. Ammann and D. Landsman. 2018. NOAA Harbor Protection Program/Project Management, NOAA Harbor Protection Program Final Report (*Exxon Valdez* Oil Spill Trustee Council Project 16120112), *Exxon Valdez* Oil Spill Trustee Council, Anchorage, Alaska.

Table of Contents

NOAA Harbor Protection Program/Project Management

Exxon Valdez Oil Spill Trustee Council Project 16120112

Final Report

Executive Summary

The National Oceanic and Atmospheric Administration (NOAA) Restoration Center (RC) responded to a 2012 *Exxon Valdez* Oil Spill Trustee Council (EVOSTC) Invitation to implement harbor projects and marine restoration projects in spill affected areas of Alaska. The Restoration Center was awarded initial funds which were used to scope for potential projects while working with community members to raise awareness of this source of funding. Staff traveled to communities in Kodiak, Cordova, Whittier and Valdez and held public meetings. From those important initial conversations, the RC staff were able to first identify the community's needs with respect to harbor clean-up efforts and then to help them build a project. Later that year, the RC moved into an implementation phase by opening a request for proposals, receiving applications, reviewing (collaborating with Alaska Department of Environmental Conservation, Cook Inlet Keeper and U.S. Army Corps of Engineers) and scoring them, and finally making a selection to award project funds to two excellent projects both located in Cordova, AK that would improve water quality and benefit habitats and species affected by the spill. EVOSTC awarded funding for the Copper River Watershed Project and the Native Village of Eyak Project. Both of these projects focused on improvements to water quality, as improved water quality benefits spill-injured resources and habitats**.** Community engagement and support is vital to project success and longevity, and EVOSTC realized that having a strong project manager would benefit this restoration work.

Introduction

The principal objective of the 2012 *Exxon Valdez* Invitation for Proposals: Harbor Protection and Marine Restoration component, was to provide financial and technical assistance to marine habitat restoration, protection, and planning projects that benefit Alaskan estuarine habitats and resources that were impacted by the 1989 *Exxon Valdez* oil spill. The EVOSTC was formed to oversee restoration of the injured resources through the use of the $900 million civil settlement awarded as a result of the *Exxon Valdez* oil spill. The Trustee Council consists of three state and three federal trustees (or their designees), currently served by The State of Alaska: Departments of Fish and Game, Law, and Environmental Conservation and the United States: National Oceanic and Atmospheric Administration, Departments of Agriculture and Interior. The Trustee Council is advised by members of the public and by members of the scientific community. Damage to natural resources occurs not only with an initial oil spill, but also potentially through additional injury to the affected environment. Pollution from human uses in and around the spill area can further compromise the recovery of the natural resources initially injured by the spill. The EVOSTC sought to further reduce pollution in the marine environment to contribute to the recovery of injured natural resources.

Since 2012 the National Oceanic and Atmospheric Administration Restoration Center (NOAA RC) has built awareness within Prince William Sound (PWS) communities of the funding

opportunity presented by the *Exxon Valdez* Oil Spill Trustee Council (EVOSTC). The NOAA RC played an active role in (1) identifying community partners, (2) selecting community projects, (3) project formulation and (4) providing project oversight as detailed in the methods.

Objectives

Project management objectives include: ensure that communities were able to voice their concerns regarding harbor water quality, turn those concerns into restoration projects in their communities, and lessen the administrative burden for these community groups as they implement their projects.

Methods

Public meetings were held in Kodiak, Cordova, Valdez and Whittier in spring 2012 to identify community concerns and to help build project ideas. In this phase of the project, an open request for funding proposal to conduct storm water and wastewater treatment, oil abatement and clean harbor work was released to the communities, October – December 2012. Involvement in the working groups was not a requirement for submission to the RFP but these groups had an advantage of having already worked through some of the major needs for their particular harbors as well as cost assessments for the work needing to be accomplished. Once proposals were finalized and submitted, NOAA and partners performed an initial ranking and reserved the final decisions to be made by EVOS TC members.

Identify community partners: We pro-actively sought out members of PWS communities and engaged existing partners to help identify priorities for restoration in the affected area. The focus of this engagement was to collaborate with the PWS restoration communities to brainstorm, via public meetings, potential projects in the affected area that fit the identified priorities of addressing water quality and marine habitat impacts, and to identify viable partners to implement the projects.

Selected community projects: After identifying community partners, we helped form working groups to identify specific pollution issues, causes, best treatments and restoration needs for their location. In cases where there was a potential applicant with a stand-alone idea for a proposal, we provided individual technical assistance to that applicant to improve their proposal. These events took place from February to April 2012. At the same time, an assessment of current equipment, equipment usage and location, and harbor hazardous waste disposal facilities was conducted for each community (completed by the working groups, with assistance from NOAA RC). Following this assessment, a working group meeting was conducted in each community where ideas for improved storm water and wastewater treatment, oil abatement, and clean harbor projects were compiled. This information was brought together by NOAA RC and sent to the contributors in the community for review along with identified areas where their goals aligned with EVOSTC restoration needs. Following a review and comment period, the community specific restoration proposals were finalized with cost estimates formulated by the working groups in August and September 2012.

Project Formulation: In this phase of the project, we released an open request for funding proposal for PWS coastal communities to conduct storm water and wastewater treatment, oil abatement and clean harbor work. The announcement was published on September 24, 2012, and

closed on November 16, 2012. Once proposals were finalized and submitted, NOAA RC and partners did an initial review and ranking and provided them to the EVOSTC for final funding recommendations. The work plans submitted with each proposal detailed different community group plans for harbor improvement and described the need for restoration equipment, training, or other resources, as well as a timeline and budget requested to complete the proposed work. The periods of performance for these activities ranged from 2 to 3 years depending on the project. The EVOSTC reviewed, commented on and approved each work plan. The EVOSTC made their final funding recommendations in the fall of 2013 and two projects were selected for year one funding.

Project Oversight: In the spring of 2014, the NOAA RC successfully negotiated and executed cooperative agreements with Native Village of Eyak (NVE) and Copper River Watershed Project (CRWP) to implement these projects and our oversight is on going. NOAA RC staff visited the projects sites in June 2014 to oversee the work done to date and to work with the community organizations to address any questions or concerns that the award recipients had about the projects. NOAA RC staff verified the status of sub grantees' work goals and new objectives with those that were originally proposed, and where necessary, modified the project work plans accordingly and coordinated these changes with the EVOSTC. Some examples of this include: a change in the snow management project reporting due to a low snow year in 2013 for the Copper River Watershed Project (15120112-C) and modifications to the mussel watch sample collection date for Native Village of Eyak project (18120112-A).

Results

For project specific results, please see the final report submitted by Kristin Carpenter in February 2016. Key results include:

Snowmelt Sampling Plan (DOWL, 2014). A snowmelt sampling plan was designed to characterize snowmelt runoff water quality from snow storage sites in Cordova in order to guide decisions regarding modifying snow management practices to improve the quality of urban runoff reaching receiving waterbodies. The plan was designed to acquire snowmelt water quality data and site-specific features of snow storage sites under baseline conditions, and then sample snow meltwater runoff again after site modifications had been implemented at snow storage sites. The plan identified sampling parameters, and included a sampling schedule, data sheets, and sample collection and field analysis methods.

Cordova Snow Management Practices Analysis Report (DOWL, 2015). The engineers analyzed the City of Cordova's and the Alaska Department of Transportation & Public Facilities' snow management practices within the City of Cordova and made recommendations for each partner (City of Cordova, ADOT/PF, CRWP) based on each partner's "realm of influence." Recommendations were evaluated for their potential to improve water quality and/or operational efficiency (effectiveness) against the level of effort/investment required to implement (cost). For the CRWP, the engineers suggested two criteria for working with the City to identify sites at which to improve snow storage site sediment capture: (1.) close proximity to receiving waters or storm drain inlets; and (2.) regularly receive a large volume of snow. Both the City and ADOT/PF should keep records on equipment and use of traction aids, and should meet annually to review their respective experiences. The CRWP and the City could work on introducing site development requirements for new construction that would minimize snow meltwater run-off.

Ivy Patton submitted a final report in spring 2018, noteworthy results include:

NVE provided the City of Cordova and Harbormaster's Office with lead-acid battery and antifreeze disposal units. They built capacity where there had been none before on the proper disposal of these hazardous wastes. Since 2015, NVE has maintained these disposal sites and educated harbor users on how to properly dispose of lead acid batteries and used antifreeze, including where, when, and how to ship out of our community and at what costs. NVE is currently in the process of having a signed MOU with the City of Cordova on anti-freeze collection and backhaul that we anticipate being in effect summer 2018. In addition, the Harbormaster's Office has noted that there is a significant decrease of anti-freeze in the used oil receptacle.

NVE saw a reduction in trash on the floats and in the harbor waters as the project continued. Many fishermen have taken to using a tarp to collect their net trimmings while working on the floats. NVE has provided harbor users with bilge pillows for their vessel engines with information on how to properly dispose at the used oil receptacle. The Harbormaster's office has noted a slight increase in their bilge pumping services.

Results from mussel sampling indicate the most likely sources seen in the harbor were unburned fuel in water (the petrogenic signal). And burned fuel and creosote pilings (the pyrogenic signal). A substantial proportion of higher molecular weight (HMW) PAHs were present in 2014 (20 to 33%), therefore at least some of the contamination was likely particulate because these molecules are highly insoluble.

It was also determined that the effects of the Cordova Harbor program were not of a level and duration that could be detected through mussel sampling due to the time in which mussels hold toxins as well as the need for a much larger sample size..

Discussion

On-site restoration can restore species or habitats that are injured in an oil spill. In areas of Alaska, restoration that is above and beyond the response activity following a spill is not always immediately available due to low development pressures. Water quality is often overlooked as a restoration activity but could be a powerful tool for restoration in Alaska. Water quality efforts in the freshwater and nearshore environment can be degraded by actions within the entire watershed. Often contaminants or sediment discharge can harm marine species during one of the most environmentally fragile times in their life history; early life history or even the gamete stage. Improvements to water quality and avoidance of flashy systems due to impervious surfaces, or areas that do not allow for water to filter through soils, can help to protect these early life stages of marine species themselves and as forage fish for other species. The work in these projects served to inform the communities of the importance of water quality efforts and even resulted in further funding of projects from other funding sources.

Conclusions

The successful management of these projects identified that water quality projects can be used to improve water quality and educate communities about water quality issues in their communities.

The projects illustrated that there is a need for water quality work that is outside of the bounds that the Alaska Department of Environmental Conservation requires of communities and offers a restoration alternative for meaningful work that can address community concerns over clean water for marine species and habitats. The successful application of project management provides evidence that communities greatly benefited from our assistance in turning their concerns into viable projects and to meet reporting and budget reporting requirements of EVOSTC.

Acknowledgements

We would like to thank the *Exxon Valdez* Oil Spill Trustee Council for funding this work and advancing restoration efforts in Cordova, AK. We also want to thank our excellent project leads, Kristen Carpenter of the Copper River Watershed Project and Ivy Patton of the Native Village of Eyak for all the work and dedication over several collaborative years. The views expressed here are our own and do not necessarily represent those of the *Exxon Valdez* Oil Spill Trustee Council.