Optimizing Hydraulic Cleaning Techniques for Oiled Coarse Sediment Beaches

Meso-scale Field Trials
Final Report

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Cover: Lizzie Cove on Hunter Island, BC; site of cobble donor beach used in project. Cover Art by Stacey Poulson, Photo by G. Erickson, Canadian Hydrographic Service Nautical Chart No. 3785 (Namu Harbour to Dryad Point).

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MESO-SCALE FIELD TRIALS FINAL REPORT

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EXECUTIVE SUMMARY

Introduction

Hydraulic cleaning, or water washing, is a common type of cleanup method for bedrock, man-made shoreline structures and coarse sediment (cobble/boulder) shorelines contaminated by oil. Methods consist of variable combinations of a wide range of water pressures, temperatures, and application times, which move oil from the shore zone to a location for collection, removal and disposal. Although hydraulic cleaning has often been the technique of choice, there is a lack of certain knowledge needed to help decide when this technique is most appropriate and how to improve its effective usage. Although it has been the opinion of many scientists that certain shoreline cleanup techniques can result in increased adverse impacts, sometimes greater than the oil spill itself, there has been insufficient research or monitoring data available to assess these cleanup options. One information deficiency is the identification of temperature, pressure and duration conditions where hydraulic cleaning causes undesirable direct biological effects to intertidal biota, and where such cleaning affects the rate of the biological recovery. The focus of this project is to provide information on these conditions.