

## COASTAL HABITAT STUDY 1B

Study Title: Pre-spill and Post-spill Concentrations of  
Hydrocarbons in Sediments and Mussels at Intertidal  
Sites within Prince William Sound and the Gulf of  
Alaska

Lead Agency: NOAA

### PROJECT JUSTIFICATION

On March 26, 1989, sampling began at 10 historically established intertidal hydrocarbon baseline sites in Prince William Sound in response to the Exxon Valdez oil spill. Ten additional sites were established in Prince William Sound and on the Kenai Peninsula along the spill trajectory before oiling. These sites were also sampled after oiling to measure the change in hydrocarbon levels in sediments and mussels resulting from the spill.

This project has documented that levels of hydrocarbons in sediments and mussels in intertidal areas in Prince William Sound in 1989 before the Exxon Valdez oil spill were similar to concentrations measured by an earlier NOAA/NMFS project (1977-1980) which established a hydrocarbon baseline for sediments and mussels for the same general geographical area.

Subsequent sampling in 1989 and 1990 indicates some sites were impacted by crude oil. Preliminary sediment analyses at 3 sites showed impact by Exxon Valdez oil with different patterns of changes in petroleum hydrocarbon (PHC) concentrations over time. Mussels from one site had extremely high concentrations of PHCs in 1990 samples while mussels from 4 other sites showed intermediate PHC levels in 1989. There were no detectable aromatic hydrocarbons in mussel samples from 1977-1980. The limited data (from only 25 samples of >300 samples) currently available from 1989-91 samples precludes reliable interpretation at this time.

The goal of the project is to analyze and interpret hydrocarbon data from all samples and produce a final report. The final report for this study will provide data against which recovery and 'return to baseline levels' can be documented. Hydrocarbon data generated and analyzed to date is incomplete (i.e, there are no data from sites in the Kenai Peninsula available yet). This study furnishes essential background data and is linked directly to other NRDA projects on specific species and to some restoration/recovery Studies; provides topographical continuity to sediment data generated by Subtidal Studies 1 and 3; and complements the large Coastal Habitat Study 1A. This project will produce data that, along with other studies, provides a spatial

and temporal distribution pattern of the impact of Exxon Valdez crude oil.

	BUDGET (\$K)
Salaries	\$ 42.6
Travel	1.0
Contracts	0.0
Supplies	1.4
Equipment	0.0
Subtotal	<u>\$ 45.0</u>
General Administration	6.4
Total	<u>\$ 51.4</u>