

## BIRD STUDY NUMBER 12

Study Title: Assessment of Injury to Shorebirds Staging and Nesting in Prince William Sound and the Kenai Peninsula

Lead Agency: USFWS

### PROJECT JUSTIFICATION

This study was divided into two parts. The first part was to estimate the number of spring migrant shorebirds using oil-affected portions of the Prince William Sound. Objectives included: estimate the amount of time shorebirds are exposed and number of shorebirds of each species exposed to contaminated beaches; estimate proportion of migrants contaminated; test for differences in feeding behavior; collect tissue samples for analysis and identify contamination pathways in the food chain; and determine nesting success of black turnstones.

Part two of the study dealt with black oystercatchers. The objectives of this research were to: 1) determine the effects of oiling on the reproductive success of oystercatchers; 2) determine habitat requirements of breeding oystercatchers; and 3) explore how the feeding strategy of oystercatchers may affect populations of invertebrate prey species.

Preliminary results for the shorebird portion of the study revealed that virtually all of the shorebirds were found using sites along Montague Island with heavy herring spawn deposition; these areas were lightly or negligibly oiled. More heavily oiled portions of the Prince William Sound probably did not receive a great deal of use by shorebirds. The proportion of birds directly contaminated by oil on plumage is undetermined but probably small.

Clutch sizes of black turnstones on their western Alaska breeding grounds were reduced relative to pre-spill years, but no direct link could be drawn to the oil spill. Samples of prey items and birds have not yet been analyzed to evaluate the degree of contamination via the food chain.

Preliminary analysis revealed that black oystercatchers experienced reduced productivity in Prince William Sound following the oil spill. The relative egg volume of clutches was lower in 1989. Although clutch size, hatching success or fledgling success did not differ, growth rate of chicks was significantly lower in 1991. Additionally, intertidal prey organisms of the oystercatcher experienced diminished productivity and direct mortality.

Preliminary reports of results have been prepared for these studies but comprehensive data synthesis and analysis have not been completed and, in some cases, has not been initiated. Data analysis and the preparation of a final report will be essential for understanding the injuries the spill caused to shorebirds and black oystercatchers. If this information is not clearly and completely available to those responsible for restoration, it will not be possible to adequately address the restoration needs of the resource.

	BUDGET (\$K)
Salaries	\$ 18.0
Travel	0.0
Contractual	0.0
Commodities	0.0
Equipment	0.0
Other Non-Contractual	0.0
Subtotal	\$ <u>18.0</u>
General Administration	2.7
Total	\$ <u>20.7</u>