DRAFT ENVIRONMENTAL BASELINE STUDIES
2006 STUDY PLANS

CHAPTER 12.
MARINE

JULY 2006
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12. MARINE

12.1 Marine Wildlife—Port

The 2006 field studies for marine wildlife are smaller in scope than those for 2004 and 2005. The study area for 2006 is the same as that described in Section 12.1.2.1 of the 2005 study plan. The sampling methods and taxa emphasized, however, have changed considerably (but not completely) in 2006, as discussed below. Data from all these surveys will be presented in the preliminary environmental baseline document.

Table 12.1-1 summarizes work conducted for the marine wildlife studies in 2004 through 2006. Figure 12.1-1 presents an overview of the study areas.

Boat-Based Surveys

In 2004 and 2005, a series of year-round boat-based surveys was conducted that provided high-resolution information on the distribution and abundance of marine-oriented birds and mammals, their age and sex ratios, and their activities and habitat locations. These surveys were conducted in early summer (June 2004, 2005), fall/early winter (December 2004, November 2005), late winter (March 2005), and spring (May 2005). In 2006, a second year of this cycle will be completed, with a late-winter cruise to be completed in March 2006 and a spring cruise to begin on May 1, 2006 (weather permitting). Data will be collected with the same methods used in 2004 and 2005, as outlined in Section 12.1 of the 2005 study plan.

Helicopter Surveys

Helicopter-based surveys were not conducted in 2004 or 2005. Surveys of the nearshore zone in the region of the proposed port (Figure 12.1-1) are scheduled for January through April 2006, weather permitting. (Because of severe weather, the January survey was cancelled; surveys were conducted in February, March, and April.) The focal taxa are Steller's Eiders and northern sea otters, although data on other species is being collected whenever possible. These surveys will provide some information on the timing of movements of these taxa out of the bays during the spring.

Harbor Seal Aerial Surveys

No surveys for harbor seals will be conducted in 2006. In 2005, a series of aerial-survey flights was done to photograph and count harbor seals in the study area and in Chinitna Bay from approximately May to December. Methods for these surveys are described in Chapter 9, Terrestrial Wildlife and Habitats, in the 2005 study plan. Researchers currently are finishing counting seals in these photographs.

12.2 Marine Nearshore Resources—Port

In 2006, additional field data will be collected on marine nearshore resources in the area of alternative port sites. Surveys were from April 25 through 28 and May 16 through 18, 2006. The 2006 studies
include three tasks that are continuations of tasks begun in 2004 and continued in 2005 (as described in the 2004 and 2005 study plans) and one new task, as described below. Methods for the surveys to be conducted in 2006, except the herring spawn surveys, are described in the 2005 field sampling plan for marine resources.

Tables 12.2-1 and 12.2-2 summarize work for the marine nearshore resources studies in 2004 through 2006. Figure 12.2-1 provides an overview of the study area and sampling locations.

Beach Seine Sampling

To document nearshore fish use, beach seining will be conducted—ice and sea state conditions permitting—at 13 stations sampled in previous work (Figure 12-1.1). Sampling will occur in late April to document early spring use of nearshore habitats, especially by juvenile salmonids. Sampling will also be conducted in mid-May in conjunction with the herring spawn surveys (see below). Selected fish will be retained for future stomach content analysis.

Trawl Sampling

Trawl sampling will be conducted at seven stations sampled in previous work (Figure 12.2-1). Sampling will occur in late April to document early spring use of shallow and deeper subtidal habitats in the vicinity of possible port sites. Sampling will also be conducted in mid-May in conjunction with the herring spawn surveys (see below).

Intertidal Rocky Habitat Assemblages

To take advantage of low tides during the April and to provide data on spring algal conditions that may provide a spawning substrate for herring, intertidal assemblage data will be collected at three rocky habitat stations (Figure 12.2-1). All sampling will occur during the April survey, except the lower elevation at Scott Island will be sampled in May. In addition to the previously sampled lower elevation transect at PS 1, transects will be set up, permanently marked, and sampled (in April) on middle and upper elevation rocky substrates in this area. Transects will be sampled as described in the 2005 field sampling plan, Section 4.2.

Herring Spawn Surveys (new task in 2006)

Skiff-based surveys will be conducted during spring low tides (late April and mid May) to search for herring spawn deposition in areas that may be impacted by port development. The survey team will cruise the shoreline around Scott Island and the Mushroom Islets (areas of historic herring spawning), around Knoll Head, and along Black Reef. The team will be particularly sensitive to areas where high bird or marine mammal activity is observed. They will document the condition of intertidal and shallow subtidal algal assemblages (especially kelp) and the presence or absence of herring spawn. GPS coordinates will be taken at all areas visited. Where herring spawn is detected, the following data will be recorded:

- Spawn density (scattered; near continuous; multilayered, including thickness).
- Substrata used (algae, eelgrass, rock).
• Elevation relative to mean lower low water.
• GPS coordinates of boundaries of spawn area.

In addition, photos will be taken of spawn deposition.
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Table 12.2-2
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Port Area Marine Nearshore Resources

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Notes:
- X: Sampled
- **: Also sampled in 1978 and 1996

**In addition to quantitative data on intertidal epibenthos are available for these sites from 1978 and 1996.

Notes:
- **: In addition to contaminant water quality, temperature and salinity were taken with most beach seine and trawl events.
Figure 12.1-1. 2004, 2005 and 2006 Surveys for Marine Wildlife in the Transportation Corridor

**DRAFT**

Marine Wildlife Survey Areas

- 2004, 2005 and 2006 Offshore Boat Survey Transects
- 2005 Coastal Seal Survey

Proposed Road Alignment
Proposed Transmission Line
Proposed Submarine Powerline
Proposed Port Site

Map Location

**Scale 1:250,000**

Alaska State Plane Zone 5 (units feet)
1983 North American Datum

File: Marine_Wildlife_StudyPlan06_06-170-1.mxd
Version: 1
Author: ABR-AZC
Date: June 7, 2006