

**SPECTACLED EIDER SURVEY ALONG THE ALPINE PIPELINE,
ALASKA, JUNE 2004**

Final Report

Prepared for

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INTRODUCTION

The U.S. Department of Transportation, Office of Pipeline Safety (USDOT), has designated most of the Arctic Coastal Plain of Alaska as an Unusually Sensitive Area (USA) for Spectacled Eiders. The USA designation affects the USDOT-regulated pipelines: Badami, Endicott, North Star, Prudhoe Bay NGL, Milne Point, Kuparuk, Oliktok, and Alpine. As part of the Pipeline Integrity Management Plan, ConocoPhillips Alaska, Inc. (CPAI), instituted surveys for threatened eiders along the Alpine Pipeline between the Alpine facilities on the Colville River Delta and Central Processing Facility 2 (CPF-2) in the Kuparuk Oilfield. CPAI contracted with ABR, Inc., to conduct an aerial survey for pre-nesting eiders during June 2004 and to conduct ground surveys for nests if any Spectacled Eiders were seen during the aerial survey, as directed by the U.S. Fish and Wildlife Service.

The Spectacled Eider is one of four species of eiders that breed in arctic Alaska (Bellrose 1976). Spectacled, King (*S. spectabilis*), and Common (*S. mollissima*) eiders all nest in the oilfields on Alaska's North Slope (Johnson and Herter 1989). Steller's Eiders (*Polysticta stelleri*) occasionally occur in the oilfields but have not been recorded as nesting; they breed mainly in western and northwestern Alaska and are uncommon east of Point Barrow (Johnson and Herter 1989). The Steller's Eider was placed on the threatened list under the Endangered Species Act on 11 June 1997 (62 FR 31748–31757).

The main objectives of the Spectacled Eider survey along the Alpine Pipeline were to

- monitor of the distribution and abundance of Spectacled Eiders adjacent to the Alpine Pipeline from the Alpine Oilfield to the Kuparuk Oilfield during pre-nesting; and
- if pre-nesting Spectacled Eiders were seen on the aerial survey, locate any nests and monitor their fate.

In addition to the Alpine Pipeline survey, the distribution and abundance of Spectacled and Steller's eiders along the Oliktok Pipeline and in the greater Kuparuk region were studied in 2004 as part of the long-term avian studies in the Kuparuk Oilfield; results from that study will be presented in a separate report (Anderson et al., in prep.).

STUDY AREA

The Alpine Pipeline connects the Alpine Oilfield (CD-1 and CD-2) on the Colville River Delta with CPF-2 in the Kuparuk Oilfield to the east (Figure 1). Both of these oilfields are located on the Arctic Coastal Plain of Alaska in an area dominated by habitats created by the thaw-lake cycle, fluvial processes from the Kuparuk and Colville rivers, and coastal processes of flooding, erosion, and sediment deposition. The representative wetland communities and habitat types in the study area are discussed in Anderson and Cooper (1994) for the Kuparuk Oilfield and in Jorgenson et al. (1997) for the Colville River Delta and the Alpine Transportation Corridor (which encompasses the route of the Alpine Pipeline).

METHODS

One aerial survey was conducted for breeding pairs of eiders on 11 June 2004 along the Alpine Pipeline between CPF-2 in the Kuparuk Oilfield and the Alpine Oilfield on the Colville River Delta (Figure 1). The survey was flown during the pre-nesting period, when male eiders (the more visible of the two sexes in breeding plumage) are still on the breeding grounds. The survey area covered a strip 400-m wide on either side of the pipeline, for a total width of 800 m and a total survey area of 46.6 km².

The general procedures for the aerial survey were similar to those used in 1993 (Anderson and Cooper 1994) and employed two observers (in addition to the pilot) in a fixed-wing aircraft (Cessna 185). During the survey, the pilot navigated the airplane along the pipeline using a global positioning system (GPS) receiver and USGS topographic maps, as well as visual reference to the pipeline itself. Flight altitude was 30–50 m above ground level (agl) and flight speed was approximately 145 km/h. Each observer recorded on a tape recorder the species of eider, number of each sex, number of identifiable pairs, side (north or south) of the pipeline, and whether the birds were flying or on the ground. Each observer also recorded eider locations on photomosaic maps of the study area, which were at a scale similar to USGS quadrangle maps (1:63,360). All observations were digitized and added to a GIS database.



Figure 1. Study area for the Alpine Pipeline eider survey in the Kuparuk Oilfield and the Colville River Delta, Alaska, 2004. The aerial survey was conducted along a 400-m wide area on either side of the pipeline.

RESULTS AND DISCUSSION

No Spectacled Eiders were recorded during the aerial survey for breeding eiders along the Alpine Pipeline on 11 June 2004 (Figure 2). Ten King Eiders were recorded during the survey; four pairs seen on the ground and one pair observed flying. All eiders were seen north of the pipeline. In addition to the aerial survey specifically flown for the Alpine Pipeline, portions of the pipeline were also covered during the aerial surveys of breeding eiders for the Colville River Delta (14–15 June) and for the Kuparuk Oilfield (17–19 June). Coverage for those surveys varied from 50% in the Kuparuk to 50–100% on the delta. During the aerial surveys of the Kuparuk and Colville study areas, several sightings of Spectacled Eiders were made in the vicinity of the Alpine Pipeline, particularly in the CPF-2 area in the Kuparuk Oilfield (Figure 3). The closest Spectacled Eider sighting to the Alpine Pipeline in the Kuparuk Oilfield was a single male located approximately 550 m south of the pipeline between CPF-2 and Drill Site (DS) 2H (Figure 3). On the Colville River Delta, the closest Spectacled Eider sighting to the Alpine Pipeline was a pair located approximately 5.6 km northwest of the pipeline (Figure 3).

The lack of Spectacled Eiders along the Alpine Pipeline is not unexpected based on the results of a previous analysis of the risk assessment to Spectacled Eiders of the Alpine and Kuparuk pipelines (McDonald et al. 2002). That analysis calculated relative densities for eiders based on aerial surveys in the region and showed that most of the Alpine Pipeline crosses areas of relatively low densities of Spectacled Eiders. The primary area along the Alpine Pipeline where Spectacled Eiders are known to occur regularly is in the wetlands between CPF-2 and DS-2F, where several eider nests have been located in previous years and where eiders are regularly seen during road surveys (Anderson et al. 2004). The remainder of the Alpine Pipeline crosses more upland habitats that are less suitable for Spectacled Eiders. On the Colville River Delta, the Alpine Pipeline and facilities are not located in an area regularly used by Spectacled Eiders (Johnson et al. 2004).

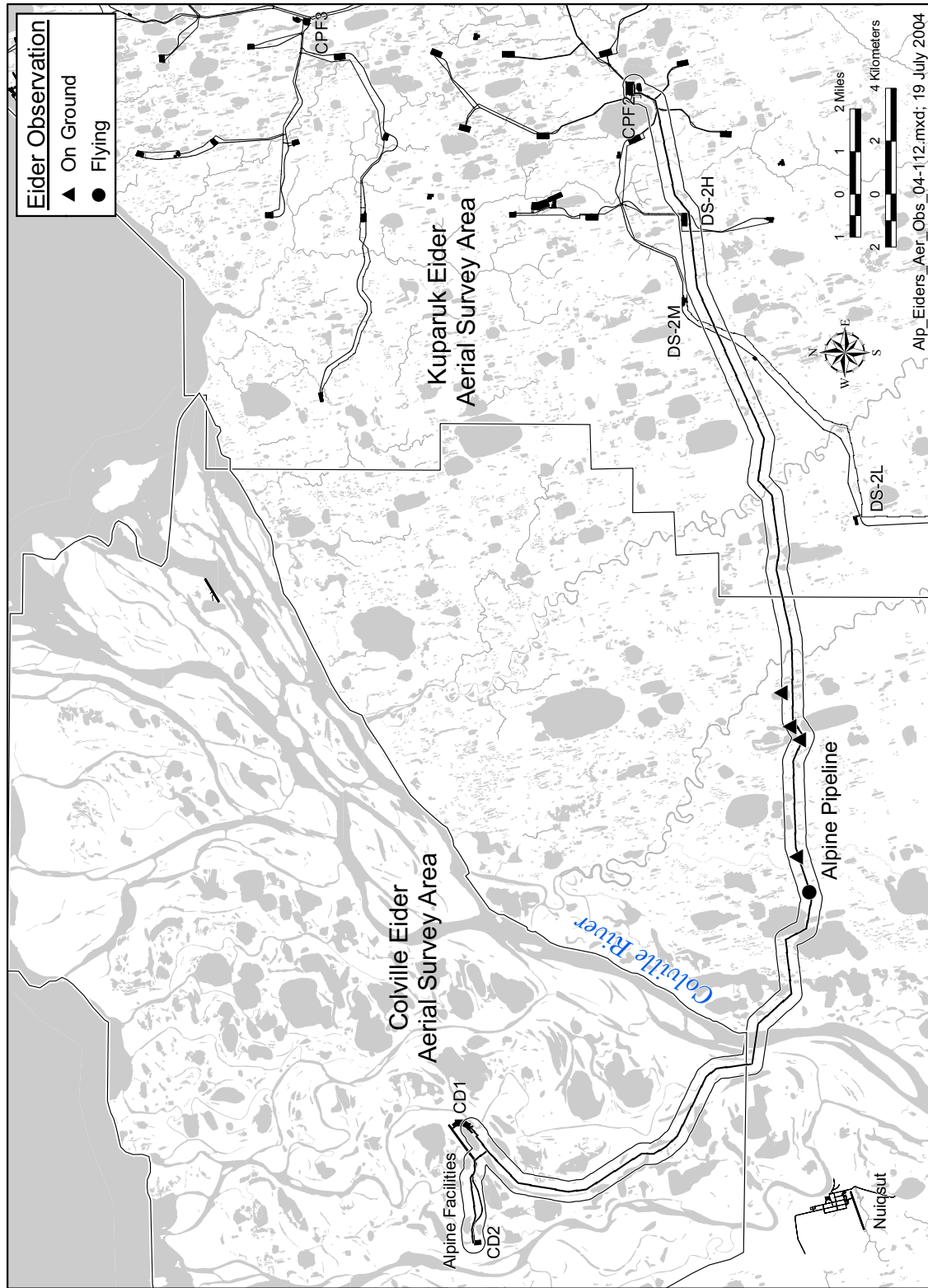


Figure 2. Distribution of King Eiders observed during an aerial survey along the Alpine Pipeline, Kuparuk Oilfield and Colville River Delta, Alaska, 11 June 2004. No Spectacled Eiders were observed during this survey.

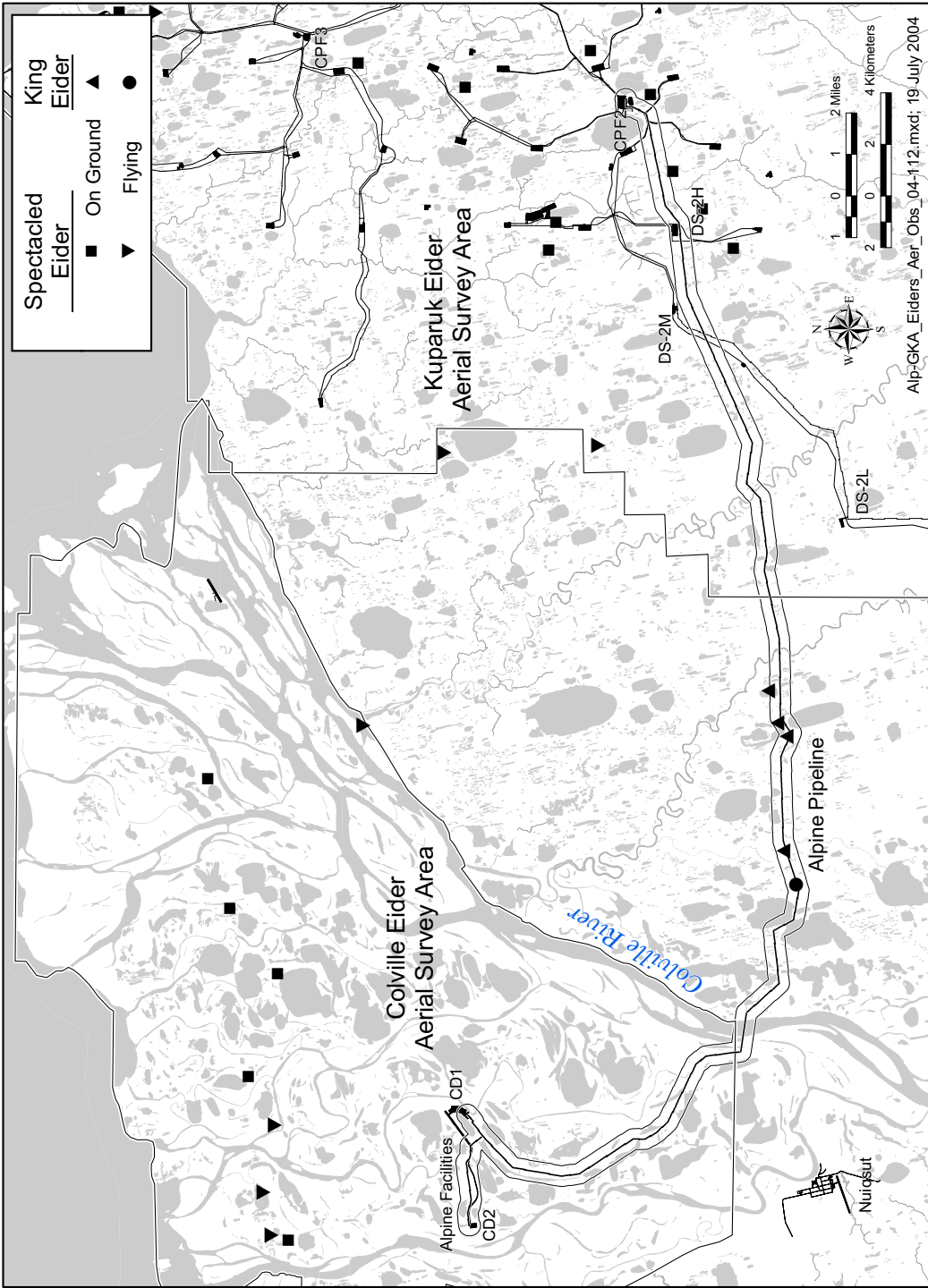


Figure 3. Distribution of King Eiders observed during the Alpine Pipeline aerial survey (15–16 June 2004) and the distribution of Spectacled Eiders observed during aerial surveys flown in the Kuparuk Oilfield (17–19 June 2004) and on the Colville River Delta, Alaska (14–15 June 2004). Surveys were flown at 50% coverage in the Kuparuk Oilfield and at 50–100% coverage on the Colville River Delta. King Eiders also were recorded during those two surveys but are not displayed on this map.

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