

### 1.3 Characterization of Annual Movements, Distribution and Habitat Use of Pacific Black Scoters

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The Pacific population of Black Scoters (*Melanitta nigra*) breeding in Alaska has undergone a steady numerical decline in recent decades. Much of the life-history and ecology of this population remains unknown, making it difficult to identify factors underlying the decline. Satellite telemetry can help describe broad-scale patterns of seasonal distribution, habitat use and links among annual cycle stages. These are critical data for interpreting population trends and developing conservation strategies. We implanted 84 Black Scoters (50 females and 34 males) with satellite transmitters at various stages of their annual cycle in 2003-2007. We marked birds at three wintering locations (two in Alaska and one in British Columbia), one mixed wintering/staging location in Alaska and one breeding location in Alaska. Spring and fall migration movements primarily followed coastlines. Important staging areas in Alaska included the Kuskokwim Shoals, Kvichak Bay and Kamishak Bay; also Rose Spit in the Queen Charlotte Islands was significant for birds migrating to and from British Columbia. Arrival of birds to apparent breeding areas coincided with locations and timing of current aerial surveys designed for sea ducks in Alaska. Most birds moulted either at Kuskokwim Bay (Kuskokwim Shoals and Jack Smith Bay) or Kvichak Bay, Alaska. Kvichak Bay was particularly important during moulting and staging for birds from all marking locations. Individuals exhibited high levels of fidelity to breeding and wintering areas. However, birds from multiple breeding areas wintered sympatrically and various wintering aggregations bred sympatrically. By integrating our data with survey counts and genetic data we hope to improve our ability to monitor population trends and provide information for delineation of management units.



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