

**Sea Duck Joint Venture  
Annual Project Summary for Endorsed Projects  
FY 03 – (October 1 to Sept 30)**

**Project Title:** No. 24: Importance of the Alaskan Beaufort Sea to King Eiders

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**Partners:** Coastal Marine Institute, North Slope Borough, Conoco/Phillips Alaska, Inc.



**Project Description:** King eiders (*Somateria spectabilis*) migrate east along the Beaufort Sea during spring (May- June) to arctic nesting areas in Russia, Alaska and Canada. During the molt migration (early July - August) and fall migration (mid-August - October), eiders move west along the Beaufort Sea coast to areas in the Chukchi and Bering Seas; however, some adult male king eiders molt in the Beaufort Sea. Although the timing and route of the offshore spring migration is likely determined by the availability of open water in the pack ice, information on distance offshore and the frequency and location of potential staging areas is lacking. Little is known about the migration corridor and staging and molting areas of non-breeders. This study was begun to better understand use (timing, location, duration) of nearshore (barrier island to the mainland coast) and offshore (seaward of the barrier islands) habitats of the Beaufort Sea to migrating, staging, and molting adult king eiders using satellite telemetry (PTTs).

**Objectives:** This study plans to (1) document movements and locations of spring, summer and fall migrating adult king eiders marked on breeding areas in Kuparuk, Alaska, (2) describe potential staging areas used during spring and fall migration, (3) determine if adult female king eiders molt in the Beaufort Sea prior to fall migration to overwintering areas, and (4) describe sea ice and open water conditions of the Beaufort Sea relative to observed locations of satellite transmitter implanted king eiders.

**Preliminary Results:** We implanted PTTs in 21 king eiders in 2002 and 12 in 2003. Of the 2002 birds, males (n = 10) staged 7-17 days (mean = 10) and females (n = 11) staged 9 -32 days (mean = 20) in the Beaufort Sea prior to molt migration. Males reached molting areas along the Chukotka Peninsula and Kamchatka Peninsula, Russia and St. Lawrence Island and Kuskokwim Bay, Alaska 22 July - 12 August 2002. Females reached molting areas along the Chukotka Peninsula and Kamchatka Peninsula, Russia and St. Lawrence Island, the Arctic Coastal Plain and the Alaska Peninsula, Alaska 11 August - 18 September 2002. Wintering locations for males

included areas along the Chukotka Peninsula, Kamchatka Peninsula, and Meynypil'gyno, Russia and Kvichak Bay, the Alaska Peninsula, Chirikof Island, and Togiak Bay, Alaska. Wintering locations for females included areas along Karagin Bay and the Chukotka Peninsula, Russia and the Kenai Peninsula, Kvichak Bay, Chirikof Island, and the Alaska Peninsula, Alaska. The six 2002 females still transmitting returned to the Kuparuk study site during the 2003 summer. Of the nine 2002 males still transmitting in summer 2003, one returned to Kuparuk, one spent some time south of Barrow, three stayed offshore of Canada near Cape Bathurst, two spent time onshore in Canada and two went onshore in Russia. Of the eiders transmitted in 2003 (3 females, 9 males), two females left Kuparuk 15-18 July and were still staging in the Beaufort Sea on 31 July. One female remained inland on the study site on 31 July, and it is possible that this female may be with a brood. Males left the study area 21 June - 1 July. All of the transmitted males left the Beaufort Sea by 28 July. On 31 July, four of the males were off the coast of Russia in the Bering Sea, one was off the coast of Alaska in the Bering Sea, three were in the Chukchi Sea, and one was still in the Beaufort Sea.

**Project Status:** We were unable to capture and implant as many eiders in 2003 as planned because of weather conditions and timing. Laura Phillips will continue to analyze location data as she receives it and will begin writing her MS thesis. We plan on implanting more eiders in summer 2004 with our remaining PTTs (n = 27).

**Project Funding Sources (US\$) (complete only if funded by SDJV; this is used to document: 1) how SDJV-appropriated funds are matched, and 2) how much partner resources are going into sea duck work):**

SDJV (USFWS) Contribution	Other U.S. federal contributions	U.S. non-federal contributions	Canadian federal contributions	Canadian non-federal contributions	Source of funding (agency or organization)
\$1158					SDJV
	\$30K				MMS
	\$125K				CMI (MMS)
		\$28K			North Slope Borough

**Total Expenditures by Category (US\$) (complete only if project is funded by SDJV; dollar amounts should include all partner contributions):**

ACTIVITY	BREEDING	MOLTING	MIGRATION	WINTERING	TOTAL
<b>Banding</b>					
<b>Surveys</b>					
<b>Research</b>			<b>\$185K</b>		<b>\$185K</b>
<b>Communication</b>					