Update for ConocoPhillips September 2006

Project Title: Identification of Beaufort Sea Migration Corridor for Sea Ducks

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Partners: ConocoPhillips, Canadian Wildlife Service, U.S. Fish and Wildlife Service, Sea Duck Joint Venture, Polar Continental Shelf Project.

Project Description: The development of offshore oil production facilities is currently underway in important waterbird migration corridors along the Alaskan Beaufort Sea coast, and more oil and gas development is expected both there and off the Canadian coast. The Beaufort Sea is used by hundreds of thousands of sea ducks, primarily Long-tailed Ducks, King Eiders and Common Eiders, traveling between wintering areas west of the continent and breeding areas in arctic Canada. Although there is some information on migration, little is known about the specific migration pathways and habitats used by the sea ducks. Hence, it is difficult to predict the degree of potential threat of expanded oil and gas development to these three sea duck species, all of which have experienced a population decline in recent years. Using satellite telemetry, this study is providing information about the location and timing of use of migration corridors, so that analysts can better predict and mitigate any adverse effects of offshore petroleum development on subject populations. The study is also providing information on affiliations between wintering, breeding and moulting grounds, thereby helping to define populations units. Such information is essential to effectively manage a harvested species.

The focus in 2006 is on Common Eiders. In June, we implanted satellite transmitters in 20 eiders near a nesting colony just east of Bathurst Inlet in central arctic Canada. We are currently tracking the movement of those birds using Argos satellites.

To maximize the amount of information obtained on location of Common Eiders in relation to potential offshore development of petroleum reserves, satellite transmitters were programmed to transmit a location once every day (i.e. duty cycle of 4 h on and 24 h off) during both westward (moult/fall) and eastward (spring) migration across the Beaufort Sea.

Objectives: The primary objectives of the study are: 1) to determine specific migration routes and timing for the Canadian breeding populations of Pacific Common Eiders, 2) to document spatial relationships of migrating Common Eiders to pack ice, islands and other physical features in the Beaufort Sea, and 3) to identify wintering, staging and moulting areas, and their affiliation with specific breeding areas.

Other incidental benefits include: 1) identification of key marine areas and habitats for Common Eiders 2) collection of tissues to be used for genetics, stable isotope and

contaminant analyses, 3) provision of information to develop more effective survey techniques to monitor the status of common eider populations.

Preliminary Results: In June of 2006, satellite transmitters were successfully implanted in 20 Common Eiders (10 male, 10 female) near their nesting colony at Nauyak Lake, Nunavut. As of early October, all 10 females were alive and their transmitters functioning well. However, of the 10 males tagged, only 8 were functioning as of early October. One male was shot near Barrow, Alaska on August 10 and another male's transmitter has not provided any locations since August 25.

All female Common Eiders remained within 50 km of the nesting colony to moult, whereas males dispersed widely to locations as far away as the Chukotsk Peninsula in Russia (Fig. 1). Four of 8 males crossed the Beaufort Sea prior to moult, moving through during a 1 - 2 week period between mid July and mid August (Fig. 2). Three other males stopped to moult in Amundsen Gulf along the west coast of the Parry Peninsula, and the remaining male moulted near the nesting colony at the north end of the Bathurst Inlet.

Project Status: Movement of Common Eiders tagged in June 2006 will be tracked until the transmitter batteries fail which according to the manufacturer will likely be in fall of 2007. Locations will be acquired on a daily basis during periods of migration, but only once every 8 days during winter to conserve batteries. After spring migration in June 2007, locations will be received every 3 days until the batteries fail.

Next step will be to implant satellite transmitters in 20 King Eiders on Banks Island. As was done with the Common Eiders, we recommend programming the transmitters to provide daily locations during migration across the Beaufort Sea.

Project Funding Sources in 2006: in Canadian dollars (in kind contribution in italics)

SDJV (USFWS) Contribution	Canadian Wildlife Service	Conoco Phillips Alaska	Conoco Phillips Canada	Polar Continental Shelf	Total
$2,914	$100,000 *$20,000*	$65,000	$19,000	$24,000	$208,000 *$22,914*

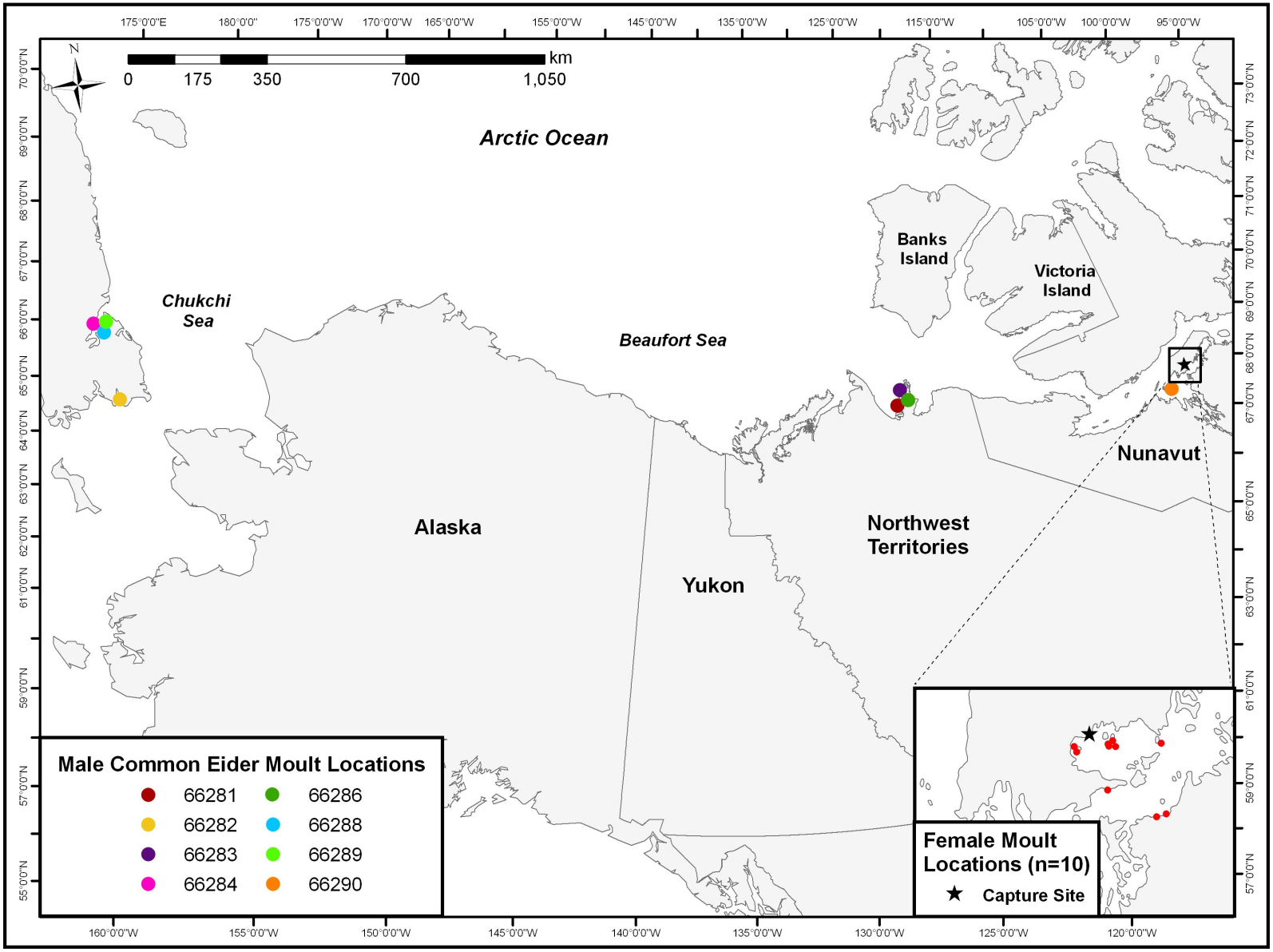

Figure 1. Location of moulting areas for 8 male and 10 female Common eiders tagged with satellite transmitters at Nauyak Lake, Nunavut in June, 2006.

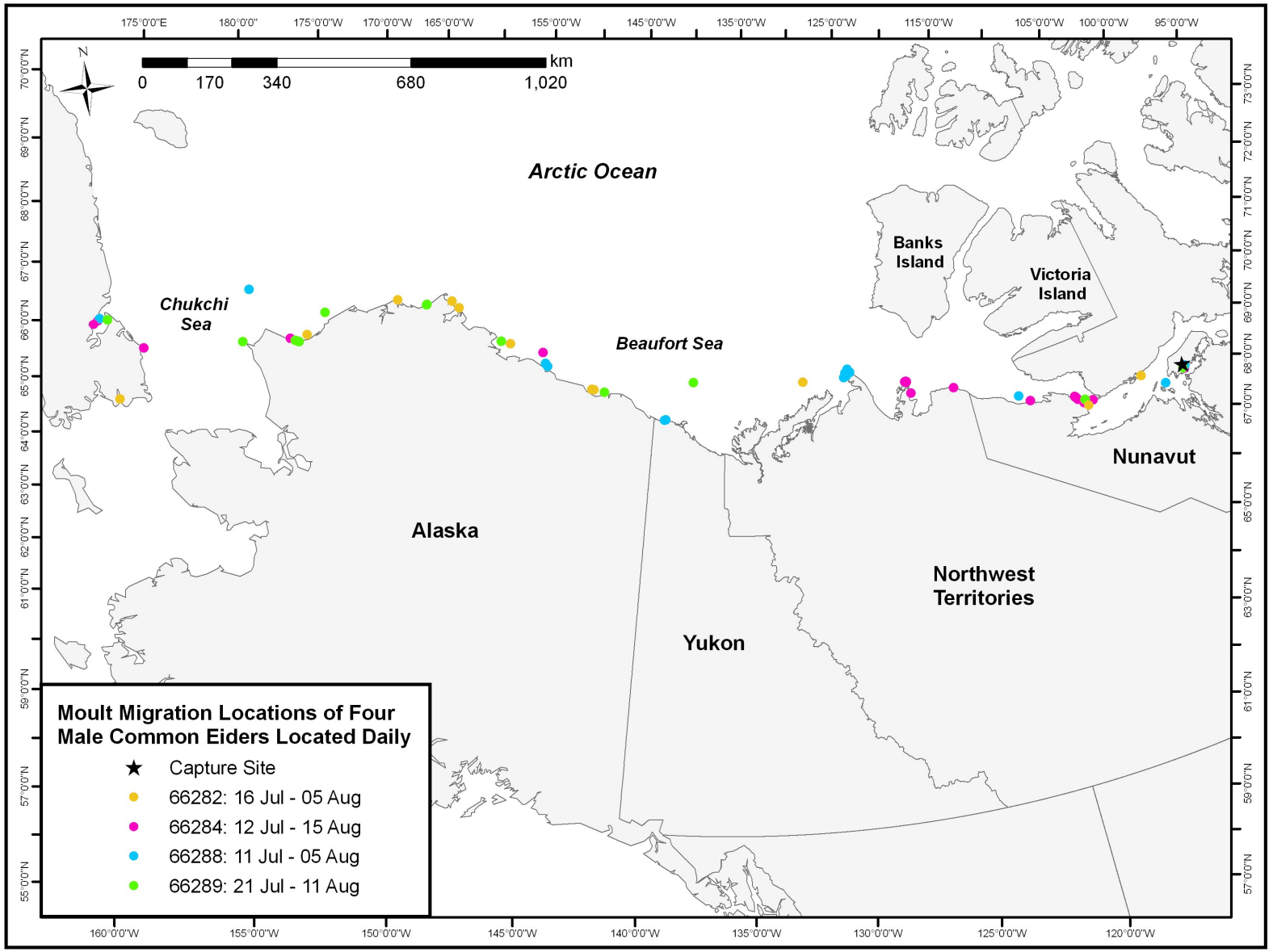

Figure 2. Westward moult migration of the four male Common Eiders tagged at Nauyak Lake in June, 2006 that moulted west of the Beaufort Sea.

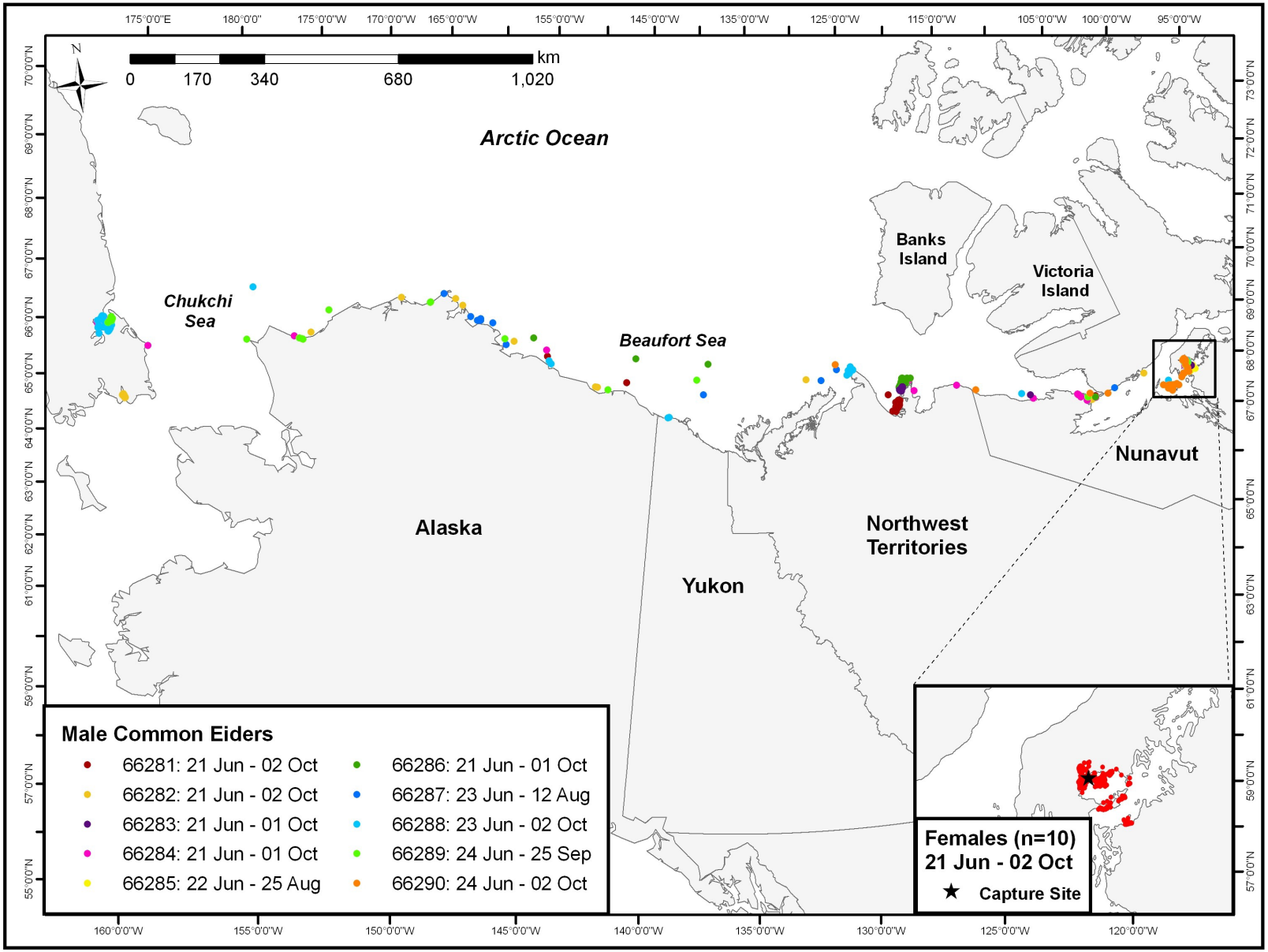

Figure 3. All locations received from late June to early October, 2006 for 10 male and 10 female Common Eiders capture near a nesting colony at Nauyak Lake, Nunavut just prior to nest initiation.

Figure 4. Large 75 m long and 6 m high mist net used to capture Common Eiders at Nauyak Lake, Nunavut in June 2006.

Figure 5. Removing a captured male Common Eider from the mist net at Nauyak Lake, Nunavut.

Figure 6. Dr. Pam Tuomi surgically implanting a satellite transmitter into a Common Eider at Nauyak Lake, Nunavut in June 2006.

Figure 7. Male Common Eider tagged with a satellite transmitter at Nauyak Lake, Nunavut.