

# Fish and Wildlife of Alaska's North Slope

## EIDERS

Eiders are sea ducks that breed in arctic and subarctic areas of the Northern Hemisphere. Four species of eiders exist: king, spectacled, common, and Steller's eider. All can be found in the Beaufort Sea area and in or near the North Slope oilfields. King and spectacled eiders are currently the most abundant eider species in the oilfields. Spectacled eiders are listed as a threatened species under the federal Endangered Species Act (ESA) of 1997 and are not as common in the North Slope oilfields as other waterfowl, but those that do occur there breed regularly. Spectacled eiders have been found at higher concentrations in the Colville Delta area, where the most recent oilfield developments have occurred. The common eider is third in abundance in the oilfields. They mainly nest on offshore gravel islands, but some nest along the coast, if suitable habitats are available. They are occasionally seen in the oilfields but are fairly uncommon. Steller's eiders, which are more prevalent outside the existing oilfields in western North Slope areas such as Barrow, are also listed as a threatened species under the ESA.

### King Eiders

King eiders (*Somateria spectabilis* or *qaugapiaq*) are abundant on the Arctic Coastal Plain and in the North Slope oilfields. They winter as far north as open water is available in the Bering and Chukchi seas, and south to the Kamchatka Peninsula in Russia and to the Aleutian Islands. During spring migration, birds are concentrated along the coast, and some birds migrate offshore. King eiders are among the first birds to arrive on the coastal plain breeding grounds in the spring, arriving on breeding areas as early as April in some areas, although most birds do not arrive until May. Within the oilfields, they generally nest individually on tundra ponds and lakes, but small nesting colonies have also been reported. Incubation of eggs lasts 23 to 24 days. Broods often combine into crèches that can contain up to a couple hundred ducklings. (The fledglings of some bird species separate from their parents and form a group, or *crèche*. Supervision of the *crèche* is usually delegated to a small number of guardians. This system permits a fledgling to lose itself in a crowd and reduce its risk of predation. It also frees the adults to spend more time foraging.) By late September, most king eiders have left the oilfield region.



Male (left) and female king eiders (*Somateria spectabilis* or *qaugapiaq*).

## Spectacled Eiders

Spectacled eiders (*Somateria fischeri* or *qavaasuk*) were listed as a federally threatened species in 1993 because of a declining population in western Alaska. Reasons for the decline are unknown but most likely are related to increases in predator populations, changes in prey availability in wintering areas, contamination by lead shot and other pollutants, and losses associated with subsistence harvest.



Male spectacled eider (*Somateria fischeri* or *qavaasuk*).

As a result of the declines in western Alaska and an apparently stable population on the North Slope, the Arctic Coastal Plain has become the primary breeding area for spectacled eiders in Alaska. A much larger population breeds in Arctic Russia.

Spectacled eiders winter in polynyas (open water in sea ice) in the central Bering Sea south of St. Lawrence Island. In the spring, spectacled eiders likely migrate across the Arctic Coastal Plain to tundra breeding grounds, including areas in and around oilfields. They arrive in early June and nest near brackish lakes and ponds, which often have convoluted shorelines or small islands. Male and female non-breeders leave in late June and stage in Harrison Bay for the molting season. Nest sites are often located within three to five feet of water. Broods may move several miles from nest sites within the first week after hatching. Females and young depart the oilfield-region breeding grounds in August and September.

## Common Eiders

The common eider (*Somateria mollissima* or *amauligruaq*) is the largest duck in the Northern Hemisphere and is closely tied to marine habitats. Many common eiders winter in northern areas at the limits of open water, where they make use of openings in the ice. They feed on mollusks and crustaceans from the sea floor in waters that are approximately 30 to 70 feet deep. In the spring, most common eiders probably migrate along the coast to breeding grounds on the Arctic Coastal Plain.



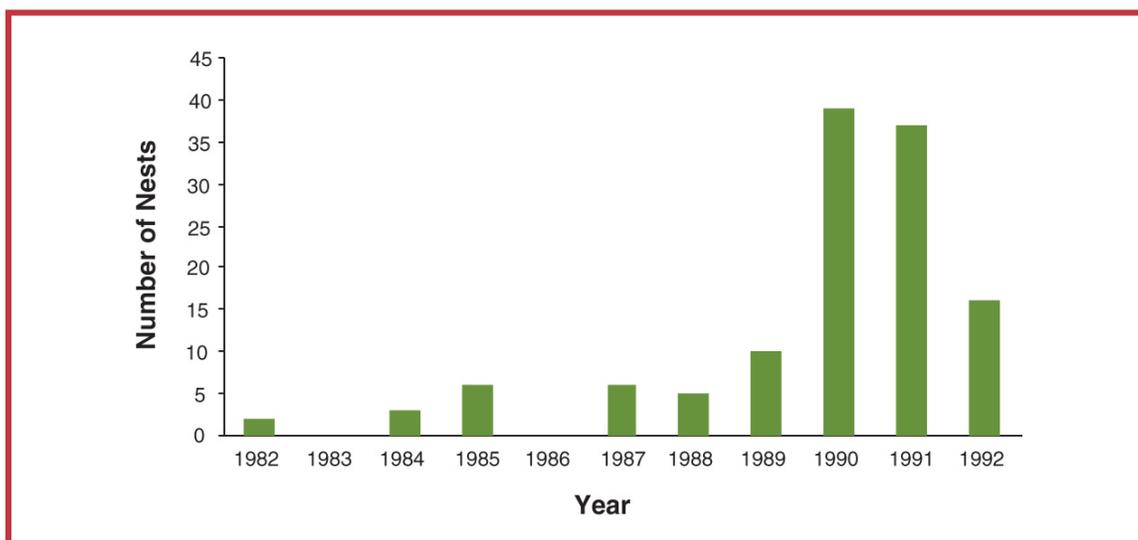
Male common eider (*Somateria mollissima* or *amauligruaq*).

Common eiders arrive in the oilfield region in late May or early June. Females most commonly nest where driftwood has accumulated on barrier islands and spits and may return to the same nest site in successive years. In recent years, common eiders have also nested on man-made structures such as gravel causeways and islands in the Prudhoe Bay area. Broods often combine to form crèches that may contain more than 150 young, although smaller crèches of 20 to 30 are more common. Males leave the breeding grounds shortly after the

onset of incubation in late June or early July and undertake a molt migration to bays and lagoons in western Alaska. Females and young begin leaving the oilfield region and migrating to wintering areas in late August and early September.

## Steller's Eider

The Steller's eider (*Polysticta stelleri* or *igniqauqtuq*) is the smallest of the four eider species and is the least likely to be found within current oilfield boundaries. Although Steller's eiders occur over an extensive area on the Arctic Coastal Plain, the



*Common eider nests located on man-made structures in the Prudhoe Bay and Endicott oilfields, 1982-1992.*

species occurs at a much higher density near Barrow. The majority of sightings in the last decade have occurred in the northern half of the National Petroleum Reserve-Alaska, west of Nuiqsut on the Colville River.

The Alaska-breeding population of the Steller's eider was listed as a federally threatened species in 1997 based on the decline in the species' breeding range in Alaska. As with the spectacled eider, the reasons for the decline are unknown but may be related to increases in predator populations, changes in prey availability in wintering areas, and contamination by lead shot and other pollutants.

Steller's eiders arrive in breeding areas in mid-May. In Alaska they nest on tundra adjacent to small ponds or within drained lake basins, incubating one to eight eggs for about 25 days. After their young hatch in late June, females lead the ducklings to nearby wetlands to feed on aquatic insects and plants until they are capable of flight.

Steller's eiders nest in the terrestrial environment, but they spend the majority of the year in shallow, nearshore marine waters. After breeding, Steller's eiders move to marine waters and forage on invertebrates such as mollusks and crustaceans that live in the intertidal sand flats and mudflats.

## ConocoPhillips Eider Programs

Breeding populations of spectacled and king eiders on the Arctic Coastal Plain, including those that nest in the oilfields, were relatively stable during the 1990s. Oilfield development may impact both terrestrial and marine eider habitats. Concerns related to impacts from oilfield development include loss of habitat due to gravel placement for roads and pads, increased predation from artificially high predator populations, and human disturbance such as noise and traffic.

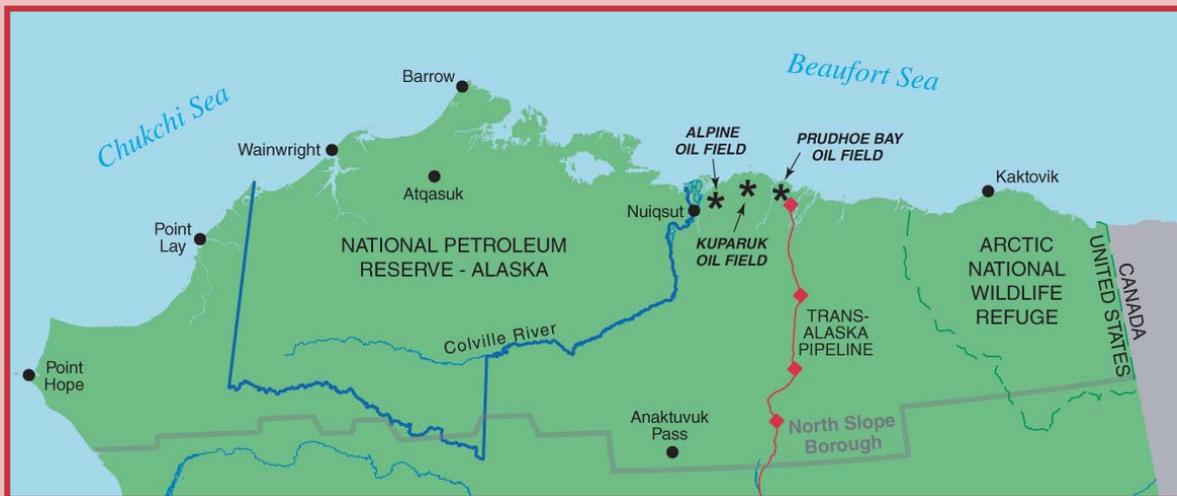
ConocoPhillips has been conducting eider enhancement and mitigation programs since the early 1970s. At that time, nest structures were placed on nearshore islands for nesting common eiders. These structures were made using small piles of driftwood to simulate nest sites normally selected by common eiders. In addition, gravel nesting islands seeded with grasses were placed in large lakes known to be used by eiders. The nest-structure program was very successful — female eiders immediately used most of the structures.

When the spectacled eider was added to the threatened species list in 1993, ConocoPhillips began a long-term cooperative research program with the U.S. Fish and Wildlife Service. This study used telemetry transmitters to track and monitor nesting females. The data were used to determine habitat selection and preference, nest site location, nest success, and nest abundance. This program was supplemented with another ConocoPhillips research study using a specially trained Labrador retriever to search for active nest sites. The dog would locate nests without flushing the female. These studies, combined with annual field-wide eider surveys by ConocoPhillips scientists, helped determine which habitats spectacled eiders selected for nesting and established that these eiders returned to the same areas year after year to nest.

The studies, which showed that eider populations in the oilfields were stable, were used to locate new facilities away from preferred nesting and brood-rearing habitats. Thus, planners of new development can avoid impacts from habitat loss. ConocoPhillips continues these annual surveys of spectacled eiders to ensure populations are not being affected by operations and to further understanding of eider ecology.

Noise and activity at facilities such as airports may affect waterfowl species by causing some birds to move to habitats where noise levels are less disturbing. When other alternatives are not feasible and airstrips must be placed immediately adjacent to preferred eider-nesting habitat, ConocoPhillips has committed to mitigate potential disturbance by significantly reducing activities during the nesting season.

Eider eggs and young are subject to natural predation, particularly by arctic foxes, ravens, jaegers, and some species of gulls. The presence of constant food sources, such as dumpsters, and artificial nesting and perching sites likely has attracted some species of predators to areas of human development. However, use of new dumpsters and proper food-waste handling have reduced the attraction of gulls and foxes, and the artificial increase in their populations. Monitoring studies conducted at the ConocoPhillips Alpine field show no increased eider nest loss due to predation.



### For Additional Information, Contact:

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