

## **APPENDIX G**

Wildlife Profiles



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## **1.0 Trumpeter Swan (*Cygnus buccinator*)**

### **1.1 Range and Habitat**

Trumpeter swans breed in Interior and Southcentral Alaska, as well as western Canada and the northwestern United States. Trumpeter swans that breed in Alaska winter along the Pacific coast from the Alaska Peninsula to the mouth of the Columbia River in the Pacific Northwest. The swans are generally found at elevations below 3,000 feet.

Trumpeter swans prefer secluded areas where they frequent shallow bodies of water. Winter habitat for trumpeter swans consists of unfrozen ponds, lakes, slow-moving waters, marsh meadows, and inner brackish reaches of coastal fjords and bays.

### **1.2 Food**

In summer, swans eat foliage, seeds, and tubers of various marsh plants such as horsetail, pondweeds, sedge, bulrush, water milfoil, and pond lily. They will also eat grains, grasses, insects, snails and small invertebrates when available. Young cygnets grow rapidly and require a high-protein diet of aquatic invertebrates during the first few weeks. Gradually they shift to a vegetable diet similar to that of adults.

### **1.3 Life Cycle**

Swans pair with mates for life, usually as 2-year-olds, but delay breeding until their third, fourth, or even fifth year. Because of the lengthy development period for their young, swans begin nesting as early as spring thaw permits. Trumpeter swan nests are located in extensive areas of marsh vegetation. Muskrat houses and beaver lodges are also utilized for nesting.

Trumpeter swans in Alaska require a minimum of 140 to 150 ice-free days to complete a reproductive cycle. The swans typically lay five to eight eggs, which generally will hatch in mid- to late June. Cygnets in Alaska are generally flightless until 13 to 15 weeks of age. After leaving breeding areas, swans will congregate on ponds and marshes along the coast in late summer and early fall. Most years, swans will migrate south by mid-October, but some may remain until November when it freezes.

### **1.4 Main Factors Affecting the Population**

Survival of young to the fledgling stage is severely affected by severe weather, predator populations, and diseases. Adult mortality is caused by weather and, to a lesser extent, mammalian or avian predators.

Human factors affecting swan populations include:

- Habitat disturbance
- Harassment
- Illegal hunting
- Pollution

## **1.5 Special Considerations**

Nest disturbance may cause adults to abandon their nests and move to a different area. Molting occurs from June until July, and birds are flightless for approximately 30 days. Preservation of wintering habitat is important, as well as the availability of resting and feeding areas during migration, as young birds are not able to fly as far as adults.

## **1.6 Legal Status**

The swans are managed by the USFWS and ADF&G through the Migratory Bird Treaty Act. They are not hunted in Alaska and are protected under international treaties with Canada.

## **1.7 State Population**

The census of 1990 indicated over 13,000 trumpeters in Alaska (over 80 percent of the world's population) and a continuing increase over the past 20 years.



## **2.0 Bald Eagle (*Haliaeetus leucocephalus*)**

### **2.1 Range and Habitat**

Bald eagles occur throughout most of Alaska south of the Brooks Range. They are known to occur from northwestern Alaska as far north as the Noatak River, through the Alaskan Interior and south to the Aleutian Islands and Southeast Alaska.

### **2.2 Food**

Bald eagles are typically opportunistic feeders. They scavenge on carrion or prey upon fish, small mammals, and birds. Fish are the preferred food, and most nests occur where there is a supply of fish and other food sources.

### **2.3 Life Cycle**

Found only in North America, Bald Eagles are more abundant in Alaska than anywhere else in the United States. The Alaska population has been estimated to include 30,000 birds at the time of fledging. Bald Eagles are often found along Alaska's coast, offshore islands, and Interior lakes and rivers. The highest nesting densities occur on the islands of Southeast Alaska. Most Bald Eagles winter in southern Alaska, but some leave the state during cold months. In the Chilkat Valley, over 3,000 birds may congregate in late fall and early winter to feed on spawned-out salmon.

Eagles normally lay two eggs, although up to three or rarely four may be laid. The largest chick is usually the only one that survives to maturity.

### **2.4 Main Factors Affecting the Population**

The primary natural factors affecting bald eagle populations include availability of suitable habitat, particularly nesting areas, weather and food availability.

The main human-related factors include:

- Pollution
- Illegal hunting
- Habitat destruction
- Reduction of food supply
- Disturbance during nesting

## **2.5 Special Considerations**

Important management concerns include reducing disturbance; maintaining suitable habitat and prey populations and controlling illegal hunting.

## **2.6 Legal Status**

With statehood in 1959, the Bald Eagle in Alaska received federal protection under the Bald Eagle Protection Act of 1940. This act made it illegal to kill or possess an eagle, alive or dead, or to possess any part of an eagle, including feathers. Bald Eagles were endangered or eliminated throughout most of the Lower 48 states as a result of habitat destruction, illegal shooting, pesticides, and poisoning. Bald Eagle populations are recovering in many states because of strong support for endangered species' wildlife habitat.

## **2.7 State Population**

Alaska's populations remain healthy, but careful stewardship and conservation of nesting habitat and salmon spawning streams, as well as minimizing human disturbance near nest sites, is necessary in order to protect Alaska's Bald Eagles from the potential harm caused by increasing human development.

### **3.0 American Peregrine Falcon (*Falco peregrinus anatum*)**

#### **3.1 Range and Habitat**

The American Peregrine falcon occurs over much of Alaska, and a nesting concentration area occurs in and around the Yukon-Charley Rivers area. Habitat ranges from the arctic to the southeast coasts and the Alaska Peninsula.

Peregrine falcons normally nest on cliff faces or bluffs that are clear of vegetation and are safe from most predators. Nests are often near areas with sufficient prey, typically associated with riparian habitats.

#### **3.2 Food**

Peregrine falcons usually feed on waterfowl, shorebirds and passerine birds that tend to gather along river corridors. They hunt primarily by diving at their prey.

#### **3.3 Life Cycle**

Falcons usually mate for life, and they have a tendency to return to the same area year after year. On average, egg-laying begins in early May, and hatching occurs sometime in mid-June. Most begin a southern migration sometime in September.

#### **3.4 Main Factors Affecting the Population**

The Peregrine falcon was added to the endangered species list in 1973 due to rapidly decreasing numbers which coincided with heavy use of the agricultural pesticide DDT. Monitoring and research was conducted to aid in the recovery of the species, and the Peregrine falcon was delisted in 1999. The population in the Yukon-Charley Rivers area has increased significantly. The population may still be affected by pesticides, which can accumulate in the food chain and still be consumed.

#### **3.5 Legal Status**

The Peregrine falcon is no longer listed under the Endangered Species Act. In Alaska, biologists from the USF&WS and the ADF&G, with funding from the 11<sup>th</sup> Air Force, have recently completed a five-year effort to monitor Peregrine falcon populations subsequent to delisting. As the falcons are now delisted and the population has steadily increased, the USFWS has stated that the operational conditions outlined in the Biological Opinion, which is included in the 1997 Record of Decision for the Alaska MOA EIS, are no longer warranted. Specifically, the 2-mile, 2,000 feet AGL flight restrictions along the upper

Yukon, Charley, and Kandik rivers are no longer required as a condition of the Section 7 Consultation process (USFWS 2005).

## **4.0 Moose (*Alces alces*)**

### **4.1 Range and Habitat**

Moose are distributed throughout Alaska except for portions of the southeastern panhandle, the southwestern Alaska Peninsula, most offshore islands and glaciated areas. Moose are generally found at elevations below 4,000 feet.

### **4.2 Food**

During fall and winter, moose consume large quantities of willow, birch, and aspen twigs. In some areas, moose actually establish a "hedge" or browse line 6 to 8 feet above the ground by clipping most of the terminal shoots of favored food species. Spring is the time of grazing as well as browsing. Moose eat a variety of foods, particularly sedges, equisetum (horsetail), pond weeds, and grasses. During summer, moose feed on vegetation in shallow ponds, forbs, and the leaves of birch, willow, and aspen.

### **4.3 Life Cycle**

Cow moose generally breed at 28 months, though some may breed as young as 16 months. Calves are born any time from mid-May to early June, after a gestation period of about 230 days. Cows give birth to twins 15 to 75 percent of the time, and triplets may occur once in every 1,000 births. The incidence of twinning is directly related to range conditions. A cow moose defends her newborn calf vigorously.

### **4.4 Main Factors Affecting the Population**

The main natural factors affecting moose populations are severe winters, predation and disease. The main human factors are:

- Collisions with vehicles and trains
- Over-hunting
- Harassment
- Competition with disease
- Reduction of food supplies
- Contamination of food or water supplies

### **4.5 Special Considerations**

High-quality habitat is necessary for moose populations to be sustainable.

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## **4.6 Legal Status**

Moose are managed by the ADF&G. Moose are the most important big game species in Alaska based on hunter participation and total number harvested.

## **5.0 Caribou (*Rangifer tarandus*)**

### **5.1 Range and Habitat**

Caribou in Alaska are distributed in 32 herds (or populations). A herd uses a calving area that is separate from the calving areas of other herds, but different herds may mix together on winter ranges.

Summer habitat includes primarily moist and boggy areas with sedges, although the northern Arctic herds avoid these areas because of mosquitoes. Caribou prefer ridges and open areas that give them good visibility for predator avoidance.

### **5.2 Food**

Like most herd animals, the caribou must keep moving to find adequate food. Large herds often migrate long distances between summer and winter ranges. Smaller herds may not migrate at all. In summer, caribou eat the leaves of willows, sedges, flowering tundra plants, and mushrooms. They switch to lichens (reindeer moss), dried sedges (glasslike plants), and small shrubs (like blueberry) in September.

### **5.3 Life Cycle**

Caribou are a migratory species traveling annually from summer calving to fall breeding grounds. They are social, occurring in herds up to tens of thousands, such as the Porcupine herds, which has over 175,000 animals. Antler velvet is shed, signaling the onset of breeding, in mid-October as the herd moves to winter range. As winter ends, the caribou move to calving areas where young are born in May and early June.

### **5.4 Main Factors Affecting the Population**

Inclement weather can kill newborn calves, as well as wolf and bear predation. The main human impacts are:

- Habitat degradation
- Harassment
- Barriers to migration
- Over-hunting

### **5.5 Legal Status**

Caribou are managed by the ADF&G as a game species.

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## **5.6 State Population**

There are approximately 950,000 wild caribou in Alaska (including some herds that are shared by Alaska and Canada's Yukon Territory). Caribou are somewhat cyclic in number, but the timing of declines and increases, and the size to which herds grow, is not very predictable.



## **6.0 Dall's Sheep (*Ovis dalli dalli*)**

### **6.1 Range and Habitat**

Dall's sheep inhabit the mountain ranges of Alaska. They are found in relatively dry country and frequent a special combination of open ridges, meadows, and steep slopes with extremely rugged terrain that would allow for the detection, of and escape from, predators. They use the ridges, meadows, and steep slopes for feeding and resting. When danger approaches, they flee to the rocks and crags to elude pursuers. They are generally high country animals, but sometimes occur in rocky gorges below timberline in Alaska.

### **6.2 Food**

The diets of Dall's sheep vary from range to range. During summer, food is abundant and a wide variety of plants are consumed. Winter diet is much more limited and consists primarily of dry, frozen grass and sedge stems available when snow is blown off the winter ranges.

### **6.3 Life Cycle**

Dall's sheep breed from late November to mid-December. Dominant rams breed with several ewes, but do not collect harems. The young, called lambs, are born in late May or early June. As lambing approaches, ewes seek solitude and protection from predators in the most rugged cliffs available on their spring ranges. Ewes bear a single lamb, and the ewe-lamb pairs remain in the lambing cliffs a few days until the lambs are strong enough to travel. Lambs begin feeding on vegetation within a week after birth and are usually weaned by October. Normally, ewes have their first lamb at age 3 and produce a lamb annually. Sheep have well-developed social systems.

### **6.4 Main Factors Affecting the Population**

The main natural factor affecting Dall's sheep populations is weather, particularly deep snow and ice. Wolves are their main predator. The main human-related factors are:

- Disease introduced from domestic livestock
- Competition for food
- Harassment
- Over-hunting

## **6.5 Legal Status**

Dall's sheep are managed by the ADF&G as a game species.

## **6.6 State Population**

Dall's sheep in Alaska are generally in good population health.

## **7.0 Brown Bear (*Ursus arctos*)**

### **7.1 Range and Habitat**

The brown bear occurs throughout Alaska except on remote islands, glaciated areas and high elevations. Its preferred habitat is open tundra and grassland with abundant food sources and protective cover nearby.

### **7.2 Food**

Brown bears consume a wide variety of foods. Common foods include berries, grasses, sedges, cow parsnips, fish, ground squirrels, and roots of many kinds of plants. In some parts of Alaska, brown bears have been shown to be capable predators of newborn moose and caribou. They can also kill and consume healthy adults of these species and domestic animals. Bears are fond of all types of carrion, as well as garbage in human dumps.

### **7.3 Life Cycle**

Mating takes place from May through July, with the peak of activity in early June. Brown bears generally do not have strong mating ties. Individual bears are rarely seen with a mate for more than a week. Males may mate with more than one female during breeding season. Offspring typically separate from their mothers as 2-year olds in May or June. Following separation, the mother can breed again and produce a new litter of cubs the following year. In some parts of Alaska, research results reveal that offspring may not separate from their mothers until they are 3 to 5 years old.

### **7.4 Main Factors Affecting the Population**

Climate and weather are the main natural factors affecting brown bear numbers. Human factors include:

- Reduction or elimination of food sources
- Disturbance leading to habitat abandonment, particularly in feeding areas
- Poaching

### **7.5 Legal Status**

Brown Bears are managed by the ADF&G as a game species.

## **7.6 State Population**

Bear populations vary depending on the productivity of the environment. In central Alaska, both north and south of the Alaska Range, bear densities tend to be intermediate, about one bear per 15-23 square miles.

## **8.0 Humpback Whale (*Megaptera novaeangliae*)**

### **8.1 Range**

Humpback whales occur throughout the world's oceans but they are not common in arctic waters. Although humpbacks may be seen at any time of year in Alaska, most animals undertake long-distance migrations during the fall to temperate or tropical wintering areas where reproduction occurs and the young are born.

### **8.2 Food**

Humpback whales in Alaska feed principally on herring, other small schooling fish, and on swarms of krill. These whales use a variety of feeding behaviors to catch food, including underwater exhalation of columns of bubbles that concentrate prey, feeding in formation, herding of prey, and lunge feeding.

### **8.3 Life Cycle**

Humpback calves are born in tropical waters after a gestation period of approximately 11 to 12 months. Newborn animals average 2 tons in weight, measure approximately 12 feet (3.6 m), and suckle for up to a year. Sexual maturity is reached at 4 to 6 years. Mature females give birth every two or three years although females in Southeast Alaska have been seen with new calves during two or more consecutive summers.

### **8.4 Main Factors Affecting the Population**

The main natural factors affecting Humpback whale numbers is predation from killer whales and sharks. The main human-related factors are:

- Historic overhunting
- Pollution and habitat degradation such as oil spills
- Entanglement in fishing lines or gillnets

### **8.5 Legal Status**

A Federal Recovery Plan was formulated for this species in 1991. The intent of this plan is to assist humpback populations to grow and to reoccupy areas where they were historically found.

## **8.6 State Population**

Recent studies, including those following the Exxon Valdez oil spill, indicate that more than 500 humpbacks may now be found in Southeast Alaska during summer, and more than 100 humpbacks may be found in Prince William Sound.

## **9.0 Killer Whale (*Orcinus orca*)**

### **9.1 Range**

Killer whales are found throughout the marine waters of Alaska, but occur most commonly over the waters of the continental shelf from Southeast Alaska through the Aleutian Islands and northward into the Chukchi and Beaufort seas. Killer whales migrate northward throughout the Bering Strait in the spring as the pack ice retreats. They leave the Beaufort and Chukchi areas in the fall when the ice advances. Killer whales in the Pacific Northwest and Alaska occur in groups of animals called pods and most pods in Alaska number fewer than 40 animals.

### **9.2 Food**

Killer whales are opportunistic feeders and have been observed to prey on virtually any large marine animal available. Resident pods appear to feed primarily on a wide variety of fish such as salmon, herring, halibut, and cod. Transient pods feed primarily on any available species of marine mammal.

### **9.3 Life Cycle**

Killer whales are long-lived animals and reproduce slowly. The maximum age which these animals can attain has not been determined, but may be at least 34 years, based on counts of growth lines in the teeth. The annual birth rate has been estimated at 4 to 5 percent but may be higher following the deaths of several animals in a pod. In stable pods, some females may not breed at all. Young are born at intervals of three to eight years, although animals born in captivity have borne young 19 months apart. The gestation period has been estimated at 15 to 16 months. In the north Pacific, most births appear to occur between fall and spring.

### **9.4 Main Factors Affecting the Population**

The main factor affecting killer whale numbers is human impacts. While it is illegal, killer whales are sometimes shot by fisherman as they have begun to remove black cod from long lines.

### **9.5 State Population**

During the 1980s, photo identification techniques were used for the first time in Southeast Alaska and in Prince William Sound to determine the number of individuals and pods of killer whales occurring in those two areas. Following the Exxon Valdez oil spill, these studies were expanded and carried out on a more systematic basis. As a

result of this research, approximately 250 animals in 15 pods have been identified in Prince William Sound. Approximately 160 animals have been identified in Southeast Alaska; approximately 100 animals have been identified in the area from Kodiak to the Shumagin Islands; and another 100 animals have been identified in the Bering Sea.



## **10.0 Beluga (*Delphinapterus leucas*)**

### **10.1 Range**

Belugas occur throughout arctic and subarctic waters of North America, Greenland, Europe, and Asia. They are often found in ice-covered regions in winter and spring and in coastal waters in summer and autumn. Two populations occur in Alaska. The Cook Inlet population occurs in the inlet and Shelikof Strait region, although wanderers have been seen east to Yakutat Bay and to Kodiak Island. Belugas of the Bering Sea population range throughout the Bering, Chukchi, and Beaufort seas. They winter in the drifting ice of the Bering Sea, moving in summer to areas scattered along the coast from Bristol Bay to the Mackenzie River Delta in Canada. In Alaska, major concentrations occur in Bristol Bay, Norton Sound, Kotzebue Sound, and Kasegaluk Lagoon.

### **10.2 Food**

Winter foods of belugas are virtually unknown. In summer they feed on a variety of schooling and anadromous fishes that are sequentially abundant in coastal zones. Principal species eaten include herring, capelin, smelt, arctic and saffron cods, salmon, flatfishes, and sculpins. Octopus, squid, shrimps, crabs, and clams are eaten occasionally.

### **10.3 Life Cycle**

Beluga calves are born in May-July, usually when the herds are near or in summer concentration areas. Breeding occurs in March or April, and the total gestation period is about 14.5 months. Most adult females will produce one calf every three years. A calf is nursed by its mother for about two years. Belugas can probably live to be 40 years old.

### **10.4 Main Factors Affecting the Population**

The main factor affecting beluga numbers is predation from killer whales and polar bears. Human related impacts include habitat degradation and entanglement in gillnets.

### **10.5 State Population**

The Cook Inlet beluga population is considered "depleted" but "stable" by NMFS, and has not been listed under the Endangered Species Act because the subsistence harvest of Cook Inlet belugas, which was thought to have contributed to the population depletion, was prohibited in 1999 (Angliss and Lodge 2002). Belugas are an important component of the nearshore marine mammal fauna of Alaska waters. The continued existence of healthy beluga populations depends on protection of important habitats, avoiding

conflicts between belugas and human developments in nearshore and offshore waters, and wise use of the resource.

## **11.0 Steller Sea Lion (*Eumetopias jubatus*)**

### **11.1 Range**

Steller sea lions are found from the northwestern California coast northward into the Bering Sea to Bering Straits, in the Okhotsk Sea and along the Kamchatka Peninsula in Russia, in the Kurile and Commander Islands, and south as far as Hokkaido and northern Honshu in Japan. Seasonal movements occur generally from exposed areas in summer to protected areas in winter. Steller sea lions can move over long distances.

### **11.2 Food**

As marine carnivores, Steller sea lions eat a wide variety of fish such as pollock, flounder, herring, capelin, Pacific cod, salmon, rockfish, sculpins, and invertebrates such as squid and octopus. Most of the top-ranked prey of sea lions are off-bottom, schooling species.

### **11.3 Life Cycle**

Steller sea lions gather on well-defined, traditionally-used rookeries to pup and breed. Females give birth to a single pup anytime from mid-May through July. They breed shortly after giving birth, but the fertilized egg does not implant in the uterus and begin growing until October. Some females first breed in their third year, producing young in their fourth year. By their sixth year, nearly all females are breeding and producing pups. Males are physiologically able to breed at 3 to 6 years, but they probably do not participate until after 8 to 10 years because of strong territorial competition among the largest males.

### **11.4 State Population**

Steller sea lions are common in lower Cook Inlet. The western United States population was estimated at 35,000 animals by NMFS, with the population trend identified as "decreasing" (Angliss and Lodge 2002). Unlike the Cook Inlet beluga population, it is unknown why the Steller sea lion population has decreased and numerous research efforts have been initiated in recent years to try and determine the cause.

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## **12.0 Harbor Seal (*Phoca vitulina*)**

### **12.1 Range and Habitat**

Harbor seals are a widespread species in both the north Atlantic and Pacific oceans, and are found in Alaska along the coast from British Columbia north to Kuskokwim Bay and west throughout the Aleutian Islands. Harbor seals haul out of the water periodically to rest, give birth, and nurse their pups. Reefs, sand and gravel beaches, sand and mud bars, and glacial and sea ice are commonly used for hauling sites. Harbor seals are sometimes found in rivers and lakes, usually on a seasonal basis (present in summer, absent in winter). At Iliamna Lake, seals are present year-round and are probably resident. Births of harbor seal pups are not restricted to a few major rookeries (as is the case for many species of pinnipeds) but occur at many hauling sites.

### **12.2 Food**

In Alaska, common prey species include walleye, pollock, Pacific cod, capelin, eulachon, Pacific herring, salmon, octopus, and squid.

### **12.3 Life Cycle**

In Alaska, single pups are born between May and mid-July. The young pups are able to swim almost immediately after birth. They normally remain with their mothers about one month, after which they are weaned and separate from their mother. At that time over half their body weight may consist of fat, providing them a head start on self-sufficiency. Sexual maturity occurs at between 3 and 7 years.

### **12.4 Main Factors Affecting the Population**

The main human-related impact on harbor seal numbers is from interaction with commercial fishers. Seals are sometimes caught or killed in gillnets, occasionally crab pots and other fishing gear.

### **12.5 State Population**

The total Alaska harbor seal population probably ranges between 200,000 and 300,000 animals. Since implementation of the Marine Mammal Protection Act in 1972, hunting has been restricted to Alaska Natives. In some areas, harbor seals are an important part of the subsistence economy. The annual harbor seal harvest is about 2,500 to 4,000 animals.

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