

**PIGEON GUILLEMOT** *Cephus columba*

**Conservation Status**

**ALASKA: Moderate      N. AMERICAN: Moderate Concern:      GLOBAL: Least Concern**

| Breed    | Eggs | Incubation | Fledge  | Nest            | Feeding Behavior | Diet                     |
|----------|------|------------|---------|-----------------|------------------|--------------------------|
| May-Sept | 1-2  | 25-33 d    | 29-54 d | crevice, burrow | surface dive     | fish, squid, crustaceans |

**Life History and Distribution**

Pigeon Guillemots (*Cephus columba*) are medium-sized seabirds that are close cousins to auklets, murrelets, and puffins. Eye-catching breeding plumage and the delightful antics of their courtship rituals make them engaging. Compared to other alcids, guillemots have the widest array of vocal calls and behaviors to affect pair bonding and establish dominance hierarchies. Lively duet flights and “water games” begin the courtship. Spectacular chases at, or just below, the water surface, leap-frog competitions, and whistles and trills are typical behavior at the colony. These antics usually occur during a high tide “social hour” on the rocks below nest sites.

Adults of breeding age are a sleek black, with white wing patches and brilliant red feet that match the vermilion lining of the mouth. Breeding plumage is a startling change from the winter plumage of a mostly white head and belly and dark gray back. Younger birds have faint white streaking mixed with brownish-black feathers and gray-orange legs.

This species nests along rocky coastlines from California to Alaska and along the eastern shores of Siberia. Pigeon Guillemots are flexible in their nest site selection and will use remote offshore islands or onshore sites. Nesting occurs as isolated pairs or as small colonies scattered along the coastline. In a few locations there are colonies of more than 1000 pairs. One or two eggs are laid in natural cavities, rock crevices in talus boulders, on cliff faces, or in tree root systems. If natural cavities are not available some birds will dig a burrow, while others choose to nest in artificial structures.

**Alaska Seasonal Distribution**

| AK Region      | Sp | S | F | W |
|----------------|----|---|---|---|
| Southeastern * | C  | C | C | C |
| Southcoastal * | C  | C | C | C |
| Southwestern * | C  | C | C | C |
| Central        | -  | - | - | - |
| Western *      | C  | C | C | - |
| Northern       | -  | - | - | - |

C= Common, U= Uncommon, R= Rare, += Casual or accidental, - = Not known to occur, \* = Known or probable breeder, Sp= Mar-May, S= June and July, F= Aug-Nov, W= Dec-Feb. © Armstrong 1995.



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Little is known about the winter range, but it is slightly more restricted than the breeding range. Exposed coastlines appear to be deserted in favor of more sheltered inshore waters and birds from the Bering Sea colonies likely withdraw south to just beyond the ice-edge.

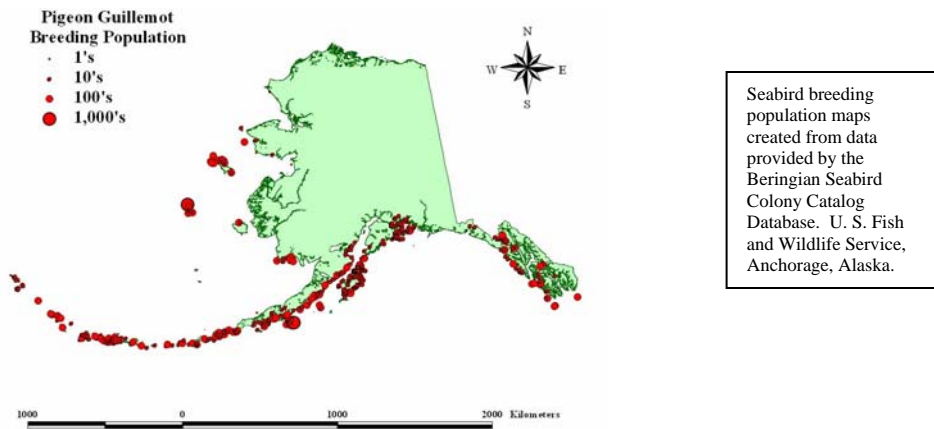
Five distinct subspecies are recognized; three occur in Alaska and all but one occur in North America. *Cephus columba columba* breeds from Kamchatka to the Bering Strait, *C. c. kaiurka* is found on the west-central Aleutian and Commander Islands, and *C. c. adianta* breeds from the central Aleutian Islands to Washington State.

The Pigeon Guillemot closely resembles the related Black Guillemot (*Cephus grylle*). Occasionally, Black Guillemots summer in Pigeon Guillemot colonies in the Bering Sea. Black Guillemots are slightly smaller, have whitish underwings, and an unmarked white wing patch (except juvenile). Pigeon Guillemots and Black Guillemots are currently recognized as a superspecies by the American Ornithologists’ Union (1983).

**Population Estimates and Trends**

The estimated world population of Pigeon Guillemots is about 235,000 and at least 50% breed in Alaska. Use of unsystematic census techniques permits detection of only dramatic changes and little trend information is available.

The U.S. Fish and Wildlife Service Beringian Seabird Colony Catalog lists approximately 49,000 birds in Alaska. Summer surveys conducted in Alaska by the U.S. Fish and Wildlife Service since 1992 estimate the population of Pigeon Guillemots at 2,233 in Prince William Sound (2004); 9,000 in lower Cook Inlet (1993); 19,000 in Southeast Alaska (1994); and 2,000 on Kodiak Island (2001).



The Prince William Sound guillemot population showed a significant negative trend (-6.7% per annum) 1972-2004. The decline is confirmed by detailed counts at study colonies. The 1989 *Exxon Valdez* oil spill exacerbated the decline, but there is also evidence that the population in the Sound was in decline prior to the 1989 spill. The reason for the magnitude of the decline is not well understood. Pigeon Guillemot populations at Aiktak Island in the Aleutian Islands also showed a significant negative trend (-5.8% per annum between 1980-2004). However, populations monitored at other sites showed no significant trends (e.g., Buldir and Kasatochi islands in the Aleutian Islands and St. Lazaria Island in Southeast Alaska).

### Conservation Concerns

Local threats to Pigeon Guillemots include gillnet bycatch mortality, oil pollution, and predation. Additionally, changes in marine ecosystems could affect food availability and thus, regional population trends.

In the late 1970s, there was a major regime shift in the marine ecosystem of the Gulf of Alaska. Crustaceans and forage fish were replaced by predatory bottom fish which are less available and less energy-rich prey for seabirds. This ecosystem shift may account for the observed long-term decline in populations of Pigeon Guillemots in Prince William Sound. Also, important prey such as juvenile herring (*Clupea pallas*) may have been compromised by the 1989 *Exxon Valdez* oil spill and overfishing.

Guillemots are highly vulnerable to mortality from oil spills. More than 600 Pigeon Guillemot carcasses were recovered from the 1989 *Exxon Valdez* oil spill, including 135 from Prince William Sound. Based on carcass recovery rates, immediate mortality could have been as high as 6000 guillemots. Pigeon Guillemots are subtidal and nearshore foraging birds that often use intertidal rocks. As a result, they are highly susceptible to oil long after the immediate mortality. The guillemot population decline in Prince William Sound was still apparent in 1998, nine years after the spill.

Predation on eggs and chicks can sometimes be heavy. Foxes (*Vulpes vulpes* and *Alopex lagopus*) introduced to two of the Shumagin Islands in Alaska (Simeonof and Chernabura) are thought to be responsible for very low densities of Pigeon Guillemots on those islands. River otters (*Lutra canadensis*) and mink (*Mustela vison*) also prey on adults, eggs, and chicks in Alaska. Ravens

(*Corvus corax*), crows (*Corvus brachyrhynchos*), and magpies (*Pica hudsonia*) also take unattended eggs or chicks. Bald eagles (*Haliaeetus leucocephalus*) prey on adults on the water. Unusual observations include predation of adults by killer whales (*Orcinus orca*) and octopus (*Enteroctopus dofleini*).

Some subsistence hunting by Native people continues today in Alaska. Between 1995 and 2000, approximately six adult guillemots and 118 guillemot eggs were taken annually by subsistence hunters. Guillemots are not identified to species during subsistence surveys and the effects of subsistence hunting and eggging are unknown.

Inshore gillnet fisheries can cause local mortality particularly because Pigeon Guillemots tend to forage near their colonies. About 2,000 Pigeon Guillemots nest around Kodiak Island. In 2002, the bycatch of guillemots in the set gillnet fishery for Kodiak Island was estimated at 76 individuals. While these species comprise <1% of all colonial birds on Kodiak Island; they comprised 14% of the total seabird bycatch.

### Recommended Management Actions

- Implement standardized survey protocols to assess population size and trends.
- Continue monitoring Pigeon Guillemots.
- Support efforts to minimize the incidence of fuel spills near breeding and wintering areas and measure contaminants in Pigeon Guillemot eggs.
- Work with state and federal agencies and fisheries councils to minimize impacts of gillnet fishing.
- Evaluate and minimize disturbance at colonies.

### Regional Contact

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### References

American Ornithologists' Union 1983; Armstrong 1995; Drago *et al.* In Press; Ewins 1993; Irons *et al.* 2000; IUCN Internet Website (2005); Kuletz 1983; Kushlan *et al.* 2002; Manly *et al.* 2003; Oakley and Kuletz 1996; Sanger and Cody 1993; Sullivan *et al.* 2005; U.S. Fish and Wildlife Service 2006, 2002; U.S. Fish and Wildlife Service Internet Website (2005).

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