

ALEUTIAN TERN

TAXONOMY

Scientific name: *Sterna aleutica* Baird, 1869

Common name: Aleutian Tern,
Kamchatka Tern, White-fronted Tern

Family: Laridae

Taxonomic comments:

Monotypic. *Sterna camtschatica* Finch, 1882 is a synonym used by other authors, especially in Russian literature (North 1997). Based on similar head patterns, may form superspecies with Gray-backed Tern (*S. lunata*) and Bridled Tern (*S. anaethetus*); also, similar foot and bill structures between Aleutian and Gray-backed Tern (Cramp 1985).



DESCRIPTION

Basic description: A medium-sized tern.

General description:

Adult distinguished from other terns by white forehead on black cap, black bill and legs, and dark grey underparts and upperparts contrasting with pure white rump and forked white tail. Distinctive call is a series of squeaky whistles, unlike that of other terns (North 1997).

Diagnostic characteristics:

Aleutian and Arctic Terns (*S. paradisaea*) are very similar in appearance and often mix on coastal breeding grounds making them difficult to differentiate. Aleutian Terns are slightly larger and have a white forehead and darker gray wings; Arctic Terns have bright red bills, while Aleutian Terns have black bills.

Length (cm): 32–38

Weight (g): 83–140

Reproduction:

Individuals lay clutches of 1-3 (usually 2) eggs in mid-May to late June. Incubation averages 22 days. Hatching occurs mid-June to late July. Young fledge in 4 weeks, mid-July to late August; may remain at nest for 1–2 weeks after they are able to fly. One brood per season; typically does not attempt to renest if eggs are taken. However, renesting was reported in Alaska colonies where eggs were harvested early in the nesting

Aleutian Tern

season (see sources in North 1997). Species nests in loose colonies of a few to over 500 pairs.

Ecology:

Forages alone, in monospecific flocks, or in mixed-species flocks. Frequently associated with Arctic Tern in North America and Common Tern (*S. hirundo*) in Siberia (North 1997). Often harassed by Arctic Tern when returning to colonies to feed chicks; occasionally forced to relinquish bill loads; sometimes prevented from entering feeding flocks (Hatch et al. 1978). Species minimizes foraging competition with Arctic Tern by feeding in different areas. Arctic Tern disperses widely from shore to continental shelf break, while Aleutian Tern concentrates in bays and fjords (Sanger 1987).

Breeding colonies often shift from year to year, especially in Bering and Chukchi seas, and at small colonies where mammalian predation occurred during the previous year (North 1997). Eggs are harvested by Alaskan Natives (North 1997).

Global migration:

Arrives in eastern Alaska in late April, in western and northern Alaska mid-May to early June; flocks begin to form in staging areas from late July to early August prior to departure for pelagic wintering areas (Haney et al. 1991).

State migration:

Generally arrives in Gulf of Alaska about 2 weeks prior to arrival in Aleutian Islands. Arrives at Copper River Delta and Prince William Sound region 20 April through 7 May; at Kenai Peninsula and Kodiak areas 4–16 May, one week later than Arctic Tern; in Homer around 11 May; and 18 May–7 June on the Aleutian Islands, Bristol Bay, and Bering and Chukchi seas (North 1997).

Fall migration begins shortly after individuals abandon colonies, typically in August. Staging sometimes occurs in coastal areas, but birds usually depart directly for the sea. Staging flock observed at Safety Inlet, Seward Peninsula 11 August. Typical late dates are 7–28 August in the Gulf of Alaska, 12 August–1 September in the Aleutian Islands and Bristol Bay, and 13 August–19 September in the Bering and Chukchi Seas (North 1997).

Food:

Summer diet primarily small fishes; capelin and sand lance are favored. My also consume marine invertebrates and some insects. In summer, forages mostly in shallow water, near colonies and within 1–10 km of land, but also well out to sea. Flies at moderate heights, swoops down to surface to catch prey (Haney et al. 1991).

Habitat:

Breeding: Colonies restricted to coastal sites, typically located at heads of bays, reefs, permanent and ephemeral islands, estuaries in lagoons and at river mouths (Haney et al. 1991, North 1997). Nests are a depression in vegetation, usually on grassy or mossy flats, sand spits, sandbars, sand dunes, pebbly seacoasts, vegetated summits of flat-topped

Aleutian Tern

islands, reticulate and string bogs, wet coastal marshes, or tundra (Rosenberg 1986, Haney et al. 1991, North 1997). Colony locations frequently shift from year to year among traditionally used sites; as a result, local populations may fluctuate greatly (Haney et al. 1991).

Non-breeding: Pelagic.

Foraging: Usually forages in shallow water, including tidal rips, along rivers, and over inshore marine waters, and freshwater ponds and marshes. In the Gulf of Alaska, generally forages in bay or fjord habitats; Arctic Terns are more widely dispersed, thereby minimizing foraging competition (Sanger 1987).

STATUS

Global rank: G4 (27Nov1996)

Global rank reasons:

Apparently secure.

State rank: S3B (16Jun2006)

State rank reasons:

Widely distributed in coastal areas in small scattered colonies. Breeding population about 9,500 individuals; trend uncertain, possibly declining. Heavy predation, colony disturbance, and inclement weather may result in low reproductive success. Vulnerable to marine oil spills due to locally concentrated distribution. Sensitive to changes in prey abundance.

DISTRIBUTION AND ABUNDANCE

Range:

Global range:

Breeding: Coastal areas in Alaska throughout the Aleutian Islands as far west as Attu Island, north to the southeastern Chukchi Sea and east to the Alaska Peninsula, Yakutat, and Glacier Bay (see Haney et al. 1991). In Asia, mostly confined to regions in or near the Sea of Okhotsk and western Bering Sea; recorded from the Commander Islands, Koroginsky Island, the Kamchatka Peninsula, and Sakhalin Island (Haney et al. 1991).

Non-breeding: Range not well known; thought to be wide-ranging at sea; likely has a tropical western Pacific distribution; recorded in the Philippines (Lee 1992). Recent observations in coastal waters around Hong Kong in spring and fall and Singapore and the Indonesian islands of Karimuna and Bintan between October and April indicate that at least part of the population migrates through and winters in these areas. Other observations suggest that coastal waters of Java, Bali, and Suwalesi may form an additional part of this species' winter range (Hill and Bishop 1999).

State range:

Breeding: Restricted to coastal areas throughout the Aleutian Islands as far west as Attu Island, north to the southeastern Chukchi Sea and east to the Alaska Peninsula, Yakutat, and Glacier Bay. Most of the Alaska population is concentrated within the Gulf of Alaska (Haney et al. 1991). Rare visitor to Pribilof Islands; no records from St. Lawrence Island (Kessel and Gibson 1978, North 1997).

Abundance:

Global abundance:

Global population estimated at 17,000–20,000 individuals (USFWS 2006). Alaska breeding population estimated at 9,500 birds (USFWS 2006) and the Siberian population was estimated at about 13,000 individuals in the early 1990s (Haney et al. 1991).

State abundance:

Alaska breeding population currently estimated at 9,500 birds (USFWS 2006). However, the population is not well monitored and estimates are likely inaccurate.

Trends:

Global trend:

Populations in Alaska and Siberia are thought to be declining (USFWS 2006).

State trend:

Trend is difficult to evaluate because of their dispersive/colonizing tendencies (North 1997). Large declines recently noted for terns (*Sterna* spp.) in Prince William Sound (Agler et al. 1999, Lance et al. 2001, Stephensen et al. 2001) and on Kodiak Island (see sources in USFWS 2006). Lensink (1984) reported the Alaskan population was stable, but other sources indicate an overall decline (Audubon Alaska 2002, ADFG 2005, USFWS 2006). Current population estimate is 9,500 birds (USFWS 2006), but North (1997) reported nearly 13,000 birds in 1995.

EXISTING PROTECTION

Global protection:

Habitat protected where species occurs in national and state parks, preserves and wildlife refuges.

State protection:

Habitat protected where species occurs in national and state parks, preserves and wildlife refuges. In Alaska, breeding occurs commonly within Kodiak, Togiak and the Alaska Maritime National Wildlife Refuges, as well as in Kenai Fjords, Wrangell-St. Elias National Parks, and rarely in Bering Land Bridge National Monument.

CHALLENGES

Global challenges:

Due to the species tendency to concentrate in a few areas, contamination as a result of oil spills is a potential threat. Heavy predation by birds and mammals and mortality associated with exposure to inclement weather may contribute to low reproductive success. Species is sensitive to disturbance at nesting colonies; complete colony abandonment has been observed following a single visit by humans (Haney et al. 1991). On non-breeding range, threatened by overfishing of prey species, uncontrolled waste disposal, and land-based pollution (Haney et al. 1991).

State challenges:

Heavy predation by birds and mammals, colony disturbance, mortality from exposure to severe weather, and inundation of nests during extreme high tides may all contribute to low reproductive success (North 1997). Vulnerable to marine oil spills due to species' tendency to concentrate in limited areas. Possibly sensitive to changes in food availability. Also, see Global threats.

Predation: Eggs and chicks are taken by a large variety of mammalian and avian predators including arctic and red foxes, river otters, Norway rats, Bald Eagles, Parasitic Jaegers, gulls, and Common Ravens (Duffy 1995, North 1997). Fox predation has led to substantial egg loss, nest desertion, increased incubation period, suspected retardation of chick growth, and increased chick mortality (Baird 1983, North 1997). On Kodiak Island and the Aleutian Islands, terns were thought to be extirpated until the 1940s and 1960s, respectively; recolonization likely occurred in response to removal of introduced red and arctic foxes (Friedmann 1935, Sowl 1979, North 1997). Terns do not occur on Aleutian Islands inhabited by foxes (North 1997). Rat introductions are also a potential threat on islands with nesting colonies (ADFG 2005).

Disturbance at nest and roost sites: Highly sensitive; may abandon colonies (seasonally or permanently) in response to human disturbance (Haney et al. 1991, North 1997). Reindeer herding that resulted in trampling of nests and young are blamed for abandonment of historical colony near St. Michael. Alaskan Natives harvest eggs at Goodnews Bay, Kodiak Island, Cape Krusenstern, and probably elsewhere in Alaska; affected terns apparently re-nest (see sources in North 1997).

Exposure: Inclement weather is a significant source of chick mortality. Extreme high tides occasionally inundate nests located on gravel spits, washing away both eggs and newly hatched chicks (Haney et al. 1991, North 1997). More susceptible to exposure than Arctic Terns, possibly because adult Aleutian Terns are more inclined to leave their young exposed (Hatch et al. 1978).

Contamination: Because a significant percentage of the Alaska population may be concentrated in a few areas, the species is vulnerable to localized marine oil spills (ADFG 2005). Scored 52 (out of 100 being most vulnerable) on oil vulnerability index (King and Sanger 1979).

Changes in prey availability: Sensitive to excessive exploitation (e.g., commercial fisheries) or changes in food stocks because Aleutian Terns are surface feeders that utilize energetically-expensive food-searching techniques (Furness and Ainley 1984). Over the past 20 years, changes in productivity in the Gulf of Alaska (GOA) marine ecosystem resulted in changes in the composition and distribution of marine fish communities (Anderson and Piatt 1999). Declines in tern and several other piscivorous marine bird populations coincided with changes in the GOA ecosystem and may be related to changes in forage fish availability (Agler et al. 1999). Although the effects of climate change on prey species' abundance and distribution are unknown, they are of potential concern.

RESEARCH AND INVENTORY NEEDS

Global research needs:

Information needed on survival, food habits, and habitat use in non-breeding range. A banding program at breeding colonies is needed to determine colony fidelity and lifetime reproductive success (North 1997).

State research needs:

A banding program at breeding colonies is needed to determine colony fidelity and lifetime reproductive success (North 1997). Studies of food habits needed, especially for birds occurring in the Gulf of Alaska, where changes in the marine ecosystem have been documented over the past thirty years.

Global inventory needs:

Non-breeding range is not well known; location and extent need to be defined. Focus areas should include coastal areas of Southeast Asia.

State inventory needs:

Size of Alaska breeding population is only a rough estimate; census data are needed to assess population size and trend. Continue colony inventories on Aleutian Islands. Census areas within species' range outside of the Aleutians currently not surveyed.

CONSERVATION AND MANAGEMENT NEEDS

Global conservation and management needs:

An accurate assessment of conservation and management priorities for the Aleutian Tern are needed (Haney et al. 1991). However, before priorities can be addressed, species' non-breeding range must be defined and threats within the range clarified.

State conservation and management needs:

Human disturbance has resulted in colony abandonment. Public education is needed to address this threat, particularly in areas where eggs are harvested or species is susceptible to other types of disturbance (e.g., reindeer grazing). Evaluate disturbance at index colonies. Study the possibility of habituation to human disturbance; under some

Aleutian Tern

conditions Arctic Terns habituate to human presence and may nest successfully in close proximity to coastal communities in Europe and North America (Hatch pers. comm.).

Manage predation potential by controlling populations of domestic and feral dogs and cats, preventing introductions of non-native mammal species, and controlling artificial sources of gull attraction (e.g., uncovered dumps) near tern colonies (ADFG 2005).

Recently, the first colony of breeding terns in Prince William Sound was reported at Hells Hole in Port Gravina. Due to its recent change to public land, this location has a high likelihood of human disturbance from recreationalists (kayaking, camping, and fishing). Recommendations have been made to the Chugach National Forest to revisit colonies in this area every 5 years, and to consider options which minimize human interactions in the area from mid-May through July when chicks have fledged (Bishop 1999).

LITERATURE CITED

- Alaska Department of Fish and Game (ADFG). 2005. Our wealth maintained: a strategy for conserving Alaska's diverse wildlife and fish resources, a Comprehensive Wildlife Conservation Strategy emphasizing Alaska's nongame species. Anchorage, AK.
- Agler, B. A., S. J. Kendall, D. B., Irons, and S. P. Kloseiewski. 1999. Declines in marine bird populations in Prince William Sound, Alaska coincident with a climatic regime shift. *Waterbirds* 22: 98-103.
- Anderson, P. J. and J. F. Piatt. 1999. Community reorganization in the Gulf of Alaska following ocean climate regime shift. *Marine Ecology Progress Series* 189:117-123.
- Audubon Alaska. 2002. Alaska Watchlist: highlighting declining and vulnerable bird populations. Available online at: <http://www.audubon.org/chapter/ak/ak/images/watchlist1.pdf>. Accessed 6Dec2004.
- Baird, P. A. 1983. Terns (*Sterna* spp.). Pp. 204-234 in: Baird, P. A. and P. J. Gould (Eds.). The breeding biology and feeding ecology of marine birds in the Gulf of Alaska. U.S. Fish and Wildlife Service., U.S. Department of the Interior, National Oceanic and Atmospheric Administration. OCSEAP Final Report 45 (1986).
- Bishop, M. A. 1999. Status of seabird colonies in northeast Prince William Sound. Restoration Project 99381. Prince William Sound Science Center, Cordova, AK. Available online at: http://www.evstc.state.ak.us/pdf/final_reports/381.pdf. Accessed 25Nov2004.
- Cramp, S. 1985. The birds of the western Palearctic, Vol. 4 – terns to woodpeckers. Oxford University Press, Oxford, U.K.
- Duffy, D. C. 1995. Apparent river otter predation at an Aleutian Tern colony. *Colonial Waterbirds* 18:91-92.
- Friedmann, H. 1935. The birds of Kodiak Island, Alaska. *Bulletin of the Chicago Academy of Sciences* 5:13-54.
- Furness, R. W., and D. G. Ainley. 1984. Threats to seabird populations presented by commercial fisheries. Pp. 701-708 in: Croxall, J.P., P.G.H. Evans, and R.W. Schreiber (Eds.). Status and conservation of the world's seabirds. ICBP Tech. Publ. No. 2.
- Haney, J. C., J. M. Andrew, and D. S. Lee. 1991. A closer look: Aleutian Tern. *Birding*, December 1991: 347-351.

Aleutian Tern

- Hatch, S. A., D. R. Nysewander, A. R. DeGange, M. R. Petersen, P. A. Baird, K. D. Wohl, and C. J. Lensink. 1978. Population dynamics and trophic relationships of marine birds in the Gulf of Alaska and southern Bering Sea. In: Environmental assessment of the Alaskan Continental Shelf, Ann. Rep. Vol. 3, Birds.
- Hatch, J.J. 2006. Personal communication via email between Jeremy Hatch, University of Massachusetts Boston, Boston, MA and Jodi McClory, Alaska Natural Heritage Program, Anchorage, AK regarding review of draft status report for *Sterna paradisaea*. 29Jan2006.
- Hill, N. P. and D. Bishop. 1999. Possible winter quarters of the Aleutian Tern? *Wilson Bulletin* 111:559-560.
- Kessel, B., and D.D. Gibson. 1978. Status and distribution of Alaska Birds. *Studies in Avian Biology* No. 1. R. J. Raitt, Ed. Cooper Ornithological Society. 100 pp.
- King, J.G. and G.A. Sanger. 1979. Oil vulnerability index for marine oriented birds. Pp. 227-239 in: Bartonek, J.C. and D.N. Nettleship (Eds.). *Conservation of marine birds of northern North America*. Wildl. Res. Rep. 11. U.S. Dept. Interior, Fish and Wildlife Service, Washington, D.C.
- Lance, B.K., D.B. Irons, S.J. Kendall, and L.L. McDonald. 2001. An evaluation of marine bird population trends following the *Exxon Valdez* oil spill, Prince William Sound Alaska. *Marine Pollution Bulletin* 42:298-309.
- Lee, D.S. 1992. Specimen records of Aleutian Terns from the Philippines. *Condor* 94: 276-279.
- Lensink, C. J. 1984. The status and conservation of seabirds in Alaska. Pp. 13-27 in: Croxall, J.P., P.G.H. Evans, and R.W. Schreiber (Eds.). *Status and conservation of the world's seabirds*. ICBP Tech. Publ. No. 2.
- North, M. R. 1997. Aleutian Tern (*Sterna aleutica*). In: *The Birds of North America*, No. 291 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and the American Ornithologists' Union, Washington, D.C.
- Rosenberg, D.H. 1986. Wetland types and bird use of Kenai lowlands. U.S. Fish and Wildlife Service, Special Studies, Anchorage, AK. 189 pp.
- Sanger, G. A. 1987. Trophic levels and trophic relationships of seabirds in the Gulf of Alaska. Chapter 10 in: *Seabirds feeding biology and role in marine ecosystems*. Cambridge University Press, Cambridge, U.K.
- Sowl, L. R. 1979. The historical status of nesting seabirds of the northern and western Gulf of Alaska. Pp. 47-71 in: *Conservation of marine birds of northern North*

America (J. C. Bartonek and D. N Nettleship, eds). U.S. Fish and Wildlife Service Wildlife Restoration Report 11, Washington D.C.

Stephensen, S. W., D. B. Irons, S. J. Kendall, B. K. Lance, and L. L. McDonald. 2001. Marine bird and sea otter population abundance of Prince William Sound, Alaska: trends following the T/V *Exxon Valdez* oil Spill, 1989-2000. *Exxon Valdez* Oil Spill Restoration Project 00159.

U.S. Fish and Wildlife Service (USFWS). 2006. Alaska Seabird Information Series (ASIS) Draft report: Aleutian Tern. USFWS Migratory Bird Management, Anchorage, AK.

Acknowledgements

State Conservation Status, Element Ecology & Life History Author(s): T.A. Gotthardt and A. Jansen. Alaska Natural Heritage Program, Environment and Natural Resources Institute, University of Alaska Anchorage, 707 A Street, Anchorage, AK, <http://aknhp.uaa.alaska.edu>.

State Conservation Status, Element Ecology & Life History Edition Date: 16Jun2006

Reviewer(s): Robert Gill, U.S. Geological Survey, Alaska Science Center, Anchorage, AK.

Life history and Global level information were obtained from the on-line database, NatureServe Explorer (www.natureserve.org/explorer). In many cases, life history and Global information were updated for this species account by Alaska Natural Heritage Program zoologist, Tracey Gotthardt. All Global level modifications will be sent to NatureServe to update the on-line version.

Global Element Ecology & Life History Edition Date: 05Sep1995

Global Element Ecology & Life History Author(s): Hammerson, G.

Copyright Notice: Copyright © 2005 NatureServe, 1101 Wilson Boulevard, 15th Floor, Arlington Virginia 22209, U.S.A. All Rights Reserved. Each document delivered from this server or web site may contain other proprietary notices and copyright information relating to that document.

Photo credit: obtained online at: <http://www.hkbws.org.hk/cgi-bin/yabb/YaBB.pl?board=Birdingtips;action=display;num=1095051001>.
