

WAES

13 March, 1998

Mr. Steven Pennoyer
Administrator, Alaska Region
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

Re: Endangered Species Act Formal Section 7 Consultation for Pacific Halibut Fisheries in Waters Off Alaska

Dear Mr. Pennoyer:

This document transmits the U.S. Fish and Wildlife Service's (USFWS) biological opinion based on our review of the proposed commercial Pacific halibut longline fishery in the Bering Sea/Aleutian Island and Gulf of Alaska commercial fishing zones, and its effects on the short-tailed albatross (*Phoebastria albatrus*) in accordance with section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.). Your April 11, 1997, letter requesting this consultation was received on April 18th. The necessary data that USFWS requested of NMFS to initiate this consultation was received by USFWS on February 12, 1998. The incidental take statement associated with this consultation is appended to the biological opinion.

This biological opinion is based on: 1) information that NMFS provided to USFWS pertaining to incidental take of seabirds by vessels fishing for groundfish, vessels fishing for both halibut and groundfish, and harvest levels and effort of both the halibut and groundfish fisheries, 2) initial summary of NMFS observer data conducted by the USFWS Office of Migratory Birds in Anchorage, 3) information provided by the International Pacific Halibut Commission (IPHC) on commonly-used halibut and groundfish fishing gear and methods, 4) anecdotal accounts of the effectiveness of seabird deterrent devices in keeping seabirds (including albatrosses) away from baited hooks, 5) the 1987 Biological Opinion issued for the Bering Sea / Aleutian Islands and Gulf of Alaska (BSAI/GOA) groundfish fisheries, including subsequent amendments to this opinion, and 6) a biological assessment submitted to the USFWS in association with the informal consultation associated with the promulgation of rules requiring the use of seabird deterrent devices in the halibut fishery, with exemptions for vessels under 26 ft (7.9 m) in length. A complete record of this consultation is on file at the Ecological Services Anchorage field office.

In summary, it is the Service's biological opinion that the Pacific halibut fishery, as proposed, is not likely to jeopardize the continued existence of the short-tailed albatross. It is expected that an incidental take will result from this action at the rate of two short-tailed albatross in two years. No critical habitat has been designated for this species, therefore, none will be affected.

A similar "no jeopardy" finding was made in 1989 for the BSAI/GOA groundfish fisheries, which are an order of magnitude larger than the Alaskan portion of the Pacific halibut fishery in terms of effort. This finding has been maintained through several subsequent amendments to the original 1987 biological opinion.

Throughout this time, the Pacific halibut fishery has been conducted at approximately equal levels of effort in the absence of seabird avoidance measures. Also throughout this time, the population size of the short-tailed albatross has continued to increase. Therefore, conducting this fishery at effort levels approximating historic levels, but with the addition of seabird avoidance measures, is not likely to result in jeopardy to the short-tailed albatross.

It should be noted, however, that this species' survival is still in question. Although the population structure seems sound, the number of breeding adults is still perilously low. Recent indications that the volcano on Torishima Island is showing signs of erupting (Hiroshi Hasegawa, Toho Univ. 1998 pers. comm.) increases the likelihood that catastrophic losses of this species could occur in the near future. If the volcano on Torishima Island severely damages or destroys the breeding colony there, it is expected that any additional level of take would result in a jeopardy finding.

Please continue to have your staff coordinate with Greg Balogh at 907/271-2778, our lead endangered species biologist for this issue.

Sincerely,

Ann G. Rappoport
Field Supervisor

Attachments: Consultation History
Biological Opinion
Incidental Take Statement
Literature Cited

cc: Dave Allen, Regional Director, Region 7, USFWS
Gerald Winegrad, American Bird Conservancy
Robert Leedy, Chief, Migratory Bird Management
Kim Rivera, NMFS
Janey Fadely, NMFS
Thorne Smith

CONSULTATION HISTORY

October, 1987: A short-tailed albatross (*Phoebastria albatrus*) was taken by the Providence, a 70-ft. commercial fishing vessel licensed to Gustafson Fisheries in Seattle, while it fished for halibut near Middleton Island in the Gulf of Alaska. The bird had been banded on Torishima Island as a nestling on 5 April, 1987 (Red plastic band # 173, metal band # 130-01836). This incident established that there was potential for take of short-tailed albatross by the halibut fishery.

February 27, 1989: NMFS requested formal consultation with USFWS regarding the interim incidental take exemption program on several listed species which occur in U.S. waters and/or occur in the Fishery Conservation Zone (54 FR:16072). Through this program, commercial fishermen may have been exempted from prohibitions against the incidental take of marine mammals, except the southern sea otter, in the course of commercial fishing activities. The USFWS issued its 34-page biological opinion regarding this proposed action on July 3, 1989. In this biological opinion, the USFWS concluded that commercial fishing, and especially commercial longline and gillnet fishing, would adversely impact the short-tailed albatross through:

- 1) direct injury or mortality from entanglement with hooks, nets, and other gear;
- 2) problems associated with entanglement or ingestion of plastics and other debris;
- 3) competition with the fishery for certain species utilized as food by albatrosses;
- 4) injury resulting from contact with petroleum products spilled or leaked from vessels.

July 3, 1989: A formal section 7 consultation between NMFS and USFWS on the groundfish fishery was completed. Incidental take was set at two short-tailed albatrosses per year.

June 12, 1996: A letter from USFWS was sent to NMFS revising the 1989 biological opinion on the groundfish fishery. The incidental take expected by this fishery was changed from 2 short-tailed albatrosses per year to 4 in 2 years.

April 11, 1997: A letter from NMFS was sent to USFWS requesting consultation on the halibut fishery. Also included was an environmental assessment on actions that would reduce seabird mortality in the halibut fishery.

April 29, 1997: Final rules published in the Federal Register (Vol. 62, No. 82) regarding management measures to reduce seabird bycatch in the hook and line groundfish fisheries.

June 3, 1997: A letter from USFWS was sent to NMFS requesting that additional information be provided prior to initiation of formal consultation on the Pacific halibut fishery.

July 23, 1997: A letter from NMFS was sent to the USFWS (received on July 28, 1997) responding to the request from USFWS for additional information related to the halibut fishery prior to initiation of formal consultation. Included was a list of information that would be provided by the North Pacific Fishery Observer Program to USFWS, and dates by which the information will be provided. Anticipated completion date for all tasks was August 22, 1997.

August 20, 1997: An e-mail from USFWS (Janey Fadely) to NMFS (Andy Grossman) requested an update on the status of the information which was due to USFWS by August 22, 1997 as per the July 23 letter.

August 22, 1997: An e-mail from National Marine Fisheries Service (NMFS) (Kim Rivera) to USFWS (Janey Fadely) specified that the Observer Program will provide information on the halibut fishery seabird takes and observations to USFWS concurrent with information they are providing on the groundfish fisheries. USFWS is responsible for analyzing the information with input from NMFS. This e-mail also notes that NMFS would be unable to provide the data until 8-28-97.

October 27, 1997: A letter was sent from NMFS to USFWS (received on October 29, 1997) requesting informal consultation for a regulatory amendment to reduce the incidental seabird mortality in the Pacific halibut fishery in U. S. Convention waters off Alaska. The regulatory amendment includes measures to reduce seabird bycatch with exemptions for vessels less than 26 ft. in the halibut and groundfish fisheries. A revised Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) on the halibut fishery was included with this request for consultation.

December 15, 1997: Proposed regulations requiring use of seabird deterrent devices on halibut vessels were published in the Federal Register Vol. 62, No. 240, pages 65635-65638. This proposal included exemptions for small vessels in both the halibut and groundfish fishery fleets.

February 12, 1998: Informal consultation on regulatory amendments/measures to reduce seabird bycatch was completed. The USFWS concurred with the NMFS assessment that the amendments were not likely to adversely affect threatened and endangered species.

February 12, 1998: Receipt of data identifying commercial fishing vessels that had observers aboard while fishing under a halibut permit. Receipt of this data marked the beginning of the formal consultation between NMFS and the USFWS on the Pacific halibut fishery.

February 17, 1998: A letter was sent from USFWS to NMFS clarifying the February 12, 1998 informal consultation. The letter clarified that halibut vessels under 26 ft in length were not expected to adversely affect short-tailed albatrosses, and that the incidental take of 4 short-tailed albatrosses every 2 years applied only to groundfish vessels 26 ft. in length or greater. No incidental take of short-tailed albatrosses by groundfish vessels under 26 ft. in length was anticipated.

February 18, 1998: A letter was sent from NMFS to USFWS detailing substantial progress on development of the research plan to test the effectiveness of seabird avoidance measures used in the GOA and BSAI groundfish fisheries. That NMFS develop this evaluation was mandated in the June 12, 1996, USFWS Biological Opinion on the potential affects of the groundfish fisheries on short-tailed albatross.

February 26, 1998: A letter was sent from USFWS to NMFS stating that formal consultation on the halibut fishery commenced as of February 12th, and that the statutory deadline for completion of the consultation was May 13th, and that the statutory deadline for completion of the biological opinion and incidental take statement was June 25th. It also stated that the USFWS would endeavor to meet NMFS operational deadline of March 15th for completion of consultation on this action.

BERING SEA/ALEUTIAN ISLANDS AND GULF OF ALASKA HALIBUT FISHERY BIOLOGICAL OPINION

I. DESCRIPTION OF THE PROPOSED ACTION

This consultation pertains to the adverse effect on threatened and endangered species resulting from commercial halibut longline fishing in U.S. Conventional waters off Alaska within International Pacific Halibut Commission regulatory zones 2B, 2C, 3A, 3B, 4A, 4B, 4C, 4D, and 4E (Fig. 1).

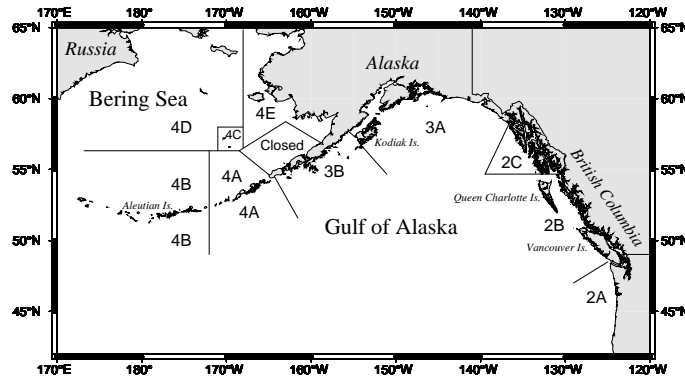


Figure 1. International Pacific Halibut Commission regulatory zones.

A. Conservation Measures

The action includes regulations recently promulgated by the NMFS regarding measures intended to reduce seabird bycatch and incidental seabird mortality. The rule requiring these measures was published in the Federal Register on March 6, 1998 (63 FR 11161) and will be effective April 6, 1998.

This action was necessary to mitigate interactions with the short-tailed albatross, an endangered species protected under the Endangered Species Act, and other seabird species in fisheries in and off Alaska. These measures apply to operators of vessels fishing for Pacific halibut with hook-and-line gear in U.S. Conventional waters off Alaska and also for operators of vessels fishing with hook-and-line gear in the GOA and BSAI groundfish fisheries. These measures are unchanged from those proposed in the Federal Register (62 FR 65635, December 15, 1997).

1. All applicable hook-and-line fishing operations:

Must use hooks that, when baited, sink as soon as they are put in the water. This could be accomplished by any means, including the use of weighted groundlines and/or thawed bait;

If offal is discharged while gear is being set or hauled, it must be discharged in a manner that distracts seabirds from baited hooks, to the extent practicable. The discharge site on board a vessel must either be aft of the hauling station or on the opposite side of the vessel from the hauling station; and must make every reasonable effort to ensure that birds brought aboard alive are released alive and that, wherever possible, hooks are removed without jeopardizing the life of the bird.

2. All vessels greater than or equal to 26 ft (7.9 m) LOA and using hook-and-line gear must employ one or more of the following seabird avoidance measures:

Set gear between hours of nautical twilight using only the minimum vessel's lights necessary for safety;

Tow a streamer line or lines during deployment of gear to prevent birds from taking hooks;

Tow a buoy, board, stick or other device during deployment of gear at a distance appropriate to prevent birds from taking hooks. Multiple devices may be employed; or

Deploy hooks underwater through a lining tube at a depth sufficient to prevent birds from settling on hooks during deployment of gear.

Additional information on the action, including a detailed description of the fishing gear are contained in an October 20, 1997 Draft EA/RIR/IRFA (NMFS, Alaska Regional Office 1997).

II. STATUS OF THE SPECIES: SHORT-TAILED ALBATROSS

A. Species description

The type specimen for the short-tailed albatross was collected offshore of Kamchatka, Russia, and was described in 1769 by P.S. Pallas in *Spicilegia Zoologica* (AOU 1983). In 1893, it was differentiated from the Laysan albatross, (*Diomedea immutabilis*) (Austin 1949). It is presently recognized globally as a distinct species (Tuck 1978). Until recently, it has been assigned to the genus *Diomedea*, but was recently reclassified into the genus *Phoebastria* (AOU 1997).

The short-tailed albatross is of the order of tube-nosed marine birds, Procellariiformes, and the family of albatrosses, Diomedidae. It is a large pelagic bird with long narrow wings adapted for soaring just above the water surface. The bill is disproportionately large compared to other northern hemisphere albatrosses and is pink and hooked with a bluish tip, has external tubular nostrils, and a thin but conspicuous black line extending around the base. Adult short-tailed

albatrosses are the only North Pacific albatross with an entirely white back. The white head develops a yellow-gold crown and nape over time.

Fledged juveniles are dark brown-black, but soon obtain pale bills and legs that distinguish them from black-footed and Laysan albatrosses (Tuck 1978, Roberson 1980). Sherburne (1993) discusses the species description in greater detail.

B. Life History

This species breeds in the far western North Pacific Ocean on isolated offshore islands. It ranges throughout the North Pacific Ocean feeding on surface aggregations of large planktonic organisms and small fishes (Sherburne 1993). Arrival at the main breeding colony on Torishima Island, a small volcanically active island in the Seven Islands of Izu group approximately 580 km south of Tokyo, Japan, is as early as September. Birds begin leaving the colony as early as late June.

Short-tailed albatross require 6 to 9 years to fully mature, and breeding is typically initiated in the 7th or 8th year (Yesner and Aigner 1976, Hasegawa 1989). Recently some 5-year-old birds have attempted to breed (Hiroshi Hasegawa, Toho Univ. pers. comm.). Adults are thought to breed annually, based upon nest site occupancy patterns in the Torishima colony (Hasegawa 1989). Pairs are monogamous (Sherburne 1993).

The nest is a grass or moss-lined concave scoop about 0.75 m (2 ft) in diameter (Tickell 1975), located in open grassy areas (Austin 1949). The female lays a single egg in either October and November, and does not replace the egg if it is destroyed. Both parents participate in the 64-65-day incubation period. While one parent incubates, the other is feeding at sea (Austin 1949). Upon its return, the parent that has been at sea feeds the chick regurgitated oil and liquefied food. The protracted brood-rearing period lasts for 5 months or longer. The parents abandon the nest in late May or early June. Their chicks fledge at night in favorable winds soon after their parents have departed the island. By mid July, all albatrosses have left the main colony on Torishima Island (Austin 1949).

Colonization or recolonization of additional nesting sites has occurred at one site on Torishima Island. In addition, 30 breeding adults were observed nesting on Minami-kojima Island in 1990/91 (Hasegawa 1992). One short-tailed albatross was observed incubating an egg on Midway Atoll in 1993 (Richardson 1994). This was the first reported breeding attempt by short-tailed albatrosses there in 32 years, albeit, an unsuccessful attempt. Additional recolonization by this species is unknown.

Short-tailed albatross are a long-lived species with high adult survival and

deferred maturity. Causes of mortality for young include: starvation following the departure of their parents, infestation by parasites, and crow predation. Both young and adults may die as a result of entanglement in brush where they have landed. Storms at sea are assumed to cause mortality, and a number of birds have been documented as having been taken in commercial fishing gear.

Short-tailed albatross are known to home in on the scent of food; their olfactory senses are highly developed compared to that of most other birds. Their at-sea movements, though wide ranging, are poorly understood. From December through April, they are thought to be largely aggregated near the breeding colonies in the Izu and Bonin Islands with breeding birds occurring in large offshore flocks (Hattori in Austin 1949). There is thought to be a post-breeding shift in distribution at sea which coincides with increases in abundance of zooplankton and other higher trophic organisms (Koblentz-Mishke et al. 1965). This distributional shift finds short-tailed albatrosses near the Aleutian Islands, in the Bering Sea and along the west coast of North America as far south as Baja, California (Palmer 1962). It is important to remember when interpreting distribution data that most of the short-tailed albatross observation data derives from opportunistic sightings from ships at sea, and not from random or systematic surveys. Therefore, given that short-tailed albatrosses are so wide ranging, much of the distribution information may be reflecting the distribution of ships at sea as well as the distribution of the albatrosses themselves.

C. Population Dynamics

Short-tailed albatross are thought to have historically numbered in the low millions (Hasegawa and Degange 1982). Between 1885 and 1903, over 5 million of the birds were harvested for their plumage and oil (Yamashina in Austin 1949). Economics associated with the harvest of these birds brought the large-scale harvest to an end when, by the 1930's, the population had been reduced to fewer than 50 birds (Tickell 1975). The population on Torishima Island had increased to at least 100 birds by 1951 (Environmental Agency 1980). Designation of the species as a Special National Monument in Japan resulted in tight restrictions on human disturbance on the nesting grounds (Hiroshi Hasegawa, Toho Univ. 1997 pers. comm.). Hasegawa (Toho Univ. 1997 pers. comm.) reports that the population of short-tailed albatrosses on Torishima Island continues to exhibit dramatic growth (Fig. 2).

The main colony of short-tailed albatrosses on Torishima Island was observed to respond favorably to habitat modification at the colony site (Figs. 3 and 4), and negatively to mudflows (Fig. 4) (Hiroshi Hasegawa, Toho Univ. Japan, pers. comm.). Current population enhancement efforts are currently focused upon attracting breeders to an alternate colony site on Torishima that is less likely to be decimated by volcanic activity.

Population growth of the short-tailed albatross on Torishima Island. Japan

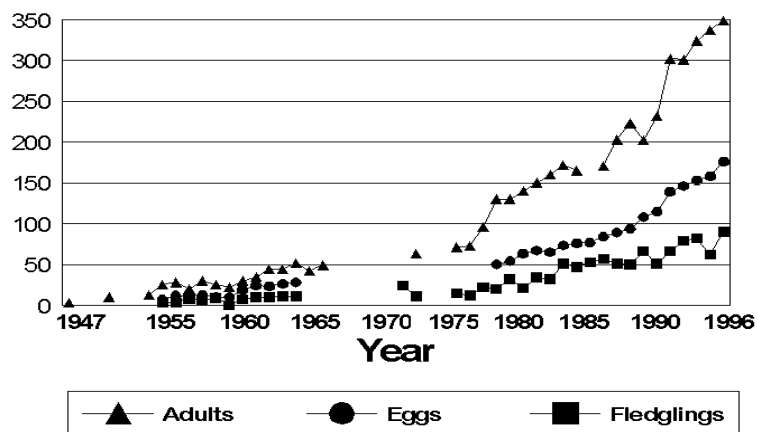


Figure 2. Short-tailed albatross population change on Torishima Island. Data courtesy of Hiroshi Hasegawa, Toho Univ., Japan.

Effect of grass transplant on the breeding success of the short-tailed albatross on Torishima

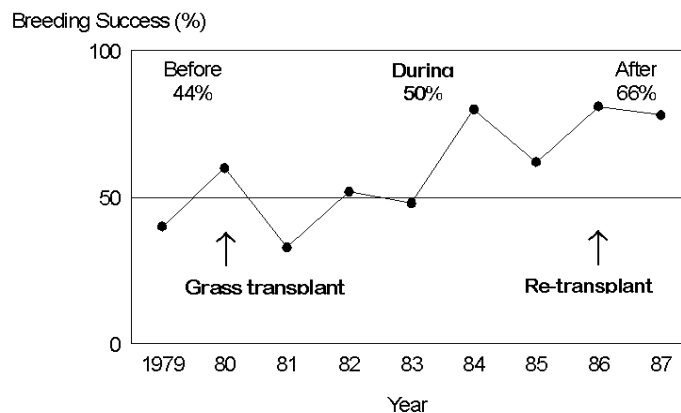


Figure 3. Breeding success following transplant of soil-stabilizing grass at the main colony site on Torishima Island. Data courtesy of Hiroshi Hasegawa, Toho Univ., Japan.

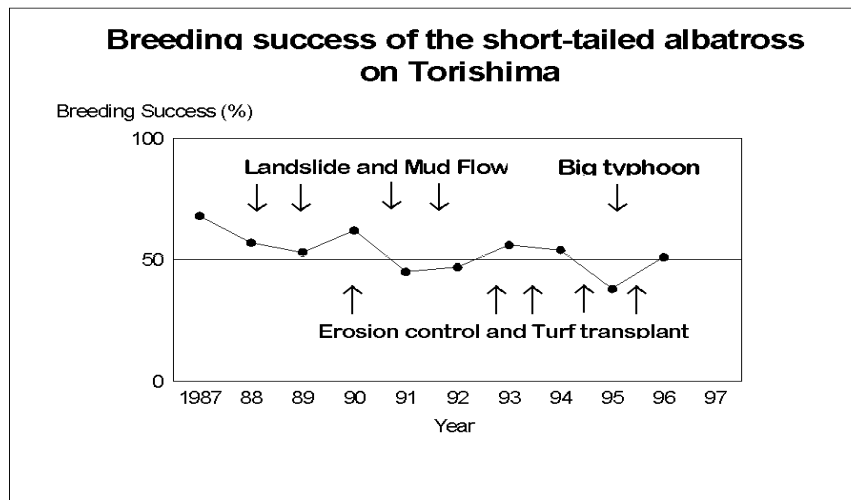


Figure 4. Breeding success associated with soil instability, a large storm, and efforts at soil stabilization. Data courtesy of Hiroshi Hasegawa, Toho Univ., Japan.

D. Status and distribution

Pursuant to the 1969 Endangered Species Conservation Act (ESCA), the Secretary of the Interior listed the short-tailed albatross as an Endangered "foreign" species but not an Endangered "native" species (USFWS Federal Register 35(106) June 2, 1970). According to the 1969 Act, the procedure for native species listing required official notification to the governor of each state within which a species resided. Since available data were interpreted as not supporting resident status for the short-tailed albatross, no governors were contacted, and the native population was not listed (Sheppard, 1993 pers. comm.). In 1973, the Endangered Species Act (ESA) repealed the 1969 ESCA and combined "foreign" and "native" species into a single list. This resulted in a number of species, including the short-tailed albatross, being listed as Endangered throughout their range, except within the United States. In the late 1970's, the lack of "native species notification" technicality was viewed as causing the short-tailed albatross to be omitted from listing, which did not represent the intention of the USFWS (USFWS Federal Register 45 (145) July 25, 1980). However, no grandfather clause existed to exempt the short-tailed albatross from the native species notification procedures (Sheppard, 1993 pers. comm.). In summary, the short-tailed albatross is listed as an Endangered species throughout its North Pacific Ocean range, excluding the United States (USFWS Federal Register 45 (145) July 25, 1980).

In 1980, it was the intent of the U. S. Fish and Wildlife Service to list the short-tailed albatross within the United States (USFWS Federal Register 45(145), July

25, 1980a; USFWS 1980b, Endangered Species Bulletin 5(8)). The USFWS proposed listing the short-tailed albatross as Endangered within the United States, but the proposed rule was neither finalized nor withdrawn (Jean Cochrane, Univ. Minn. 1993 pers. comm.). The USFWS plans to formally propose listing this species once again in 1998. The short-tailed albatross is currently treated by NMFS and USFWS as an endangered species in U.S. waters between 3 and 200 miles offshore.

This species is considered by the IUCN to be endangered (80% decline in the past 10 years or three generations, whichever is longer), with criteria C1 (number of mature individuals <250 with a decline of 25% in the past three years or 1 generation, whichever is longer) (World Conservation Monitoring Centre 1998).

The short-tailed albatross world breeding range has been reduced to two islands; Torishima Island in Japan, and Minami-kojima Island. The ownership of Minami-kojima Island is disputed between Japan, the Peoples Republic of China, and the Nationalist Republic of China (Sherburne 1993). These two islands are remnant populations of the numerous historic breeding sites known during the 1800's. The species is a Special National Monument in Japan, and Torishima Island is a Japanese Nature Reserve National Monument (Hiroshi Hasegawa, Toho Univ. 1997 pers. comm.).

One short-tailed albatross was observed incubating an egg on Midway Atoll in 1993 (Richardson 1994). This was the first reported breeding attempt by short-tailed albatrosses there in 32 years. Archaeological evidence suggests that historic accounts indicating that this species bred on Alaskan islands were probably in error; there was a complete lack of bones from young short-tailed albatrosses in 400 midden samples, many of which contained numerous adult short-tailed albatross bones (Yesner 1976, Sherburne 1993).

This species was formerly common in waters of high biological productivity around the Aleutian Islands and along the Pacific coast of North America from Baja, California to the Bering Strait. In recent times, few sightings of short-tailed albatross are made in these waters each year. The USFWS short-tailed albatross observation database documents the location of opportunistically-observed short-tailed albatrosses since the late 1940's (Fig. 5). The temporal distribution of short-tailed albatrosses observed by fishery observers in Alaskan waters since 1990 shows a definite seasonality to the species presence in Alaskan waters (Fig. 6). It is important to remember when examining the distribution of short-tailed albatrosses in Alaskan waters that much of the data is from groundfish fishery observers, and, as such may represent the distribution of groundfishing vessels more so than the distribution of birds (Fig. 5).

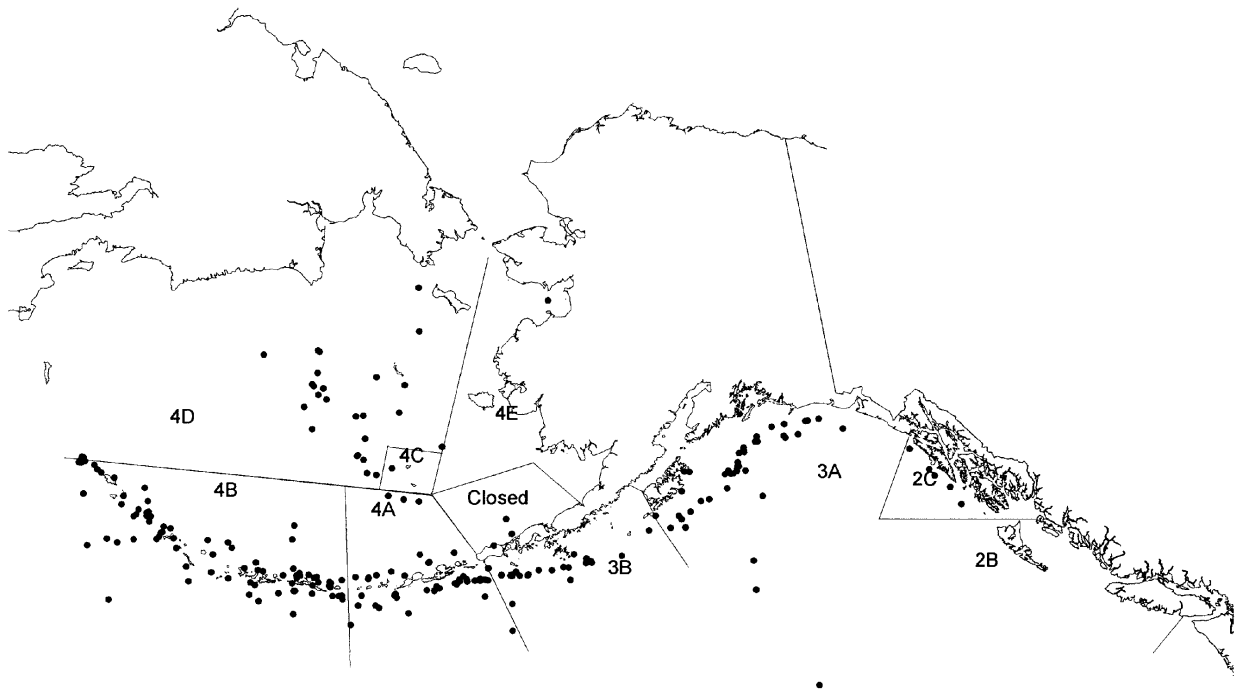


Figure 5. Location of short-tailed albatross sightings in the U.S. Fish and Wildlife Service short-tailed albatross database. Points are overlaid on a map of IPHC regulatory zones. Locations may partially represent distribution of groundfish and research vessels within the albatross' range.

E. Analysis of the species/critical habitat likely to be affected

Five short-tailed albatrosses are known to have been taken by longline fisheries in Alaska from 1983-1996. Longline and pelagic fisheries elsewhere in the Northern Hemisphere likely take short-tailed albatrosses as well. In Japan, where there is no penalty associated with incidental take of short-tailed albatrosses, only two have been reported taken (Hiroshi Hasegawa, Toho Univ. 1997 pers. comm.). However, Japanese handline fishermen are likely to cut live hooked birds loose rather than handle them and incur additional paperwork. Hasegawa reports finding 3-4 birds per year on Torishima Island that have become tangled in fishing line, some of which die as a result. Information regarding the impact on short-tailed albatrosses from the estimated 710 million hooks per year used in North Pacific pelagic fisheries is unknown, but may soon be reported in a Food and

Agriculture Organization (FAO) international consultation on this issue in 1998. Despite the take associated with commercial longlining, the short-tailed albatross population continues to rebound from the millinery trade-induced decimation of the late 19th and early 20th centuries (Fig. 2). Given the absence of unforeseen circumstances (severe storms, mudslides or volcanic eruptions near nesting colonies, or catastrophic oilspills in areas of high albatross concentrations), the growth of the short-tailed albatross population is likely to continue. The widespread use of seabird deterrent devices by commercial fishermen in the northern hemisphere could result in an increased rate of population growth. Nevertheless, the world population of this species remains perilously low, and as a result of the main colony's location on steep unstable soil on the side of an active volcano, the species is subject to uncontrollable sudden and catastrophic

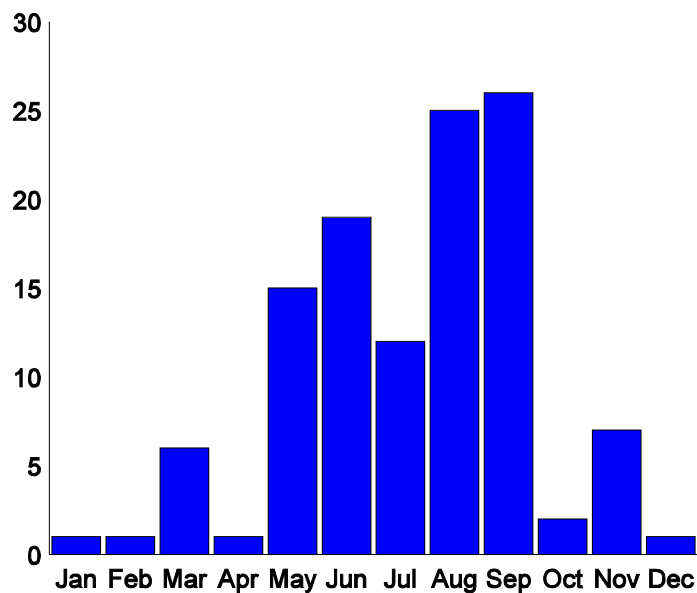


Figure 6. Distribution through time of Short-tailed albatross sightings made by groundfish fishery observers from 1993-1997.

losses.

III. ENVIRONMENTAL BASELINE

Short-tailed albatross were subjected to severe human-induced decimation from 1885-1903, during which time, an estimated 5 million short-tailed albatrosses were killed. By the 1930s, the feather trade industry had reduced the world population to fewer than 50 individuals. In 1902 and 1939, major volcanic eruptions on Torishima Island destroyed much of the suitable breeding habitat. The resulting loss of habitat caused the remaining

birds to nest in denser concentrations, which in turn resulted in trampling and subsequent loss of vegetation and increased soil erosion. Mudslides resulting from typhoon rains have caused additional short-tailed albatross mortality and habitat loss on Torishima Island.

The loss of birds due to sharks, parasites, introduced exotic mammals, and inter-specific competition is unknown. Some take that probably resulted from Japanese handliners near Torishima Island has been documented (Hiroshi Hasegawa, Toho Univ. pers. comm.). Little is known of short-tailed albatross incidental take due to foreign fishing efforts. However, estimated annual effort of North Pacific pelagic fisheries has been placed at 710 million hooks (Michael Laurs, NMFS, Honolulu, 1998, pers. comm.). If the rate of take for all North Pacific fisheries approximated that of the Alaskan groundfish fisheries (3 short-tailed albatross between 1995 and 1997 with a 1994-1996 average effort of 213 million hooks per year), then the resulting incidental take by North Pacific fisheries would be somewhere around 4 short-tailed albatrosses per year. If the actual incidental take rate for all North Pacific fisheries approximates the expected incidental take rate for the Alaskan groundfish fishery (2 birds per year), then approximately 8 short-tailed albatrosses per year may be taken by all North Pacific fisheries. This estimate of incidental take does not include that of foreign demersal fisheries. Effort figures for these fisheries are not readily available.

A. Status of the Species Within the Action Area

Although the action under consideration here will occur solely within the International Pacific Halibut Commission regulatory zones 2B, 2C, 3A, 3B, 4A, 4B, 4C, 4D, and 4E (Fig. 1), the action area is considered to be the entire range of the species, because this is the range over which this action may affect this wide-ranging species. The status of the entire species cannot be adequately determined.

The assumption must be made that the status of the species within the action area is reflected by the status of the species at the Torishima Island colony site(s) (Fig. 2). There, the population remains perilously low, but the population growth is high, even prior to the advent of seabird avoidance measures in Northern Hemisphere fisheries. However, the species remains vulnerable to catastrophic losses due to uncontrollable environmental, geological, and edaphic factors.

B. Factors Affecting Species Environment Within the Action Area.

Severe storms within the action area could account for some loss of short-tailed albatross, though this is not known to have been documented. In addition, oceanic anomalies such as El Niño could result in losses of unknown magnitude. Warm water currents off Alaska during 1997 resulted in widespread food shortages and resulting die-offs for several species of seabirds. The ability of albatrosses to wander great distances, however, certainly must minimize the impacts of regional food shortages. Oceanic anomalies could also result in changes in short-tailed albatross distribution, resulting in atypical numbers of encounters between the

birds and commercial fishing vessels. Whether current El Niño conditions will result in greater or fewer short-tailed albatross/fishing vessel encounters is unknown.

Other actions that are already affecting the species within the action area include commercial groundfish longline fishing, which has an allocated incidental take of 4 short-tailed albatross every 2 years. North Pacific pelagic fisheries and other domestic and foreign fisheries result in an unquantified take of short-tailed albatrosses. In addition, take could result from oil spills which may occur during the transporting of oil, primarily from: 1) the terminus of the Trans-Alaska pipeline in Valdez, Alaska to refineries along the shores of the U.S. West Coast and Texas; and 2) smaller fuel shipments that occur closer to short-tailed albatross breeding colonies where birds often raft in high concentrations near their nesting islands.

IV. EFFECTS OF THE ACTION

Direct effects of this action include direct mortality of short-tailed albatrosses due to drowning. Their drowning results from the birds attempting to consume longline bait during longline setting and becoming accidentally hooked and dragged under by the sinking gear.

Indirect take may result from birds colliding with vertical or near-vertical lines running from the vessel into the water (such as to a towed transducer) (Vivian Mendenhall, MBM, 1998 pers. comm). This has been observed to occur with other North Pacific albatross species. A loss of breeding success may occur as a result of direct take when the mate of the taken bird is unable to breed until it forms a new pair bond.

Contact with petroleum products introduced to the marine ecosystem as a result of this fishery may result in indirect take of short-tailed albatrosses. Plastics discarded by halibut longline vessels may cause some level of indirect take due to short-tailed albatross ingesting or becoming tangled in the materials. An additional indirect effect may result from commercial fishing-induced alteration of the marine trophic system.

A. Factors to be Considered

1. Direct Take

Short-tailed albatrosses taken by the Alaskan halibut fishery are not likely to be in breeding status due to the distance from their breeding colony and the timing of the fishery. Therefore, no additional take of chicks will occur at the breeding colony as a result of the loss of a breeding aged adult in Alaskan waters.

Some level of direct take of short-tailed albatrosses by this fishery may occur for as long as this fishery and this species exist. The widespread use of seabird devices will, hopefully, result in dramatic declines in rate of take.

2. Indirect Take

Indirect take of other albatross species has been reported resulting from birds that are intent on observing the water surface for food, and subsequently colliding with cables running to towed transducers. Similar take of short-tailed albatrosses could occur as a result of any taut vertical or near vertical line running into the water.

Accidental or unlawful and purposeful discharge of petroleum products is unlikely to occur while a vessel is setting or hauling gear. It would not be in the best interest of the fishers to foul their outgoing bait or incoming catch with oil. Conversely, if conditions aboard the boat are such that an oil spill is imminent (i.e. the boat is sinking or floundering), then the crew is not likely to be setting or hauling gear. Because short-tailed albatrosses are much less likely to alight near a boat that is not proffering food (i.e. setting or hauling longline gear or dumping offal), they are not likely to encounter small oil-spills that may be associated with fishing vessels. Therefore, the USFWS concludes that the indirect take of short-tailed albatross likely to result from fuel and oil spills associated with this fishery is negligible and discountable.

Short tailed albatross often consume plastics at sea, presumably mistaking the plastics for food items. Hasegawa (Toho Univ., pers. comm.) reports that short-tailed albatrosses commonly regurgitate large amounts of plastic debris on Torishima Island. However, his impression is that the effects of plastic ingestion is minimal and that the vast majority of regurgitated plastics were from land-based activities. Therefore, based on this observation, and the lack of evidence to the contrary, the USFWS concludes that indirect take of short-tailed albatross resulting from plastic pollution associated with this fishery is negligible and discountable.

Changes in the Bering Sea trophic system have been implicated in the decline of several marine species. However, at this time, it would be impossible to determine whether indirect take of short-tailed albatrosses was resulting from ecosystem perturbations caused by this action. Because the population on Torishima Island appears to be increasing at near maximum biological potential, it seems that this species is not limited by food quantity or quality. Therefore, the Service concludes that indirect

take resulting from changes in the marine trophic system that may have been caused by this fishery is negligible and discountable.

If a breeding adult is taken by this fishery, there may be an associated subsequent loss of breeding success due to the loss of a previously existing pair bond and the resulting lag time before a new pair bond is forged by the remaining mate.

B. Analyses for Effects of the Action

Unless otherwise noted, the information in this section was taken from a draft FAO report prepared by the International Pacific Halibut Commission (1997).

The Pacific halibut fishery in waters off Alaska is small in terms of annual effort compared to the commercial groundfish fishery; 13.6 million hooks vs 213 million hooks, respectively (Halibut fishery effort represents 1992-1996 average annual effort in Alaskan waters, groundfish fishery effort represents 1994-1996 average annual effort in Alaskan waters [Sigler 1997]).

Prior to 1995, the halibut fishery was open access, and typically took place during 1-3 days per year. With the advent of individual fishing quotas in 1995, the fishery has taken place from March 15 until November 15 each year (International Pacific Halibut Commission, unpublished data). Alaskan-owned vessels dominate the halibut harvest, accounting for about 80% of the domestic catch. The number of vessels participating in this fishery in Alaska has declined since 1994, and in 1996, was comprised of just over 2000 vessels (International Pacific Halibut Commission, unpublished data).

Pacific halibut longline gear consists of a groundline, usually 0.54 km long, with hooks attached to 1.0-1.5 m long gangions spaced 1.5-7.0 m apart along the groundline. Size 16/0 to 13/0 circle hooks are attached to the gangions. The groundline, usually with 100 attached gangions and hooks, comprises a skate. Several skates are strung together to form a fishing unit, which is weighted with anchors and attached to buoys and buoylines.

“Conventional” gear is set off the stern over a chute that uses centrifugal force to straighten out the gangion and drop the bait away from the groundline. It is set and retrieved as coils. “Snap” gear is set and retrieved off of drums, and spacing between gangions may vary. For both types of gear, baited hooks may float for a few seconds before sinking as a result of anchors. Sinking rates vary according to gear.

The Pacific halibut fishery occurs primarily on the continental shelf (50-200 m depths), and more rarely on the upper slope (to 400 m depth). Observers are not

required aboard halibut vessels, however, a number of cruises have included fisheries observers because the vessel was also landing groundfish on the same cruise. Since the 1995 advent of individual fishing quotas, the allocation of effort through time (Fig. 6) shows that most of the fishing occurs during the warmer months, when short-tailed albatrosses are most prevalent in waters off Alaska.

The action considered in this consultation includes the use of seabird avoidance gear and methods as stipulated in Federal Register vol. 63 pg.11161. (50 CFR Part 679), including certain exemptions for vessels under 26 ft. in length.

1. Beneficial Effects

Supplementing the diet of short-tailed albatrosses with fishery-derived bait and offal could be considered a positive effect. However, the risks posed to the species by feeding in this way probably offset the caloric advantages to the individuals. In addition, it is rarely to the benefit of wild animals to become partially or wholly dependent upon humans as a supplier of food. Therefore, in this consultation, fishery-derived food sources will not be considered a beneficial effect of this action.

2. Direct Effects

Five short-tailed albatross takes have been reported in the Alaskan hook-and-line fisheries from 1983 through 1996. These occurred in the months of July, August, September, and October (2). According to the USFWS short-tailed albatross database, short-tailed albatross sightings by fishery observers in the BSAI and GOA have occurred in all months of the year (USFWS, Office of Ecological Services, Anchorage, unpublished data).

The first reported take of a short-tailed albatross in the Alaskan groundfish fisheries was in July 1983, north of St. Matthew Island. The bird was found dead in a fish net. A second take occurred in October 1987, and was caught by a vessel fishing for halibut in the GOA near Middleton Island.

A juvenile short-tailed albatross was taken in the western GOA sablefish hook-and-line fishery south of the Krenitzin Islands on August 28, 1995. The captain of the vessel reported that hundreds of albatrosses were caught and drowned on sets of squid-baited hooks (the others were Laysan and black-footed albatrosses). A NMFS-certified observer reported that longlines may have been inadequately weighted to assure rapid descent of baited hooks (Andrew Grossman, NMFS, 1995 pers. comm.).

A take of a short-tailed albatross in the IFQ sablefish fishery occurred on October 8, 1995, in the Bering Sea; NMFS was notified of the bird death

on November 14 at the closure of the IFQ longline fishery. By the time USFWS confirmed the bird's identification, the groundfish total allowable catches were reached and NMFS had closed the fishery. The reason for the second taking was also attributed to insufficient weighting of the longlines (Andrew Grossman, NMFS, 1996 pers. comm.).

The fifth short-tailed albatross was taken September 27, 1996, in the BSAI. The 5-year old bird was taken in a hook-and-line fishery.

All five albatrosses had been banded on their Japanese breeding grounds and their bands were recovered, allowing scientists to verify identification and age.

Seabird information is collected by groundfish fishery observers for that fishery. No such observer program exists for the halibut fishery. This precludes the USFWS and NMFS from knowing the true extent of short-tailed albatross take by this fishery. However, the reported take of a short-tailed albatross by a halibut vessel in 1987 and the similarity in gear between the groundfish and halibut fisheries make it reasonable to conclude that halibut fishery take has occurred and is likely to continue to occur at some level.

Using the expected incidental take of the groundfish fishery (4 birds in 2 years), and incorporating short-tailed albatross sighting data from groundfish fishery observers, and the timing and relative efforts of the groundfish and halibut fisheries, we can estimate an anticipated incidental take for the Pacific halibut fishery in waters off Alaska as follows:

Relative Effort

The Alaskan Pacific halibut fishery is less than 1/10th the size of the BSAI/GOA groundfish fishery in terms of effort; 13.6 million hooks vs. 213 million hooks respectively (halibut fishery effort represents 1992-1996 average effort in waters off Alaska, groundfish fishery effort represents 1994-1996 average effort in waters off Alaska [Sigler 1997]).

Relative Abundance of Birds

Observer information for the halibut fishery is lacking. However, fisheries observers have logged over 27,000 observer days for BSAI/GOA groundfish fisheries since 1992, when they began reporting short-tailed albatross sightings (NMFS, Juneau, unpublished data; USFWS, Anchorage, unpublished data). This data can be corrected to account for differences in observer effort

to reflect the abundance of birds in waters off Alaska through time.

Timing of the Fisheries

If the same rate of short-tailed albatross take per unit of fishing effort were expected of both the halibut fishery and the groundfish fishery, then the halibut fishery would be allocated an incidental take of 1 short-tailed albatross every 7.4 years. However, about

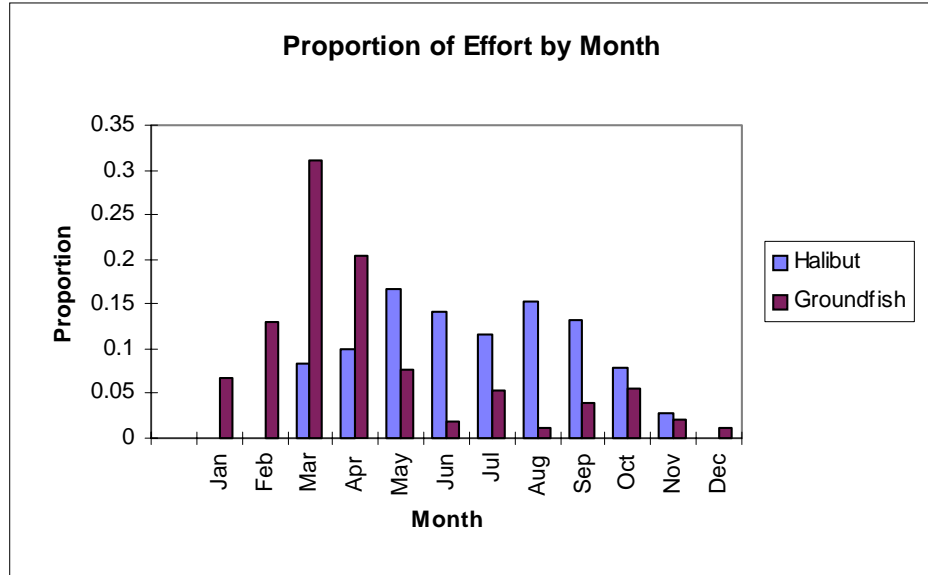


Figure 7. Allocation of effort through time for the Pacific halibut fishery and BSAI/GOA groundfish fishery. Halibut effort data from 1996 catch data. Groundfish effort data from 1993-97 catch data.

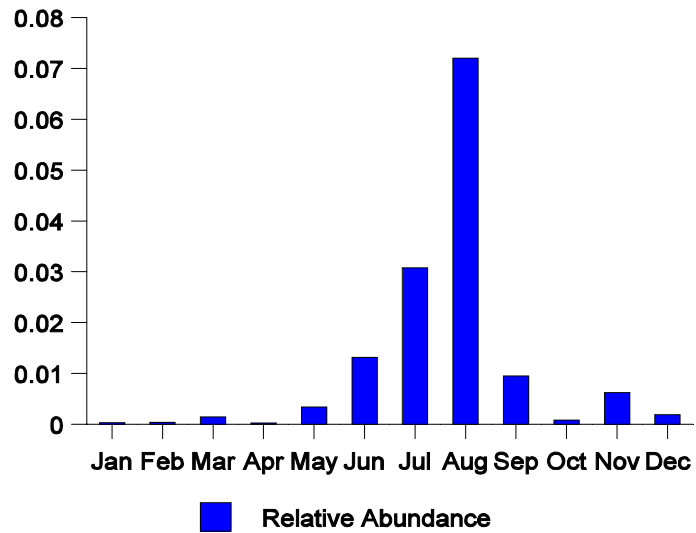


Figure 8. Abundance index for short-tailed albatross in waters off Alaska. Generated from groundfish observer data and adjusted for observer effort.

80% of the commercial groundfishing effort occurs during times of year when very few short-tailed albatross occur in waters off Alaska (Figs. 7-8). Conversely, 70% of the Pacific halibut fishery transpires during May-September; the months when short-tailed albatrosses are far more abundant in waters off Alaska (Figs. 7-8). It follows, then, that short-tailed albatross encounters are far more likely to occur during any given unit of effort of halibut fishing than during an equivalent unit of effort of groundfish fishing.

The short-tailed albatross encounter index (Fig. 8) takes the number of short-tailed albatross sightings made by observers each month and adjusts that number by the total observer effort for that month (number of sightings x proportion of annual observer effort for that month). The index shows that short-tailed albatross are far more abundant in waters off Alaska between May and September, the months when the bulk of the halibut fishery occurs. The question then becomes “how much more likely is it for a halibut vessel vs. a groundfish vessel to encounter a short-tailed albatross”?

When the monthly fishery effort data of the two fisheries is multiplied by the monthly short-tailed albatross abundance index, we get a monthly index of short-tailed albatross/vessel encounter for each fishery (Table 1). Adding the monthly totals for these two albatross/vessel encounter indices provides an overall index of encounter for each fishery. This data suggests that halibut vessels may be about 5 times more likely than groundfish fishing vessels to encounter short-tailed albatrosses per unit of fishing effort (Table 1, halibut fishery/short-tailed albatross encounter index = 0.018646081, groundfish fishery/short-tailed albatross encounter index = 0.003693271) .

Therefore, acknowledging that the Alaskan Pacific halibut fishery is only about 1/10th the size of the BSAI/GOA groundfish fishery, that halibut boats are about five times more likely to encounter short-tailed albatrosses while at sea, and that the groundfish fishery is allocated four birds reported every two years, it follows that the halibut fishery incidental take can be estimated to be two birds reported every two years (5 x 1/10 x 4 birds /2 years). In order for this method of estimating incidental take to be a valid approach, the halibut fishery incidental take reporting rate must be equivalent to that in the groundfish fishery.

3. Indirect Effects and Interrelated and Interdependent Actions

Interrelated and Interdependent actions of: 1) oil and fuel spills from fishing vessels, 2) industry-associated plastic pollution, and 3) industry-induced

Table 1. Halibut and groundfish vessel / short-tailed albatross encounter indices. Totals of encounter indices indicate that a halibut boat is about five times more likely than a groundfish fishing vessel to observe a short-tailed albatross at sea.

Month	Prop. Halibut Fishing Effort ¹	Prop. Groundfish Fishing Effort ²	Short-tailed albatross Abundance Index ³	Halibut Fishery/short-tailed albatross Encounter Index ⁴	Groundfish Fishery/short-tailed albatross Encounter Index ⁵
Jan	0	0.0675	0.00034	0	0.000022950
Feb	0	0.1304	0.00035	0	0.000045640
Mar	0.0834	0.3095	0.00149	0.000124266	0.000461150
Apr	0.0988	0.2035	0.00024	0.000023712	0.000048840
May	0.1675	0.0772	0.00342	0.000572850	0.000264024
Jun	0.1420	0.0192	0.01317	0.001870140	0.000252864
Jul	0.1155	0.0531	0.03077	0.003553935	0.001633887
Aug	0.1528	0.0123	0.07200	0.011001600	0.000885600
Sep	0.1327	0.0395	0.00950	0.001260650	0.000049796
Oct	0.0787	0.0564	0.00080	0.000062960	0.000003551
Nov	0.0282	0.0203	0.00624	0.000175968	0.000003572
Dec	0	0.0112	0.00191	0	0.000021392
Total				0.018646081	0.003693271

¹Data from International Pacific Halibut Commission.

²Data from National Marine Fisheries Service.

³Numeric values for data in Fig. 8.

⁴Halibut Fishery/short-tailed albatross Encounter Index is the product of the proportion of annual fishing effort for the month and the relative abundance of short-tailed albatrosses for the month. The 12-month total of these indices indicates relative likelihood that a boat in the fishery will encounter a short-tailed albatross during a given unit of fishing effort.

⁵Groundfish Fishery/short-tailed albatross Encounter Index is the product of the proportion of annual fishing effort for the month and the relative abundance of short-tailed albatrosses for the month. The 12-month total of these indices indicates relative likelihood that a boat in the fishery will encounter a short-tailed albatross during a given unit of fishing effort.

ecosystem changes, does not permit a thorough analysis at this time. However, the USFWS has determined that these effects are likely insignificant and discountable.

However, indirect effect can reasonably be expected to occur when a short-tailed albatross is taken by this fishery if the bird that was taken was a breeding adult. The take will be of the form of reduced breeding success when the mate of the taken bird is unable to mate and breed for between one and several years. In addition, indirect take may result from collision with taut vertical or near vertical lines running from the vessel into the water, such as a line running to a towed transducer (Vivian Mendenhall, MBM pers. comm.).

C. Species Response to the Proposed Action

The response of this species to the proposed action could be manifested as a reduction in the rate of population growth, and possibly as a reduction in the genetic diversity of the species. However, the species has been growing at a high rate (over 30% in 1984, 1986, 1987, and 1990) while this fishery operated at similar effort levels in the absence of seabird deterrent device requirements. With the implementation of seabird avoidance methods, the short-tailed albatross population growth rate may actually increase over the already high growth rates seen in recent years. In addition, preliminary population modelling efforts indicate that the short-tailed albatross population may be able to withstand higher rates of take than those to which it is currently subjected (Jean Cochrane, Univ. Minn. 1998 pers. comm.). Therefore, the USFWS believes that the projected take due to this fishery falls short of jeopardy.

V. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The only domestic cumulative effects that are likely to affect short-tailed albatrosses are those associated with human population growth and the associated increase in plastic pollution and demand for seafood and oil. In addition, some take of short-tailed albatrosses could occur by vessels fishing to fulfill Alaskan community development quotas for halibut and various other fisheries. It is unclear whether there is a federal nexus for this portion of the fishery.

VI. CONCLUSION

After reviewing the current status of the short-tailed albatross, the environmental baseline for the action area, the effects of the proposed Pacific halibut longline fishery, and the cumulative effects, it is the Service's biological opinion that the fishery, as proposed, is not likely to jeopardize the continued existence of the short-tailed albatross. No critical habitat has been designated for this species, therefore, none will be affected.

A similar "no jeopardy" finding was made in 1989 for the BSAI/GOA groundfish fisheries, which are an order of magnitude larger than the Alaskan Pacific halibut fishery in terms of effort. This finding has been maintained through several subsequent amendments to the original 1989 biological opinion.

Throughout this time, the Pacific halibut fishery has been conducted at approximately equal levels of effort in the absence of seabird avoidance measures. Also throughout this time, the population size of the short-tailed albatross has continued to increase. Therefore, conducting this fishery at effort levels approximating historic levels, but with the addition of seabird avoidance measures, is likely to result in fewer incidental takes than in the past, and thus is not likely to result in jeopardy to the short-tailed albatross.

It should be noted, however, that this species' survival is still in question. Although the population structure seems sound, the number of breeding adults is still perilously low. Recent indications that the volcano on Torishima Island is showing signs of erupting (Hiroshi Hasegawa, Toho Univ. pers. comm.) increases the likelihood that catastrophic losses of this species could reasonably occur in the near future. If the volcano on Torishima Island severely damages or destroys the breeding colony there, it is expected that any additional level of take would result in a jeopardy finding.

INCIDENTAL TAKE STATEMENT

Section 9 of the Endangered Species Act and Federal regulation pursuant to section 4(d) of the Act prohibit take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is further defined by USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by USFWS as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of the agency action is not considered to be prohibited taking under the act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary, and must be undertaken by the NMFS so that they become binding conditions of any authorization of the fishery as appropriate, for the exemption in section 7(o)(2) to apply. The NMFS has a continuing duty to regulate the activity covered by this incidental take statement. If the NMFS (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the NMFS must report the progress of the action and its impact on the species to the USFWS as specified in the incidental take statement [50 CFR § 402.14(I)(3)].

AMOUNT OR EXTENT OF TAKE ANTICIPATED

The USFWS anticipates up to two short-tailed albatross could be taken every 2 years as a result of the commercial halibut longline fishery in waters off Alaska. The pairing of years begins with 1998 and 1999 as a pair, 2000 and 2001 as a pair, and so on. The incidental take is expected to be primarily in the form of direct lethal take due to birds being drowned or mortally wounded as a result of encounters with Pacific halibut commercial fishing gear. Indirect take due to birds colliding with vertical or near vertical towed lines may also occur. Finally, a loss of breeding success may result from direct take of a breeding adult. The mate to the taken bird may experience a loss of breeding success for between one and several years before it forms a new pair bond.

The Alaskan Pacific halibut fishery is less than 1/10th the size of the BSAI/GOA groundfish fishery in terms of effort. Generation of the short-tailed albatross encounter index suggests that halibut vessels may be about 5 times more likely than groundfish fishing vessels to encounter short-tailed albatrosses per unit of fishing effort (Table 1, halibut fishery/short-tailed albatross encounter index = 0.018646081, groundfish fishery/short-tailed albatross encounter index =

0.003693271) . Therefore, acknowledging that the Alaskan Pacific halibut fishery is only about 1/10th the size of the BSAI/GOA groundfish fishery, that halibut boats are about five times more likely to encounter short-tailed albatrosses while at sea, and that the groundfish fishery is allocated four birds every 2 years, it follows that the halibut fishery incidental take can be estimated to be two birds every 2 years (5 x 1/10 x 4 birds /2 years).

EFFECT OF THE TAKE

In the accompanying biological opinion, the Service determined that the anticipated level of take for the Pacific halibut fishery in waters off Alaska (two short-tailed albatrosses in 2 years), in addition to the anticipated level of incidental take for the BSAI/GOA groundfish fishery (four birds in 2 years) is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat. Preliminary population modeling using existing short-tailed albatross population dynamic data indicates that the current short-tailed albatross population can continue to grow even with some additional additive mortality (Jean Cochrane, Univ. Of Minn. pers. comm.). This fishery will continue to operate as it has for the past several years, except that now seabird avoidance measures will be required. This suggests that an increased rate of seabird take over that of recent years is not likely to occur. Indeed, the addition of seabird avoidance measure requirements will probably result in a decline in the rate of seabird (and thus short-tailed albatross) take by the fishery. Incidental take resulting from the Pacific halibut fishery could result in a slower rate of short-tailed albatross population growth than would otherwise occur in the absence of the fishery. It is not, however, expected to result in a detectable population decline.

It is important to note that incidental take is based upon the take that is *anticipated* to result from a particular action. Particular threatened or endangered animal populations may be able to withstand higher levels of biological removal than the action may be imposing upon them. However, this is not a justification for increasing the incidental take for that action; *incidental take is set at the level anticipated to result from that action*. It does not imply an authorized take limit or a maximum take that may be withstood by the species.

REASONABLE AND PRUDENT MEASURES

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impacts of incidental take that might otherwise result from the proposed action. The USFWS believes that no more than two short-tailed albatrosses will be incidentally taken in 2 years. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The NMFS must immediately provide an explanation of the causes of the taking and review with the USFWS the need for possible modification of the reasonable and prudent measures.

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of short-tailed albatrosses which will result from this action.

- 1) The research plan required by the reasonable and prudent measures of the June 12, 1996 biological opinion on the BSAI/GOA groundfish fishery will apply also to this fishery, and will be implemented.
- 2) Initial indications are that a given halibut vessel is far more likely to encounter a short-tailed albatross during a given unit of fishing effort than is a BSAI/GOA groundfish fishing vessel. Data supporting or refuting this supposition do not exist. The NMFS shall prepare and implement a plan to investigate all options for monitoring the Pacific halibut fishery in waters off Alaska. It will then institute changes to the fishery appropriate to the results of this investigation.
- 3) The NMFS has done an admirable job in making commercial fishers aware of the plight of endangered birds and marine mammals. They shall continue to educate commercial fishers about seabird avoidance measures, short-tailed albatross identification, the importance of not taking short-tailed albatrosses, and ways to avoid taking them when they are sighted near bait.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the NMFS must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

Terms and conditions must include reporting and monitoring requirements that assure adequate action agency oversight of any incidental take [50 CFR §402.14(I)((1)(iii) and (I)(3)]. The monitoring must be sufficient to determine if the amount or extent of take is approached or exceeded, and the reporting must assure that the USFWS will know when that happens. The NMFS must provide for monitoring the actual number of short-tailed albatrosses taken, and assure that the reasonable and prudent measures are reducing the effect of the fishery to the extent anticipated. If the anticipated level of incidental take is *exceeded*, the action agency must immediately stop the action causing the take and reinitiate formal consultation.

Under these terms and conditions, the NMFS must:

- 1) Apply the groundfish fishery seabird avoidance evaluation research plan (required by the reasonable and prudent measures of the June 12, 1996 biological opinion on the BSAI/GOA groundfish fishery) to this fishery, with changes appropriate to reflect differences in the timing and methodologies between the two fisheries.

2) Implement the above seabird avoidance evaluation research plan. Implementation of this plan shall begin no later than 1999. The seabird avoidance evaluation shall be comprised of experiments to test the effectiveness of seabird deterrent devices and methods, and shall use observers to monitor the effectiveness of deterrent devices and methods used by the vessels participating in the evaluation. The NMFS will report to the USFWS on the parts of the plan that have been implemented concurrent with their implementation. A final report of this seabird avoidance device and methods evaluation will be made to the USFWS by December 31, 2000.

3) The NMFS will institute changes to the Pacific halibut fishery in waters off Alaska deemed appropriate based upon the evaluation of the seabird deterrent devices and methods. Changes may range from requiring minimal observation of the fishery due to the effectiveness of the deterrent devices to requiring extensive observer coverage and expanded or modified use of seabird deterrent devices and methods.

4) Effective March 15, 1998, The NMFS shall require that all short-tailed albatrosses brought aboard dead in this fishery be retained, frozen aboard ship or in the absence of adequate freezer facilities, preserved as best as is practicable. Upon returning to port, the ship's Captain shall be responsible for shipping the carcass via same day or overnight shipping service to the USFWS, Ecological Services, Anchorage Field Office at the following address:

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services, Anchorage
605 W. 4th Ave. Rm G62
Anchorage, AK 99501

A note should be made on the outside of the shipping container as to its contents. Shipping costs shall be reimbursed to the addressor by the U.S. Fish and Wildlife Service.

5) Effective March 15, 1998, all observations and all takes of short-tailed albatross shall be reported by phone, fax, or e-mail to:

U.S. Fish and Wildlife Service
Ecological Services, Anchorage
Phone: 800/ 272-4174
Fax: 907/271-2786
E-mail: greg_balogh@fws.gov

Reports shall include:

- A) the name of the vessel associated with the observation or take,
- B) the date, time, and location of the observation or take,
- C) a method by which the U.S. Fish and Wildlife Service can contact the reportee, and
- D) in the case of a take, which seabird avoidance measures were being used by the crew of the vessel at the time the take occurred. Reports shall be made within 48 hours of returning to port.

6) The NMFS shall, in coordination with the USFWS, continue their efforts in educating commercial fishers about seabird avoidance measures, albatross identification, the importance of not taking short-tailed albatrosses, and ways to avoid taking them when they are sighted near bait. Outreach efforts should include material on the importance of marking with streamers, or other similar material, all vertical or near vertical lines running from the vessel into the watercoming, other than those lines that are a part of the longline itself.

COORDINATION OF INCIDENTAL TAKE STATEMENTS WITH OTHER LAWS, REGULATIONS, AND POLICIES

The USFWS will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§703-712) or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purpose of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The Service suggests the following conservation recommendations. The NMFS is not bound to implement these conservation recommendations, nor is it limited to implementing only the conservation recommendations suggested herein.

- 1) Develop and/or evaluate new seabird avoidance measures.
- 2) Suggest to fishermen actions they may take to prevent the taking of short-tailed albatross that have alighted near their longline gear.
- 3) Educate fishermen in the proper care of injured seabirds.
- 4) Consider temporary adjustments to the fishery during the times when short-tailed albatross are most abundant in the areas fished by Pacific halibut longliners in waters off Alaska.
- 5) The USFWS encourages self reporting of short-tailed albatross encounters. However, substantial evidence exists that self reporting by itself is an inadequate method for monitoring protected species encounters in a fishery. The USFWS strongly discourages the use of self-reporting as a sole method for monitoring this fishery, and strongly encourages the use of observers on Pacific halibut longline vessels over 60 ft in length.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the USFWS requests notification of the implementation of any conservation recommendations.

REINITIATION-CLOSING STATEMENT

Should additional information be obtained regarding the effects of this fishery on seabirds (such as data from fishery observers), and should this information suggest that a higher rate of short-tailed albatross take may be anticipated than that anticipated in this biological opinion, consultation on this action may be reinitiated. If the higher rate of anticipated take does not result in jeopardy to the species, then the resulting biological opinion based upon new information may result in a higher level of anticipated incidental take for the action. Similarly, should factors unrelated to this fishery cause the short-tailed albatross population to reach the jeopardy threshold (e.g., a volcanic eruption on Torishima Island), consultation shall be reinitiated. In the consultation on the effects of the fishery on a population in jeopardy, it would be difficult to legally justify conducting the fishery if it was both unmonitored and likely to result in incidental take of short-tailed albatross. Both of these situations provide incentive for the Alaskan Pacific halibut fishery to implement an observer/monitoring program similar in intensity (but different in its focus) to that used in the BSAI/GOA groundfish fishery.

This concludes formal consultation on the Pacific halibut longline fishery in waters off Alaska outlined in the NMFS October 27, 1997, request for consultation and accompanying environmental assessment. As provided in 50 CFR §402.16, reinitiation of formal consultation is required when discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

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