



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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In reply, refer to:
AFWFO Log no. 2003-205

Dr. James W. Balsiger
Administrator, Alaska Region
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

2003 SEP 16 PM 9:30
NATIONAL MARINE FISHERIES
ANCHORAGE, ALASKA

Re: Endangered Species Act Formal Consultation addressing the effects of the Total Allowable Catch (TAC)-setting process for the Gulf of Alaska and Bering Sea/Aleutian Island Groundfish Fisheries on the endangered short-tailed albatross (*Phoebastria albatrus*) and threatened Steller's eider (*Polysticta stelleri*)

Dear Dr. Balsiger:

This document transmits the U.S. Fish and Wildlife Service's (Service) Biological Opinion, based on our review of the Total Allowable Catch (TAC)-setting process for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Island (BSAI) groundfish fisheries and the effects of this process on the endangered short-tailed albatross (*Phoebastria albatrus*), and threatened Steller's eider (*Polysticta stelleri*), in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). Your September 21, 2000, request for formal consultation was received on October 2, 2000.

We have concurred with your determination that actions related to the TAC-setting process are not likely to adversely affect the threatened spectacled eider (*Somateria fischeri*), based on this species' behavior and distribution relative to fishing activities in the BSAI and GOA. Spectacled eiders typically congregate well off-shore and are not anticipated to occur in any near-shore areas where fishing vessels would be refueling. Furthermore, areas designated as spectacled eider critical habitat (where the birds congregate in large numbers) are well away from the shelf break, where the majority of fishing effort occurs, thus minimizing the probability of vessel strikes. Therefore, we do not anticipate that actions conducted under the BSAI and GOA FMPs would adversely effect spectacled eiders or destroy or adversely modify spectacled eider critical habitat.

After reviewing the current status of the short-tailed albatross, the Alaskan breeding population of Steller's eider, the environmental baseline for the action area, the cumulative effects, and the effects of the proposed action, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the short-tailed albatross or the Steller's eider, nor is it likely to adversely modify or destroy Steller's eider critical habitat. The attached

Biological Opinion (BO) includes an Incidental Take Statement, Reasonable and Prudent Measures, and Terms and Conditions, which must be implemented for the authorization of any incidental take that occurs as a result of the proposed TAC-setting process and the associated commercial fishing activities.

This BO is based on information provided in the Environmental Assessments for the TACs for 2002 and 2003, economic and ecosystem appendices to the Stock and Fishery Evaluation (SAFE) Documents for 2002, recommended TACs for 2003, telephone conversations and meetings with knowledgeable scientists, agency representatives and fishers, field investigations, and other sources of information. This BO is also tiered to the programmatic BO on the Fishery Management Plans (FMPs) in their entirety for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries that the Service is issuing concomitantly (Fish and Wildlife Service 2003). A complete administrative record of this consultation is on file in the Service's Anchorage Fish and Wildlife Field Office.

This BO will be considered effective until superceded by a more updated version. The Service and NMFS are in a continuing dialog and research effort on the effects of fishing activities to listed species. Both parties have agreed to reinitiate this consultation as appropriate in the future, as new information becomes available, particularly regarding refined technologies for seabird bycatch avoidance.

The enclosed document concludes formal consultation on the TAC-setting process for the BSAI and GOA groundfish fisheries. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where 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 action that may affect listed species or critical habitat in a matter or to an extent not considered in this biological 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 biological opinion; or (4) a new species not covered by this opinion is listed or additional critical habitat designated that may be affected by this action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take should cease pending reinitiation.

If you have any questions regarding this consultation, I can be reached at (907) 271-2787, or you may contact Greg Balogh at (907) 271-2778, or Judy Jacobs at (907) 271-2780. Thank you for your cooperation in meeting our joint responsibilities under the Act.

Sincerely yours,



Ann G. Rappoport
Field Supervisor

Enclosure

cc: USFWS, R7 RO, Attn: Sue Detwiler
USFWS, Fairbanks FWFO, Attn: Ted Swem
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Biological Opinion on the Effects of the Total Allowable Catch (TAC)-Setting Process for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) Groundfish Fisheries to the Endangered Short-tailed Albatross (*Phoebastria albatrus*) and Threatened Steller’s Eider (*Polysticta stelleri*)

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Biological Opinion on the Effects of the Total Allowable Catch (TAC)-Setting Process for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) Groundfish Fisheries to the Endangered Short-tailed Albatross (*Phoebastria albatrus*) and Threatened Steller's Eider (*Polysticta stelleri*)

This document constitutes the Biological Opinion on the effects of the Total Allowable Catch (TAC)-setting process for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries to the endangered short-tailed albatross (*Phoebastria albatrus*) and threatened Steller's eider (*Polysticta stelleri*). It is tiered to the **Programmatic Biological Opinion on the effects of the Fishery Management Plans (FMPs) for the Gulf of Alaska (GOA) and Bering Sea/Aleutian Islands (BSAI) groundfish fisheries on the endangered short-tailed albatross (*Phoebastria albatrus*) and threatened Steller's eider (*Polysticta stelleri*)**, and references will be made to that document (USFWS 2003) throughout this Opinion. A complete history of actions relevant to this consultation is presented in the programmatic consultation (USFWS 2003) and is incorporated herein by reference.

I. Description of the Proposed Action

The proposed action is the establishment of harvest quotas for groundfish fishing activities authorized and/or managed by NMFS in the GOA and BSAI and associated implementation of the fisheries. The Council may set a maximum catch quota—the TAC—for target species and other species, either by individual species or groups of species. The TAC specifications define upper harvest limits, or fishery removals, for the next fishing year. The TACs recommended by the North Pacific Fishery Management Council (Council), if approved, define upper harvest limits on harvest during each year. The Council has recommended a decrease of less than 1 percent in the TAC for GOA for 2003, and no change in the TAC for BSAI, as this TAC is capped at 2 million metric tons (mt). Trawl, hook-and-line, and pots are the principle types of gear used in the domestic groundfish fishery.

The annual fisheries and management cycle consists of activities that can be grouped into five main functions: (1) stock assessment; (2) setting the TACs; (3) implementation of the fisheries, (4) monitoring the catch and fisheries effects, and 5) in-season quota management. This biological opinion will only address effects from setting the TACs and associated implementation of the fisheries.

Fishery managers use the biomass and fishing rates information to determine the allowable amount of fish that can be caught during an upcoming fishing season. Managers weigh economic and social considerations, along with biological and ecological concerns. Scientists, on the other hand, are primarily concerned with biological limits and stock production variability. The assessments are reviewed by the Council's Groundfish Plan Teams, which are composed of biologists, economists, and mathematicians from government agencies and academia. The Plan Teams compile the individual species assessments into an annual Stock Assessment and Fishery Evaluation (SAFE) document (NMFS 2002), which contains

information on historical catch trends, biomass estimates, preliminary “Acceptable Biological Catch” (ABC) estimates, harvest impact assessments, and alternative harvesting strategies. The Plan Team’s recommendations are reviewed by the Council’s FMP Teams, Scientific and Statistical Committee (SSC), and Advisory Panel (AP) before adoption by the Council.

The TAC-setting process begins in September with the Plan Teams’ review of preliminary stock assessment data. For public comment purposes, the Council recommends proposed TACs for the following fishing year at its October meeting and finalizes TACs at its December meeting. Proposed ABC, TAC, and Prohibited Species Catch (PSC) specifications recommended by the Council at its October meeting are published in the *Federal Register* for public review and comment. The recommendations are based on the preliminary SAFE reports prepared by the Council’s GOA and BSAI Plan Teams during and subsequent to their September meetings. Any new data on stock levels obtained from the previous summer’s surveys are generally not yet in a useable form; therefore, the proposed specifications are based on previous years’ data. Preliminary SAFE reports are incorporated into the environmental analysis accompanying the proposed specifications rule. The Plan Teams’ meetings and Council meeting are open public meetings. The Council also solicits public comment on the proposed TAC specifications during its October meeting.

Roughly 30,000 observer days (equivalent to 114 full-time employees) are expended annually to collect catch data from the Alaska groundfish fisheries. Observers collect total catch, species composition, and other biological data, such as otoliths (ear bones, which grow in layers like tree rings), length frequencies, stomach samples, and maturity stage for a variety of species. Estimates of age composition come from otolith samples collected by observers and scientists conducting resource surveys. The age data are combined with the (typically) large sample of fish lengths measured from the fleet catches and resource surveys.

Recruitment is the principal component of the variability of a fish stock’s annual production. As a result, interannual variability in recruitment is a major source of uncertainty in projecting stock trends. One of NMFS’s primary long-term objectives is to reduce uncertainty in stock assessments. Moving from an assessment based on a biomass index, or an aggregate biomass model, to an age-structured assessment is a positive step towards achieving this objective. In 1990, four Alaska groundfish assessments were based on age-structured models. In 1999, 18 assessments were based on age-structured models, and 19 were based on a survey index.

Final TAC and PSC specifications are recommended by the Council at its December meeting. The recommendations are based on SAFE reports prepared by the Council’s GOA and BSAI Groundfish Plan Teams during and subsequent to their November meetings. These recommendations incorporate data on stock levels from the most recent summer surveys. The Groundfish Plan Team meetings and Council meetings are open public meetings. The Council solicits public comment on the proposed TAC specifications during its December meeting

Ultimately, when approved by NMFS, the TAC amounts ABC, and PSC limits and their apportionments and allocations among areas, gear types, or sectors are published in the *Federal Register* (NMFS 2003a,b). Fishery closures are made by NMFS during that fishing year to avoid

exceeding the amounts of fish authorized for harvest, as specified by the TACs. Final SAFE reports are incorporated into the environmental analysis accompanying the final rule on for the upcoming year.

The generalized schedule for this process is as follows:

| Month | Step in the Process |
|----------------|--|
| September | Stock Assessment authors provide Groundfish Plan Teams with proposed ABC recommendations. Groundfish Plan Teams provide SSC, AP, and Council with proposed ABC recommendations. |
| October | Council recommends proposed ABC, TAC specifications, and PSC limits. |
| November | Council-recommended interim specifications are published as proposed rule. |
| December | Interim specifications are published as a final rule. Groundfish Plan Teams provide final ABC recommendations. Council recommends final ABC, TAC specifications, and PSC limits. |
| January | Non-trawl groundfish fisheries open January 1, and trawl fisheries open January 20 under interim specifications. |
| February-March | Final specifications are published as final rule and replace interim specifications. |

BSAI

Amendment 1 to the BSAI Groundfish FMP provides the framework to manage the groundfish resources as a complex. Maximum sustainable yield (MSY) for this complex was originally estimated at 1.8 to 2.4 million tons. The optimum yield (OY) range was set at 85% of the MSY, or 1.4 to 2.0 million tons. The sum of the TACs equals OY for the BSAI groundfish complex, which is currently constrained by the 2.0 million ton cap. In recent years, walleye pollock has comprised nearly 3/4 of this TAC, with the remainder taken mainly by Pacific cod, rock and yellowfin sole and Atka mackerel.

The sum of the recommended ABCs for 2003 is about 3,330,000 mt, nearly 115,000 tons above the sum of 2002 ABCs. This is about 1.3 million mt above the 2 million-ton TAC cap employed by the Council as a conservation measure. Overall, the status of the stocks continues to appear relatively favorable, although some stocks are declining due to poor recruitment in recent years (NPFMC 2002a). Total biomass for 2003 (19.8 million tons) is relatively unchanged from last year.

GOA

The sum of the preliminary 2003 ABCs for target species is 416,600 mt, which is within the FMP-approved optimum yield (OY) of 116,000 - 800,000 mt for the Gulf of Alaska. Because of halibut bycatch mortality considerations in the high-biomass flatfish fisheries, the overall OY for 2003 is considerably under this upper limit. For perspective, the sum of the 2002 TACs was 237,890 mt, and the sum of the ABCs was 394,780 mt.

This proposed action (the TAC-setting process) is to be implemented under the programmatic consultation for the FMPs in the GOA and BSAI (Fish and Wildlife Service 2003). The present consultation is the step-down for the specific action of setting the TACs and associated implementation of the groundfish fisheries. Descriptions of the groundfish fisheries of the GOA and BSAI are contained in the programmatic consultation on the FMPs and are included herein by reference.

The Service concurs with the NMFS that the action area for this consultation is, as defined by the NMFS, all of the Bering Sea under United States (U.S.) jurisdiction, extending southward to include the waters south of the Aleutian Islands west of 170 degrees W. longitude, to the border of the U.S. Exclusive Economic Zone (3 to 200 nautical miles offshore), and all of the Gulf of Alaska, i.e., the U.S. Exclusive Economic Zone of the North Pacific Ocean, exclusive of the Bering Sea, between the eastern Aleutian Islands at 170 degrees W. longitude and Dixon Entrance at 132 degrees, 40 minutes W. longitude. All direct and indirect effects to short-tailed albatrosses and Steller's eiders related to the activities conducted under the TAC specifications addressed herein are believed to occur within these areas.

The current and proposed seabird avoidance regulations, presented in Fish and Wildlife Service (2003), apply to all operators of Federally-permitted vessels fishing for groundfish with hook-and-line gear in the GOA and the BSAI, and in waters of the State of Alaska that are shoreward of the GOA and the BSAI, and are incorporated herein by reference.

II. Status of the Species

A detailed summary of the life history and current distribution, status and threats of short-tailed albatross and Steller's eider is presented in U.S. Fish and Wildlife Service (2003).

III. Environmental Baseline

The current environmental baselines for short-tailed albatross and Steller's eider are described in detail in U.S. Fish and Wildlife Service (2003).

A. Short-tailed Albatross

The estimated total remaining world population of short-tailed albatrosses is just over 1700 birds (USFWS 2003). This small size puts them at risk to the deleterious effects of demographic and environmental stochasticity. Although habitat management efforts on its breeding grounds have

increased its nesting success and population growth rate, this species is slow to mature and as many as 25 percent of breeding age adults may not return to the colony breeding grounds in a given year (H. Hasegawa, pers. comm., 1997). In addition, females lay only a single egg, which is not replaced if destroyed. Breeding success (the percent of eggs laid that result in a fledged chick) varies between 60-70 percent, but is lower in years of volcanic activity or severe weather during the breeding season.

As detailed in USFWS (2003), the short-tailed albatross is at present adversely affected by a number of factors, including previous harvest, resulting in low population numbers vulnerable to stochastic events, volcanic eruptions, disease, parasites, predation (on chicks), introduced species such as rats and cats, contaminants (oil contamination, plastics ingestion) mortality associated with commercial fisheries, entanglement with derelict fishing gear, and airplane strikes. Threats considered most relevant to the present consultation include commercial fisheries and contaminants. These threats, and their current and potential impacts to short-tailed albatrosses, are detailed in USFWS (2003).

B. Steller's Eider

The maximum population estimate for the Alaska-breeding population, made in 1996, was 2543 (Dau and Mallek 2001). This number may actually over-estimate the present population, as populations of Steller's eiders molting and wintering along the Alaska Peninsula have declined since the 1960s (Kertell 1991), and appear to be in a continued decline (Flint *et al.* 2000, Larned 2000b). Long term survey data suggest an annual decline of 6.1% in migrating Steller's eiders (Larned 2003).

The threats to Steller's eider most pertinent to the present consultation include indirect effects from commercial fishing, including petroleum spills, contamination from seafood processing facilities, and vessel strikes. These are examined in detail in USFWS (2003).

IV. Effects of the Action

A. Direct and Indirect Effects

1. Short-tailed Albatross

The NMFS has determined, and the Service has concurred, that longline and trawl fishery operations in the Bering Sea and GOA, as implemented each year according to the TAC set for that year, are likely to adversely affect the short-tailed albatross directly, due to the bird's distribution and foraging ecology and its association with fishing vessels. The BSAI and GOA fisheries are totally encompassed by the current range of this species. Seabirds like the short-tailed albatross are attracted to fishing vessels to feed on fish that escape from trawl nets, baited hooks of longline vessels, and offal discharged from both trawl and longline vessels. In the hook-and-line fishery, short-tailed albatrosses attempting to steal bait may be hooked, pulled underwater with the longline, and drowned. Observers have noted a very small number of short-tailed albatross mortalities from this source during hauls (see [a] below). Some birds may also

sustain injuries from interactions with baited hooks during setting of the line, which could result in later mortality, but there is no information on the likelihood that this occurs. Albatross may also sustain injury from collisions with trawl gear during fishing operations (see [b] below).

a. Longline Fishery

Since 1993, there have been five reported takes of short-tailed albatrosses in Alaska's fisheries. Two of these reported takes occurred after the initial seabird avoidance measures were required by regulation (in 1997). The reported takes include:

- 1) a juvenile taken in the Individual Fishing Quota sablefish fishery in the western Gulf of Alaska south of the Krenitzin Islands on August 28, 1995;
- 2) a 3-year-old bird taken in the Individual Fishing Quota sablefish fishery in the Bering Sea on October 8, 1995;
- 3) a 5-year-old bird taken in the hook-and-line BSAI fishery on September 27, 1996;
- 4) an 8-year-old bird taken in the cod hook-and-line fishery in the Bering Sea on September 21, 1998; and
- 5) a sub-adult bird taken in the cod hook-and-line fishery in the Bering Sea on September 28, 1998.

In October of 2001 and January of 2002, mortalities of albatross that observers believed were possibly short-tailed were noted in the Bering Sea; however, the birds were not retained until positive identification was made. In one case, streamer lines were in use, but apparently not properly deployed. Due to the circumstances at the time of observation (weather, lighting, duration of observation), there was insufficient evidence to determine whether these were short-tailed albatrosses. In the past, observers have also mis-identified some albatross carcasses as short-tailed. Such instances underscore the need for retaining specimens until positively identified, developing performance standards for deployment of seabird deterrence devices, and thorough training of observers in seabird identification.

There are numerous factors that can affect whether or not a rare short-tailed albatross will be hooked on longline gear. As the population of these albatross continues to increase, one might expect an increased probability of hooking. Conversely, as the effectiveness and use of seabird avoidance measures continues to improve, through increase in scientific information (Melvin *et al.* 2001) and a Service program to supply effective deterrence devices to longline fishing vessels, one might expect a reduced probability of hooking. The probabilities of these "opposing forces" are difficult to estimate.

Estimates of bird mortality must take into account the frequency of observer coverage. Observers are not active on all vessels at all times; therefore, the bird mortalities noted in the observed sample must be expanded to estimate the true amount of bird mortality. The annual expansion factor is calculated by the ratio of annual estimated bird mortality divided by the actual number of birds observed taken annually (data presented in NMFS 2002a). For the period since 1997 (when seabird avoidance measures were first required), the average annual expansion factor is 4.4 in the Bering Sea and 8.7 in the Gulf of Alaska (K. Rivera, National Marine Fisheries Service, pers. comm., 2003). The difference in the expansion factors for the two areas relates to differences in observer coverage, thus in the proportion of total hauls sampled, in the BSAI versus the GOA fishery.

Since 1997 (when the initial seabird avoidance regulations were first implemented in the BSAI and GOA hook-and-line groundfish fisheries), there have been 2 reported takes of short-tailed albatross in the observed portions of the haul; both occurred in 1998, in the Bering Sea. Applying an expansion factor of 4.4 results in a total estimated mortality of 8.8 birds over the 5-year period from 1997-2001, or 1.76 birds (rounded to two birds) per year.

To summarize, the best available information indicates that the total take of short-tailed albatrosses in the GOA and BSAI hook-and-line fisheries since 1997 has been 2 birds per year. This represents about 0.12% of the current total population. If the anticipated take from Alaska's trawl fishery, Pacific halibut fishery and Hawaii's longline fishery are included, the total of 4.4 short-tailed albatross taken per year in these combined fisheries represents 0.26%, or just over one-quarter of 1 percent, of the current total population. As new information and/or better methods for estimating incidental take are established, this IT estimate may be revised.

(b) Trawl Fishery

In some trawl fisheries, equipment is mounted on the trawl net that sends signals to the vessel so net performance can be monitored. This is most important in midwater fisheries, but is employed in some bottom-trawl fishing applications as well. There are two primary methods for gathering net performance information and sending this information to equipment on the vessel bridge. One method employs an underwater echo-sounder on the headrope of the trawl net to determine the height of the headrope above the ocean bottom and the opening depth of the net itself. This system can also detect whether fish pass above or below the echo-sounder, thus showing where the fish are in relation to the net in the water column. This system is generally referred to as either an echo-sounder or a net sonde by fishermen. The signal is sent to the vessel acoustically through the water column, where it is received by a hydrophone that is either a side-deployed towed transducer or one that is mounted to the hull of the vessel. The system rarely, but sometimes, employs a transducer wire towed from the rear of the vessel.

The other system is typically known as a trawl sonar. This equipment is also mounted to the headrope and is sometimes referred to as the suitcase. The system provides information straight up and down, as the echo-sounder does, and also sweeps side to side and can provide a 360-degree picture of the net, water column, and target fish. This system provides much better information regarding how the net is deployed and saves fishermen a great deal of time and

effort because they can either fine-tune the net performance while towing, or realize early on that there is a major problem and bring the gear back to the surface. The trawl sonar is hard-wired to the vessel through a cable typically known as the third wire. Signals sent over this third wire are superior to those sent acoustically, as the third wire carries more information, sends a constant signal, and is not susceptible to disturbance from ambient noise or noise from the vessel itself.

Either system can deploy cables outboard of the vessel. Seabirds attracted to offal and discards from the ship may either strike the hard-to-see cable while in flight, or get caught and tangled in the cable while they sit on the water due to the forward motion of the vessel. Onboard observations of birds (including Laysan albatross) colliding with either of these cables have been made by both researchers and observers. Some birds that strike vessels or fishing gear may fly away without injury, while others may be injured or killed. When the cable or third wire encounters a bird sitting on the water, the bird can be forced underwater and drown.

The main distinction between the two systems is the different location of the transducer cables and third wires. The transducer wires are deployed from the side of the ship and can be very close to where offal is discharged. There, they are not so likely to be hit by flying birds, but very likely to encounter swimming birds. Alternatively, transducer cables can be suspended from relatively long outriggers; this gets them out of the offal discharge area, but puts them more into the birds' flying zone. In contrast, trawl sonar cables (third wires) are deployed from the center of the stern, above the main deck, and can be above the water for longer distances. Thus, they are more likely to intersect the birds' flying zone than the concentration of swimming birds feeding on offal. These differences in location are likely to affect the probability and mechanism of bird strikes.

In some southern hemisphere fisheries, most notably in the CCAMLR (Commission for the Conservation of Antarctic Marine Living Resources) area of the southern hemisphere, outboard transducer and third wire cables have been outlawed for a number of years due to bird collision problems, and have been replaced by wireless (through-the-hull) transducers. However, the wireless systems have not totally eliminated the seabird-trawler collision problem there. A recent report from the southern hemisphere indicates that a 30- to 40-vessel trawl fishery around the Falkland Islands resulted in take of approximately 900 albatrosses between mid-September and late December, 2002 (Graham Robertson, Australian Antarctic Division, pers. comm. 2002). These birds were killed from collisions not with third wires, but with the larger cables running to the trawl doors.

Up to the present, information on seabird interactions with transducer or third wire cables in Alaska has not been collected systematically. NMFS (2002a) reports that the 3000+ observation records by NMFS-certified observers from 1993 to 2001 include 25 definitive reports of birds specifically striking or being drowned by the 'third wire' on trawl gear, and one report of birds striking the main trawl cables. Many of the observer notes were not about the third wires, and all observations may not have been recorded, so encounter rates cannot be calculated from this information. The third wire incidents that were noted involved 92 birds, including about 30 northern fulmars and 19 Laysan albatross (NMFS 2002a; USFWS Observer Notes Database). Researchers have made similar reports.

There are presently no standardized observer data on seabird mortality from trawler third wire collisions in Alaskan waters, making assessment of potential incidental take of short-tailed albatross from this source mere guess-work at this time. Direct collection of seabird-third wire interaction data is problematic, for several reasons. Any birds killed by third wire collisions would most likely not be recorded in the observers' sampling of the trawl haul, as it is unlikely that such birds would make their way into the trawl net. Some trawlers are configured such that an observer's safety might be compromised were he or she to monitor the third wire during the tow, because direct observations would place the observer immediately below the net cables or expose them to heavy seas. Also, observer effort on trawlers is already fully allocated, and to monitor trawl third wire cables while gear is being towed may require abandoning some existing observer duties, or adding an additional observer to the trawl vessel. To address these issues, NMFS has initiated a study to determine whether video monitoring could be applied to this problem. NMFS is also gathering information on the scope of third wire usage in Alaskan groundfish trawl fisheries, and the total effort expended. If video monitoring proves useful, further studies would be initiated to monitor the frequency and nature of trawl third wire interactions with seabirds. NMFS has also recently been awarded a North Pacific Research Board grant to further investigate third wire-seabird interactions. The frequency and effects of such interactions will be re-evaluated as data from these studies become available, and further consultation will be conducted, if appropriate.

To date, striking of trawl vessels or gear by the short-tailed albatross has not been reported by observers. A large part of the trawl effort in the GOA extends from the Shumagin Islands to eastern Kodiak and to the north; there have been few sightings of short-tailed albatross inside of the shelf edge in the GOA. The vast majority of the trawl effort occurs in the BSAI and is concentrated between Unimak Pass and the Pribilofs, and to the north and northwest of Unimak Island, over an extensive area of shelf waters. Short-tailed albatross have been sighted in these areas, but since the majority of sightings come from observers aboard fishing vessels, these are not independent observations. One short-tailed albatross tracked by satellite telemetry was located numerous times in the vicinity of Umnak and Unalaska Islands during July and August of 2001 (R. Suryan, Oregon State University, pers. comm. 2002). At the present time, the probability of short-tailed albatross collisions with third wires or other trawl vessel gear in Alaskan waters cannot be assessed; however, given the available observer information and the observed at-sea locations of short-tailed albatrosses relative to trawling effort, the possibility of such collisions cannot be completely discounted.

In the absence of any data on the third wire collision probability for short-tailed albatrosses in the Alaskan trawl fishery, and given the fact that the NMFS is in the initial stages of monitoring short-tailed albatross-third wire interactions, the Service is at the present time anticipating an incidental take of two (2) short-tailed albatross in association with this fishery, over the time period in which this biological opinion remains in effect (i.e., until superseded by a subsequent biological opinion).

(c) Combined Fishery Effects

In theory, mortality of short-tailed albatrosses associated with longline or trawl fisheries could cause a reduction in population growth rate as a result of lost future reproduction of the birds taken, and the temporary loss of reproductive success of the mates of any adult birds taken by this action. However, a Population Viability Analysis (PVA) for short-tailed albatross conducted by the Service (USFWS 2000c) indicated that such reduction in population growth rate is not likely occurring at this time. The model assumes a current overall mortality level (including ongoing fishery-related mortality) of 9% per year for juveniles and 4.5% for adults. The model predicts that the population would continue to grow with both a 2% and a 4% increase in current juvenile (pre-breeding age) mortality and both a 0.33% and a 0.67% increase in current adult mortality, although the population doubling times would increase under these scenarios.

It should be kept in mind that the Alaskan longline fisheries are not the only source of fishery-related take of short-tailed albatrosses. In this biological opinion, we are also anticipating an additional incidental take of two short-tailed albatrosses in association with the trawl fishery. This anticipated take is inferential, although based on the best available information (i.e. observed collisions of other albatross species with trawl sonar cables) and will likely be revised as more information becomes available. In previous biological opinions, the Service has anticipated incidental take of one short-tailed albatross per year for both the Hawaiian domestic longline and Alaska Pacific halibut fisheries. The take of short-tailed albatross by foreign fisheries is unknown. What is known, however, is that **despite all current sources of fisheries-related and other mortality, the short-tailed albatross population is continuing to grow at a rate of 7% to 9% annually. This level of short-tailed albatross population growth is observed concurrent with all ongoing commercial fisheries operations within the species' range.**

A model developed by Cochrane and Starfield (1999), on the effects of fisheries-related incidental take on short-tailed albatross, indicates that the current estimated take level would have to be increased by 5-fold before 50% of their simulations fell below an arbitrary 7% growth rate threshold. Cochrane and Starfield (1999) caution that because the short-tailed albatross are at risk from catastrophic events such as a volcanic eruption on Torishima Island, an oil spill near their nesting grounds, or severe weather events, the effects of chronic incidental take associated with fisheries could be more serious than their simulations portray. If the population was reduced catastrophically to very small numbers, or if fecundity or survival rates declined for other reasons, the ongoing level of incidental take from fisheries could have serious consequences for the reduced population. The risk of species decline due to volcanic or other events at Torishima will remain high until additional nesting colonies are established.

2. Steller's Eiders

Unlike short-tailed albatross, Steller's eiders do not follow fishing vessels at sea and are therefore unlikely to be adversely directly affected by hook-and-line or trawl operations. Indirect effects of fishing activities associated with the TAC-setting process include mortality and injury to the Steller's eider from accidental fuel spills and/or oil-laden bilge water during

fishing vessel refueling or mooring (which occurs in harbors, where Steller's eiders tend to congregate outside the breeding season), degradation of Steller's eider habitat associated with effluent from seafood processing operations, and injury or potential mortality associated with vessel strikes.

Steller's eiders may collide with vessels, particularly when visibility is limited, such as during storms or at night, when decks are lit with bright floodlights. Striking of vessels by eiders in Alaska has not been quantified, but information (largely anecdotal) on file indicates that Steller's eiders staging, molting, and wintering in close proximity to fishing vessels are at increased risk of similar collisions. In a recent Biological Opinion, the Service estimated that one Steller's eider of the listed Alaska breeding population would be taken as a result of striking vessels fishing and transiting Nelson Lagoon, in association with expanding a bulk fuel facility in that area (USFWS 2002).

3. Steller's Eider Critical Habitat

The Service has recently conducted a consultation with the Environmental Protection Agency (EPA) on the effects to Steller's eiders from their permitting of seafood processors in Alaska (USFWS 2001a). In the associated Biological Opinion, the Service concluded that the effects of this action (including the effects of organic discharges and accidental petroleum spills) did not reach the level of adverse modification of critical habitat or jeopardy to the species. Because the indirect effects to Steller's eiders and their habitat under consideration in the present consultation are virtually congruent with the effects considered in the consultation with EPA (i.e., the seafood processors would not be present but for the fisheries that supply the seafood), the same conclusion applies.

In the Incidental Take Statement accompanying the EPA Biological Opinion, the Service anticipated that a maximum of one (1) acre of Steller's eider wintering, molting, migration, and/or staging habitat may be taken by each seafood processor per year, as a result of *non*-petroleum-related activities. This incidental take is synonymous with that addressed above.

B. 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. Cumulative effects were addressed in the Programmatic FMP BO, and that discussion is incorporated herein by reference.

V. Conclusion

The regulations (51 FR 19958) that implement section 7(a)(2) of the Act define "jeopardize the continued existence of" as, "to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed

species in the wild by reducing the reproduction, numbers, or distribution of that species." After reviewing the current status of the short-tailed albatross and Steller's eider, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the process of setting of the TACs and associated implementation of the groundfish fisheries in the BSAI and GOA is not likely to jeopardize the continued existence of the short-tailed albatross or Steller's eider, or result in adverse modification of Steller's eider critical habitat. No critical habitat has been designated for the short-tailed albatross; therefore none will be affected.

This conclusion is based on a number of factors, including (for short-tailed albatross) the:

- (1) species' current population growth rate,
- (2) projected effect of fisheries-related take, as recently modeled (Cochrane and Starfield 1999);
- (3) recent development and adoption by the fishing industry of improved seabird avoidance methods and devices; and
- (4) continued protection of the main breeding colony on Torishima Island in Japan.

The expected effect of hook-and-line and trawl fishing activity in the BSAI and GOA to short-tailed albatross is the continuation of a lower population growth rate than that which would occur in the absence of fishery-related mortality. Despite known and potential incidental take by these fisheries as well as by the Hawaiian longline fishery and the Alaska Pacific halibut fishery, and the unknown effects of foreign fisheries, the short-tailed albatross population has continued to grow since 1950, and is currently growing at a rate of at least 7% to 9% per year. In the absence of additional disturbances such as volcanic or other catastrophic events, and assuming that habitat enhancement and management projects by the Japanese government will continue on the nesting grounds, the population can be expected to continue to recover, even with the current estimated level of fishery-related mortality. Therefore, we conclude that, in the absence of catastrophic events, the current level of take by the Alaskan longline and trawl fisheries in the BSAI and GOA is not likely to jeopardize the continued existence of the short-tailed albatross. Any future occurrence of such a catastrophic event would require re-initiation of consultation and a new jeopardy analysis, in light of the altered population status of the species.

We have also concluded that the proposed action is not likely to jeopardize the continued existence of the Alaska breeding population of Steller's eiders or adversely modify or destroy its critical habitat. This conclusion is based on the following lines of evidence:

- (1) lack of distributional overlap between areas of high Steller's eider concentration and observed longline and trawl fishing effort,
- (2) recent decline in the number of fishing vessels participating in groundfish longline fisheries, and
- (3) low number of Alaskan breeding ground birds likely to be affected.

Additionally, as mentioned above, we note that potential indirect take of Steller's eiders or modification of their habitat, resulting from seafood processing or petroleum spills in areas

where these birds tend to congregate in large numbers, has been, and will continue to be covered in consultations on the siting and regulation of harbors and seafood processing facilities.

INCIDENTAL TAKE STATEMENT

1. Background

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the 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 the Service 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 the Service 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 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 grant or permit issued, 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. The protective coverage of section 7(o)(2) may lapse if the NMFS (1) fails to assume and implement the terms and conditions, or (2) fails to require any applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document,. In order to monitor the impact of incidental take, the NMFS or any applicant must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR 402.14(I)(3)].

Note that the take that is authorized for an activity in the incidental take addendum to a Biological Opinion is not a function of what the population can withstand. Rather, it is based upon what level of take we expect would result from an activity prior to the implementation of the Terms and Conditions in the incidental take statement.

2. Amount or Extent of Take Anticipated:

(a) Short-tailed Albatross

The Service anticipates up to four short-tailed albatrosses could be reported taken bi-annually (every 2 years) as a result of the hook-and-line groundfish fishing activities in the BSAI/GOA areas regulated by the NMFS (see section IV.A .1 (a) above). Additionally, the Service anticipates that a total of two short-tailed albatross may be reported taken in association with trawl fishing activities in the BSAI/GOA areas regulated by the NMFS, over the time period in which this biological opinion remains in effect (i.e., until superceded by a subsequent biological opinion). The incidental take is expected to be in the form of lethal take, due to birds being drowned as a result of encounters with hook-and-line groundfish fishing gear, or taken by collision with trawl gear, including both sonar transducer cables (third wire) and warp cables.

The Service recognizes that this anticipated reported take of short-tailed albatrosses is no greater than that anticipated in previous opinions addressing the longline fishery in the BSAI and GOA. Although the world-wide population of this species has grown and is continuing to do so, we anticipate that the amount of incidental take associated with this fishery will remain relatively constant, as the increased population size (and therefore increased probability of encountering these birds) is offset by our increased knowledge of the effective use of seabird deterrent devices and the refinement in implementation of these devices, as well as more refined regulations regarding the use of seabird deterrence devices (NMFS 2003)

The Service also recognizes that no separate incidental take associated with the trawl fishery has been anticipated in previous biological opinions. Up until now, NMFS' ability to monitor such potential take has been limited to information collected incidentally by observers and researchers. Indeed, these incidental observations are what brought to the agencies' attention the potential for short-tailed albatross take associated with the trawl fishery, thus supporting the need for first informal, and then formal consultation on this fishery. Data obtained from the electronic monitoring feasibility study now underway and subsequent related projects will provide information on which to base, and revise if necessary, our means of monitoring, as well as our estimates of, such take in the future.

(b) Steller's Eider

As indicated above, fisheries-related incidental take of Steller's eiders or effects to their habitat may occur indirectly, in association with petroleum spills, vessel strikes, or pollution from seafood processing plant effluents. However, we do not find it appropriate to authorize such take to NMFS through the TAC-setting process addressed in this consultation. First, such take is believed to be minimal, since any fishing vessel petroleum spills occurring outside of harbors are likely to be rare, and the effects of such spills to Steller's eiders (which tend to congregate in harbors and lagoons) would be negligible. Secondly, take related to petroleum spills and vessel strikes within harbor areas and seafood processing plant effluent has been addressed and authorized in previous consultations with the EPA, Denali Commission, and Corps of Engineers

(USFWS 2001a, 2001b, 2001c, 2002). Additional take of Steller's eiders from these sources may be addressed in future consultations on harbor or fuel facility construction or expansion, consultations with the U.S. Coast Guard on their permitting process, and others. Consequently, we anticipate no incidental take of Steller's eiders in association with the NMFS TAC-setting process, and no such take is authorized.

The Service will not refer the incidental take of any migratory bird (in this case, short-tailed albatross or Steller's eider) for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

3. Reasonable and Prudent Measures:

The reasonable and prudent measures included below, along with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. The following reasonable and prudent measures (RPMs) shall be implemented in association with this incidental take statement:

1. Within its authority, the NMFS shall minimize take of short-tailed albatrosses.
2. The NMFS shall continue a proactive outreach and education policy to inform fishermen about short-tailed albatrosses and the risk of mortalities in the hook-and-line fisheries.
3. The NMFS shall continue to facilitate the collection of short-tailed albatross spatial and temporal distribution as it overlaps with commercial fisheries.
4. The NMFS shall continue to monitor and report take of short-tailed albatrosses by hook-and-line and trawl vessels.
5. Handling of Injured or Dead Birds - The NMFS shall advise fishery observers and fishermen that the condition of injured short-tailed albatrosses must be assessed, and the birds handled as specified in the terms and conditions below, and that dead short-tailed albatrosses must be frozen and surrendered to the NMFS or the Service at the first opportunity. The authority for handling and transport of any injured or dead short-tailed albatrosses is provided under the Incidental Take Statement of this Biological Opinion.

4. 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.

1. To implement RPM #1 (Minimize take of short-tailed albatrosses):

- (a) The NMFS, in cooperation with the North Pacific Fishery Management Council, (Council) shall promulgate final regulations, after considering comments, that reflect the intent of the Management Measures to Reduce Seabird Incidental Take in the Hook-and-Line Halibut and Groundfish Fisheries, as proposed by the NMFS in February 7, 2003 (68 FR 6386) (see Appendix 1).
2. To implement RPM #2 (Continue a proactive outreach and education policy to inform fishermen about short-tailed albatrosses):
 - a. The NMFS shall distribute seabird bycatch avoidance instructional videos to all Alaska groundfish longline vessel owners and operators, and shall encourage the viewing of this video by captain and crew as part of the vessel's Seabird Avoidance Plan (see Appendix 1 for information on Seabird Avoidance Plan contents).
 - b. The NMFS shall continue to keep fishermen informed about the most up-to-date methods for reducing such interactions as new information becomes available.
3. To Implement RPM #3 (Continue to facilitate the collection of short-tailed albatross spatial and temporal distribution):
 - a. The NMFS shall continue to request that fishermen report all observations of short-tailed albatrosses to the Service via the short-tailed albatross encounter reporting form (see Appendix 4). Distribution of this form will continue annually as part of the NMFS' regular mailings to longline and trawl vessel owners and operators that fish in Alaskan waters. Note: This form is also available on-line at:

<http://www.fakr.noaa.gov/protectedresources/seabirds/repform.pdf>
 - b. The NMFS shall continue to require fishery observers to report all observations of short-tailed albatrosses.
4. To implement RPM #4 (Monitor and report take of short-tailed albatrosses by hook-and-line and trawl vessels):
 - a. The NMFS (in cooperation with the Service) shall continue to provide at least 2 hours of training to all new fishery observers in: (1) identification of short-tailed albatrosses and other seabirds; (2) the proper recording of encounters with seabird species of interest; and (3) deployment of seabird avoidance mechanisms during the setting of longline gear.
 - b. NMFS shall collect information on the deployment and use of seabird avoidance measures for the largest possible sample of hook-and-line gear sets. Data shall be collected by observers, or other non-self-reporting means, and shall begin no later than January 1, 2004. These data will be summarized and reported to the Service

annually, by September 30 of the calendar year following the report year.

- c. The NMFS shall require fishermen to retain all birds incidentally taken during observer-sampled portions of hauls, or as requested by observers during non-sampled portions of hauls, until observers have had the opportunity to identify and record the specimens.

- d. The NMFS shall continue to require that any short-tailed albatross caught by longline gear (regardless of whether the mortality occurs in a sampled portion of the haul) be retained and reported immediately to NMFS or the Service. Any short-tailed albatross carcass obtained during trawl fishing should likewise be retained. NMFS and the Service will keep each other informed of reported mortalities within two business days of their initial reporting. Observers should contact **NMFS Observer Program** staff via fax, phone, or Atlas, at the following contact numbers:
Dutch Harbor field office phone: (907) 581-2060 or (907) 581-2063
Fax: (907) 581-2066
Anchorage office phone: (907) 271-1313 Fax: (907) 271-1315
Kodiak office phone: (907) 481-1770 Fax: (907) 481-1771
Seattle office phone: (206) 526-4192 Fax: (206) 526-4066

The Anchorage Field office of the **U.S. Fish and Wildlife Service** may be reached **toll-free** at: **(800) 272-4174**, or by FAX at: (907) 271-2786.
You may also contact the following personnel from this office:
Greg Balogh 907-271-2778
Judy Jacobs 907-271-2780
Kim Trust 907-271-2783
Ann Rappoport 907-271-2787

- e. The NMFS shall continue to provide to FWS, on an annual basis, seabird bycatch estimates of the numbers of birds (by species) taken in the longline and trawl fisheries of the BSAI and GOA. To the extent that the information is available, these estimates will also be enhanced by more detailed estimates reflecting spatial and temporal patterns of bycatch. The NMFS shall continue to make this information publicly available.

- f. The NMFS shall continue to work on developing a safe and reliable means of assessing short-tailed albatross interaction/collision with trawl vessel gear, to: (1) document whether take occurs, and if so, (2) estimate the rate of such take. A report of the interactions between short-tailed albatross and trawl gear shall be submitted to the Service by **December 31, 2006**.

- g. The NMFS shall report any recorded incidences of short-tailed albatross colliding with trawl gear, regardless of whether injury to the bird is apparent. Reports shall be forwarded to the Service within 2 business days of receipt of information by NMFS.

- h. The NMFS shall submit a summary report to FWS by **July 31, 2005**, estimating total third wire effort in Alaska groundfish fisheries and explaining why the use of sonar cables is standard gear in the North Pacific trawl fisheries, whereas such technology is no longer used or allowed in some similar Southern Hemisphere fisheries.

5. To implement RPM#5 (Handling of Injured or Dead Birds)

- a. The NMFS shall advise fishermen and fishery observers that every reasonable effort should be made to save any live, injured short-tailed albatrosses or Steller's eiders¹ by adhering to the procedures specified in Appendix 2. The information in Appendix 2 will be made available to observers as an information sheet. If reaching a veterinarian is appropriate, contact the Alaska SeaLife Center (ASLC) stranded animal hotline: 907-224-6395 (direct to veterinary staff on-call), or ASLC Security: 907-224-6342 (24-hr service to reach the veterinarian on-call).
- b. The NMFS shall advise fishery observers and fishermen that every effort must be made to recover any dead short-tailed albatrosses, including gaffing them if they fall off of a hook. Observers shall report any mortality of short-tailed albatrosses to the NMFS (by phone, fax, radio, e-mail, etc.) within 48 hours of occurrence, or, if this is not possible, immediately upon reaching port. Short-tailed albatross specimens should be frozen immediately, with identification tags attached directly to the carcass, and a duplicate identification tag attached to the bag or container holding the carcass. Identification tags should include species, date of mortality, name of vessel, location (latitude and longitude) of mortality, observer or skipper name, and any band numbers if the specimen has leg bands. This incidental take permit provides fishery observers and fishermen the authority to transport short-tailed albatross and Steller's eider specimens obtained during the course of the fishing activities covered in this consultation.
- c. The NMFS shall inform fishery observers and fishermen that specimens must be transferred as soon as possible to a NMFS or Service office. The specimen must remain frozen and must be shipped as soon as possible, by Goldstreak Air Cargo, Express Mail, or courier, to the Anchorage Field Office, USFWS, 605 West 4th Avenue, Room G-61, Anchorage, AK 99501. Avoid shipping on Thursdays or

¹Take of Steller's eiders associated with commercial fisheries will likely occur where the species congregates, in harbors, lagoons, and other nearshore areas and is covered under other biological opinions (see section 2b of this Incidental Take Statement).

Fridays, as there is no mail delivery to government offices on Saturdays and Sundays. The U.S. Fish and Wildlife Service will reimburse shipping costs.

The Service believes that, as a result of the proposed action, no more than four (4) short-tailed albatross will be reported taken over a 2-year period by the longline fishery, and that no more than two short-tailed albatross will be reported taken by the trawl fishery during the time period covered by this Opinion. The Reasonable and Prudent Measures (RPMs), with their implementing Terms and Conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. 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 RPMs. The NMFS must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the RPMs.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes 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. NMFS may choose, but is not obligated, to undertake the following actions:

1. Inform fishermen and fishery observers that every effort should be made, when a short-tailed albatross is observed following a fishing vessel, to minimize the possibility of the bird becoming entangled with the gear, by adopting the following voluntary measures:

a) Change the vessel's heading or speed, to discourage the short-tailed albatross from following.

b) If no sets are in progress: (1) avoid initiating a set while the short-tailed albatross is in sight, and (2) avoid offal discharge in the presence of short-tailed albatross to discourage their association with the fishing vessel.

c) If a short-tailed albatross appears to be attacking baited hooks despite the use of required bird avoidance mechanisms, gear should be deployed without bait, or gear deployment should be suspended, until the albatross discontinues attacks on the gear.

2. Encourage promulgation of bird bycatch regulations for Alaska's Pacific halibut fishery that mirror those that apply to Alaska's groundfish fishery.

3. Continue assessment of trawl 3rd wire / bird collisions, investigate methods to minimize these collisions and determine whether sonar technology that requires the use of a 3rd wire cable is warranted, given the threat the cable may pose.

4. Continue to collaborate with the fishing industry to promote the goals of achieving zero bycatch of short-tailed albatrosses and minimizing bycatch of other species. Methods may include development of incentives for fishers, creating opportunities for peer-generated solutions, etc.
5. Continue to support research efforts to develop state-of-the-art seabird deterrent devices for the fishing industry, including novel technologies such as underwater setting (via tubes and chutes, or novel hull designs) and integrated weight lines.
6. Encourage the use of fuel collars on tender vessels to minimize the potential for small spills during re-fueling.
7. Encourage the use of oil water separators on longline vessel bilge systems such that petroleum products are filtered out of bilge water prior to its expulsion from the vessel (see Appendix 4 for source information).
8. Encourage vessel owners and operators to decrease the probability of seabirds striking vessels and rigging by minimizing deck lighting, and/or shielding the lights, such that beams are directed downwards.
9. Share pertinent information with other U.S. fishery management councils, (Pacific and Western Pacific Fishery Management Councils) and other NMFS Regions and Science Centers (Northwest, Southwest, and Pacific Island). Encourage these councils and regions to implement the US National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (NMFS 2001), as well as addressing seabird bycatch issues in other gear types where problems may exist.
7. Coordinate with EPA, Coast Guard or other Federal or state agencies in collecting information important in determining the threat of fuel spills on seabirds and waterfowl, such as the number of groundfish vessels in Alaskan waters, the time they spend there, the location and season of use, the ports where refueling occurs and the level of use of each port.

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

REINITIATION NOTICE

This concludes formal consultation on the proposed action. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary NMFS 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 NMFS action that may affect listed species or critical habitat in a matter or to an extent not considered in this biological opinion; (3) the NMFS action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion; or (4) a new species not covered by this opinion is listed or critical habitat designated that may be affected by this action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take should cease pending reinitiation. The NMFS may *choose* to reinitiate consultation if/when the level of authorized incidental take is met but not exceeded, in order to avoid potential delays in operations.

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APPENDIX 1.

NMFS Proposed Management Measures to Reduce Seabird Incidental Take in the Hook-and-Line Halibut and Groundfish Fisheries (from 63 FR 6386, 2/7/03)

NMFS proposes seabird avoidance measures that would apply to the operators of vessels using hook-and-line gear for (1) Pacific halibut in the IFQ and Community Development Quota (CDQ) management programs (0 to 200 nm), (2) IFQ sablefish in EEZ waters (3 to 200 nm) and waters of the State of Alaska (0 to 3 nm), except waters of Prince William Sound and areas in which sablefish fishing is managed under a State of Alaska limited entry program (Clarence Strait, Chatham Strait), and (3) Groundfish (except IFQ sablefish) with hook-and-line gear in the U.S. EEZ waters off Alaska (3-200 nm). Operators of all applicable vessels using hook-and-line gear would be required to comply with the following bird line requirements, which are also summarized in the table following the text:

For Applicable Vessels Operating in Inside Waters (NMFS Area 649, NMFS Area 659, and State Waters of Cook Inlet):

- (1) A minimum of 1 buoy bag line of a specified performance standard would be required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft (16.8 m) LOA that are without masts, poles, or rigging;
- (2) A minimum of 1 buoy bag line of a specified performance standard is required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 32 ft (9.8 m) LOA and with masts, poles, or rigging;
- (3) A minimum of 1 streamer line of a specified performance standard is required of vessels greater than 32 ft (9.8 m) LOA and less than or equal to 55 ft (16.8 m) LOA and with masts, poles, or rigging; and
- (4) A minimum of 1 streamer line of a specified performance standard is required of vessels greater than 55 ft (16.8 m) LOA.

For Applicable Vessels Operating in the EEZ (not including NMFS Area 659):

- (1) A minimum of 1 buoy bag line of a specified performance standard and one other specified device is required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft (16.8 m) LOA that are without masts, poles, or rigging;
- (2) A minimum of 1 streamer line of a specified performance standard and one other specified device is required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft (16.8 m) LOA and with masts, poles, or rigging; and
- (3) Except for vessels using snap gear, a minimum of paired streamer lines of a specified performance standard is required of vessels greater than 55 ft (16.8 m) LOA.

For Applicable Vessels Using Snap Gear:

- (1) A minimum of 1 buoy bag line of a specified performance standard and one other specified device is required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft (16.8 m) LOA and that are without masts, poles, or rigging;
- (2) A minimum of 1 streamer line of a specified performance standard and one other specified

device is required of vessels greater than 26 ft (7.9 m) LOA and less than or equal to 55 ft (16.8 m) LOA and with masts, poles, or rigging; and

(3) A minimum of 1 streamer line of a specified performance standard is required of vessels greater than or equal to 55 ft (16.8 m) LOA and with masts, poles, or rigging.

Other seabird avoidance devices and methods include weights added to groundline, a buoy bag line or streamer line of specified performance standards, and strategic offal discharge to distract birds away from the setting of baited hooks, that is, discharge fish, fish parts (i.e. offal) or spent bait to distract seabirds away from the main groundline while setting gear.

Gear Performance and Material Standards

Current information indicates that bird deterrent devices must be carefully constructed with the deterrent purpose in mind if they are to be effective. Given the variability of vessel sizes and configurations in the hook-and-line fisheries off Alaska, a single set of specific construction standards for bird lines would not be universally effective or practical. To enhance the effectiveness and improve the enforcement of seabird avoidance measures, the proposed rule would specify the gear performance and material standards for larger vessels (vessels greater than or equal to 55 ft (16.8 m) LOA). Voluntary guidelines for gear performance and material standards for smaller vessels (vessels greater than or equal to 26 ft (7.9m) and less than 55 ft (16.8 m) LOA) are provided, and vessel operators are encouraged to comply with them.

Proposed Standards for Larger (Vessels Greater than 55 ft (16.8 m) LOA) Vessels

Paired Streamer Standard

NMFS proposes that larger vessels deploy a minimum of two streamer lines while setting hook-and-line gear. Preferably, both streamer lines will be deployed prior to the first hook being set. At least one streamer line must be deployed before the first hook is set and both streamers must be fully deployed within 90 seconds. An exception to this standard would exist in conditions of wind speeds exceeding 30 knots (near gale or Beaufort 7 conditions), where it would be acceptable to fly a single streamer from the windward side of the vessel. In winds exceeding 45 knots (storm or Beaufort 9 conditions), the deployment of streamer lines would be discretionary.

Further, streamer lines would have to be deployed in such a way that streamers are in the air for a minimum of 131.2 ft (40 m) aft of the stern for vessels under 100 ft (30.5 m) and 196.9 ft (60 m) aft of the stern for vessels 100 ft (30.5 m) or over.

For vessels deploying gear from the stern, the streamer lines would have to be deployed from the stern, one on each side of the main groundline. For vessels deploying gear from the side, the streamer lines would have to be deployed from the stern, one over the main groundline and the other on one side of the main groundline.

Materials Standard

NMFS proposes the following minimum streamer line specifications:

- (1) Length of 300 feet (91.4 m);
- (2) Spacing of streamers every 16.4 ft (5 m); and
- (3) Streamer material that is brightly colored, UV-protected plastic tubing or 3/8 inch polyester line or material of an equivalent density.

An individual streamer must hang attached to the mainline to 0.25 m above the waterline in the absence of wind.

Snap Gear Streamer Standard

For vessels using snap gear, a single streamer line (147.6 ft (45 m) length) deployed in such a way that streamers are in the air for 65.6 ft (20 m) aft of the stern and within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water.

Guidelines for Standards for Smaller Vessels

For vessels greater than 26 ft (7.9 m) and less than or equal to 55 ft (16.8 m) LOA, a performance standard would be voluntarily implemented as guidelines. If new information becomes available suggesting revised standards for smaller vessels, then these revised standards could be proposed as regulatory requirements. Performance Guidelines for Bird Line Requirements are as follows:

Buoy Bag Line Standard

A buoy bag line (32.8 to 131.2 ft (10 to 40 m) length) is deployed so that it is within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water. The buoy bag line must extend beyond the point where the main groundline enters the water.

Single Streamer Standard

A single streamer line must be deployed in such a way that streamers are in the air for a minimum of 131.2 ft (40 m) aft of the stern and within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water.

Materials Standard

NMFS proposes the following minimum streamer line specifications:

- (1) Length of 300 feet (91.4 m);
- (2) Spacing of streamers every 16.4 ft (5 m); and
- (3) Streamer material that is brightly colored, UV-protected plastic tubing or 3/8 inch polyester line or material of an equivalent density.

An individual streamer must hang attached to the mainline to 0.25 m above the waterline in the absence of wind.

Snap Gear Streamer Guideline

For vessels using snap gear, a single streamer line (147.6 ft (45 m) length) deployed in such a way that streamers are in the air for 65.6 ft (20 m) aft of the stern and within 6.6 ft (2 m) horizontally of the point where the main groundline enters the water.

Proposed Offal Requirements

The offal discharge regulation would be amended to require that prior to offal discharge, embedded hooks would be removed from offal. Otherwise, scavenging birds could become hooked while feeding on discharged fish offal. Hooked birds could eventually suffer increased mortality.

Melvin *et al.* (2001) noted on some cod vessels the continual discharge of residual bait and in some cases the discharge of offal through dedicated chutes or pipes at the stern during the set, directly over baited hooks. This attracted birds into the area where baits were sinking, aggravating seabird interactions with the gear (Melvin *et al.* 2001). Eliminating such directed discharge of residual bait or offal over sinking longlines would reduce the attractiveness of this area to birds and thus reduce the likelihood of birds attacking the bait and becoming hooked and drowning.

Seabird Avoidance Plan

A Seabird Avoidance Plan must:

- (i) Be written, current, and onboard the vessel.
- (ii) Contain the following information:
 - (A) Vessel Name.
 - (B) Master's Name.
 - (C) Type of bird avoidance measures utilized.
 - (D) Positions and responsibilities of crew for deploying, adjusting, and monitoring performance of deployed gear.
 - (E) Instructions and/or diagrams outlining the sequence of actions required to deploy and retrieve the gear to meet specified performance standards.
 - (F) Procedures for strategic discharge of offal, if any.
 - (G) The NMFS "Seabird Avoidance Plan" form completed and signed by vessel operator. Vessel operator's signature shall indicate the operator has read the plan, reviewed it with the vessel crew, made it available to the crew, and has instructed the vessel crew to read it.
- (iii) Be made available for inspection upon request by an authorized officer or observer.

Table A-1 - Seabird Avoidance Gear Requirements, Based on Area, Gear, and Vessel Type

| | |
|--|---|
| <p>If you operate a vessel deploying hook-and-line gear, other than snap gear, in NMFS Reporting Area 649 (Prince William Sound), 659 (Eastern GOA Regulatory Area, Southeast Inside District) or state waters of Cook Inlet, and your vessel is...</p> | <p>Then you must use this seabird avoidance gear in conjunction with requirements at § 679.24(e)...</p> |
| <p>>26 ft to 32 ft LOA</p> | <p>minimum of one buoy bag line</p> |
| <p>>32 ft to 55 ft LOA and does not have masts, poles, or rigging</p> | <p>minimum of one buoy bag line</p> |
| <p>>32 ft to 55 ft LOA and has masts, poles, or rigging</p> | <p>minimum of a single streamer line</p> |
| <p>>55 ft LOA</p> | <p>minimum of a single streamer line of a standard specified at § 679.24(e)(5)(ii)</p> |
| <p>If you operate a vessel deploying hook-and-line gear, other than snap gear, in the EEZ (not including Area 659), and your vessel is...</p> | <p>Then you must use this seabird avoidance gear in conjunction with requirements at § 679.24(e)...</p> |
| <p>>26 ft to 55 ft LOA and does not have masts, poles, or rigging</p> | <p>minimum of one buoy bag line and one other device¹</p> |
| <p>>26 ft to 55 ft LOA and has masts, poles, or rigging</p> | <p>minimum of a single streamer line and one other device¹</p> |
| <p>>55 ft LOA</p> | <p>minimum of paired streamer lines of a standard specified at § 679.24(e)(5)(iii)</p> |
| <p>Except for vessels operating in state waters of IPHC Area 4E, if you operate a vessel deploying hook-and-line gear, and it is snap gear, and your vessel is...</p> | <p>Then you must use this seabird avoidance gear in conjunction with requirements at § 679.24(e)...</p> |
| <p>>26 ft to 55 ft LOA and does not have masts, poles, or rigging</p> | <p>minimum of one buoy bag line and one other device¹</p> |
| <p>>26 ft to 55 ft LOA and has masts, poles, or rigging</p> | <p>minimum of a single streamer line and one other device¹</p> |
| <p>>55 ft LOA</p> | <p>minimum of a single streamer line of a standard specified at § 679.24(e)(5)(iv) and one other device¹</p> |

Table A-1 Cont'd.

| | |
|---|--|
| <p>If you operate a vessel deploying hook-and-line gear, other than snap gear, in IPHC Area 4E (not including state waters), and your vessel is...</p> | <p>Then you must use this seabird avoidance gear in conjunction with requirements at § 679.24(e)...</p> |
| <p>>26 ft to 55 ft LOA and does not have masts, poles, or rigging</p> | <p>minimum of one buoy bag line and one other device¹</p> |
| <p>>32 ft to 55 ft LOA and has masts, poles, or rigging</p> | <p>minimum of a single streamer line and one other device¹</p> |
| <p>>55 ft LOA</p> | <p>minimum of paired streamer lines of a standard specified at § 679.24(e)(5)(iii)</p> |

APPENDIX 2.

... Protocol for Handling Sick, Injured, and Dead Short-tailed Albatrosses and Steller's Eiders Encountered in Association with Commercial Fishery Operations

Reporting

All distressed, disabled, and dead short-tailed albatrosses and Steller's eiders found should be reported as soon as possible. Call the telephone numbers in the order listed in Table A2-1 until you succeed in reaching someone. Do not simply leave a voice message.

Handling Injured or Sick Birds

For apparently minor injuries (e.g., small lacerations, web tears, minor stunning), you should release the bird on site if: (1) you are so advised; or (2) you are out of radio/phone contact and the bird meets ALL OF THE FOLLOWING CRITERIA.

Criteria for determining whether bird should be released:

1. Bird can stand and walk using both feet.
2. Bird can flap both wings and there is no apparent wing droop.
3. Bird is alert, active, holds its head up and reacts to stimuli.
4. Bird is not bleeding freely.
5. Wing and tail feathers have not been lost and are in good condition.
6. Bird is waterproof (water beads up on feathers).

Retain birds that do not meet ALL of the above criteria, provide preliminary and secondary field care and report the bird (see *Reporting* section)

Preliminary Field Care:

1. Keep bird at a temperature equal to, or slightly cooler than, ambient outdoor temperature at all times.
2. Transport the bird in a manner that is least likely to further injure or stress it.
3. Minimize bird handling (wear rubber gloves to prevent loss of feather waterproofing).
4. Keep bird in a quiet place.

Secondary Field Care:

1. Keep bird in a cage or box with adequate ventilation and access to cool or cold fresh water. Overheating is a common problem with captive birds. If bird is dry, be careful not to place bird in overly warm environment. Wet birds should be dried off. If possible, place absorbent materials or a frame covered with fine mesh Dacron netting in the bottom of the container to minimize contact between bird and feces.
2. Food may be offered if bird is alert. Try moistened cat or dog food, boiled egg, or seafood.
3. Record when bird eats and drinks.
4. Minimize handling of the bird. Wear rubber gloves to prevent loss of feather waterproofing.

Shipping Live Birds

Reporting

Attempt to reach one of the people in the contact list provided below (Table A2-1). They will help determine whether the bird should be shipped to Anchorage, will arrange for shipping and subsequent care of the bird, and will arrange for pick-up in Anchorage. Note recovery location, date and time, persons involved, and reason bird was retained.

Preparation

Stabilize and rehydrate birds (offer cool or cold water in a stable bowl) before shipping.

Shipping

***IMPORTANT: Ship counter-to-counter or Goldstreak. Do not use U.S. Postal Service if avoidable.**

Ship birds in a cat or small dog carrier. Place absorbent cardboard or shredded paper in the bottom (if you can fit a wooden frame to the bottom of the carrier and affix fine-mesh Dacron netting to it, that is even better). Do not ship with food or water. Block the front grate of the carrier with tape or cardboard to minimize stress to the bird (but ensure adequate ventilation). Tape the bird's records to the container. If you want the container back, include name and address for return. Clearly label the container with: LIVE BIRDS, ENDANGERED SPECIES, U.S. Fish and Wildlife Service, Anchorage, AK (907) 271-2778.

Expenses

Some airlines will carry the birds for free, often in the crew's compartment. They do this as a favor and should be approached with courtesy. If the bird is being sent to the Bird TLC (Treatment and Learning Center, a non-profit bird rehabilitation center in Anchorage), it may be helpful to use their name in the conversation. Also mention the species' status (threatened or endangered), as appropriate. If payment is necessary, AFWFO will cover shipping expenses.

Shipping Dead Birds

Packaging

Wrap chilled carcass in absorbent material, if possible, and place in large ziplock or other waterproof plastic bag. Include a tag with complete information about the bird, its death and collection, and your name, address and phone number. Ship in an insulated container. Pack with frozen gel packs if available. Do not ship with wet ice. If it is obvious to you that the carcass will spoil during shipping, contact AFWFO prior to shipping for further instructions.

Shipping

Notify receiving person(s) of flight arrival time so the package will not sit at the airport. Avoid shipping to government offices on Thursdays or Fridays (There is no mail delivery there on Saturdays and Sundays).

Expenses

If needed, AFWFO will arrange for shipping and expenses.

Table A2-1 Contacts for Short-tailed Albatross and Eider Handling

| | |
|---|--|
| Anchorage Fish and Wildlife Field Office (AFWFO) | (800) 272-4174 toll free |
| Alaska Sealife Center Stranded Animal 24-hour Hotline | (888) 774-7325 toll free |
| Greg Balogh AFWFO, Anchorage | (907) 271-2778 work (907) 345-9899 home |
| Judy Jacobs, AFWFO, Anchorage | (907) 271-2780 work (907) 770-8987 home |
| Kim Trust, AFWFO, Anchorage | (907) 271-2783 work (907) 276-0005 home |
| Ellen Lance, AFWFO, Anchorage | (907) 271-1467 work (907) |
| Charla Sterne, AFWFO, Anchorage | (907) 271-2781 work |
| Alaska Sealife Center personnel: Tuula Holman | (907) 224-6323 work (907) 362-2287 cell |
| Natalie Noll, DVM Security | (907) 224-6326 (907) 224-6342 |
| Bird TLC Arctic Animal Hospital | (907) 562-4852 clinic |
| Barbara Doak, Bird TLC Rehabilitation Director | (907) 277-6778 home |
| James Scott, DVM | (907) 2778808 work |
| Barbara Callahan, Intl. Bird Rescue | (907) 274-1176 home |
| Ann Rappoport, AFWFO, Anchorage | (907)271-2787 work (907)345-3822 home |
| Dan Mulcahy, D.V.M., National Biological Service | (907) 786-3451 work (907) 694-2514 home |
| Law Enforcement, FWS, Regional Office | (907) 786-3311 (907) 786-3313 fax |
| Law Enforcement, FWS, Anchorage | (907) 271-2828 (800) 858-7621 toll-free (907) 271-2827 fax |

APPENDIX 3 - Endangered Species Encounter Reporting Form



Endangered Species Encounter Reporting Form

(Short-tailed albatross, spectacled eider, Steller's eider)

| | | | | |
|---|---|-------------|--------------------------|----------|
| Your Name, Address, Phone | Vessel Name and ADF&G No.: | | | |
| Check one: <input type="checkbox"/> Fisherman <input type="checkbox"/> Fishery Observer <input type="checkbox"/> Non Fishery-related boater <input type="checkbox"/> Non Fishery-related Scientist <input type="checkbox"/> Other (Explain) | Date of Encounter(s): Describe weather and light level when encounter occurred. | | | |
| If bird(s) observed from a fishing vessel, which fishery was this vessel participating in when encounter occurred? | Location or Geographic Coordinates of Encounter(s): | | | |
| Briefly describe the bird(s). | How many did you see of each? <input type="checkbox"/> Adult bird(s) <input type="checkbox"/> Immature bird(s) <input type="checkbox"/> Uncertain of age | | | |
| Were birds Injured or Killed? If Yes, list number of each species and sex, approximate time observed (e.g. morning, afternoon, night) weather conditions (e.g. stormy, foggy, clear) and how they were injured or killed. (e.g. struck rigging, came up in gear, shot by someone). | | | | |
| Additional sightings: | | | | |
| Date | Coordinates | Number seen | Number injured or killed | Comments |
| | | | | |
| Please return completed form to: Greg Balogh, U.S. Fish and Wildlife Service 605 W. 4th Ave. Rm G-61 Anchorage, AK 99501 | | | | |

APPENDIX 4 - Some Sources for Bilge Oil-Water Separators

Bilge Filter Products, Inc.

P.O. Box 475 LeMont, IL 60439

Tel: (630) 427-0409

www.bilgefiltersystem.com

Controlmasters, Inc.

(Mycelx Bilgekleen System)

11623 Columbia Park Drive East

Jacksonville, FL 32258

Tel: (904)260-9756

www.controlmasters.com/mycelx-marine.htm

Liberty Bay Solutions

P.O. Box 306

Poulsbo, WA 98370

Tel: (800) 261-9787

www.libertybaysolutions.com