



RECORD OF DECISION

Seabird Interaction Avoidance under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region

Contents

I. Introduction	1
II. Background	2
III. Alternatives Considered	5
IV. The Environmentally Preferred Alternative	14
V. Final Decision	15
VI. Comparison of the Environmental Consequences of the Alternatives/	15
Rationale for the Decision	15
VII. Mitigation Measures and Monitoring	22
VIII. Public Comments	24
IX. Contact Person	28
X. Signature and Implementation	29

I. Introduction

On May 6, 2005, the Environmental Protection Agency published in the *Federal Register* (70 FR 24038) a Notice of Availability of the Final Environmental Impact Statement, Seabird Interaction Avoidance Methods under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region and Pelagic Squid Fishery Management under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region and the High Seas Fishing Compliance Act (FEIS). The objective of the Federal action¹ analyzed in the FEIS is to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. This would be accomplished through a regulatory amendment under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (Pelagics FMP).

There are two strategies that could be employed to reduce the potentially harmful effects of longline-seabird interactions on seabird populations: (1) reduce the number of interactions, and (2) reduce the consequences of such interactions. Cost-effectively reducing the consequences of seabird hookings is difficult to accomplish. Birds hooked while longlines are being deployed are pulled underwater and have a very high probability of mortality. Birds hooked while longlines are being retrieved may be recovered and released alive, but their injuries may result in delayed

¹ Two Federal actions are assessed in the FEIS. The first action concerns seabird mitigation and is covered by this Record of Decision. The second Federal action relates to the monitoring and management of U.S. squid fisheries in the central and western Pacific Ocean, including a nascent high seas industrial-scale fishery and several coastal small-boat fisheries in Hawaii. This second Federal action is not “ripe” for decision at this time.

mortality. However, the majority of interactions occur during setting of the longline, so this strategy has limitations. Regulations to reduce the impacts to hooked birds are currently in effect and would not be affected by the action assessed in the FEIS². Thus, regulations to reduce the number of longline-seabird interactions were the focus of the alternatives analyzed in detail in the FEIS.

National Marine Fisheries Service (NMFS) selects the Preferred Alternative (Alternative SB7D) of the FEIS as the choice to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. The rationale for this decision is fully supported by the environmental analysis documented in the FEIS. Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 *et seq.* (NEPA), NMFS made this decision after careful review of the public comments on the Draft Environmental Impact Statement (DEIS), issued August 27, 2004 (69 FR 52668); on the FEIS, issued May 6, 2005 (70 FR 24037); as well as the comments NMFS received on the proposed rule (July 13, 2005; 70 FR 20302) that would implement the Preferred Alternative (Alternative SB7D) of the FEIS.

NMFS has prepared this Record of Decision pursuant to the Council on Environmental Quality (CEQ) Regulations for implementing the procedural provisions of NEPA, and National Oceanic and Atmospheric Administration (NOAA) guidance (NOAA Administrative Order 216-6) implementing NEPA.

II. Background

The Hawaii-based longline fishery incidentally hooks or entangles, and kills black-footed albatross (*Phoebastria nigripes*) and Laysan albatross (*P. immutabilis*) that nest in the Northwestern Hawaiian Islands. The short-tailed albatross (*P. albatrus*), an endangered species listed under the Endangered Species Act of 1973, 16 U.S.C. §§ 1531 – 1544, nests primarily on Torishima Island off Japan. Although short-tailed albatrosses are known to visit the Northwestern Hawaiian Islands and have been sighted occasionally in the vicinity of Hawaii-based longline vessels during fishing operations, there has been no confirmed report of any interaction between any short-tailed albatross and Hawaii-based longline fishery.

On May 14, 2002, NMFS published a final rule (67 FR 34408) establishing permanent seabird mitigation measures recommended to NMFS by the Western Pacific Fishery Management Council (WPFMC) for the Hawaii-based longline fishery. That rule, which replaced the 2001 emergency interim rule, is the result of the WPFMC's continued effort and commitment to minimize interactions between seabirds and the Hawaii-based longline fishery. A description of the WPFMC's role and ongoing actions in seabird avoidance and mitigation in the western Pacific region is contained in the regulatory amendment document entitled "Additional Measures

² Handling guidelines for hooked seabirds are provided to the owners and operators of longline vessels during the mandatory attendance at NMFS' protected species workshops.

to Reduce the Incidental Catch of Seabirds in the Hawaii-based Longline Fishery,” dated April 6, 2005.

The May 2002 final rule required vessel owners and operators registered for use with Hawaii-based longline limited access permits and deploying longline gear north of 23° N latitude to (1) use line-setting machines (line shooters) with weighted branch lines when deep-setting, or use basket-style longline gear, and (2) to use thawed, blue-dyed bait and strategic offal discards (which include fish, fish parts, or spent bait) during the setting and hauling of longline gear. The vessel owners and operators were also required to follow certain seabird handling techniques, and annually complete a protected species educational workshop on seabird mitigation conducted by NMFS.

Since 2000, the number of fishery interactions with seabirds was significantly reduced due to the closure of the shallow-set (swordfish-directed) component of the Hawaii-based longline fishery. This closure was implemented by NMFS to protect sea turtles through a number of emergency actions (64 FR 72290, December 27, 1999; 65 FR 51992, August 25, 2000; 66 FR 15358, March 19, 2001) and a final rule (66 FR 31561, June 12, 2001). In 2002 and 2003, NMFS, the WPFMC, and the fishing industry collaborated in a series of research activities to test new seabird avoidance methods for the Hawaii-based longline fishery. The trials found that underwater-setting chutes and side-setting were both effective in reducing interactions with seabirds. Underwater-setting chutes deploy baited hooks underwater and out of the reach of seabirds.

Side-setting consists of deploying the mainline from the side of the vessel rather than from the stern, which is the traditional setting position. Neither underwater-setting chutes nor side-setting were required by current seabird mitigation measures. These and other seabird avoidance methods were analyzed and considered by the WPFMC as potential new seabird mitigation measures to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds.

Formal consultation between NMFS and the United States Fish and Wildlife Service (USFWS) on the effects of Hawaii-based longline operations on short-tailed albatross was originally triggered in 1999. The USFWS issued a biological opinion on November 28, 2000 (USFWS Formal Consultation Log Number 1-2-1999-F-02). Consultation was reinitiated in 2001 because of court-ordered suspension of shallow-set longlining in the Hawaii-based fishery. The resulting biological opinion, which the USFWS issued on November 18, 2002, examined the effects of the deep-set longline Hawaii-based fishery (USFWS Formal Consultation Log Number 1-2-1999-F-02R). At that time, the deep-set longline was the only gear type permitted for the Hawaii-based fishery. The conclusion of the November 18, 2002, biological opinion was that the deep-set Hawaii-based longline fishery is not likely to jeopardize the continued existence of the short-tailed albatross. In response to NMFS' reopening of the shallow-set sector of the Hawaii-based longline fishery and request for reinitiated formal consultation, USFWS issued a biological opinion on October 8, 2004, that examined the effects of this change on the short-tailed albatross

(USFWS Formal Consultation Log Number 1-2-1999-F-02.2). Based on the anticipated level of mortality, the conclusion of the October 8, 2004, biological opinion was that the reopening of the shallow-set Hawaii-based longline fishery is not likely to jeopardize the continued existence of the short-tailed albatross.

Since the November 18, 2002, and the October 8, 2004, biological opinions, no new species has been listed or critical habitat designation made that was not previously considered. The proposed new seabird avoidance measures will not result in changes to the activities of the Hawaii longline fishery that cause effects to listed species or critical habitat not previously considered in these earlier consultations. In a February 11, 2005, letter from W. Robinson, NMFS to G. Shultz, USFWS, NMFS provided a description of the proposed rule and notified the USFWS that reinitiating of the consultation under section 7 of the Endangered Species Act was not warranted for the proposed Federal action because the proposed actions are consistent with the November, 2002, and October 8, 2004, biological opinions on short-tailed albatross. The USFWS concurred with this determination in a letter dated October 20, 2005.

On April 2, 2004, NMFS published a final rule (69 FR 17329) that reopened the shallow-set component of the Hawaii-based longline fishery. In this fishery, longline gear is deployed (set) relatively shallow, generally in the upper 100 m of the water column, by fishing operations that are targeting swordfish (Family Xiphiidae), compared to the deeper longline sets targeting bigeye tuna (*Thunnus obesus*). Shallow-set longline gear do incidentally take sea turtles, such as leatherback turtles (*Dermochelys coriacea*) and loggerhead turtles (*Caretta caretta*), but this technique also poses a problem for seabirds. The problem is more acute when operators of the longline vessel deploys fishing gear during the early evening period when seabirds, such as Laysan and black-footed albatrosses, are more likely foraging for food at sea and are attracted to the baited hooks of the longline gear as it is being deployed. The April 2004 rule placed restrictions on the types of hook and bait that may be used, annual fleet-wide limits on fishery interactions with leatherback and loggerhead sea turtles, an annual fleet-wide limit on shallow-set fishing effort (2,120 sets), and other sea turtle mitigation measures. The rule also contained a seabird mitigation measure that required Hawaii-based longline vessel owners and operators, when making shallow sets north of 23° N latitude, to start and complete the deployment of longline gear (set and haul) during the nighttime (specifically to set no earlier than one hour after local sunset and to finish hauling no later than local sunrise) to minimize interactions with seabirds.

At its meeting in June 2004, the WPFMC took initial action and recommended to NMFS additional seabird mitigation measures based on the promising results of the seabird mitigation studies conducted in 2002 and 2003. Subsequently, at its October 2004 meeting, the WPFMC recommended that NMFS amend the Pelagics FMP regulations to include the following seabird mitigation measures: (a) when fishing north of 23° N latitude, all deep-setting Hawaii-based longline vessel owners and operators must either side-set or use a tori line system plus the currently required seabird mitigation measures (line shooter with weighted branch lines, blue-

dyed thawed bait, and strategic offal discards), with the requirement to use strategic offal discards modified to require that vessel owners and operators use them only when seabirds are present; and (b) all owners and operators of shallow-setting Hawaii-based longline vessels must either side-set, or use a tori line plus the currently required seabird mitigation measures (night setting, blue dyed thawed bait, and strategic offal discards), wherever they fish, with the requirement to use strategic offal discards modified to require that vessel owners and operators use them only when seabirds are present.

NMFS estimated that the Hawaii-based longline fleet hooked or entangled 2,320 albatrosses during 1999. In 2002 and 2003, after the shallow-set component of the Hawaii-based longline fishery was closed due to sea turtle bycatch, annual seabird interaction estimates fell to 113 and 257, respectively. Not including drop-offs³, NMFS anticipates that that approximately six (6) interactions per year with black-footed and Laysan albatrosses would occur with the Hawaii-based longline fishing fleet under the preferred alternative⁴.

III. Alternatives Considered

The following is a brief summary of the 25 alternatives considered in detail in the FEIS (including the no action alternative) and other alternatives considered but eliminated from detailed study. Further detailed information on the alternatives may be found in Chapter 2 and Chapter 4 of the FEIS. NMFS is selecting the Preferred Alternative of the FEIS (identified as Alternative SB7D) to use as seabird mitigation measures under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region.

(1) Alternative SB1, No Action Alternative: Owners and operators of Hawaii-based longline vessels are required to use seabird mitigation measures when fishing north of 23° N latitude. The current seabird mitigation measures are as follows:

- (a) Seabird mitigation techniques. Owners and operators of vessels registered for use under a Hawaii longline limited entry permit must ensure that the following actions are taken when fishing north of 23° N latitude:
 - (1) Employ a line-setting machine or line-shooter to set the mainline when making deep sets using monofilament mainlines;
 - (2) Attach a weight of at least 45 g to each branch line within 1 meter of the hook when making deep sets using monofilament mainlines;
 - (3) When using basket-style longline gear, ensure that the mainline is deployed slack to maximize its sink rate;

³ Drop-offs are seabirds that are hooked that drop off the hook or are scavenged during the set and are not observed on the haul back.

⁴ Projections used in the FEIS do not include drop-offs. Because of drop-offs, the projections of seabird takes and mortalities used in the FEIS are an underestimate (page 243 of the FEIS). However, assuming that bird drop-off is constant across the alternatives, this underestimate does not affect the comparison of the effects of the alternatives.

- (4) Use completely thawed bait that has been dyed blue to an intensity level specified by a color quality control card issued by NMFS;
 - (5) Maintain a minimum of two cans (each sold as 0.45 kg or 1 lb size) containing blue dye on board the vessel;
 - (6) Discharge fish, fish parts (offal), or spent bait while setting or hauling longline gear, on the opposite side of the vessel from where the longline gear is being set or hauled;
 - (7) Retain sufficient quantities of fish, fish parts, or spent bait, between the setting of longline gear for the purpose of strategically discharging it in accordance with paragraph (a)(6) of this section;
 - (8) Remove all hooks from fish, fish parts, or spent bait prior to its discharge in accordance with paragraph (a)(6) of this section; and
 - (9) Remove the bill and liver of any swordfish that is caught, sever its head from the trunk and cut it in half vertically, and periodically discharge the butchered heads and livers in accordance with paragraph (a)(6) of this section.
 - (10) When shallow-setting north of 23° N latitude, begin the deployment of longline gear at least one hour after local sunset and complete the deployment no later than local sunrise, using only the minimum vessel lights necessary for safety.
- (b) Short-tailed albatross handling techniques. If a short-tailed albatross is hooked or entangled by a vessel registered for use under a Hawaii longline limited entry permit, owners and operators must ensure that the following actions are taken:
- (1) Stop the vessel to reduce the tension on the line and bring the bird on board the vessel using a dip net.
 - (2) Cover the bird with a towel to protect its feathers from oils or damage while being handled.
 - (3) Remove any entangled lines from the bird.
 - (4) Determine if the bird is alive or dead.
 - (i) If dead, freeze the bird immediately with an identification tag attached directly to the specimen listing the species, location and date of mortality, and band number if the bird has a leg band. Attach a duplicate identification tag to the bag or container holding the bird. Any leg bands present must remain on the bird. Contact NMFS, the Coast Guard, or the USFWS at the numbers listed on the Short-tailed Albatross Handling Placard distributed at the NMFS protected species workshop, inform them that you have a dead short-tailed albatross on board, and submit the bird to NMFS within 72 hours following completion of the fishing trip.
 - (ii) If alive, handle the bird in accordance with paragraphs (b)(5) through (b)(10) of this section.
 - (5) Place the bird in a safe enclosed place.
 - (6) Immediately contact NMFS, the Coast Guard, or the USFWS at the numbers listed on the Short-tailed Albatross Handling Placard distributed at the NMFS protected species workshop and request veterinary guidance.
 - (7) Follow the veterinary guidance regarding the handling and release of the bird.
 - (8) Complete the short-tailed albatross recovery data form issued by NMFS.

(9) If the bird is externally hooked and no veterinary guidance is received within 24–48 hours, handle the bird in accordance with paragraphs (c)(4) and (c)(5) of this section, and release the bird only if it meets the following criteria:

- (i) Able to hold its head erect and respond to noise and motion stimuli;
- (ii) Able to breathe without noise;
- (iii) Capable of flapping and retracting both wings to normal folded position on its back;
- (iv) Able to stand on both feet with toes pointed forward; and
- (v) Feathers are dry.

(10) If released under paragraph (a)(8) of this section or under the guidance of a veterinarian, all released birds must be placed on the sea surface.

(11) If the hook has been ingested or is inaccessible, keep the bird in a safe, enclosed place and submit it to NMFS immediately upon the vessel's return to port. Do not give the bird food or water.

(12) Complete the short-tailed albatross recovery data form issued by NMFS.

(c) Non-short-tailed albatross seabird handling techniques. If a seabird other than a short-tailed albatross is hooked or entangled by a vessel registered for use under a Hawaii longline limited entry permit, owners and operators must ensure that the following actions are taken:

- (1) Stop the vessel to reduce the tension on the line and bring the seabird on board the vessel using a dip net;
- (2) Cover the seabird with a towel to protect its feathers from oils or damage while being handled;
- (3) Remove any entangled lines from the seabird;
- (4) Remove any external hooks by cutting the line as close as possible to the hook, pushing the hook barb out point first, cutting off the hook barb using bolt cutters, and then removing the hook shank;
- (5) Cut the fishing line as close as possible to ingested or inaccessible hooks;
- (6) Leave the bird in a safe enclosed space to recover until its feathers are dry; and
- (7) After recovered, release seabirds by placing them on the sea surface.

(2) Alternative SB2A: Use current seabird mitigation measures or use the side-setting avoidance method, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to either (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, when fishing north of 23° N latitude. Allowing vessel owners and operators to choose between the current seabird mitigation measures or the side-setting method would increase flexibility and address safety concerns by offering the choice of current seabird mitigation measures for those vessel owners and operators unwilling to switch to 60 g weights. It also allows for the possibility that not all vessels can be configured for side-setting.

(3) Alternative SB2B: Use current seabird mitigation measures or use the side-setting seabird avoidance method, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas.

(4) Alternative SB3A: Use current seabird mitigation measures or use an underwater-setting chute seabird avoidance method, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, when fishing north of 23° N latitude.

(5) Alternative SB3B: Use current seabird mitigation measures or use an underwater-setting chute, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to either (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, in all areas.

(6) Alternative SB4A: Use current seabird mitigation measures or use a tori line, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) employ one or more tori lines, when fishing north of 23° N latitude.

(7) Alternative SB4B: Use current seabird mitigation measures or use a tori line, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) employ one or more tori lines, in all areas.

(8) Alternative SB5A: Use current seabird mitigation measures or use side-setting or use underwater-setting chute, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action), or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, or (c) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, when fishing north of 23° N latitude.

(9) Alternative SB5B: Use current seabird mitigation measures or use side-setting or use an underwater-setting chute, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action) or (b) employ side-setting according to the

specifications given in Section 2.1.3.7 of the FEIS, or (c) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, in all areas.

(10) Alternative SB6A: Use current seabird mitigation measures or use side-setting or use an underwater-setting chute or use a tori line, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to select one of the following: (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action); or (b) employ side-setting according to the specifications give in Section 2.1.3.7 of the FEIS; or (c) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (d) employ one or more tori lines, when fishing north of 23° N latitude.

(11) Alternative SB6B: Use current seabird mitigation measures or use side-setting or use an underwater-setting chute or use a tori line, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to select one of the following: (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action); or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS; or (c) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (d) employ one or more tori lines, in all areas.

(12) Alternative SB7A: Use current seabird mitigation measures or use side-setting or use a tori line, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to select one of the following: (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action); or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS; or (c) employ one or more tori lines, when fishing north of 23° N latitude.

(13) Alternative SB7B: Use current seabird mitigation measures or use side-setting or use a tori line, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to select one of the following: (a) continue to use the current seabird mitigation measures of Alternative SB1 (No Action); or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS; or (c) employ one or more tori lines, in all areas.

(14) Alternative SB7C: Swordfish (shallow-setting) vessels use current seabird mitigation measures (Alternative SB1) except thawed, blue-dyed bait, or use side-setting, or use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, or use a tori line, in all areas. Tuna (deep-setting) vessels use current seabird mitigation measures (Alternative SB1) except thawed, blue-dyed bait, or use side-setting in conjunction with a line-shooter and weighted branch lines, or use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater, or use a tori line in conjunction with a line-shooter and weighted branch lines, when fishing north of 23° N latitude. Under this alternative owners and operators of Hawaii-

based longline fishing vessels targeting swordfish (shallow-setting) would be required to select one of the following: (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) except the requirement to use thawed, blue-dyed bait; or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS; or (c) use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (d) employ one or more tori lines, in all areas. Owners and operators of Hawaii-based longline fishing vessels targeting tuna (deep-setting) would be required to select one of the following: (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) except the requirement to use thawed, blue-dyed bait; or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS in conjunction with a line-shooter; or (c) use an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (d) employ one or more tori lines, when fishing north of 23° N latitude.

(15) Alternative SB7D, the Preferred Alternative: Swordfish (shallow-setting) vessels use current seabird mitigation measures plus a tori line or use side-setting, in all areas. Use strategic offal discards only when birds are present. For owners and operators of Hawaii-based longline fishing vessels targeting swordfish and tuna, it is noted that current regulation requires discard of strategic offal regardless of the presence of seabirds. Alternative SB7D, the Preferred Alternative, would modify this requirement and require strategic offal discard only when birds are present. Tuna (deep-setting) vessels use current seabird mitigation measures plus a tori line or use side-setting in conjunction with a line-shooter and weighted branch lines when fishing north of 23° N latitude. Use strategic offal discards only when birds are present. Under this alternative, owners and operators of Hawaii-based longline fishing vessels targeting swordfish (shallow-setting) would be required to (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) with the addition of one or more tori lines, or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas. Owners and operators of Hawaii-based longline fishing vessels targeting tuna (deep-setting) would be required to (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) with the addition of one or more tori lines, or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, when fishing north of 23° N latitude.

(16) Alternative SB7E: Swordfish (shallow-setting) vessels use current seabird mitigation measures (Alternative SB1) without blue-dyed bait or strategic offal discards but with a tori line or use side-setting, in all areas. Tuna (deep-setting) vessels use current seabird mitigation measures (Alternative SB1) without blue-dyed bait or strategic offal discards but with a tori line or use side-setting in conjunction with a line-shooter and weighted branch lines when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels targeting swordfish (shallow-setting) would be required to (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) with the addition of one or more tori lines, but without blue-dyed bait or strategic offal

discard, or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas. Owners and operators of Hawaii-based longline fishing vessels targeting tuna (deep-setting) would be required to (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1) with the addition of one or more tori lines, but without blue-dyed bait or strategic offal discard, or (b) employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, when fishing north of 23° N latitude.

(17) Alternative SB8A: Use current seabird mitigation measures plus side-setting, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to continue to use the current seabird mitigation measures of Alternative SB1 (No Action), as well as to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, when fishing north of 23° N latitude.

(18) Alternative SB8B, the Environmentally Preferred Alternative: Use current seabird mitigation measures plus side-setting, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to continue to use the current seabird mitigation measures of Alternative SB1 (No Action), as well as to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas.

(19) Alternative SB9A: Use side-setting when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, when fishing north of 23° N latitude.

(20) Alternative SB9B: Use side-setting in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas.

(21) Alternative SB10A: Use side-setting unless technically infeasible, in which case use current seabird mitigation measures, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, unless technically infeasible, in which case they would be required to use the current seabird mitigation measures of Alternative SB1 (No Action), when fishing north of 23° N latitude.

(22) Alternative SB10B: Use side-setting unless technically infeasible, in which case use current seabird mitigation measures, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, unless technically infeasible, in which case they would be required to use the current seabird mitigation measures of Alternative SB1 (No Action), in all areas.

(23) Alternative SB11A: Use side-setting unless technically infeasible, in which case either use current seabird mitigation measures without blue bait or strategic offal discards (shallow-setting vessels set at night, deep-setting vessels use line-shooters with weighted branch lines), or an underwater-setting chute or a tori line, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to use side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, unless technically infeasible, in which case shallow-setting vessels would be required to select one of the following: (a) begin the setting process at least one hour after local sunset and complete the setting process by local sunrise; or (b) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (c) employ one or more tori lines, when fishing north of 23° N latitude. Deep-setting vessels unable to side-set would be required to select one of the following: (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1); or (b) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (c) employ one or more tori lines, when setting north of 23° N latitude.

(24) Alternative SB11B: Use side-setting unless technically infeasible, in which case: swordfish (shallow-setting) vessels set at night, or use an underwater-setting chute, or use a tori line, and tuna (deep-setting) vessels use current seabird mitigation measures, or use an underwater-setting chute, or use a tori line, when fishing north of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to use side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, unless technically infeasible, in which case shallow-setting vessels would be required to select one of the following: (a) begin the setting process at least one hour after local sunset and complete the setting process by local sunrise; or (b) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (c) employ one or more tori lines, in all areas. Deep-setting vessels unable to side-set would be required to select one of the following: (a) use the seabird mitigation measures currently required for vessels fishing north of 23° N latitude (Alternative SB1); or (b) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (c) employ one or more tori lines, in all areas.

(25) Alternative SB12: Voluntarily use side-setting, an underwater-setting chute, a tori line, night-setting, or a line-shooter with weighted branch lines, when fishing south of 23° N latitude. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be asked to voluntarily select one of the following: (a) use side-setting according to the specifications given in Section 2.1.3.7 of the FEIS; or (b) employ an underwater-setting chute that has a minimum of 2.9 m of its shaft underwater; or (c) employ one or more tori lines; or (d) begin the setting process at least one hour after local sunset and complete the setting process by local sunrise; or (e) use a line-shooter with weights of at least 45 g placed within one meter of each hook, when fishing south of 23° N latitude.

Alternatives Considered but Eliminated from Detailed Study

Some possible seabird avoidance methods or combinations of avoidance methods did not specifically appear in any of the alternatives considered in the detailed study due to the impracticality, redundancy, ineffectiveness, or experimental nature of the seabird mitigation measure. In effect, these alternatives were considered but eliminated from detailed study. Section 2.1.6 of the FEIS addresses these alternatives considered but eliminated for further consideration.

One of these alternatives considered but eliminated from detailed study is the use of different boundaries than 23° N latitude. Many of the alternatives further considered are paired, with one alternative employing seabird avoidance or mitigation methods only at latitudes north of 23° N latitude and the other employing seabird mitigation measures wherever fishing is done (including below 23° N latitude). The current southern boundary for implementation of seabird mitigation measures in the Hawaii-based longline fleet is 23° N latitude. The original rationale for that selection was to protect short-tailed albatross, because that is the lowest latitude at which a short-tailed albatross has ever been seen near Hawaii. However, the objective of this Federal action is to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds, not just on the short-tailed albatross, so a reexamination of the rationale for this boundary was appropriate.

There exist an infinite number of potential geographic variations where seabird mitigation measures might be mandated, including latitudes above and below 23° N latitude, various sizes and shapes. To determine if there is a need to expand the area in which seabird mitigation measures are required, the FEIS used historic data from the Hawaii-based longline fleet to calculate the number of sets, trips and years between seabird interactions with tuna and swordfish vessels above and below 23° N latitude, gathered from the time before NMFS imposed seabird mitigation measures (Table 2.1-7 of the FEIS). Based on analysis provided in the FEIS (section 2.1.6), a conservative estimate of the total number of interactions from the subset of the fleet that will fish south of the 23° N latitude will be 1.1 birds per year⁵. The current world population of breeding black-footed albatrosses is estimated at over 300,000 individuals, with 61,141 breeding pairs in 12 colonies (page 122 of the FEIS). It is estimated that the Laysan albatross is approximately 3.4 million individuals, with 590,683 pairs in 15 colonies (page 126 of the FEIS). It is anticipated that a loss of one bird per year is not expected to have a significant effect on the population trajectory of either the Laysan albatross (see Table 3.6.1-3, page 127 of the FEIS) or the black-footed albatross (see Table 3.6.1-2, page 125 of the FEIS). Although the FEIS notes that the impact of fishery-related mortality on albatrosses is under study by the USFWS, the FEIS concludes that the 23° N latitude boundary for imposition of seabird mitigation measures is precautionary at this time.

⁵ Projected number do not accounting for possible drop-offs, estimated to be approximately 30%.

NMFS, in partnership with the USFWS and the WPFMC, is committed to further research on the effectiveness of the seabird mitigation measures. In concert with the WPFMC and others, NMFS will continue to evaluate seabird mitigation measures imposed, including the application of seabird mitigation measures to deep-setting longline vessels fishing south of 23° N latitude, if new information not previously considered becomes available.

IV. The Environmentally Preferred Alternative

Regulations to reduce the impacts to hooked birds are currently in effect and would not be affected by the action assessed in the FEIS. Regulations to reduce the number of longline-seabird interactions were the focus of the alternatives analyzed in detail in the FEIS.

The CEQ regulations require that the Record of Decision specify “the alternative or alternatives which were considered to be environmentally preferable” (40 CFR 1505.2(b)). This alternative has generally been interpreted to be the alternative that will promote the national environmental policy as expressed in section 101 of NEPA. The Environmentally Preferred Alternative is the alternative that causes the least damage to the physical and biological environment and is the alternative that best protects, preserves, and enhances historic, cultural, and natural resources. Alternative SB8B of the FEIS is the Environmentally Preferred Alternative. Alternative SB8B requires the use of current seabird mitigation measures plus side-setting, in all areas. Under this alternative, owners and operators of Hawaii-based longline fishing vessels would be required to continue to use the current seabird mitigation measures of Alternative SB1 (No Action), as well as to employ side-setting according to the specifications given in Section 2.1.3.7 of the FEIS, in all areas.

Under Alternative SB8B, not accounting for possible drop-offs, the projected numbers of seabirds annually captured per year during the Hawaii-based longline fishery is zero (0) by both the deep-setting and shallow-setting vessels. However, this alternative provides owners and operators of regulated vessels a lack of flexibility to achieve the objective to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. With Alternative SB8B, all interaction seabird mitigation measures would be non-discretionary. Owners and operators of smaller vessels, in particular, may find it costly or impractical to convert to side-setting because of structural limitations. The negative economic impacts of this alternative would be even higher if the requirement to side-set eliminates pelagic longline fishing opportunities for owners and operators of vessels that cannot be readily reconfigured for side-setting operations.

V. Final Decision

Based on the best scientific information available, I select the Preferred Alternative (Alternative SB7D) of the FEIS, modified slightly, as my choice to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. I elect to modify the Preferred Alternative, as described in the FEIS, by reducing the weight requirement used on branch lines while side-setting to 45 g, and eliminating the requirement to use tori line systems. Neither the reduction in the weight requirement used on branch lines while side-setting to 45 g or the elimination of the requirement to use tori line systems are anticipated to significantly alter the number of bird interactions of the Preferred Alternative as analyzed in FEIS. The rationale for this decision is discussed below. The rationale for the selection of the modified Preferred Alternative is supported by the environmental analysis documented in the FEIS. Pursuant to NEPA, I have made this decision after careful review of the public comments on the DEIS issued August 27, 2004 (69 FR 52668), on the FEIS issued May 6, 2005 (70 FR 24037), and on public comments that NMFS received on the proposed rule (July 13, 2005; 70 FR 20302) that would implement the modified Preferred Alternative of the FEIS.

VI. Comparison of the Environmental Consequences of the Alternatives/ Rationale for the Decision

In the FEIS, the No Action Alternative and 24 other alternatives were evaluated based on their ability to meet the purpose and need to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. In Chapter 2 of the FEIS, the criteria for evaluation of the alternatives and the seabird mitigation measures (operational characteristics, compliance, efficacy of interaction avoidance, and cost) are discussed. Individual seabird avoidance and mitigation methods and all combinations of two of the methods were described and evaluated. Alternatives were then evaluated for their potential impacts to the environment. In particular, Section 4.5 of the FEIS describes impacts of the alternatives to seabirds while Section 4.8 of the FEIS describes the economic effects of the alternatives.

Table 1 (which is comparable to Table 4.12-1 of the FEIS) collates the results of analyses of the quantitative and qualitative criteria established to evaluate the degree to which the seabird action alternatives would satisfy the objective to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. Both initial and annual recurring costs are summarized from the analyses in Section 4.8 of the FEIS and then compared in terms of the number of years that would be required to recover the initial investment (i.e., initial cost divided by the annual cost of Alternative SB1, No Action Alternative, minus the annual cost of the alternative). Alternatives with annual costs greater than the annual cost of Alternative SB1 (No Action Alternative) would never recover the initial investment in hardware and installation.

Not accounting for possible drop-offs, the projected numbers of seabird interactions is summarized in Figure 1 (which is comparable to Figure 4.5-1 of the FEIS). The qualitative

evaluations of the operational characteristics and compliance criteria for the alternatives are based on the ratings in Table 2.1-1 of the FEIS for the dominant seabird mitigation measure anticipated to be used in deriving the projections of interactions for each alternative. In comparing the ratings of the qualitative criteria with the projections of interactions, a general correlation is seen. The alternatives rated lowest qualitatively (Alternative SB3A, Alternative SB3B, Alternative SB4A and Alternative SB4B) also were among those with the highest projected number of seabird interactions (range: 73 to 311). Alternatives with intermediate qualitative ratings (Alternative SB1, No Action Alternative, and Alternative SB12) had lower, but still relatively high, interaction projections (range: 80 to 97). Alternatives in those two categories would not best satisfy the objective of the Federal action, which is to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds based on both qualitative characteristics and seabird interaction avoidance efficacy. SB4A and SB4B also had high operating costs related to annual replacements of tori line components.

The other alternatives were rated highly against the qualitative criteria, primarily because side-setting was the dominant seabird mitigation measure used, and tended to produce the lowest projected number of interactions. Within that group of alternatives, those mandating the use of side-setting (Alternative SB8A, Alternative SB8B, Alternative SB9A, Alternative SB9B) had the highest initial costs (range: \$528,000 to \$572,000). Alternative SB8A and Alternative SB8B also had annual costs higher than those of Alternative SB1 (No Action Alternative), meaning that the initial investment would never be recovered. These latter alternatives would not best satisfy the objective of the Federal action, which is to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds based on their high initial costs, but perhaps more importantly because they mandate the use of a seabird mitigation measure (side-setting) that has undergone only very limited testing. While initial results with this measure have been promising, NMFS needs to gather more performance data under actual fleet operating conditions in order to justify mandating universal application.

Table 1. Summary comparison of seabird action alternatives for the entire Hawaii-based longline limited entry fleet (●= good; ●●= better; ●●●=best).

Alternative	Fleet Initial Costs	Fleet Annual Costs	Initial Cost Recovery Time (Years)	Annual Projected Number of Interactions ^a	Fleet Operational Characteristics	Fleet Compliance
Alternative SB1 (No Action Alternative)	\$0	\$88,792	0	97	●●	●●
Alternative SB2A	\$476,000	\$73,990	32.2	11	●●●	●●●

RECORD OF DECISION: Seabird Interaction Avoidance Methods

Alternative	Fleet Initial Costs	Fleet Annual Costs	Initial Cost Recovery Time (Years)	Annual Projected Number of Interactions ^a	Fleet Operational Characteristics	Fleet Compliance
Alternative SB2B	\$516,000	\$60,236	18.1	6	●●●	●●●
Alternative SB3A	\$119,000	\$50,190	3.1	146	●	●
Alternative SB3B	\$129,000	\$54,356	3.7	73	●	●
Alternative SB4A	\$119,000	\$556,252	Never	311	●	●
Alternative SB4B	\$129,000	\$615,506	Never	248	●	●
Alternative SB5A	\$437,000	\$17,402	6.1	27	●●●	●●●
Alternative SB5B	\$474,000	\$31,356	8.3	13	●●●	●●●
Alternative SB6A	\$398,000	\$76,552	32.5	59	●●●	●●●
Alternative SB6B	\$428,000	\$95,006	Never	39	●●●	●●●
Alternative SB7A	\$437,000	\$73,952	29.4	46	●●●	●●●
Alternative SB7B	\$474,000	\$92,256	Never	32	●●●	●●●
Alternative SB7C	\$398,000	\$69,650	20.8	61	●●●	●●●
Alternative SB7D (Preferred Alternative)	\$507,000	\$43,154	11.1	6	●●●	●●●
Alternative SB7E	\$489,000	\$65,750	21.2	17	●●●	●●●

RECORD OF DECISION: Seabird Interaction Avoidance Methods

Alternative	Fleet Initial Costs	Fleet Annual Costs	Initial Cost Recovery Time (Years)	Annual Projected Number of Interactions ^a	Fleet Operational Characteristics	Fleet Compliance
Alternative 8A	\$528,000	\$95,392	Never	0	●●●	●●●
Alternative 8B (The Environmentally Preferred Alternative)	\$572,000	\$228,590	Never	0	●●●	●●●
Alternative 9A	\$528,000	\$6,600	6.4	2	●●●	●●●
Alternative 9B	\$572,000	\$7,150	7.0	3	●●●	●●●
Alternative 10A	\$500,000	\$10,758	6.4	7	●●●	●●●
Alternative 10B	\$544,000	\$17,846	7.7	4	●●●	●●●
Alternative 11A	\$503,000	\$15,700	6.9	23	●●●	●●●
Alternative 11B	\$547,000	\$16,250	7.5	18	●●●	●●●
Alternative 12	\$0	\$88,792	0	80	●●	●●

^a Annual projection do not account for possible drop-offs, estimated to be approximately 30%.

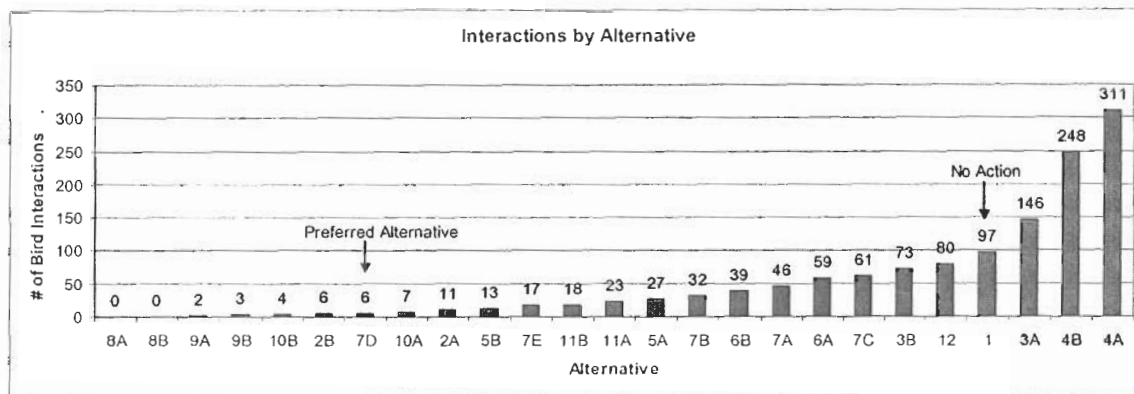


Figure 1. Seabird alternatives ranked by projected annual number of interactions for the Hawaii-based longline limited entry fleet. Projected number do not accounting for possible drop-offs, estimated to be approximately 30%.

On the basis of cost-effectiveness, the “B” versions of alternatives SB2, SB5, SB6, SB7, SB10, and SB11 had higher initial and annual costs than the “A” versions, while offering modest reductions of projected seabird interactions, and thus they were not identified as the best alternatives that meet the objectives of the Federal action.

Several of the remaining alternatives (Alternative SB6A, Alternative SB7A, Alternative SB7C, and Alternative SB7E) would permit the use of tori lines without other interaction avoidance measures. Although tori lines may be further developed to function more effectively in the Hawaii-based longline fishery, the effectiveness of the experimental tori lines used to date is the lowest of those seabird mitigation measures considered here. These alternatives would have the potential to reduce interaction avoidance efficacies compared to currently required seabird mitigation measures, and would not satisfy that aspect of the action objective. These alternatives would not best satisfy the objective of the Federal action, which is to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds.

Based on the analysis in the FEIS and as summarized above, Alternative SB2A, Alternative SB5A and Alternative SB7D (the Preferred Alternative) are identified as the alternatives that best satisfy the objectives of the Federal action. Alternative SB2A offers side-setting as an option to using currently required seabird mitigation measures. This alternative recognizes the potential operational and seabird interaction reduction benefits of side-setting, while maintaining flexibility for individual vessel owners and operators and recognizing that it may be premature to mandate the use of side-setting throughout the fleet. Alternative SB5A is identical to Alternative SB2A, except that it offers the additional option to use underwater-setting chutes. Setting chutes have shown high interaction avoidance efficacies in trials, but they have also suffered from structural failures which seriously compromised their interaction avoidance efficacies as well as

their fishing efficiencies. It would seem that authorization of their use as a substitute for currently required seabird mitigation measures in the Hawaii-based longline fishing fleet is premature, and should be delayed pending further design development and testing.

That leaves Alternative SB2A and Alternative SB7D as the best alternatives that meet the objective of the Federal action. Alternative SB7D is identified as the Preferred Alternative. Although the initial costs of Alternative SB7D are somewhat higher than those of Alternative SB2A, its annual costs are lower, and the payback period on the initial investment is considerably less. In addition, its projected seabird interactions are lower. Alternative SB7D was designed to improve on Alternative SB2A in several ways. Like Alternative SB2A, it offers the option of using side-setting in place of currently required seabird mitigation measures. However, Alternative SB7D requires all owners and operators shallow-setting vessels to use seabird mitigation measures wherever they fish, not just north of 23° N latitude, as in Alternative SB2A. As this sector of the fleet will have 100% observer coverage, implementation of Alternative SB7D will also provide comprehensive data on the efficacy of the seabird mitigation measures employed in areas where seabirds are abundant or not. Alternative SB7D does not impose seabird mitigation measures on owners and operators of deep-setting vessels fishing south of 23° N latitude. Cost-effectiveness of the alternative is supported because deep sets in the south are the most common type of set, and they have the lowest historical rate of seabird interactions per set. Owners and operators of deep-setting vessels fishing south of 23° N latitude, a category that includes the smallest vessels in the fleet (see Appendix D of the FEIS), would retain the option to fish without employing seabird mitigation measures if they fished exclusively south of 23° N latitude.

I further elect to modify the Preferred Alternative, as described in the FEIS, by reducing the weight requirement used on branch lines while side-setting and removing the requirement to use the tori line systems. The rationale for modifying the Preferred Alternative is as follows:

The Preferred Alternative, as described in the FEIS, requires the use of 60 g weights on branch lines when side-setting. As stated on page 50 of the FEIS, weighted branch lines serve to sink the bait, which could otherwise linger near the surface until slack is taken up by the sinking main line. Weighted branch lines, however, can be dangerous to the crew of the fishing vessel. When attempting to haul in a live fish, the hook can pull loose or the leader can break, slinging the weight and/or the hook directly towards the fisherman. A lead swivel propelled towards a fisherman by a snapping nylon leader has sufficient force to cause serious injury. In this situation, a 60 g weight would present more of a danger than a 45 g weight. Because of this danger, the FEIS states that fishermen have expressed concerns about using the 60 g weights with side-setting (page 56 of the FEIS).

Additionally, studies cited in the FEIS compared the differences in seabird capture rates by vessels targeting tuna using blue-dyed fish bait in combination with 45 g swivel weights and 60 g swivel weights (Gilman 2005, as cited in the FEIS). As stated on page 48 of the FEIS, Gilman

found that there was little or no significant difference in seabird capture rates between vessels using 60 g weights over vessels using a 45 g weights. Because of the safety concerns and because there were no significant difference in seabird capture rates between the lighter and heavier weights, I elected to modify the Preferred Alternative to require the use of at least 45 g weights on the branch lines, rather than at least 60 g weights as described in the FEIS under the Preferred Alternative.

The second modification to the Preferred Alternative was the elimination of the requirement to use a tori line system. Tori lines (also called streamer lines) protect baited hooks which are accessible to seabirds at the water's surface, and force birds to forage further behind the fishing vessel, giving the baits a chance to sink. However, as stated on page 51 of the FEIS, rough weather and other factors can substantially decrease the effectiveness of tori lines and these devices can quickly become entangled with fishing gear if not closely monitored. The problem of keeping the tori lines clear of fishing gear and positioned over the baited hooks is particularly acute at night because of reduced visibility and during the haul back because of frequent changes in the vessel's direction. The FEIS notes that the constant attention needed to ensure the proper functioning of the tori line may increase the risk of accidents or injury to fishermen during setting operations (page 51 of the FEIS).

Based largely on the precedent set by the Commission for the Conservation of Antarctic Marine Living Resources, tori lines have become the most commonly prescribed seabird interaction reduction device in many of the longline fisheries throughout the world (page 51 of the FEIS). For example, tori lines have been determined to be a highly effective seabird deterrent in Alaska-based hook-and-line fisheries (USFWS 2003 as cited in the FEIS). The FEIS, however, on page 62 notes that additional research on the use of tori lines in the Hawaii-based longline fishery is needed, as there are varying assessments of their effectiveness. Results of limited experimental tests in the Hawaii-based fishery indicate that tori lines are not as effective as the other seabird deterrent measures currently required. The FEIS concludes that although tori lines may be further developed to function more effectively in the Hawaii-based longline fishery, the available experimental efficacy value for tori line is the lowest of those avoidance measures considered in the FEIS (page 306 of the FEIS).

The FEIS, in part, also notes that the requirement to use tori line in the Preferred Alternative was intended to encourage owners and operators of Hawaii-based longline vessels to convert to side-setting operations (page 307 of the FEIS). With NMFS financial assistance, over 40 Hawaii-based longline vessels have already converted to side-setting, and it is estimated that up to 75 out of 120 Hawaii-based longline vessels may be converted by the end of the year (2005). The need for the incentive to have vessels switch is less since it is anticipated that over 60% of the Hawaii-based longline vessels will have converted to the highly effective side-setting operation.

Finally, interactions with seabirds in the Hawaii-based longline fishery have been reduced markedly from historical levels. When compared with the data from 1995 to 1999, the rates for

seabird interactions in the first and second quarters of 2005 decreased on the order of 90 to 99% from the historical averages. This decrease in interactions has been attributed to the requirement to set at night when shallow-setting⁶, combined with the effective use of other currently required seabird avoidance measure, which do not include tori lines. Under the Preferred Alternative, these other measures will continue to be required for vessels not side-setting and include the use of thawed blue-dyed bait, strategic offal discards⁷, line shooters and weighted branch lines to sink lines quickly for deep-set vessels operating north of 23° N. lat., and night-setting for shallow-set vessels. Additionally, shallow-set vessels are now required to use large (at least size 18/0) offset circle hooks, and this may further reduce the mortality of seabirds.

In summary, I elected to eliminate the requirement to use tori lines from the Preferred Alternative for the following reasons:

1. Constant attention by fishermen is needed to ensure the proper functioning of the tori lines, as tori lines may increase the risk of accidents and injuries to fishermen during fishing operations;
2. Additional research is needed on the use of tori lines in the Hawaii-based pelagic longline fishery;
3. Tori lines had the lowest available experimental efficacy value for the avoidance measures that were considered in the FEIS;
4. Many owners and operators of Hawaii-based longline vessels have voluntarily converted their operations to the highly effective side-setting operations, so the incentive to side-set that was offered by a tori line requirement is less imperative; and
5. The other seabird measures that are currently in place for this fishery are effectively minimizing the take of seabirds.

Neither the reduction in the weight requirement used on branch lines while side-setting to a minimum of 45 g, nor the elimination of the requirement to use tori line systems are anticipated to significantly alter the number of bird interactions of the Preferred Alternative as analyzed in FEIS.

VII. Mitigation Measures and Monitoring

Section 1505.2(c) of the CEQ regulations state that the Record of Decision shall state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why they were not. Chapter 4 in the FEIS describes a number of ways that Alternative SB7D will mitigate the adverse effects of fishing and produce benefits to the human environment over time. These mitigation measures require vessel or operators of longline vessels to use the current seabird mitigation measures or use side-setting.

⁶ The shallow-set longline fishery was reopened in April 2004 (69 FR 17329).

⁷ The Preferred Alternative requires the use of strategic offal discards only when birds are present. For owners and operators of Hawaii-based longline fishing vessels targeting swordfish and tuna, it is noted that current regulation requires discard of strategic offal regardless of the presence of seabirds.

The Preferred Alternative, Alternative SB7D, as modified, requires owners and operators of tuna (deep-setting) vessels to use current seabird mitigation measures or use side-setting in conjunction with a line-shooter and weighted branch lines when fishing north of 23° N latitude. In a June 16, 2005, letter, the Department of the Interior requested that NMFS clarify that the requirement for owners and operators of deep-set longline vessels to use seabird mitigation measures applies where ever they fish, not just north of 23° N latitude. NMFS does not consider this a practicable means to avoid or minimize environmental harm of the proposed Federal action. The objective of the Federal action is to cost-effectively reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. NMFS is not required to eliminate all seabird interactions. The Preferred Alternative, as described in the FEIS, is identified as the most cost-effective way to further reduce the potentially harmful effects of the fishing fleet on seabirds.

However, in partnership with the USFWS and the WPFMC, NMFS will continue to review all available information on the effectiveness of seabird mitigation measures. NMFS recognizes that further information is needed on the effectiveness of 23° N latitude as a seabird mitigation measure boundary. In concert with the WPFMC and others, NMFS will reevaluate this seabird mitigation measure if new information becomes available that has not been previously considered.

Alternative SB7D also contains extensive monitoring, enforcement, data collection, and review provisions to mitigate against unintended consequences and potential harm to the human environment of harvesting under the Alternative, as identified in the FEIS. NMFS will analyze information collected during these efforts and determine if future adjustments to these measures is warranted.

Monitoring and Enforcement

Regulations will continue to require owners and operators of Hawaii-based longline vessels to attend annual NMFS protected species workshops. At these workshops, seabird identification, life history, distribution and avoidance methods are described and a video on handling techniques is shown. Sea turtle biology, species identification and mitigation regulations are also covered as is marine mammal species identification, gear disentanglement and the Marine Mammal Authorization Program. Workbooks containing current regulations, species guides and informational placards are distributed to workshop participants. Regulations require owners and operators to have on board a current certificate of workshop completion. Enforcement is accomplished at sea or in dockside boardings, and NMFS can easily cross-reference lists of permit holders and workshop attendees.

NMFS, Pacific Islands Region, Hawaii Longline Observer Program implements field aspects of the monitoring of the Hawaii-based longline fishery. NMFS observers have been deployed in the

Hawaii-based longline fishery since February 1994. Due to court decisions in recent years, observer coverage of the fleet has increased considerably. The docks are surveyed daily and vessels absent from the harbor are assumed to be fishing.

The United States Coast Guard (USCG) patrols the region in which the fishery occurs with aircraft and surface vessels. Enforcement for the Hawaii-based longline fishery is facilitated by use of a vessel monitoring system (VMS), which uses electronic transceivers placed on fishing vessels that transmit information about the vessel's position to enforcement agencies. This allows someone on land to monitor the vessel's position and determine if a vessel is actively fishing in a closed area. Additionally, the VMS helps NMFS to monitor the compliance of seabird mitigation measures. Under the Preferred Alternative, owners and operators of Hawaii-based longline fishing vessels targeting swordfish (shallow-setting) would be required to use the seabird mitigation measures currently required for owners and operators of tuna (deep-setting) vessels fishing north of 23° N latitude. The VMS assists in the enforcement of these seabird mitigation measures by identifying those vessels that have fished or are fishing north of 23° N latitude. The VMS in Hawaii was established in 1994 to help enforce area closures around the Hawaiian Islands in which fishing with longline gear is prohibited. NMFS certifies the VMS hardware and software aboard each vessel and assigns each VMS unit a unique identification number. NOAA's Office of Law Enforcement conducts investigations of alleged violations of NOAA statutes and regulations.

Finally, NMFS, in partnership with the USFWS and the WPFMC, is committed to further research on the effectiveness of the seabird mitigation measures. In concert with the WPFMC and others, NMFS will reevaluate the seabird mitigation measures imposed on the fisheries, including the application of seabird mitigation measures to deep-setting longline vessels fishing south of 23° N latitude, if new information becomes available that had not been previously considered.

VIII. Public Comments

NMFS published a notice in the *Federal Register* announcing the availability of the FEIS for public review and comment on May 6, 2005 (70 FR 24037). The comment period closed on June 6, 2005. By the closing date of the public comment period, NMFS received one set of comments from the American Bird Conservancy. The American Bird Conservancy's comments were limited to the seabird portion of the FEIS. The commenter stated that the Preferred Alternative did not require "sufficient practical mitigation measures" to protect seabirds from pelagic fisheries of the western Pacific region. The structure of the American Bird Conservancy's comments was presented in five identified sections. In responding to the American Bird Conservancy's comments, NMFS will use a similar structure.

Comment 1: The commenter suggests that to mitigate seabird bycatch to the "extent practicable," all vessels should be required to use 60 g weighted branch lines.

Response: Owners and operators of Hawaii-based longline fishing vessels use weighted branch lines to sink the bait, which could otherwise linger near the surface. Weights on branch lines increase bait sink rates, which will reduce seabird interactions. Currently, a minimum of 45 g weighted branch lines are required for owners and operators of Hawaii-based longline vessels targeting deep swimming tuna. The FEIS notes that the majority of the Hawaii-based longline fishing fleet currently use a heavier weight than the 45 g minimum (page 50 of the FEIS). However, weighted branch lines can be dangerous to operate. When attempting to haul in a live fish, the hook can pull loose or the leader can break, slinging the weight and/or hook directly toward the fisherman retrieving the gear. Increasing the weight on weighted branch lines increases this danger. Under the modified Preferred Alternative, if an owner and operator of Hawaii-based longline tuna fishing vessels elects to use side set as a seabird mitigation measure, then that owner and operator of the fishing vessel would be required to use 45 g weighted branch lines, similar to other owners and operators of Hawaii-based longline tuna fishing vessels. The objective of this Federal action is to cost-effectively reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. NMFS is not required to eliminate all seabird interactions, nor is it the objective of this Federal action. The modified Preferred Alternative is consistent with the current USFWS biological opinions for the effects of these fisheries on the endangered short-tailed albatross and other applicable laws. Based on the best scientific information available, the Preferred Alternative, as described in the FEIS, is identified as the most cost-effective way to further reduce the potentially harmful effects of the Hawaii-based longline fishing fleet on seabirds.

Comment 2: The commenter states that NMFS should further test the strategic use of offal and consider eliminating this seabird mitigation measure with the USFWS approval. The commenter claims that requiring fishermen to use strategic offal with questionable mitigation efficacy not only may hurt seabirds, but may engender mistrust of NMFS by fishermen. Further, the commenter claims that fishermen are more apt to implement seabird mitigation if they are convinced of its efficacy.

Response: The commenter correctly cites the FEIS in recognizing that several studies have resulted in mixed evaluations of strategic offal discharge (page 49 of the FEIS). Under the Preferred Alternative, owners and operators of vessels must strategically discard offal during hauling and setting of lines when seabirds are present. For owners and operators of Hawaii-based longline fishing vessels targeting deep-setting swordfish and tuna, it is noted that a current regulation (50 C.F.R. Section 660.35) requires discard of strategic offal regardless of the presence of seabirds. Alternative SB7D, the Preferred Alternative, would modify this requirement and require strategic offal discard only when birds are present. Of course, strategic offal discard may attract birds to fishing vessels, which may increase seabird interactions (page 49 of the FEIS). In partnership with the USFWS, NMFS will continue to review all available information on the effectiveness of seabird mitigation measures. NMFS recognizes that further information is needed to refine the use of offal discharge as a seabird mitigation measure. In

concert with the WPFMC and others, NMFS will reevaluate this seabird mitigation measure if new information becomes available that had not been previously considered.

Comment 3: The commenter states that NMFS should require all vessels to use side-setting “unless demonstrably impracticable.” Additionally, the commenter states that NMFS should continue to monitor side-setting to ensure its efficacy. The commenter claims that the side-setting is highly efficacious in eliminating bird captures; in addition, side-setting has incontrovertible benefits to fishermen. The commenter claims that under numerous bycatch mandates, NMFS is obligated to implement the use of efficacious seabird deterrents, including side-setting, to the extent practicable.

Response: Side-setting involves deployment of the mainline from the side of the vessel instead of the more traditional deployment of the gear from the stern. Some owners and operators of Hawaii-based longline vessels have voluntarily adopted side-setting (page 56 of the FEIS). Preliminary results are promising for this seabird mitigation measure. However, few data are available for its performance on vessels that have voluntarily adopted it, and those that have adopted it have not necessarily practiced it according to the specifications that would be required. Further, it is uncertain if all vessels in the Hawaii-based longline fleet could physically convert to side-setting. It is also unknown whether seabirds would become accustomed to side-setting, and learn to approach closer to a vessel’s hull to take bait. Finally, there is a safety concern for the crew with the operation of side-setting, particularly during inclement weather (page 57 of the FEIS). There is a high likelihood of vessel owners and operators adopting side-setting under regulations based on the Preferred Alternative. With proposed observer coverage for the fishery, NMFS expects to accumulate observer data on the performance of side-setting over the next several years. For these reasons, NMFS has determined that it is premature to mandate the use of this seabird mitigation measure in the fleet at this time. In partnership with the USFWS and the WPFMC, NMFS will reevaluate this seabird mitigation measure if new information becomes available that had not been previously considered.

The commenter suggests that NMFS is obligated to implement the use of efficacious seabird deterrents, including side-setting, to the extent practicable. As discussed in response to Comment 1, the objective of the Federal action is to cost-effectively reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. NMFS is not required to eliminate all seabird interactions. Based on the best scientific information available, the Preferred Alternative, as described in the FEIS, is identified as the most cost-effective way to further reduce the potentially harmful effects of the fishing fleet on seabirds.

Comment 4: The commenter states that performance standard guidelines should govern the use of tori lines. The commenter claims that the efficacy of tori lines for the Hawaiian fishery will not be fully realized because NMFS has failed to develop performance standards that consider vessel characteristics, operating characteristics, and seabird species.

Response: Under the modified Preferred Alternative, tori lines (also called streamer lines) will not be required, thus no performance standard guidelines are needed at this time.

Comment 5: The commenter suggests NMFS require seabird deterrence measures south of 23° N latitude. The commenter claims that allowing deep-setting vessels to continue fishing south of 23° N latitude without using mitigation measures will result in more seabird interactions than the FEIS predicts. Additionally, the commenter claims that NMFS failed to account for the estimated 30% of hooked birds that are lost during the set. Further, the commenter claims that implementing seabird interaction deterrence measures south of 23° N latitude will have the positive result of making the Hawaii-based longline fishery a more “seabird friendly” product source, increasing consumer demand.

Response: The objective of the Federal action is to cost-effectively reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. NMFS is not required to eliminate all seabird interactions. Based on the best scientific information available, the Preferred Alternative, as described in the FEIS, is identified as the most cost-effective way to further reduce the potentially harmful effects of the fishing fleet on seabirds. Other alternatives, such as Alternative SB7B, did requiring seabird mitigation measures in all areas, thus NMFS did evaluate such an alternative. Although NMFS recognizes that applying these seabird mitigation measures to all areas are likely to reduce seabird interactions, these other alternatives were not selected as the most cost-effective way to reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds, the stated purpose of the Federal action.

There exist an infinite number of potential geographic variations of where seabird mitigation measures might be mandated, including latitudes above and below 23° N latitude, various sizes and shapes of polygons, etc. The FEIS captures this range by evaluating seabird mitigation measure combinations with a 23° N latitude boundary and when applied to all areas. To determine if there appears to be a need to expand the area in which seabird mitigation measures are required, Table 2.1-7 of the FEIS uses historic data from the Hawaii-based longline fleet to calculate the numbers of sets, trips and years between seabird interactions with tuna and swordfish vessels above and below 23° N latitude, gathered from the time before NMFS imposed seabird mitigation measures.

The most recent effort data from the fleet (NMFS PIRO unpub. data, as cited in the FEIS) shows that of the 121 tuna (deep-setting) vessels, 111 fished above 23° N latitude at least once during the year. If this pattern persisted in the future, under the Preferred Alternative only 10 vessels would employ no seabird mitigation measures at any time during the year. Of the vessels fishing north of 23° N latitude, it is projected that 95% would ultimately convert to side-setting (see Section 4.5 of the FEIS). Once converted, the vessel owners and operators would employ side-setting whether fishing north or south of 23° N latitude. The remaining 5% of the 111 vessels, or about six vessels, would not be required to employ seabird mitigation measures when fishing below 23° N latitude. These six vessels plus the 10 vessels fishing exclusively south of 23° N

latitude would be the only vessels in the fleet not using seabird mitigation measures south of 23° N latitude.

Any discussion of the efficacy of seabird interaction avoidance measures should also acknowledge the impact of captured bird drop-offs. The FEIS clearly states that projections used in the FEIS do not account for hooked birds that drop off the hook or are scavenged during the set and are not observed on the haul back (page 243 of the FEIS). The absolute number of birds counted as hooked on the set in experimental observations is subject to error from drop-offs or loss by predation of hooked and drowned birds from the longline. However, assuming that bird drop-off and loss is constant, this will not affect the relative comparison in the FEIS between different methods and controls. Estimates of drop-offs and loss in the Hawaii longline fishery have been made by Gilman et al. (2003, as cited in the FEIS) who found that 28% fewer birds were hauled aboard than were observed being caught during setting. This is consistent with observations by Brothers (1991, as cited in the FEIS) who observed 27% fewer birds on hauls than observed on sets in the Japanese tuna longline fishery in the southern Pacific Ocean.

Thus, as the commenter notes, the projections used in the FEIS may underestimate the seabird interactions by approximately 30%. However, assuming that bird drop-off and loss is constant, this underestimate will not affect the relative comparison between different seabird mitigation measures. The current world population of breeding black-footed albatrosses is estimated at over 300,000 individuals, with 61,141 breeding pairs in 12 colonies (page 122 of the FEIS). It is estimated that the Laysan albatross is approximately 3.4 million individuals, with 590,683 pairs in 15 colonies (page 126 of the FEIS). Given the estimated number of breeding pairs of the black-footed and Laysan albatross, the low levels of projected interactions under the alternatives are not likely to have a discernable impact on the population trajectories of these species.

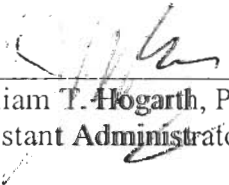
IX. Contact Person

If you would like more information on this Record of Decision or the Final Environmental Impact Statement, please contact the following official: Alvin Katekaru, Assistant Regional Administrator, Sustainable Fisheries Division, National Marine Fisheries Service, Pacific Islands Region, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814, telephone (808) 944-2207.

X. Signature and Implementation

In accordance with the provisions of NEPA, I have considered all of the information in the FEIS and the complete record, including all public comments received. All of the above factors and considerations warrant selection of the Preferred Alternative (Alternative SB7D) of the FEIS, as modified, as my choice to cost-effectively further reduce the potentially harmful effects of the Hawaii-based longline fishery on seabirds. I elect to modify the Preferred Alternative, as described in the FEIS, by reducing the weight requirement used on branch lines while side-setting to at least 45 g and not requiring the use of tori line systems. Neither the reduction in the weight requirement used on branch lines while side-setting nor the elimination of the requirement to use tori line systems are anticipated to significantly alter the number of bird interactions of the Preferred Alternative, as analyzed in FEIS.

The United States Environmental Protection Agency published a Notice of Availability of the FEIS in the *Federal Register* on May 6, 2005 (70 FR 24038). The required minimum thirty-day no action period ended on **June 7, 2005**. This decision will become effective immediately.

	DEC - 6 2005
_____ William T. Hogarth, Ph.D. Assistant Administrator for Fisheries	_____ Date

Attachment: The Final Environmental Impact Statement, Seabird Interaction Avoidance Methods under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region and Pelagic Squid Fishery Management under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region and the High Seas Fishing Compliance Act. April, 2005.