

Final

United States
National Plan of Action
for
Reducing
the
Incidental Catch of Seabirds in Longline Fisheries

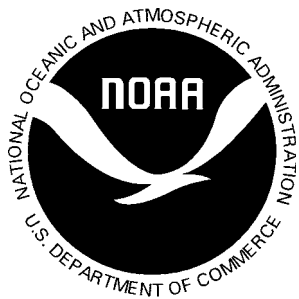
Silver Spring, MD 20910
February 2001



Photograph of Short-tailed Albatross by Dr. Hiroshi Hasegawa



DEPARTMENT OF COMMERCE
National Oceanic and
Atmospheric Administration
National Marine Fisheries Service



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U.S. FINAL NATIONAL PLAN OF ACTION FOR REDUCING THE INCIDENTAL CATCH OF SEABIRDS IN LONGLINE FISHERIES

Executive Summary

Increased concerns have arisen about the incidental capture of non-target species in various fisheries throughout the world. Incidental capture can be economically wasteful, it impacts living marine resources, and the accidental killing of non-harvested animals may be aesthetically aversive. Incidental catch of non-target marine species such as marine mammals, sea turtles, and seabirds has generated growing concern over the long-term ecological effects of such bycatch in longline and other fisheries conducted in many areas of the world's oceans.

The United States has voluntarily developed the U.S. *National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (NPOA-S) to fulfill a national responsibility to address seabird bycatch in longline fisheries, as requested in the *International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (IPOA-S). The IPOA-S applies to "States" (hereafter Countries) in whose waters longline fishing is being conducted by their own or foreign vessels, and to Countries that conduct longline fishing on the high seas and in the exclusive economic zones (EEZs) of other Countries. The IPOA-S is a voluntary measure that calls on Countries to: (1) assess the degree of seabird bycatch in their longline fisheries; (2) develop individual national plans of action to reduce seabird bycatch in longline fisheries that have a seabird bycatch problem; and (3) develop a course of future research and action to reduce seabird bycatch. The NPOA-S is to be implemented consistent with the *FAO Code of Conduct for Responsible Fisheries* and all applicable rules of international law, and in conjunction with relevant international organizations.

Development of the NPOA-S was a collaborative effort between the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (FWS) and the Department of State (DOS), carried out in large part by the Interagency Seabird Working Group (ISWG) consisting of representatives from those three agencies. This partnership approach recognizes the individual agency management authorities covering seabird interactions with longline fisheries. NMFS manages U.S. fisheries under the authority of the Magnuson-Stevens Fishery Conservation and Management Act and the High Seas Fishing Compliance Act. FWS manages birds predominately under the authority of the Endangered Species Act and the Migratory Bird Treaty Act. In addition, DOS has the lead role in international negotiations on fisheries conservation and management issues that should help promote IPOA implementation by encouraging other nations to develop NPOAs. Given each agency's responsibilities, the NPOA-S was developed collaboratively by NMFS and FWS. This collaborative effort has increased communication between seabird specialists and fishery managers in FWS and NMFS. Maintaining this cooperation is a high priority for both agencies.

The NPOA-S contains the following themes:

1. Action Items: NMFS, with the assistance of the Regional Fishery Management Councils (Councils), the NMFS Regional Science Centers, and FWS, as appropriate, should conduct the following activities:
 - Detailed assessments of its longline fisheries for seabird bycatch within 2 years of the adoption of the NPOA-S;
 - If a problem is found to exist within a longline fishery, measures to reduce this seabird bycatch should be implemented within 2 years. These measures should include data collection, prescription of mitigation measures, research and development of mitigation measures and methods, and outreach, education, and training about seabird bycatch; and
 - NMFS, in collaboration with the appropriate Councils and in consultation with FWS, will prepare an annual report on the status of seabird mortality for each longline fishery, including assessment information, mitigation measures, and research efforts. FWS will also provide regionally-based seabird population status information that will be included in the annual reports.
- 2.) Interagency Cooperation: The continuation, wherever possible, of the ongoing cooperative efforts between NMFS and FWS on seabird bycatch issues and research.
- 3.) International Cooperation: The United States' commitment, through the DOS, NMFS and FWS, to advocate the development of National Plans of Action within relevant international fora.

The development of the NPOA-S has emphasized that all U.S. longline fisheries have unique characteristics, and that the solution to seabird bycatch issues will likely require a multi-faceted approach requiring different fishing techniques, the use of mitigating equipment, and education within the affected fisheries. Therefore, the NPOA-S does not prescribe specific mitigation measures for each longline fishery. Rather, this NPOA-S provides a framework of actions that NMFS, FWS, and the Councils, as appropriate, should undertake for each longline fishery. By working cooperatively, fishermen, managers, scientists, and the public may use this national framework to achieve a balanced solution to the seabird bycatch problem and thereby promote sustainable use of our nation's marine resources.

Introduction

There has been growing concern over the long-term ecological effects of seabird bycatch in longline fisheries conducted in many areas of the world's oceans. The United States has voluntarily developed the U.S. *National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (NPOA-S) to fulfill a national responsibility to address seabird bycatch in longline fisheries, as requested in the *International Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries* (IPOA-S). Specifically, "the NPOA-S is a plan that a State designs, implements, and monitors to reduce the incidental catch of seabirds in longline fisheries." In 1997, the Food and Agriculture Organization of the United Nations (FAO) Committee on Fisheries (COFI) considered a joint proposal from the United States and Japan for a Consultation on *Guidelines for a Plan of Action* for reducing incidental (i.e., unintentional) seabird catch in longline fisheries. The proposal culminated in the development of

the IPOA-S, which was endorsed by COFI in February 1999, commended by the March 1999 FAO Fisheries Ministerial, and adopted by the June 1999 FAO Council and November 1999 FAO Conference.

The IPOA-S applies to “States” (hereafter Countries) in whose waters longline fishing is being conducted by their own or foreign vessels, and to Countries that conduct longline fishing on the high seas and in the exclusive economic zones (EEZs) of other Countries. The IPOA-S is a voluntary measure that calls on Countries to: (1) assess the degree of seabird bycatch in their longline fisheries; (2) develop individual national plans of action to reduce seabird bycatch in longline fisheries that have a seabird bycatch problem; and (3) develop a course of future research and action to reduce seabird bycatch. The NPOA-S is to be implemented consistent with the FAO *Code of Conduct for Responsible Fisheries* and all applicable rules of international law, and in conjunction with relevant international organizations.

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Although incidental catch of seabirds in longline fisheries is often termed “bycatch,” the Magnuson-Stevens Act specifically excludes seabirds from the definition of “fish” and, therefore, bycatch¹. For the purpose of this NPOA, however, the term “bycatch” refers to incidental, or unintentional, seabird catch or mortality, and the term “seabird” refers to those bird species that habitually obtain their food from the sea below the low water mark.

¹Unless certain requirements under the ESA are involved, the Magnuson-Stevens Act does not *require* the implementation of measures to reduce incidental catch of seabirds. However, the Magnuson-Stevens Act authorizes implementation of fishery management measures designed to protect the marine environment from the effects of fishing activities. In order to strengthen NMFS’ ability to effectively implement seabird conservation measures in all U.S. fisheries, NMFS and FWS are supporting an amendment to the Magnuson-Stevens Act that would change the definition of bycatch to include seabirds and would require fishery management plans to specifically address seabird bycatch.

Purpose

The purpose of the NPOA-S is to provide an action plan that reduces seabird bycatch in U.S. longline fisheries, to provide national-level policy guidance on reducing seabird bycatch in U.S. longline fisheries, and to require that NMFS, in cooperation with FWS, conduct an assessment of all U.S. longline fisheries to determine whether a seabird bycatch problem exists. This NPOA-S further requires NMFS, in cooperation with FWS, to work through the regional fishery management council (Council) process in partnership with longline fishery representatives to develop and implement seabird bycatch mitigation measures in those fisheries that have a seabird bycatch problem. Such measures should attempt to reduce seabird bycatch to the maximum extent practicable.

In addition to guidance on conducting seabird bycatch assessments and reducing seabird bycatch, this NPOA-S provides guidance to the Councils, NMFS, and FWS for the following seven Action Elements:

- I. Collecting seabird bycatch data
- II. Developing proposed time frames for implementing seabird bycatch mitigation measures
- III. Developing and evaluating mitigation measures
- IV. Conducting research on mitigation measures
- V. Conducting outreach, education, and training programs to help fishermen avoid and minimize seabird bycatch, and reduce mortality of seabird bycatch that cannot be avoided
- VI. Developing national and international reporting requirements, and
- VII. Continued collaboration between NMFS and FWS.

Although this NPOA-S does not include quantitative criteria for determining what constitutes a seabird bycatch problem, NMFS, in consultation with FWS, should make a determination that is consistent with applicable federal laws, Executive Order 13186, the FAO *Code of Conduct for Responsible Fisheries*, and the NMFS Bycatch Plan (NMFS 1998c). Specifically, a “problem” may include an unacceptable level of seabird take that has a measurable negative effect on a seabird population, or unacceptable take of a bird species, as determined by FWS and NMFS. Seabird bycatch assessments should be completed as soon as practicable, which should be within 1 year and will be no later than 2 years after publication of this NPOA-S. Within 1 year after a seabird bycatch problem is found to exist, the appropriate NMFS Region should develop a seabird bycatch reduction program that details fishery-specific seabird bycatch reduction measures. The programs will address the seven action elements of the NPOA-S (I through VII listed above), and will clearly describe the criteria used to determine that a seabird bycatch problem exists.

Fishery-specific measures to reduce seabird bycatch should then be developed through the Council process, integrated into Fishery Management Plans (FMPs), or included in FMP amendments or regulatory amendments, and submitted to the Secretary of Commerce for approval. Management measures mitigating seabird bycatch will be developed within 2 years after a seabird bycatch problem is found to exist. Every effort will be taken to expedite this time

line and, where feasible, documented area- and fishery-specific mitigation measures will be implemented as expeditiously as practicable. Public participation is provided during the Council process for developing these mitigation measures, and additional opportunity for public comment is provided during the NMFS implementation process on proposed seabird bycatch regulations.

Background

National and international initiatives highlight the need to address fisheries bycatch issues, including seabird bycatch. The FAO *Code of Conduct for Responsible Fisheries* was adopted in 1995 by the FAO Conference and calls for Countries to “take appropriate measures to minimize waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species ... and promote, to the extent practicable, the development and use of selective, environmentally safe and cost effective gear and techniques.” (FAO *Code of Conduct for Responsible Fisheries*, Article 7.6.9).

In the United States, a longline is defined as “a line that is deployed horizontally and to which gangions and hooks or pots are attached. Longlines can be stationary, anchored, or buoyed lines that may be hauled manually, electrically, or hydraulically” (50 CFR 600.10). This definition includes demersal, or bottom set, longlines for groundfish and sharks, as well as pelagic (set at or near the surface or within the water column) longlines for sharks, tunas, swordfish and other species. There are other regional terms for longline gear, including hook-and-line gear and tub trawl. For the purposes of this NPOA-S, the term “longline” refers only to hook-and-line gear and does not include gear with pots attached.

Although the IPOA-S does not define the term “longline,” the international fishing community has a common understanding of the equipment and techniques used in longline fisheries. Longline gear is hook-and-line gear that is generally deployed from the vessel’s stern, with the main line and attached hooks following the vessel in a downward sloping diagonal line until it enters the water. The baited hooks on this main line remain in the air or near the water surface and are accessible to seabirds for varying times and distances depending on the size of the vessel, sea conditions, gear deployment equipment and methods, and the specific longline gear configuration.

Longline fishing vessels also discharge offal in the form of discarded fish, fish scraps from cleaned fish, and used or discarded bait. The availability of “free” food in the form of offal and bait attracts seabirds to longline fishing operations. Most seabirds that are killed during longline operations are attracted to the baited hooks when the gear is being set. The birds are sometimes accidentally hooked or entangled while feeding on baits near the surface and are dragged underwater and killed by drowning or by strangulation. Birds are also hooked or entangled during the haul back process but these birds are usually released alive.

The factors potentially affecting seabird hooking and entanglement on longline gear are complex and include geographic location of fishing activity, time of day, season, type of fishing operation

and gear used, bait type, condition of the bait (frozen, thawed, dyed), length of time baited hooks remain at or near the surface of the water, water and weather conditions, availability of food (including bait and offal), bird size, bird behavior (feeding and foraging strategies), and physical condition of the bird. Most seabird species probably interact with longline fishing gear; however, only the larger species have the physical capabilities and feeding strategies to face frequent interactions and potential hookings. The highest density of large seabirds in the United States occurs in the Pacific Ocean. NMFS regulations designed to reduce seabird bycatch in the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA) groundfish longline fisheries were approved and implemented in 1997, in the Pacific halibut longline fishery in 1998, and in the Hawaii pelagic longline fishery in 2001. In addition, NMFS plans to promulgate new seabird bycatch mitigation regulations in Alaska longline fisheries to provide additional seabird protection. Such measures will be based on the results of scientific research and on ESA requirements. Several research projects on seabird-longline interactions have been completed in the Pacific by U.S. researchers, and additional seabird bycatch research is currently underway.

NMFS published a bycatch reduction policy document entitled *Managing the Nation's Bycatch: Programs, Activities, and Recommendations for the National Marine Fisheries Service* (NMFS Bycatch Plan; NMFS 1998c). The NMFS Bycatch Plan addresses harvested fish species as well as non-harvested and protected species such as seabirds. It also presents national objectives, priorities, and strategies for avoiding and reducing bycatch, and for minimizing mortality of bycatch that cannot be avoided. The document reviews bycatch reduction efforts already completed or underway, provides recommendations for evaluating existing bycatch management and research programs, and suggests future efforts to reduce bycatch and bycatch mortality.

NMFS and FWS believe that implementation of the NPOA-S, the FAO *Code of Conduct for Responsible Fisheries*, the Council-developed FMPs and FMP amendments promulgated under the Magnuson-Stevens Act, Executive Order 13186, and the NMFS Bycatch Plan will significantly reduce seabird bycatch in longline fisheries conducted within U.S. waters. Managing seabird bycatch in U.S. fisheries is a partnership effort that will require cooperation among the Councils, NMFS, FWS, the longline fishing industry, individual longline vessel owners and operators, fishing gear manufacturers, conservation organizations, and other interested groups and individuals.

Statutory Authority and Agency Responsibility

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) is the primary U.S. law dealing with marine fisheries resources and fishing activities in U.S. Federal waters (those waters extending seaward from coastal state waters to the 200-mile limit). The predecessor of the Magnuson-Stevens Act was the Fishery Conservation and Management Act, passed into law in 1976, which established the conservation and management of U.S. marine fishery resources and helped develop U.S. domestic fisheries within the U.S. 200-mile fisheries conservation zone. This area became known as the U.S. exclusive economic zone (EEZ) following President Ronald Reagan's 1983 proclamation.

In 1996, Congress ushered in a new era in marine fisheries management, making significant revisions to the Magnuson-Stevens Act through the Sustainable Fisheries Act (SFA). The SFA amendments address a number of fishery conservation and management issues, and include measures to help ensure that FMPs prevent overfishing, rebuild overfished fisheries, identify and protect essential fish habitat, minimize bycatch and the mortality of bycatch that cannot be avoided, and consider the effects of management actions on fishing communities and on the safety of fishermen at sea.

The Magnuson-Stevens Act creates eight regional fishery management councils (Councils) and requires the Councils to prepare FMPs for fisheries under their jurisdictions that “require conservation and management.” The FMPs and FMP amendments must be consistent with the Magnuson-Stevens Act’s 10 national standards (§ 301(a)), the rest of the Magnuson-Stevens Act, and other applicable laws, such as ESA. After developing an FMP or amendment, the Council submits it along with implementing regulations to NMFS, and NMFS may approve, disapprove, or partially disapprove the submission on behalf of the Secretary. NMFS makes the Councils’ recommendations available for additional public review and comment (in part, by publication of proposed regulations) and must consider this additional public input before taking final action to approve, disapprove, or partially approve a Council’s recommendations. Disapproval must be based on the fact that the submission is inconsistent with applicable law (e.g., the Magnuson-Stevens Act, ESA, National Environmental Policy Act).

If conservation and management measures are necessary for a fishery, and the appropriate Council fails to act within a reasonable time, NMFS may prepare an amendment to an existing FMP, or a new FMP if appropriate, on behalf of the Secretary (Secretarial FMP). In addition, if NMFS finds that an emergency exists, the agency may promulgate emergency regulations to address the emergency without regard to whether an FMP is in place. Emergency regulations are valid for 180 days, and may be extended once under certain conditions for an additional 180 days.

The Council system has provided local, state and regional fishery participants and other interested parties a substantial role in managing U.S. fisheries and fishery resources. Council membership consists of representatives from Federal agencies, the commercial and recreational fisheries sectors, coastal state governments, and members of the public knowledgeable in regional fishery issues. These representatives serve for three-year terms. The appropriate NMFS Regional Administrator sits on each Council as the single voting representative from the Federal government. Councils are bound by various provisions in the Magnuson-Stevens Act (e.g., all meetings of the Councils and their committees are open to the public, with a few exceptions).

In addition to managing fisheries resources for conservation purposes, the Councils are responsible for recommending, through their FMPs and FMP amendments, allocations of fishery resources among various, and often competing, users (e.g., between commercial and recreational fishermen). In developing their FMPs and FMP amendments, the Councils hold public hearings and meetings to obtain the views of various fishery participants and other interested parties.

They must consider these views before taking final action on a given Council recommendation.

Management measures for highly migratory species in the Atlantic Ocean including tunas, swordfish, sharks, and billfish are developed directly by NMFS under the authority of the Secretary of Commerce, rather than by a regional fishery management council. For the purpose of the NPOA-S, however, any reference to a regional fishery management council will also include the management process for species included in the Atlantic Tunas, Swordfish, and Sharks FMP and the Atlantic Billfish FMP.

In carrying out its mandate under the Magnuson-Stevens Act, NMFS ensures that fishery management actions comply with other applicable U.S. laws and policies that protect seabirds, such as the ESA, MBTA, and Executive Orders, such as E.O. 13186. Federal fishery management actions that may affect seabird species that are listed as threatened or endangered under the ESA require NMFS to consult with FWS under section 7 of ESA. Thus, if a listed seabird may be captured or harmed in a fishery conducted under the Magnuson-Stevens Act, NMFS (as the action agency that regulates the fishery) is required to consult with the FWS (as the consulting agency) to determine the most effective means of protecting seabirds during fishery operations. ESA requires NMFS to mitigate impacts of fisheries on endangered and threatened species such as the Short-tailed Albatross.

In addition, the recent Presidential Executive Order (“Responsibilities of Federal Agencies to Protect Migratory Birds,” EO 13186, 10 January 2001, *Federal Register* 66(11):3853-3856) directs Federal agencies taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to work with FWS to develop an agreement to conserve those bird populations.

The United States has recognized the importance of the migratory bird resource by ratifying international treaties with Canada, Mexico, Japan, and Russia for the conservation of that shared resource. These treaties impose substantive obligations on the United States for the conservation of migratory birds and their habitats. The United States meets these treaty obligations through implementation of the Migratory Bird Treaty Act, as amended (Act). The FWS administers the Act, which protects some 836 bird species, including approximately 150 seabird species.

In addition to the Magnuson-Stevens Act requirements, the NMFS Bycatch Plan provides policy guidance to NMFS, the Councils, and other partners such as states, interstate fishery commissions, the fishing industry, and the conservation community. Implementing the NPOA-S will also help meet U.S. goals for seabird bycatch reduction pursuant to international agreements, including the IPOA-S and the *FAO Code of Conduct for Responsible Fisheries*.

Effective implementation of the NPOA-S will require the longline fishing industry to be closely involved with NMFS, FWS, and conservation organizations in developing fishery-specific seabird bycatch mitigation measures. Industry involvement is important because longline fishermen who have experience in individual longline fisheries have gained first-hand knowledge

of how seabirds interact with those fisheries. Their knowledge and expertise is required to help develop and refine seabird bycatch mitigation measures and to evaluate their effectiveness. They recognize that these measures increase fishing efficiency and reduce seabird mortality, so they are invaluable for developing effective, long-term solutions to seabird bycatch.

NMFS acknowledges that assessing seabird bycatch and assessing the effectiveness of mitigation measures is costly and that the final NPOA includes ambitious objectives and goals. Additional funding needs for implementing the final NPOA need to be addressed by the individual management entities. NMFS has historically not received sufficient appropriated funds to monitor seabird bycatch in all U.S. longline fisheries. The cost of previous seabird bycatch mitigation research studies ranged between \$150,000 and \$227,000. NMFS further acknowledges that cooperation with the fishing industry led to the use of commercial longline vessels in seabird mitigation research studies, which resulted in significant cost savings. NMFS will use the final NPOA-S as guidance in its strategic planning and budget processes.

International Fishery Management Measures to Conserve Seabirds

Several international fishery management organizations and foreign nations have adopted conservation and management measures to reduce seabird bycatch by regulating regional longline fishing fleets. For example:

- The Convention for the Conservation of Antarctic Living Marine Resources adopted voluntary measures in 1992 to minimize interactions with seabirds by longline vessels in the Convention area. These measures include use of a bird-scaring device while setting longlines, night setting, avoidance of offal dumping, weighted ground lines when possible, and the use of thawed bait.
- The Commission for the Conservation of Southern Bluefin Tuna (CCSBT) adopted a recommendation that includes collection of fishery data, use of seabird bycatch mitigation measures, and education of fishermen about species, including seabirds, that are ecologically related to the fishery. All member nations of CCSBT are required to use bird-scaring lines during longline setting and hauling operations.
- The International Pacific Halibut Commission requests voluntary information on seabird bycatch from participants in their fishery. Operators of vessels fishing for Pacific halibut off Alaska are required by NMFS to comply with the same seabird avoidance regulations that are in place for the groundfish longline fisheries off Alaska. These measures require that longline fishermen: (1) Use hooks that when baited, sink as soon as they are put in the water; (2) discharge offal in a manner that distracts seabirds away from baited hooks, either aft of the hauling station or on the opposite side of the vessel from the hauling station; (3) make every reasonable effort to ensure that birds brought aboard alive are released alive and that wherever possible, hooks are removed without jeopardizing the life of the bird; (4) on vessels longer than or equal to 26 ft (7.9m) length overall the

operator of the vessel must employ one or more of the following seabird avoidance measures: (a) Tow a streamer line or lines during deployment of gear, (b) tow a buoy, board, stick or other device during deployment of gear at a distance appropriate to prevent birds from taking hooks, (c) deploy hooks underwater through a lining tube at a depth sufficient to prevent birds from settling on hooks during deployment of gear, or (d) deploy gear only during hours of darkness, using only the minimum vessel's lights necessary for safety.

- The Australian NPOA will be based on its domestic *Threat Abatement Plan for the Incidental Catch of Seabirds During Oceanic Longline Fishing Operations* (TAP). The objective of the TAP is to reduce seabird bycatch in all fishing areas, seasons, or fisheries to below 0.05 seabirds per thousand hooks, based on year 2000 fishing levels. The TAP aims to significantly reduce seabird bycatch during oceanic longline operations in the Australian Fishing Zone within 5 years by: prescribing the appropriate modifications to fishing practices or equipment (mitigation measures), providing for development of new mitigation measures, educating fishers and the public, and collecting information necessary to improve knowledge of seabird-longline fishery interactions.
- Since 1993, New Zealand (N.Z.) has required all tuna longline vessels to use seabird scaring devices (tori lines) while operating in the N.Z. EEZ, and also requires that all N.Z. vessels fishing outside the N.Z. EEZ to use tori lines. The intent of the N.Z. NPOA is to significantly reduce fishing-related seabird capture in all fisheries within the next 5 years. The N.Z. NPOA-S will move towards establishing limits on seabird mortalities in each of the fisheries where fishing-related incidental seabird capture has been reported. In order to provide adequate information on which to base such limits, the N.Z. NPOA-S identifies targets for observer coverage, management actions, and mitigation research for each of its fisheries. The NPOA-S calls for achieving adequate levels of observer coverage to detect and reliably estimate levels of incidental seabird capture, and calls for management actions that may include required mitigation regulations or voluntary codes of practice in all fisheries that have interactions with seabirds.

U.S. Fishery Management Measures to Conserve Seabirds

The decline of foreign fishing operations after 1976 within the U.S. EEZ and government financial support programs for domestic fishermen led to the growth and development of the U.S. offshore fishing fleet. With this expansion came increased interactions by U.S. vessels with seabirds, marine mammals, and sea turtles that were incidentally captured during fishing operations. NMFS regulations designed to reduce seabird bycatch in the Bering Sea/Aleutian Islands (BSAI) and Gulf of Alaska (GOA) groundfish longline fisheries were approved and implemented in 1997, in the Pacific halibut longline fishery in 1998, and are under development for the Hawaii pelagic longline fishery. Research is underway in Alaska and Hawaii longline fisheries to determine the effectiveness of existing seabird bycatch measures and to improve those measures.

While seabird bycatch data are collected in most NMFS observer programs, U.S. fisheries bycatch research and data collection has focused historically on targeted and non-targeted fish species, marine mammals, and sea turtles, not seabirds. Collecting seabird data through logbooks and scientific observations has not been given the same priority as for other protected species, especially in those regions that do not have ESA-listed seabird species that interact with longline gear. Additionally, the experimental designs for some bycatch research were developed for non-bird species, which may be sufficiently different from seabirds in terms of migratory behavior and geographic range to prevent simple extrapolation of the limited seabird data to larger geographic areas. Future efforts should collect data for statistically valid seabird bycatch assessments. Additional funding should be sought to expand observer coverage in general, to collect data for statistically valid seabird bycatch assessments, including seabird species catch per unit effort, and to evaluate mitigation measures.

The U.S. National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries NPOA-S

Development of the NPOA-S

FWS has expertise and primary legal responsibility for seabird conservation and management, while NMFS has expertise and responsibility for managing longline fisheries. In recognition of this expertise and responsibility, the Assistant Administrator of NMFS and the FWS Director agreed to collaborate on the development of the NPOA-S and to conduct this effort through the work of the Interagency Seabird Working Group (ISWG). The resulting NPOA-S is a collaborative interagency effort that has increased communication between seabird specialists and fishery managers in FWS and NMFS. Maintaining this cooperation is a high priority for both agencies.

There is considerable variation between different longline fisheries in the United States, including differences in target species, geographic location, baits, gear types and configuration, methods employed, depth fished, time of day, season, weather, vessel characteristics, and seabird species present and vulnerable. Consequently, the individual characteristics of each longline fishery may interact in complex ways to affect seabird bycatch rates. The biological and life history characteristics of individual seabird species also affect the risk of incidental capture and the population-level impact of longline fishery mortality. These differences will likely require that unique seabird bycatch solutions be developed for each individual longline fishery where assessments show a seabird bycatch problem exists. These characteristics will need to be taken into consideration as the Councils and NMFS, in collaboration with the FWS, develop individual seabird bycatch reduction programs.

Implementation of the NPOA-S

The initial process for NPOA-S implementation will occur over the course of the next 4 years. Assessments of all U.S. longline fisheries will be completed within 2 years. In those fisheries where a seabird bycatch problem is found to exist a mitigation program will be developed within 3 years and implemented within 4 years. In all longline fisheries where an initial determination is made that no seabird bycatch problem exists, a re-assessment will be conducted within 4 years of such a determination.

Implementation of the NPOA-S may vary among Council jurisdictional areas and longline fisheries. Some Councils need to start or complete seabird bycatch assessments for the longline fisheries within their jurisdictional area, and each fishery may require individually tailored seabird management measures. This NPOA-S provides the Councils with flexibility to develop effective seabird mitigation measures for individual longline fisheries. In U.S. longline fisheries where seabird bycatch problems are already known to exist, including Alaska demersal groundfish and Hawaii pelagic longline fisheries, regulations are already in place or under development to mitigate seabird bycatch. The North Pacific and Western Pacific Fishery Management Councils are well positioned to develop seabird bycatch reduction programs needed to implement the NPOA-S, because they have already conducted seabird bycatch assessments and developed regulations to implement seabird bycatch reduction measures.

Role of the ISWG

The ISWG is composed of agency staff from NMFS, FWS, and DOS. The ISWG should continue to address seabird bycatch issues and help coordinate the implementation of the NPOA-S and IPOA-S. Future activities of the ISWG may include, but are not necessarily limited to, the following:

- Assist in development and review of regional seabird bycatch programs and individual Council Plans of Action
- Assist in assessing the adequacy and effectiveness of these programs
- Assist in drafting of the NPOA-S Implementation Report that is to be included in the biennial report to FAO on Code of Conduct for Responsible Fisheries
- Promote and coordinate implementation of the NPOA-S and the IPOA-S in all relevant U.S., international, and regional fisheries organizations
- Advise on training for Regional and Council staff on how to conduct seabird assessments and develop regional seabird bycatch reduction programs, and
- Brief the public and interested parties on the status of the NPOA-S, additional efforts to reduce seabird bycatch in other fisheries, and on related efforts.

Action Elements of the NPOA-S

For those areas where longline fisheries occur, this NPOA-S strongly encourages that the following actions to be taken:

I. *Assessment:* NMFS, in cooperation with FWS, will conduct regional assessments of seabird interactions with longline fishing gear within no longer than 2 years of the adoption of the NPOA-S where none have been completed. NMFS and FWS will work in partnership with the Councils to conduct the assessments and determine the extent and nature of seabird interactions within each longline fishery conducted under a Council's area of authority. The assessment will address the following:

- Criteria used to evaluate the need for seabird bycatch mitigation and management measures
- Longline fishing fleet data (numbers and characteristics of vessels)
- Fishing techniques data (demersal, pelagic, and other pertinent technical information)
- Fishing areas (by season and geographic location)
- Fishing effort data (seasons, species, catch, number of sets, and number of hooks/year/fishery)
- Status of seabird populations in the fishing areas, if known
- Estimated total annual seabird species-specific catch and catch-per-unit-effort (number/1,000 hooks set/species/fishery)
- Existing area and species-specific seabird bycatch mitigation measures and their effectiveness in reducing seabird bycatch
- Efforts to monitor seabird bycatch (e.g., observer program and logbooks), and
- Statement of conclusions and decision to develop and implement mitigation measures as needed.

If NMFS or a Council assesses seabird bycatch in a longline fishery and determines that a seabird bycatch problem does exist, then a mitigation plan will be developed within 1 year to implement the following action items within 2 years. Additionally, NMFS and the Councils will review such a determination on a regular basis (at least every 4 years), and take into account changes such as expansion or reduction of existing longline fisheries or the development of new fisheries. If, based on an initial or a subsequent assessment, it is determined that a seabird bycatch problem (e.g., impact on a population or unacceptable take of a species) does not exist, then no additional action is necessary until the next periodic assessment (within 4 years).

II. *Data Collection:* Seabird bycatch data collection programs should collect statistically reliable data to determine seabird bycatch rates in longline fisheries and to evaluate the effectiveness of mitigation measures. Such programs will be incorporated into existing fishery observer programs wherever possible. Ongoing data collection efforts, including the NMFS Observer Program, will be expanded to include detailed data on seabird interactions. Some progress towards this goal has been made regionally, but efforts will be expanded across all U.S. longline fisheries in order to determine which fisheries have seabird bycatch problems. This effort will be facilitated and coordinated by the recently created NMFS National Observer Program.

III. *Prescription of Mitigation Measures:* Where appropriate, longline fishery-specific seabird mitigation methods should be prescribed by the Councils for longline fisheries with seabird bycatch problems. These measures should be of known efficiency and be cost-effective for the fishing industry. Councils should implement several different mitigation measures based on the particular circumstances of individual longline fisheries if bycatch reduction can be improved by combining different mitigation measures or devices. See the technical note in Appendix 1 for suggested measures.

NMFS and the Councils, in collaboration with FWS, will examine each individual longline fishery, even prior to the completion of the formal assessments, to determine whether the precautionary imposition of seabird bycatch mitigation is appropriate and practicable. These management measures should be incorporated into FMP or regulatory amendments and submitted to NMFS for approval and implementation.

IV. *Research and Development of Mitigation Measures and Methods:* NMFS, in consultation with FWS, will work in partnership with the Councils and longline fishermen to conduct research on seabird bycatch, develop the most practical and effective seabird deterrent measures, evaluate the effectiveness of those measures, and evaluate and improve other technologies and practices that reduce seabird bycatch. This may include incentive programs and recognition of individual fishermen that achieve low seabird bycatch rates.

Seabird bycatch reduction will be supported through continuing research into new gear designs and fishing techniques. The IPOA-S includes descriptions of gear modifications and fishing techniques currently being used and tested in the various longline fisheries around the world. It is important to reiterate that seabird bycatch reduction measures developed for one fishery may not be equally successful in other fisheries.

V. *Outreach, Education, and Training About Seabird Bycatch:* NMFS and FWS will:

- Develop mechanisms to raise awareness among fishermen, fishing industry associations, gear manufacturers, and other groups concerning the need to reduce seabird bycatch in longline fisheries. This should include designing and implementing seabird bycatch outreach programs for fishermen, fisheries managers, gear technologists, maritime architects, shipbuilders, conservationists, and other partners. These programs should improve understanding of seabird bycatch problems and the importance of using mitigation measures. Outreach programs should include educational curricula and guidelines that will be disseminated through workshops, videos, handbooks, brochures, and posters. The program should focus on both the conservation aspects of managing seabird bycatch and the economic benefits of increased fishing efficiency that result from eliminating bait loss to seabirds.
- Make available the NPOA-S, IPOA-S, and other information on seabird bycatch in longline fisheries.
- Promote the implementation of the NPOA-S within U.S. fisheries.
- Provide information about seabird bycatch technical and financial assistance, and

- Provide education to Council, NMFS, and FWS personnel on seabird bycatch assessments and reduction measures.

VI. Reporting: NMFS, in collaboration with the appropriate Councils and in consultation with FWS, will prepare an annual report on the status of seabird mortality for each longline fishery, including assessment information, mitigation measures, and research efforts. FWS will also provide regionally-based seabird population status information that will be included in the annual reports. The reports will be submitted annually as part of the Stock Assessment and Fishery Evaluation (SAFE) Report that is already provided on an annual basis by NMFS and made widely available. Such annual reports will be compiled and incorporated into NMFS' biennial status report to FAO on its implementation of the *Code of Conduct for Responsible Fisheries*. The ISWG may participate in the compilation, drafting, and review of the NPOA-S section of the biennial report to FAO.

VII. Collaboration between NMFS and the FWS on Seabird Issues: NMFS and FWS will continue to promote and implement the NPOA-S. This should be accomplished at the regional level through the Council process and by the FWS through research needed to assess and monitor seabird populations and to improve population assessment methodologies. The ISWG should continue to collaborate on seabird bycatch issues at both the national and international levels.

NMFS and FWS will:

- Participate in the Council process to help develop, implement, review, and recommend changes to regional seabird bycatch programs, recognizing that FWS currently has no vote on the Councils
- Assess all U.S. longline fisheries to determine whether a seabird bycatch problem exists
- Conduct collaborative research to determine the effectiveness of seabird bycatch mitigation measures, further refine those measures, and develop new measures
- Continue to develop and review fishery observer programs that collect seabird bycatch data
- Seek additional funding to expand observer programs and increase collection of seabird data
- Conduct outreach, education, and public awareness programs on seabird bycatch issues
- Provide recognition to fishermen and organizations that promote seabird bycatch reduction
- Develop incentive programs to encourage further seabird bycatch reductions
- Participate in national and international seabird bycatch meetings and workshops
- Assess, at least every 4 years, the implementation of the NPOA-S and individual fishery seabird bycatch mitigation plans to determine their effectiveness
- Continue ESA Section 7 Consultations as required
- Continue working through the ISWG to promote and coordinate implementation of the NPOA-S and the IPOA-S in all relevant international and regional fisheries organizations, and
- Develop consolidated biennial national status reports on seabird bycatch reduction to

provide to FAO.

TABLE OF PROPOSED TIMELINE FOR NPOA-S IMPLEMENTATION

ACTIVITY	DATE DUE
Seabird Bycatch Assessment	within 2 years of adoption of NPOA-S
Develop Regional Seabird Bycatch Reduction Programs	within 1 year of identifying a seabird bycatch problem
Prescription of Seabird Measures and other NPOA-S Action Elements	within 2 years of determining that a seabird bycatch problem exists
Seabird Bycatch Data Collection incorporated in New and Existing Observer Programs	as soon as practicable
Regional NPOA-S Implementation Report	submitted in the SAFE Report that is provided annually by NMFS and widely distributed
NPOA-S Implementation Report within the U.S. Report to FAO on Implementation of the Code of Conduct for Responsible Fisheries	biennial report that compiles regional U.S. seabird bycatch reduction activities and other measures the United States has taken to implement the NPOA-S and IPOA-S

TABLE OF ORGANIZATIONAL ROLES FOR SEABIRD BYCATCH REDUCTION

Action Items	NMFS	FWS	Council
1. Participate in the FMC process to review and recommend improvements to regional seabird bycatch programs	X	X	X
2. Conduct research on the effectiveness of seabird bycatch mitigation measures	X	X	
3. Develop or improve seabird bycatch data collection in fishery observer programs	X	X	X
4. Develop and conduct seabird bycatch education and outreach programs for fishermen and other interested individuals and organizations	X	X	X
5. Train the NMFS fishery observers in seabird identification and data collection	X	X	
6. Recognize achievements of fishermen and fishing organizations that promote seabird bycatch reduction	X	X	X
7. Participate in national and international meetings and workshops to promote seabird bycatch reduction	X	X	X
8. Provide information on seabird populations (distribution, abundance, population trends and demographic parameters)		X	
9. Participate in the NPOA Interagency Seabird Working Group to coordinate implementation of the NPOA-S and IPOA-S	X	X	
10. Develop annual regional and biennial national reports on seabird bycatch	X	X	
11. Summarize information on fishing methods, fishing effort, and fishery observer programs	X		
12. Summarize seabird bycatch data from NMFS longline fishery observer programs	X		

