

Presidential Migratory Bird Federal Stewardship Award Nomination Application

1. **Applicant:** National Marine Fisheries Service (NMFS ie NOAA Fisheries)
2. **Co-applicant:** Washington Sea Grant (WSG)

3. Action: *Development and dissemination of improved fishing methods to reduce longline fisheries bycatch of seabirds.* Seabird mortality in longline fisheries is a worldwide marine conservation problem. Seabirds aggregate in response to fishing operations and can become hooked and drown as they attack sinking baited hooks. Because many seabirds are long-lived species with delayed maturity and limited reproductive capability, they are highly vulnerable to adult mortality. Regulatory and conservation attention in the Alaskan longline fisheries has focused on the rare incidental mortality of one species — the short-tailed albatross (*Phoebastria albatrus*), an endangered species under the U.S. Endangered Species Act (ESA). Takes of six short-tailed albatrosses within a two-year period would trigger re-initiation of an ESA Section 7 consultation in these respective fisheries and consequently interrupt or close Alaska's \$300 million (ex-vessel value) demersal longline fisheries. Takes of only two short-tails over five years could disrupt or close the Alaskan trawl fisheries, valued at over \$500 million. Building on earlier collaborative work to reduce the bycatch of seabirds in salmon drift gillnets, WSG launched a suite of research and outreach programs in collaboration with industry, NMFS and the U.S. Fish and Wildlife Service to reduce seabird bycatch in Alaska's diverse longline fisheries (Melvin et al. 2005). Subsequently, this model and collaborative approach has transferred to work by WSG with other gear types and fishery regions in both US and international fisheries.

4. When was the action initiated? In 2001 WSG published results of a multi-year research program, in collaboration with NMFS and others, that tested a range of seabird bycatch mitigation technologies for the Alaska longline fleet. Ultimately bird-scaring streamer lines were identified as a technology that was both highly effective at preventing seabird mortalities and appropriate to a wide range of vessels. Publication of these results included specific management recommendations for Alaskan longline fishers (Melvin et al. 2001). In 2004, NMFS enacted new regulations for its Alaskan demersal longline fleet based on those recommendations. This research led to saving thousands of seabirds but also served as a foundation to a suite of domestic and international research programs and to seabird conservation more broadly. Most recently, with support from the David and Lucile Packard Foundation, streamer line research on bird-scaring streamer lines (and weighted branch lines) was extended to Japanese joint-venture tuna longline fisheries in the southern hemisphere (Melvin and Walker 2008 and Melvin et al. 2010).

5. Is the action local, regional, national or international in scale? The scope and application of this conservation effort is both regional and international because the albatrosses and other migratory seabirds caught by longline fisheries are subject to much more fishing mortality in international waters than they are in US domestic waters. Conserving these vulnerable populations requires international action by regional fisheries management organizations (RFMOs). The WSG publications (Melvin et al. 2001, Melvin and Parrish 2001) provided important scientific justification that Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) used to revise longline conservation measures for Antarctic longline fisheries and that NMFS used in support of one of the first binding international seabird Conservation Measure enacted in 2006 by the Western and Central Pacific Fisheries Commission (WCPFC) (CMM 2006-02, <http://www.wcpfc.int/conservation-and-management-measures>). The subsequent work by WSG in the southern hemisphere tuna longline fisheries, conducted on Japanese tuna longline fishing vessels, provides further scientific basis for the review and revision of the Seabird Conservation Measure of the WCPFC and for actions by other RFMOs worldwide. Additionally, WSG contributions to the Seabird Bycatch Working Group of the Agreement on the Conservation of Albatrosses and Petrels (ACAP) have resulted in the ACAP Secretariat carrying forth recommendations for improved seabird bycatch reduction methodologies to RFMOs and the United Nation's Food & Agriculture Organization's (FAO) Committee on Fisheries (COFI).

6. How does the action meet or exceed NMFS mandates or daily activities? NMFS has responsibilities for reducing fishery interactions with migratory seabirds under numerous statutes and policies (e.g. Magnuson-Stevens Fisheries Conservation and Management Act, ESA, US National Plan of Action for Reducing the Incidental Catch of Seabirds in Longline Fisheries (NPOA-Seabirds), E.O. 13186, United FAO's Best Practice Technical Guidelines for IPOA/NPOA-Seabirds). Some seabirds, including some albatross species that can interact with longline fisheries, are threatened or endangered under the ESA and reduction of interactions with these species are required under ESA Section 7 Consultation Biological Opinions on a variety of fisheries including the Pelagic Fisheries of the Central and Western Pacific Ocean. The Western Pacific Regional Fisheries Management Council was very proactive in reducing seabird bycatch in that fishery well before the time frame of the action under nomination here, but continues to address the issue and is particularly interested in the action's 2009 results from South Africa because of the danger to fishermen of weighted branch lines, which are a very effective means of reducing seabird interactions. As a lead participant representing the US as member of various RFMOs, NMFS has responsibility for advancing the FAO International Plan of Action on Seabirds (IPOA) through the enactment of conservation measures. The IPOA calls for cooperative action through regional and sub-regional fisheries organizations or arrangements, and other forms of cooperation, to reduce the incidental catch of seabirds in longline fisheries. NMFS has worked in this collaborative capacity with numerous non-governmental organizations (American Bird Conservancy, BirdLife International, World Wildlife Fund) and inter-governmental organizations (ACAP, CCAMLR). NMFS is also collaborating with the USFWS to achieve action items under its Albatross Conservation Action Plan (Naughton et al, 2007). Additionally, both NMFS and WSG staff participate on the USFWS's Short-tailed Albatross Recovery Team.

7. Explain how the action promotes or results in effective migratory bird conservation: The regulations NMFS enacted in Alaska longline fisheries in 2004 based on recommendations by WSG defined materials and performance standards for seabird bycatch mitigation gear that have resulted in a greater than 70% reduction in seabird bycatch for that fleet (Fitzgerald, et al, 2008) and greater than 80% reduction in the bycatch of albatross species [black-footed albatross (*P. nigripes*) and Laysan albatross (*P. immutabilis*)]. Collectively this translates to thousands of seabirds saved every year. No takes of the rare and endangered short-tailed albatross were documented in Alaska longline fisheries for a period of eleven years (1999 through 2009). The impact of international pelagic longline fishing on seabird populations is hard to determine, but considering the spatial scope and intensity of these fisheries, and known seabird mortality rates in observed pelagic longline fisheries, the likelihood of very serious negative consequences for migratory seabirds, especially for some rare and endangered albatross and shearwater species, is high. These include several species of conservation concern (greater shearwater, pink-footed shearwater, red-legged kittiwake). Implementing international action to reduce fishery interactions with seabirds requires, first and foremost, identifying effective mitigation technologies through published science. This is the key and critical component that the partner nominees have provided over the past decade of research and publication. And that accomplishment has supported, and will continue to support, the achievement of binding international conservation measures to reduce seabird mortality in fisheries.

8. Provide details that demonstrate how the action is innovative: The WSG seabird bycatch research effort was innovative in its approach and in the science itself. It highlights a 'common sense' collaborative approach to arrive at seabird conservation solutions by: 1) working with industry leaders to identify possible new technologies and/or operational practices that are practical and likely to solve the problem; 2) testing the proposed solutions in a collaborative study on active fishing vessels using strict scientific protocols and the use of incentives, and 3) crafting new regulations based on the results of the research program in cooperation with the industry, resource management agencies and conservation organizations (Melvin and Parrish 2003). The research was the first to use seabird behavior and seabird

mortality to test mitigation technologies proposed by fishermen, with fishers on their vessels, while evaluating the possible effects of mitigation technologies on fish catches. With regard to bird-scaring streamer lines, the research demonstrated that the materials used and how the lines are deployed – especially aerial extent of the lines – were critical to success. The research also led to a series of projects that refined mitigation technologies for small longline vessels (Melvin and Wainstein 2006) and larger longline vessels (Dietrich et al. 2009), identified areas where seabird mitigation was and was not needed (Melvin et al. 2006) and also precipitated work improving streamer line technologies for tuna pelagic longline fisheries working with Japanese fishermen and the Japan Fisheries Agency (JFA) in southern hemisphere fisheries (Melvin and Walker 2008 and Melvin et al. 2010). The work with Japanese vessels has identified the combination of line weighting, streamer lines and night setting as a likely best mitigation practice in high-seas tuna fisheries and could lead to a collaborative research with JFA in the North Pacific tuna longline fisheries.

9. Describe the roles and responsibilities of partners:

Demersal Longline and Trawl Gear Research & Outreach related to Alaska Seabird Bycatch:

Collaborators/partners to date have included NMFS, USFWS, Alaska Sea Grant College Program (Marine Advisory Program), Alaska Department of Fish and Game, International Pacific Halibut Commission, Alaska Longline Fishermen’s Association, American Seafoods Company, Australian Antarctic Division, Cordova District Fishermen United, Glacier Fish Company, Kamchatka Branch of Pacific Institute of Geography Far-Eastern Department of Russian Academy of Science, North Pacific Longline Association, Fishing Vessel Owners Association, Freezer Longline Coalition, Petersburg Vessel, Owners Association, Pollock Conservation Cooperative, Southern Seabird Solutions, United Fishermen of Alaska, and World Wildlife Fund. Contributions have included: Provision of funds, in-kind resources, access to commercial fishing vessels for research platforms, and outreach.

Pelagic Longline Gear Research & Outreach:

Collaborators/partners to date have included: South Africa’s Department of Environmental Affairs and Tourism, Marine and Coastal Management, and Pelagic and High Seas Fishery Management Division; the Federation of Japan Tuna Fisheries Cooperative Associations; Tuna South Africa; “Fukawa Suisan Kabushiki Kaisha”, owners of the Fukuseki Maru No 5 and “Maruwaka Suisan Kabushiki Kaisha” the owners of the Wakashio Maru No 83; Japan Marine; Capricorn Fisheries Monitoring; and FishTek. Englund Marine, Astoria, WA built and shipped streamer lines. Sarah Jennings helped with statistical analyses and manuscript preparation. Troy Guy and Barrie Rose collected data at sea. This project was funded by the David and Lucile Packard Foundation and WSG. Tuna South Africa shared the costs for safe-leads. The ACAP Secretariat provided support and encouragement. The fishing masters and crews of the Fukuseki Maru No 5 and the Wakashio Maru No. 83 provided a cooperative working platform, hospitality and insight.

International Outreach & Relevance:

Collaborators/partners to date have included the ACAP Secretariat, BirdLife International, and FAO. Collaborators have played significant roles in the incorporation of the WSG research and identified gear best practices being incorporated into best practice seabird bycatch mitigation gear guidelines that are shared throughout RFMOs.

10. How might the action be transferrable to other sites managed by this or other federal agencies and how this is being encouraged?

The WSG approach is now being applied to other fisheries in the US, as well as to other countries and international fisheries. Domestically, WSG is working with NMFS to frame the risk posed to migratory seabirds by West Coast groundfish fisheries and to recommend fisheries management options that are likely to reduce the bycatch of especially North Pacific albatrosses. Promoting the voluntary use of seabird bycatch mitigation technologies to tribal and non-tribal West Coast longline fleets is a key aspect

of the WSG-NMFS seabird conservation effort. Internationally, WSG is working with NMFS to promote consensus in developing improved conservation measures with international RFMO partners. Involving other nations in partnerships to test fishing methods that hold promise are key to promoting lasting seabird conservation. This is especially important with influential nations, like Japan, whose fisheries have a huge overlap with the pelagic distribution of seabirds. The dire need for this collaboration was clear from the debates and discussions at Science Committee Meetings of the WCPFC and other RFMOs, but the ability and resources of NMFS to conduct cooperative work was limited and not always possible in a timely manner. Therefore, the action of WSG in conducting and supporting cooperative research with Japanese longliners goes a very long way toward improving likelihood of improving technical specifications for international seabird conservation measures. The chances for voluntary adoption of the improved methods by nations and fisheries involved in the successful cooperative research are also improved. In Alaska, when well-defined performance standards were identified by WSG, having used the collaborative process in working with the industry, agencies, and others, a large component of the fleet voluntarily adopted the measures 2 years before they were required through regulation.

11. How does/did the action impact NMFS' current migratory bird conservation practices?

A variety of designs for seabird-scaring streamer lines (tori lines) weighted fishing gear, and other methods to reduce seabird interactions in longlines are available to fishers under current domestic and international conservation measures. Particularly in the international measures, the breadth of choices available has resulted from uncertainty regarding the applicability, effectiveness, and safety of the various methods under a variety of circumstances. Most experts would agree that a narrower group of scientifically proven options would represent best practice, and would result in meaningful seabird conservation in these fisheries. Such a narrowing of options and clearer definition of safe and effective methods is much more likely due to the research results provided by the nominees. Specifically a more rigorous definition of effective streamer lines is made possible, and concern over the safety of weighted branch lines, perhaps one of the most effective methods available for pelagic longline fisheries, is reduced. Such actions to identify effective measures developed in collaboration with the fishing industry, and to describe performance standards for such gear, has proven to be an effective process given the successes in the Alaskan demersal longline fishery. The regulations NMFS enacted in 2004 based on recommendations by WSG defined materials and performance standards for seabird bycatch mitigation gear that have resulted in saving tens of thousands of migratory seabirds.

12. How does the action benefit migratory bird species of concern? If yes, how?

The nominated action benefits numerous seabird species of conservation concern by reducing seabird mortalities associated with fisheries. Fishing related mortality has been widely targeted as a threat to seabird populations. Scientific results documenting effective methods to reduce fishing mortality (bycatch) are the first step in institutionalizing those methods to reduce longline fishery interactions with seabirds. Only with international adoption of such methods can the wide range of seabird habitat in international waters and foreign EEZs' be made safer and conducive to population recovery for short tailed albatross and waved albatross in the North Pacific, and for a variety of endangered albatross and shearwater species in the South Pacific. Although other threats also exist in the terrestrial and marine habitats of these populations, the primary influence available to the US for conservation beyond US waters is through its role in promoting international fisheries conservation measures through RFMOs. Other species of conservation concern which do or potentially may benefit from this action include: black-footed albatross, Laysan albatross, red-legged kittiwake, greater shearwater, pink-footed shearwater.

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