

# Seabird Conservation Planning in the Pacific Region<sup>1</sup>

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## Abstract

The North Pacific is a highly productive marine area, sustaining millions of resident and migratory marine birds. These birds are faced with a variety of threats, both on land, where they breed and roost, and at sea, where they forage for food. Several seabird conservation plans are currently underway in this region. The U. S. Fish and Wildlife Service (USFWS) Pacific Region Seabird Conservation Plan is a strategic planning effort (currently underway), to review seabird conservation efforts in the Pacific Region and identify USFWS priorities for management, monitoring, research, and outreach in California, Oregon, Washington, Hawaii, and the U.S. Pacific islands. The California Current System Marine Bird Adaptive Conservation Plan (CCS Plan) is a multi-species adaptive conservation plan for marine birds inhabiting the California Current System from southern British Columbia to Baja California. The focus of this plan is on-going scientific study, monitoring, data analysis, publication and outreach. For the British Columbia region, the Canadian Wildlife Service has developed an adaptive seabird conservation plan. Coordination between these three plans, within the context of the broader scale North American Waterbird Conservation Plan (NAWCP), is essential.

*Key words:* California Current System, conservation planning, Pacific Ocean, seabirds, tropical Pacific.

## Introduction

Marine birds in the Pacific Region currently face many threats, both on land as well as at sea. This paper summarizes marine bird conservation planning in the Pacific Region, including plans that have been developed or that are under development, and their geographic and

taxonomic scope. In addition, three general questions are addressed: 1) what are the best tools or mechanisms for implementing conservation priorities; 2) what are the best tools or mechanisms for measuring the success of the conservation actions; and 3) if reasonably unlimited resources were available for conservation, what would be the most important conservation activities that should be initiated?

## Conservation Planning in North America

The North American Bird Conservation Initiative (NABCI) is a multinational independent partnership between individuals and institutions to conserve bird species and their habitats by enhancing communication and collaboration between nations and agencies (U. S. NABCI Committee 2000). Within NABCI's conservation program there are four elements: the North American Waterfowl Management Plan (NAWMP), the U.S. Shorebird Conservation Plan (USSCP), Partners in Flight (PIF), and the North American Waterbird Conservation Plan (NAWCP). The NAWMP, USSCP, and PIF have been developed and are in the implementation stage, whereas the NAWCP was the last to come onboard and is still in the development stage. The NAWCP includes all bird species that are not covered under any of the other plans, including seabirds, coastal waterbirds (gulls, terns, pelicans, and cormorants), wading birds (such as herons and egrets), and marshbirds (such as rails, coots, and gallinules). The geographic range of the NAWCP is Canada through Central America, the Caribbean, and the U. S. Pacific Islands (28 countries, 209 species). The NAWCP is important because it provides a continental framework for regional planning efforts; however, conservation ultimately happens at the local scale and therefore individual regional plans need to be developed. Currently, regional plans are in various stages of development; one such region is the Pacific.

## Conservation Planning in the Pacific Region

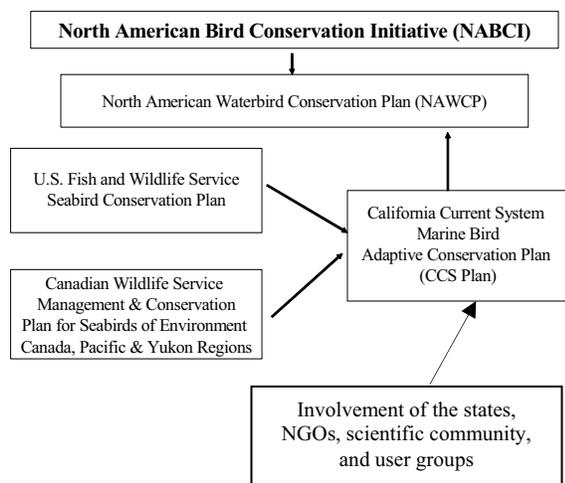
Within the Pacific Region, there are three marine bird conservation plans underway (*fig. 1*).

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**Figure 1**— Marine bird conservation plan structure for the Pacific Coast Planning Region.

### ***USFWS Pacific Region Seabird Conservation Plan***

The USFWS is currently developing a seabird conservation plan (SCP) for Region One, the Pacific Region. This Region encompasses two of the most diverse seabird assemblages in the United States: the temperate species of the California Current System (Washington, Oregon, California) and the tropical seabirds that breed in Hawaii and the U.S. Pacific Islands. The plan will cover the coastal and marine populations of over 50 bird species, in the orders Procellariiformes, Pelecaniformes, and Charadriiformes. The goal is the long-term conservation of Pacific seabirds. The plan will include a review of seabird resources and habitats; a clear statement of issues and threats; and a summary of current monitoring, management, and needs. The plan objectives are 1) prioritization of bird species by conservation need; 2) identification of priorities for research, monitoring, management, and outreach; and 3) development of a comprehensive strategy to direct USFWS conservation activities and coordination with partners into the future. This plan will provide an overarching review and discussion of seabird conservation in the Pacific Region and outline priority actions needed to ensure the long-term health of these populations. This plan also will facilitate collaborative efforts between the USFWS and various local, national, and international partners in seabird conservation.

### ***Management and Conservation Plan for Seabirds of Environment Canada, Pacific and Yukon Region***

The Canadian Wildlife Service has developed an adaptive seabird conservation plan for the British Columbia region with an overarching goal of restoring seabird populations to historical numbers. To achieve this goal, priority

actions include developing programs that address the threat of introduced predators to seabirds, seabird bycatch, and oil-spill preparedness. In addition, the protection of important seabird colonies and foraging areas also is considered a high priority (Hipfner et al. 2002).

### ***California-Current Marine Bird Adaptive Conservation Plan (CCS Plan)***

PRBO Conservation Science, USFWS, and numerous other national and international partners, in cooperation with scientists and marine managers, are developing a conservation plan for seabirds in the California Current Region. This plan will include coastal and marine regions from southern British Columbia (Canada) to Baja California (Mexico) and out to 200 nautical miles (the Exclusive Economic Zone boundary). The California Current is defined as a large marine ecosystem, which is a term that is used to describe habitats and areas with similar physical and biological processes. The CCS is a well-defined ecosystem, both ecologically and oceanographically, justifying a conservation plan from this ecosystem perspective. Also, many of the threats and management issues within the CCS are similar. The goal of the CCS Plan is long-term conservation of Pacific seabirds. The objectives are to identify marine bird requirements and threats and protect food sources and habitats. The CCS Plan is a multi-species plan, focused on the ecosystem in which these species live and the issues and threats that affect their reproduction and survival. This plan is adaptive in the sense that the planning is a dynamic and ongoing process that will provide an opportunity for updating and modifying portions of the plan as new information becomes available and new threats are identified.

### ***Current Threats to Pacific Seabirds***

Marine birds in the Pacific are faced with many threats, on land and at sea, and both natural as well as anthropogenic in nature. Natural threats include ecological factors that limit population growth, large-scale climate change, disease, parasites, and marine biotoxins. The most serious anthropogenic threats include loss or degradation of habitat, human disturbance, introduced species, oil and other marine pollution, contaminants, and fisheries interactions. Fisheries can impact seabirds both directly and indirectly. Direct effects include entanglement in gear or hooking, leading to injury and/or drowning; indirect effects may be caused by a reduction in seabird prey stocks, or by fisheries targeting adult/reproductive fish that might reduce the spawning population and cause a reduction in the juvenile fish that seabirds prey upon. Other indirect effects may include disturbance to seabirds at colonies, oil contamination from fishery vessels, and the introduction of debris into the marine environment.

## Current Issues

In addition to management threats, substantial lack of information needs to be addressed in any marine bird conservation planning in the Pacific. For some seabirds, management is hampered by a lack of even the most basic life history information. Seabirds spend most of their life at sea, and it is from the sea that they derive their food. However, most of the research has been conducted at colonies. Information on seabird distribution, abundance, and behavior at-sea is fundamental to understanding seabird ecology and the formulation of scientifically sound solutions to conservation issues and threats.

It is crucial that conservation efforts include recommendations for studies that focus on poorly known species. Other seabirds are identified as species of high conservation priority based on an evaluation of abundance, distribution, population trends, and threats. Status assessments should be conducted for these species wherein existing data are analyzed, specific threats and limiting factors are identified and discussed, and actions to reverse negative population trends and restore healthy populations are listed and prioritized.

Management issues often arise when actions for seabirds are in conflict with management for other species—for example, management for Caspian Terns and endangered salmonids in the Columbia River estuary. Another example is a seabird species with a rapidly increasing population, such as the Double-crested Cormorant. These birds often are labeled ‘overabundant’ and in conflict with other resources. However, data often are inconclusive, and many times there is a perceived problem rather than an actual problem.

## Plan Implementation

Implementation of any marine bird conservation plan will require actions that protect seabirds on land as well as at sea. On land there is the need to protect colonies and important roost sites from threats such as disturbance, ‘predator spills’ (the introduction of new predators to a sensitive area), and the introduction of non-native species (plants, animals, invertebrates, and so forth). There is also a need to restore lost or degraded habitats, for example by eradication of introduced mammalian predators from colonies. At sea, however, different management tools often are required. The ocean cannot be protected by unilateral or private action to purchase easements or fee title on key portions in the way that land can be protected. Nevertheless, Marine Protected Areas (MPAs) offer a similar solution by protecting key habitats that may provide foraging opportunities for seabirds or may protect prey

stocks. One of the most effective tools for addressing threats that seabirds face in the oceans is through regulatory changes. There is a need for seabird biologists and managers to work closely with organizations and agencies that regulate fisheries such as the Pacific Fisheries Management Council, Oregon's Policy Advisory Council, and the various state Fish and Game agencies. This open communication is key to minimizing seabird bycatch and protecting forage reserves for seabirds. Joint Ventures have been used as successful plan implementation tools for other conservation efforts such as the NAWMP, PIF, and the USSCP. The formation of a Joint Venture has potential as an effective method of bringing together the various stakeholders for seabird conservation plan implementation.

## Plan Success

A critical element for measuring the success of a conservation plan is a comprehensive seabird monitoring program (Steinkamp et al. 2003). It is essential that this program be able to detect trends in populations, which in turn will help determine whether the conservation actions are successful or need adjustment, thereby implementing the adaptive management approach. For this tool to be accurate and useful, the monitoring system needs to be standardized and sensitive enough to detect declining population trends in a relatively short period of time. The standardization of monitoring programs is crucial for comparing data sets and detecting trends. Collaboration and increased coordination among the many government agencies and private researchers collecting seabird data will also be required to ensure consistent long-term monitoring of key areas and populations. Given the importance of monitoring programs to measuring success of a conservation plan, dedicated funding needs to be secured for such long-term monitoring.

## Key Conservation Activities

Identifying high priority conservation activities will be a key component in plan development and implementation. Several key conservation actions include the development and implementation of a standardized system for monitoring seabird population trends, as discussed above. Species diversity, high priority species, and threats to the habitat need to be evaluated, and the habitats and species with the highest conservation priority need to be identified. Conservation actions might involve the removal of invasive species from areas that have declining populations, such as the removal of rats from Anacapa Island (Channel Islands, California) to protect Xantus's Murrelets and Ashy Storm-Petrels, or the removal of *Verbesina* (a noxious

plant) from Midway Atoll (Hawaii) to restore habitat for nesting albatross. As outlined above, fisheries pose a serious threat to Pacific seabirds; therefore, research into gear types and fishing practices that minimize seabird bycatch in commercial fisheries is key. Fisheries observer programs are necessary to accurately monitor the scope and magnitude of seabird mortality in conjunction with commercial fisheries and evaluate the response when regulations are enacted to benefit seabirds.

### Conclusion

Marine bird conservation planning in the Pacific Region is well underway. Despite the various planning efforts, the overall goal is the same: long-term conservation of Pacific seabirds. The CCS Plan, linking the various planning efforts, will ultimately form the NAWCP regional plan for the northern Pacific. Implementation and success of the Plan will require involvement and collaboration with regulatory

authorities at the local, state, national, and international levels. With other conservation plans as models, the seabird conservation plan has a solid framework, which will ultimately benefit both migratory and resident Pacific seabirds.

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