DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS–R9–IA–2008–0118; 96000–1671–0000–B6]

RIN 1018–AW40

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List Five Penguin Species Under the Endangered Species Act, and Proposed Rule To List the Five Penguin Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule and notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the yellow-eyed penguin (*Megadyptes antipodes*), white-flippered penguin (*Eudyptula minor albosignata*), Fiordland crested penguin (*Eudyptes pachyrhynchus*), Humboldt penguin (*Spheniscus humboldti*), and erect-crested penguin (*Eudyptes sclateri*) as threatened species under the Endangered Species Act of 1973, as amended (Act). This proposal, if made final, would extend the Act's protection to these species. This proposal also constitutes our 12-month finding on the petition to list these five species. The Service seeks data and comments from the public on this proposed rule.

DATES: We will accept comments and information received or postmarked on or before February 17, 2009. We must receive requests for public hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by February 2, 2009.

ADDRESSES: You may submit comments by one of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov.* Follow the instructions for submitting comments.
- U.S. mail or hand-delivery: Public Comments Processing, Attn: [FWS–R9–IA–2008–0118]; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept comments by e-mail or fax. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Pamela Hall, Branch Chief, Division of Scientific Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 110, Arlington, VA 22203; telephone 703–358–1708; facsimile 703–358–2276. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Public Comments

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

(1) Biological, commercial, trade, or other relevant data concerning any threats (or lack thereof) to this species and regulations that may be addressing those threats.

(2) Additional information concerning the range, distribution, and population size of this species, including the locations of any additional populations of this species.

(3) Any information on the biological or ecological requirements of the species.

(4) Current or planned activities in the areas occupied by the species and possible impacts of these activities on this species.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not consider comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section.

If you submit a comment via *http://www.regulations.gov,* your entire comment—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on *http://www.regulations.gov.*

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov,* or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Division of Scientific Authority, 4401 N. Fairfax Drive, Room 110, Arlington, VA 22203; telephone 703–358–1708.

Background

Section 4(b)(3)(A) of the Act (16 U.S.C. 1533(b)(3)(A)) requires the Service to make a finding known as a ''90-day finding'' on whether a petition to add, remove, or reclassify a species from the list of endangered or threatened species has presented substantial information indicating that the requested action may be warranted. To the maximum extent practicable, the finding shall be made within 90 days following receipt of the petition and published promptly in the **Federal Register**. If the Service finds that the petition has presented substantial information indicating that the requested action may be warranted (referred to as a positive finding), section 4(b)(3)(A) of the Act requires the Service to commence a status review of the species if one has not already been initiated under the Service's internal candidate assessment process. In addition, section 4(b)(3)(B) of the Act requires the Service to make a finding within 12 months following receipt of the petition on whether the requested action is warranted, not warranted, or warranted but precluded by higher-priority listing actions (this finding is referred to as the ''12-month finding''). Section 4(b)(3)(C) of the Act requires that a finding of warranted but precluded for petitioned species should be treated as having been resubmitted on the date of the warranted but precluded finding, and is, therefore, subject to a new finding within 1 year and subsequently thereafter until we take action on a proposal to list or withdraw our original finding. The Service publishes an annual notice of resubmitted petition findings (annual notice) for all foreign species for which listings were previously found to be warranted but precluded.

In this notice, we announce a warranted 12-month finding and proposed rule to list five penguin taxa as threatened species under the Act, yellow-eyed penguin, white-flippered penguin, Fiordland crested penguin, Humboldt penguin, and erect-crested penguin. We will announce the 12-month findings for the African penguin (*Spheniscus demersus*), emperor penguin (*Aptenodytes forsteri*), southern rockhopper penguin (*Eudyptes chrysocome*), northern rockhopper penguin (*Eudyptes chrysolophus*), and macaroni penguin (*Eudyptes chrysolophus*) in one or more separate **Federal Register** notice(s).

Previous Federal Actions

On November 29, 2006, the Service received a petition from the Center for Biological Diversity to list 12 penguin species under the Act: Emperor penguin, southern rockhopper penguin, northern rockhopper penguin, Fiordland crested penguin, snares crested penguin (*Eudyptes robustus*), erect-crested penguin, macaroni penguin, royal penguin (*Eudyptes schlegeli*), white-flippered penguin, yellow-eyed penguin, African penguin, and Humboldt penguin. Among them, the ranges of the 12 penguin species include Antarctica, Argentina, Australian Territory Islands, Chile, French Territory Islands, Namibia, New Zealand, Peru, South Africa, and United Kingdom Territory Islands. The petition is clearly identified as such, and contains detailed information on the natural history, biology, status, and distribution of each of the 12 species. It also contains information on what the petitioner reported as potential threats to the species from climate change and changes to the marine environment, commercial fishing activities, contaminants and pollution, guano extraction, habitat loss, hunting, nonnative predator species, and other factors. The petition also discusses existing regulatory mechanisms and the perceived inadequacies to protect these species.

In the **Federal Register** of July 11, 2007 (72 FR 37695), we published a 90-day finding in which we determined that the petition presented substantial scientific or commercial information to indicate that listing 10 species of penguins as endangered or threatened may be warranted: Emperor penguin, southern rockhopper penguin, northern rockhopper penguin, Fiordland crested penguin, erect-crested penguin, macaroni penguin, white-flippered penguin, yellow-eyed penguin, African penguin, and Humboldt penguin. Furthermore, we determined that the petition did not provide substantial scientific or commercial information indicating that listing the snares crested penguin and the royal penguin as threatened or endangered species may be warranted.

Following the publication of our 90-day finding on this petition, we initiated a status review to determine if listing each of the 10 species is warranted, and opened a 60-day public comment period to allow all interested parties an opportunity to provide information on the status of the 10 species of penguins. The public comment period closed on September 10, 2007. In addition, we attended the International Penguin Conference in Hobart, Tasmania, Australia, a quadrennial meeting of penguin scientists from September 3–7, 2007 (during the open public comment period), to gather information and to ensure that experts were aware of the status review and the open comment period. We also consulted with other agencies and range countries in an effort to gather the best available scientific and commercial information on these species.

During the public comment period, we received over 4,450 submissions from the public, concerned governmental agencies, the scientific community, industry, and other interested parties. Approximately 4,324 e-mails and 31 letters received by U.S. mail or facsimile were part of one letter-writing campaign and were substantively identical. Each letter supported listing under the Act, included a statement identifying ''the threat to penguins from global warming, industrial fishing, oil spills and other factors,'' and listed the 10 species included in the Service's 90-day finding. A further group of 73 letters included the same information plus information concerning the impact of ''abnormally warm ocean temperatures and diminished sea ice'' on penguin food availability and stated that this has led to population declines in southern rockhopper, Humboldt, African, and emperor penguins. These letters stated that the emperor penguin colony at Point Geologie has declined more than 50 percent due to global warming and provided information on krill declines in large areas of the Southern Ocean. They stated that continued warming over the coming decades will dramatically affect Antarctica, the sub-Antarctic islands, the Southern Ocean and the penguins dependent on these ecosystems for survival. A small number of general letters and e-mails drew particular attention to the conservation status of the southern rockhopper penguin in the Falkland Islands.

Twenty submissions provided detailed, substantive information on one or more of the 10 species. These included information from the governments, or government-affiliated scientists, of Argentina, Australia, Namibia, New Zealand, Peru, South Africa, and the United Kingdom, from scientists, from 18 members of the U.S. Congress, and from one non-governmental organization (the original petitioner).

On December 3, 2007, the Service received a 60-day Notice of Intent to Sue from the Center for Biological Diversity (CBD). CBD filed a complaint against the Department of the Interior on February 27, 2008, for failure to make a 12-month finding on the petition. On September 8, 2008, the Service entered into a Settlement Agreement with CBD, in which we agreed to submit to the **Federal Register** 12-month findings for the 10 species of penguins, including the five penguin taxa that are the subject of this proposed rule, on or before December 19, 2008.

We base our findings on a review of the best scientific and commercial information available, including all information received during the public comment period. Under section 4(b)(3)(B) of the Act, we are required to make a finding as to whether listing each of the 10 species of penguins is warranted, not warranted, or warranted but precluded by higher priority listing actions.

Species Information and Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR part 424, set forth the procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act. The five factors are: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence.

Below is a species-by-species analysis of these five factors. The species are considered in the following order: Yellow-eyed penguin, white-flippered penguin, Fiordland crested penguin, Humboldt penguin, and erect-crested penguin.

Yellow-Eyed Penguin (Megadyptes antipodes)

Background

The yellow-eyed penguin, also known by its Maori name, hoiho, is the third largest of all penguin species, averaging around 24 pounds (lb) (11 kilograms (kg)) in weight. It is the only species in the monotypic genus *Megadyptes*. Yellow-eyed penguins breed on the southeast coast of New Zealand's South Island, from Banks Peninsula to Bluff at the southern tip; in Fouveaux Strait, and on Stewart and adjacent islands just 18.75 mi (30 km) from the southern tip of the New Zealand mainland; and at the sub-Antarctic Auckland and Campbell Islands, 300 mi (480 km) and 380 mi (608 km), respectively, south of the southern tip of the South Island. The distribution is thought to have moved north since the 1950s (McKinlay 2001, p. 8). The species is confined to the seas of the New Zealand region and forages over the continental shelf (Taylor 2000, p. 93).

Unlike more strongly colonial breeding penguin species, yellow-eyed penguins nest in relative seclusion, out of sight of humans and one another (Wright, 1998, pp. 9–10; Ratz and Thompson 1999, p. 205). Current terrestrial habitats range from native forest to grazed pasture (McKinlay 2001, p. 10). In some places, they nest in restored areas and, in other places, they nest in areas where livestock are still present (McKinlay 2001, p. 10). Prior to land clearing for agriculture by European settlers, historic habitat was in coastal forests and shrub margins (Marchant and Higgins 1990, p. 237).

The New Zealand Department of Conservation (DOC) published the Hoiho (*Megadyptes antipodes*) Recovery Plan (2000–2025) (Recovery Plan) in 2001 to state the New Zealand DOC's intentions for the conservation of this species, to guide the New Zealand DOC in its allocation of resources, and to promote discussion among the interested public (McKinlay 2001, p. 20). The goal of the Recovery Plan, which updates a 1985–1997 plan previously in place, is to increase yellow-eyed penguin numbers and have active community involvement in their conservation. The primary emphasis over the 25-year period is to ''retain, manage and create terrestrial habitat'' and to ''investigate the mortality of hoiho at sea'' (McKinlay 2001, p. 2).

Current estimates place the total population at 1,602 breeding pairs (Houston 2007, p. 3).

In the recent past, the number of breeding pairs has undergone dramatic periods of decline and fluctuation in parts of its range on the mainland of the South Island. Records suggest that the mainland populations declined at least 75 percent from the 1940s to 1988, when there were 380 to 400 breeding pairs (Darby and Seddon 1990, p. 59). There have been large fluctuations since a low of about 100 breeding pairs in the 1989–90 breeding season to over 600 in the 1995–96 breeding season (McKinlay 2001, p. 10). Current mainland counts indicate 450 breeding pairs on the southeast coast of the mainland of the South Island (Houston 2007, p. 3). As recently as the 1940s, there were reported to be individual breeding areas where penguin numbers were estimated in the hundreds; in 1988, only three breeding areas on the whole of the South Island had more than 30 breeding pairs (Darby and Seddon 1990, p. 59).

Just across the Fouveaux Strait at the southern tip of the South Island, at Stewart Island and nearby Codfish Island, yellow-eyed penguin populations numbered an estimated 178 pairs in the early 2000s (Massaro and Blair 2003, p. 110). While these populations are essentially contiguous with the mainland range, this is the first population estimate for this area based on a comprehensive count and it is lower than previous estimates. It is unclear whether numbers have declined in the past 2 decades or whether previous estimates, which extrapolated from partial surveys, were overestimates (Massaro and Blair 2003, p. 110), but evidence points to the latter. For example, Darby and Seddon (1990, p. 58) provided 1988 estimates of 470 to 600 breeding pairs which were extrapolated from density estimates. In the Hoiho Recovery plan, which reported these 1998 numbers, it is noted that, ''In the case of Stewart Island, these figures should be treated with a great deal of skepticism. Only a partial survey was completed in the early 1990's'' (McKinlay 2001, p. 8). Darby (2003, p. 148), one of the authors of the earlier estimate, subsequently reviewed survey data from the decade between 1984 and 1994 and revised the estimates for this region down to 220 to 400 pairs. In conclusion, while it is reported that the numbers of birds at Stewart and Codfish Islands have declined historically (Darby and Seddon 1990, p. 57), it is unclear to what extent declines are currently underway. Houston (2008, p. 1) reported numbers are stable in all areas of Stewart and Codfish Islands, except in the northeast region of Stewart Island where disease and starvation are impacting colonies, as discussed in detail below.

In the sub-Antarctic island range of the yellow-eyed penguin, there are an estimated 404 pairs on Campbell Island (down from 490 to 600 pairs in 1997); and 570 pairs on the Auckland Islands (Houston, 2007, p. 3).

The yellow-eyed penguin is listed as 'Endangered' by IUCN (International Union for Conservation of Nature) criteria (BirdLife International 2007, p. 1). When the New Zealand Action Plan for Seabird Conservation was completed in 2000, the species' IUCN Status was 'Vulnerable,' and it was listed as Category B (second priority) on the Molloy and Davis threat categories employed by the New Zealand DOC (Taylor 2000, p. 33). On this basis, the species was placed in the second tier in New Zealand's Action Plan for Seabird Conservation. The species is listed as 'acutely threatened—nationally vulnerable' on the New Zealand Threat Classification System List (Hitchmough *et al.* 2007, p. 45; Molloy *et al.* 2002, p. 20).

Summary of Factors Affecting the Yellow-Eyed Penguin

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Yellow-Eyed Penguin's Habitat or Range

Deforestation and the presence of grazing animals and agricultural activities have destroyed or degraded yellow-eyed penguin habitat throughout the species' range on the mainland South Island of New Zealand and much of the decline in breeding numbers can be attributed to loss of habitat (Darby and Seddon 1990, p. 60; Taylor 2000, p. 94). The primary historic habitat of the reclusive yellow-eyed penguin on the southeast coast of the South Island of New Zealand was the podocarp hardwood forest. During the period of European settlement of New Zealand, almost all of this forest has been cleared for agriculture, with forest clearing activities continuing into at least the 1970s (Sutherland 1999, p. 18). This has eliminated the bulk of the historic mainland breeding vegetation type for this species (Marchant and Higgins 1990, p. 237). With dense hardwood forest unavailable, the breeding range of yellow-eyed penguins has now spread into previously unoccupied habitats of scrubland, open woodland, and pasture (Marchant and Higgins 1990, p. 237). Here the breeding birds are exposed to new threats. In agricultural areas, breeding birds are exposed to trampling of nests by domestic cattle. For example, at the mainland Otago Peninsula in 1985, 25 out of 41 nests (60 percent) were destroyed by cattle (Marchant and Higgins 1990, p. 238). In some cases, efforts to fence penguin reserves to reduce trampling by cattle have created more favorable conditions for attack by introduced predators (see Factor C) (Alterio *et al.* 1998, p. 187). Yellow-eyed penguins are also more frequently exposed to fire in these new scrubland and agricultural habitats, such as a devastating fire in 1995 at the Te Rere Yellow-eyed Penguin Reserve in the southern portion of the mainland of the South Island, which killed more than 60 adult penguins out of a population of 100 adults at the reserve as well as fledgling chicks on shore (Sutherland 1999, p. 2; Taylor 2000, p. 94). Five years after the fire, there was little evidence of recovery of bird numbers at this reserve (Sutherland 1999, p. 3), although there had been considerable efforts to restore the land habitat through plantings, creation of firebreaks, and predator control.

Habitat recovery efforts, dating as far back as the late 1970s and set out in the 1985–1997 Hoiho Species Conservation

Plan (McKinlay 2001, p. 12), have focused on protecting and improving breeding habitats. Habitat has been purchased or reserved for penguins at the mainland Otago Peninsula, North Otago and Catlins sites, with 20 mainland breeding locations (out of an estimated 32 to 42) reported to be under ''statutory'' protection against further habitat loss (Ellis 1998, p. 91) and new, currently unoccupied areas have been acquired to provide the potential to support increased populations in the future (McKinlay 2001, p. 12). Fencing and re-vegetation projects have been carried out to restore nesting habitat to exclude grazing animals from breeding habitats (McKinlay 2001, p. 12). Despite these efforts, yellow-eyed penguin numbers on the mainland have not increased and have continued to fluctuate dramatically around low levels of abundance, with no sustained increases over the last 27 years (McKinlay 2001, p. 10). Although we did not rely on future conservation efforts by New Zealand in our analysis of threats, we note that efforts in the second phase of the Hoiho Recovery Plan continue to focus on managing, protecting, and restoring the terrestrial habitat of the yellow-eyed penguin (McKinlay 2001, p. 15).

On the offshore and sub-Antarctic islands of its range, feral cattle and sheep destroyed yellow-eyed penguin nests on Enderby and Campbell Islands (Taylor 2000, p. 94). All feral animals were removed from Enderby Island in 1993, and from Campbell Island in 1984 (cattle) and 1991 (sheep) (Taylor 2000, p. 95). There has been reported to be very little change in the terrestrial habitat of the yellow-eyed penguin habitat on these islands (McKinlay 2001, p. 7).

Significant public and private efforts have been undertaken in New Zealand over past decades to protect and restore yellow-eyed penguin breeding habitat on the mainland South Island. Individual locations remain susceptible to fire or other localized events, but the threat of manmade habitat destruction has been reduced over the dispersed range of the species on the mainland South Island. Nevertheless, recovery goals for mainland populations have not been achieved. Specifically, the goal in the 1985–1997 recovery plan of maintaining two managed mainland populations, each with a minimum of 500 pairs was not achieved (McKinlay 2001, p. 13) and, 8 years into the 2000–2025 recovery plan, the long-term goal to increase yellow-eyed penguin populations remains elusive. In our analysis of other threat factors, in particular Factor C, we will further examine why these goals have not been met. The species' island breeding habitats have either not been impacted or, if historically impacted, the causes of disturbance have been removed. For this reason, we find that the present or threatened destruction, modification, or curtailment of its terrestrial habitat or range is not a threat to the species in any portion of its range.

In the marine environment, yellow-eyed penguins forage locally around colony sites during the breeding season. They feed on a variety of fish and squid species including opal fish (*Hemerocoetes monopterygius*), blue cod (*Parapercis colias*), sprat (*Sprattus antipodum*), silverside (*Argentina elongata*), red cod (*Pseudophycis bachus*), and arrow squid (*Nototodarus sloani*). Birds tracked from breeding areas on the Otago Peninsula on the mainland of the South Island foraged over the continental shelf in waters from 131 to 262 feet (ft) (40 to 80 meters (m)) deep. In foraging trips lasting on average 14 hours, they ranged a median of 8 mi (13 km) from the breeding area (Moore 1999, p. 49). Foraging ranges utilized by birds at the offshore Stewart Island were quite small (ca. 7.9 mi^2 (20.4 km^2)) compared to the areas used by birds at the adjacent Codfish Islands (ca. 208 mi^2 (540 km^2)) (Mattern *et al.* 2007, p. 115).

There is evidence that modification of the marine environment by human activities may reduce the viability of foraging areas for yellow-eyed penguins on a local scale. Mainland population declines in 1986–1987 have been attributed to ''changes in the marine environment and failure of quality food'' (McKinlay 2001 p. 9), but we have not found evidence attributing recent population changes at either mainland colonies or the more distant Campbell and Auckland Islands' colonies to changes in the marine environment.

Mattern *et al.* (2007, p. 115) concluded that degradation of benthic habitat by commercial oyster dredging is limiting viable foraging habitat and increasing competition for food for a small portion of Stewart Island penguins breeding in areas on the northeast coast of that island, resulting in chick starvation (King 2007, p. 106). Chick starvation and disease are the two most important causes of chick death at the northeast Stewart Island study colonies (King 2007, p. 106), and poor chick survival and, presumably, poor recruitment of new breeding pairs, is the main cause of a decline in the number of breeding pairs (King 2007, p. 106). At the adjacent Codfish Island, where food is more abundant and diverse (Browne *et al.* 2007, p. 81), chicks have been found to flourish even in the presence of disease. Browne *et al.* (2007, p. 81) found dietary differences between the two islands, with Stewart Island chicks receiving meals comprised of fewer species and less energetic value than those at Codfish Island. The foraging grounds of these two groups do not overlap, suggesting that local-scale influences in the marine environment (Mattern *et al.* 2007, p. 115) are impacting the Stewart Island penguins. These authors concluded that degradation of benthic habitat by commercial oyster dredging is limiting foraging habitat for yellow-eyed penguins at Stewart Island. The 178 pairs on Stewart Island and adjacent islands make up 11 percent of the total current population, and only a portion of this number are affected by the reported degradation of benthic habitat by fisheries activities. Therefore, while the present or threatened destruction, modification, or curtailment of its marine habitat or range by commercial oyster dredging is a threat to chick survival for some colonies at Stewart Island, we find that the present or threatened destruction, modification, or curtailment of its marine habitat or range is not a threat to the species in any other portion of its range.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The yellow-eyed penguin has become an important part of the ecotourism industry on the mainland South Island of New Zealand, particularly around the Otago Peninsula and the Southland areas. We are not aware of tourism activities in the island portions of the range of the yellow-eyed penguin. Yellow-eyed penguins are extremely wary of human presence and will not land on the beach if humans are in sight. They select nest-sites with dense vegetative cover and a high degree of concealment (Marchant and Higgins 1990, p. 240) and prefer to be shaded from the sun and concealed from their neighbors (Seddon and Davis 1989, p. 653). Given these secretive habits, research has focused on the potential of increasing tourism to impact yellow-eyed penguins. In one study, yellow-eyed penguins showed lower breeding success in areas of unregulated tourism than in those areas visited infrequently for monitoring purposes only (McClung *et al.* 2004, p. 279). In another study, no impacts of tourist presence were found (Ratz and Thompson 1999, p. 208). In another study disturbance was associated with increased corticosterone levels (associated with stress) in parents and lower fledgling weights of chicks

(Ellenberg *et al.* 2007a, p. 54). The key impact from human disturbance described in the Recovery Plan is that incoming yellow-eyed penguins may not come ashore or may leave the shore prematurely after landing. These and more recent studies (Ellenberg *et al.* 2007b, p. 31) have provided information that is already being used in the design of visitor management and control procedures at yellow-eyed penguin viewing areas to minimize disturbance to breeding pairs. The Hoiho Recovery Plan identifies 14 mainland areas where current practices of viewing yellow-eyed penguins already minimize tourism impacts on yellow-eyed penguins and recommends that practices in these areas remain unchanged. Eight additional areas are identified as suitable for development as tourist destinations to observe yellow-eyed penguins where minimization of tourism impacts can be achieved (McKinlay 2001, p. 21). These existing lists are being used to guide the approval of tourism concessions by the New Zealand DOC. Overall, under the plan, tourism is being directed to those sites where impacts of tourism can be minimized.

Tourism is the primary commercial, recreational, and educational use of the yellow-eyed penguin. We have found no reports of impacts on this species from scientific research or any other commercial, recreational, scientific, or educational purposes.

We find that the New Zealand DOC through its Hoiho Recovery Plan has put in place measures, in cooperation with conservation, tourism, and industry stakeholders, to understand and minimize the impacts of tourism activities on the yellow-eyed penguin. For this reason, we find that overutilization for commercial, recreational, scientific, or educational purposes is not a threat to the yellow-eyed penguin in any portion of its range.

Factor C. Disease or Predation

Disease has been identified as a factor influencing both adult and chick mortality in yellow-eyed penguins. We have identified reports of one major disease outbreak involving adult penguins and ongoing reports of disease in yellow-eyed penguin chicks.

Initial investigation of a major die-off of adult yellow-eyed penguins at Otago Peninsula in 1990 failed to identify the etiology of the deaths (Gill and Darby 1993, p. 39). This involved mortality of 150 adult birds or 31 percent of a mainland population estimated at the time to include 240 breeding pairs. Subsequent investigation of avian malaria seroprevalence among yellow-eyed penguins found that the mortality features, climatological data, and pathological and serological findings at the time conformed to those known for avian malaria outbreaks (Graczyck *et al.* 1995, p. 404), leading the authors to conclude that avian malaria was responsible for the die-off. These authors associated the outbreak with a period of warmer than usual sea and land temperatures. More recently, Sturrock and Tompkins (2007, pp. 158–160) looked for DNA from malarial parasites in yellow-eyed penguins and found that all samples were negative. This suggests that earlier serological tests were overestimating the prevalence of infection or that infection was transient or occurred in age classes not sampled in their current study. While this raises questions as to the role of avian malaria in the 1990 mortality event, the authors noted, given the spread of avian malaria throughout New Zealand and previous results indicating infection and mortality in yellow-eyed penguins, that continued monitoring of malarial parasites in this species should be considered an essential part of their management until the issue of their susceptibility is resolved. There have been no subsequent disease-related die-offs of adult yellow-eyed penguins at mainland colonies since the 1990s (Houston 2007, p. 3).

The haemoparasite *Leucocytozoon*, a blood parasite spread by blackflies, was first identified in yellow-eyed penguins at the offshore Stewart and Codfish Islands in 2004 (Hill *et al.* 2007, p. 96) and was one contributor to high chick mortality at Stewart Islands in 2006–07, which involved loss of all 32 chicks at the northeast Anglem Coast monitoring area of the Yellow-eyed Penguin Trust. This disease may have spread from Fiordland crested penguins which are known to house this disease (Taylor 2000, p. 59). Chick mortality was also reported at this area in 2007–08 (Houston, pers. comm. 2008). It is not clear if the *Leucocytozoon* predisposes animals to succumb from other factors, such as starvation or concurrent infection with other pathogens (such as diphtheritic stomatitis), or is the factor that ultimately kills them, but over 40 percent of chick mortality over three breeding seasons at Stewart Island study colonies was attributed to disease (King 2007, p. 106). The survival of infected chicks at nearby Codfish Island, where food is more abundant, indicates that nutrition can make a difference in whether mortality occurs in diseased chicks (Browne *et al.* 2007, p. 81; King 2007, p. 106). Healthy adults who are infected, but not compromised, by this endemic disease provide a reservoir for infection of new chicks through the vector of blackflies. No viable method of treatment for active infections in either chicks or adults has been identified.

At the mainland Otago Peninsula in the 2004–05 breeding season, an outbreak of *Corynebacterium* infection (diptheritic stomatitis, *Corynebacterium amycolatum*) caused high mortality in yellow-eyed penguin chicks (Houston 2005, p. 267) at many colonies in the mainland range and on Stewart Island (where it may have been a contributing factor to the mortalities discussed above from *Leucocytozoon*). Mortality was not recorded at Codfish Island or at the sub-Antarctic islands (Auckland and Campbell Islands). The disease produced lesions in the chicks' mouths and upper respiratory tract and made it difficult for the chicks to swallow. All chicks at Otago displayed the symptoms with survival being better in older, larger chicks. Treatment with broad spectrum antibiotics was reported to have achieved ''varying results,'' and it is not known how this disease is triggered (Houston 2005, p. 267).

In summary, disease has seriously impacted both mainland and Stewart Island populations of yellow-eyed penguins over the past two decades. A mainland mortality event in 1990, attributed to avian malaria, killed 31 percent of the mainland adult population of yellow-eyed penguin. While there is lack of scientific certainty over the impact of malaria on yellow-eyed penguins, the overall spread of this disease, the small population size of yellow-eyed penguins, and evidence of its presence in their populations lead us to conclude that this is an ongoing threat. Disease events contributed to or caused mortality of at least 20 percent of chicks at Stewart Island in 2006–07 and complete mortality in local colonies. The continuing contribution to yellow-eyed penguin chick mortality from *Leucocytozoon* and diptheritic stomatitus at Stewart Island and the recent high mortalities of mainland chicks from diptheritic stomatitis indicate the potential for future emergence or intensified outbreaks of these or new diseases. The emergence of disease at both mainland and Stewart Island populations in similar time periods and the likelihood that Leucocytozoon was spread to the yellow-eyed penguin from the Fiordland crested penguin point out the significant possibility of future transmission of known diseases between colonies or between species, and the possibility of emergence of new diseases at any of the four identified breeding locations of the yellow-eyed penguin. Therefore, on the basis of the best available scientific information, we conclude that disease is a threat to the yellow-eyed penguin throughout all of its range.

Predation of chicks, and sometimes adults, by introduced stoats (*Mustela erminea*), ferrets (*M. furo*), cats (*Felis catus*), and dogs (*Canis domesticus*) is the principal cause of yellow-eyed penguin chick mortality on the South Island with up to 88.5 percent of chicks in any given habitat being killed by predators (Alterio *et al.* 1998, p. 187; Clapperton 2001, p. 187, 195; Darby and Seddon 1990, p. 45; Marchant and Higgins 1990, p. 237; McKinlay *et al.* 1997, p. 31; Ratz *et al.* 1999, p. 151; Taylor 2000, pp. 93–94). In a 6-year, long-term study of breeding success of yellow-eyed penguins in mainland breeding areas, predation accounted for 20 percent of chick mortality overall, and was as high as 63 percent overall in one breeding season (Darby and Seddon 1990, p. 53). Proximity to farmland and grazed pastures was found to be a factor accounting for high predator densities and high predation with 88 percent predation at one breeding area adjacent to farmland (Darby and Seddon 1990, p. 57). In a study of cause of death of 114 yellow-eyed penguin carcasses found on the South Island mainland between 1996 and 2003, one-quarter were attributed to predation, with dogs and mustelids the most common predators (Hocken 2005, p. 4).

In light of this threat, protection of chicks from predators is a primary objective under the second Hoiho Recovery Plan (2000–2025). Approaches to predator control are being established and refined at breeding sites on the mainland (McKinlay *et al.* 1997, pp. 31–35), targeting ferrets, stoats, and cats. The New Zealand DOC has concluded that this is a threat which may be manageable with trapping or other cost-effective methods to protect chicks in nests (McKinlay 2001, p. 18). Analysis in the recovery plan indicates that a minimum protection of 43 percent of nests would be needed to ensure population growth (McKinlay 2001, p. 18). The recovery plan establishes a goal of protecting 50 percent of all South Island nests from predators between 2000 and 2025. Where intensive predator control regimes have been put in place, they are effective (McKinlay *et al.* 1997, p. 31), capturing 69 to 82 percent of predators present. In a long-term analysis of three closely monitored study colonies, which make up roughly half the nests at the Otago Peninsula and about 10 to 20 percent of the nests on the mainland, Lalas *et al.* (2007, p.237) found that the threat of predation on chicks by introduced terrestrial mammals had been mitigated by trapping and shooting, and no substantial predation events had occurred between 1984 and 2005. We do not have information on the extent to which anti-predator measures are in place for the remaining 80 to 90 percent of yellow-eyed penguin nests on the mainland of the South Island of New Zealand. Other efforts to remove or discourage predation have not been as successful. A widely applied approach of establishing ''vegetation buffers'' around yellow-eyed penguin nest sites to act as barriers between predators and their prey was found to actually increase predation rates. Predators preferred the buffer areas and utilized penguin paths within them to gain easy access to penguin nests (Alterio *et al.* 1998, p. 189). Given these conflicting reports, we can not evaluate to what extent management efforts are moving toward the goal of protection of 50 percent of all yellow-eyed penguin nests on the mainland. Therefore, we conclude that predation from introduced terrestrial mammals is a threat to the yellow-eyed penguin on the mainland South Island of New Zealand.

Offshore, at Stewart and Codfish Islands, there are a number of introduced predators, but mustelids are absent. Initial research indicated that the presence of feral cats could be depressing the population of yellow-eyed penguins at Stewart Island relative to adjacent islands without feral cats (Massaro and Blair 2003, p. 107). Subsequent research has not found direct evidence of predation by Stewart Island's large population of feral cats (King 2007, p. 106). Weka (*Gallirallus australis*) have been eradicated from Codfish Island, but may prey on eggs and small chicks in the Fouveaux Strait and some breeding islands in the Stewart Island region at the southern tip of New Zealand (Darby 2003, p. 152; Massaro and Blair 2003, p. 111).

Some islands, including the Codfish and Bravo group, have Norway rats (*Rattus norvegicus, R. exulans, R. rattus*), which are thought to prey on small chicks (Massaro and Blair 2003, p. 107). Even though there are Norway rats present at Campbell Island, evidence of egg or chick predation by terrestrial mammalian predators was not observed at during two breeding seasons (Taylor 2000, pp. 93–94).

At Auckland Island, it is reported that feral pigs (*Sus scrofa*) probably kill adults and chicks (Taylor 2000, pp. 93).

Even as objectives are set to attempt to bring terrestrial predators under more effective control, an emerging threat at Otago Peninsula is predation by the New Zealand sea lion (*Phocarctos hookeri*). Since 1985, sea lions have re-colonized the area and predation of yellow-eyed penguins has increased. Penguin remains have been more frequently found in sea lion scat samples. Two penguin breeding sites in close proximity to the founding nursery area of female sea lions have been particularly impacted. The number of nests at these two colonies has declined sharply since predation was first observed and when colonization by female sea lions first took place. As discussed above, these two sites are among those which have been intensively and successfully protected from introduced terrestrial predators between 1984 and 2005 (Lalas *et al.* 2007, p. 237) so declines can be directly attributed to sea lion predation. The predation has been attributed to one female, the daughter of the founding animal. Population modeling of the effect of continued annual kills by sea lions predicts the collapse of small populations (fewer than 100 nests) subject to targeted predation by one individual sea lion. At the current time, none of the 14 breeding sites at Otago Peninsula exceed 100 nests. No action has been taken to control this predation although removal of predatory individuals has been suggested (Lalas *et al.* 2007, pp. 235–246). Similar predation by New Zealand sea lions was observed at Campbell Island in 1988 and was considered a probable cause for local declines there (Moore and Moffat 1992, p. 68). Some authors have speculated that New Zealand sea lion may take yellow-eyed penguins at Stewart Island, but there are no documented reports (Darby 2003, p. 152).

Because of its continued role in suppressing the recovery of yellow-eyed penguin populations and because of the continued impact of introduced terrestrial and avian predators and native marine predators, we find that predation is a threat to the yellow-eyed penguin throughout all of its range.

In summary, we find that disease and predation, which have impacted both mainland and island populations, are a threat to the yellow-eyed penguin throughout all of its range now and in the foreseeable future.

Factor D. Inadequacy of Existing Regulatory Mechanisms

All but seven seabird species in New Zealand, including the yellow-eyed penguin, are protected under New Zealand's Wildlife Act of 1953, which gives absolute protection to wildlife throughout New Zealand and its surrounding marine economic zone. No one may kill or have in their possession any living or dead protected wildlife unless they have appropriate authority.

The species inhabits areas within Rakiura National Park, which encompasses Stewart and Codfish Island (Whenua Hou). Under section 4 of the National Parks Act of 1980 and Park bylaws, ''the native plants and animals of the parks shall as far as possible be preserved and the introduced plants and animals shall as far as possible be eradicated.'' In addition to national protection, all New Zealand sub-Antarctic islands, including Auckland and Campbell Islands, are inscribed on the World Heritage List (2008, p.16). We do not have information to evaluate whether and to what extent these National Park bylaws reduce threats to the yellow-eyed penguin in these areas.

The yellow-eyed penguin is considered a 'threatened' species and measures for its protection are outlined under the Action Plan for Seabird Conservation in New Zealand of the New Zealand DOC (Taylor 2000, pp. 93–94) (see discussion of Factor D for Fiordland crested penguin). Ellis *et al.* (1998, p. 91) reported that habitat has been purchased or reserved for penguins at the mainland Otago Peninsula, North Otago and Catlins sites, with 20 mainland breeding locations (out of an estimated 32 to 42 sites) reported to be under ''statutory protection'' against further habitat loss. We have not found a complete breakdown of the types of legal protection in place for these areas, of the percent of the total mainland population encompassed under such areas, or of the effectiveness, where they are in place, of such regulatory mechanisms in reducing the identified threats to the yellow-eyed penguin.

As a consequence of its threatened designation, a Hoiho Recovery Plan 2000–2025 has been developed. This plan builds on the first 1985–1997 phase of Hoiho Recovery efforts (McKinlay 2001, pp. 12–13). This plan lays out future objectives and actions to meet the long-term goal of increasing yellow-eyed penguin populations and achieving active community engagement in their conservation (McKinlay 2001, pp. 1–24). The Recovery Plan outlines proposed measures to address chronic factors historically affecting individual colonies, such as destruction or damage to colonies due to fire, livestock grazing and other manmade disturbance, predation by introduced predators, disease, and the impact of human disturbance (especially through tourism activities) (McKinlay 2001, pp. 15–22). Another objective of the plan is to providing enduring legal guarantees of protections for breeding habitat through reservation or covenant (McKinlay 2001, p. 12). Best available information does not allow us to evaluate in detail the progress in meeting the eight objectives of the 2000–2025 recovery plan; although, as discussed elsewhere, the population recovery goals of the original earlier plan continue to be hard to reach for all but the Auckland Islands, and the development of anti-predator measures is an ongoing challenge. We are aware, as discussed in analysis of other threat factors that concerted public and private efforts on these objectives continue. However, in the absence of concrete information on implementation of the plan and reports on its efficacy, we did not rely on future measures proposed in the Hoiho Recovery Plan in our threat factor analysis.

New Zealand has in place The New Zealand Marine Oil Spill Response Strategy, which provides the overall framework to mount a response to marine oil spills that occur within New Zealand's area of responsibility. The aim of the strategy is to minimize the effects of oil on the environment and people's safety and health. The National Oil Spill Contingency Plan promotes a planned and nationally coordinated response to any marine oil spill that is beyond the capability of a local regional council or outside the region of any local council (Maritime New Zealand 2007, p. 1). As discussed below under Factor E, rapid containment of spills in remote areas and effective triage response under this plan has shown these to be effective regulatory mechanisms (New Zealand Wildlife Health Center 2007, p. 2; Taylor 2000, p. 94).

Following a review of the best available information, which indicates that despite the existence of general, or in some cases specific, protective or regulatory measures to address the threats to the yellow-eyed penguin, predation pressure, fisheries bycatch, local marine habitat modification through oyster dredging, and disease continue as threats to the yellow-eyed penguin, we find that inadequacy of regulatory mechanisms is a threat to the yellow-eyed penguin throughout all of its range.

Factor E. Other Natural or Manmade Factors Affecting the Continued Existence of the Species

The Action Plan for Seabird Conservation in New Zealand (Taylor 2000, p. 94) reported that there is no evidence that commercial or recreational fishing is impacting prey availability for the yellow-eyed penguin. Under Factor A, we have concluded that habitat modification by commercial oyster dredging is a threat to local yellow-eyed penguin colonies at Stewart Island, but we have not found evidence of direct competition for prey between yellow-eyed penguins and human fisheries activities. While following penguins from mainland colonies fitted with Global Positioning System (GPS) dive loggers, Mattern *et al.* (2005, p. 270) noted that foraging tracks of adult penguins were remarkably straight. They hypothesized that individuals were following dredge marks from bottom trawls, but there is not information to indicate that fishery interaction has any impact on the penguins. Therefore, we find that competition with fisheries is not a threat to this species in any portion of its range.

New Zealand's National Plan of Action to Reduce the Incidental Catch of Seabirds in New Zealand Fisheries, prepared by the Ministry of Fisheries and New Zealand DOC (MOF and DOC 2004, p. 57), listed yellow-eyed penguins as being incidentally caught in inshore set fishing nets (set nets). A study of bycatch of yellow-eyed penguins along the southeast coast of South Island of New Zealand from 1979–1997 identified gill-net entanglement as a significant threat to the species (Darby and Dawson 2000, p. 327). Mortality was highest in areas adjacent to the Otago Peninsula breeding grounds, with about 55 of 72 gill-netted penguins found in this area (Darby and Dawson 2000, p. 329). An analysis of 185 carcasses collected between 1975 and 1997 found that 42 (23 percent) showed features consistent with mortality from gill-net entanglement. In that period, a further 30 entanglements were reported to officials (Darby and Dawson 2000, p. 327). While these numbers may appear small for the timeframe under study, the authors consider them to be underestimates of actual bycatch mortality (Darby and Dawson 2000, p. 331) and, given the small sizes of local yellow-eyed penguin concentrations, significant to the maintenance of breeding colonies and the survival of adults in the population. Most entanglements reported by Darby and Dawson (2000, p. 331) are from a small geographic area at or near the Otago Peninsula, near the small concentrations of yellow-eyed penguins (in 1996 for example, there were approximately 350 breeding pairs of yellow-eyed penguin on the Otago Peninsula). Given these small numbers, the authors report that bycatch may be severe at a local scale; one small colony inside the entrance to

Otago harbor suffered 7 bycatch mortalities and was subsequently abandoned. The death of 32 birds along the north Otago coast over the period of the study is significant in light of the reported breeding population of only 39 pairs in this region, and, at Banks Peninsula, 7 reported mortalities occurred where there were only 8–10 breeding pairs (Darby and Dawson 2000, p. 331).

In response to bycatch of various species, set net bans have been implemented in the vicinity of the Banks Peninsula, which has been designated as a marine reserve. The 4-month set net ban is primarily designed to reduce entanglements of Hector's dolphin (*Cephalorhynchus hectori*), as well as yellow-eyed penguins and white-flippered penguins (NZ DOC 2007, p. 1). Early reports were that this ban had been widely disregarded (Taylor 2000, p. 70), and based on the best available information we are unable conclude that these measures at the Banks Peninsula have been effective in reducing bycatch of yellow-eyed penguins. In fact, the Hoiho Recovery Plan states that bycatch is likely the largest source of mortality at sea and outlines the need for research and liaison with fisheries managers to inform implementation of further measures to reduce the impact of fishing operations on yellow-eyed penguins (McKinlay 2001, p. 19). We do not have information on whether these proposed measures have been implemented. Therefore, for purposes of this analysis, we did not rely on these proposed measures to evaluate incidental take from gill-net entanglement.

With respect to the potential for bycatch from long-line fisheries, which impact a number of other New Zealand seabird species, the Action Plan for Seabird Conservation indicates it is unlikely that yellow-eyed penguins will be caught in long-lines and the National Plan of Action to Reduce the Incidental Catch of Seabirds in New Zealand Fisheries does not identify this as a threat to this species (MOF and DOC 2004, p. 57).

Based on the significant gill-net bycatch mortality of yellow-eyed penguins along the southeast coast of the South Island of New Zealand, which has the potential to impact over a quarter of the population, we find that fisheries bycatch is a threat to the mainland populations of the yellow-eyed penguin, but is not a threat in any other portion of its range.

We have examined the possibility that oil and chemical spills may impact yellow-eyed penguins. Such spills, should they occur and not be effectively managed, can have direct effects on marine seabirds such as the yellow-eyed penguin. In the range of the yellow-eyed penguin, the sub-Antarctic Campbell and Auckland Islands are remote from shipping activity and the consequent risk of oil or chemical spills is low. The Stewart Islands populations at the southern end of New Zealand and the southeast mainland coast populations are in closer proximity to vessel traffic and human industrial activities which may increase the possibility of oil or chemical spill impacts. Much of the range of the yellow-eyed penguin on mainland New Zealand lies near Dunedin, a South Island port city, and a few individuals breed at Banks Peninsula just to the south of Christchurch, another major South Island port. While yellow-eyed penguins do not breed in large colonies, their locally distributed breeding groups are found in a few critical areas of the coast of the South Island and its offshore islands. A spill event near the mainland South Island city of Dunedin and the adjacent Otago Peninsula could have a major impact on the 14 breeding sites documented there. Non-breeding season distribution along the same coastlines provides the potential for significant numbers of birds to encounter spills at that time as well. Two spills have been recorded in this overall region. In March 2000, the fishing vessel *Seafresh 1* sank in Hanson Bay on the east coast of Chatham Island and released 66 T (60 t) of diesel fuel. Rapid containment of the oil at this remote location prevented any wildlife casualties (New Zealand Wildlife Health Center 2007, p. 2). The same source reported that in 1998 the fishing vessel *Don Wong 529* ran aground at Breaksea Islets off Stewart Island. Approximately 331 T (300 t) of marine diesel was spilled along with smaller amounts of lubricating and waste oils. With favorable weather conditions and establishment of triage response, no casualties of the pollution event were discovered (Taylor 2000, p. 94). There is no doubt that an oil spill near a breeding colony could have a major effect on this species (Taylor 2000, p. 94). However, based on the wide distribution of yellow-eyed penguins around the mainland South Island, offshore, and sub-Antarctic islands, the low number of previous incidents around New Zealand, and the fact that each was effectively contained under the New Zealand Marine Oil Spill Response Strategy and resulted in no mortality or evidence of impacts on the population, we find that oil and chemical spills are not a threat to the yellow-eyed penguin in any portion of its range.

In summary, we find that fisheries bycatch is a threat to mainland populations of the yellow-eyed penguin in the foreseeable future, but is not a threat in any other portion of the range of the species.

Foreseeable Future

The term ''threatened species'' means any species (or subspecies or, for vertebrates, distinct population segments) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we defined the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the species at issue.

In considering the foreseeable future as it relates to the status of the yellow-eyed penguin, we considered the threats acting on the yellow-eyed penguin, as well as population trends. We considered the historical data to identify any relevant existing trends that might allow for reliable prediction of the future (in the form of extrapolating the trends).

With respect to the yellow-eyed penguin, the available data indicate that historical declines, which were the result of habitat loss and predation, continue in the face of the current threats of predation from introduced predators, disease, and the inadequacy of regulatory mechanisms throughout the species' range. New or recurrent disease outbreaks are reasonably likely to occur in the future that may result in further declines throughout the species' range. There is no information to suggest that the current effects of predation by introduced predators will be reduced in the foreseeable future, nor that regulatory mechanisms will become sufficient to address or ameliorate the threats to the species. Furthermore, the threat of predation by endemic sea lions is impacting populations on the mainland and at the Campbell Islands, and we have no reason to believe this threat will not continue to reduce population numbers of the yellow-eyed penguin in that area. Bycatch in coastal gill-net fisheries is a threat to yellow-eyed penguins foraging from mainland breeding areas, despite efforts to regulate this activity; therefore we expect this threat to continue into the foreseeable future. Based on our analysis of the best available information, we have no reason to believe that population trends will change in the future, nor that the effects of current threats acting on the species will be ameliorated in the foreseeable future.

Yellow-Eyed Penguin Finding

Yellow-eyed penguin populations number approximately 1,602 breeding pairs. After severe declines from the 1940s, mainland yellow-eyed penguin populations have fluctuated at low numbers since the late 1980s. The total mainland population of 450 breeding pairs (Houston 2007, p. 3) is well below single-year levels recorded in 1985 and 1997 (600 to 650 pairs) and well below historical estimates of abundance (Darby and Seddon 1990, p. 59). At Stewart Island and its adjacent islands, there are an estimated 178 breeding pairs. There are an estimated 404 pairs at Campbell Island where numbers have declined since 1997, and 570 pairs at the Auckland Islands.

The primary documented factor affecting yellow-eyed penguin populations is predation by introduced and native predators within the species' breeding range. The impact of predators is inferred from the decline of this species during the period of introduced predator invasion and from documentation of continuing predator presence and predation. New Zealand laws and the bylaws of the national parks, which encompass some of the range of the yellow-eyed penguin, provide some protection for this species, as well as programs for eradication of nonnative invasive species. However, while complete eradication of predators in isolated island habitats may be possible, permanent removal of the introduced mammalian predators on the mainland has not been achieved, and the ongoing threat of predation remains. Both intensive trapping and physical protection of significant breeding groups through fencing have proven successful for yellow-eyed penguins at local scales, but existing efforts require ongoing commitment, and not all breeding areas have been protected. More recently, local-scale predation by New Zealand sea lions reestablishing a breeding presence at the mainland Otago Peninsula has become a threat to yellow-eyed penguin populations as this rare and endemic Otariid species recovers. This threat has also been documented for Campbell Island. The threat of predation by introduced species or recovering native species is a significant risk for yellow-eyed penguins.

Disease is an ongoing factor negatively influencing yellow-eyed penguin populations. Disease has seriously impacted both mainland and Stewart Island colonies of yellow-eyed penguins in the last two decades. In mainland populations, avian malaria is thought to have led to mortality of 31 percent of the adult population on the mainland of New Zealand in the early 1990s and an outbreak of *Cornybacterium* infection cause high chick mortality in 2004–2005 and contributed to disease mortality at Stewart Island. Entire cohorts of penguin chicks at one breeding location at Stewart Island have been lost to the pathogen *Leucocytozoon*, especially at times when other diseases and other stress factors, such as food shortages, were present. Given the ongoing history of disease outbreaks at both island and mainland locations, it is highly likely that new or renewed disease outbreaks will impact this species in the foreseeable future with possible large-scale mortality of adults and chicks and consequent breeding failures and population reductions. Emergence or recurrence of such outbreaks on the mainland, where there are currently 450 breeding pairs, or at island breeding areas could result in severe reductions for a species which totals only 1,602 breeding pairs range wide.

The yellow-eyed penguin is also impacted by ongoing activities in the marine environment. Oyster dredging on the sea floor has been implicated in food shortages at penguin colonies at Stewart Island, which combined with disease, has led to years of 100 percent mortality of chicks at local breeding sites there. Bycatch in coastal gill-net fisheries is a threat to yellow-eyed penguins foraging from mainland breeding areas despite efforts to regulate this activity.

We considered whether pollution from oil or chemicals is a threat to the yellow-eyed penguin. Documented oil spill events have occurred within the range of this species in the last decade, but there have been no documented direct or indirect impacts on this species. Such events are rare and New Zealand oil spill response and contingency plans have been shown to be in place, and effective, in previous events; therefore, we have not identified this as a threat to the yellow-eyed penguin.

The yellow-eyed penguin has experienced consistent widespread declines in the past, and declines and low population numbers persist. This species has a relatively high reproductive rate (compared to other penguins) and substantial longevity. Despite these life history traits, which should provide the ability to rebound, and despite public and private efforts undertaken in New Zealand to address the threats to its survival, the species has not recovered. Historical declines resulting from habitat loss and predation continue in the face of the continued impact of predators, disease, and the inadequacy of regulatory mechanisms throughout its range. The threat of predation by endemic sea lions is impacting populations on the mainland and at the Campbell Islands. New or recurrent disease outbreaks are likely to cause further declines throughout the range in the foreseeable future. Just offshore of the southern tip of the South Island, local breeding groups at Stewart Island have been impacted by disease in concert with food shortages brought on by alteration of their marine habitat. At the Auckland Islands, the population has remained stable, but exists at low numbers and, like all yellow-eyed penguin populations, is susceptible to the emergence of disease and impacts of predation. Because of the species' low population size (1,602 breeding pairs), its continued decline in 3 out of 4 areas, and the threats of predation by introduced and native species, disease, and fisheries, we find that the yellow-eyed penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Significant Portion of the Range Analysis

Having determined that the yellow-eyed penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range, we also considered whether there are any significant portions of its range where the species is currently in danger of extinction.

The Act defines an endangered species as one ''in danger of extinction throughout all or a significant portion of its range,'' and a threatened species as one ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' The term ''significant portion of its range'' is not defined by statute. For purposes of this finding, a significant portion of a species' range is an area that is important to the conservation of the species because it contributes meaningfully to the representation, resiliency, or redundancy of the species. The contribution must be at a level such that its loss would result in a decrease in the ability to conserve the species.

The first step in determining whether a species is endangered in a significant portion of its range is to identify any portions of the range of the species that warrant further consideration. The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that are not reasonably likely to be significant and where the species is not in danger of extinction. To identify those portions that warrant further consideration, we determine whether there is substantial information indicating that (i) the portions may be significant and (ii) the species may be in danger of extinction there. In practice, a key part of this analysis is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats applies only to portions of the range that are unimportant to the conservation of the species, such portions will not warrant further consideration.

If we identify any portions that warrant further consideration, we then determine whether in fact the species is threatened or endangered in any significant portion of its range. Depending on the biology of the species, its range, and the threats it faces, it may be more efficient for the Service to address the significance question first, or the status question first. Thus, if the Service determines that a portion of the range is not significant, the Service need not determine whether the species is threatened or endangered there. If the Service determines that the species is not threatened or endangered in a portion of its range, the Service need not determine if that portion is significant. If the Service determines that both a portion of the range of a species is significant and the species is threatened or endangered there, the Service will specify that portion of the range where the species is in danger of extinction pursuant to section 4(c)(1) of the Act.

The terms ''resiliency,'' ''redundancy,'' and ''representation'' are intended to be indicators of the conservation value of portions of the range. Resiliency of a species allows the species to recover from periodic disturbance. A species will likely be more resilient if large populations exist in high-quality habitat that is distributed throughout the range of the species in such a way as to capture the environmental variability found within the range of the species. In addition, the portion may contribute to resiliency for other reasons—for instance, it may contain an important concentration of certain types of habitat that are necessary for the species to carry out its life-history functions, such as breeding, feeding, migration, dispersal, or wintering. Redundancy of populations may be needed to provide a margin of safety for the species to withstand catastrophic events. This does not mean that any portion that provides redundancy is a significant portion of the range of a species. The idea is to conserve enough areas of the range such that random perturbations in the system act on only a few populations. Therefore, each area must be examined based on whether that area provides an increment of redundancy is important to the conservation of the species. Adequate representation ensures that the species' adaptive capabilities are conserved. Specifically, the portion should be evaluated to see how it contributes to the genetic diversity of the species. The loss of genetically based diversity may substantially reduce the ability of the species to respond and adapt to future environmental changes. A peripheral population may contribute meaningfully to representation if there is evidence that it provides genetic diversity due to its location on the margin of the species' habitat requirements.

To determine whether any portion of the range of the yellow-eyed penguin warrants further consideration as possibly endangered, we reviewed the entire supporting record for this proposed listing determination with respect to the geographic concentration of threats and the significance of portions of the range to the conservation of the species. As previously mentioned, we evaluated whether substantial information indicated that (i) the portions may be significant and (ii) the species in that portion may be currently in danger of extinction. We have found that the occurrence of certain threats is uneven across the range of the yellow-eyed penguin. On this basis, we determined that some portions of the yellow-eyed penguin's range might warrant further consideration as possible endangered significant portions of the range.

The yellow-eyed penguin range can be divided into four discrete areas. The first area consists of mainland colonies distributed along the southeast coast of the South Island of New Zealand. This mainland area is separated from three island based concentrations to the south. Just to the south is the Stewart Island/Codfish Island group which lies 18.75 mi (30 km) from the mainland South Island across the Fouveaux Strait. Stewart Island is a large island of 1,091 square mi (1,746 square km), and Codfish Island is a small island 8.75 square mi (14 square km) located within 6.25 mi (10 km) west of Stewart Island. The third and fourth discrete areas of yellow-eyed penguin habitat are the sub-Antarctic Auckland Islands and Campbell Island, which lie 300 mi (480 km) and 380 mi (608 km), respectively, to the south of the southern tip of the South Island. These are clearly isolated from each other and from other portions of the yellow-eyed penguin range.

To determine which areas may warrant further consideration, we evaluated these four areas of the entire range of the yellow-eyed penguin. Under the five-factor analysis, we determined that predation, disease, and inadequacy of regulatory mechanisms are threats to the yellow-eyed penguin throughout all of its range. In addition, we determined that fisheries bycatch and marine habitat modification from oyster dredging are threats to the species in only some portions of its range.

Bycatch has been identified as a threat only for mainland populations. Marine habitat modification through oyster dredging has been identified as a unique threat at Stewart Island/Codfish Island. Therefore, we have determined that there is substantial information that yellow-eyed penguins on the mainland and at the Stewart/Codfish Islands may face a greater level of threat than populations at the Auckland and Campbell Islands. In addition, the mainland populations of 450 pairs represent more than a quarter of the overall reported population of 1,602 pairs, indicating that this may be a significant portion of the range. Having met these two initial tests, a further evaluation was deemed necessary to determine if this portion of the range is both significant and endangered. The Stewart Island/Codfish Island population represents only 11 percent of the overall population of yellow-eyed penguins and is small in terms of geographical area. Given the proximity of this small population to the more numerous mainland portion of the range, with a contiguous distribution to colonies at the southern tip of the South Island, we do not find that this portion of the range is significant relative to the conservation of this species. We determined that the Auckland Islands and Campbell Islands portions of the range do not satisfy the two initial tests, because there is not substantial information to suggest that the species in those portions may currently be in danger of extinction.

Having identified one portion of the range which warrants further consideration—the mainland portion—

we then proceeded to determine whether this portion is both significant and endangered.

There have been large fluctuations in the mainland population of yellow-eyed penguins since at least 1980, with cyclical periods of population decline, followed by some recovery. As described in our threat factor analysis, these larger fluctuations have been tied to changes in the marine environment and the quality of food, as well as to periodic outbreaks of disease. The species is described as inherently robust, but recovery from these fluctuations is hampered by chronic predation threats as well as by the ongoing impact of fisheries bycatch. The combination of these cyclical and chronic factors has kept the mainland population fluctuating within the range of a few hundred to about 600 pairs over the last 3 decades. We have no evidence that the single factor of fisheries bycatch is driving the species toward extinction. Because the current population trend for the mainland populations is one of decline and fluctuation around low numbers, rather than precipitous decline, and because reproduction and recruitment are still occurring, we have determined the population is not currently in danger of extinction, but is likely to become so within the foreseeable future.

As a result, while the best scientific and commercial data available allows us to make a determination as to the rangewide status of the yellow-eyed penguin, we have determined that there are no significant portions of the range in which the species is currently in danger of extinction. Because we find that the yellow-eyed penguin is not endangered in the portions of the range that we previously determined to warrant further consideration (mainland populations), we need not address the question of significance for this portion.

Therefore, we propose to list the yellow-eyed penguin as threatened throughout all of its range under the Act.

White-Flippered Penguin (Eudyptula minor albosignata)

Background

The white-flippered penguin breeds on Motunau Island and the Banks Peninsula of the South Island of New Zealand. Birds disperse locally around the eastern South Island. Breeding adults appear to remain close to nesting colonies in the non-breeding season (Taylor 2000, p. 69; Challies and Burleigh 2004, p. 5; Brager and Stanley 1999, p. 370). White-flippered penguins feed on small shoaling fish such as pilchards (*Sardinops neopilchardus*) and anchovies (*Engraulis australis*) (Brager and Stanley 1999, p. 370).

The petitioner considers the white-flippered penguin to be a separate species (*Eudyptula albosignata*) on the basis of a 2006 paper by Baker *et al.* However, this paper (Baker *et al.* 2006, pp. 13–16) does not treat the specific question of the species or subspecies status of the group of *Eudyptula* penguins (little penguins). Among those researchers who have considered the phylogeny of the little penguin group in detail, Banks *et al.* (2002, p. 35), supported by Peucker *et al.* (2007, p. 126), make a strong case that the white-flippered penguin is part of one of two distinct lineages, or clades, of *Eudyptula* species (the Australian-Otago clade and the New Zealand clade, which includes the white-flippered penguin), each descended from one common ancestor.

Limited evidence for subspeciation within the New Zealand clade is found in some genetic differences, but the taxonomic status of these Banks Peninsula birds remains somewhat unclear (Peucker *et al.* 2007, p. 126). The New Zealand DOC considers the white-flippered penguin, with its distinct life history and morphological traits, as the southern end of a clinal variation of the little penguin (Houston 2007, p. 3). Consistent with the findings of Banks *et al.* (2002, p. 35), the New Zealand DOC recognizes the white-flippered penguin as an endemic sub-species in its Action Plan for Seabird Conservation in New Zealand (Taylor 2000, p. 69). We recognize the findings of Banks *et al.* (2002, p. 35), and the determination of the New Zealand Department of Conservation, and consider the white-flippered penguin (*Eudyptula minor albosignata*) as one of six recognized subspecies of the little penguin (*Eudyptula minor*).

The overall population of little penguins, which are found around Australia and New Zealand, numbers 350,000 to 600,000 birds. The total breeding population of the white-flippered subspecies, which is only found in New Zealand, is about 10,460 birds (Challies and Burleigh 2004, p. 1).

It is estimated that the Peninsula-wide population comprised tens of thousands of pairs at the time of European settlement. White-flippered penguins were ''very common'' on the Banks Peninsula in the late 1800s (Challies and Burleigh 2004, p. 4). Distribution of colonies was more widespread on the shores of the Banks Peninsula during the 1950s, with penguins nesting from the seaward headlands around to the inshore heads of bays.

At Motunau Island there are an estimated 1,650 breeding pairs or about 4,590 birds (Ellis *et al.* 1998, p. 87). This population is reported to have increased slightly since the 1960s (Taylor 2000, p. 69). On Banks Peninsula, exhaustive counts of all colonies in 2000–01 and 2001–02 found 68 colonies with a total of 2,112 nests or about 5,870 birds (Challies and Burleigh 2004, p. 5). This detailed survey increased the previously reported minimum estimates of 550 pairs published in 1998 (Ellis *et al.* 1998, p. 87), which were derived from partial surveys of only easily accessible colonies (Challies and Burleigh 2004, p. 1). While baseline information is lacking, Challies and Burleigh (2004, p. 5) have estimated that the present population is less than 10 percent of an estimated tens of thousands of pairs occupying the Peninsula prior to European settlement. Detailed monitoring of four individual colonies indicated that severe declines continue, with an overall loss of 83 percent of 489 nests monitored over the period from 1981–2000 (Challies and Burleigh 2004, p. 4).

The little penguin is listed as a species of 'Least Concern' in the IUCN Red List (BirdLife International 2007, p. 1), there is no separate status for the white-flippered subspecies. On New Zealand's Threat Classification system list, the white-flippered subspecies is listed as 'acutely threatened—nationally vulnerable,' indicating small to moderate population and moderate recent or predicted decline (Hitchmough *et al.* 2007, p. 45; Molloy *et al.* 2002, p. 20). This species was addressed in the Action Plan for Seabird Conservation in New Zealand, and it was ranked as Category B (second priority) on the Molloy and Davis threat categories employed by the New Zealand DOC (Taylor 2000, p. 33).

Summary of Factors Affecting the White-Flippered Penguin

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of White-flippered Penguin's Habitat or Range

The terrestrial breeding habitat of the white-flippered penguin comprises the shores of the Banks Peninsula south of Christchurch, New Zealand, and of Motunau Island about 62 mi (100 km) north. Banks Peninsula has a convoluted coastline of approximately 186 mi (300 km), made up of outer coast and deep embayments (Challies and Burleigh 2004, p. 1). Motunau is a small island of less than 0.3 mi (0.5 km) in length. While cattle or sheep sometimes trample nests at Banks Peninsula, white-flippered penguin nest sites are usually in rocky areas or among tree roots where they are inaccessible to such damage (Taylor 2000, p. 69). Fire has also been identified as a factor which could threaten white-flippered penguin habitat, but we are not aware of documented fire incidents (Taylor 2000, p. 69).

On the basis of this information, we find that the present or threatened destruction, modification, or curtailment of its habitat or range is not a threat to the white-flippered penguin in any portion of its range.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

White-flippered penguins are the object of privately managed local tourism activities at the Banks Peninsula (Taylor 2000, p. 70). Neither the New Zealand Action Plan for Seabird Conservation nor the IUCN Conservation Assessment and Management Plan provides any evidence that tourism is a factor affecting white-flippered penguin populations (Taylor 2000, p. 69; Ellis *et al.* 1998, p. 87). There is no evidence of use of the species for other commercial, recreational, scientific or educational purposes.

On the basis of this information, we find that overutilization for commercial, recreational, scientific, or educational purposes is not a threat to the white-flippered penguin in any portion of its range.

Factor C. Disease or Predation

There is no evidence of disease as a threat to the white-flippered penguin.

The most significant factor impacting white-flippered penguins is predation at Banks Peninsula by introduced mammalian predators. Ferrets, stoats, and feral cats take eggs and chicks and sometimes kill adult white-flippered penguins (Challies and Burleigh 2004, p.1). Populations are reported to have declined drastically since 1980 due to predation (Williamson and Wilson 2001, pp. 434–435). Dogs have also been cited as a potential predator (Taylor 2000, p. 69). In the past 25 years, predators have overrun colonies at the accessible heads and sides of bays at Banks Peninsula, reducing colony distribution to less accessible and more remote headlands and outer coasts (Challies and Burleigh 2004, p. 4). Thirty-four colonies (fifty percent) surveyed in 2000 to 2002, containing 1,345 nests (69 percent of the nests at Banks Peninsula), were considered to be vulnerable to predation. Seven of the 12 largest colonies (each containing more than 20 nests) contained either the remains of penguins that had been preyed on or other evidence predators had been there (Challies and Burleigh 2004, p. 4). The five large colonies not considered vulnerable to predation were either protected by bluffs or, in one case, located on an island.

The encroachment of predators destroyed the most accessible colonies first, in a progression from preferred habitat at the heads of bays towards the coast along a gradient of increasing coastal erosion. In the 1950s, penguins were still nesting around the heads of bays. These colonies disappeared soon thereafter (Challies and Burleigh 2004, p. 4). Of four colonies of greater than 50 nests on the sides of bays, one was destroyed between 1981 and 2000, and nest numbers in the other three colonies were reduced by 72 to 77 percent. In these four colonies, the total number of nests decreased 83 percent between 1981 and 2000, from 489 nests down to 85 nests. The surviving colonies are almost all inside the bays close to the headlands or on the peripheral coast (Challies and Burleigh 2004, p. 4), with white-flippered penguins breeding primarily on rocky sites backed by bluffs. Challies and Burleigh (2004, p. 4) concluded, given the species' historical habitat and the difficulties of landing at these exposed breeding sites, that predation has forced white-flippered penguins into marginal, non-preferred habitat.

At the present time, colonies are largest either on inshore predator-free islands or in places on the mainland where predators are being controlled or which are less accessible to predators. The historic decline in penguin numbers is clearly continuing based on the current evidence of predation in existing recently surveyed colonies (Challies and Burleigh 2004, p. 5). In addition to documenting direct overland access to colonies, Challies and Burleigh (2004, p. 5) documented predation at colonies thought not to be accessible over land. For example, there is evidence that stoats, which are good swimmers, are reaching colonies at otherwise inaccessible parts of the shoreline, indicating that the spread of predation continues.

The potential for dispersal and establishment of new colonies, which might allow for expansion of white-flippered penguin numbers, is also severely limited by predation. Fifty percent or more of adults attempt to nest away from their natal colony. Historically, such movements led to interchange between colonies and maintenance of colony size even as dispersal took place. With the presence of predators, this dispersal now leads breeding birds to settle in areas accessible to predators where they are eventually killed (Challies and Burleigh 2004, p. 5). One consequence of this pattern of dispersal and predation is that colonies suffer a net loss of breeding adults.

Predator trapping started in 1981 and is carried out by a network of volunteers and private landowners around the Banks Peninsula. Some small predator-proof fences were erected to protect vulnerable colonies (Taylor 2000, p. 70; Williamson and Wilson 2001, p. 435). It is not clear how widespread such efforts are over the large geographical area of the Banks Peninsula or how successful they are. Williamson and Wilson (2001, p. 435) reported on two predator trapping programs at two relic colonies at the heads of Flea and Stony Bays. Their preliminary results indicated numbers were stable at Flea Bay, but Stony Bay populations of white-flippered penguins were in decline. Even though such trapping efforts began in 1981, Challies and Burleigh (2004, p. 5) concluded on the basis of data collected in the 2000–01 and 2001–02 breeding seasons that the historic decline in white-flippered penguin numbers is continuing.

At Motunau Island, the only other breeding area for this subspecies, there are no introduced predators. Rabbits, which could have impacted breeding habitat, were eradicated in 1963 (Taylor 2000, p. 70). The Action Plan for Seabird Conservation in New Zealand lists pest quarantine measures to prevent new animal and plant pest species reaching Motunau Island as a needed future management action (Taylor 2000, p. 70), but we have no reports on whether such measures are now in place, and we cannot discount the current or future risk of predator introduction to Motunau Island.

Predators are present at the larger Banks Peninsula colony (56 percent of the nests for the species), but not currently at the smaller colony at Motunau Island (46 percent of the nests) although the risk of future predator introduction to Motunau Island exists. On the basis of information on the impact of predators, the failure of existing programs to eliminate them, and the possibility of dispersal of predators to current predator-free areas such as Motunau Island, we conclude that predation by introduced mammals is a threat to the white-flippered penguin throughout all of its range currently and in the foreseeable future.

Factor D. Inadequacy of Existing Regulatory Mechanisms

All but seven seabird species in New Zealand, including the white-flippered penguin, are protected under New Zealand's Wildlife Act of 1953, which gives absolute protection to wildlife throughout New Zealand and its surrounding marine economic zone. No one may kill or have in their possession any living or dead protected wildlife unless they have appropriate authority.

The IUCN Conservation Assessment and Management Plan (CAMP) data sheet for white-flippered penguin (Ellis *et al.* 1998, p. 87) concluded in 1998 that the deteriorating status of this subspecies was not a high priority for the New Zealand DOC due to budgetary constraints. The CAMP noted that activities to date had not been government funded, but self-funded by investigators or by grants from non-governmental organizations. Since then, the New Zealand DOC has adopted the Action Plan for Seabird Conservation, which includes recommendations on management of terrestrial threats to the white-flippered penguin as well as threats within the marine environment. We did not rely on these measures in our analysis because we do not have reports on which measures, if any, have been implemented and how they relate, in particular, to efforts to reduce the threat of predation on white-flippered penguins at Banks Peninsula.

The Banks Peninsula marine waters have special protective status as a marine sanctuary, which was established in 1988 and primarily directed at protection of the Hector's dolphin (*Cephelorhynchus hectori*) from bycatch in set nets. The 4-month set net ban, from November to the end of February, which also includes Motunau Island, is designed to reduce entanglements of these dolphins and to reduce the risk of entanglement of white-flippered penguins and yellow-eyed penguins (NZ DOC 2007, p. 1). Ten years ago, in the Action Plan for Seabird Conservation, this ban was reported to have been widely disregarded (Taylor 2000, p. 70). That Action Plan states that restriction on the use of set nets near key white-flippered penguin colonies may be necessary to protect the species and recommends an advocacy program to encourage set net users to adopt practices that will minimize seabird bycatch. We have information indicating that white-flippered penguins are frequently caught in set nets and no current information to indicate whether, or to what extent, set net restrictions have reduced take at either Banks Peninsula or Motunau Island.

New Zealand has in place The New Zealand Marine Oil Spill Response Strategy, which provides the overall framework to mount a response to marine oil spills that occur within New Zealand's area of responsibility. The aim of the strategy is to minimize the effects of oil on the environment and people's safety and health. The National Oil Spill Contingency Plan promotes a planned and nationally coordinated response to any marine oil spill that is beyond the capability of a local regional council or outside the region of any local council (Maritime New Zealand 2007, p. 1). As discussed below under Factor E, rapid containment of spills in remote areas and effective triage response under this plan have shown these to be effective regulatory mechanisms (New Zealand Wildlife Health Center 2007, p. 2; Taylor 2000, p. 94). However, given the location of the only two major concentrations of white-flippered penguins near a major South Island port, we conclude under Factor E that oil spills are a threat to this species.

On the basis of a review of available information and on the basis of the continued threats of predation, fisheries bycatch, and oil spills to this species, we find that inadequacy of existing regulatory mechanisms is a threat to the white-flippered penguin throughout all of its range now and in the foreseeable future.

Factor E. Other Natural or Manmade Factors Affecting the Continued Existence of the Species

New Zealand's Action Plan notes that white-flippered penguins are frequently caught in nearshore set nets, especially around Motunau Island (Taylor 2000, p. 69). The number of birds caught is not known but there is a history of "multiple net catches" of penguins around Motunau Island (Ellis *et al.*, 1998, p. 87). Restrictions on the use of set nets in the areas of Banks Peninsula and Motunau Island were instituted in 1988 (see discussion under Factor D above), but bans on leaving nets set inshore overnight were reported to be widely disregarded a decade ago (Ellis *et al.* 1998, p. 87). Such impacts interact with the more severe threat of predation at Banks Island, exacerbating declines there. Reports indicate bycatch impacts are most severe at Motunau Island, which is currently predator free. Based on the best available information we do not have a basis to conclude that rates of bycatch will decline in the foreseeable future, and we have found no current information to indicate that net restrictions have reduced take. Therefore, we find that bycatch of the white-flippered penguin by fishing activities is a threat to this species of penguin throughout all of its range.

We have examined the possibility that oil and chemical spills may impact white-flippered penguins. Such spills, should they occur and not be effectively managed, can have direct effects on marine seabirds, such as the white-flippered penguin. The entire subspecies nests in areas of moderate shipping volume coming to Port Lyttelton at Christchurch, New Zealand. This port lies adjacent to, and just north of, the Banks Peninsula and just south of Motunau Island.

On this basis, the Action Plan for Seabird Conservation in New Zealand specifically identifies a large oil spill as a key potential threat to this species (Taylor 2000, pp. 69–70) and recommends that penguin colonies be identified as sensitive areas in oil spill contingency plans (Taylor 2000, pp. 70–71).

Two spills have been recorded in the overall region of the South island of New Zealand and its offshore islands. These spills did not impact the white-flippered penguin. In March 2000, the fishing vessel *Seafresh 1* sank in Hanson Bay on the east coast of Chatham Island and released 66 T (60 t) of diesel fuel. Rapid containment of the oil at this remote location prevented any wildlife casualties (New Zealand Wildlife Health Center 2007, p. 2). The same source reported that in 1998 the fishing vessel *Don Wong 529* ran aground at Breaksea Islets, off Stewart Island. Approximately 331 T (300 t) of marine diesel was spilled along with smaller amounts of lubricating and waste oils. With favorable weather conditions and establishment of triage response, no casualties of the pollution event were discovered (Taylor 2000, p. 94).

While New Zealand has a good record of oil spill response, an oil spill in the vicinity of one of the two breeding colonies of the white-flippered penguin which lie closely adjacent to the industrial port of Port Lyttelton, could impact a large portion of the individuals of this subspecies if not immediately contained. Previous spills have been in more remote locations, with more leeway for longer-term response before oil impacted wildlife. Based on the occurrence of previous spills around New Zealand, the low overall numbers of white-flippered penguins, and the location of their only two breeding populations adjacent to Christchurch, a major South Island port, there is a high likelihood that oil spill events, should they occur in this area, will impact white-flippered penguins. Therefore, we find that oil spills are a threat to the white-flippered penguin in the foreseeable future.

We find that fisheries bycatch and the potential for oil spills are threats to the white-flippered penguin throughout all of its range now and in the foreseeable future.

Foreseeable Future

The term ''threatened species'' means any species (or subspecies or, for vertebrates, distinct population segments) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we define the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the species at issue.

In considering the foreseeable future as it relates to the status of the white-flippered penguin, we considered the threats acting on the subspecies, as well as population trends. We considered the historical data to identify any relevant existing trends that might allow for reliable prediction of the future (in the form of extrapolating the trends).

With respect to the white-flippered penguin, the available data indicate that the historic decline in penguin numbers is clearly continuing based on the current evidence of predation by introduced species in existing recently surveyed colonies at Banks Island. Given that existing programs have failed to eliminate introduced predators and that these predators appear to be spreading, we believe their impact on the white-flippered penguin will continue in the future. There is no information to suggest that the current effects of bycatch will be reduced in the foreseeable future, nor that regulatory mechanisms will become sufficient to address or ameliorate this threat to the subspecies. Based on the occurrence of previous oil spills around New Zealand and the location of the only two breeding populations of white-flippered penguins adjacent to Christchurch, a major South Island port, we find that oil spills will likely occur in the future. Furthermore, because of the low overall numbers of white-flippered penguins, there is a high likelihood that oil spill events, should they occur in this area, will impact white-flippered penguins. Based on our analysis of the best available information, we have no reason to believe that population trends will change in the future, nor that the effects of current threats acting on this subspecies will be ameliorated in the foreseeable future.

White-Flippered Penguin Finding

Predation by introduced mammalian predators is the most significant factor threatening white-flippered penguin within the species' breeding range. Predation by introduced species has contributed to the historical decline of this subspecies since the late 1800s and is reducing numbers at the current time. In addition to reducing numbers in existing colonies, the presence of predators has been documented as a barrier to the dispersal of breeding birds and the establishment of new colonies, perhaps indicating larger declines are to be expected. New Zealand laws require protection of this native subspecies. Anti-predator efforts have not stopped declines of white-flippered penguins at Banks Peninsula, although eradication of predators has been achieved at Motunau Island. Removal of introduced mammalian predators on the mainland Banks Peninsula is an extremely difficult, if not impossible, task. Trapping and physical protection of a few local breeding groups through fencing have proven locally successful but these efforts are not widespread. The Banks Peninsula with 186 mi (300 km) of coastline and 68 white-flippered penguin colonies, is a very large area to control and predation impacts will continue. The threat of reinvasion remains, both at Motunau Island and in areas of the Banks Peninsula where predator control has been implemented (Taylor 2000, p. 70; Challies and Burleigh 2004, p. 5). We find that predation is a threat to the white-flippered penguin throughout all of its range.

The white-flippered penguin is also impacted by threats in the marine environment. While set-net bans have been in place since the 1980s to reduce take of white-flippered penguins and other species, bycatch in coastal gill-net fisheries is known to result in mortality to white-flippered penguins foraging from breeding areas. Although we do not have quantitative data on the extent of bycatch, the best available information indicates that such impacts are an underlying threat which interacts with the more severe threat of predation at Banks Island and which especially impacts populations at Motunau Island. Based on the best available scientific and commercial information, we conclude that bycatch is a threat to the white-flippered penguin throughout all of its range.

Documented oil spills have occurred in the vicinity of the South Island of New Zealand in the last decade. While such events are rare, future events have the potential to impact white-flippered penguins. A spill event near the city of Christchurch and the adjacent Banks Peninsula, which was not immediately contained, would be very likely to impact either, or both, of the two breeding sites of the white-flippered penguin in a very short time, affecting up to 65 percent of the population at one time. While New Zealand oil spill response and contingency plans have been shown to be effective in previous events, the location of the only two breeding areas of this subspecies near industrial areas and marine transport routes increase the likelihood that spill events will impact the white-flippered penguin.

Major reductions in the numbers of nests in individual colonies and the loss of colonies indicate the population of white-flippered penguin at Banks Peninsula is declining as the threat of predation impacts this subspecies. The subspecies has a low population size (10,460 individuals) with breeding populations concentrated solely in two highly localized breeding areas. Bycatch from fisheries activities is an ongoing threat to members of this subspecies breeding at both Motunau Island and the Banks Peninsula. For both breeding areas, which are close to an industrial port and shipping lanes, oil spills are a threat to the white-flippered penguin in the foreseeable future. Based on the best available scientific and commercial information, we find that the white-flippered penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Significant Portion of the Range Analysis

Having determined that the white-flippered penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range, we also considered whether there are any significant portions of its range where the species is currently in danger of extinction. See our analysis for the yellow-eyed penguin for how we make this determination.

White-flippered penguins breed in two areas, one on the shores of the Banks Peninsula south of Christchurch New Zealand, the other at Motunau Island about 62 mi (100km) north. It appears that colonization of any possible intermediate breeding range is precluded by predation (Challies and Burleigh 2004, p. 5). The Banks Island colony is larger, with about 2,112 breeding pairs, and Motunau Island has about 1,635 breeding pairs. Threats in the marine environment, particularly fisheries bycatch have similar impact on the two areas and, given the proximity of each colony to the port of Christchurch, we conclude that oil spills are a threat in both areas. Predation by introduced predators is documented at Banks Peninsula, and introduction of predators is a potential future threat at Motunau Island, where population numbers are stable. This leads us to consider whether the Banks Peninsula portion of the range, where population declines are ongoing, may be in danger of extinction. While the threat of introduced predators is greater at the Banks Peninsula, a combination of local management protection of some colonies and the existence of inaccessible refugia from predators for some small colonies on the outer coast and offshore rocks and islands leads us to conclude that there is not substantial information to conclude the species in this portion of the range may currently be in danger of extinction. We determine that the Motunau Island and Banks Island portions of the range do not satisfy the two initial tests because there is not substantial information to conclude that the species in those portions may currently be in danger of extinction.

As a result, while the best available scientific and commercial data allows us to make a determination as to the rangewide status of the white-flippered penguin, we have determined that there are no significant portions of the range in which the species is currently in danger of extinction.

Therefore, we propose to list the white-flippered penguin as threatened throughout all of its range under the Act.

Fiordland Crested Penguin (Eudyptes pachyrhynchus)

Background

The Fiordland crested penguin, also known by its Maori name, tawaki, is endemic to the South Island of New Zealand and adjacent offshore islands southwards from Bruce Bay. The species also nests on Solander Island (0.3 square miles (mi^2) (0.7 square kilometers (km^2))), Codfish Island (5 mi^2 (14 km^2)), and islands off Stewart Island at the south end of the South Island (Taylor 2000, p. 58). Major portions of the range are in Fiordland National Park (4,825 mi^2 (12,500 km^2)) and Rakiura National Park (63 mi^2 (163 km^2)) on Stewart and adjacent islands. Historically, there are reports of breeding north to the Cook Straits and perhaps on the southernmost part of the North Island (Ellis *et al.* 1998, p. 69). The Fiordland crested penguin breeds in colonies situated in inaccessible, dense, temperate rainforest along shores and rocky coastlines, and sometimes in sandy bays. It feeds on fish, squid, octopus, and krill (BirdLife International 2007, p. 3).

Outside the breeding season, the birds have been sighted around the North and South Islands and south to the sub-Antarctic islands, and the species is a regular vagrant to southeastern Australia (Simpson 2007, p. 2; Taylor 2000, p. 58). Houston (2007a, p. 2) of the New Zealand DOC comments that the appearance of vagrants in other locations is not necessarily indicative of the normal foraging range of Fiordland crested penguins; he also states that the non-breeding range of this species is unknown.

A five-stage survey effort, conducted from 1990–1995, documented all the major nesting areas of Fiordland crested penguin throughout its known current range (McLean and Russ 1991, pp. 183–190; Russ *et al.* 1992, pp. 113–118; McLean *et al.* 1993, pp. 85–94; Studholme *et al.* 1994, pp. 133–143; McLean *et al.* 1997, pp. 37–47). In these studies researchers systematically surveyed the entire length of the range of this species, working their way along the coast on foot to identify and count individual nests, and conducting small boat surveys from a few meters offshore to identify areas to survey on foot. The coastline was also scanned from a support ship, to identify areas to survey (McLean *et al.* 1993, p. 87). A final count of nests for the species resulted in an estimate of between 2,500 and 3,000 nests annually (McLean *et al.* 1997, p. 45) and a corresponding number of 2,500 to 3,000 breeding pairs. The staging of this survey effort reflects the dispersed distribution of small colonies of this species along the convoluted and inaccessible mainland and island coastlines of the southwest portion of the South Island of New Zealand.

Long-term and current data on overall changes in abundance are lacking. The June 2007 Fiordland National Park Management Plan (New Zealand Department of Conservation (NZ DOC) 2007, p. 53) observed that Fiordland crested penguin numbers appear to be stable, and reported on the nesting success of breeding pairs at island (88 percent) versus mainland (50 percent) sites. The Management Plan raises uncertainty as to whether 50 percent nesting success will be sufficient to maintain the mainland population long term. Populations on Open Bay Island decreased by 33 percent between 1988 and 1995 (Ellis *et al.* 1998, p. 70), and a long-term decline may have occurred on Solander Island (Cooper *et al.* 1986, p. 89). Historical data report thousands of individuals in locations where numbers in current colonies are 100 or fewer (Ellis *et al.* 1998, p. 69). The species account in the New Zealand Action Plan for Seabird Conservation states that ''the population status of the species throughout its breeding range is still unknown and will require long-term monitoring to assess changes'' (Taylor 2000, p. 58).

The IUCN Red List (BirdLife International 2007, p. 1) classifies this species as 'Vulnerable' because it has a small population assumed to have been undergoing a rapid reduction of at least 30 percent over the last 29 years. This classification is based on trend data from a few sites, for example at Open Bay Island there was a 33 percent decrease for the time period from 1988–1995. The Fiordland crested penguin is listed as Category B (second priority) on the Molloy and Davis threat categories employed by the New Zealand DOC (Taylor 2000, p. 33) and placed in the second tier in New Zealand's Action Plan for Seabird Conservation. The species is listed as 'acutely threatened—nationally endangered' on the New Zealand Threat Classification System list (Hitchmough *et al.* 20077, p. 38; Molloy *et al.* 2003, pp. 13–23). Under this classification system, which is non-regulatory, species experts assess the placement of species into threat categories according to both status criteria and threat criteria. Relevant to the Fiordland crested penguin evaluation are its low population size and reported declines of greater or equal to 60 percent in the total population in the last 100 years (Molloy *et al.* 2003, p. 20).

Summary of Factors Affecting the Fiordland Crested Penguin

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of the Fiordland Crested Penguin's Habitat or Range

The Fiordland crested penguin has a patchy breeding distribution from Jackson Bay on the west coast of the South Island of New Zealand southward to the southwest tip of New Zealand and offshore islands, including Stewart Island. A major portion of this range is encompassed by the Fiordland National Park on the South Island and Rakiura National Park on Stewart and adjacent islands at the southern tip of New Zealand. The majority of the breeding range of the Fiordland crested penguin lies within national parks and is currently protected from destruction and modification. The only reported instance of terrestrial habitat modification comes from the presence of deer (no species name provided) in some colonies that may trample nests or open up habitat for predators (Taylor 2000, p. 58).

We find that the present destruction, modification, or curtailment of the terrestrial habitat or range of the Fiordland crested penguin is not a threat to the species in any portion of its range.

The marine foraging range of the Fiordland crested penguin is poorly documented. Recent observations on the foraging behavior of the species around Stewart and Codfish Islands found birds foraging very close to shore and in shallow water (Houston 2007a, p. 2), indicating the species may not be a pelagic feeder. The species is a vagrant to more northerly areas of New Zealand and to southeastern Australia, but that is not considered indicative of its normal foraging range (Houston 2007a, p. 2).

''Prey shortage due to sea temperature change'' while foraging at sea has been cited as a threat (Ellis *et al.* 2007, p. 6) and changes in prey distribution as a result of slight warming of sea temperatures have been implicated for declines of southern rockhopper penguins at Campbell Island and mentioned as a possible threat for Fiordland crested penguins (Taylor 2000, p. 59). However, the Action Plan for Seabird Conservation in New Zealand concluded that the effects of oceanic changes or marine perturbations such as El Niño events on the Fiordland crested penguin are unknown (Taylor 2000, p. 59) and identified the need for future research on distribution and movements of this species in the marine environment (Taylor 2000, p. 61).

Based on this analysis, we find that the present or future destruction, modification, or curtailment of the terrestrial and marine habitat or range is not a threat to the Fiordland crested penguin in any portion of its range.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Human disturbance of colonies is rare because the birds generally nest in inaccessible sites. However, in some accessible areas, such as in the northern portion of the range at South Westland, large concentrations of nests occur in areas accessible to people and dogs. In addition, nature tourism may disturb breeding (McLean *et al.* 1997, p. 46; Taylor 2000, p. 58). The Action Plan for Seabird Conservation in New Zealand stated that guidelines are needed to control visitor access to mainland penguin colonies and accessible sites should be protected as Wildlife Refuges (Taylor 2000, p. 60). It is not clear, based on the information available whether such measures have been implemented. Similarly, research activities may disturb breeding birds. Houston (2007a, p. 1) reported that monitoring of breeding success at Jackson's Head has been abandoned due to concerns of adverse effects of the research on breeding success and recruitment. There is no evidence of use of the species for other commercial, recreational, scientific or educational purposes.

Therefore, we find that the present overutilization for commercial, recreational, scientific, or educational purposes, particularly human disturbance, is a threat to the survival of the Fiordland crested penguin throughout all of its range now and in the foreseeable future.

Factor C. Disease or Predation

Reports from 1976 documented that Fiordland crested penguin chicks have been infected by the sandfly-borne protozoan blood parasite (*Leucocytozoon tawaki*) (Taylor 2000, p. 59) (see discussion under Factor C for the yellow-eyed penguins). Diseases such as avian cholera, which has caused the deaths of southern rockhopper penguin adults and chicks at Campbell Islands, are inferred to be a potential problem in Fiordland crested penguin colonies (Taylor 2000, p. 59). However, with no significant disease outbreaks reported, the best available information leads us to conclude that disease is not a threat to this species.

Predation from introduced mammals and birds is a threat to the Fiordland crested penguin (Taylor 2000, p. 58; Ellis *et al.* 1998, p. 70). Comments received from the New Zealand DOC link historical declines of Fiordland crested penguins to the time of arrival of mammalian predators, particularly stoats, to the area (Houston 2007a, p. 1). Only Codfish Island, where 144 nests have been observed, is fully protected from introduced mammalian and avian predators (Studholme *et al.* 1994, p. 142). This island lies closely adjacent to Stewart Island so the future possibility of predator reintroduction cannot be discounted. Mustelids, especially stoats, are reported to take eggs and chicks in mainland colonies and may occasionally attack adult penguins (Taylor 2000, p. 58). The Norway rat, ship rat (*Rattus rattus*), and Pacific rat (*Rattus exulans*) may be predators, but there is no direct evidence of it. Feral cats and pigs are also potential predators, but they are not common in nesting areas. Recent observations since the development of the Action Plan (Taylor 2000, p. 58), which originally discounted the impact of the introduced possum (*Trichosurus vulpecula*), indicate that this species has now colonized the mainland range of the Fiordland crested penguin in South Westland and Fiordland. Initially thought to be vegetarians, it is now documented that possums eat birds, eggs, and chicks and also compete for burrows with native species. It is not yet known if they compete for burrows or eat the eggs of Fiordland crested penguins, as they do other native species, but this is thought to be likely (Houston 2007b, p. 1). Domestic dogs are reported to kill adult penguins and disturb colonies near human habitation (Taylor 2000, p. 58).

Weka, which are omnivorous, flightless rails about the size of chickens and native to other regions of New Zealand, have been widely introduced onto offshore islands of New Zealand. At Open Bay Islands and Solander Islands, this alien species has been observed to take Fiordland crested penguin eggs and chicks. At Open Bay Island colonies, weka caused 38 percent of egg mortality observed and 20 percent of chick mortality (St. Clair and St. Clair 1992, p. 61). The decline in numbers of Fiordland crested penguin on the Solander Islands from ''plentiful'' to a few dozen since 1948 has also been attributed to egg predation by weka (Cooper *et al.* 1986, p. 89). Among the future management actions identified as needed in New Zealand's Action Plan for Seabird Conservation are weka eradication from Solander Island and addressing the problem of weka predation at Open Bay Islands (Taylor 2000, p. 60).

Predator control programs have been undertaken on only a few islands in a limited portion of the Fiordland crested penguin's range and are not practicable in the inaccessible mainland South Island strongholds of the species (Taylor 2000, p. 59).

Predation by introduced mammalian species is the primary threat facing the Fiordland crested penguin on the mainland South Island of New Zealand. At breeding islands free of mammalian predators, *e.g.,* Open Bay Islands and Solander Island, an introduced bird, the weka, is a predator on Fiordland penguin eggs and chicks. Only Codfish Island is fully protected from introduced mammalian and avian predators. Therefore, we find that predation by introduced species is not a threat to the Fiordland crested penguin on Codfish Island, but is a threat to this species in other portions of its range now and in the foreseeable future.

Factor D. Inadequacy of Existing Regulatory Mechanisms

All but seven seabird species in New Zealand, including the Fiordland crested penguin, are protected under New Zealand's Wildlife Act of 1953, which gives absolute protection to wildlife throughout New Zealand and its surrounding marine economic zone. No one may kill or have in their possession any living or dead wildlife unless they have appropriate authority.

The majority of the range of the Fiordland crested penguin is within the Fiordland National Park (which includes Solander Island) and adjacent parks, including Rakiura National Park. Fiordland National Park covers 15 percent of public conservation land in New Zealand. Under section 4 of the National Parks Act of 1980 and Park bylaws, ''the native plants and animals of the parks shall as far as possible be preserved and the introduced plants and animals shall as far as possible be eradicated'' (NZ DOC 2007, p. 24). The June 2007 Fiordland National Park Management Plan (NZ DOC 2007, pp. 1–4) contains, in its section on Preservation of Indigenous Species and Habitats, a variety of objectives aimed at maintaining biodiversity by preventing the further loss of indigenous species from areas where they were previously known to exist. The Fiordland crested penguin is specifically referenced in the audit of biodiversity values to be preserved in the Park (NZ DOC 2007, p. 53). In addition, the Fiordland Marine Management Act of 2005 establishes the Fiordland Marine area and 8 marine reserves within that area, which encompasses more than 2.18 million ac (882,000 ha) extending from the northern boundary of the Park to the southern boundary (excluding Solander Island) (NZ DOC 2007, p. 29). The species also inhabits Rakiura National Park, which encompasses Stewart Island and Whenua Hou (Codfish Island) and also falls under the National Parks Act of 1980 and Park bylaws.

The Fiordland National Park is encompassed in the Te Wahipounamu—South West New Zealand World Heritage Area. World Heritage areas are designated under the World Heritage Convention because of their outstanding universal value (NZ DOC 2007, p. 44). Such designation does not confer additional protection beyond that provided by national laws.

Despite these designations and the possibility of future efforts, we have no information to indicate that measures have been implemented that reduce the threats to the Fiordland crested penguin.

The Fiordland crested penguin has been placed in the group of birds ranked as second tier threat status in New Zealand's Action Plan for Seabird Conservation on the basis of its being listed as 'Vulnerable' by IUCN Red List Criteria and as Category B (second priority) on the Molloy and Davis threat categories employed by the New Zealand DOC (Taylor 2000, p. 33). The Action Plan, while not a legally binding document, outlines actions and priorities intended to define the future direction of seabird work in New Zealand. High-priority future management actions identified are eradication of weka from Big Solander Island and development of a management plan for the Open Bay Islands to address the problem of weka predation on Fiordland crested penguins and other species. We do not have information to allow us to evaluate whether any of these proposed actions and priorities have been carried out and, therefore, have not relied on this information in our threat analysis.

New Zealand has in place The New Zealand Marine Oil Spill Response Strategy, which provides the overall framework to mount a response to marine oil spills that occur within New Zealand's area of responsibility. The aim of the strategy is to minimize the effects of oil on the environment and people's safety and health. The National Oil Spill Contingency Plan promotes a planned and nationally coordinated response to any marine oil spill that is beyond the capability of a local regional council or outside the region of any local council (Maritime New Zealand 2007, p. 1). As discussed below under Factor E, rapid containment of spills in remote areas and effective triage response under this plan has shown these to be effective regulatory mechanisms (New Zealand Wildlife Health Center 2007, p. 2; Taylor 2000, p. 94).

Major portions of the coastal and marine habitat of the Fiordland crested penguin are protected under a series of laws, and the species itself is covered under the New Zealand Wildlife Act. The National Parks Act specifically calls for controlling and eradicating introduced species. While there has been limited success in controlling some predators of Fiordland crested penguins at isolated island habitats comprising small portions of the overall range, the comprehensive legal protection of this species has not surmounted the logistical and resource constraints which stand in the way of limiting or eradicating predators on larger islands and in inaccessible mainland South Island habitats. Furthermore, we are not able to evaluate whether efforts to reduce the threats of human disturbance discussed in Factor B have been implemented or achieved results.

On the basis of this information, we find that inadequacy of existing regulatory mechanisms is a threat to the Fiordland crested penguin throughout all of its range now and in the foreseeable future.

Factor E. Other Natural or Manmade Factors Affecting the Continued Existence of the Species

Commercial fishing in much of the species' range is a comparatively recent development and is considered unlikely to have played a significant role in historic declines (Houston 2007a, p. 1). New Zealand's Seabird Action Plan noted that Fiordland crested penguins could potentially be caught in set nets near breeding colonies and that trawl nets are also a potential risk. Competition with squid fisheries is also noted as a potential threat (Taylor 2000, p. 59; Ellis *et al.* 1998, p. 70; Ellis *et al.* 2007, p. 7). The 1998 CAMP recommended research on foraging ecology to identify potential competition with commercial fisheries and effects of climatic variation (Ellis *et al.* 1998, pp. 70–71), but we are not aware of the results of any such studies. The New Zealand DOC (Houston 2007a, p. 1), in its comments on this petition, noted that the ''assessment of threats overstates the threat from fisheries'' to the Fiordland crested penguin. The distribution and behavior of this species may reduce the potential impact of bycatch. The Fiordland crested penguin is distributed widely along the highly convoluted, sparsely populated, and legally protected South Island coastline for a linear distance of over 155 mi (250 km), as well as along the coasts of several offshore islands. Significant feeding concentrations of the species, which might be susceptible to bycatch, have not been described. Given the absence of documentation of actual impacts of fisheries bycatch on the Fiordland crested penguin, we conclude that this is a not threat to the species in any portion of its range.

We have examined the possibility that oil and chemical spills may impact Fiordland crested penguins. Such spills, should they occur and not be effectively managed, can have direct effects on marine seabirds such as the Fiordland crested penguin. The range of the Fiordland crested penguin, on the southwest coast of the South Island of

New Zealand is remote from shipping activity and away from any major human population centers, and the consequent risk of oil or chemical spills is low. The Stewart Islands populations at the southern end of New Zealand are in closer proximity to vessel traffic and human industrial activities which may increase the possibility of oil or chemical spill impacts. Two spills have been recorded in this overall region. In March 2000, the fishing vessel *Seafresh 1* sank in Hanson Bay on the east coast of Chatham Island and released 66 T (60 t) of diesel fuel. Rapid containment of the oil at this remote location prevented any wildlife casualties (New Zealand Wildlife Health Center 2007, p. 2). The same source reports that in 1998 the fishing vessel *Don Wong 529* ran aground at Breaksea Islets off Stewart Island. Approximately 331 T (300 t) of marine diesel was spilled along with smaller amounts of lubricating and waste oils. With favorable weather conditions and establishment of triage response, no casualties of the pollution event were discovered (Taylor 2000, p. 94). There is no doubt that an oil spill near a breeding colony could have a major effect on this species (Taylor 2000, p. 94). However, based on the remote distribution of Fiordland penguins around the mainland South Island, and offshore islands at the southern tip of the South Island, the low number of previous incidents around New Zealand, and the fact that each was effectively contained under the New Zealand Marine Oil Spill Response Strategy and resulted in no mortality or evidence of impacts on the population, we find that oil and chemical spills are not a threat to the Fiordland crested penguin in any portion of its range.

In summary, while fisheries bycatch has been suggested as a potential source of mortality to the Fiordland crested penguin, the best available information leads us to conclude that this is not a threat to this species. There is a low-level potential for oil spill events to impact this species, but the wide dispersal of this species along inaccessible and protected coastlines lead us to conclude that this is not a threat to the Fiordland crested penguin. Therefore, we find that other natural or manmade factors are not a threat to the species in any portion of its range.

Foreseeable Future

The term ''threatened species'' means any species (or subspecies or, for vertebrates, distinct population segments) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we define the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the species at issue.

In considering the foreseeable future as it relates to the status of the Fiordland crested penguin, we considered the threats acting on the species, as well as population trends. We considered the historical data to identify any relevant existing trends that might allow for reliable prediction of the future (in the form of extrapolating the trends).

With respect to the Fiordland crested penguin, the available data indicate that historical declines have been linked to the invasion by introduced predators to the South Island of New Zealand, and recently documented declines have been attributed to introduced predators. Given the remote and widely dispersed range of the Fiordland crested penguin, especially on the mainland of the South Island, significant anti-predator efforts are largely impractical for this species, and we are unaware of any time-bound plan to implement anti-predator protection for Fiordland crested penguins or of any significant efforts to stem ongoing rates of predation. Therefore, we find that predation by introduced species is reasonably likely to continue in the foreseeable future. The threat of human disturbance could increase as tourism activities become more widespread in the region, and we have no information that indicates this threat will be alleviated for the Fiordland crested penguin in the foreseeable future.

Fiordland Penguin Finding

The primary documented threat to the Fiordland crested penguin is predation by introduced mammalian and avian predators within the species' breeding range. We are only aware of one small breeding location that is known to be predator free. Even though this species is poorly known, an exhaustive multi-year survey effort documented current low population numbers. The impact of predators is evidenced by the major historical decline of the Fiordland crested penguin during the period of invasion by these predators to the South Island of New Zealand. Historical data from about 1890 cites thousands of Fiordland crested penguins in areas where current surveys find colonies of only 100 or fewer. Recent declines at Open Bay and Solander Islands have been documented as resulting from weka predation. While the Fiordland crested penguin is a remote and hard-to-study species, the impact of predators on naïve endemic penguins, which have never before experienced mammalian predation, is well documented for similar species, such as the yellow-eyed penguin (Darby and Seddon 1990, p. 45) and the white-flippered penguin (Challies and Burleigh 2004, p. 4) that are more accessible to scientific observation.

New Zealand laws and the bylaws of the national parks, which encompass the majority of the range of the Fiordland crested penguin, institute provisions to ''as far as possible'' protect this species and to seek eradication of nonnative invasive species. Unfortunately, while complete eradication of predators, such as weka in isolated island habitats (e.g., Solander Island), may be possible, removal of the introduced mammalian predators now known to be widespread in mainland Fiordland National Park is an extremely difficult, if not impossible, task. Similarly, physical protection of some breeding groups from predation, as has been done for species such as the yellow-eyed and white-flippered penguins, is impractical for the Fiordland crested penguin. For other penguin species located in more accessible and more restricted ranges, the task of predator control has been undertaken at levels of effort meaningful to protection of those species. For this remote and widely dispersed species, predator control has only been undertaken on a limited basis, and we have no reason to believe this threat to the Fiordland crested penguin will be ameliorated in the foreseeable future.

The threat of human disturbance is present in those areas of the range most accessible to human habitation, but could increase as tourism activities become more widespread in the region. While efforts to control this threat have been undertaken, we have no information which allows us to conclude this threat will be alleviated for the Fiordland crested penguin in the foreseeable future.

The overall population of the Fiordland crested penguin is small (2,500–3,000 pairs) and reported to be declining (Ellis *et al.* 2007, p. 6). The ongoing pressure of predation by introduced mammalian and avian species on this endemic species over the next few decades, with little possibility of significant anti-predator intervention, and the potential for human disturbance to impact breeding populations, leads us to find that the Fiordland crested penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Significant Portion of the Range Analysis

Having determined that the Fiordland crested penguin is likely to become in danger of extinction within the foreseeable future (threatened) throughout all of its range, we must next consider whether there are any significant portions of its range where the species is in danger of extinction. See our analysis for the yellow-eyed penguin for how we make this determination.

Fiordland crested penguins breed in widely dispersed small colonies along the convoluted and inaccessible southwest coast of the South Island of New Zealand and adjacent offshore islands. The Fiordland National Park Management Plan reported that nesting success of breeding pairs at island sites was greater than at mainland sites, 88 and 55 percent, respectively. This led us to consider whether the threats in the mainland portion of the range may be in danger of extinction. In our previous five-factor analyses, we found that threats from human disturbance and inadequacy of regulatory mechanisms have similar impacts on both island and mainland portions of the range. The primary threat to the Fiordland crested penguin is predation by introduced birds on islands and introduced mammals on the mainland. While the eradication of predators, such as weka, in isolated island habitats may be possible, removal of the widespread introduced mammalian predators on the mainland may be extremely difficult, if not impossible. While the threat of introduced predators is greater on the mainland, the overall population is buffered by the existence of some colonies on small islands just offshore of the mainland portions of the range and at Codfish Island which are free of predators. We find that the mainland portions of the range do not satisfy the two initial tests because there is not substantial information to conclude that the species in those portions may currently be in danger of extinction.

As a result, while the best scientific and commercial data available allows us to make a determination as to the rangewide status of the Fiordland crested penguin, we have determined that there are no significant portions of the range in which the species is currently in danger of extinction.

Therefore, we propose to list the Fiordland crested penguin as threatened throughout all of its range under the Act.

Humboldt Penguin (Spheniscus humboldti)

Background

The Humboldt penguin is endemic to the west coast of South America from Foca Island (5°12′0″S) in northern Peru to the Pinihuil Islands near Chiloe, Chile (42°S) (Araya *et al.* 2000, p. 1). It is a congener of the African penguin and has similar life history and ecological traits.

Humboldt penguins historically bred on guano islands off the coast of Peru and Chile (Araya *et al.* 2000, p.1). Prior to human mining of guano for fertilizer, the Humboldt penguin's primary nesting habitat was in burrows, tunneled into the deep guano substrate on offshore islands. While the guano is produced primarily by three other species (the Guanay cormorant (*Phalacrocorax bouganvillii*), the Peruvian booby (*Sula variegate*), and Peruvian pelican (*Pelecanus thagus*)), Humboldt penguins depended on these burrows for shelter from the heat and from predators. With the intensive harvest of guano over the last century and a half in both countries, Humboldt penguins are forced to nest out in the open or seek shelter in caves or under vegetation (Paredes and Zavalga 2001, pp. 199–205).

The distribution of the Humboldt penguin is very closely associated with the Humboldt (Peruvian) current. The upwelling of cold, highly productive waters off the coast of Peru provides a continuous food source to vast schools of fish and large seabird populations (Hays 1986, p. 170). In the Chilean system to the south, upwelling is lighter and occurs more seasonally compared to Peru (Simeone *et al.* 2002, p. 44). In all regions, Humboldt penguins feed primarily on schooling fish such as the anchovy (*Engraulis ringens*), Auracanian herring (*Strangomera bentincki*), silversides (*Odontesthes regia*), garfish (*Scomberesox saurus*) (Herling *et al.* 2005, p. 21), and Pacific sardine (Simeone *et al.* 2002, p. 47). Depending on the location and the year, the proportion of each of these species in the diet varies.

Periodic failure of the upwelling and its impact on schooling fish and fisheries off Peru and Ecuador were the first recorded and signature phenomena of El Niño Southern Oscillation events (ENSO). El Niño events occur irregularly every 2–7 years (National Oceanic and Atmospheric Administration (NOAA) 2007, p. 4). This periodic warming of sea surface temperatures and consequent upwelling failure affects primary productivity and the entire food web of the coastal ecosystem. Especially impacted are anchovy and sardine populations, which comprise the major diet of Humboldt penguins. During El Niño events, seabirds, fish, and marine mammals experience reduced survival and reproductive success, and population crashes (Hays 1986, p. 170).

Given the north-south distribution of the Humboldt penguin along the Peruvian and Chilean coasts, researchers have looked for variation in breeding and foraging along this climatic gradient (Simeone *et al.* 2002, pp. 43–50). In dry Peruvian breeding areas, where upwelling provides a constant food source, penguins nest throughout the year with two well-defined peaks in breeding in the autumn and spring. Adults remain near the colony all year. Further south, in northern and north-central Chile, the birds follow the same pattern, despite stronger seasonal differences in weather (Simeone *et al.* 2002, pp. 48–49). They also attempt to breed twice a year, but the autumn breeding event is regularly disrupted by the rains more typical at that latitude, and there is high reproductive failure. Adults in the southern extent of the range (south-central Chile) leave the colonies in winter, presumably after abandoning nesting efforts (Simeone *et al.* 2002, p. 47). Peruvian and northern Chilean colonies are only impacted by rains and flooding during El Niño years, and during those years, nesting attempts are reduced as food supplies shift and adults forage farther afield (Culik *et al.* 2000, p. 2317).

Similar to the African penguin, the distribution of colonies within the breeding range of the Humboldt penguin in Peru has shifted south in recent years. This shift may be in response to a number of factors: (1) El Niño events in which prey distribution has been shown to move to the south (Culik *et al.* 2000, p. 2311); (2) increasing human pressure in central coastal areas; (3) long-term changes in prey distribution (Paredes *et al.* 2003, p. 135); or (4) overall increases in sea surface temperature.

The Humboldt penguin has decreased historically from more than a million birds in the 19th century to 41,000 to 47,000 individual birds today (Ellis *et al.* 2007, p. 7). Nineteenth century reports indicate there were more than a million birds in the Humboldt Current area. By 1936, there was already evidence of major population declines and of breeding colonies made precarious by the harvest of guano from over 100 Peruvian islands (Araya *et al.* 2000, p. 1).

Estimates of the population in Peru have fluctuated in recent history, with

3,500 to 7,000 in 1981, with a subsequent reported decrease to 2,100 to 3,000 individuals after the 1982–83 El Niño event. In 1996, there were reported to be 5,500 individuals, and after the strong 1997–98 El Niño event, fewer than 5,000. Population surveys in the southern portion of the range in Peru in 2006 found 41 percent more penguins than in 2004, increasing estimates for that area from 3,101 individuals to 4,390 and supporting an overall population estimate for Peru of 5,000 individuals (Instituto Nacional de Recursos Naturales (INRENA) 2007, p. 1; IMARPE 2007, p. 1).

In 1995–96, it was estimated there were 7,500 breeding Humboldt penguins in Chile (Ellis *et al.* 1998, p. 99; Luna-Jorguera *et al.* 2000, p. 508). This estimate was significantly revised following surveys conducted in 2002 and 2003 (Mattern *et al.* 2004, p. 373) at Isla Chanaral, one of the most important breeding islands for the Humboldt penguin. Mattern *et al.* (2004, p. 373) counted 22,021 adult penguins, 3,600 chicks, and 117 juveniles at that island in 2003. While larger numbers (6,000 breeding birds) had been recorded in the 1980s, counts after 1985 had never exceeded 2,500 breeding birds (Ellis *et al.* 1998, p. 99). The authors speculated that rather than representing a sudden population increase, the discrepancy is a result of systematic underestimates in eight previous counts at Isla Chanaral, which were all conducted using a uniform methodology. Just to the south of this study area in the Coquimbo region, Luna-Jorguera *et al.* (2000, p. 506) counted a total of 10,300 penguins in on-land and at-sea counts conducted in 1999. That study also produced numbers higher than the most recent previous census, which had estimated only 1,050 individuals in the Coquimbo region (Luna-Jorguera *et al.* 2000, p. 508). Other than the overall rangewide figures for the species presented by Ellis *et al.* (2007, p. 7), there is not a comprehensive current estimate of the total number of penguins in Chile. The best available scientific information indicates that there are approximately 30,000 to 35,000 individuals in the Chilean population.

These updated Chilean counts have led to revision of overall population estimates for the species. As recently as 2007, BirdLife International (2007, p. 2) reported a total population of 3,000 to 12,000. Based on the new data, Ellis *et al.* (2007, p. 7) report a population of 41,000 to 47,000 individuals.

The 2007 IUCN Red List (BirdLife International 2007, p. 1) categorizes the Humboldt penguin as ''Vulnerable'' on the basis of 30 to 49 percent declines over the past 3 generations and predicted over 3 generations in the future.

Summary of Factors Affecting the Humboldt Penguin

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Humboldt Penguin's Habitat or Range

The habitat of the Humboldt penguin consists of terrestrial breeding and molting sites and the marine environment, which serves as a foraging range year-round.

Modification of their terrestrial breeding habitat is a continuing threat to Humboldt penguins. Humboldt penguin breeding islands were, and continue to be, a source of guano for the fertilizer industry and have been exploited since 1840 in both Peru and Chile. From 1840 to 1880, Peru exported an estimated 12.7 million T (11.5 t) of guano from its islands (Cushman 2007, p. 1). Throughout the past century, Peru has managed the industry through a variety of political and ecological conflicts, including the devastating impacts of El Niño on populations of guano-producing birds and the competition between the fishing industry and the seabird populations that are so valuable to guano production. After 1915, caretakers of the islands routinely hunted penguins for food even as their guano nesting substrate was removed; resulting in the birds being virtually eliminated from the guano islands (Cushman 2007, p. 11). Harvest of guano continues on a small scale today and is managed by Proyecto Especial de Promocion del Aprovechamiento de Abonos Provenientes de Aves (PROABONOS), a small government company producing fertilizer for organic farming (Cushman 2007, p. 24).

Reports from 1936 described completely denuded guano islands and indicated that by 1936 Humboldt penguin populations had undergone a vast decline throughout the range (Ellis *et al.* 1998, p. 97). Guano, which was initially many meters deep, was initially harvested down to the substrate level. Then, once the primary guano-producing birds had produced another ankle-deep layer, it was harvested again. The Humboldt penguins, which formerly burrowed into the abundant guano, were deprived of their primary nesting substrate and forced to nest in the open, where they are more susceptible to heat stress and their eggs and chicks are more vulnerable to predators, or they were forced to resort to more precarious nest sites (Ellis *et al.* 1998, p. 97).

Paredes and Zavalga (2001, pp. 199–205) investigated the importance of guano as a nesting substrate and found that Humboldt penguins at Punta San Juan, where guano harvest has ceased, preferred to nest in high-elevation sites where there was adequate guano available for burrow excavation. As guano depth increased in the absence of harvest, the number of penguins nesting in burrows increased. Penguins using burrows on cliff tops had higher breeding success than penguins breeding in the open, illustrating the impact of loss of guano substrate on the survival of Humboldt penguin populations.

Guano harvesting continues on Peruvian points and islands under government control. The fisheries agency, Instituto del Mar del Peru (IMARPE), is working with the parastatal guano extraction company, PROABONOS, to limit the impacts of guano extraction on penguins at certain colonies, with harvest conducted outside the breeding season and workers restricted from disturbing penguins (IMARPE 2007, p. 2). Two major colonies at Punta San Juan and Pchamacamac Island are in guano bird reserves and under the management and protection of the guano extraction agency, which has built walls to keep out people and predators (UNEP World Conservation Monitoring Center (UNEP WCMC) 2003, p. 9). However, guano extraction is still listed as a moderate threat to some island populations within the Reserva Nacional de Paracas (Lleellish *et al.* 2006, p. 4) and illegal guano extraction is listed by the Peruvian natural resource agency, Instituto Nacional de Recursos Naturales (INRENA), as one of three primary threats to the Humboldt penguin in Peru (INRENA 2007, p. 2). The penguin Conservation Assessment and Management Plan (CAMP) (Ellis *et al.* 1998, p. 101) recommended that the harvest of guano in Peru be regulated in order to preserve nesting habitat and reduce disturbance during the nesting seasons. Guano harvest is reported to have ceased in Chile (UNEP WCMC 2003, p. 6). We conclude, on the basis of the extent and severity of exploitation throughout the range of the Humboldt penguin in both countries over the past 170 years, and on the basis of limited ongoing guano extraction in Peru, that modification of the terrestrial breeding habitat is a threat to the survival of the Humboldt penguin throughout its range.

With respect to modification of the marine habitat of the Humboldt penguin, periodic El Niño events have been shown to have significant effects on the marine environment on which Humboldt penguins depend and must be considered the main marine perturbation for the Humboldt penguin (Ellis *et al.* 1998, p. 101), impacting penguin colonies in Peru (Hays 1986, p. 169–180; INRENA 2007, p. 1) and Chile (Simeone *et al.* 2002, p. 43). The strength and duration of El Niño events has increased since the 1970s, with the 1997–98 event the largest on record (Trenberth *et al.* 2007, p. 288). The Humboldt Penguin Population and Habitat Viability Assessment (Araya *et al.* 2000, pp. 7–8) concluded that, even without El Niño and other impacts, documented rates of reproductive success and survival would cause declines in the Chilean populations. In the absence of other human impacts, annual declines from El Niño events in Chile alone were projected to lead to 2.3 to 4.4 percent annual declines. Peruvian population data found an overall population decline of 65 percent during the 1982–83 El Niño event (Hays 1986, p. 169). While we have not found comparable documentation of the impact of the 1997–98 event in Peru, few birds were recorded breeding at guano bird reserves in 1998 and, at one colony, Punta San Juan, the number of breeding individuals appears to have declined by as much as 75 percent between 1996 and 1999 before subsequent rebound (Paredes *et al.* 2003, p. 135). This suggests that a similar level of impact from a single El Niño event in the future could reduce current Peruvian populations from 5,000 birds to 1,250 to 1,750 birds. Cyclical El Niño events cause high mortality among seabirds, but there is also high selection pressure on Humboldt Current seabird populations to increase rapidly in numbers after each event (Ellis *et al.* 1998, p. 101). Nonetheless, with strengthening El Niño events, reduced Humboldt penguin population numbers, and the compounding influence of other threat factors, such as ongoing competition with commercial fisheries for food sources, which are discussed below under Factor E, the resiliency of Humboldt penguins to recover from cyclical El Niño events is highly likely to be reduced from historical times (Ellis *et al.* 1998, p. 101).

On the basis of this analysis, we find that the present and threatened destruction, modification, or curtailment of both its terrestrial and marine habitats is a threat to the Humboldt penguin throughout all of its range now and in the foreseeable future.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Hunting of Humboldt penguins for food and bait and harvesting of their eggs have been long established on the coasts of Chile and Peru; it is not clear how much hunting persists today. At Pajaros Island in Chile, Humboldt penguins are sometimes hunted for human consumption or for use as bait in the crab fishery. At the Punihuil Islands farther south, they are also hunted on occasion for use as crab bait (Simeone *et al.* 2003, p. 328; Simeone and Schlatter 1998, p. 420). Paredes *et al.* (2003, p. 136) reported that as fishing occurs more frequently in the proximity of penguin rookeries this has attracted fishermen to take penguins for food in Peru. Cheney (UNEP WCMC 2003, p. 6) reported an observation of a fisherman taking 150 penguins to feed a party. In 1995, egg harvest was listed as the primary threat to Chilean populations (UNEP WCMC 2003, p. 6), but recent information does not indicate whether that practice continues today. Paredes *et al.* (2003, p. 136) also reported that guano harvesters supplement their meager incomes and diets through collecting eggs and chicks, although the fisheries agency, IMARPE, is working with PROABONOS to restrict workers from disturbing penguins (IMARPE 2007, p. 2). On the basis of this information, we conclude that localized intentional harvest may be ongoing. We have no basis to evaluate the effectiveness of reported efforts to control this harvest. Therefore, we conclude that intentional take is a threat to the Humboldt penguin throughout all of its range.

It was estimated in 1985 that 9,264 Humboldt penguins had been exported to several zoos around the world within a period of 32 years. Exportation of Humboldt penguins from Peru or Chile is now prohibited (Ellis *et al.* 1998, p. 101) and, as discussed under Factor D, the species is listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Tourism has been identified as a potential threat to the Humboldt penguin. Since the 1990 designation of the Humboldt National Reserve, which includes the islands of Damas, Choros, and Chanaral in Chile, tourism has increased rapidly but with little regulation (Ellenberg *et al.* 2006, p. 97). Ellenberg *et al.* (2006, p. 99) found that Humboldt penguin breeding success varied with levels of tourism at these three islands. Breeding success was very low at Damas Island, the most tourist accessible island that saw over 10,000 visitors. Better breeding success was observed at Choros Island, a less accessible island that saw less than 1,000 visitors. The highest breeding success was observed at the remote and largest Chanaral Island colony, where tourist access was negligible. Unlike their congeners, the Magellanic penguins (*Spheniscus magellanicus*), Humboldt penguins were found to be extremely sensitive to human presence and to display little habituation potential, suggesting a strong need for tourism guidelines for this species (Ellenberg *et al.* 2006, p. 103). Simeone and Schlatter (1998, p. 420) described nest destruction by unregulated tourists at Punihuil Island, a popular tourist destination in southern Chile. Both the attractiveness of the penguins for tourism and the potential for increased impacts from human disturbance stem from the coincidence of the prime tourist season with the Humboldt penguin's spring and summer breeding season. In Peru, the impact of tourism is listed as a minimal to mid-level threat at the Reserva Nacional de Paracas (Lleellish *et al.* 2006, p. 4).

In the areas described in the literature, tourism has increased rapidly and with little regulation in the Humboldt National Reserve, has caused nest destruction at Punihuil Island in Chile, and is reported to be a minimal to mid-level threat at Reserva Nacional de Paracas in Peru. Because Humboldt penguins are extremely sensitive to the presence of humans, the species' breeding success is impacted with the increased levels of tourism, and the prime tourist season coincides with the species' spring and summer breeding season, we conclude that tourism is a threat to the species in portions of its range where it is unregulated.

Other human activities may disturb penguins. For example, fishermen hunting European rabbits (*Oryctolagus cuniculus*) disturbed penguins at Choros Island (Simeone *et al.* 2003, p. 328), but we do not conclude that this activity has occurred at a scale that represents a threat to the Humboldt penguin.

We have identified intentional take and unregulated tourism as a threat to Humboldt penguins. Therefore, we find that overutilization for commercial, recreational, scientific, or educational purposes is a threat to the Humboldt penguin throughout all of its range now and in the foreseeable future.

Factor C. Disease or Predation

There is no information to indicate that disease is a threat to the Humboldt penguin.

Simeone *et al.* (2003, p. 331) reported that the presence of rats, rabbits, and cats has been documented on islands along the Chilean coast, but their impacts on Humboldt penguins are not known. In Peru, ''rats were observed at Pajaros Island, Chachagua, and Pajaro Nido. At Pajaros Islands, rats were present in large numbers and were observed to predate on penguin eggs and chicks'' (Simeone *et al.* 2003, p. 328). However, on the basis of the best available information, we do not conclude that predation is exerting a significant impact on Humboldt penguin populations. Therefore, on the basis of the best available information, we conclude that disease and predation are not a threat to the Humboldt penguin in any portion of its range.

Factor D. Inadequacy of Existing Regulatory Mechanisms

The Humboldt penguin is listed as 'endangered' in Peru, the highest threat category under Peruvian legislation, and take, capture, transport, trade and export are prohibited except for scientific or cultural purposes (IMARPE 2007, p. 1; UNEP WCMC 2003, p. 8). Most breeding sites are protected by designated areas. The principal breeding colonies are legally protected by PROABONOS, the institute managing guano extraction. The Reserva Nacional de Paracas protects an area of 1,293 mi^2 (3,350 km^2) of the coastal marine ecosystem. In 2006, 1,375 penguins were observed in this reserve (Lleellish *et al.* 2006, pp. 5–6). However, patrols of this area are inadequate to police illegal activities such as dynamite fishing (Lleellish *et al.* 2006, p. 4).

In Chile, there is a 30-year moratorium on hunting and capture of Humboldt penguins and at least four major colonies are protected. Most terrestrial sites where the species occurs are within the national system of protected areas (UNEP WCMC 2003, p. 8).

The species is listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and in Appendix I of the Convention on Migratory Species. Exportation of Humboldt penguins from Peru or Chile is now prohibited (Ellis *et al.* 1998, p. 101), removing this as a potential threat to the species.

While legal protections are in place for the Humboldt penguin in both Chile and Peru, in general it is reported that enforcement of such laws are limited due to limited resources and the remote location of penguin colonies (UNEP WCMC 2003, p. 8). The UNEP WCMC Report on the Status of Humboldt Penguins concluded that little has been done to establish particular fishing-free zones and there is little progress in preventing penguins from being caught in fishing nets.

Majluf *et al.* (2002, p. 1342) stated, ''There is currently no management of artesanal [sic] gill-net fisheries in Peru, except for restrictions on retaining cetaceans and penguins. Even these regulations are difficult to enforce in remote and isolated ports such as San Juan.''

Both countries have national authorities and national contingency plans for oil spill response. Chile has the capability to respond to Tier One (small spills with no outside intervention) and Tier Two (larger spills requiring additional outside resources and manpower) oil spill events (International Tankers Owners Pollution Federation Limited (ITOPF) 2003, p. 2). As of July 2003, Peru was not listed as having significant capability to respond to oil spill events (ITOPF 2000b, p. 1).

We find that inadequacy of existing regulatory mechanisms, particularly in the area of enforcement of existing prohibitions related to fishing methods and management of fisheries bycatch, is a threat to the Humboldt penguin throughout all of its range now and in the foreseeable future.

Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence

Both large-scale commercial fisheries extraction and artesanal fisheries compete for the primary food of the Humboldt penguin throughout its range (BirdLife International 2007, p. 4; Ellis *et al.* 1998, p. 100; Herling *et al.* 2005, p. 23; Hennicke and Culik 2005, p. 178). While El Niño events cause severe fluctuations in Humboldt penguin numbers, over-fishing and entanglement (discussed below) are identified as a steady contributor to underlying long-term declines (BirdLife International 2007, p. 4). The anchovy fishery in Peru collapsed in the 1970s due to high catches and overcapacity of fishing fleets, exacerbated by the effects of the 1972–73 El Niño event. Twenty years passed before it became clear that this fishery had recovered (Food and Agriculture Organization (FAO) 2007, p. 2). These recovered stocks continue to be significantly impacted by major El Niño events, but have rebounded more quickly after recent events, with Peru reporting anchovy catches of 8.64 million T (9.6 million t) in 2000 and 5.76 million T (6.4 million t) in 2001 (FAO 2007, p. 2), and Chile reporting catches of 1.25 million T (1.4 million t) in 2004 (FAO 2006, p. 4). In Chile, local-level commercial extraction of specific fish species has reduced those species in the diet of penguins, and it has been noted that fisheries extraction has the potential of harming Humboldt penguins if overfishing occurs (Herling *et al.* 2005, p. 23). Culik and Luna-Jorquera (1997, p. 555) and Hennicke and Culik (2005, p.178), tracking foraging effort of penguins in northern Chile, concluded that even small variations in food supply, related to small changes in sea-surface temperature, led to increased foraging time. They concluded that Humboldt penguins have high energetic costs to obtain food even in non-El Niño years. They recommended the establishment of no-fishing zones, for example, encompassing the foraging range around the breeding area at Pan de Azucar Island to buffer the species from possible catastrophic effects of future El Niño events. While commercial fishing in combination with El Niño events has contributed to the historic declines of Humboldt penguin, and the identified threat of El Niño will interact with fisheries extraction during future El Niño episodes, on the basis of the best available information we conclude that overfishing or competition for prey from commercial or artesanal fisheries is not a threat to the Humboldt penguin in any portion of its range.

Incidental take by fishing operations is the most significant threat to Humboldt penguins. The Government of Peru lists incidental take by fisheries in fishing nets as one of the major sources of penguin mortality (IMARPE 2007, p. 2). Reports from Chile indicated a similar level of impact on the species (Majluf *et al.* 2002, pp. 1338–1343). In Peru, the expansion of local-scale fisheries and the switching to new areas and species as local fisheries are unable to compete with larger commercial operations has brought humans and penguins into increasing contact, with increased penguin mortality due to entanglement in fishing nets (Paredes *et al.* 2003, p. 135). Paredes *et al.* (2003, p. 135) attribute the changes in distribution of penguin colonies southward in Peru to this increased human disturbance—there are now fewer penguins on the central coastal area and more to the south.

Between 1991 and 1998, Majluf *et al.* (2002, pp. 1338–1343) recorded 922 deaths in fishing nets out of a population of approximately 4,000 breeding Humboldt penguins at Punta San Juan, Peru. This level of incidental take was found to be unsustainable even without factoring in periodic El Niño impacts. Take was highly variable between years, with the greatest incidental mortality when surface set drift gill nets were being used to catch cojinovas (*Seriolella violace*), a species that declined during the course of the study. A subsequent study found that the risk of entanglement is highest when surface nets are set at night (Taylor *et al.* 2002, p. 706).

In Chile, Simeone *et al.* (1999, pp. 157–161) recorded 605 Humboldt penguins drowned in drift gill nets set for corvina (*Cilus gilberti*) in the Valparaiso region of central Chile between 1991 and 1996. Birds pursuing anchovies and sardines were apparently unable to see the transparent nets in their path and were entangled and drowned. These mortalities occurred outside of the breeding season when penguins forage in large aggregations and probably involved birds originating from beyond small local colonies. The deaths recorded represent underestimates of rangewide mortality—the authors only studied one of four major regions where corvina fishing occurred. Incidental mortality from such fishing operations is thought to affect Humboldt penguins throughout the species' range (Wallace *et al.* 1999, p. 442). Therefore we conclude that fisheries bycatch is a threat to the Humboldt penguin.

In addition, fishing with explosives, such as dynamite, is listed by INRENA as one of three major threats to Humboldt penguins in Peru (INRENA 2007, p. 2). The use of explosives is recurrent in the Reserva Nacional de Paracas, the primary center of population for penguins in Peru. Explosives use is especially prevalent in the southern zone, an area that contains more than 73 percent of the population, but does not receive as thorough patrolling as the north (Lleellish *et al.* 2006, p. 4).

Oil and chemical spills can have direct effects on the Humboldt penguin. The range of the species encompasses major industrial ports along the coast of both Chile and Peru. Approximately 100,000 barrels per day of crude oil transit the coastal waters from the tip of South America to Panama (ITOPF 2003, p. 1) with over 1,000 tankers calling annually at ports in that entire region. Major spill events in Chile have been limited to the Straits of Magellan to the south of the range of the Humboldt penguin, and no major events have been recorded for Peru (ITOPF 2000a, p. 2; ITOPF 2000b, p. 2). However, lesser spills have occurred. On May 25, 2007, about 92,400 gallons (350,000 liters) of crude oil leaked into San Vicente Bay in Talcuhuano, near Concepcion, Chile, during offloading of fuel by the vessel *New Constellation,* with impacts on sea lions and seabirds, including Humboldt penguins (Equipo Ciudano 2007, p. 1). A similar spill of 2,206 T (2,000 t) of crude oil occurred at an oil terminal off Lima in 1984, severely polluting beaches there (ITOPF 2000b, p. 3). As noted in Factor D, Chile and Peru have limited ability to handle spill cleanup.

However, while there is a possibility of oil spill impacts as a result of incidents along the Peruvian or Chilean coast, we find that a number of elements mitigate against our finding this a threat to the species. There is little history of spill events in the region and the breeding colonies of Humboldt penguin are widely dispersed along a very long coastline. In addition, the Humboldt penguin distribution does not encompass the southern tip of South America where the risk of oil spill is greatest. On this basis, we conclude that oil spill impacts are not a threat to the survival of the Humboldt penguin in any portion of its range.

In summary, we find that fisheries bycatch is a threat to the survival of the Humboldt penguin throughout all of its range now and in the foreseeable future.

Foreseeable Future

The term ''threatened species'' means any species (or subspecies or, for vertebrates, distinct population segments) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we define the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the species at issue.

In considering the foreseeable future as it relates to the status of the Humboldt penguin, we considered the threats acting on the species, as well as population trends. We considered the historical data to identify any relevant existing trends that might allow for reliable prediction of the future (in the form of extrapolating the trends).

With respect to the Humboldt penguin, the available data indicate that historical declines have resulted from the destruction of Humboldt penguin nesting substrate by guano collection, and this loss of nesting habitat continues to impact the breeding success of the species. We have no reason to believe this will change in the future. El Niño events have caused periodic crashes of the food supply of Humboldt penguins in Peru and Chile in the historic and recent past. Such events, which occur irregularly every 2–7 years, have increased in frequency and intensity in recent years and are likely to impact Humboldt penguins more frequently and more severely in the foreseeable future. The harvest of Humboldt penguins for food, eggs, and bait is a threat to the survival of the Humboldt penguin, and we have no reason to believe this threat will be ameliorated in the future. Incidental take by fisheries operations has emerged as the most significant human-induced threat to Humboldt penguins in both Chile and Peru, causing significant mortality of Humboldt penguins in both countries in the 1990s. There currently appears to be a lack of enforcement and a lack of significant measures to reduce the impacts. Based on our analysis of the best available information, we have no reason to believe that population trends will change in the future, nor that the effects of current threats acting on the species will be ameliorated in the foreseeable future.

Humboldt Penguin Finding

The Humboldt penguin has decreased historically from more than a million birds in the 19th century to 41,000 to 47,000 individual birds today. Since 1981, the Peruvian population has fluctuated between 3,500 and 7,000 individuals, with the most recent estimate at 5,000 individuals. Estimates of the population in Chile (30,000 to 35,000 individuals) have been recently updated with improved documentation of a colony at Isla Chanaral. The increase in the population estimate is a correction of systematic undercounting for 20 years, and cannot be concluded to signify recent population increases in Chile.

Historical threats to terrestrial habitat, in particular the destruction of Humboldt penguin nesting substrate by guano collection, have been responsible for the massive historical decline of the species, and this loss of nesting habitat continues to impact the breeding success of the species. Effects of guano extraction on the current populations appear to have been reduced by designation of protected areas and management of the limited guano harvesting that still occurs. However, at guano islands the availability and quality of nesting habitat is still impacted by both historical and ongoing harvest.

The impact of El Niño events, which have caused periodic crashes of the food sources of Humboldt penguins in Peru and Chile in the historic and recent past, is a threat factor leading to declines of this species. Such events, which occur irregularly every 2–7 years, have increased in frequency and intensity in recent years and are likely to impact Humboldt penguins more and more severely in the foreseeable future. Given reduced population sizes and the existence of other significant threats, the resiliency of the Humboldt penguin to respond to these cyclical El Niño events is greatly reduced.

We find that harvest of Humboldt penguins for food, eggs and bait is a threat to the survival of the Humboldt penguin throughout all of its range. Tourism, if not properly managed, has the potential to impact individual colonies; however, we do not conclude this is a threat to the species.

Unlike the African penguin which breeds directly on a major shipping route for petroleum and at major ports of call for tanker traffic, the range of the Humboldt penguin along the coast of Chile and Peru does not have the same history of major spills or the same level of shipping traffic. Therefore we conclude that oil spill impacts are not a threat to the survival of the Humboldt penguin in any portion of its range.

Industrial fisheries extraction, which in conjunction with El Niño caused collapse of anchovy stocks in the 1970s, has had a historical influence on the species and contributed to its long-term decline. The recovery of fish stocks since the 1970s, however, has improved the food base of this species. Although large-scale commercial fisheries and local-scale fisheries extraction is targeting the same prey as the Humboldt penguin, we do not identify this as a current threat to the species. More importantly, incidental take by fisheries operations has emerged as the most significant human-induced threat to Humboldt penguins in both Chile and Peru. Entanglement in gill nets caused significant documented mortality of Humboldt penguins in both countries in the 1990s. There is evidence of lack of enforcement and lack of significant measures to reduce the impacts of bycatch. Therefore, we find that fisheries bycatch is a threat to the Humboldt penguin throughout all of its range.

On the basis of: (1) Destruction of its habitat by guano extraction; (2) high likelihood of El Niño events catastrophically impacting the prey of Humboldt penguins in cyclical 2-to 7-year timeframes; (3) intentional harvest of this species for meat, eggs, and bait; (4) inadequacy of regulatory mechanisms, especially with respect to controlling fisheries bycatch; and (5) ongoing threat of incidental take from fisheries bycatch, we find that the Humboldt penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Distinct Population Segment (DPS)

Section 3(16) of the Act defines ‘‘species’’ to include ‘‘any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.’’ To interpret and implement the DPS provisions of the Act and Congressional guidance, the Service and National Marine Fisheries Service published a Policy regarding the recognition of Distinct Vertebrate Population Segments in the **Federal Register** (DPS Policy) on February 7, 1996 (61 FR 4722). Under the DPS policy, three factors are considered in a decision concerning the establishment and classification of a possible DPS. These are applied similarly to the list of endangered and threatened species. The first two factors—discreteness of the population segment in relation to the remainder of the taxon and the significance of the population segment to the taxon to which it belongs—bear on whether the population segment is a valid DPS. If a population meets both tests, it is a DPS and then the third factor is applied—the population segment's conservation status in relation to the standards for listing, delisting, or reclassification under the Act.

Discreteness Analysis

Under the DPS policy, a population segment of a vertebrate taxon may be considered discrete if it satisfies either of the following conditions: (1) It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors, or (2) it is delimited by international boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Humboldt penguins have a continuous range from northern Peru to mid-southern Chile. With respect to discreteness criterion 1, we have not identified any marked biological boundaries between populations within that range or of differences in physical, physiological, ecological, or behavioral factors among any groups within that range. We have found no reports of genetic or morphological discontinuity between any discrete elements of the population. The range of the Humboldt penguin crosses the international boundary between Peru and Chile, which leads to evaluation of the second discreteness factor. However, in our analysis of differences between Peru and Chile in conservation status, habitat management, and regulatory mechanisms, we have found no significant differences between the two countries. In both countries, take of penguins is prohibited, but some illegal take occurs, and measures to address fisheries bycatch are similar, but fisheries bycatch remains widespread. Both countries provide protection to major breeding colonies of the species. The Chilean population is more numerous, but the extent of their range is greater. Given the fact that problems in census data have only recently been corrected, we cannot conclude that Chilean Humboldt penguin population trends are different from the Peruvian or that conservation concerns are different. In fact, the impacts of habitat loss, the effects of El Niño, intentional take, inadequacy of regulatory mechanisms, and fisheries bycatch are concerns throughout the range.

Based on our analysis, we do not find that differences in conservation status or management for Humboldt penguins across the range countries are sufficient to justify the use of international boundaries to satisfy the discreteness criterion of the DPS Policy. Therefore, we have concluded that there are no population segments that satisfy the discreteness criterion of the DPS Policy. As a consequence, we could not identify any geographic areas or populations that would qualify as a DPS under our 1996 DPS Policy (61 FR 4722).

Significant Portion of the Range Analysis

Having determined that the Humboldt penguin is likely to become in danger of extinction within the foreseeable future throughout all of its range, we also considered whether there are any significant portions of its range where the species is currently in danger of extinction. See our analysis for the yellow-eyed penguin for how we make this determination.

Given the continuous linear range of the Humboldt penguin which breeds from northern Peru to south-central Chile and the distribution of colonies along that coast, no specific geographic portions of concern were immediately apparent. Therefore, we considered the occurrence of threat factors and to what extent their occurrence was uneven throughout the range or concentrated in any particular portion of the range, or whether there were any portions of the range where the threats were different.

Overall, for each factor identified as a threat, we found that these were threats throughout the range. Terrestrial and marine habitat loss, which included the impacts of guano extraction, the effects of El Niño, intentional harvest, the inadequacy of regulatory mechanisms, and fisheries bycatch were determined to be threats throughout Humboldt penguin's range.

In reviewing our findings, one difference within threat Factor A relates to the ongoing limited harvest of guano in Peru, while such harvest has stopped in Chile. In our finding, we indicated that both the historic and present impacts of guano extraction were a threat to the Humboldt penguin. On the basis of this difference, we considered whether the Peruvian population of Humboldt penguin may be in danger of extinction in a significant portion of its range. The information available on local harvest patterns or population trends in specific areas where guano harvest is documented do not allow us to divide the range further. The most recent 2006 estimate of the Peruvian population of the Humboldt penguin is approximately 5,000 individuals. This count includes an increase of 41 percent since 2004 in the southern portion of the range where 80 percent of the birds are found. The overall population has fluctuated between 2,100 and 7,000 individuals since 1981with fluctuations attributed to response to El Niño events. While the population of Humboldt penguins in Peru has fluctuated at low numbers for many years, current evidence of increases over the last few years reflects continued reproduction and resiliency of this population. Therefore, we find that the Humboldt penguin is not currently in danger of extinction in the Peruvian portion of the range.

As a result, while the best available scientific and commercial data allows us to make a determination as to the rangewide status of the Humboldt penguin, we have determined that there are no significant portions of the range in which the species is currently in immediate danger of extinction.

Therefore, we propose to list the Humboldt penguin as a threatened species throughout its range under the Act.

Erect-Crested Penguin (Eudyptes sclateri)

Background

The erect-crested penguin, a New Zealand endemic, breeds primarily on the Bounty Islands and Antipodes Islands, located respectively, approximately 437 mi (700 km) and 543 mi (870 km) southeast of the South Island of New Zealand (NZ DODC 2006, pp. 27, 30). The Bounty Islands consist of eight islands with a total area of 0.5 mi^2 (1.3 km^2). The Antipodes Islands have two main islands and some minor islands. The largest is Antipodes Island, consisting of 23 mi^2 (60 km^2), and the second island, Bollons, consists of 0.77 mi^2 (2 km^2). Erect-crested penguins nest in large, dense, conspicuous colonies, numbering thousands of pairs, on rocky terrain (BirdLife International 2007, p. 3). Winter distribution at sea is largely unknown.

The Action Plan for Seabird Conservation of New Zealand lists the total world breeding population of erect-crested penguin at 81,000 pairs $+/-4,000$ pairs (Taylor 2000, p. 65).

Counts of erect-crested penguins at Bounty Islands in 1978 estimated 115,000 breeding pairs (Robertson and van Tets 1982, p. 315) although these counts are considered overestimations (Houston 2007, p. 3). While the data were not directly comparable, 1997 counts found 27,956 pairs (Taylor 2000, p. 65), suggesting that a large decline in numbers may have occurred at the Bounty Islands (BirdLife International 2007, p. 2). There have been no further surveys since 1997–98.

In 1978, the population on the Antipodes was thought to be similar in size to Bounty Islands (about 115,000 breeding pairs). More recent surveys in 1995 indicate a population of 49,000 to 57,000 pairs in the Antipodes. Comparisons of photographs of nesting areas from the Antipodes show a constriction of colonies at some sites from 1978–1995. There have been no subsequent formal counts of erect-crested penguins at either the Bounty Islands or the Antipodes, and visits to the islands are rare. Both observations and photographs taken by researchers visiting these islands for other purposes have provided anecdotal information that erect-crested penguin colony sizes continue to decrease (Davis, 2001, p. 8; D. Houston 2008, pers. comm.).

A few hundred birds formerly bred at Campbell Island farther to the southwest in the 1940s; in 1986–87, a small number of birds (20 to 30 pairs) were observed there, but no breeding was seen (Taylor 2000, p. 65). Breeding on the Auckland islands, also to the southwest, was considered a possibility, with one pair found breeding there in 1976 (Taylor 2000, p. 65). The most recent penguin conservation assessment (Ellis *et al.* 2007, p. 6) reported erect-crested penguins are no longer present at Campbell or Auckland Islands. There is one record of breeding on the mainland of the South Island of New Zealand at Otago Peninsula, but it is unlikely there was ever widespread breeding there (Houston 2007, p. 3). Based on this information, we do not consider these areas as being part of the erect-crested penguin's current range, and have not included them in our analysis of the status of this species.

On the basis of declines of at least 50 percent in the past 45 years and a breeding range constricted to two locations, the IUCN has listed the species as 'Endangered' on the IUCN Red List (BirdLife International 2007, p. 1). It is ranked as Category B (second priority) on the Molloy and Davis threat categories used by the New Zealand DOC (Taylor 2000, p. 33) and, on that basis, placed in the second category of highest priority in the New Zealand Action Plan for Seabird Conservation (Taylor 2000, p. 33). The species is listed as 'acutely threatened—nationally endangered' on the New Zealand Threat Classification System list (Hitchmough *et al.* 2007, p. 38; Molloy *et al.* 2002, pp. 13–23). Under this classification system, which is non-regulatory, species experts assess the placement of species into threat categories according to both status criteria and threat criteria.

Summary of Factors Affecting the Erect-Crested Penguin

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Erect-Crested Penguin Habitat or Range

There is little evidence of destruction, modification, or curtailment of erect-crested penguin breeding habitat on land at the Bounty and Antipodes Islands. Feral animals, such as sheep and cattle, which could trample nesting habitat, are absent. Competition for breeding habitat with fur seals is reported to be minimal (Houston 2007, p. 1).

The New Zealand sub-Antarctic islands have been inscribed on the World Heritage List (World Heritage List 2008, p. 16). All islands are protected as National Nature Reserves and are State-owned (World Heritage Committee Report 1998, p. 21). We find that the present or threatened destruction, modification, or curtailment of the terrestrial habitat or range of the erect-crested penguin is not a threat of the species in any portion of its range.

Given the lack of terrestrial predators at the majority of erect-crested penguin colony sites, the absence of direct competition with other species, and the lack of physical habitat destruction at these sites, recent declines in erect-crested populations have been attributed to changes in the marine habitat. Penguins are susceptible to local ecosystem perturbations because they are constrained by how far they can swim from the colony in search of food (Davis 2001, p. 9). It has been hypothesized that slight warming of sea temperatures and change in distribution of prey species may be having an impact on erect-crested penguin colonies (Taylor 2000, p. 66; Ellis *et al.* 2007, p. 6). The primary basis for this inference comes from studies of a closely-related species, the southern rockhopper penguin at Campbell Island (Cunningham and Moors 1994, p. 27), where the population declined by 94 percent between the early 1940s and 1985 from an estimated 800,000 breeding pairs to 51,500 (Cunningham and Moors 1994, p. 34). The majority of this decline appears to have coincided with a period of warmed sea surface temperatures between 1946 and 1956. It is widely inferred that warmer waters most likely affected southern rockhopper penguins through changes in the abundance, availability, and distribution of their food supply (Cunningham and Moors 1994, p. 34); recent research suggested they may have had to work harder to find the same food (Thompson and Sagar 2002, p. 11).

The suggestion that erect-crested penguins may have been similarly impacted by changes in the marine habitat during this time period is strengthened by the fact that erect-crested penguin breeding colonies are now absent from Campbell Island (Ellis *et al.* 2007, p. 6); they disappeared from the island during the same time period (1940s to 1987) as the southern rockhopper decline. In the 1940s, a few hundred erect-crested penguins bred on the island (Taylor 2000, p. 65). The latest IUCN assessment of the erect-crested penguin found that oceanic warming is a continuing threat that is resulting in a ''very rapid decline'' in greater than 90 percent of the population, and is therefore a threat of high impact to the erect-crested penguin (BirdLife International 2007, p. 2 of 'additional data'). Therefore, based on the best available information, we find that the present or threatened destruction, modification, or curtailment of the erect-crested penguin's marine habitat is a threat to the species throughout all its range now and in the foreseeable future.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Aside from periodic surveys and the possibility of a future research program focused on the diet and foraging of the species, we are unaware of any purpose for which the erect-crested penguin is currently being utilized. Therefore, we conclude that overutilization for commercial, recreational, scientific, or educational purposes is not a threat to this species in any portion of its range.

Factor C. Disease or Predation

Avian disease has not been recorded in erect-crested penguins, although disease vectors of ticks and bird fleas are found in colonies (Taylor 2000, p. 66).

The only known mammalian predators within the current range of the erect-crested penguin are mice, which are present only on the main Antipodes Island. Although their eradication from this island is recommended as a future management action in the Action Plan for Seabird Conservation in New Zealand, we have found no reference to these mice being a threat to the erect-crested penguins on this one island in their range (Taylor 2000, p. 67). At the other islands in the Antipodes group (Bollons, Archway, and Disappointment) and at the Bounty Islands, mammalian predators are not present. Feral cats, sheep, and cattle are also no longer present (Taylor 2000, p. 66). The threat of future introduction of invasive species is being managed by the New Zealand DOC, which has measures in place for quarantine of researchers working on sub-Antarctic islands (West 2005, p. 36). These quarantine measures are an important step toward controlling the introduction of invasive species. At this time, however, we have no means to measure their effectiveness.

On the basis of this information, we find that neither disease nor predation is a threat to the erect-crested penguin in any portion of its range.

Factor D. Inadequacy of Existing Regulatory Mechanisms

All breeding islands of the erect-crested penguin are protected by New Zealand as National Nature Reserves. The marine areas are managed under fisheries legislation (World Heritage Committee Report 1998, p. 21).

The Action Plan for Seabird Conservation in New Zealand is in place and outlines previous conservation actions, future management actions needed, future survey and monitoring needs, and research priorities. Among the most relevant recommendations are pest quarantine measures to keep new animal and plant pest species from reaching offshore islands and eradication of mice from the main Antipodes Island (Taylor 2000, p. 67). At least one of these recommendations has been put into place; as mentioned under Factor C, strict required quarantine measures are now in place for researchers and expeditions to all New Zealand sub-Antarctic islands to prevent the introduction or re-introduction of animal and plant pest species (West 2005, p. 36). At this time, we have no means to measure the effectiveness of these quarantine measures.

In addition to national protection, all of New Zealand sub-Antarctic islands are inscribed on the World Heritage List (World Heritage List 2008, p. 16). World Heritage designation places an obligation on New Zealand to ''take appropriate legal, scientific, technical, administrative and financial measures, necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage'' (World Heritage Convention 1972, p. 3). At the time of inscription of this site onto the World Heritage List in 1998, human impacts were described as ''limited to the effects of introduced species at Auckland and Campbell Islands'' (World Heritage Convention Nomination Documentation 1998, p. 1).

New Zealand has in place The New Zealand Marine Oil Spill Response Strategy, which provides the overall framework to mount a response to marine oil spills that occur within New Zealand's area of responsibility. The aim of the strategy is to minimize the effects of oil on the environment and people's safety and health. The National Oil Spill Contingency Plan promotes a planned and nationally coordinated response to any marine oil spill that is beyond the capability of a local regional council or outside the region of any local council (Maritime New Zealand 2007, p. 1). As discussed below under Factor E, rapid containment of spills in remote areas and effective triage response under this plan have shown these to be effective regulatory mechanisms (New Zealand Wildlife Health Center 2007, p. 2; Taylor 2000, p. 94).

On the basis of national and international protections in place, we find that inadequacy of existing regulatory mechanisms is not a threat to the erect-crested penguin in any portion of its range.

Factor E. Other Natural or Manmade Factors Affecting the Continued Existence of the Species

New Zealand's Action Plan for Conservation of Seabirds notes that, while there is a possibility that erect-crested penguins could be caught in trawl nets or by other fishing activity, there are no records of such (Taylor 2000, p. 66). The IUCN noted that the New Zealand DOC has limited legal powers to control commercial harvesting in waters around the sub-Antarctic islands and recommended that the New Zealand Ministry of Fisheries should be encouraged to address fisheries bycatch and squid fishery impacts (World Heritage Nomination—IUCN Technical Evaluation 1998, p. 25). As noted in the discussion under Factor A, the Action Plan for Conservation of New Zealand Seabirds outlines research efforts that would provide more data on the diet and activities and distribution of erect-crested penguins at sea. Such research will assist in evaluating whether competition for prey with fisheries or bycatch from fisheries activities is a factor in declines of the erect-crested penguin. However, in the absence of such research results, we have found no evidence that erect-crested penguins are subject to fisheries bycatch.

A large proportion of erect-crested penguin populations are found on two isolated, but widely separated, island archipelagos during the breeding season. We have examined the possibility that oil and chemical spills may impact erect-crested penguins. Such spills, should they occur and not be effectively managed, can have direct effects on marine seabirds. As a gregarious colonial nesting species, erect-crested penguins are potentially susceptible to mortality from local oil spill events during the breeding season. A significant spill at either the Antipodes or Bounty Islands could jeopardize more than one-third of the population of this species. The non-breeding season distribution of erect-crested penguins is not well-documented, but there is the potential for birds to encounter spills within the immediate region of colonies or, if they disperse more widely, elsewhere in the marine environment.

Based on previous incidents of oil and chemical spills around New Zealand, we evaluated this as a potential threat to this species. For example, in March 2000, the fishing vessel *Seafresh 1* sank in Hanson Bay on the east coast of Chatham Island and released 66 T (60 t) of diesel fuel. Rapid containment of the oil at this very remote location prevented any wildlife casualties (New Zealand Wildlife Health Center 2007, p. 2). The same source reported that in 1998 the fishing vessel *Don Wong 529* ran aground at Breaksea Islets, off Stewart Island, outside the range of the erect-crested penguin. Approximately 331 T (300 t) of marine diesel was spilled along with smaller amounts of lubricating and waste oils. With favorable weather conditions and establishment of triage response, no casualties of the pollution event were discovered (Taylor 2000, p. 94). However, the potential threat of oil or chemical spills to the erect-crested penguin is mitigated by New Zealand's oil spill response and contingency plans, which have been shown to be effective in previous events even at remote locations, and by the remoteness of Antipodes and Bounty Islands from major shipping routes or shipping activity. While the 138 mi (221 km) distance between the two primary breeding areas reduces the likelihood of impacts affecting the entire population, the limited number of breeding areas is a concern relative to the potential of oil spills or other catastrophic events. On the basis of the best available information we find that oil and chemical spills are not a threat to the erect-crested penguin in any portion of its range.

On the basis of our analysis, we find that other natural or manmade factors are not a threat to the erect-crested penguin in any portion of its range.

Foreseeable Future

The term ''threatened species'' means any species (or subspecies or, for vertebrates, distinct population segments) that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act does not define the term ''foreseeable future.'' For the purpose of this proposed rule, we define the ''foreseeable future'' to be the extent to which, given the amount and substance of available data, we can anticipate events or effects, or reliably extrapolate threat trends, such that we reasonably believe that reliable predictions can be made concerning the future as it relates to the status of the species at issue.

In considering the foreseeable future as it relates to the status of the erect-crested penguin, we considered the threats acting on the species, as well as population trends. We considered the historical data to identify any relevant existing trends that might allow for reliable prediction of the future (in the form of extrapolating the trends).

With respect to the erect-crested penguin, the most recent detailed information, from a decade ago, indicated populations were in decline, with more recent qualitative information suggesting that declines continue. Although this qualitative data is currently the best information available, its use in establishing a reliable population trend is limited. Therefore, we are specifically requesting the public to provide any updated information available on current population numbers or trends for this species. This will help ensure that any final Service action related to this species will be as accurate as possible.

As characterized in our analysis of threat factors above, the erect-crested penguin is at risk throughout its range by ongoing changes to its marine habitat. At this time, managers can monitor impacts of this threat but have no management tools to reduce the threat. Therefore, it is reasonably likely that this threat will continue in the future. Based on our analysis of the best available information, we have no reason to believe that population trends will change in the future, nor that the effects of current threats acting on the species will be ameliorated in the foreseeable future.

Erect-Crested Penguin Finding

Significant declines in numbers have been documented for the erect-crested penguin between 1978 and 1997 at their two primary breeding grounds on the Bounty and Antipodes Islands. The latest population estimates from the late 1990s indicated there were approximately 81,000 pairs of erect-crested penguins in these two primary breeding grounds. The declines are reported to be largest at Bounty Island, although the extent of the decline is uncertain due to the differing methodologies between the surveys conducted there in 1978 and those conducted in 1997–98. At the Antipodes Islands, declines of from 50 to 58 percent have been estimated between 1978 and 1995, with photographic evidence from those two years showing obvious contraction in colony areas at some sites (Taylor 2000, p.65). Formal surveys have not been conducted since the 1995 and 1997–98 surveys referenced above, for the Antipodes and Bounty Islands, respectively. The only further information for this primary portion of the range is qualitative photographic evidence and observations suggesting that declines continue.

We have no recent population assessments for the erect-crested penguin. The most recent detailed information, from a decade ago, indicated populations were in decline with more recent qualitative information suggesting declines continue. Despite the relatively high population numbers of this species estimated in 1998, the population numbers at the time showed a very high rate of decline. This species' breeding colonies have been reduced to only two breeding island groups, separated from one another by 138 mi (221 km). Lower population numbers reasonably likely to occur in the foreseeable future, combined with the limited number of breeding areas, would make this species even more vulnerable to the threats from changes in the marine habitat, and would make the species vulnerable to potential impacts from oil spills and random catastrophic events. Therefore, on the basis of our analysis of the best available scientific and commercial information, we conclude that the erect-crested penguin is likely to become endangered with extinction throughout all of its range in the foreseeable future.

Significant Portion of the Range Analysis

Having determined that the erect-crested penguin is likely to become endangered with extinction in the foreseeable future throughout all of its range, we must next consider whether there are any significant portions of its range which warrant further consideration as to whether the species is endangered. See our analysis for the yellow-eyed penguin for how we make this determination.

Erect-crested penguins breed on two primary island groups, Bounty and Antipodes Islands, which lie about 138 mi (221 km) from one another in the South Pacific Ocean to the southwest of the South Island of New Zealand. The erect-crested penguin is documented as in decline at these two islands. Our rangewide threats analysis found that changes in the marine habitat—slight warming of sea surface temperatures and their possible impact on prey availability—have the same impact on the two areas. No information is available that suggests this threat is disproportionate between these two areas. The overall population number of the erect-crested penguins is not low—27,956 pairs at Bounty Island and 49,000 to 57,000 pairs at the Antipodes Islands. Although the population numbers have declined at a very high rate and appear to be continuing to decline, the most recent population estimates indicate that the populations of both island groups are not currently in danger of extinction.

As a result, while the best scientific and commercial data allows us to make a determination as to the rangewide status of the erect-crested penguin, we have determined that there are no significant portions of the range in which the species is currently in danger of extinction. Because we find that the erect-crested penguin is not currently in danger of extinction in these two portions of its range, we need not address the question of significance for these populations.

Therefore, we propose to list the erect-crested penguin as a threatened species throughout all of its range under the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and encourages and results in conservation actions by Federal governments, private agencies and groups, and individuals.

Section 7(a) of the Act, as amended, and as implemented by regulations at 50 CFR part 402, requires Federal agencies to evaluate their actions within the United States or on the high seas with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is being designated. However, given that the yellow-eyed penguin, white-flippered penguin, Fiordland crested penguin, Humboldt penguin, and erect-crested penguin are not native to the United States, critical habitat is not being designated for these species under section 4 of the Act.

Section 8(a) of the Act authorizes limited financial assistance for the development and management of programs that the Secretary of the Interior determines to be necessary or useful for the conservation of endangered and threatened species in foreign countries. Sections 8(b) and 8(c) of the Act authorize the Secretary to encourage conservation programs for foreign endangered species and to provide assistance for such programs in the form of personnel and the training of personnel.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered and threatened wildlife. As such, these prohibitions would be applicable to yellow-eyed penguin, white-flippered penguin, Fiordland crested penguin, Humboldt penguin, and erect-crested penguin. These prohibitions, under 50 CFR 17.21, make it illegal for any person subject to the jurisdiction of the United States to "take" (take includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt any of these) within the United States or upon the high seas, import or export, deliver, receive, carry, transport, or ship in interstate or foreign commerce in the course of a commercial activity, or to sell or offer for sale in interstate or foreign commerce, any endangered wildlife species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken in violation of the Act. Certain exceptions apply to agents of the Service and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered and threatened wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 for endangered species, and at 17.32 for threatened species. With regard to endangered wildlife, a permit must be issued for the following purposes: For scientific purposes, to enhance the propagation or survival of the species, and for incidental take in connection with otherwise lawful activities.

Peer Review

In accordance with our joint policy with National Marine Fisheries Service, "Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities," published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our proposed rule is based on scientifically sound data, assumptions, and analyses. We will send copies of this proposed rule to the peer reviewers immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment during the public comment period, on our specific assumptions and conclusions regarding this proposed rule.

We will consider all comments and information we receive during the comment period on this proposed rule during our preparation of a final determination. Accordingly, our final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if we receive any requests for hearings. We must receive your request for a public hearing within 45 days after the date of this **Federal Register** publication (see **DATES**). Such requests must be made in writing and be addressed to the Chief of the Division of Scientific Authority at the address shown in the **FOR FURTHER INFORMATION CONTACT** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** at least 15 days before the first hearing.

Required Determinations

Regulatory Planning and Review (Executive Order 12866)

The Office of Management and Budget has determined that this rule is not significant under Executive Order 12866.

National Environmental Policy Act (NEPA)

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), need not be prepared in connection with regulations adopted under section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Clarity of the Rule

We are required by Executive Orders 12866 and 12988, and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(a) Be logically organized;
(b) Use the active voice to address readers directly;
(c) Use clear language rather than jargon;
(d) Be divided into short sections and sentences; and
(e) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in the **ADDRESSES** section. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

References Cited

A complete list of all references cited in this proposed rule is available on the Internet at *http://www.regulations.gov* or upon request from the Division of Scientific Authority, U.S. Fish and Wildlife Service (see **FOR FURTHER INFORMATION CONTACT**).

Author

The authors of this proposed rule are staff of the Division of Scientific Authority, U.S. Fish and Wildlife Service (see **FOR FURTHER INFORMATION CONTACT**).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.11(h) by adding new entries for ''Penguin, Erect-crested,'' ''Penguin, Fiordland crested,'' ''Penguin, Humboldt,'' ''Penguin, White-flippered,'' and ''Penguin, Yellow-eyed'' in alphabetical order under BIRDS to the List of Endangered and Threatened Wildlife as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*	*	
BIRDS							
*	*	*	*	*	*	*	
Penguin, erect-crested.	*Eudyptes sclateri*	New Zealand, Bounty Islands and Antipodes Islands.	Entire	T		NA	NA
Penguin, Fiordland crested.	*Eudyptes pachyrhynchus*.	New Zealand, South Island and offshore islands.	Entire	T		NA	NA
*	*	*	*	*	*	*	
Penguin, Humboldt	*Spheniscus humboldti*.	Eastern Pacific Ocean—Chile, Peru.	Entire	T		NA	NA
Penguin, white-flippered.	*Eudyptula minor albosignata*.	New Zealand, South Island.	Entire	T		NA	NA
Penguin, yellow-eyed	*Megadyptes antipodes*.	New Zealand, South Island and offshore islands.	Entire	T		NA	NA
*	*	*	*	*	*	*	

* * * * *

Dated: December 2, 2008.

H. Dale Hall,

Director, U.S. Fish and Wildlife Service.

[FR Doc. E8–29670 Filed 12–17–08; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[FWS–R9–IA–2008–0068; 96000–1671–0000–B6]

RIN 1018–AV60

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the African Penguin (Spheniscus demersus) Under the Endangered Species Act, and Proposed Rule To List the African Penguin as Endangered Throughout Its Range

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule and notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the African penguin (*Spheniscus demersus*) as an endangered species under the Endangered Species Act of 1973, as amended (Act). This proposal, if made final, would extend the Act's protection to this species. This proposal also constitutes our 12-month finding on the petition to list this species. The Service seeks data and comments from the public on this proposed rule.

DATES: We will accept comments and information received or postmarked on or before February 17, 2009. We must receive requests for public hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by February 2, 2009.

ADDRESSES: You may submit comments by one of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.
- U.S. mail or hand-delivery: Public Comments Processing, Attn: [FWS–R9–IA–2008–0068]; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept comments by e-mail or fax. We will post all comments on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Pamela Hall, Branch Chief, Division of Scientific Authority, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 110, Arlington, VA 22203; telephone 703–358–1708; facsimile 703–358–2276. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Public Comments

We intend that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

(1) Biological, commercial, trade, or other relevant data concerning any threats (or lack thereof) to this species and regulations that may be addressing those threats.

(2) Additional information concerning the range, distribution, and population size of this species, including the locations of any additional populations of this species.

(3) Any information on the biological or ecological requirements of the species.

(4) Current or planned activities in the areas occupied by the species and possible impacts of these activities on this species.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not consider comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section.

If you submit a comment via *http://www.regulations.gov*, your entire comment—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on *http://www.regulations.gov*.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov*, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Division of Scientific Authority, 4401 N. Fairfax Drive, Room 110, Arlington, VA 22203; telephone 703–358–1708.

Background

Section 4(b)(3)(A) of the Act (16 U.S.C. 1533 (b)(3)(A)) requires the Service to make a finding known as a ''90-day finding,'' on whether a petition to add, remove, or reclassify a species from the list of endangered or threatened species has presented substantial information indicating that the requested action may be warranted. To the maximum extent practicable, the finding shall be made within 90 days following receipt of the petition and published promptly in the **Federal Register**. If the Service finds that the petition has presented substantial information indicating that the requested action may be warranted (referred to as a positive finding), section 4(b)(3)(A) of the Act requires the Service to commence a status review of the species if one has not already been initiated under the Service's internal candidate assessment process. In addition, section 4(b)(3)(B) of the Act requires the Service to make a finding within 12 months following receipt of the petition on whether the requested action is warranted, not warranted, or warranted but precluded by higher-priority listing actions (this finding is referred to as the ''12-month finding''). Section 4(b)(3)(C) of the Act requires that a finding of warranted but precluded for petitioned species should be treated as having been resubmitted on the date of the warranted but precluded finding, and is, therefore, subject to a new finding within 1 year and subsequently thereafter until we take action on a proposal to list or withdraw our original finding. The Service publishes an annual notice of resubmitted petition findings (annual notice) for all foreign species for which listings were previously found to be warranted but precluded.

In this notice, we announce a warranted 12-month finding and proposed rule to list one penguin taxon, the African penguin, as an endangered species under the Act. We will announce the 12-month findings for the emperor penguin (*Aptenodytes forsteri*), southern rockhopper penguin (*Eudyptes chrysocome*), northern rockhopper penguin (*Eudyptes chrysolophus*), Fiordland crested penguin (*Eudyptes pachyrhynchus*), erect-crested penguin (*Eudyptes sclateri*), macaroni penguin (*Eudyptes chrysolophus*), white-flippered penguin (*Eudyptula minor albosignata*), yellow-eyed penguin (*Megadyptes antipodes*), and Humboldt penguin (*Spheniscus humboldti*) in one or more subsequent **Federal Register** notice(s).