

## II. Executive Order 12866

This is not a significant regulatory action and, therefore, was not subject to review under Section 6(b) of the Executive Order 12866, Regulatory Planning and Review, dated September 30, 1993. This rule is not a major rule under 5 U.S.C. 804.

## III. Regulatory Flexibility Act

The Regulatory Flexibility Act does not apply to this rule because an initial regulatory flexibility analysis is only required for proposed or interim rules that require publication for public comment (5 U.S.C. 603) and a final regulatory flexibility analysis is only required for final rules that were previously published for public comment, and for which an initial regulatory flexibility analysis was prepared (5 U.S.C. 604).

This final rule does not constitute a significant DFARS revision as defined at FAR 1.501-1 because this rule will not have a significant cost or administrative impact on contractors or offerors, or a significant effect beyond the internal operating procedures of the Government. Therefore, publication for public comment under 41 U.S.C. 418b is not required.

## IV. Paperwork Reduction Act

The final rule does not contain any information collection requirements that require the approval of the Office of Management and Budget under the Paperwork Reduction Act (44 U.S.C. chapter 35).

### List of Subjects in 48 CFR Part 219

Government procurement.

#### Mary Overstreet,

Editor, Defense Acquisition Regulations System.

Therefore, 48 CFR part 219 is amended as follows:

### PART 219—SMALL BUSINESS PROGRAMS

■ 1. The authority citation for 48 CFR part 219 continues to read as follows:

**Authority:** 41 U.S.C. 421 and 48 CFR chapter 1.

#### Subpart 219.10—[Removed]

■ 2. Remove subpart 219.10.

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[Docket No. FWS-R9-IA-2008-0069; 92210-0-0010 B6]

RIN 1018-AV73

#### Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the New Zealand-Australia Distinct Population Segment of the Southern Rockhopper Penguin

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), determine threatened status for the New Zealand/Australia distinct population segment of the southern rockhopper penguin (*Eudyptes chrysocome*) under the Endangered Species Act of 1973, as amended. This final rule implements the Federal protections provided by the Act for this species.

**DATES:** This rule becomes effective March 24, 2011.

**ADDRESSES:** This final rule is available on the Internet at <http://www.regulations.gov> and comments and materials received, as well as supporting documentation used in the preparation of this rule, will be available for public inspection, by appointment, during normal business hours at: U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Suite 400, Arlington, VA 22203.

**FOR FURTHER INFORMATION CONTACT:** Janine Van Norman, Branch Chief, Foreign Species Branch, Endangered Species Program, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 420, Arlington, VA 22203; telephone 703-358-2171; facsimile 703-358-1735. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

#### SUPPLEMENTARY INFORMATION:

##### Background

The Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*), is a law that was passed to prevent extinction of species by providing measures to help alleviate the loss of species and their habitats. Before a plant or animal species can receive the protection provided by the Act, it must first be added to the Federal Lists of Endangered and Threatened Wildlife and Plants; section 4 of the Act and its implementing regulations at 50 CFR 424

set forth the procedures for adding species to these lists.

#### Previous Federal Actions

On November 29, 2006, the U.S. Fish and Wildlife Service (Service) received a petition from the Center for Biological Diversity (CBD) to list 12 penguin species under the Act: emperor penguin (*Aptenodytes forsteri*), southern rockhopper penguin (*Eudyptes chrysocome*), northern rockhopper penguin (*Eudyptes moseleyi*), Fiordland crested penguin (*Eudyptes pachyrhynchus*), snares crested penguin (*Eudyptes robustus*), erect-crested penguin (*Eudyptes sclateri*), macaroni penguin (*Eudyptes chrysolophus*), royal penguin (*Eudyptes schlegeli*), white-flipped penguin (*Eudyptula minor albosignata*), yellow-eyed penguin (*Megadyptes antipodes*), African penguin (*Spheniscus demersus*), and Humboldt penguin (*Spheniscus humboldti*).

On July 11, 2007, we published in the **Federal Register** a 90-day finding (72 FR 37695) in which we determined that the petition presented substantial scientific or commercial information indicating that listing 10 of the penguin species as endangered or threatened may be warranted, but determined that the petition did not provide substantial scientific or commercial information indicating that listing the snares crested penguin and the royal penguin as endangered or threatened 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 was warranted, and sought information from the public and interested parties on the status of the 10 species of penguins. In addition, we attended the International Penguin Conference in Hobart, Tasmania, Australia, a quadrennial meeting of penguin scientists from September 3-7, 2007, to gather information and to ensure that experts were aware of the status review. We also consulted with other agencies and range countries in an effort to gather the best available scientific and commercial information on these species.

On December 3, 2007, we received a 60-day Notice of Intent to Sue from the CBD. On February 27, 2008, CBD filed a complaint against the Department of the Interior for failure to make a 12-month finding (status determination) on the petition. On September 8, 2008, we entered into a settlement agreement with the CBD, in which we agreed to submit to the **Federal Register** 12-month findings for the 10 species of penguins, including the southern rockhopper

penguin, on or before December 19, 2008.

On December 18, 2008, we published three documents: (1) A warranted 12-month finding and proposed rule to list the African penguin as endangered under the Act (73 FR 77332); (2) a warranted 12-month finding and proposed rule to list the yellow-eyed penguin, white-flipped penguin, Fiordland crested penguin, Humboldt penguin, and erect-crested penguin as threatened under the Act (73 FR 77303); and (3) a warranted 12-month finding and proposed rule to list a significant portion of the range (SPR) of the New Zealand/Australia distinct population segment (DPS) of the southern rockhopper penguin as threatened under the Act, together with a not-warranted 12-month finding to list the remainder of the range of the southern rockhopper penguin, as well as any portion of the range for the northern rockhopper penguin, macaroni penguin, and emperor penguin (73 FR 77264).

We finalized the actions listed in (1) and (2) above on September 28, 2010 (75 FR 59645), and August 3, 2010 (75 FR 45497), respectively. This final rule completes the action referred to in (3) above.

The SPR we proposed for listing for the southern rockhopper penguin on December 18, 2010 (73 FR 77264), was the Campbell Plateau portion of the New Zealand/Australia (NZ–AUS) DPS. We implemented the Service's peer review process and opened a 60-day comment period to solicit scientific and commercial information on the species from all interested parties following publication of the proposed rule.

On March 9, 2010, CBD filed a complaint against the Service for failure to issue a final listing determination for seven penguin species, including the Campbell Plateau SPR of the NZ–AUS DPS of southern rockhopper penguin, within 12 months of the proposals to list the species. In a court-approved settlement agreement, the Service agreed to submit a final listing determination for the Campbell Plateau SPR of the NZ–AUS DPS of southern rockhopper penguin to the **Federal Register** by February 18, 2011.

### Summary of Comments and Recommendations

We base this final listing determination on a review of the best scientific and commercial information available, including all information received during the public comment period. In the December 18, 2008, proposed rule (73 FR 77264), we requested that all interested parties submit information that might

contribute to development of a final rule. We also contacted appropriate scientific experts and invited them to comment on the proposed listing. We received 6 comments on our proposed action: 4 from members of the public and 2 from peer reviewers. Two members of the public indicated the species should be listed range-wide but did not provide new or additional information to support this claim. We also received several comments and new information pertaining to species, or portions of the southern rockhopper penguin's range, we determined in our 2008 status review (73 FR 77264) were not warranted for listing. We thank the public and peer reviewers for this information and request that the public and peer reviewers continue to submit to our office (*see ADDRESSES*) any new information concerning the status of, or threats to, these species. New information will help us monitor the status of the species.

We reviewed all comments we received from the public and peer reviewers for substantive issues and new information regarding the proposed listing of the Campbell Plateau SPR of the NZ–AUS DPS of southern rockhopper penguin. We address those comments below.

### Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from three individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from two of the peer reviewers from whom we requested comments. They generally agreed that the description of the biology and habitat for the species was accurate and based on the best available information. New or additional information on the biology of, and threats to, the southern rockhopper penguin was provided and incorporated into this rulemaking as appropriate. In some cases, it has been indicated in the citations by "personal communication" (pers. comm.), which could indicate either an email or telephone conversation; in other cases, the research citation is provided.

### Peer Reviewer Comments

(1) *Comment:* One peer reviewer found the analysis and approach used in the proposed rule to be appropriate and scientifically sound given the quality and patchiness of available data. However, this reviewer noted inconsistencies in the proposed rule related to trends on Macquarie Island.

The reviewer noted that in the Campbell Plateau SPR analysis we stated "numbers at Macquarie Island are reported to be stable", while in other sections of the proposed rule we indicated population trends on Macquarie Island were uncertain due to poor data. The reviewer also states that the Macquarie Island population is believed to have decreased from earlier reports of distribution and abundance, and that it would be more appropriate to describe the Macquarie Island population as possibly stable following a decrease during the past 30 or so years.

*Our Response:* We agree with the peer reviewer regarding inconsistencies in statements in the proposed rule related to Macquarie Island population trends. The evidence does not support our statement in the proposed rule that numbers at Macquarie Island are reported to be stable. Rather, reports indicate uncertain, or declining, population trends on the island. We appreciate the reviewer's clarification that numbers are believed to have decreased over recent decades from those of earlier estimates. We have made changes to this final rule to address the inconsistencies in the proposed rule and characterize the Macquarie Island population as decreasing.

### Public Comments

(2) *Comment:* One commenter expressed concern over the listing of a species that occurs wholly outside the United States, and questioned the protections afforded by the Act.

*Our Response:* We appreciate this comment and the opportunity to clarify the stipulations of the Act. The Act stipulates that we are to list any species determined under the Act to be endangered or threatened throughout all or a significant portion of its range. The Act calls for this regardless of whether the species occurs partially or wholly within or outside the United States. Protections for foreign species under the Act include, among other things, prohibitions on import and export into or from the United States, and prohibitions on sale or commercial transport in interstate or foreign commerce. Protections also include provisions for: (1) Financial assistance to countries in which species listed as endangered or threatened under the Act occur; (2) encouragement of foreign programs to provide for the conservation of species, including those listed under the Act; (3) technical assistance from Department of the Interior personnel; and (4) law enforcement investigations and research abroad as deemed necessary to carry out

the purposes of the Act. For more information on this subject, see *Available Conservation Measures*, below.

(3) *Comment:* One commenter asserted that the best available science on the taxonomic status of the southern rockhopper penguin indicates the species be classified as two subspecies, that we should have considered the southern rockhopper penguin as two subspecies, and that we should analyze population status and threats for each subspecies accordingly. The commenter further asserted that doing so may change our Significant Portion of the Range analyses and conclusions. The commenter also states that we failed to provide a justification as to why we accepted BirdLife International's (BLI) treatment of the taxa as two species but not BLI's treatment of the southern rockhopper species as two subspecies.

*Our Response:* We accepted BLI's assessment of the two genetic studies published in 2006, one which concluded that the taxa be considered two species (Jouventin *et al.* 2006), and one which concluded it be considered three species (Banks *et al.* 2006). BLI rejected Banks *et al.*'s (2006) conclusion on the basis of small sample sizes used in their study and limited morphological differences between the southern and eastern forms. We agreed with BLI's assessment of these two studies, and we accepted Jouventin *et al.* (2006) as the best available science on the taxonomy of the complex. The commenter provided no new information on this subject, and we uphold our decision to accept Jouventin *et al.* (2006) as the best available science in this final rule.

We agree with the commenter that treating the southern rockhopper penguin as comprising two subspecies may change our SPR analyses and conclusions. However, we do not accept BLI's treatment of the southern rockhopper penguin as two subspecies. Jouventin *et al.* (2006), which we accept as the best available information, did not make any conclusions regarding further divisions or subspecies classification within the taxa. They indicate that their research does not allow them to make conclusions beyond those made, i.e. that rockhopper penguins consist of two species. In addition, the three recent genetic studies (discussed above) include samples from only two of the three widely separated regions (Indian Ocean, Pacific Ocean, and Patagonia-Atlantic Ocean) in which southern rockhopper penguins occur. None of these studies analyzed samples from the Pacific Ocean region (the NZ-AUS DPS), and,

as a result, subspecies relationships within the southern rockhopper species are uncertain. That the species taxonomy remains uncertain is supported by the fact that a comprehensive investigation of southern rockhopper penguin taxonomy is a key recommendation of a recent international workshop tasked with producing a plan for rockhopper penguin research and conservation (BLI 2010, p. 8). Because a complete taxonomy of southern rockhopper penguin is lacking, and because Jouventin *et al.* (2006), whom we have determined represents the best available science, were unable to make conclusions on subspecies classification, we treat the southern rockhopper penguin as one undivided species and consider our SPR analysis and conclusions to be appropriate.

As discussed in this final rule, recent evidence presented in de Dinechin *et al.* (2009) supports the conclusions of Banks *et al.* (2006) that the rockhopper taxa consists of three species. Therefore, this new evidence could also be interpreted as lending support to the commenter's assertion that the southern rockhopper penguin be considered two subspecies. However, as discussed above, BLI has yet to consider the new evidence provided in de Dinechin *et al.* (2009), and still considers the taxa as two species. Because we rely on BLI for expert assessment of the literature pertaining to the taxonomy of the species, and because there are current gaps in taxonomic research on the species, especially with respect to the NZ-AUS DPS, we continue to consider Jouventin *et al.* (2006) the best available science and, consequently, treat the rockhopper penguin as two species, and the southern rockhopper penguin as an undivided species.

We have made changes in this final rule to clarify our rationale and justification for why we did not accept BLI's treatment of the southern rockhopper penguin as two subspecies.

(4) *Comment:* The same commenter stated that our analysis of Factor A (the Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range) omits any mention or discussion of ocean acidification, and thus fails to consider the best available science on the threat that ocean acidification poses to the southern rockhopper penguin's marine foraging habitat and prey species.

*Our Response:* We acknowledge that the issue of ocean acidification was not directly addressed in the proposed rule. With respect to penguins, the best available information does not address how ocean acidity would impact the

physiology of, and food web associated with, this penguin species. We acknowledge that ocean acidification may be a concern, but at this time, any conclusion would be purely speculative regarding how much the oceanic pH may change in the penguins' habitat and how subsequent changes in the species' environments would interact with other known threats. The manner in which a change in ocean pH may affect penguins is currently unpredictable.

#### Summary of Changes From Proposed Rule

We fully considered comments from the public and peer reviewers on the proposed rule to develop this final listing of the NZ-AUS DPS of the southern rockhopper penguin. This final rule incorporates changes to our proposed listing based on the comments that we received that are discussed above, and newly available scientific and commercial information.

We made some technical corrections to this final rule, added clarifying language, and added new information where appropriate, based on comments we received and new information available. None of the information changed our determination that the southern rockhopper penguin within the Campbell Plateau region warrants listing as threatened. However, due to peer reviewer comments and newly available information, in this final rule we determine that the population on Macquarie Island is declining and is threatened by changes in the marine environment. We therefore determine that the species is threatened throughout the entire NZ-AUS DPS, and we list the entire DPS as threatened in this final rule. We feel that listing the entire DPS represents a relatively minor change from the proposed action. Although listing the entire DPS adds an additional range country to the affected area, it extends protections of the Act to penguins breeding on only one additional island in the Pacific Ocean region of the species' range.

#### Species Information

##### *Taxonomy*

Rockhopper penguins are among the smallest of the world's penguins, averaging 20 inches (in) (52 centimeters (cm)) in length and 6.6 pounds (lbs) (3 kilograms (kg)) in weight. They are the most widespread of the crested penguins (genus *Eudyptes*), and are so named because of the way they hop from boulder to boulder when moving around their rocky colonies. Rockhopper penguins are found on islands from near the Antarctic Polar

Front to near the Subtropical Convergence, in the South Atlantic, Pacific, and Indian Oceans (Marchant and Higgins 1990, p. 183).

The taxonomy of the rockhopper complex is contentious. Formerly treated as three subspecies (Marchant and Higgins 1990, p. 182), recent papers suggest that these should be treated as either two species (Jouventin *et al.* 2006, pp. 3,413–3,423) or three species (Banks *et al.* 2006, pp. 61–67; de Dinechin *et al.* 2009, pp. 693–702).

Jouventin *et al.* (2006, pp. 3,413–3,423), following up on recorded differences in breeding phenology, song characteristics, and head ornaments used as mating signals, conducted genetic analysis between northern subtropical rockhopper penguins and southern subantarctic rockhopper penguins using the Subtropical Convergence, a major ecological boundary for marine organisms, as the dividing line between them. Their results supported the separation of *E. chrysocome* into two species, the southern rockhopper (*E. chrysocome*) and the northern rockhopper (*E. moseleyi*).

Banks *et al.* (2006, pp. 61–67) compared the genetic distances between the three rockhopper subspecies and compared them with such sister species as macaroni penguins. Banks *et al.* (2006, pp. 61–67) suggested that three rockhopper subspecies—southern rockhopper (*E. chrysocome chrysocome*), eastern rockhopper (*E. chrysocome filholi*), and northern rockhopper (*E. chrysocome moseleyi*)—should be split into three species.

More recently, de Dinechin *et al.* (2009, pp. 693–702) used gene sequences from Jouventin *et al.* (2006), Banks *et al.* (2006), and new samples from the Falkland Islands to determine divergence times between populations. Their results suggest the rockhopper complex consists of three species, supporting the conclusions of Banks *et al.* (2006).

Despite these three genetic studies, the taxonomy of rockhopper penguins remains uncertain due to gaps in the taxonomic research. For instance, the three genetic studies (discussed above) include samples from only two of the three widely separated regions (Indian Ocean, Pacific Ocean, and Patagonia-Atlantic Ocean) in which southern rockhopper penguins breed. None of these studies analyzed samples from the Pacific Ocean region (the NZ–AUS DPS).

BLI (2007, p. 1; 2008a, p. 1) reviewed the two papers published in 2006 and made the decision to adopt, for the purposes of their continued compilation

of information on the status of birds, the conclusion of Jouventin *et al.* (2006, p. 3,419) that there are two species of rockhopper penguin. In doing so, they noted that the proposed splitting of an eastern rockhopper species from *E. chrysocome* had been rejected because of small sample sizes and weak morphological differentiations between the circumpolar populations south of the Subtropical Convergence (BLI 2008a, p. 1; Banks *et al.* 2006, p. 67). Thus, BLI considered Jouventin *et al.* (2006) the best available science. BLI has yet to consider the new evidence presented in de Dinechin *et al.* (2009), and still treats the rockhopper complex as consisting of two species.

We do not accept BLI's treatment of the southern rockhopper species as consisting of two subspecies. Jouventin *et al.* (2006), on which BLI based their decision to treat rockhopper penguins as two species, do not make any conclusions regarding further divisions within these species, or subspecies classification. They indicate that their research provides evidence for speciation between northern and southern rockhopper populations, but explicitly refrain from making conclusions on the taxonomic structure of rockhopper penguins as a whole, noting that further research is needed to determine the definitive taxonomy of the genus (Jouventin *et al.* 2006, pp. 3,421). In addition, existing genetic studies do not include analysis of samples from the NZ–AUS DPS, which comprises one of the three regions in the world in which southern rockhopper penguins breed. As a result, subspecies relationships within the southern rockhopper species are uncertain. The uncertainty of the species taxonomy is further supported by the fact that a comprehensive investigation of southern rockhopper penguin taxonomy was a key recommendation of a recent international workshop tasked with producing a plan for rockhopper penguin research and conservation (BLI 2010, p. 8). Because a complete taxonomy of southern rockhopper penguin is lacking, and because Jouventin *et al.* (2006, pp. 3,413–3,423), whom we have determined represents the best available science, were unable to make conclusions on subspecies classification, we treat the southern rockhopper penguin as one undivided species. However, we will continue to evaluate the taxonomy of rockhopper penguins as new information becomes available and will reevaluate their status as appropriate.

On the basis of our review, we accept Jouventin *et al.* (2006) as the best available science and treat the

rockhopper penguins as two species, the northern rockhopper penguin (*E. moseleyi*) and the southern rockhopper penguin (*E. chrysocome*). We accept Jouventin *et al.* (2006) as the best available science because the rockhopper taxonomy is uncertain, because we accept BLI's assessment of the literature and determination that Jouventin *et al.* (2006) represents the best available science on the subject, and because BLI has yet to consider de Dinechin *et al.* (2009).

#### *Life History of Southern Rockhopper Penguins*

In general, southern rockhopper penguin breeding begins in early October (the austral spring) when males arrive at the breeding site a few days before females. Breeding takes place as soon as the females arrive, and two eggs are laid 4 to 5 days apart in early November. The first egg laid is typically smaller than the second, 2.8 versus 3.9 ounces (oz) (80 versus 110 grams (g)), and is the first to hatch. Incubation lasts about 33 days and is divided into three roughly equal shifts. During the first 10-day shift, both parents are in attendance. Then, the male leaves to feed while the female incubates during the second shift. The male returns to take on the third shift. He generally remains for the duration of incubation and afterward to brood the chicks while the female leaves to forage and returns to feed the chicks. Such a system of extended shift duration requires lengthy fasts for both parents, but allows them to forage farther afield than would be the case if they had a daily changeover. The newly hatched chicks may have to wait up to a week before the female returns with their first feed. During this period, chicks are able to survive on existing yolk reserves, after which they begin receiving regular feedings of around 5 oz (150 g) in weight. By the end of the 25 days of brooding, chicks are receiving regular feedings averaging around 1 lb 5 oz (600 g). By this stage they are able to leave the nest and group (crèche) with other chicks, allowing both adults to forage to meet the chicks' increasing demands for food (Marchant and Higgins 1990, p. 190).

During the breeding season, penguins are susceptible to local ecosystem perturbations because they are constrained by how far they can swim from the terrestrial habitat in search of food (Davis 2001, p. 9). Therefore, a decrease in food availability could have substantial consequences on reproductive success. Southern rockhopper penguins typically rear only one of two chicks, although those near the Falkland Islands are capable of

rearing both chicks to fledging when conditions are favorable (Guinard *et al.* 1998, p. 226). Reported breeding success is highly variable, ranging from 0.23 to 0.91 chicks per breeding pair, with the greatest reported success rate (0.91 chicks per breeding pair) occurring at the Falkland Islands (Crawford *et al.* 2008, p. 186; Hull *et al.* 2005, p. 714; Raya Ray *et al.* 2007, p. 829; Poisbleau *et al.* 2008, p. 930; Clausen and Putz 2002, p. 51). Chicks fledge at around 10 weeks of age, and adults then spend 20 to 25 days at sea building up body fat reserves in preparation for their annual molt. The molt lasts for around 25 days, and the birds then abandon the breeding site. They spend the winter feeding at sea, prior to returning the following spring (Marchant and Higgins 1990, p. 185).

The southern rockhopper penguin is widely distributed around the Southern Ocean, breeding on subantarctic islands in the Indian, Pacific, and Atlantic Oceans (Shirihai 2002, p. 71; Otley and Thompson 2010, p. 28). Breeding islands are clustered in three different geographic regions: the Pacific Ocean region, which comprises the NZ–AUS DPS; the Patagonia region, which includes the Falkland Islands and breeding islands in the southeast Pacific Ocean and southwest Atlantic Ocean surrounding Patagonia; and the Indian Ocean region. Southern rockhopper penguin range includes island breeding habitat and marine foraging areas. In the breeding season, these marine foraging areas may lie within as little as 6 miles (mi) (10 kilometers (km)) of the colony (as at the Crozet Archipelago in the Indian Ocean), as distant as 97 mi (157 km) (as at the Prince Edward Islands in the Indian Ocean), or for male rockhopper penguins foraging during the incubation stage at the Falkland Islands in the Southwest Atlantic, as much as 289 mi (466 km) away (Sagar *et al.* 2005, p. 79; Putz *et al.* 2003, p. 141). Foraging ranges vary according to the geographic, geologic, and oceanographic location of the breeding sites and their proximity to sea floor features (such as the continental slope and its margins or the subantarctic slope) and oceanographic features (such as the polar frontal zone or the Falkland current) (Sagar *et al.* 2005, pp. 79–80). Winter at-sea foraging areas are less well-documented, but penguins from the Staten Island breeding colony at the tip of South America dispersed over a range of 501,800 square miles (mi<sup>2</sup>) (1.3 million square kilometers (km<sup>2</sup>)) covering polar, sub-polar, and temperate waters in oceanic regions of the Atlantic and Pacific as well as shelf waters (Putz

*et al.* 2006, p. 735) and traveled up to 1,242 mi (2,000 km) from the colony.

#### *Distribution and Abundance in the NZ–AUS DPS*

The NZ–AUS DPS is comprised of the marine foraging area and four breeding islands within the Pacific Ocean region. These four islands are: Macquarie Island (in Australia waters); and Campbell, Auckland, and Antipodes Islands (in New Zealand waters) (BLI 2007, pp. 2–3; Woehler 1993, pp. 58–61; Gales *et al.* 2010, pp. 92–93). Southern rockhopper penguin breeding colonies within the NZ–AUS DPS inhabit a unique ecological and geographical position in the range of the species. The underwater topography and oceanography of this area is unique and has been described in detail in the Macquarie Island Management Plan (Parks and Wildlife Service (Australia) 2006, pp. 20–22). The islands sit in areas of relatively shallow water, generally less than 3,280 ft (1,000 m) deep. Macquarie Island is on the shallow Macquarie Ridge, which is associated with a deep trench to the east, and connects to the north with the broader Campbell Plateau, an extensive area of shallow water that is part of the continental shelf extending southeast from New Zealand. The New Zealand islands (Campbell, Auckland, and Antipodes) with breeding colonies of southern rockhopper penguins are located on the Campbell Plateau. This region and all their associated islands are located north of the Antarctic Polar Front Zone (APFZ), a distinct hydrographic boundary with cold, nutrient-rich, surface waters to the south and warmer, less rich, water to the north. In addition, the Macquarie Ridge and Campbell Plateau form a major obstruction to the Antarctic Circumpolar Current, which runs easterly at about 50° S latitude. This further increases the high degree of turbulence and current variability in the area and is likely to directly or indirectly encourage biological productivity (Parks and Wildlife Service (Australia) 2006, pp. 20–22).

Historical numbers of southern rockhopper penguins in this region may have been as high as 960,000 breeding pairs, with declines recorded from the New Zealand islands. Currently there are approximately 89,600–101,500 breeding pairs in the region, which represents 6 to 7 percent of the current estimated population of 1.4 million southern rockhopper penguin breeding pairs range-wide.

#### *Macquarie Island*

Order of magnitude estimates at Macquarie Island (Australia) reported

100,000–300,000 pairs in the early 1980s (Woehler 1993, p. 60; Taylor 2000, p. 54). The 2006 Management Plan for the Macquarie Island Nature Reserve and World Heritage Area reported that the total number of southern rockhopper penguins in this area may be as high as 100,000 breeding pairs. However, estimates from 2006–07 indicate 32,000–43,000 breeding pairs at Macquarie Island (BLI 2008, p. 2), an order of magnitude lower than the earlier categorical estimate. Given that the earlier estimate is categorical, quantitative data on trends on this island are not available. However, expert opinion suggests a declining trend on the island. Gales *et al.* (2010, p. 93) state that there are no reliable data on trends, but categorize the population, based on anecdotal observations, as having decreased. Hilton and Otley (2010, pp. 32–33) acknowledge the lack of quantitative information on the population but categorize the long-term population trend as decreasing. Woehler (2009, pp. 1–2) describes the population as possibly stable following a decrease during, approximately, the last 30 years. Given these expert opinions on long-term trends, Woehler's uncertainty about the current stability of the population, and a lack of evidence indicating the population is currently stable, we rely on these expert opinions to qualify the general long-term population trend on the island as decreasing.

#### *Campbell, Auckland, and Antipodes Islands*

In New Zealand territory, southern rockhopper penguin numbers at Campbell Island declined by 94 percent between the early 1940s and 1985 from approximately 800,000 breeding pairs to 51,500 (Cunningham and Moors 1994, p. 32). The majority of the 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 suggests they may have had to work harder to find the same food (Thompson and Sagar 2002, p. 11). According to standard photographic monitoring, numbers in most colonies at Campbell Island continued to decline from 1985 to the mid-1990s (Taylor 2000, p. 54), although the extent of such declines has not been quantified in the literature. The New Zealand Department of Conservation (DOC) provided

preliminary information from a 2007 Campbell Island survey team that “the population is still in decline” (Houston 2008, p. 1), but quantitative analysis of these data has not yet been completed. At the Auckland Islands, a survey in 1990 found 10 colonies produced an estimate of 2,700–3,600 breeding pairs of southern rockhopper penguins (Cooper 1992, p. 66). This was a decrease from 1983, when 5,000–10,000 pairs were counted (Taylor 2000, p. 54). There has been a large decline at Antipodes Islands from 50,000 breeding pairs in 1978 to 4,000 pairs in 1995 (Tennyson *et al.* 2002, p. 244). There is no more recent data for Auckland or Antipodes Islands (Houston 2008, p. 1).

#### Other Status Classifications

The IUCN (International Union for Conservation of Nature) Red List classifies the entire southern rockhopper penguin species as ‘Vulnerable’ due to rapid population declines, which “appear to have worsened in recent years.” Southern rockhopper penguins are listed under New Zealand’s Threat Classification System as Nationally Endangered. The species is not listed in Australia, which maintains a list of, and provides protections to, species under their Environmental Protection and Biodiversity Conservation Act.

#### Summary of Factors Affecting the DPS

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. These factors and their application to the NZ–AUS DPS of southern rockhopper penguin are discussed below.

#### Factor A: The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

##### Terrestrial Habitat

There are few reports of destruction, modification, or curtailment of the terrestrial habitat of the southern

rockhopper penguin. Analyses of large-scale declines of southern rockhopper penguins have uniformly ruled out that impacts to the terrestrial habitat have been a limiting factor to the species (Cunningham and Moors 1994, p. 34; Keymer *et al.* 2001, pp. 159–169; Clausen and Huin 2003, p. 394), and we have no reason to believe threats to the terrestrial habitat will emerge in the future. We, therefore, find that impacts to terrestrial habitat are not a threat to the species.

#### Climate-Related Changes in the Marine Environment

Reports of major decreases in both southern and northern rockhopper penguin numbers have been linked to sea surface temperature changes and other apparent or assumed oceanographic or prey shifts in the vicinity of breeding colonies (Cunningham and Moors 1994, pp. 27–36; Crawford *et al.* 2003, pp. 487–498; Clausen and Huin 2003, pp. 389–402). Within the NZ–AUS DPS at Campbell Island, a 94 percent decrease in southern rockhopper penguin numbers occurred between the early 1940s and 1985 (Cunningham and Moors 1994, p. 32). Cunningham and Moors (1994, pp. 27–36) compared the pattern of the penguin decline (from 800,000 breeding pairs in the early 1940s to 51,500 pairs in 1985) to patterns of sea surface temperature change. The authors concluded that drastic southern rockhopper penguin declines were related to increased sea surface temperature changes at Campbell Island. They found that peaks in temperature were related to the periods of largest decline in numbers within colonies, in particular in 1948–49 and 1953–54. One study colony rebounded in cooler temperatures in the 1960s, when temperatures reached a minimum of 47.5 °F (8.6 °C); however, with temperature stabilization at higher levels (mean 49.5 °F (9.7 °C)) in the 1970s, declines continued. Colony sizes have continued to decline into the 1990s (Taylor 2000, p. 54), and preliminary survey data indicate that numbers at Campbell Island continue to decline (Houston 2008, p. 1).

Cunningham and Moors (1994, p. 34) concluded that warmer waters most likely affected the diet of the Campbell Island southern rockhopper penguins. In the absence of data on the 1940’s diet of Campbell Island southern rockhopper penguins, the authors compared the 1980s diet of the species at Campbell Island to southern rockhopper penguins elsewhere. They found the Campbell Island penguins eating primarily fish—southern blue whiting (*Micromesistius*

*australis*), dwarf codling (*Austrophycis marginata*), and southern hake (*Merluccius australis*)—while elsewhere southern rockhopper penguins were reported to eat mainly euphausiid crustaceans (krill) and smaller amounts of fish and squid. Based on this comparison of different areas, the authors concluded that euphausiids left the Campbell Island area when temperatures changed, forcing the southern rockhopper penguins to adopt an apparently atypical, and presumably less nutritious, fish diet. The authors concluded that this led to lower departure weights of chicks and contributed to adult declines (Cunningham and Moors 1994, p. 34).

Subsequent research, however, has not supported the theory that southern rockhopper penguins at Campbell Island switched prey as their “normal” euphausiid prey moved to cooler waters (Cunningham and Moors 1994, pp. 34–35). This hypothesis has been tested through stable isotope studies, which can be used to extract historical dietary information from bird tissues (e.g., feathers). In analyses of samples from the late 1800s to the present at Campbell Islands and Antipodes Islands, Thompson and Sagar (2002, p. 11) found no evidence of a shift in southern rockhopper penguin diet during the period of decline. They concluded that southern rockhopper penguins did not switch to a less suitable prey, but that overall marine productivity and the carrying capacity of the marine ecosystem declined beginning in the 1940s. With food abundance declining or food moving farther offshore or into deeper water, according to these authors, the southern rockhopper penguins maintained their diet over the long timescale, but were unable to find enough food in the less productive marine ecosystem (Thompson and Sagar 2002, p. 12).

Hilton *et al.* (2006, pp. 611–625) expanded the study of carbon isotope ratios in southern and northern rockhopper penguin feathers to most breeding areas, except those at the Falkland Islands and the tip of South America, to look for global trends that might help explain the declines observed at Campbell Island. They found no clear global-scale explanation for large spatial and temporal-scale rockhopper penguin declines. While they found general support for lower primary productivity in the ecosystems in which rockhopper penguins feed, there were significant differences between sites. There was evidence of a shift in diet to lower trophic levels over time and in warm years, but the data did not support the idea that the shift

toward lower primary productivity reflected in the diet resulted from an overall trend of rising sea temperatures (Hilton *et al.* 2006, p. 620). No detectable relationship between carbon isotope ratios and annual mean sea surface temperatures was found (Hilton *et al.* 2006, p. 620).

In the absence of conclusive evidence for sea surface temperature changes as an explanation for reduced primary productivity, Hilton *et al.* (2006, p. 621) suggested that historical top-down effects in the food chain might have caused a reduction in phytoplankton growth rates. Reduced grazing pressure resulting from the large-scale removal of predators from the subantarctic could have resulted in larger standing stocks of phytoplankton, which in turn could have led to lowered cell growth rates (which would be reflected in isotope ratios), with no effect on overall productivity of the system. Postulated top-down effects on the ecosystem of southern rockhopper penguins, which occurred in the time period before the warming, first noted in the original Cunningham and Moors (1994, p. 34) study, are the hunting of pinniped populations to near extinction in the 18th and 19th centuries and the subsequent severe exploitation of baleen whale (Balaenopteridae) populations in the 19th and 20th centuries (Hilton *et al.* 2006, p. 621). While this top-down theory may explain the regional shift toward reduced primary productivity, it does not explain the decrease in abundance of food at specific penguin breeding and foraging areas.

Hilton *et al.* (2006, p. 621) concluded that considerably more development of the links between isotopic monitoring of rockhopper penguins and the analysis of larger-scale oceanographic data is needed to understand effects of human activities on the subantarctic marine ecosystem and the links between rockhopper penguin demography, ecology, and environment.

Meteorologically, the events described for Campbell Island from the 1940s until 1985, including the period of oceanic warming, occurred after a record cool period in the New Zealand region between 1900 and 1935, the coldest period since recordkeeping began (Cunningham and Moors 1994, p. 35). These historical temperature changes have been attributed to fluctuations in the position of the Antarctic Polar Front caused by changes in the westerly-wind belt (Cunningham and Moors 1994, p. 35). Photographic evidence suggests that southern rockhopper penguin numbers may have been significantly expanding as the early 1900s cool period came to an end (Cunningham and Moors 1994,

p. 33) and just before the rapid decrease in numbers.

Without longer-term data sets pertaining to fluctuations in numbers of southern rockhopper penguins at Campbell Island and longer temperature data records at a scale appropriate to evaluating impacts on this particular breeding colony, it is difficult to draw conclusions on the nature or cause of the marine-based threat. It is reasonable to conclude, however, that the situation at Auckland and Antipodes Islands is similar to that on Campbell Island, given the shared location (on the Campbell Plateau) and similar population trends on these islands.

We found no information on the causes of the population decline on Macquarie Island, and we have not identified sea temperature or other oceanographic data on an appropriate scale to evaluate historical trends or make predictions on future trends at this site. Macquarie Island is located on Macquarie Ridge, south of the Campbell Plateau. Although oceanographic conditions surrounding Macquarie Island differ from those on Campbell Plateau, air temperatures at Macquarie Island are reported to be rising (Adamson *et al.* 1988, p. 107), and the island is reported to have experienced a marked shift in its climate since 1970 (Adams 2009, p. 1). Therefore, it is reasonable to conclude, given the relationships between climate and oceanographic conditions, that the marine environment near the island, on which breeding penguins depend for food, is also changing. Changes in the marine environment, and possible shifts in food abundance or distribution in the marine environment, have been cited as leading to historical and present-day declines on Campbell Island (Cunningham and Moors 1994, p. 32), and in other areas of the species' range (Crawford *et al.* 2003, p. 496; Crawford and Cooper 2003, p. 415; Clausen and Huin 2003, p. 394). Estimates from 2006–07 indicate 32,000–43,000 breeding pairs at Macquarie Island (BLI 2008, p. 2), an order of magnitude lower than earlier categorical estimates. Given that the earlier estimate is categorical, quantitative data on trends on this island are not available. However, expert opinion suggests a long-term declining trend on the island. Gales *et al.* (2010, p. 93) state that there are no reliable data on trends, but categorize the population, based on anecdotal observations, as having decreased. Hilton and Otley (2010, pp. 32–33) acknowledge the lack of quantitative information on the population but categorize the long-term population trend as decreasing. Woehler (2009, pp.

1–2) describes the population as possibly stable following a decrease during, approximately, the last 30 years. Given these expert opinions on long-term trends, Woehler's uncertainty about the current stability of the population, and a lack of evidence indicating the population is currently stable, we rely on these expert opinions to qualify the general long-term population trend on the island as decreasing. In the absence of any major factors on land, given the evidence for marine-based declines within the Campbell Plateau portion of the DPS and elsewhere in the species' range, and given we have no information indicating a reversal or abatement of the causes of these declines, the best available information indicates that some change in the oceanographic ecosystem has led to past declines and will likely lead to future declines in the southern rockhopper penguin population on Macquarie Island.

#### Summary of Factor A

Based on our review of the best available information, we conclude that changes to the marine environment, which influence the southern rockhopper penguin, have affected the NZ–AUS DPS of the species. In the absence of identification of other significant threat factors and in light of the best available scientific information indicating that prey availability, productivity, or sea temperatures are affecting southern rockhopper penguins within the DPS, we find that changes to the marine environment are a threat to southern rockhopper penguins throughout the NZ–AUS DPS.

#### Factor B: Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Southern rockhopper penguins are not commercially traded. They are not listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and we found no records of trade on the CITES trade database (<http://www.unep-wcmc.org/citestrade>). Tourism and other human disturbance impacts are reported to have little effect on the species (BLI 2007, p. 3). All New Zealand subantarctic islands, including Campbell, Auckland, and Antipodes Islands, are nationally protected and inscribed as New Zealand Subantarctic Islands World Heritage sites; thus, human visitation of the islands is tightly restricted at all sites where penguins occur (Taylor 2000, p. 54; BLI 2007, p. 4; United Nations Environmental Program, World Conservation Monitoring Center (UNEP WCMC)

2008a, p. 5). Macquarie Island is also a World Heritage site with limited and controlled visitation (UNEP WCMC 2008b, p. 6).

We have no information indicating overutilization for commercial, recreational, scientific, or educational purposes is a threat to any portion of the NZ–AUS DPS of southern rockhopper penguins, nor any reason to believe that levels of utilization will increase in the future.

#### *Factor C: Disease or Predation*

##### Disease

Information on disease in the NZ–AUS DPS of southern rockhopper penguin is limited. We found no information on the occurrence of disease on Auckland, Antipodes, or Macquarie Islands. Investigations have ruled out disease as a significant factor in major population declines at Campbell Island in the 1940s and 1950s. De Lisle *et al.* (1990, pp. 283–285) isolated avian cholera (*Pasteurella multocida*) from the lungs of dead chicks and adults sampled during the year of decline 1985–86 and the subsequent year 1986–87. They were unable to determine whether this was a natural infection in southern rockhopper penguins or one that had been introduced through the vectors of rats, domestic poultry, cats (*Felis catus*), dogs (*Canis familiaris*), or livestock that have been prevalent on the island in the past. While the disease was isolated in four separate colonies along the coast of Campbell Island, and there was evidence of very limited mortality from the disease, the authors concluded there was no evidence that mortality from this pathogen on its own may have caused the decline in numbers at Campbell Island (Cunningham and Moors 1994, p. 34). Assays for a variety of other infectious avian diseases found no antibody responses in southern rockhopper penguins at Campbell Island (de Lisle *et al.* 1990, pp. 284–285).

In summary, we have no information indicating disease is a threat in any portion of the NZ–AUS DPS of southern rockhopper penguins, nor any reason to believe that levels of disease will increase in the future.

##### Predation by Native Species

Several native predators, such as skuas (*Catharacta* spp.), giant petrels (*Macronectes* spp.), fur seals (*Arctocephalus* spp.), and sea lions (*Otaria* spp.), prey on rockhopper penguins (Quillfeldt 2010, p. 50). We found no information indicating predation by marine mammals is a threat to the NZ–AUS DPS of southern

rockhopper penguins. Some studies, including some on penguins, have shown that avian predation is higher at the edges of bird colonies (Gilchrist 1999, pp. 21–29; Emslie *et al.* 1995, pp. 317–327; Spear 1993, pp. 399–414; Tenaza 1971, pp. 81–92). It has been suggested that, as a result, relative predation rates will increase with colony fragmentation and shrinkage due to the relationship between perimeter and area, and, therefore, that the population trajectory of small and fragmented colonies are more likely to be effected by avian predation (Jackson *et al.* 2005; Quillfeldt 2010, p. 50). Given the large decline in the numbers of southern rockhopper penguins on islands within the DPS, it is possible that avian predators may be having an increasing effect on the southern rockhopper population there. However, we found no information indicating that relative avian predation rates are increasing within the NZ–AUS DPS. We, therefore, find that predation by native birds and mammals is not a threat to the NZ–AUS DPS.

##### Predation by Introduced Species

At Campbell Island in New Zealand, de Lisle *et al.* (1990, p. 283) ruled out Norway rats (*Rattus norvegicus*), which were present on the island at the time of precipitous declines, as a factor in those declines. Quillfeldt (2010, pp. 50–51) reports that there is little indication that mice, which occur on Auckland and Antipodes Islands, or Norway rats, which occur on Macquarie Island, prey on rockhopper penguins. Feral cats are present on Auckland Island, but have not been observed preying on chicks there (Taylor 2000, p. 55), and Dilks (1979, p. 65) found no rockhopper remains in the stomachs of feral cats on Campbell Island. Although it was suggested that introduced predators may affect breeding on Macquarie Island (Ellis *et al.* 1998, p. 49; Quillfeldt 2010, p. 50), no information was provided to support this idea. Therefore, we find that predation by introduced species is not a threat to the NZ–AUS DPS.

##### Summary of Factor C

We found no information indicating disease or predation is a threat to southern rockhopper penguins in the NZ–AUS DPS. Therefore, based on our review of the best available information we find that neither disease nor predation is a threat to the NZ–AUS DPS of southern rockhopper penguin in any portion of its range, and no information is available that suggests this will change in the future.

#### *Factor D: The Inadequacy of Existing Regulatory Mechanisms*

The majority of subantarctic islands are under protected status. All New Zealand subantarctic islands, including Campbell, Auckland, and Antipodes Islands, are nationally protected and inscribed as the New Zealand Subantarctic Islands World Heritage sites. Human visitation of the islands is tightly restricted at all sites where penguins occur (Taylor 2000, p. 54; BLI 2007, p. 4; UNEP WCMC 2008a, p. 5). In Australia, Macquarie Island is also a World Heritage site with limited, controlled visitation and with management plans in place (UNEP WCMC 2008b, p. 6).

Based on our review of the existing regulatory mechanisms in place for each of these areas and our analysis of other threat factors, we find that existing regulatory mechanisms regarding the conservation of the southern rockhopper penguin (BLI 2007, p. 4; Ellis *et al.* 1998, pp. 49, 53) are adequate throughout the DPS. There is no information available to suggest these regulatory mechanisms will change in the future.

#### *Factor E: Other Natural or Manmade Factors Affecting the Continued Existence of the Species*

##### Oil spills

We examined the possibility that oil spills may impact southern rockhopper penguins within the NZ–AUS DPS. Such spills, should they occur and not be effectively addressed, can have direct effects on marine seabirds such as penguins.

We are aware of only one report of an oil spill incident within the NZ–AUS DPS. In December 1987, the Australian Antarctic Division (AAD) resupply vessel, the *Nella Dan*, ran aground in Buckles Bay, while transferring fuel to the Australian National Antarctic Research Expedition (ANARE) station on the northern end of Macquarie Island. Approximately 270,000 liters (71,326 gallons) of mostly light marine diesel fuel were released into the sea (Parks and Wildlife Service (Australia) 2006, pp. 122–123). The only reported impacts we found were to tidal and intertidal invertebrates in the Bay. It has been noted that an offshore oil spill at Macquarie Island, especially on the west (windward) side of the island, could be extremely serious given the abundance of shore-dwelling wildlife and the difficulties of conducting response operations in an isolated location where weather and sea conditions are usually severe. Australian Antarctic Division vessels and tourist vessels usually anchor one or more kilometers from



shore on the leeward side of the island, which reduces the likelihood of an oil spill reaching the coast, although a fishing vessel regularly operates off the west side of the island (Parks and Wildlife Service (Australia), pp. 122–123). Parks and Wildlife Service (Australia) (2006, pp. 122–123) state that a Macquarie Island Station Oil Spill Contingency Plan provides policies and procedures for dealing with nearshore oil spills in the waters of Buckles Bay, but that it would be nearly impossible to contain an oil spill anywhere else. The National Plan to Combat Marine Oil Spills developed by the Australian Maritime Safety Authority concludes that, in the event of a spill, little could be done at Macquarie Island except for attempting to clean oil off critical species (Parks and Wildlife Service (Australia) 2006, pp. 122–123).

We found no information on oil spills within the New Zealand waters of the DPS. However, 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 human 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). Rapid containment of spills in remote areas and effective triage response under this plan have shown these to be effective regulatory mechanisms for containing spills and minimizing impacts to wildlife (New Zealand Wildlife Health Center 2007, p. 2; Taylor 2000, p. 94). For instance, outside the range of the NZ–AUS DPS of southern rockhopper penguin, the fishing vessel *Seafresh 1* sank in Hanson Bay on the east coast of Chatham Island in March 2000, and released 66 tons (60 tonnes (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. Approximately 331 tons (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 wildlife casualties of the pollution event were discovered (Taylor 2000, p. 94).

We recognize that an oil spill near a breeding colony could potentially have local effects on the NZ–AUS DPS of southern rockhopper penguin, particularly at Macquarie Island, where the ability to contain a spill may be limited. However, there are an estimated 89,600–101,500 breeding pairs of southern rockhopper penguins spread among four different island groups within the DPS, with an estimated 32,000–43,000 breeding pairs on Macquarie Island. Consequently, we find that oil and chemical spills do not rise to the level of threatening the species within the DPS given: (1) The size and distribution of breeding colonies among the four island groups within the DPS; (2) subantarctic breeding islands within the DPS are remote from shipping activity; (3) the frequency and severity of previous spills are low; (4) New Zealand has an effective New Zealand Marine Oil Spill Response Strategy; and (5) ships visiting Macquarie Island usually anchor well off the leeward coast of the island. Therefore, we find that oil spills are not a threat to the southern rockhopper penguin within the NZ–AUS DPS. Furthermore, we found no information indicating that the frequency or severity of oil spills in any portion of the species' range will increase in the future, or that existing containment capabilities will be weakened. Therefore, we conclude that oil pollution from oil spills is not a threat to the species in any portion of its range now or in the foreseeable future.

#### Fisheries

##### Fishing Bycatch

Incidental mortality of rockhopper penguins by fisheries operations does not appear to be significant. Munro (2010, p. 57) reported that rockhopper penguins are not particularly susceptible to mortality as bycatch, and that bycatch monitoring systems very rarely report mortality of rockhopper penguins. Southern rockhopper penguins could potentially be caught in trawl nets, but there are no records of their being caught in New Zealand subantarctic waters by this fishing method (Taylor 2000, p. 94), nor do we have information suggesting they are caught in Australian waters by this fishing method.

##### Competition With Fisheries

The Action Plan for Seabird Conservation in New Zealand (Taylor 2000, p. 94) reported that competition from fisheries may be a potential threat to southern rockhopper penguins, as there is a major fishery for southern blue

whiting, a common prey species for this penguin in New Zealand subantarctic waters. However, no additional information was given, and we found no information suggesting impacts, or potential impacts, to southern rockhopper penguins from competition with any fisheries in New Zealand or Australian waters. Munro (2010, p. 57), in his assessment of fisheries interactions with rockhopper penguin, notes that fisheries within New Zealand and Australia are well regulated. He also does not identify competition with fisheries within the NZ–AUS DPS (the Pacific Ocean region) as a concern. Munro (2010, p. 57) states, however, that effects of fishery catch on marine ecosystems and apex predators like rockhopper penguins are not known in any of the areas where rockhopper penguins forage.

##### Summary of Fisheries

In our review of fisheries activities, we found no reports of documented fisheries interactions, or impacts from competition for prey species, between southern rockhopper penguins and commercial fisheries within the NZ–AUS DPS of the species. Nor did we find documentation of fisheries bycatch of the species. While fisheries activities have the potential to compete for the prey of southern rockhopper penguins, there is no information indicating competition with fisheries is a threat to the DPS of the species. Therefore, we find that fisheries interactions with southern rockhopper penguins are not a threat to species in any portion of the NZ–AUS DPS, and we have no reason to believe this will change in the future.

##### Summary of Factor E

On the basis of analysis of potential impacts from oil spills and fisheries, we find that other natural or manmade factors are not threats to the southern rockhopper penguin in any portion of the NZ–AUS DPS, now or in the foreseeable future.

##### NZ–AUS DPS Finding

We identified a number of potential stressors to this species within the NZ–AUS DPS, including: (1) Changes in the marine environment, (2) human use and disturbance, (3) disease and predation, and (4) oil spills and competition with fisheries. To determine whether these stressors individually or collectively rise to a “threat” level such that the southern rockhopper penguin is in danger of extinction throughout the DPS, or likely to become so within the foreseeable future, we first considered whether the stressors to the species were causing long-term, population-

scale declines in penguin numbers, or were likely to do so in the future.

Historical numbers of southern rockhopper penguins for the NZ–AUS DPS may have been as high as 960,000 breeding pairs; they are currently estimated at 89,600–101,500 breeding pairs. Significant historical declines have been reported, in particular, at Campbell Island, where a decline of 94 percent was recorded between the early 1940s and 1985; at Antipodes Islands, where a decline of 94 percent was recorded; and at Auckland Islands, where the numbers halved between 1983 and 1990. At Macquarie Island, which represents 32 to 48 percent of this DPS, southern rockhopper penguin numbers were recently estimated to be an order of magnitude lower than previous categorical estimates, and expert opinion indicates a long-term declining trend in population on this island. Current quantitative data is not available to indicate whether, and to what extent, numbers throughout this DPS continue to decline, but qualitative evidence indicates that numbers continue to decline throughout the DPS.

In our five-factor analysis, we did not find evidence of any significant changes to the terrestrial habitat of the southern rockhopper penguin. Changes to the marine environment, however, are cited as factors that have led to historical or recent large declines within the Campbell Plateau portion of the range, and it is reasonable to conclude that changes in the marine environment are the cause of population affects at Macquarie Island. We have no reason to believe these changes in the marine environment will be ameliorated in the future; therefore, we find it reasonably likely that the effects on the species in this DPS will continue at current levels or potentially increase. On the basis of the best available scientific and commercial information, including evidence of precipitous decreases of penguin numbers in this DPS, we find that the present or threatened destruction, modification, or curtailment of its marine habitat or range is a threat to the southern rockhopper penguin throughout the NZ–AUS DPS.

On the basis of our five-factor analysis of the best available scientific and commercial information, we find that overutilization for commercial, recreational, scientific, or educational purposes; disease or predation; and inadequacy of existing regulatory mechanisms are not threats to the southern rockhopper penguin in any portion of the NZ–AUS DPS. On the basis of information on fisheries and oil spills, we find that other natural or

manmade factors are also not a threat to the southern rockhopper penguin in any portion of the NZ–AUS DPS.

Having determined that changes in the marine environment are a threat to the NZ/AUS DPS of southern rockhopper penguin, we next determined whether changes in the marine environment rises to a “threat” level such that the DPS is in danger of extinction (“endangered” under the Act). 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). We also considered whether we could reliably predict any future events (not yet acting on the species and therefore not yet manifested in a trend) that might affect the status of the species. The available data support a conclusion that there is a current overall declining trend in population numbers throughout the DPS as a result of changes in the marine environment. While the oceanographic factors contributing to declines within the DPS are not clearly understood, they appear to relate to changes in sea surface temperatures or to changes in marine productivity at scales affecting individual colonies or regions, causing reductions in food availability that may have occurred in short periods or extended over periods of years. Current qualitative information indicates that colonies are still in decline, although the rate of that decline is undocumented. According to the most recent estimates, there are approximately 90,000 to 100,000 breeding pairs of southern rockhopper penguins within the DPS, distributed over four breeding islands that are located in two different oceanographic regions (Campbell Plateau and Macquarie Ridge). Because declines appear to relate to changes in the marine environment at scales affecting individual colonies or regions, and the timing of these declines appears to vary, we are unable to predict the rate of current or future declining trends at each of these breeding locations. However, the presence of four breeding areas within this DPS provides a measure of resiliency against changes in the marine environment that may cause severe localized population declines within the DPS. We conclude that the current number of breeding pairs of southern rockhopper penguin within the NZ/AUS DPS and their distribution over four breeding locations provides resiliency to the population against the effects of marine-based threats such that the DPS is not currently in danger of extinction.

Next, we considered whether changes in the marine environment pose such a threat that the DPS is likely to become in danger of extinction in the foreseeable future (“threatened” under the Act). Though it is possible the magnitude of current threats may increase in the future, there is no evidence that any of the stressors or threats are growing in magnitude. Thus, the foreseeable future includes consideration of the ongoing effects of current threats at comparable levels on the viability of the DPS.

It is reasonably likely that changes in the marine environment will continue to affect the DPS at least at current levels, further reducing the population numbers. Given the magnitude of declines recorded in the Campbell Plateau region of the DPS during approximately the past 65 years, lower population numbers within the DPS are reasonably likely in the foreseeable future. Lower population numbers would cause this DPS to be more vulnerable to threats from changes in the marine habitat, and more vulnerable to potential impacts from oil spills and other random or catastrophic perturbations within the ecosystem. Loss of one or more of the four breeding concentrations, two of which number less than 4,000 breeding pairs, would significantly reduce the resiliency and redundancy of populations in this DPS and increase the impact of random or catastrophic perturbations on remaining population numbers in the DPS.

We conclude that a reduction in range or number of southern rockhopper penguins within the NZ/AUS DPS is likely in the foreseeable future, and that this reduction is likely to increase its vulnerability to changes in the marine environment and random or catastrophic perturbations to the point where the viability of the DPS would be in question. Therefore, on the basis of our analysis of the best available scientific and commercial information, we conclude that the southern rockhopper penguin throughout the range of the NZ–AUS DPS is likely to become in danger of extinction in the foreseeable future, and thus should be designated as a threatened species under the Act.

#### *Significant Portion of the Range Analysis*

Having determined that the NZ–AUS DPS of southern rockhopper penguin meets the definition of threatened throughout its range, we must next consider whether there are any significant portions of the range of the species within the NZ–AUS DPS that meet the definition of endangered. 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.” For the purpose of this analysis, we considered a portion of the southern rockhopper penguin DPS’s range to be significant if it is important to the conservation of the DPS because it contributes meaningfully to the representation, resiliency, or redundancy of the DPS. For a contribution to be meaningful, its loss would at least have to result in a decrease in the ability to conserve the DPS.

We found that changes in the marine habitat threaten the species throughout the DPS. Although declines on the Campbell Plateau have been quantified to some extent, the lack of quantitative population trend information for Macquarie Island precludes a comparison of the declines in these two portions of the range. Further, we found no information indicating that the threat posed to the NZ–AUS DPS of southern rockhopper penguins by changes in the marine habitat are of greater magnitude or extent in either of these portions or any other portion of the range of the DPS. Therefore, we conclude that the threats to the species are essentially uniform throughout the DPS, and no portion of the NZ–AUS DPS is currently in danger of extinction.

#### *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 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 NZ–AUS DPS of the

southern rockhopper penguin is not native to the United States, critical habitat is not being designated for this 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 the NZ–AUS DPS of the southern rockhopper penguin. These prohibitions, under 50 CFR 17.21 and applicable to threatened species through 50 CFR 17.31, 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 threatened 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.

#### **Required Determinations**

##### *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).

#### **References Cited**

A complete list of the references cited in this rule is available on the Internet at <http://www.regulations.gov> or upon request from the Branch of Foreign Species, Endangered Species Program, U.S. Fish and Wildlife Service (*see FOR FURTHER INFORMATION CONTACT*).

#### **Author**

The authors of this rule are staff members of the Branch of Foreign Species, Endangered Species Program, 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.

#### **Regulation Promulgation**

Accordingly, we 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 a new entry for “Penguin, southern rockhopper” 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, southern rockhopper.	<i>Eudyptes chrysocome</i>	Southern Ocean, South Atlantic Ocean, South Pacific Ocean, Southern Indian Ocean.	New Zealand-Australia distinct population segment, associated with the Campbell Plateau and Macquarie Island.	T	784	NA	NA
*	*	*	*	*	*	*	*

\* \* \* \* \*

Dated: February 2, 2011.  
**Rowan W. Gould,**  
*Acting Director, U.S. Fish and Wildlife Service.*  
 [FR Doc. 2011-3732 Filed 2-18-11; 8:45 am]  
**BILLING CODE 4310-55-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**50 CFR Part 622**

[Docket No. 001005281-0369-02]

RIN 0648-XA220

**Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic; Trip Limit Reduction**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Temporary rule; trip limit reduction.

**SUMMARY:** NMFS reduces the commercial trip limit of Atlantic migratory group Spanish mackerel in or from the exclusive economic zone (EEZ) in the southern zone to 1,500 lb (680 kg) per day. This trip limit reduction is necessary to maximize the socioeconomic benefits of the quota.

**DATES:** Effective 6 a.m., local time, February 22, 2011, until 12:01 a.m., local time, March 1, 2011, unless changed by further notification in the **Federal Register**.

**FOR FURTHER INFORMATION CONTACT:** Susan Gerhart, telephone: 727-824-5305, or e-mail: [susan.gerhart@noaa.gov](mailto:susan.gerhart@noaa.gov).

**SUPPLEMENTARY INFORMATION:** The fishery for coastal migratory pelagic fish (king mackerel, Spanish mackerel, cero, cobia, little tunny, dolphin, and, in the Gulf of Mexico only, bluefish) is managed under the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic (FMP). The FMP was prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils) and is implemented under the authority of the Magnuson-Stevens Fishery Conservation and Management Act by regulations at 50 CFR part 622.

Based on the Councils' recommended total allowable catch and the allocation ratios in the FMP (65 FR 41015, July 3, 2000) NMFS implemented a commercial quota of 3.87 million lb (1.76 million kg) for the Atlantic migratory group of Spanish mackerel. Atlantic migratory group Spanish mackerel are divided into a northern and southern zone for management purposes. The southern zone for Atlantic migratory group Spanish mackerel extends from 30°42'45.6" N. lat., which is a line directly east from the Georgia/Florida boundary, to 25°20.4'N. lat., which is a line directly east from the Miami-Dade/Monroe County, Florida, boundary.

For the southern zone, seasonally variable trip limits are based on an adjusted quota of 3.62 million lb (1.64 million kg). The adjusted quota is calculated to allow continued harvest in the southern zone at a set rate for the remainder of the fishing year, February 28, 2011, in accordance with 50 CFR 622.44(b)(2). Beginning December 1, the trip limit is unlimited on weekdays and limited to 1,500 lb (680 kg) of Spanish mackerel per day on weekends. When 75 percent of the adjusted quota of Atlantic migratory group Spanish mackerel is taken until 100 percent of the adjusted quota is taken, Spanish

mackerel in or from the EEZ in the southern zone may not be possessed on board or landed from a permitted vessel in amounts exceeding 1,500 lb (680 kg) per day.

NMFS has determined that 75 percent of the adjusted quota for Atlantic group Spanish mackerel has been taken. Accordingly, the 1,500-lb (680-kg) per day commercial trip limit applies to Spanish mackerel in or from the EEZ in the southern zone effective 6 a.m., local time, February 22, 2011, until 12:01 a.m., local time, March 1, 2011, unless changed by further notification in the **Federal Register**.

**Classification**

This action responds to the best available information recently obtained regarding the status of the fishery. The Assistant Administrator for Fisheries, NOAA, (AA), finds the need to immediately implement this commercial trip limit reduction constitutes good cause to waive the requirements to provide prior notice and opportunity for public comment pursuant to the authority set forth in 5 U.S.C. 553(b)(B), as such procedures would be unnecessary and contrary to the public interest. Such procedures would be unnecessary because the rule itself already has been subject to notice and comment, and all that remains is to notify the public of the trip limit reduction.

Allowing prior notice and opportunity for public comment is contrary to the public interest because of the need to immediately implement this action to protect the fishery resource because the capacity of the commercial fleet allows for rapid harvest of the quota. Prior notice and opportunity for public comment would require time and potentially result in a harvest well in excess of the established quota.