List of Subjects in 48 CFR Parts 231

Government procurement.

Jennifer L. Hawes,

Editor, Defense Acquisition Regulations System.

Therefore, 48 CFR part 231 is proposed to be amended as follows:

PART 231—CONTRACT COST PRINCIPLES AND PROCEDURES

■ 1. The authority citation for part 231 continues to read as follows:

Authority: 41 U.S.C. 1303 and 48 CFR chapter 1.

■ 2. In section 231.205–18, revise paragraph (c)(iii)(C) to read as follows:

231.205–18 Independent research and development and bid and proposal costs.

* * * * *

(c) * * *

(iii) * * *

(C) For annual IR&D costs to be allowable—

(*1*) The IR&D projects generating the costs must be reported to the Defense Technical Information Center (DTIC) using the DTIC's on-line input form and instructions at *http://www.defense innovationmarketplace.mil/;*

(*2*) The inputs must be updated with a summary of results at least annually and when the project is completed;

(*3*) Copies of the input and updates must be made available for review by the cognizant administrative contracting officer (ACO) and the cognizant Defense Contract Audit Agency auditor to support the allowability of the costs;

(*4*) Contractors that do not meet the threshold as a major contractor are encouraged to use the DTIC on-line input form to report IR&D projects to provide DoD with visibility into the technical content of the contractors' IR&D activities; and

(*5*) For IR&D projects initiated in the contractor's fiscal year 2017 and later, as a prerequisite for the subsequent determination of allowability, major contractors must—

(*i*) Engage in a technical interchange with a technical or operational DoD Government employee before IR&D costs are generated so that contractor plans and goals for IR&D projects benefit from the awareness of and feedback by a DoD employee who is informed of related ongoing and future potential interest opportunities; and

(*ii*) Use the online input form for IR&D projects reported to DTIC to document the technical interchange, which includes the name of the DoD Government employee and the date the technical interchange occurred.

* * * * *

[FR Doc. 2016–03039 Filed 2–12–16; 8:45 am]

BILLING CODE 5001–06–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2015–0170; FFXES11130000–156–FF08E00000]

RIN 1018–BA71

Endangered and Threatened Wildlife and Plants; Removing the San Miguel Island Fox, Santa Rosa Island Fox, and Santa Cruz Island Fox From the Federal List of Endangered and Threatened Wildlife, and Reclassifying the Santa Catalina Island Fox From Endangered to Threatened

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; availability of draft post-delisting monitoring plan.

SUMMARY: We, the U.S. Fish and Wildlife Service (USFWS), propose to remove the San Miguel Island fox (*Urocyon littoralis littoralis*), Santa Rosa Island fox (*U. l. santarosae*), and Santa Cruz Island fox (*U. l. santacruzae*) from the Federal List of Endangered and Threatened Wildlife and to reclassify the Santa Catalina Island fox (*U. l. catalinae*) from an endangered species to a threatened species. This determination is based on a thorough review of the best available scientific and commercial information, which indicates that the threats to the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox have been eliminated or reduced to the point that each of the subspecies no longer meets the definition of an endangered species or a threatened species under the Endangered Species Act of 1973, as amended (Act), and that the threats to the Santa Catalina Island fox have been reduced to the point that the subspecies can be reclassified as a threatened species. We are seeking information and comments from the public regarding this proposed rule and the draft post-delisting monitoring plan for the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox.

DATES: We will accept comments received or postmarked on or before April 18, 2016. We must receive requests for public hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section by April 1, 2016.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter FWS–R8–ES–2015–0170, which is the docket number for this rulemaking. Then click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rules link to locate this document. You may submit a comment by clicking on ''Comment Now!''

(2) *By hard copy:* Submit by U.S. mail or hand-deliver to: Public Comments Processing, Attn: FWS–R8–ES–2015–0170; Division of Policy, Performance, and Management Programs; U.S. Fish and Wildlife Service, MS: BPHC; 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. 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 Information Requested section, below, for more information).

Document availability: A copy of the Recovery Plan for Four Subspecies of Island Fox (*Urocyon littoralis*) referenced throughout this document can be viewed at *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A08I,* at *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170, or at the Ventura Fish and Wildlife Office's Web site at *http://www.fws.gov/Ventura/.* The post-delisting monitoring plan for the northern Channel Island fox subspecies (San Miguel, Santa Rosa, and Santa Cruz Island foxes) consists of two documents: the epidemic response plan for northern Channel Island foxes (Hudgens *et al.* 2013, entire) and the golden eagle management strategy (NPS 2015a, entire). These documents will also be posted on *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A08I,* at *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170, and the Ventura Fish and Wildlife Office's Web site at *http://www.fws.gov/Ventura/.*

FOR FURTHER INFORMATION CONTACT: Stephen P. Henry, Field Supervisor, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, CA 93003; by telephone 805–644–1766; or by facsimile 805–644–3958. If you use a

telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Information Requested

We intend any final action resulting from this proposal will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, tribes, the scientific community, industry, or other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) Additional information on the distribution, population size, and population trends of the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox (collectively referred to as ''island foxes'' below).

(2) Relevant information concerning any current or likely future threats (or lack thereof) to the island foxes.

(3) Current or planned activities within the range of the island foxes and their possible impacts.

(4) Regional climate change models and whether they are reliable and credible to use in assessing the effects of climate change on the island foxes and their habitats.

(5) Our draft post-delisting monitoring plan.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include. Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, may not meet the standard of information required by section 4(b)(1)(A) of the Act (16 U.S.C. 1531 *et seq.*), which directs that determinations as to whether any species is an endangered or threatened species must be made ''solely on the basis of the best scientific and commercial data available.''

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**. If you submit information via *http://www.regulations.gov,* your entire submission—including any personal identifying information—will be posted on the Web site. If your submission is made via a hardcopy 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 submissions 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, Ventura Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Public Hearings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. We must receive your request within 45 days after the date of this **Federal Register** publication. Send your request to the address shown in **FOR FURTHER INFORMATION CONTACT**. 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 accommodation, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Previous Federal Actions

On December 10, 2001, we published a proposal to list four subspecies of island foxes as endangered species (66 FR 63654). Please refer to this proposed rule for information on Federal actions prior to December 10, 2001. On March 5, 2004, we published a final rule listing the four subspecies of island foxes as endangered species (69 FR 10335). Please refer to the final Recovery Plan for Four Subspecies of Island Fox (*Urocyon littoralis*) (USFWS 2015, entire) for a detailed description of Federal actions concerning this species. We did not designate critical habitat for the four subspecies of island fox, as explained in our November 9, 2005, final critical habitat determination (70 FR 67924).

We published a notice announcing the initiation of a review of the status of the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox under section 4(c)(2) of the Act on March 9, 2015 (80 FR 12521), with the notice announcing the availability of the final recovery plan. This proposed rule to remove the San Miguel Island fox, Santa Rosa Island fox, and the Santa Cruz Island fox from the Federal List of Endangered and Threatened Wildlife, and to reclassify the Santa Catalina Island fox from an endangered species to a threatened species, also constitutes a status review for each subspecies.

Background

The Recovery Plan for Four Subspecies of Island Fox (*Urocyon littoralis*) (Recovery Plan) (USFWS 2015, entire) was prepared by USFWS working with a Recovery Team that included public agency representatives, landowners, conservancies, zoological institutions, non-profits, and academics. The Recovery Plan includes discussion of the following: Species description and taxonomy, habitat use, social organization, reproduction, distribution and abundance, threats to the subspecies, and recovery strategies. Detailed information from the Recovery Plan is summarized in the following sections of this proposed rule: Background, Recovery and Recovery Plan Implementation, and Summary of Factors Affecting the Species. See the Recovery Plan for more information on the species' ecology, species' biological needs, and analysis of the threats that may be impacting the subspecies.

The island fox (*Urocyon littoralis*), a diminutive relative of the gray fox (*U. cinereoargenteus*), is endemic to the California Channel Islands. Island foxes inhabit the six largest of the eight Channel Islands (San Miguel Island, Santa Rosa Island, Santa Cruz Island, Santa Catalina Island, San Nicolas Island, and San Clemente Island) and are recognized as distinct subspecies on each of the six islands (see Figure 1, below). Islands inhabited by island foxes are owned by four major landowners: The National Park Service (NPS), the U.S. Navy (Navy), The Nature Conservancy (TNC), and the Santa Catalina Island Conservancy (CIC), all of whom have management authority for wildlife on their lands (Figure 1). The NPS, TNC, and CIC manage the islands where the listed subspecies occur.

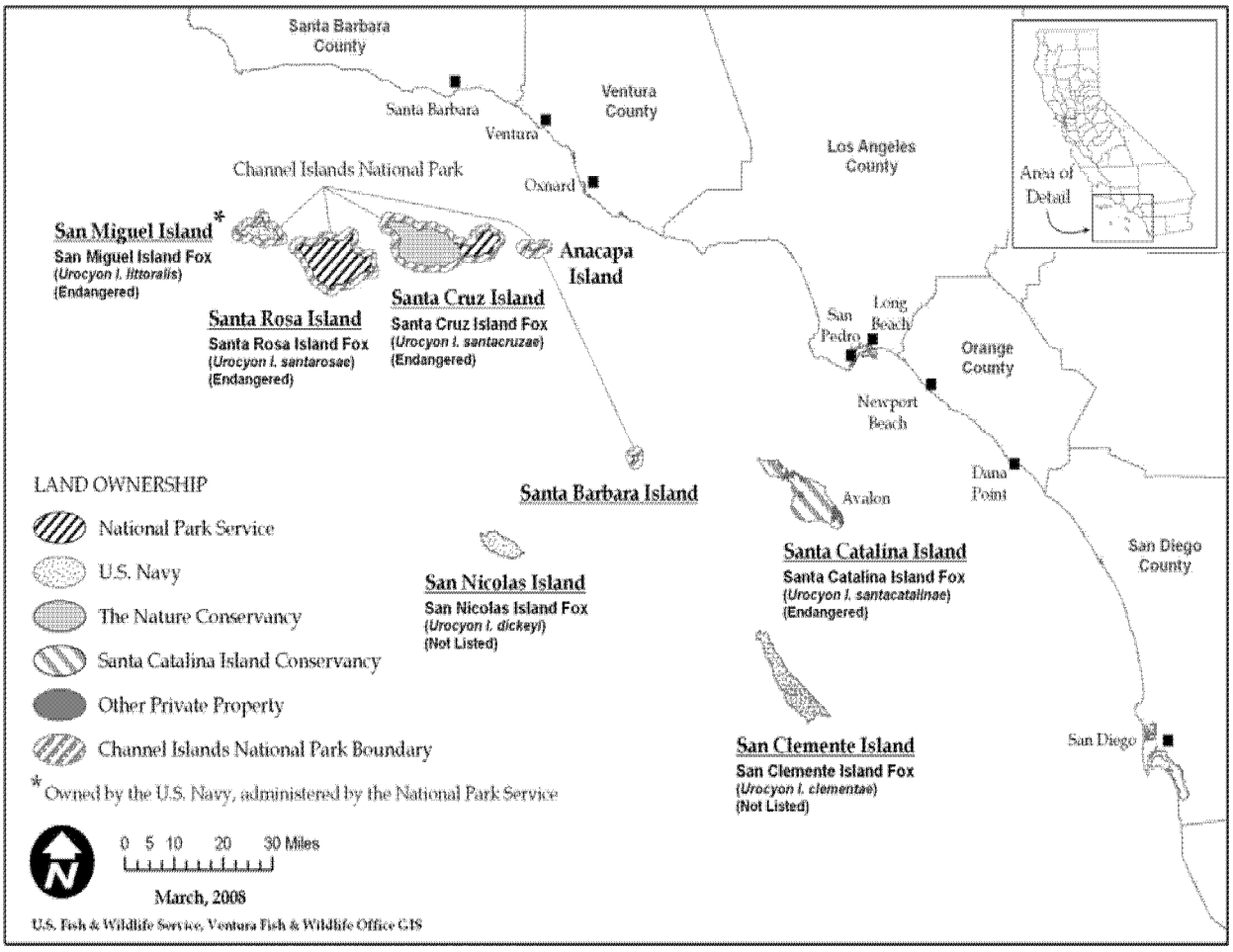

Figure 1. Channel Islands Land Ownership from the Recovery Plan (USFWS 2015, p. 4)

Both morphologic and genetic distinctions support the classification of separate subspecies of island foxes for each island (Collins 1993, entire; Gilbert *et al.* 1990, entire; Goldstein *et al.* 1999, entire; Wayne *et al.* 1991a, entire). The island fox is a habitat generalist, occurring in all natural habitats on the Channel Islands, although it prefers areas of diverse topography and vegetation (von Bloeker 1967, pp. 257–258; Laughrin 1977, p. 33; Collins and Laughrin 1979, p. 12). The island fox is primarily nocturnal, but more diurnal than the mainland gray fox (Collins and Laughrin 1979, p. 12.46; Crooks and Van Vuren 1995, p. 305; Fausett 1993, p. 30), possibly a result of historical absence of predators and freedom from human harassment (Laughrin 1977, pp. 19–20).

Even in the absence of catastrophic events, island fox populations may have fluctuated markedly over time (Laughrin 1980, entire). Residents of Santa Cruz Island occasionally noted periods of island fox scarcity and abundance (Laughrin 1980, p. 745). Santa Catalina Island fox population levels were low in 1972, and again in 1977 (Laughrin 1980, p. 747); however, by 1994, the adult Santa Catalina Island fox population was estimated at over 1,300 individuals (Roemer *et al.* 1994, p. 393). Demographic analysis indicated that island fox survival was positively related to the previous year's winter rainfall in the drier southern islands and negatively related to current and previous year's winter rainfall in the wetter northern islands (San Miguel, Santa Rosa, and Santa Cruz Island) (Bakker *et al.* 2009, p. 87; USFWS 2015 Appendix 2). Thus, indirect evidence suggests effects of climate on island fox survival.

The four federally listed island fox subspecies (San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes) all experienced precipitous population declines in the latter half of the 1990s (Roemer 1999, pp. 124–125, 169–171; Timm *et al.* 2000, pp. 6–7, 16–17; Coonan *et al.* 2000, entire; 2005a, pp. 263–264; Roemer *et al.* 2001, entire). San Miguel Island foxes declined from 450 individuals in 1994, to 15 in 1999/2000; Santa Rosa Island foxes declined from 1,780 individuals in 1994, to 15 in 1999/2000; Santa Cruz Island foxes declined from 1,465 individuals in 1994, to 55 in 1999/2000; and Santa Catalina Island foxes declined from 1,342 individuals in 1994, to 103 in 1999/2000. Island fox populations on the northern Channel Islands (San Miguel, Santa Rosa, and Santa Cruz Islands) declined by 90 to 95 percent and, prior to removal of foxes from the wild for captive breeding, were estimated to have a 50 percent chance of extinction over 5 to 10 years (Roemer 1999, p. 147; Roemer *et al.* 2001, p. 312). Thus, by 1999, researchers considered island fox subspecies on the northern Channel Islands to be critically endangered (Roemer 1999, p. 180). The Santa Catalina Island subspecies was considered to be critically endangered by 2000 (Timm *et al.* 2000, entire).

The decline of island foxes in the northern Channel Islands (San Miguel, Santa Rosa, and Santa Cruz Islands) is considered a consequence of

hyperpredation by nonnative golden eagles (Roemer *et al.* 2001, entire). The presence of nonnative prey species (feral pigs on Santa Cruz Island, and mule deer and elk on Santa Rosa Island) and an open ecological niche created by the extirpation of bald eagles (*Haliaeetus leucocephalus*) from the islands as a result of dichlorodiphenyltrichloroethane (DDT) poisoning (USFWS 2004, p. 10343) enabled golden eagles to colonize the islands successfully and prey heavily on island foxes, which evolved in the absence of predators. In contrast, the decline of island foxes on Santa Catalina Island is considered a consequence of canine distemper virus (CDV). Analysis of CDV isolated from a Santa Catalina Island fox during the late 1990s epidemic indicated it was most closely related to the strain found in mainland raccoons (Timm *et al.* 2009, p. 339), and a number of stowaway raccoons have been removed from Santa Catalina Island (King and Duncan 2014, p. 20). Therefore, the catastrophic population decline of Santa Catalina Island foxes was likely caused by CDV transmitted from a raccoon accidentally transported from the mainland (Timm *et al.* 2009, p. 341). Other sources of mortality of island foxes have been identified, particularly for foxes on Santa Catalina Island, such as motor vehicle strikes, interactions with feral cats and dogs, and drought, but were not considered to have contributed substantially to declines of the four subspecies of island foxes.

In response to the catastrophic declines of 1999/2000, captive breeding was implemented on all islands. All known remaining island foxes on San Miguel and Santa Rosa Islands were brought into captivity in 1999 and 2000, respectively. By 2004, captive populations from both islands exceeded the target captive population size of 40 animals and allowed initial releases back to the wild (Coonan and Schwemm 2009, p. 366; Coonan *et al.* 2005a, p. 168–169). On Santa Cruz Island, 18 representative adult island foxes were brought into captivity in 2001, and the population grew to 62 individuals by 2005; releases of captive-born foxes were subsequently concluded in July 2008 (Hudgens and Sanchez 2009, p. 16). On Santa Catalina Island, 27 foxes were brought into captivity from the isolated west end of the island in 2000. From 2001 to 2004, foxes were released from captivity, including 37 captive-born pups and 20 of the original wild-captured adults (Schmidt *et al.* 2005, p. 17). Additionally, 32 foxes were moved from the west end of Santa Catalina Island to the depleted east end, with subsequent high survival. The success of these programs allowed all the captive breeding facilities to close by 2008.

For more information about the biology and historical population status and observed declines of island fox populations, please see the Recovery Plan (USFWS 2015, pp. 5–19).

Recovery and Recovery Plan Implementation

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include: ''objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of [section 4 of the Act], that the species be removed from the list.'' However, revisions to the list (adding, removing, or reclassifying a species) must reflect determinations made in accordance with sections 4(a)(1) and 4(b) of the Act. Section 4(a)(1) requires that the Secretary determine whether a species is an endangered species or a threatened species (or not) because of one or more of five threat factors: (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; or (E) other natural or human-made factors affecting its continued existence. Section 4(b) of the Act requires that the determination be made ''solely on the basis of the best scientific and commercial data available.'' Recovery criteria should therefore indicate when a species is no longer an endangered species or threatened species because of any of the five statutory factors.

Thus, while recovery plans provide important guidance to the USFWS, States, and other partners on methods of minimizing threats to listed species and measurable objectives against which to measure progress towards recovery, they are not regulatory documents and cannot substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of or remove a species from the Federal List of Endangered and Threatened Wildlife (50 CFR 17.11) is ultimately based on an analysis of the best scientific and commercial data then available to determine whether a species is no longer an endangered species or a threatened species, regardless of whether that information differs from the recovery plan.

The Recovery Plan (USFWS 2015, pp. 47–53) includes the recovery goals, recovery objectives, and recovery criteria that we outline below to reclassify the island fox subspecies from endangered to threatened and to remove island fox subspecies from the List of Endangered and Threatened Wildlife. We summarize these goals and then discuss progress toward meeting the recovery objectives.

Recovery Goal

The goal of the Recovery Plan is to recover the San Miguel Island fox, the Santa Rosa Island fox, the Santa Cruz Island fox, and the Santa Catalina Island fox so they can be delisted (removed from the Federal List of Endangered and Threatened Wildlife) when existing threats to each respective subspecies have been ameliorated such that their populations have been stabilized and have increased. The interim goal is to recover these subspecies to the point that they can be downlisted from endangered to threatened status. Each listed subspecies may be considered for downlisting or delisting independently of the other subspecies.

Recovery Objectives

Recovery objectives identify mechanisms for measuring progress toward and achieving the recovery goal for each subspecies.

Recovery Objective 1: Each federally listed subspecies of island fox exhibits demographic characteristics consistent with long-term viability.

Recovery Objective 2: Land managers are able to respond in a timely fashion to predation by nesting golden eagles or significant predation rates by transient golden eagles, to potential or incipient disease outbreaks, and to other identified threats using the best available technology.

In order for any one of the four listed subspecies of island fox to be considered for downlisting from endangered to threatened status, recovery objective 1 should be met for that subspecies. In order for any one of the four listed subspecies of island fox to be considered for delisting, recovery objective 1 and recovery objective 2 should be met for that subspecies.

Recovery Criteria

Island fox recovery criteria are measurable standards for determining whether a subspecies has achieved its recovery objectives and may be

considered for downlisting or delisting. Criteria presented in the Recovery Plan (USFWS 2015, pp. 50–53) represent our best assessment of the conditions most likely to result in a determination that downlisting or delisting of the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and the Santa Catalina Island fox is warranted. Achieving the prescribed recovery criteria is an indication that a subspecies is no longer an endangered species or a threatened species. Each recovery criterion applies to all four subspecies, except where noted otherwise.

As presented in the Recovery Plan (USFWS 2015, pp. 50–55), the discussion of criteria below is organized by factors under 4(a)(1) to demonstrate how criteria indicate threats under that factor have been ameliorated.

Factor A: The present destruction, modification or curtailment of its habitat or range.

There are no recovery criteria for this factor. Herbivory by nonnative species resulted in habitat degradation on the Channel Islands. While habitat degradation was not identified as a primary threat to island foxes, presence of nonnative herbivores responsible for habitat degradation provided a prey base for golden eagles to become established and predate island foxes on the northern Channel Islands. If threats under Factors C and E are ameliorated, the habitat improvements expected to occur with removal of herbivores responsible for habitat degradation may provide a long-term benefit to the island fox subspecies; however, these habitat improvements are not necessary for recovery.

Factor B: Overutilization for commercial, scientific or educational purposes.

Overutilization is not a currently known threat for these subspecies; therefore, there are no recovery criteria that address threats under this factor.

Factor C: Disease or predation.

Disease and predation were identified as primary threats to island foxes. To address recovery objective 2, the magnitude and imminence of disease and predation threats must be reduced. The Recovery Plan (USFWS 2015, p. 51) states that this is accomplished when the following have occurred:

C/1: Golden eagle predation (applies only to the northern Channel Islands):

a. To reduce the threat of extinction to the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox, the rate of golden eagle predation is reduced and maintained at a level no longer considered a threat to island fox recovery through development of a golden eagle management strategy. The strategy will be developed by the land manager(s) in consultation with the USFWS and including review by the appropriate Integrated Island Fox Recovery Team Technical Expertise Group or the equivalent. This strategy includes:

- Response tactics (including the use of helicopters and net-guns) to capture nesting golden eagles and any transient golden eagle responsible for significant island fox predation, per the golden eagle response strategy;
- Tactics to minimize the establishment of successful nesting golden eagles;
- An established island fox monitoring program that is able to detect an annual island fox predation rate caused by golden eagles of 2.5 percent or greater, averaged over 3 years (Bakker and Doak 2009, entire); and
- An established mortality rate or population size threshold that, if reached due to golden eagle predation, would require land manager(s) to bring island foxes into captivity.

b. The golden eagle prey base of deer and elk is removed from Santa Rosa Island.

C/2: Disease:

A disease management strategy is developed, approved, and implemented by the land manager(s) in consultation with the USFWS and includes review by the appropriate Integrated Island Fox Recovery Team Technical Expertise Group or the equivalent. This strategy includes:

- Identification of a portion of each population that will be vaccinated against diseases posing the greatest risk, for which vaccines are safe and effective. Vaccinations and fox numbers vaccinated will be developed in consultation with appropriate subject-matter experts;
- Identification of actual and potential pathogens of island foxes, and the means by which these can be prevented from decimating fox populations;
- Disease prevention;
- A monitoring program that provides for timely detection of a potential epidemic, and an associated emergency response strategy as recommended by the appropriate subject-matter experts; and
- A process for updating the disease strategy as new information arises.

Factor D: Inadequacy of existing regulatory mechanisms.

The inadequacy of existing regulatory mechanisms was not identified as a primary threat to island foxes, and, therefore, there are no recovery criteria that address threats under this factor.

Factor E: Other natural or manmade factors affecting its continued existence.

Small population size and vulnerability to stochastic or catastrophic events were identified as primary threats to the species under Factor E. To address recovery objective 1, that each federally listed subspecies of island fox exhibits demographic characteristics consistent with long-term viability, the subspecies must be protected from other natural or manmade factors known to affect their continued existence. This is accomplished when the following has occurred:

E/1: An island fox subspecies has no more than 5 percent risk of quasi-extinction over a 50-year period (addresses objective 1). This risk level is based on the following:

- Quasi-extinction is defined as a population size of fewer than or equal to 30 individuals.
- The risk of quasi-extinction is calculated based on the combined lower 80 percent confidence interval for a 3-year running average of population size estimates, and the upper 80 percent confidence interval for a 3-year running average of mortality rate estimates.
- This risk level is sustained for at least 5 years, during which time the population trend is not declining. A declining trend is defined as the 3-year risk-level being greater in year 5 than year 1.

Achievement of Recovery Criteria

Golden eagle predation is no longer a threat due to successful golden eagle removals, nonnative prey removal, and bald eagle recovery. Recovery criterion C/1 addresses golden eagle predation in the northern Channel Islands (it does not apply to the Santa Catalina Island fox). A final golden eagle management strategy has been approved (NPS 2015a, entire), which involves actions that have already been implemented by the NPS and TNC, including: Complete removal of all golden eagles; ongoing prevention of golden eagle nesting; and removal of all nonnative golden eagle prey, including the deer and elk from Santa Rosa Island. In addition, as bald eagles reestablish their populations on the northern Channel Islands, they reduce the probability that golden eagles will recolonize because bald eagles aggressively defend their territories from golden eagles (USFWS 2004, pp. 10343–10344). Due to ongoing management as prescribed in the final golden eagle management strategy, current eagle predation is minimal, and has had a negligible effect on fox population trends; therefore, the intent of recovery criteria C/1 has been met.

Monitoring associated with criteria C/1 will be accomplished as part of the epidemic response plan for the northern Channel Island subspecies (Hudgens *et al.* 2013, entire). This monitoring will allow detection of mortality related to depredation of island fox by golden eagles (as well as early detection of mortality related to a disease epidemic). As described above, ongoing management has reduced eagle predation on island foxes in the northern Channel Islands to minimal levels. Consequently, we recognize golden eagle predation is no longer a threat to foxes on the northern Channel Islands, and the current monitoring strategy allows for a rapid response to any identified mortalities resulting from predation or disease. National Park Service and TNC have committed through signed conservation management agreements (CMAs) to carrying out monitoring and other management actions as recommended in the epidemic response plan (Hudgens *et al.* 2013, entire) for the next 5 years (USFWS and NPS 2015; USFWS and TNC 2015). Prior to the expiration of the CMAs, the parties will meet to review, modify, and re-enter into a CMA.

Recovery criterion C/2 addresses the threat of disease to all four island fox subspecies. The intent of recovery criterion C/2 is currently being met for the Santa Catalina Island fox; however, the Santa Catalina Island fox subspecies has the highest risk of disease introduction and low assurance of continued implementation of the epidemic response plan in the future, creating uncertainty that this criterion will continue to be met in the future. Santa Catalina Island has the highest risk of disease introduction because movement of potential vectors such as domestic dogs, cats, and stow-away raccoons between the mainland and the island is not controlled. The island has heavy visitation and many points of access, and there are no restrictions on visitors transporting domestic pets to the island, no restrictions or inspections required of vessels visiting from the mainland, and leash laws for dogs are difficult to enforce (King and Duncan 2011, p. 15; Anderson 2012, pers. obs.; King 2012a, p. 1; Vissman and Anderson 2013 and 2014, pers. obs.; King 2015, p. 1). The Catalina Island Conservancy (CIC) has approved and is currently implementing an epidemic response plan for Santa Catalina Island foxes (Hudgens *et al.* 2014, entire). The CIC annually vaccinates a portion of the subspecies' population against CDV and rabies when vaccines are available (King 2015, pers. comm.) and monitors for detection of potential epidemics as recommended in the epidemic response plan (Hudgens *et al.* 2014, entire), although currently there are no assurances to ensure monitoring will continue into the future on Santa Catalina Island. If there is a lapse in continued implementation of the epidemic response plan, a potential disease outbreak could occur without detection or appropriate response to mediate the threat to the subspecies.

A final disease management strategy has also been approved in the form of an epidemic response plan for the northern Channel Island fox subspecies (Hudgens *et al.* 2013, entire). This epidemic response plan is currently implemented by the NPS and TNC, and provides direction for monitoring, vaccination for canine distemper virus and rabies annually to a portion of each island fox population, and response if mortality is detected. While disease was not responsible for the decline of island foxes on the northern Channel Islands, these subspecies, like all island fox subspecies, will always be at some risk of a disease outbreak and population decline because of their small population sizes and isolation. However, the risk potential for disease outbreak has been and continues to be reduced through implementation of the epidemic response plan. Additionally, NPS and TNC have committed through signed CMAs to carrying out monitoring and other management actions for detecting and appropriately responding to a potential disease outbreak into the future as recommended in the epidemic response plan (Hudgens *et al.* 2013, entire; USFWS and NPS 2015; USFWS and TNC 2015).

Recovery criterion E/1, which is intended to indicate when population levels are sufficiently robust to withstand natural variation in demographic parameters and avoid potential extirpations from stochastic or catastrophic events, has been achieved for all four island fox subspecies. This recovery criterion is attained when the 3-year means of adult mortality rate versus population size and confidence intervals lie below 5 percent risk of subspecies-specific quasi-extinction for 5 consecutive years (see Supplementary Material ''Results of graphing/analysis tool to assess island fox recovery criterion E/1'' posted on *http://www.regulations.gov* for more details). Population monitoring has been implemented for each listed subspecies, and population viability analyses indicate all subspecies have an acceptably small risk of extinction. The extinction risk has been less than 5 percent since 2008 for San Miguel, Santa Cruz, and Santa Catalina Islands, and since 2011 for Santa Rosa Island. As of 2014, island fox populations had increased to greater than 500 on San Miguel Island (Coonan 2015, pp. 7, 13), greater than 800 on Santa Rosa Island, greater than 2,500 individuals on Santa Cruz Island (Bakker 2015, p. 4), and greater than 1,700 on Santa Catalina Island (King and Duncan 2014, p. 11). All populations with the exception of Santa Rosa Island are at or above their pre-decline population estimates (Coonan 2015a, pers. comm.; King and Duncan 2014, pp. 1, 10). On San Miguel Island, low reproductive effort coupled with declining survival suggests that the San Miguel Island subspecies has reached carrying capacity (Coonan 2015, p. 8). We conclude, based on population viability analyses, that the intent of recovery criterion E/1 has been achieved for all four island fox subspecies. The graphing/analysis tool used to assess attainment of recovery criterion E/1 and associated discussion is found in Appendix 2 of the Recovery Plan (USFWS 2015, pp. 131–136). Detailed results of the tool through 2014 can be found in the Supplementary Material ''Results of graphing/analysis tool to assess island fox recovery criterion E/1'' (derived from Coonan 2015, p. 12, 16; Boser 2015, p. 8; King and Duncan 2015, p. 12) on *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170.

Summary of Recovery Criteria

With the golden eagle management strategy in place, complete removal of golden eagles and their nonnative prey-base from the northern Channel Islands, development and implementation of an epidemic response plan, and population levels consistent with long-term viability, the intent of recovery objectives 1 and 2, and the associated recovery criteria have been met for the San Miguel, Santa Rosa, and Santa Cruz Island foxes (see Table 1, below). With population levels consistent with long-term viability, recovery objective 1 has been met for the Santa Catalina Island fox. However, objective 2 has not been met because currently there are no assurances to ensure monitoring and management actions will continue into the future on Santa Catalina Island and, because this island has a high risk of introduced pathogens from the mainland, a disease outbreak could occur without detection or appropriate response to mediate the threat to the subspecies (Table 1).

TABLE 1—SUMMARY OF ACHIEVEMENT OF RECOVERY CRITERIA FOR THE FOUR ISLAND FOX SUBSPECIES

Subspecies	Population Risk-based Recovery Criterion *An island fox subspecies has no more than 5 percent risk of quasi-extinction over a 50 year period.*	Threat-based Recovery Criterion *Golden Eagle Predation: A golden eagle management strategy is developed and approved.*	Threat-based Recovery Criterion *Golden Eagle Predation: The golden eagle prey base of deer and elk is removed from Santa Rosa Island.*	Threat-based Recovery Criterion *Disease: A disease prevention and management strategy is developed, approved, and implemented.*
San Miguel Island Fox.	2014 numbers increased to ~500+; annual survival estimates ~ 80 percent; since 2008, extinction risk less than 5 percent over the next 50 years.	Eagle predation on northern Channel Island foxes has been negligible since 2006; golden eagle management strategy is in place.	N/A	Epidemic response plan developed and implemented; foxes vaccinated against CDV and rabies continuing; CMA signed committing to continued monitoring.
Santa Rosa Island Fox.	2014 numbers increased to ~800; annual survival estimates greater than 90 percent; since 2011, extinction risk less than 5 over the next 50 years percent.	Eagle predation on northern Channel Island foxes has been negligible since 2006; golden eagle management strategy is in place.	As of 2015, all elk and all but a few deer have been removed from Santa Rosa Island.	Epidemic response plan developed and implemented; foxes vaccinated against CDV and rabies continuing; CMA signed committing to continued monitoring.
Santa Cruz Island Fox.	2014 numbers increased to ~2,500+; annual survival estimates greater than 90 percent; since 2008, extinction risk less than 5 percent over the next 50 years.	Eagle predation on northern Channel Island foxes has been negligible since 2006; golden eagle management strategy is in place.	N/A	Epidemic response developed and implemented; foxes vaccinated against CDV and rabies continuing; CMA signed committing to continued monitoring.
Santa Catalina Island Fox.	2014 numbers increased to ~1,700; annual survival estimates greater than 80 percent since 2006; since 2008, extinction risk less than 5 percent over the next 50 years.	N/A	N/A	Epidemic response plan developed and implemented; foxes vaccinated against CDV and rabies continuing; ongoing relatively high potential for disease vector exposure; insufficient long-term monitoring and management assurance.

Summary of Factors Affecting the Species

Section 4 of the Act and its implementing regulations (50 CFR part 424) set forth the procedures for listing species on, reclassifying species on, or removing species from the Lists of Endangered and Threatened Wildlife and Plants. ''Species'' is defined by the Act as including any species or subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature (16 U.S.C. 1532(16)). A species may be determined to be an endangered species or threatened species because of any one or a combination of the five factors described in section 4(a)(1) of the Act: (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; or (E) other natural or human-made factors affecting its continued existence. A species may be reclassified on the same basis.

A recovered species is one that no longer meets the Act's definition of endangered species or threatened species. Determining whether a species is recovered requires consideration of whether the species is an endangered species or threatened species because of the five categories of threats specified in section 4(a)(1) of the Act. For species that are already listed as endangered species or threatened species, this analysis of threats is an evaluation of both the threats currently facing the species and the threats that are reasonably likely to affect the species in the foreseeable future following the delisting or downlisting and the removal or reduction of the Act's protections.

A species is an ''endangered species'' for purposes of the Act if it is in danger of extinction throughout all or a significant portion of its range and is a ''threatened species'' if it 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 purposes of this rule, we define the ''foreseeable future'' to be 50 years because the population viability analyses to determine the risk of quasi-extinction for each subspecies are over a 50-year period (Bakker et al. 2009, entire). Therefore, we estimate 50 years 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 reliable predictions can be made concerning the future as it relates to the status of the four subspecies of island fox (San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes).

A thorough analysis and discussion of the current status of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes is detailed in the Recovery Plan (USFWS 2015, pp. 21–29). Primary threats to island foxes identified in the listing rule included predation by golden eagles, disease, and stochastic risks to small populations and lack of genetic variability. Since listing, impacts of feral cat aggression, poisoning, and entrapment on Santa Catalina Island, and fire, drought, and global climate change for all four islands have been identified as possible new threats. The following sections provide a summary of the past, current, and potential future threats impacting the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes.

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

At the time of listing in 2004, habitat modification by nonnative grazing animals and nonnative plant invasion was identified as a threat under Factor A impacting island foxes (69 FR 10335; March 5, 2004). The listing rule identified habitat modification as causing some adverse effects to island foxes, particularly conversion to grasslands, but considered it unlikely to have directly caused the observed declines. Annual grasslands constitute less preferred habitat for island foxes (Laughrin 1977, p. 22; Roemer and Wayne 2003, pp. 1256–1257) and do not provide cover from predators such as golden eagles (Roemer 1999, p. 99, 190–191). It is difficult to quantify the effects of past habitat loss and/or alteration on the status of island foxes. However, habitat on all islands occupied by island foxes has been affected by a combination of livestock grazing, cultivation, and other disturbances, particularly nonnative animal and plant invasion and urbanization on Santa Catalina Island. Although it is possible that these habitat changes may have exacerbated the effects of other threats, island fox populations remained relatively stable prior to the commencement of golden eagle predation in the mid-1990s and disease in 1999.

Eradication programs on all islands have greatly reduced the number of nonnative herbivores on the islands and therefore the magnitude of impacts to the habitat (Laughrin 1973, p. 14; Schoenherr *et al.* 1999, pp. 191–194; Parkes *et al.* 2010, p. 636). Currently, impacts to island fox habitats are primarily attributed to continued modification by nonnative plant species, resulting in lower vegetation diversity and habitat structure. The seeds of nonnative annual grasses can also cause occasional damage or blindness by becoming lodged in the eyes and ears of island foxes.

National Park Service (NPS) guidance supports the continued management of island fox habitat to benefit northern Channel Islands subspecies of island foxes. Title 54 of the U.S. Code, section 100101, paragraph (a), states that the NPS ''shall promote and regulate the use of the National Park System . . . to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.'' Specifically, in its management plan, Channel Islands National Park identified restoration and maintenance of natural ecosystems and processes as a priority; Park staff would continue to eradicate, where feasible, nonnative flora and fauna from the islands.

The island fox, as the species *Urocyon littoralis* (incorporating all six subspecies), is listed as threatened under the California Endangered Species Act (CESA) (section 2081(b)), which does provide a level of protection from actual possession or intentional killing of individual animals and actual death of individual animals incidental to otherwise lawful activity, such as habitat conversion, on the privately owned TNC-managed lands on Santa Cruz Island and privately owned lands on Santa Catalina Island. Santa Catalina Island foxes are impacted by the potential for land use change on non-conserved lands, including development and recreational events such as off-road vehicle racing. CESA contributes to the conservation of the species by providing a mechanism to reduce or regulate some individual sources of mortality and to review and permit development projects that may impact island foxes and their habitat on private lands.

While past and ongoing effects of habitat modification by nonnative grazing animals and nonnative plant invasion may have some negative effects on island foxes, nonnative animals and plants no longer impact the habitat to the extent that would cause population-level declines that we would consider a threat to any of the subspecies of island fox now or in the future.

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

As stated in the listing rule (69 FR 10335; March 5, 2004), although island foxes were used in the past for their pelts by Native Americans (Collins 1991, p. 215), these activities are no longer occurring. Research scientists are currently engaged in recovery activities via USFWS-issued 10(a)(1)(A) recovery permits. Our analyses have determined these research activities do not pose a threat to any island fox populations. Therefore, overutilization is not a threat to any of the island fox subspecies at this time or in the future.

Factor C: Disease or Predation

A canine distemper virus (CDV) epidemic was considered the primary threat to Santa Catalina Island fox at the time of listing (69 FR 10335; March 5, 2004). The listing rule also expressed some concern regarding the potential impacts of canine adenovirus and canine parvovirus. At the time of listing, golden eagle predation was the primary cause for the decline of northern Channel Islands foxes (San Miguel, Santa Rosa, and Santa Cruz Island foxes) (69 FR 10335; March 5, 2004), but potential for disease was also a concern, particularly given the small population sizes at the time.

Disease

Infectious Pathogens: In the past, disease severely impacted the island fox population on Santa Catalina Island. The eastern subpopulation of the Santa Catalina Island fox was estimated to be 1,342 in 1990 (Roemer *et al.* 1994, p. 393). Subsequent surveys conducted in 1999 and 2000 indicated the eastern island fox subpopulation had declined by over 90 percent in 10 years due to CDV (Timm *et al.* 2000, p. 17), likely transmitted from a raccoon that arrived from the mainland (Timm *et al.* 2009, p. 339). After a captive rearing and augmentation program was initiated, the eastern and western subpopulations were estimated to have reached 219 and 141 foxes in 2004, respectively (Schmidt *et al.* 2005, p. 11; King and Duncan 2011, p. 19). Population estimates have since greatly increased on Santa Catalina Island, surpassing the estimate from 1990, reaching a total of 1,717 individuals island-wide in 2014 (King and Duncan 2015, p. 10).

In 2014, a final epidemic response plan was approved and is being implemented to detect and facilitate appropriate response to a potential future disease outbreak for Santa Catalina Island foxes (Hudgens *et al.* 2014, entire). The Catalina Island Conservancy annually monitors sentinel foxes inhabiting many areas of the island to facilitate early detection of a potential epidemic (King and Duncan 2011, p. 15). Island foxes have been and continue to be vaccinated against CDV and rabies (King 2015, pers. comm.). At this time, however, there is no assurance of continued funding for long-term monitoring and management that could detect a novel outbreak and facilitate threat abatement, as recommended in the epidemic response plan.

Transport of domestic and wild animals to and from Santa Catalina Island increases the risk to island foxes of another disease outbreak. Santa Catalina Island currently allows visitors and residents to own and transport pets, including domestic dogs and cats, to and from the island (King and Duncan 2011, p. 15), and dogs are frequently observed off-leash (Anderson 2012,

pers. obs.; King 2012a, p. 1; Vissman and Anderson 2013 and 2014, pers. obs.; King 2015, p. 22). There is no quarantine period for transported pets, and proof of current vaccination is only required by the City of Avalon when licensing dogs (rabies only), and for CIC employees and lessees with pets living in company-owned housing (King and Duncan 2011, p. 15). The CIC manages the majority of fox habitat on the island (except the City of Avalon) and through their regulations requires all nonnative animals entering CIC property be licensed; they also require that all dogs and cats be vaccinated against distemper and rabies, and they should be leashed at all times (CIC 2015, *http://www.catalinaconservancy.org*). Enforcement of CIC regulations is labor-intensive and costly, because the island is large, there are many remote coves and beaches where private boats can anchor, and the CIC does not have the funding or staff to patrol these areas regularly. Reduction of disease introduction risk also occurs through CIC outreach and education of local authorities and the public; to date, four stowaway raccoons have been removed from the island, but a fifth observed in 2010 was not captured (King and Duncan 2011, p. 15). Therefore, current measures to control introduction of diseases by domestic animals and stowaway wildlife on Santa Catalina Island, while providing some protection, are limited.

Disease does not appear to be a significant mortality factor on the northern Channel Islands, although *Leptospirosis* (infectious bacterium) was found to be a mortality source for two Santa Rosa Island foxes in 2010 (Coonan and Guglielmino 2012, p. 21). Unlike on Santa Catalina Island, dogs and other pets are not permitted on the northern Channel Islands to reduce this risk of introduction of disease; however, dogs are occasionally illegally brought onto the islands. Channel Islands National Park General Management Plan prohibits pets from all Park islands, except for guide dogs for visually impaired persons (NPS 2015b, pp. 468, 487).

In 2013, a final epidemic response plan was approved and is being implemented to detect and facilitate appropriate response to a potential disease outbreak for the northern Channel Islands (Hudgens *et al.* 2013, entire). Sentinel foxes are monitored to facilitate early detection of a potential epidemic (Hudgens *et al.* 2013, pp. entire), and foxes have been and continue to be vaccinated against CDV and rabies when vaccines are available. Also, the Park identified island foxes as an ecosystem element for which they will conduct long-term annual population monitoring as part of the Park's long-term ecological monitoring program, regardless of their status under the Act. Both NPS and TNC have committed through signed CMAs (USFWS and NPS 2015; USFWS and TNC 2015) to carrying out monitoring and management actions into the future as recommended in the epidemic response plan for northern Channel Island foxes (Hudgens *et al.* 2013, entire).

Ear Canal Cancer: There is concern about the rate of ear canal cancer in Santa Catalina Island foxes and how it might affect long-term population viability. The first cases of ear canal cancer were documented in 2000 and 2001, with increased detection through 2007 (Timm *et al.* 2002, p. 26; Kohlmann *et al.* 2003, p. 39; Schmidt *et al.* 2004, p. 15; Schmidt *et al.* 2005, p. 11; Munson *et al.* 2009, p. 5). This cancer can have an aggressive clinical course, with local invasion, tissue damage, and metastasis, leading to death (Munson *et al.* 2009, p. 1). Ear inflammation correlated with cancer incidence in Santa Catalina Island foxes is triggered by ear mite infestations (Munson *et al.* 2009, pp. 3–4), and the severity can be reduced through aracacide application (Vickers *et al.* 2011, pp. 9–10). Treatment with aracacide is now standard practice by CIC during trapping of Santa Catalina Island foxes (King and Duncan 2011, p. 3). Since 2008, over 1,000 treatments were applied, and the prevalence of mites has been reduced in the fox population from 87 percent to 28 percent. Tumor prevalence in the Santa Catalina Island fox population remains an actively managed source of mortality (Vickers *et al.* 2011, pp. 9–10). However, we do not have long-term assurances that CIC will continue to carry out monitoring and management actions into the future as recommended in the epidemic response plan (Hudgens *et al.* 2014, entire).

Parasites: Parasites have not been confirmed as a direct mortality source of island foxes; however, concurrent infection with a pathogen, such as *Spirocerca* (nematode), can negatively impact host health and decrease immunity (Munson 2010, pp. 134–136). In a species-wide survey, *Spirocerca* was found in a high prevalence of necropsied island foxes, but in most cases appeared to have little effect on the population (Munson 2010, pp. 129, 134–136). Preliminary genetic analysis and the location of lesions suggest that the *Spirocerca* found in island foxes may be a different species than *S. lupi,* which occurs in domestic dogs and other North American carnivores on the mainland. Currently, *Spirocerca* is not a major health concern for most island foxes. However, if island foxes are ever brought to the mainland for research or captive breeding, efforts should be made to prevent transmission of *Spirocerca* from island foxes to mainland carnivores and vice versa.

Infection by parasites other than *Spirocerca* has been suspected as the cause of mortality in several island foxes, but is not considered a significant mortality factor. Infection by hookworms *(Uncinaria stenocephala)* and a lungworm *(Angiocaulus gubernaculatus)* may have contributed to two mortalities in the San Miguel Island fox subspecies (Coonan *et al.* 2005b, p. 38). In 2013, the San Miguel Island fox annual survival rate declined from approximately 90 percent to about 80 percent; 5 of the 11 mortalities that occurred in radio-collared foxes had evidence of acanthocephalans (spiny-headed worms), a parasite never before recorded in island foxes (Coonan 2014, p. 6).

In summary, the possibility exists for domestic or wild animals carrying a disease or parasite to migrate or be transported to all the Channel Islands, although vector movement via boat is frequent to Santa Catalina Island. On all islands, an epidemic response plan is approved and being implemented (Hudgens *et al.* 2013, 2014 entire), which includes that a subset of foxes are vaccinated when vaccines are available and monitored to detect and respond to a potential disease outbreak (Coonan 2010, pp. 24–29; see appendices 3 and 4 in Recovery Plan (USFWS 2015)). The NPS and TNC have committed (USFWS and NPS 2015; USFWS and TNC 2015) to carrying out monitoring and management actions into the future as recommended in the epidemic response plan for northern Channel Island foxes (Hudgens *et al.* 2013, entire); therefore, we consider the potential threat of disease adequately controlled for the San Miguel, Santa Rosa, and Santa Cruz Island foxes at this time and into the future. We do not at this time have the assurance of continued implementation of the epidemic response plan on Santa Catalina Island. Disease was the main threat to Santa Catalina Island foxes at the time of listing in 2004, and given the lack of assurance for continued implementation of the epidemic response plan to detect and mitigate for future disease outbreaks, we still consider potential disease outbreaks to be a threat to the Santa Catalina Island fox.

Predation

As identified in the listing rule, golden eagle predation was the primary cause for the decline of the northern Channel Islands fox subspecies and the primary reason for the listing under the Act (69 FR 10335; March 5, 2004). Before golden eagles started using the northern Channel Islands in the 1990s, the only known predator of island foxes was the red-tailed hawk (*Buteo jamaicensis*), which preyed only occasionally on young island foxes (Laughrin 1973, pp. 10–11; Moore and Collins 1995, p. 4). Because of the lack of predators, island foxes did not evolve vigilance and are easy targets for golden eagles (Roemer *et al.* 2001, p. 316). Colonization of the northern Channel Islands by golden eagles was likely a combination of two factors: (1) Introduction of nonnative mammals on the northern Channel Islands, resulting in a historically unprecedented prey base for golden eagles (USFWS 2004, p. 10338); and (2) an open ecological niche created by the extirpation of bald eagles from the islands as a result of DDT poisoning (USFWS 2004, p. 10343).

In the 2004 listing rule, the Federal Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668–668d) and the California Fish and Game Code, section 3511, were thought to have delayed or precluded the implementation of needed recovery actions for island foxes. The protections afforded to golden eagles by the BGEPA were thought to limit lethal management alternatives to protect island foxes. The California Fish and Game Code, section 3511, deemed golden eagles a fully protected species, which would not have allowed any take to be authorized. In 2003, California amended this law to allow authorization of the take of fully protected species for scientific research, including research on recovery for other imperiled species (Senate Bill 412).

To address the unprecedented number of golden eagles and the effects they were having on island foxes, in August 1999, the NPS and TNC initiated a nonlethal golden eagle removal program to protect island foxes on the northern Channel Islands. Between November 1999 and July 2006, 44 golden eagles, including 22 adults or near adults, were removed from Santa Rosa and Santa Cruz Islands and released in northeastern California (Latta *et al.* 2005, p. 348; Coonan *et al.* 2010, pp. 59–61). Satellite telemetry affixed to the first 12 translocated golden eagles confirmed that none of the relocated eagles attempted to return to the islands for the 1.5-year life of the transmitter (USFWS 2015, p. 30). Ten nestlings were removed by hand from seven different nests (two from Santa Rosa Island and five from Santa Cruz Island) and fostered into mainland golden eagle nests or released. By mid-2005, seven golden eagles were estimated to remain on the northern Channel Islands, and removal efforts yielded diminishing returns. The last eagles captured and removed from the islands were a pair of nesting golden eagles and their chick on Santa Cruz Island in 2006 (Coonan *et al.* 2010, p. 62), and there has been no record of breeding golden eagles on the northern Channel Islands since that time.

Genetic work supports the long-term success of eagle translocation efforts. Sonsthagen *et al.* (2012, pp. entire) investigated the genetics of mainland golden eagles and those translocated from the islands, finding that the island population was likely the result of one colonization event. The likelihood of another successful golden eagle colonization is low, given changes in nonnative prey availability and monitoring/mitigation by land management agencies.

To ensure that golden eagles would be less likely to attempt to establish territories again on Santa Rosa and Santa Cruz Islands, TNC and the NPS initiated a program in 2005 and 2011, respectively, to remove nonnative animals from those islands (Macdonald and Walker 2007, p. 20). The last known pig was removed from Santa Cruz Island in January 2007 (Parkes *et al.* 2010, p. 636). Deer and elk were removed from Santa Rosa Island as part of an agreement with the former owners of the island. All elk and all but a few deer had been removed by 2015, resulting in an island that was essentially ungulate-free for the first time in over 150 years (Coonan 2015b, pers. comm.).

The 2004 listing rule also identified the extirpation of bald eagles from the Channel Islands as a likely contributor to the colonization of the northern Channel Islands by golden eagles. Bald eagles aggressively defend their territories from golden eagles (USFWS 2004, pp. 10343–10344), and their presence on the islands likely would have discouraged dispersing golden eagles from establishing residence. Prior to listing, NPS, Institute for Wildlife Studies, and TNC were actively engaged in the Montrose Settlements Restoration Program to reintroduce bald eagles to the Channel Islands, including Santa Catalina Island. The success of bald eagle reintroduction on the Channel Islands continues, with approximately 50 total resident bald eagles on the islands (Montrose Settlements Restoration Program 2015, p. 1).

In summary, although golden eagle predation of island foxes may occasionally occur (Coonan *et al.* 2014, p. 374), predation has been significantly reduced and is not considered a significant threat. This reduction in predation by golden eagles is in direct response to the extensive removal of golden eagles from the northern Channel Islands, golden eagle prey being removed successfully from Santa Rosa and Santa Cruz Islands, and the successful reintroduction of bald eagles.

Summary of Factor C

To reduce the threat of disease, a subset of each island fox subspecies is protected from CDV and rabies through preventative vaccinations when available and through monitoring as recommended in epidemic response plans to detect and facilitate appropriate responses in the event of an epidemic. Mortality due to disease was the primary reason for the decline and listing of Santa Catalina Island foxes. Currently, the potential for an epidemic remains on Santa Catalina Island because of heavy visitation, many points of access, and few controls for pets and stowaway wild animals that could carry disease. In addition, we do not have the assurance of continued implementation of the epidemic response plan into the future on Santa Catalina Island to detect and mitigate for future disease outbreaks. Therefore, we still consider potential disease outbreaks to be a threat to the Santa Catalina Island fox at this time.

Mortality due to golden eagle predation was the primary reason for the decline and listing of northern Channel Islands foxes (San Miguel, Santa Rosa, and Santa Cruz Island foxes). This threat has been substantially reduced by measures including the complete removal of golden eagles, eradication of golden eagles' nonnative prey, and reintroduction of bald eagles, such that we no longer consider predation to be occurring at such a level that would cause population-level declines on the northern Channel Islands now or in the future.

Factor D: The Inadequacy of Existing Regulatory Mechanisms

Under this factor, we examine whether existing regulatory mechanisms are inadequate to address the threats to the four island fox subspecies discussed under other factors. Section 4(b)(1)(A) of the Act requires the USFWS to take into account ''those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such

species. . . .'' In relation to Factor D under the Act, we interpret this language to require the USFWS to consider relevant Federal, State, and Tribal laws, regulations, and other such mechanisms that may minimize any of the threats we describe in the threat analyses under the other four factors, or otherwise enhance conservation of the species. We give strongest weight to statutes and their implementing regulations and to management direction that stems from those laws and regulations; an example would be State governmental actions enforced under a State statute or constitution, or Federal action under statute.

For currently listed species, we consider the adequacy of regulatory mechanisms to address threats to the species absent the protections of the Act. If this proposal is made final, the San Miguel, Santa Rosa, and Santa Cruz Island foxes would no longer be protected under the Act; Santa Catalina Island foxes would remain protected under the Act as a threatened species. Therefore, we examine whether other regulatory mechanisms will remain in place after delisting, and the extent to which those mechanisms will continue to help ensure that future threats will be reduced or minimized.

Having evaluated the significance of the threat as mitigated by any such conservation efforts, we analyze under Factor D the extent to which existing regulatory mechanisms are inadequate to address the specific threats to the species. Regulatory mechanisms, if they exist, may reduce or eliminate the impacts from one or more identified threats.

As discussed under Factor C, the primary threats of golden eagle predation and disease have been ameliorated though management, monitoring, and CMAs on the northern Channel Islands. Other threats affecting all currently listed island foxes, such as habitat modification by nonnative grazing animals and nonnative plant invasion (Factor A), have been and are being controlled through appropriate management and conservation ownership as described in Factor A, and we anticipate that these efforts will continue into the future. Other sources of mortality are assessed under Factor E and found to not exert a significant population-level effect on island foxes now or in the future. Consequently, we find that existing regulatory mechanisms are adequate to address these specific threats. The remaining threat is the potential for a disease epidemic on Santa Catalina Island because of heavy visitation, many points of access, and few controls for pets and stowaway wild animals that could carry disease. In addition, we do not have the assurance of continued implementation of the epidemic response plan into the future on Santa Catalina Island to detect and mitigate for future disease outbreaks. Therefore, under Factor C, we still consider potential disease outbreaks to be a threat to the Santa Catalina Island fox at this time. Consequently, our analysis here examines how existing regulatory mechanisms address this remaining identified threat.

The CIC manages the majority of fox habitat on Santa Catalina Island (except the City of Avalon) and through its regulations requires all nonnative animals entering CIC property be licensed and that all dogs and cats be vaccinated against distemper and rabies (CIC 2015, *http://www.catalinaconservancy.org*). Reduction of the risk of disease introduction also occurs through CIC outreach and education of local authorities and the public. However, enforcement of CIC regulations is labor-intensive and costly because the island is large with many remote coves and beaches where private boats can anchor, and the CIC does not have the funding or staff to patrol these areas regularly. Therefore, current measures to control introduction of diseases by domestic animals and stowaway wildlife on Santa Catalina Island, while providing some protection, are limited and thus do not fully address the threat of disease to Santa Catalina Island fox (see Factor C discussion, above).

Summary of Factor D

In summary, we have discussed that the threats previously facing the northern Channel Islands subspecies of island fox have been removed; disease remains a threat to the Santa Catalina population of island fox. Consequently, our Factor D analysis examines how existing regulatory mechanisms address this identified threat. Enforcement of CIC regulations, which are meant to limit the risk of disease introduction, is labor-intensive and costly because the island is large with many remote coves and beaches where private boats can anchor, and the CIC does not have the funding or staff to patrol these areas regularly. Thus, current measures to control introduction of diseases by domestic animals and stowaway wildlife on Santa Catalina Island, while providing some protection, are limited in addressing the threat of disease to Santa Catalina Island fox. Therefore, we still consider potential disease outbreaks to be a threat to the Santa Catalina Island fox at this time under Factor C that is not addressed by existing regulatory mechanisms, but, in and of itself, the inadequacy of existing regulatory mechanisms is not a current threat to any of the subspecies, nor is it expected to become a threat in the future.

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

The 2004 listing rule identified stochastic risks to small populations and lack of genetic variability as threats to all four island fox subspecies under Factor E (69 FR 10335; March 5, 2004). Road mortalities were also discussed under Factor E in the 2004 listing rule. Since the time of listing, the impacts of feral cat aggression, poisoning, and entrapment on Santa Catalina Island, and fire, drought, and global climate change for all four islands have been identified as possible new threats.

Small Population Size

Island endemics, such as island foxes, have a high extinction risk due to isolation (*i.e.,* no other populations to ''rescue'' a declining or extirpated one) and small total population sizes relative to mainland subspecies (MacArthur and Wilson 1967, entire), both of which make them more vulnerable, especially to stochastic events such as drought and wildfire (Miller *et al.* 2001, entire; Kohlman *et al.* 2005, entire). Each island fox subspecies is a single breeding population, (with San Miguel Island being the smallest population), which makes their populations inherently small and thus they may become more vulnerable to extinction when the size of a breeding population declines. In addition to small population size and the associated increased probability of extinction, lower and reduced genetic variation may make an island species less adapted to existing pressures and less capable of adaptation to new threats. Thus, small population size and low genetic diversity can have synergistic effects with respect to population decline. During the period when the island fox populations were at their lowest, they were extremely vulnerable to extinction from stochastic events. The populations have now increased substantially, returning to historical population highs, and the threat of extinction from demographic stochasticity has accordingly been reduced.

The island fox populations have reduced or low genetic diversity due to the population bottlenecks they experienced during past extreme population lows (Gray *et al.* 2001, p. 8; Gray 2002, pp. entire). This lack of

variability could be attributed either to extensive inbreeding or to bottlenecking resulting from low population densities (George and Wayne 1991, entire). However, island foxes have apparently existed for thousands of years with low effective population sizes (the number of individuals that can contribute genes equally to the next generation; low is defined as 150 to 1,000) and low genetic variability (Wayne *et al.* 1991a, p. 1858; 1991b, p. entire). While additional genetic diversity was lost during the recent declines, island foxes are probably tolerant of low genetic variation, occasional bottlenecks, and higher inbreeding because there is little evidence of inbreeding depression in island foxes (Coonan *et al.* 2010, pp. 13–15). Therefore, we do not consider reduced genetic diversity to be causing population-level effects at this time or in the future.

Motor Vehicles

The fearlessness of island foxes, coupled with relatively high vehicle traffic on Santa Catalina Island, results in multiple fox collisions each year. On the northern Channel Islands, vehicle use very limited, restricted to only land management personnel and researchers. On Santa Catalina Island, vehicle collision was considered the ''number one cause of fox mortality'' on Santa Catalina Island (CIC 2009, *http://www.catalinaconservancy.org*), and it remains the most frequently reported cause of death. In 2014, at least 20 foxes died from vehicle-related trauma (King and Duncan 2015, pp. 18–19). In some cases, during the breeding season, mortality of parents (lactating females or foraging males) may result in additional loss of offspring (Wolstenholme 2011, pers. comm.; King 2012g, p. 1). The increase in annual average vehicle-strike deaths is likely due to an increased fox population size on the island, and the island-wide 25 mile per hour speed limit (CIC 2015, *http://www.catalinaconservancy.org*) likely minimizes the number of vehicle strike mortalities that would otherwise occur. Although mortality by motor vehicles is not considered a population-level threat at this time or in the future, vehicles strikes remain the primary human-caused source of individual mortality on Santa Catalina Island.

Interactions With Feral Cats and Domestic Dogs

Feral cats and domestic dogs occur on Santa Catalina Island. Feral cats weigh approximately twice as much as island foxes, and they may negatively affect foxes through interactions including direct aggression and competition for food and habitat resources (Laughrin 1978, pp. 5–6; Kovach and Dow 1981, p. 443). Although hawks and owls may occasionally kill cats, there are no significant predators of cats on Santa Catalina Island that can control their population (Guttilla 2007, p. 8).

Direct aggression between Santa Catalina Island foxes and cats has been documented in the wild, primarily near public coves and campgrounds that provide food and shelter (Guttilla 2007, p. 9). Researchers have routinely captured foxes that have severe injuries consistent with cat encounters (Guttilla 2007, p. 9). Aggressive exclusion of foxes by feral cats has also been observed. When cats move into fox habitat, foxes are no longer observed; when cats are no longer resident, foxes move back in to occupy the area (King 2013c, pers. comm.; Anderson 2013, pers. obs.).

In the 2004 listing rule (69 FR 10335; March 5, 2004), we noted that the Food and Agricultural Code 31752.5 prohibited lethal control of feral cats unless cats are held for a minimum of 6 days, which was thought to prevent CIC from taking steps to eradicate feral cats on Santa Catalina Island. In 2008, a Feral Animal Task Force was convened by the City of Avalon, with representatives of the CIC and other island stakeholders, to address feral and free-ranging cats in the city and on the rest of the island, and most importantly, to draft legislation for consideration by the City Council for approval and incorporation into City ordinance. This task force is not currently active, however, and progress has stalled in initiating new feral cat control measures and enacting new legislation (King 2011e, pers. comm.). Although competition and other negative interactions with feral cats can affect individual foxes, they do not pose a population-level threat at this time or in the future.

Instances of fox mortality from dog attacks have been observed over the past decade: Two in 2005 (Gaffney 2011, p. 1; Munson and Gaffney 2011, p. 1), one in 2010 (King and Duncan 2011, pp. 12–13), two in 2011 (King and Duncan 2012, p. 14), two probable in 2012 (King 2012a, p. 1; 2012b, p. 1), and one in 2015 (King 2015, p. 1). Because the likelihood of finding foxes killed by domestic dogs and identifying dogs as the mortality source is relatively low, these mortalities are likely underreported (Wolstenholme 2011, pers. comm.). It is common for dogs to be observed off-leash in campgrounds and other areas of the island outside of the City of Avalon (King and Duncan 2011, p. 15; Anderson 2012, pers. obs.; King 2012a, p. 1; Vissman and Anderson 2013 and 2014, pers. obs.; King 2015, p. 1). While mortality due to domestic dog attacks has been reported, it is limited in effect to individual foxes, and does not have a significant impact to fox populations at this time or in the future.

Poisoning and Entrapment

Other impacts to Santa Catalina Island foxes resulting from human interaction include mortality from poisoning and entrapment. A Santa Catalina Island fox died in 2012 from rodenticide poisoning (Duncan and King 2012, p. 4), another was euthanized because of poisoning in 2014 (King and Duncan 2015, p. 18), and a third was sickened in 2014 by insecticide poisoning (King and Duncan 2015, p. 20). Entrapment of foxes may occur in areas where development projects are ongoing. Examples include: Two foxes falling into a power line pole construction pit (CIC 2009, *http://www.catalinaconservancy.org*); one fox drowning due to entanglement in a food container (Vickers 2012a p. 2); one death from being trapped in a recycling barrel (Vickers 2012b, p. 1); and two deaths in 2014 from drowning in water or sediment containers (King and Duncan 2015, p. 18). Types of human-caused harm other than vehicle strikes and domestic dog attacks in urbanized areas are varied, but they do not have a population-level impact at this time or in the future.

Fire

On the northern Channel Islands, the frequency and intensity of wildland fire is less than on the adjacent mainland, because there are fewer ignition sources on the islands, and the typical maritime fog moisture inhibits fire spread. Natural lightning-strike fires are extremely rare; only three fires between 1836–1986 on the Channel Islands were started by lightning (Carroll *et al.* 1993, p. 77). On the northern Channel Islands, there are far fewer human-started fires than on the mainland or on Santa Catalina Island, as there are no permanent human occupants on the northern Channel Islands.

Sediment cores indicate that fire on Santa Rosa and Santa Cruz Islands increased in frequency during the past 5,000 years and peaked during the historic period (200 years ago), though frequency and intensity are still far less than on the adjacent mainland (Anderson *et al.* 2010, p. 792). Because of this, island foxes on the northern Channel Islands have experienced very few large wildland fire events. The recent removal of grazers may increase fuel loads and thus the likelihood of

larger fires, though cool and foggy conditions will continue to limit wildland fire spread. Additionally, the NPS adheres to a policy of total suppression on the Channel Islands, due to resource concerns (Kirkpatrick 2006, entire), reducing the chance that wildland fires will become large.

Though not identified as a threat at the time of listing, Santa Catalina Island regularly experiences wildfires (CIC 2011) that could reduce food availability, alter the habitat, or directly result in the loss of individual foxes (USFWS 2004, p. 10347). The most devastating wildfire on record was the Island Fire ignited on May 10, 2007, which burned 4,760 ac (1,926 ha) (CIC 2011). The second largest fire in recent history (1999–2011) was the Empire Fire, which was started by lightning on July 22, 2006, and burned 1,063 ac (430 ha). Duncan and King's (2009, p. 384) findings indicate fire seasonality has an influence on fox survival; fires that occur when pups are young and most dependent on adults for mobility are most damaging, but in general, neither the Island Fire nor the Empire Fire seemed to have significant effects at the population level (Duncan and King 2009, p. 384).

In summary, wildfires are infrequent on the northern Channel Islands and more frequent on Santa Catalina Island. On all islands, while wildfire can result in mortality of individuals, especially juveniles, depending on when the fires occur, wildfire does not pose a significant population-level impact to the island fox at this time nor do we anticipate it posing a significant population-level impact in the future.

Drought

The Channel Islands, as well as the rest of the State of California, are currently in the midst of a drought that began in 2012 and, as of mid-January 2016, has not abated (State of California 2016, *http://ca.gov/drought/* accessed January 19, 2016). Island foxes have endured many droughts during their 10,000-year persistence on the islands (California Department of Water Resources 2015, *http://www.water.ca.gov/waterconditions/droughtinfo.cfm*). Deep multi-year droughts have occurred on the Channel Islands about once every 2 decades since 1900 (T. Coonan, NPS, unpubl. data). General drought conditions in the late 1920s and early 1930s combined with overgrazing denuded most vegetation, particularly on San Miguel Island, creating massive sand barrens, remnants of which are still evident today (Johnson 1980, entire). Even so, island foxes survived this period of soil erosion and episodic landscape stripping.

The current period of intensive island fox monitoring and research began in 1993, after a 6-year drought concluded. The current drought is the first opportunity to study the effect of drought on island foxes, where foxes have recovered to historic numbers. On San Miguel Island, average adult weights declined in 2013 and 2014, to the lowest ever recorded, and fox reproduction was negligible in 2013 and 2014 (Coonan *et al.* 2014, p. 28; T. Coonan, NPS, unpubl. data). During this time, mortality also increased, and many fox carcasses were emaciated (Coonan *et al.* 2014, pp. 6–7). On Santa Catalina Island, it appears that decreasing precipitation may result in a reproductive decline; however adults' weights were not similarly affected during this time (King and Duncan 2015, pp. 21–22). These effects were not seen on neighboring Santa Rosa Island, where foxes are not yet at carrying capacity or pre-decline levels. Fox weights increased on Santa Rosa Island in the drought years, reproduction was higher, and foxes had higher body condition scores than on San Miguel Island. It is apparent that one response of island foxes to drought is to curtail reproduction, especially if the population is at carrying capacity (Coonan 2015, pp. 6, 8, 13; Coonan *et al.* 2010, p. 28). Given the past demonstrated ability of island foxes to survive pervasive drought, current healthy population numbers and apparent ability to respond to drought by shifting resource allocation, we do not consider drought to be a threat to island foxes at this time or in the future.

Global Climate Change

Our analyses under the Act include consideration of ongoing and projected changes in climate. The terms ''climate'' and ''climate change'' are defined by the Intergovernmental Panel on Climate Change (IPCC). The term ''climate'' refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements (IPCC 2013a, p. 1450). The term ''climate change'' thus refers to a change in the mean or variability of one or more measures of climate (for example, temperature or precipitation) that persists for an extended period, whether the change is due to natural variability or human activity (IPCC 2013a, p. 1450).

Scientific measurements spanning several decades demonstrate that changes in climate are occurring, and that the rate of change has increased since the 1950s. Examples include warming of the global climate system, and substantial increases in precipitation in some regions of the world and decreases in other regions (for these and other examples, see Solomon et al. 2007, pp. 35–54, 82–85; IPCC 2013b, pp. 3–29; IPCC 2014, pp. 1–32). Results of scientific analyses presented by the IPCC show that most of the observed increase in global average temperature since the mid-20th century cannot be explained by natural variability in climate and is ''very likely'' (defined by the IPCC as 90 percent or higher probability) due to the observed increase in greenhouse gas (GHG) concentrations in the atmosphere as a result of human activities, particularly carbon dioxide emissions from use of fossil fuels (Solomon et al. 2007, pp. 21–35; IPCC 2013b, pp. 11–12 and figures SPM.4 and SPM.5). Further confirmation of the role of GHGs comes from analyses by Huber and Knutti (2011, p. 4), who concluded it is extremely likely that approximately 75 percent of global warming since 1950 has been caused by human activities.

Scientists use a variety of climate models, which include consideration of natural processes and variability, as well as various scenarios of potential levels and timing of GHG emissions, to evaluate the causes of changes already observed and to project future changes in temperature and other climate conditions (Meehl et al. 2007, entire; Ganguly et al. 2009, pp. 11555, 15558; Prinn et al. 2011, pp. 527, 529). All combinations of models and emissions scenarios yield very similar projections of increases in the most common measure of climate change, average global surface temperature (commonly known as global warming), until about 2030. Although projections of the magnitude and rate of warming differ after about 2030, the overall trajectory of all the projections is one of increasing global warming through the end of this century, even for the projections based on scenarios that assume that GHG emissions will stabilize or decline. Thus, there is strong scientific support for projections that warming will continue through the 21st century, and that the magnitude and rate of change will be influenced substantially by the extent of GHG emissions (Meehl et al. 2007, pp. 760–764, 797–811; Ganguly et al. 2009, pp. 15555–15558; Prinn et al. 2011, pp. 527, 529; IPCC 2013b, pp. 19–23). See IPCC 2013b (entire), for a summary of other global projections of climate-related changes, such as frequency of heat waves and changes in precipitation.

Various changes in climate may have direct or indirect effects on species.

These effects may be positive, neutral, or negative, and they may change over time, depending on the species and other relevant considerations, such as threats in combination and interactions of climate with other variables (for example, habitat fragmentation) (IPCC 2014, pp. 4–11). Identifying likely effects often involves aspects of climate change vulnerability analysis. Vulnerability refers to the degree to which a species (or system) is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the type, magnitude, and rate of climate change and variation to which a species is exposed, its sensitivity, and its adaptive capacity (Glick et al. 2011, pp. 19–22; IPCC 2014, p. 5). There is no single method for conducting such analyses that applies to all situations (Glick et al. 2011, p. 3). We use our expert judgment and appropriate analytical approaches to weigh relevant information, including uncertainty, in our consideration of the best scientific information available regarding various aspects of climate change.

Probably the most potentially vulnerable aspect of island fox biology to climate change is indirect effects from affected invertebrates that are parasites and disease vectors. Invertebrates, because they are exothermic (cold-blooded), are particularly responsive to the effects of a warming climate that typically speeds development and enhances survival. For disease vectors such as mosquitos, survival may occur where it was previously too cold during the coolest nights of the year for overwintering. Invertebrates are also particularly well-suited to adapt to a changing climate because they have short generation times and a high reproductive output (Parmesan 2006, pp. 654–656). The warming climate typically has resulted in increased abundance and expanded ranges of parasites such as nematodes and ticks, as well as diseases they transmit (Parmesan 2006, pp. 650–651; Studer *et al.* 2010, p. 11). Climate change also produces ecological perturbations that result in altered parasite transmission dynamics, increasing the potential for host switching (Brooks and Hoberg 2007, p. 571). Moller's (2010, p. 1158) analysis of parasites on avian hosts over a 37-year period suggests climate change predictions for parasite effects should be made with caution, but that climate can alter the composition of the parasite community and may cause changes in the virulence of parasites (Moller 2010, p. 1158). Therefore, climate change may change and could potentially increase the parasites and disease vectors to which island foxes are exposed.

Considering that island foxes are opportunistic feeders, and climate warming could increase the subspecies' insect prey base abundance, it is possible climate change could positively affect food quantity and quality. Increased consumption of insect species by mice associated with a warmer, drier climate on South African islands has been documented (Chown and Smith 1993, pp. 508–509). Because island foxes have shown relative plasticity with regard to utilizing nonnative species (Cypher *et al.* 2011, p. 13), most invasions of nonnative potential prey species are not likely to negatively affect island fox food resources. The only potential negative effect of climate change on the insect prey base of island foxes would be if increased storm intensity and frequency reduced prey abundance, as Roemer (1999, p. 187) hypothesized occurred on Santa Cruz Island in the mid-1990s.

Global climate change has the potential to negatively and positively affect island fox populations. There is still uncertainty associated with predictions relative to the timing, location, and magnitude of future climate changes. Probably the most vulnerable aspect of island fox biology to climate change is indirect effects to the fox from affected invertebrates. Though difficult to quantify, change in global climate could impact island fox populations on each island and may pose a threat to this species that is not yet reflected in studied population dynamics. As with most endangered species, predicting likely future climate scenarios and understanding the complex effects of climate change are high priorities for island fox conservation planning. While we cannot accurately predict the effects of climate change on island fox subspecies because the foxes are generalists and exhibit plasticity with regards to prey and habitat use, we do not expect negative effects of such magnitude that would cause major declines. However, we anticipate ongoing monitoring and management will detect any significant changes in population health and allow for management responses, including possible relisting.

Summary of Factor E

In summary, during the period when the population was at its lowest, the four subspecies of Channel Island foxes were extremely vulnerable to extinction from stochastic events. The populations have now increased substantially and the likelihood of extinction has accordingly been reduced. The combined effects of interactions with feral cats and domestic dogs, motor vehicle collisions, mortality due to wildfire, and other human-caused mortalities result in the deaths of multiple individuals throughout Santa Catalina Island on an annual basis, but they do not constitute a combined threat to the relatively large population at this time nor do we anticipate that they will in the future. While we cannot accurately predict the effects of climate change on island fox subspecies because the foxes are generalists and exhibit plasticity with regards to prey and habitat use, we do not consider climate change to be a threat to island foxes now nor in the foreseeable future.

Overall Summary of Factors Affecting Island Foxes

At time of listing in 2004 (69 FR 10335; March 5, 2004), predation by golden eagles was the primary threat to San Miguel, Santa Rosa, and Santa Cruz Island foxes, and disease was the primary threat to the Santa Catalina Island fox. The threat of predation by golden eagles on the northern Channel Islands has been significantly reduced since the time of listing. This reduction in predation by golden eagles is in direct response to the extensive removal of golden eagles from the northern Channel Islands, golden eagle prey being removed successfully from Santa Rosa and Santa Cruz Islands, and the successful reintroduction of bald eagles.

Potential disease outbreaks continue to pose a threat to Santa Catalina Island foxes due to relatively uncontrolled movement of vectors from the mainland that carry diseases the population may not be vaccinated against. The primary measures in place on all islands to reduce these threats are vaccination of a subset of the fox population for CDV and rabies, and monitoring of population sentinels to detect the start of another epidemic and respond appropriately to mitigate the outbreak. While disease is currently controlled on Santa Catalina Island, we do not have assurance that monitoring and management of Santa Catalina Island foxes necessary to detect and mitigate an epidemic in Santa Catalina Island foxes will continue into the future.

During the period when the island fox populations were at their lowest, they were extremely vulnerable to extinction from stochastic events. Although there will always be some inherent risk of extinction due to stochastic events because each island fox subspecies is a single breeding population, the populations have now increased substantially, returning to historical

population highs, and the threat of extinction from demographic stochasticity has accordingly been reduced.

Mortality due to motor vehicle strikes, habitat loss, ear mite infection, ear canal cancer, feral cats, and domestic dogs results in loss of individuals, but these mortality factors are not considered independent threats to fox populations at this time because populations are relatively large. The impacts of climate change are hard to predict. Some effects to island fox populations could be negative while others could be positive. Predicting likely future climate scenarios and understanding the complex effects of climate change are high priorities for island fox conservation planning, but climate change is not considered to be a threat at this time.

When mortality mechanisms or other stressors occur together, one may exacerbate the effects of another, causing effects not accounted for when stressors are analyzed individually. Synergistic or cumulative effects may be observed in a short amount of time or may not be noticeable for years into the future, and could affect the long-term viability of island fox population. For example, if a stressor hinders island fox survival and reproduction or affects the availability of habitat that supports island foxes, then the number of individuals the following year(s) will be reduced, increasing vulnerability to stochastic events like a disease epidemic or wildfire. While synergistic or cumulative effects may occur when mortality mechanisms or other stressors occur together, given the robust populations and ongoing management and monitoring, these effects do not pose a significant population-level impact to island foxes at this time nor do we anticipate that they will in the future.

Finding

We have assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes in this proposed rule. At the time of listing in 2004 (69 FR 10335; March 5, 2004), the Santa Catalina Island fox experienced a devastating CDV epidemic that resulted in an almost complete loss of the eastern subpopulation, which made up the majority of the island population. The precipitous decline of the northern Channel Island foxes (San Miguel, Santa Rosa, and Santa Cruz Island foxes) that led to their listing as endangered species was the result of depredation by golden eagles, facilitated by the presence of a nonnative, mammalian prey-base on the northern Channel Islands.

The threat of disease to the Santa Catalina Island fox has been ameliorated through implementation of programs to provide vaccinations, ear mite treatments, and a sentinel monitoring program to aid in detection of and facilitate a response to an epidemic. However, we do not have assurances that this monitoring and management as prescribed in the epidemic response plan will continue into the future.

As a result of concerted management efforts, golden eagle predation has been reduced to such a degree that it is no longer considered a threat to the northern island subspecies. Additional management efforts, including captive breeding and ongoing vaccinations for disease, have contributed to the substantial increase of all island fox populations. Although golden eagles will most likely continue to occasionally occur on the islands as transients, the removal of the nonnative prey-base and the constant presence of bald eagles are permanent, long-term deterrents to golden eagles establishing breeding territories and remaining on the northern Channel Islands. Ongoing management and monitoring are designed to detect any reemergence of threats and to take corrective actions should any threats be detected.

Based on the information presented in this status review, the recovery criteria in the Recovery Plan have been achieved and the recovery objectives identified in the Recovery Plan have been met for the three northern Channel Island subspecies of island fox. San Miguel, Santa Rosa, and Santa Cruz Island fox abundance has increased steadily to the point where the number of individuals is again within the range of historical population estimates. Population viability analyses strongly indicate that the northern Channel Island foxes have an acceptably small risk of extinction and current population levels are consistent with long-term viability. Additionally, the primary threat (golden eagles) to northern Channel Island foxes has been controlled, and ongoing management and monitoring are in place to ensure that threats continue to be managed in the future. This information indicates that these three subspecies are no longer at immediate risk of extinction, nor are they likely to experience reemergence of threats and associated population declines in the future. We, therefore, conclude that the San Miguel, Santa Rosa, and Santa Cruz Island foxes are no longer in danger of extinction throughout all of their ranges, nor are they likely to become so in the foreseeable future.

The Santa Catalina Island fox exhibits demographic characteristics consistent with long-term viability. The population has continued to increase over the past 11 years, reaching an estimated high of 1,852 individuals in 2013 (King and Duncan 2015, p. 11), then dropping slightly to 1,717 in 2014 (King and Duncan 2014, p. 11). Population viability analysis indicates the Santa Catalina Island fox population has an acceptably small risk of extinction—less than 5 percent since 2008. With population levels consistent with long-term viability, the intent of recovery objective 1 has been met for the Santa Catalina Island fox. However, objective 2 has not been met because we do not have assurance that the monitoring and management as prescribed in the epidemic response plan for Santa Catalina Island foxes will be funded and implemented in the future to ensure that the threat of disease continues to be managed. While population levels are currently consistent with long-term viability (indicating that the subspecies is no longer in danger of extinction in the immediate future), lack of adequate control of potential vectors along with lack of assured long-term monitoring could allow for lapses in management and monitoring and reemergence of disease that may cause epidemics and population declines before they can be detected and acted upon. We have coordinated with CIC to determine their ability to enter into an agreement to provide assurances of long-term implementation of the epidemic response plan. CIC indicated that they could not ensure availability of long-term funding at this time that would allow them to commit to long-term implementation of the epidemic response plan. Overall, we recognize that CIC's efforts have significantly contributed to a reduction of impacts to the Santa Catalina fox and its habitat on the island. As a result, we have determined that the Santa Catalina Island fox is no longer in danger of extinction throughout all of its range, but instead is threatened with becoming endangered in the foreseeable future throughout all of its range. We, therefore, propose a change in status for the Santa Catalina Island fox from an endangered species to a threatened species at this time. Because we have determined the Santa Catalina Island fox is likely to become an endangered species in the foreseeable future throughout all of its range, no portion of its range can be significant for purposes of the definitions of endangered species

or threatened species (see 79 FR 37578; July 1, 2014) (also see Significant Portion of the Range Analysis, below).

Significant Portion of the Range Analysis

Having determined that the San Miguel, Santa Rosa, and Santa Cruz Island foxes are not in danger of extinction, or likely to become so, throughout all of their ranges, we next consider whether there are any significant portions of their ranges in which the island foxes are in danger of extinction or likely to become so. Under the Act and our implementing regulations, a species may warrant listing if it is an endangered species or a threatened species. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' The term ''species'' includes ''any subspecies of fish or wildlife or plants, and any distinct population segment [DPS] of any species of vertebrate fish or wildlife which interbreeds when mature.'' On July 1, 2014, we published a final policy interpreting the phrase ''significant portion of its range'' (SPR) (79 FR 37578). The final policy states that (1) if a species is found to be endangered or threatened throughout a significant portion of its range, the entire species is listed as an endangered species or a threatened species, respectively, and the Act's protections apply to all individuals of the species wherever found; (2) a portion of the range of a species is ''significant'' if the species is not currently endangered or threatened throughout all of its range, but the portion's contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range; (3) the range of a species is considered to be the general geographical area within which that species can be found at the time USFWS or the National Marine Fisheries Service makes any particular status determination; and (4) if a vertebrate species is endangered or threatened throughout an SPR, and the population in that significant portion is a valid DPS, we will list the DPS rather than the entire taxonomic species or subspecies.

The SPR policy is applied to all status determinations, including analyses for the purposes of making listing, delisting, and reclassification determinations. The procedure for analyzing whether any portion is an SPR is similar, regardless of the type of status determination we are making. The first step in our analysis of the status of a species is to determine its status throughout all of its range. If we determine that the species is in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range, we list the species as an endangered (or threatened) species and no SPR analysis will be required. Because we are proposing to list the Santa Catalina Island fox as a threatened species under the Act, we are not conducting an SPR analysis for this subspecies. If the species is neither endangered nor threatened throughout all of its range, we determine whether the species is endangered or threatened throughout a significant portion of its range. If it is, we list the species as an endangered species or a threatened species, respectively; if it is not, we conclude that the species is neither an endangered species nor a threatened species.

When we conduct an SPR analysis, we first identify any portions of the species' range 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 either endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that (1) the portions may be significant and (2) the species may be in danger of extinction in those portions or likely to become so within the foreseeable future. We emphasize that answering these questions in the affirmative is not a determination that the species is endangered or threatened throughout a significant portion of its range—rather, it is a step in determining whether a more detailed analysis of the issue is required. 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 affecting it uniformly throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats apply only to portions of the range that clearly do not meet the biologically based definition of ''significant'' (*i.e.,* the loss of that portion clearly would not be expected to increase the vulnerability to extinction of the entire species), those portions will not warrant further consideration.

If we identify any portions that may be both (1) significant and (2) endangered or threatened, we engage in a more detailed analysis. As discussed above, to determine whether a portion of the range of a species is significant, we consider whether, under a hypothetical scenario, the portion's contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction or likely to become so in the foreseeable future throughout all of its range. This analysis considers the contribution of that portion to the viability of the species based on the conservation biology principles of redundancy, resiliency, and representation. (These concepts can similarly be expressed in terms of abundance, spatial distribution, productivity, and diversity.) The identification of an SPR does not create a presumption, prejudgment, or other determination as to whether the species in that identified SPR is in danger of extinction or likely to become so. We must go through a separate analysis to determine whether the species is in danger of extinction or likely to become so in the SPR. To determine whether a species is endangered or threatened throughout an SPR, we will use the same standards and methodology that we use to determine if a species is endangered or threatened throughout its range.

Depending on the biology of the species, its range, and the threats it faces, it may be more efficient to address either the significance question first, or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.''

Applying the process described above, we evaluated the respective ranges of the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox to determine if any area could be considered a significant portion of any one of the subspecies' range. As mentioned above, one way to identify portions for further analyses is to identify any natural divisions within the range that might be of individual biological or conservation importance to the species. We conducted our review based on examination of the Recovery Plan (USFWS 2015; entire) and other relevant and more recent information on the biology and life history of the northern Channel Island foxes. Because each of the three northern Channel Island fox subspecies is a narrow endemic where the foxes on each island

constitute a single population, we determined that there are no natural divisions or separate areas of the range of each subspecies that contribute separately to the conservation of that particular subspecies. In other words, for each subspecies of island fox, there is only one biologically defined portion, and there are no separate portions that contribute incrementally to the conservation (*i.e.,* to the redundancy, resiliency, and representation of the species). We also examined whether any portions might be endangered or threatened by examining whether threats might be geographically concentrated in some way. Although some of the factors we evaluated in the Summary of Factors Affecting the Species section, above, may continue to affect each of the subspecies, the factors affecting island foxes generally occur at similarly low levels throughout their ranges. The entire population of each subspecies is equally affected by threats and by the amelioration of such threats throughout their ranges. Based on our evaluation of the biology of the subspecies and current and potential threats to the island foxes, we conclude that no portion of the ranges of the three subspecies of the northern Channel Islands foxes warrants further consideration to determine if it is significant. In other words, threats have been sufficiently ameliorated, and all individuals and all portions of the range of each subspecies interact to such an extent that it is not reasonable to conclude that any portion of the range can have a different status than any other portion.

In conclusion, we find that the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox are no longer in danger of extinction throughout all or a significant portion of their range, nor are they likely to become so in the foreseeable future. Therefore, at this time, the San Miguel, Santa Rosa, and Santa Cruz Island fox no longer meet the definitions of an endangered species or a threatened species under the Act, and we propose to remove these species from the List of Endangered and Threatened Wildlife under the Act.

Effects of This Rulemaking

If this proposed rule is made final, it would revise 50 CFR 17.11(h) to remove the San Miguel, Santa Rosa, and Santa Cruz Island foxes from the List of Endangered and Threatened Wildlife and would reclassify the Santa Catalina Island fox from an endangered species to a threatened species. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to the San Miguel, Santa Rosa, or Santa Cruz Island foxes. Federal agencies would no longer be required to consult with the USFWS under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the San Miguel Island fox, Santa Rosa Island fox, or Santa Cruz Island fox. As a result of their removal from the List of Endangered and Threatened Wildlife at 50 CFR 17.11(h), we would also remove the entries at 50 CFR 17.95(a) (Critical habitat—fish and wildlife) for the San Miguel, Santa Rosa, and Santa Cruz Island foxes; currently, each entry specifies that no areas meet the definition of critical habitat under section 3(5)(A) of the Act for the applicable subspecies. We would retain the entry at 50 CFR 17.95(a) for the Santa Catalina Island fox.

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (50 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that decisions are based on scientifically sound data, assumptions, and analyses. A peer review panel will conduct an assessment of the proposed rule, and the specific assumptions and conclusions regarding the proposed delisting. This assessment will be completed during the public comment period.

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

Post-Delisting Monitoring

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a system to monitor effectively, for not less than 5 years, all species that have been recovered and delisted (50 CFR 17.11, 17.12). The purpose of this post-delisting monitoring is to verify that a species remains secure from risk of extinction after it has been removed from the protections of the Act. The monitoring is designed to detect the failure of any delisted species to sustain itself without the protective measures provided by the Act. If, at any time during the monitoring period, data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing under section 4(b)(7) of the Act. Section 4(g) of the Act explicitly requires us to cooperate with the States in development and implementation of post-delisting monitoring programs, but we remain responsible for compliance with section 4(g) and, therefore, must remain actively engaged in all phases of post-delisting monitoring. We also seek active participation of other entities that are expected to assume responsibilities for the species' conservation post-delisting.

Post-Delisting Monitoring Overview

If we make this proposed rule final, the post-delisting monitoring is designed to verify that northern Channel Island foxes (San Miguel, Santa Rosa, and Santa Cruz Island foxes) remain secure from risk of extinction after their removal from the Federal List of Endangered and Threatened Wildlife by detecting changes in population trend and mortality/survival. Post-delisting monitoring for the northern Channel Island fox subspecies would be conducted as recommended in the epidemic response plan for northern Channel Island foxes (Hudgens *et al.* 2013, entire) and golden eagle management strategy (NPS 2015a, entire). These documents are posted on *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A08I,* at *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170, and the Ventura Fish and Wildlife Office's Web site at *http://www.fws.gov/Ventura/.*

Although the Act has a minimum post-delisting monitoring requirement of 5 years, the draft post-delisting monitoring plan for northern Channel Island foxes includes a 10-year monitoring period to account for environmental variability (for example, extended drought) that may affect fox populations and to document the range of population fluctuation as fox populations reach carrying capacity. If a decline in abundance is observed or a substantial new threat arises, post-delisting monitoring may be extended or modified as described below.

Island foxes would be monitored for both population size and trend, and for annual survival and cause-specific mortality, as specified by the epidemic response plan for northern Channel island foxes (Hudgens *et al.* 2013, entire) and the golden eagle management strategy (NPS 2015a, entire). Monitoring as recommended in these plans is currently being implemented. Population size and trend are estimated using capture-mark-recapture data from trapping foxes on grids (Rubin *et al.* 2007, p. 2–1; Coonan *et al.* 2014, p. 2). Such monitoring has

been implemented for island foxes since the late 1980s. The monitoring provides a continuous record of population fluctuation, including decline and recovery, upon which population viability analysis was used to develop island fox demographic recovery objectives (Bakker and Doak 2009, entire; Bakker *et al.* 2009, entire).

Annual survival and cause-specific mortality of island foxes would be monitored, as it is now, via tracking of radio-collared foxes. Mortality checks would be conducted weekly on radio-collared foxes, and necropsies would be conducted on fox carcasses to determine the cause of mortality. A sample of at least 40 radio-collared foxes is maintained on each island, as that is the number of monitored foxes determined to be necessary to detect an annual predation rate of 2.5 percent (Rubin *et al.* 2007, p. 2–20). This level of radio-telemetry monitoring is part of the epidemic response plan and the golden eagle management strategy for island foxes on the northern Channel Islands (Hudgens *et al.* 2013, pp. 7–11).

The USFWS, NPS, and TNC would annually review the results of monitoring, which would include annual estimated adult population size, annual adult survival, and identified causes of mortality. If there are apparent sharp declines in population size and/or survival or the appearance of significant mortality causes, the data would be reviewed by the Island Fox Conservation Working Group for evaluation and assessment of threat level. Monitoring results may also reach thresholds which precipitate increased monitoring or implementation of management actions, as specified in the epidemic response plan and golden eagle management strategy. At the end of the 10-year post-delisting monitoring period, USFWS, NPS, and TNC would determine whether monitoring should continue beyond the 10-year monitoring period.

Required Determinations

Clarity of the Proposed 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 **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the names 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.

National Environmental Policy Act

We determined that we do not need to prepare an environmental assessment or an environmental impact statement, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), in connection with regulations adopted pursuant to 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 all references cited in this proposed rule is available on the Internet at *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170, or upon request from the Field Supervisor, Ventura Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Author

The primary author of this proposed rule is the Ventura Fish and Wildlife Office in Ventura, California, in coordination with the Pacific Southwest Regional Office in Sacramento California, and the Carlsbad Fish and Wildlife Office in Carlsbad, California.

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—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

Authority: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245, unless otherwise noted.

■ 2. Amend § 17.11(h), the List of Endangered and Threatened Wildlife, under MAMMALS, by:

■ a. Removing the entries for ''Fox, San Miguel Island'', ''Fox, Santa Cruz Island'', and ''Fox, Santa Rosa Island''; and

■ b. Revising the entry for ''Fox, Santa Catalina Island'' to read as set forth below.

§ 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						
			MAMMALS				
*	*	*	*	*	*	*	*
Fox, Santa Catalina Island.	*Urocyon littoralis catalinae.*	U.S.A. (CA)	Entire	T	742	17.95(a)	NA
*	*	*	*	*	*	*	*

§ 17.95 [Amended]

■ 3. Amend § 17.95(a) by removing the entries for ''San Miguel Island Fox (*Urocyon littoralis littoralis*)'', ''Santa Cruz Island Fox (*Urocyon littoralis santacruzae*)'', and ''Santa Rosa Island Fox (*Urocyon littoralis santarosae*)''.

Dated: January 29, 2016.

Stephen Guertin,

Acting Director, Fish and Wildlife Service.

[FR Doc. 2016–02669 Filed 2–12–16; 8:45 am]

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