documents and was protecting human health and the environment.

Subsequent to the 2012 five-year review, EPA determined that ICs were necessary to ensure the protectiveness of the remedy, as discussed above. Five-year reviews will be conducted as long as residual VOC levels remain that perpetuate the vapor intrusion concerns described in this ESD. The next five-year review will be conducted by August 2017.

Community Involvement

Public participation activities for the Site have been satisfied as required pursuant to CERCLA Sections 113(k) and 117, 42 U.S.C. 9613(k) and 9617. As part of the remedy selection process, the public was invited to comment on the proposed remedy. All other documents and information that EPA relied on or considered in recommending this deletion are available for the public to review at the information repositories identified above.

Determination That the Site Meets the Criteria for Deletion From the NCP

All of the cleanup requirements for the Site have been met, as described in the September 2006 groundwater Interim Groundwater Remedial Action Report, September 2008 soil Remedial Action Report, August 2007 Preliminary Close-Out Report, July 2016 Final Close-Out Report, and 2012 Five-Year Review report. The State of New York, in a July 29, 2016 letter, concurred with the proposed deletion of the Site from the NPL.

The NCP specifies that EPA may delete a site from the NPL if ''all appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate.'' 40 CFR 300.425(e)(1)(ii). EPA, with the concurrence of the State of New York, through NYSDEC, believes that this criterion for the deletion of the Site has been met in that that the soil on the Site and the groundwater beneath the Site no longer pose a threat to public health or the environment. Consequently, EPA is deleting the Site from the NPL. Documents supporting this action are available in the deletion docket at *http://www.regulations.gov* and at the Site information repositories.

V. Deletion Action

EPA, with the concurrence of the State of New York through NYSDEC, has determined that other than the ongoing operation and maintenance of the vapor intrusion mitigation systems at the daycare center, periodic vapor intrusion monitoring, insuring that the ICs are in place and effective, and five-year reviews, all appropriate responses under CERCLA have been completed at the Site. The soil and groundwater immediately underlying the Site no longer pose a threat to public health or the environment. Therefore, EPA is deleting the Site from the NPL. Periodic vapor intrusion monitoring and five-year reviews will still be required for the Site. The deletion does not preclude future action under CERCLA. Because EPA considers this action to be noncontroversial and routine, EPA is taking this action without prior publication. This action will be effective September 26, 2016 unless EPA receives adverse comments by September 12, 2016. If adverse comments are received within the 30-day public comment period of this action, EPA will publish a timely withdrawal of this direct final NOD before the effective date of the deletion and the deletion will not take effect. EPA will prepare a response to comments and continue with the deletion process on the basis of the NOID and the comments received. In such a case, there will be no additional opportunity to comment.

List of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous waste, Hazardous substances, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Superfund, Water pollution control, Water supply.

Dated: August 2, 2016.

Judith A. Enck,

Regional Administrator, EPA, Region 2.

For the reasons set out in this document, 40 CFR part 300 is amended as follows:

PART 300—NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

■ 1. The authority citation for part 300 continues to read as follows:

Authority: 33 U.S.C. 1321(c)(2); 42 U.S.C. 9601–9675; E.O. 12777, 56 FR 54757, 3 CFR 1991 Comp., p. 351; E.O. 12580, 52 FR 2923, 3 CFR 1987 Comp., p. 193.

■ 2. Table 1 of Appendix B to part 300 is amended by removing ''Jackson Steel,'' ''Mineola/North Hempstead,'' ''NY.''

[FR Doc. 2016–19130 Filed 8–11–16; 8:45 am]

BILLING CODE 6560–50–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: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are removing 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 are reclassifying the Santa Catalina Island fox (*U. l. catalinae*) from an endangered species to a threatened species. This action 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 also announce the availability of a final post-delisting monitoring plan for the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox.

DATES: This rule is effective September 12, 2016.

ADDRESSES: This final rule is available on the Internet at *http://www.regulations.gov* and at the Ventura Fish and Wildlife Office's Web site at *http://www.fws.gov/Ventura/*. Comments, materials, and supporting documentation considered in this rulemaking are available on the Internet at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2015–0170, and are available for public inspection by appointment, during normal business hours at: 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. The post-delisting monitoring plan for the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox is available on our Endangered Species Program's national Web site (*http://endangered.fws.gov*) and on the Internet at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2015–0170.

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; telephone 805–644–1766; 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:

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*) (Service 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 (16 U.S.C. 1531 *et seq.*) on March 9, 2015 (80 FR 12521), with the notice announcing the availability of the final recovery plan. On February 16, 2016, we published in the **Federal Register** a status review and proposed rule (81 FR 7723) 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.

Background

Please refer to the final Recovery Plan for Four Subspecies of Island Fox (*Urocyon littoralis*) (Service 2015, entire) for a summary of background information on island fox taxonomy, life history, and distribution. We prepared the Recovery Plan by working with a Recovery Team that included public agency representatives, landowners, conservancies, zoological institutions, nonprofits, 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.

Range of the Species

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. 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). We recognize the range of each subspecies to be the island that it inhabits. Islands inhabited by island foxes are owned by four major landowners: the National Park Service (NPS), the U.S. Navy, The Nature Conservancy (TNC), and the Santa Catalina Island Conservancy (CIC), all of whom have management authority for wildlife on their lands. NPS and TNC manage San Miguel Island, Santa Rosa Island, and Santa Cruz Island; in this rule, we reference these three islands as the northern Channel Islands CIC manages the majority of fox habitat on Santa Catalina Island, except the City of Avalon. Santa Catalina Island is the only island with a permanent human population. Human use of the three northern Channel Islands is restricted to visitors and NPS and TNC staff.

Summary of Changes From the Proposed Rule

We did not make substantive changes in this final rule based on the comments that we received during the public comment period, but we added text to clarify some information presented in the proposed rule, added new information to the climate change analysis, and revised population data to reflect information updated since the publication of the proposed rule. For example, peer reviewers recommended we include information about genetic variability present in the current island fox populations and new information about climate change. This information and other clarifications are incorporated into the final rule where appropriate, including in the Summary of Comments and Recommendations, below.

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. We published a notice announcing the availability of the final recovery plan for the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox on March 9, 2015 (80 FR 12521).

The recovery plan (Service 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 species to threatened species and to remove island fox subspecies from the List of Endangered and Threatened Wildlife. Please see the February 16, 2016, proposed rule (81 FR 7723) for a detailed discussion of the recovery goal, objectives, and criteria and how they apply to the status of the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox. The objectives and progress toward these objectives (measured by explicit criteria) are summarized below.

Recovery Objectives

Recovery objectives identify mechanisms for measuring progress toward and achieving the recovery goal of delisting 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 (*Aquila chrysaetos*) 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

objectives 1 and 2 should be met for that subspecies.

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. Island fox recovery criteria in the recovery plan (Service 2015, pp. 50–55) are organized by factors under section 4(a)(1) of the Act to demonstrate how criteria indicate threats under that factor have been ameliorated. The following is a summary of the recovery criteria.

To address recovery objective 1, 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 as determined by use of the population viability graphing/analysis tool found in appendix 2 of the recovery plan (Service 2015, pp. 131–136).

To address recovery objective 2, the magnitude and imminence of disease and predation threats must be reduced. This is accomplished when the following has occurred:

C/1: Golden eagle predation (applies only to the northern Channel Islands): 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, and the golden eagle prey base of mule deer (*Odocoileus hemionus*) and Roosevelt elk (*Cervus canadensis roosevelti*) is removed from Santa Rosa Island.

C/2: Disease: A disease management strategy is developed, approved, and implemented that includes vaccination recommendations and 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.

Population monitoring has been implemented for each listed subspecies, and population viability analyses using the graphing/analysis tool found in appendix 2 of the recovery plan (Service 2015, pp. 131–136) 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 2015, island fox populations had increased to greater than 700 individuals on San Miguel Island, greater than 1,200 on Santa Rosa Island (Guglielmino and Coonan 2016, pp. 12, 18), greater than 2,100 on Santa Cruz Island (Boser 2016a, pers. comm.), and greater than 1,800 on Santa Catalina Island (King and Duncan 2016, p. 10). 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 (the maximum population size of a species that the habitat can support) (Coonan 2015a, p. 8). We conclude, based on population viability analyses, that recovery objective 1 is achieved for all four island fox subspecies. Detailed results of the graphing/analysis tool through 2015 can be found in the supplementary material ''Results of graphing/analysis tool to assess island fox recovery criterion E/1'' (derived from Guglielmino and Coonan 2016, pp. 17, 22; Boser 2016b, pers. comm.; King and Duncan 2016, p. 13) on the Internet at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2015–0170.

To ensure that land managers are able to respond in a timely fashion to predation by golden eagles, a final golden eagle management strategy has been approved (NPS 2015a, entire), and is being implemented by NPS and TNC. The strategy outlines actions, many of which have already been implemented by 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 deer and elk from Santa Rosa Island.

To ensure that land managers are able to respond in a timely fashion to a potential or incipient disease outbreak, the epidemic response plans for northern Channel Islands foxes (Hudgens *et al.* 2013, entire) and Santa Catalina Island foxes (Hudgens *et al.* 2014, entire) are currently implemented by NPS, TNC, and CIC. These plans provide direction for monitoring, vaccination for canine distemper virus and rabies annually to a subset of each island fox population, and response if mortality is detected. Additionally, NPS and TNC are committed through signed conservation management agreements (CMAs) to monitor and conduct other management actions for detecting and appropriately responding to predation by golden eagles or a potential disease outbreak in the future, as recommended in the golden eagle management strategy and epidemic response plans (Service and NPS 2015; Service and TNC 2015). The golden eagle management strategy and epidemic response plans are found on the Internet at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2015–0170 and on our Endangered Species Program's national Web site (*http://endangered.fws.gov*).

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

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, reclassifying species, or removing species from listed status. ''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 or delisted on the same basis.

A recovered species is one that no longer meets the Act's definition of an endangered species or a threatened species. Determining whether a species is recovered requires consideration of whether the species is endangered or

threatened because of the five categories of threats specified in section 4(a)(1) of the Act. For species that are already listed as endangered 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.'' The population viability analyses used to determine the risk of quasi-extinction (the population level below which extinction is likely due to demographic or genetic effects), which we define as a population size of less than or equal to 30 individuals for each subspecies, estimates risk over a 50-year period (Bakker *et al.* 2009, entire; Service 2015, p. 52). Therefore, we estimate 50 years to be the timeframe in which, given the amount and substance of the best available data, we can anticipate events or effects, or reliably extrapolate threat trends, 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). Consequently, we have assessed the threats discussed in this rule with reference to this 50-year foreseeable future timeframe.

The word ''range'' in the significant portion of its range phrase in the definition of endangered species and threatened species refers to the range in which a species currently exists. For the purposes of this analysis, we first evaluate the status of each subspecies throughout its range, which we consider to be the island that any given island fox subspecies inhabits. We then consider whether any of the subspecies are in danger of extinction or likely to become so in any significant portion of their ranges.

Primary threats to island foxes identified in the March 5, 2004, listing rule (69 FR 10335) include predation by golden eagles, disease, and stochastic risks to small populations and lack of genetic variability. Since the listing, impacts of feral cat aggression, poisoning, and entrapment on Santa Catalina Island, and fire, drought, and global climate change for all four islands were identified as possible new threats. A thorough analysis and discussion of the current status of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes are found in the recovery plan (Service 2015, pp. 21–29) and 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 (81 FR 7723; February 16, 2016). 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 (*i.e.,* feral sheep, goats, rabbits, cattle, horses, Roosevelt elk, mule deer, and pigs) and nonnative plant invasion was identified as a threat under Factor A impacting island foxes (69 FR 10335; March 5, 2004). The impacts of nonnative herbivores and nonnative plants resulted in conversion of native coastal sage scrub, chaparral, and oak woodlands to annual grasses. Annual grasslands constitute less preferred habitat for island foxes (Laughrin 1977, p. 22; Roemer and Wayne 2003, pp. 1,256–1,257) and do not provide cover from predators such as golden eagles (Roemer 1999, pp. 99, 190–191). Annual grasslands also offer fewer food resources to foxes, and the seeds of annual grasses can become lodged in the eyes of island foxes, causing damage or temporary blindness (Laughrin 1977, p. 41).

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 and island foxes (Laughrin 1973, p. 14; Schoenherr *et al.* 1999, pp. 191–194; Parkes *et al.* 2010, p. 636; Jones *et al.* 2016, p. 2). Currently, impacts to island fox habitats are primarily attributed to continued modification by nonnative plant species, resulting in lower vegetation diversity, less diverse habitat structure, and reduced food availability.

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; NPS staff would continue to eradicate, where feasible, nonnative flora and fauna from the islands.

The majority of island fox habitat on all four islands is currently in some form of conservation ownership and management by NPS, TNC, or CIC. Therefore, we expect that habitat loss as a result of conversion due to development would be rare or limited. However, there is the potential for some development on privately owned lands that are not in conservation ownership. The island fox, as the species *Urocyon littoralis* (incorporating all six subspecies), is listed as threatened under the California Endangered Species Act (CESA), which provides a level of protection from possession or intentional killing of individual animals. CESA may also authorize take incidental to otherwise lawful activities, such as development on the privately owned TNC-managed lands on Santa Cruz Island and privately owned lands on Santa Catalina Island. For habitat conversion resulting from authorized development projects, minimization and mitigation of impacts resulting from authorized take are required under CESA and the environmental review process under the California Environmental Quality Act. Santa Catalina Island foxes are most likely to be impacted by the potential for land-use change on non-conserved lands, including development and recreational activities. 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 (*i.e.,* feral sheep, cattle, Roosevelt elk, mule deer, and pigs), nonnative plant invasion, and land-use change on non-conserved lands may continue to have some negative effects on island foxes, nonnative animals and plants no longer result in significant habitat impacts that could affect the island fox subspecies at either the population or rangewide scales that we would consider a current threat to any of the subspecies of island fox.

Additionally, given planned continued management by NPS and other land owners, we do not anticipate that nonnative animals and plants will have significant habitat impacts 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 no longer occur. Research scientists are currently engaged in recovery activities via Service-issued section 10(a)(1)(A) recovery permits. Researchers conducting studies on NPS property must have a valid Research and Collecting Permit through NPS. The State of California requires a Scientific Collecting Permit and Memorandum of Understanding to collect, capture, mark, or salvage species listed as threatened under CESA for scientific and educational purposes (Fish and Game Code section 1002; and title 14, sections 650 and 670.7). Currently, none of the four subspecies is being threatened by overutilization for any purposes, and we expect, even without the protections of the Act, research activities to be managed by the State and by land management agencies to ensure that such activities do not result in overutilization in the future.

Factor C: Disease or Predation

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

Disease

Santa Catalina Island: 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 1,812 individuals island-wide in 2015 (King and Duncan 2016, p. 10).

In 2014, a final epidemic response plan was approved and is being implemented by CIC to detect and facilitate appropriate response to a potential future disease outbreak for Santa Catalina Island foxes (Hudgens *et al.* 2014, entire). CIC annually monitors sentinel foxes (unvaccinated, radio-collared foxes whose death will be detected by monitoring) 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.). However, production of the CDV vaccine was discontinued and was not available in 2013. CIC vaccinated for both CDV and rabies in 2013 and 2014 with the last of the vaccine (King and Duncan 2015, pp. 13, 23). A new product was made available in 2015 (King and Duncan 2016, p. 9); however, the new vaccine does not appear to be as effective against CDV, and the authors suggest this is not an adequate replacement (King and Duncan 2016, p. 23). While foxes have been vaccinated and we expect vaccinations to continue as effective vaccines become available, efficacy and availability of vaccines will require ongoing evaluation by the Island Fox Conservation Working Group as part of implementing the epidemic response plan. The Island Fox Conservation Working Group is a multi-disciplinary group of experts, originally convened by NPS in 1999, to evaluate available island fox status information and develop strategies to recover the island fox populations to viable levels (Service 2015, p. 6).

In addition, ear tumor prevalence in the Santa Catalina Island fox population remains an actively managed source of mortality (Vickers *et al.* 2011, pp. 9–10). 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).

While CIC is currently implementing ongoing monitoring and management, at this time there is no assurance of continued funding for long-term monitoring and management that could detect a novel disease outbreak and facilitate threat abatement, as recommended in the epidemic response plan. Lack of assurances for long-term monitoring and management for Santa Catalina Island fox is of particular concern because the island has a permanent human population, experiences heavy visitation, and has many points of access. The presence of a permanent human population on the island poses a greater risk of disease introduction than that for the northern Channel Islands. CIC manages the majority of fox habitat on the island but does not manage the City of Avalon, and, therefore, CIC does not control all potential avenues for introduction of possible disease vectors. 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). Transport of domestic and wild animals to and from Santa Catalina Island and their presence on the island increases the risk to island foxes of another disease outbreak. Additionally, with unrestricted access to the island by residents and visitors, there is the possibility of inadvertently transporting other animals that could carry disease; 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). 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). Because access to the island by potentially unvaccinated or incompletely vaccinated domestic animals is not controlled or managed, there is a higher risk of disease introduction for Santa Catalina Island than for the three northern Channel Islands.

CIC manages the majority of fox habitat on the island (but not the City of Avalon) and implements measures

intended to control introduction of disease. CIC regulations require all nonnative animals entering CIC property be licensed; they also require that all dogs and cats entering CIC property be vaccinated against distemper and rabies, and be leashed at all times (CIC 2015, *http://www.catalinaconservancy.org*). However, 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 CIC does not have the funding or staff to patrol these areas regularly. CIC also conducts outreach and education of local authorities and the public to promote efforts to reduce the risk of disease introduction. However, because of unrestricted transport of domestic animals to the island, the City of Avalon's limited vaccination requirements, and limited enforcement ability of CIC, current measures to control introduction of diseases by domestic animals and stowaway wildlife on Santa Catalina Island, while providing some protection, are limited.

Northern Channel Islands: Disease does not appear to be a significant mortality factor on the northern Channel Islands. Dogs and other pets are not permitted on the northern Channel Islands to reduce the risk of an introduced disease. Dogs are occasionally illegally brought onto the islands, but transport of domestic animals to the northern Channel Islands is much more limited than on Santa Catalina Island. 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 by NPS and TNC to detect and facilitate appropriate response to a potential disease outbreak for the northern Channel Islands (Hudgens *et al.* 2013, entire). Infection by parasites continues to be suspected as the cause of mortality in several island foxes, but is not considered a significant mortality factor (Coonan *et al.* 2005b, p. 38; Coonan 2014, p. 6). Sentinel foxes are also monitored on the northern Channel Islands to facilitate early detection of a potential epidemic (Hudgens *et al.* 2013, entire), and foxes have been and continue to be vaccinated against CDV and rabies. Efficacy and availability of vaccines will require ongoing evaluation by the Island Fox Conservation Working Group as part of implementing the epidemic response plan. Also, the NPS identified island foxes as an ecosystem element in the Mediterranean Coast Network Vital Signs Monitoring Plan, for which they will conduct long-term annual population monitoring as part of NPS's long-term ecological monitoring program, regardless of the island fox's status under the Act (Cameron *et al.* 2005, p. 3–3). Both NPS and TNC have committed through signed CMAs (Service and NPS 2015; Service and TNC 2015) to carrying out monitoring and management actions in the future as recommended in the epidemic response plan for northern Channel Island foxes (Hudgens *et al.* 2013, entire).

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. The possibility is greater for Santa Catalina Island due to a permanent human population, heavy visitation, and many points of access. On all islands, an epidemic response plan is approved and being implemented (Hudgens *et al.* 2013 and 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 (Service 2015)). NPS and TNC have committed (Service and NPS 2015; Service and TNC 2015) to carrying out monitoring and management actions in 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 now and in 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 increased risk of disease introduction and 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 now and in the future.

Predation

As identified in the 2004 listing rule, golden eagle predation was the primary cause for the decline of the northern Channel Islands fox subspecies and the primary reason for listing the species as endangered 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 were 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 (69 FR 10335, March 5, 2004, p. 10338); and (2) an open ecological niche created by the extirpation of bald eagles (*Haliaeetus leucocephalus*) from the islands as a result of dichlorodiphenyltrichloroethane (DDT) poisoning (Service 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 did not allow 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, 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). There has been no record of breeding golden eagles on the northern Channel Islands since that time.

To ensure that golden eagles would be less likely to attempt to establish territories again on Santa Rosa and Santa Cruz Islands, TNC and 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 feral pig was removed from Santa Cruz Island in January 2007 (Parkes *et al.* 2010, p. 636). Nonnative mule 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 were 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 (69 FR 10335, March 5, 2004, pp. 10343–10344), and their presence on the islands likely would have discouraged dispersing golden eagles from establishing residence. Prior to listing, NPS, the 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.* 2014a, p. 374), predation has been extensively reduced and is no longer resulting in significant impacts at the population scale. 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. NPS and TNC are committed through signed conservation management agreements (CMAs) to monitor and conduct other management actions for detecting and appropriately responding to a potential disease outbreak in the future, as recommended in the epidemic response plans (Service and NPS 2015; Service and TNC 2015). Therefore, the best available data indicate potential disease outbreaks are no longer a threat to the Santa Rosa Island fox, San Miguel Island fox, and Santa Cruz Island fox now and in the future.

Mortality due to disease was the primary reason for the decline and listing of Santa Catalina Island foxes. Currently, the epidemic response plan is being implemented on Santa Catalina Island, but 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, there is no assurance of continued implementation of the epidemic response plan in the future on Santa Catalina Island to detect and mitigate for future disease outbreaks, and the new CDV vaccine may not be adequate. Efficacy and availability of vaccines will require ongoing evaluation by the Island Fox Conservation Working Group as part of implementing the epidemic response plan. Overall, the best available data indicate potential disease outbreaks to be a threat to the Santa Catalina Island fox now and in the future.

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. Additionally, NPS and TNC are committed through signed CMAs to monitor and conduct other management actions for detecting and appropriately responding to predation by golden eagles in the future, as recommended in the golden eagle management strategy (Service and NPS 2015; Service and TNC 2015). Thus, given the recent golden eagle and prey-base eradication efforts and reintroduction of bald eagles to prevent golden eagle presence in the future, along with ongoing management commitments, we no longer consider predation by golden eagles to be a threat resulting in significant impacts at the population scale (*e.g.,* result in a population decline) 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 Service 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 us to consider relevant Federal, State, and Tribal laws, regulations, and other such mechanisms that may minimize any of the threats we describe in the threats 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 existing regulatory mechanisms to address threats to the species absent the protections of the Act. Therefore, we examine whether other regulatory mechanisms would remain in place if the species were delisted, and the extent to which those mechanisms will continue to help ensure that future threats will be reduced or minimized.

In our discussion under Factors A, B, C, and E, we evaluated the significance of the threat as mitigated by any such conservation efforts and existing regulatory mechanisms. Where threats exist, 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 noted in our discussion under the other factors, conservation measures and existing regulatory mechanisms (such as continued implementation of the epidemic response plan and golden eagle management strategy) have reduced the primary threats of disease and predation by golden eagles on the northern Channel Islands and will continue to be controlled through appropriate management. Other previously identified threats affecting the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox, such as habitat modification by nonnative grazing animals and nonnative plant invasion and habitat conversion (Factor A), have been and are continuing to be controlled through appropriate management, and we anticipate that these efforts will continue in the future. Other sources of mortality are assessed under Factor E and found to not exert significant impacts on island foxes at either the population or rangewide scales, now or in the future. Consequently, we find that conservation measures along with existing regulatory mechanisms are adequate to address these specific threats.

The remaining threat to island fox on Santa Catalina Island is the potential for a disease epidemic 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 in 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 and in the future. Consequently, our analysis here examines how existing regulatory mechanisms address this remaining identified threat to the Santa Catalina Island fox.

There are currently no regulations restricting transport of domestic animals to the island, and limited vaccination requirements for domestic animals owned by City of Avalon residents, thus providing the potential for introduction of disease to the island. CIC manages the majority of fox habitat on Santa Catalina Island, but not the City of Avalon; CIC regulations require all nonnative animals entering CIC property be licensed and that all dogs and cats be vaccinated against distemper and rabies (CIC 2015, entire). 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 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 three northern Channel Islands subspecies of island fox have been removed or reduced and are being adequately managed; however, disease remains a threat to the Santa Catalina Island fox. In examining how existing regulatory mechanisms address this identified threat, we find 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 potential disease outbreaks to Santa Catalina Island fox. Therefore, we still consider potential disease outbreaks to be a threat to the Santa Catalina Island fox now and in the future under Factor C, noting that this threat is not addressed by existing regulatory mechanisms.

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, as well as 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 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 levels, and the threat of extinction from demographic stochasticity has accordingly been reduced.

Genetic diversity in island fox populations is considered low due to the population bottlenecks they experienced during past extreme, low population numbers (Gilbert *et al.* 1990; Wayne *et al.* 1991; Goldstein *et al.* 1999; Gray *et al.* 2001, p. 8; Gray 2002, entire; Aguilar *et al.* 2004; Funk *et al.* 2016, p. 11; Wayne *et al.* 2016, p. 4). This low genetic diversity could compromise the ability of island foxes to respond to future environmental change. This lack of variability could be attributed either to extensive inbreeding or to bottlenecking resulting from low population densities (Funk *et al.* 2016, p. 11). 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. 1,858; 1991b, entire). While additional genetic diversity was lost during the recent declines, island foxes appear to be 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 expect it to 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 is limited, restricted to only land management personnel and researchers, and is expected to remain limited into the future. On Santa Catalina Island, 10 of the 21 fox mortalities in 2015 were caused by vehicle strikes (King and Duncan 2016, p. 18). The island-wide 25 mile per hour speed limit (CIC 2015, no page number) likely minimizes the number of vehicle strike mortalities that would otherwise occur. Even with current mortality of island foxes caused by various factors including vehicle strikes, the Santa Catalina Island fox population showed significant growth between 2002 and 2015, and has hovered around 1,800 individual foxes for the past 3 years. Given island fox population growth over the past 13 years during a time when the number of vehicles on the road has increased, we do not expect the population effect from vehicle mortality to increase in the future. Additionally, there is less than a 5 percent chance of the Santa Catalina Island fox subspecies going extinct given current and expected future conditions (King and Duncan 2016, pp. 12–13; Service 2015, pp. 167–168). Therefore, even though vehicle strikes remain the primary human-caused source of individual mortality on this island, mortality by motor vehicles is not considered a threat resulting in

significant impacts at either the population or rangewide scales on Santa Catalina Island at this time or in the future.

Interactions With Feral Cats and Domestic Dogs

Feral cats and domestic dogs occur on Santa Catalina Island and 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). 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 for feral cats (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 California's 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 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 2016, pers. comm.). Currently, the CIC practice regarding feral cats is consistent with that of the Catalina Island Humane Society: animals trapped accidentally during fox-trapping/monitoring are examined, and, if free from incurable and contagious disease, are spayed or neutered and released. Animals found to test positive for Feline Leukemia or Feline Immunodeficiency are humanely euthanized. Younger cats including kittens may be adopted from the Catalina Island Humane Society (CIC 2016, *http://www.catalinaconservancy.org*). Although competition and other negative interactions with feral cats can affect individual foxes, they are not currently resulting in significant impacts at either the population or rangewide scales.

Instances of fox mortality from domestic dog attacks have been observed over the past decade (Gaffney 2011, p. 1; Munson and Gaffney 2011, p. 1; King and Duncan 2011, pp. 12–13; King and Duncan 2012, p. 14; King 2012a, p. 1; 2012b, p. 1; 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 significant impacts to island fox at either the population or rangewide scales now nor do we anticipate that it will in the future.

We do not anticipate an increase in the number of feral cats and domestic dogs on Santa Catalina Island in the future. Because growth of the Santa Catalina Island fox population over the past 13 years occurred during a time when feral cats and foxes and domestic dogs and foxes have been interacting, we do not expect that interactions with feral cats or domestic dogs will result in negative population effects in the future. Overall, given the lack of significant impacts at either the population or rangewide scales, interactions with feral cats and domestic dogs are not considered a threat to the Santa Catalina Island fox now or in the future.

Poisoning and Entrapment

Other impacts to Santa Catalina Island foxes resulting from human interaction include mortality from poisoning and entrapment (Duncan and King 2012, p. 4; King and Duncan 2015, pp. 18, 20; Vickers 2012a, p. 2; Vickers 2012b, p. 1; King and Duncan 2015, p. 18). 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 fox death from being trapped in a recycling barrel (Vickers 2012b, p. 1); and two fox 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. Given the low numbers of foxes affected by poisoning or entrapment and the past and current population growth, we do not expect the population effect from poisoning or entrapment to increase in the future. Therefore, at this time, the best available information indicates neither poisoning nor entrapment is resulting in significant impacts at either the population or rangewide scales, and there is no indication that poisoning or entrapment on Santa Catalina Island will increase 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 and 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. Because of this, island foxes on the northern Channel Islands have experienced few large wildland fire events. The recent removal of nonnative grazers may increase fuel loads and thus the likelihood of larger fires; however, historically consistent cool and foggy conditions will continue to limit wildland fire spread, including in the future. Additionally, 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 (Service 2004, p. 10347). 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. However, in general, the best available data indicate that neither the 2006 Empire Fire nor the 2007 Island Fire had significant effects to island fox 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, the best available data indicate that wildfire does not pose significant impacts to the island fox at either the population or rangewide scales currently. In addition, there is no indication that fire frequency will increase in the future on the northern Channel Islands. On Santa Catalina Island, even given an increase in fire frequency since 1999, the island fox population has continued to increase (CIC 2016, *http://www.catalinaconservancy.org*). Therefore, we do not anticipate wildfire posing a significant population-level impact in the future.

Drought

The Channel Islands, as well as the rest of southern California, are currently in the midst of a drought that began in 2012, and, as of mid-April 2016, has not abated (United States Drought Monitor 2016, entire). Island foxes have endured many droughts during their 10,000-year persistence on the islands (California Department of Water Resources 2015, entire). Deep multi-year droughts have occurred on the Channel Islands about once every 2 decades since 1900 (Coonan 2015, 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 drought is the first opportunity to study the effect of drought on island foxes, since 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; Coonan 2015b, p. 7; Coonan 2015, unpubl. data). During this time, mortality also increased, and many fox carcasses were emaciated (Coonan 2014, pp. 6–7). However, San Miguel Island fox numbers have remained at or above pre-decline levels (Friends of the Island Fox 2015, p. 3). On Santa Catalina Island, data indicate 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 (Coonan 2015b, pp. 7–8). It is apparent that one response of island foxes to drought is to curtail reproduction, especially if the population is at carrying capacity (Coonan *et al.* 2010, p. 28; Coonan 2015a, pp. 6, 13). 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. 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 (*e.g.,* 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 Intergovernmental Panel on Climate Change (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.

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.

Statewide and regional probabilistic estimates of temperature and precipitation changes for California and the greater Los Angeles region were evaluated by Pierce *et al.* (2013, entire) and Sun *et al.* (2015, entire) using dynamic downscaled simulations. Pierce *et al.* (2013, p. 854) found that, averaging across all models and downscaling methods, the warmest Julys are likely to be far warmer than historical temperatures for California. Projections for changes in precipitation by the 2060s were less certain; they showed weak overall annual mean decreases in precipitation in the southern part of the State, but with an increase in summer rain (Pierce *et al.* 2013, p. 855). Sun *et al.* (2015, p. 4,625) found that temperatures in the greater Los Angeles region for two future time periods, midcentury (2041–60) and end of century (2081–2100), will almost certainly be outside the interannual variability range seen in the baseline (1981–2000), particularly during the summer and fall. However, in each scenario and time period, the coastal areas warm less than inland areas due to generally lower warming over the ocean and the land-sea breeze circulation, which introduces a marine influence in the coastal zone (Sun *et al.* 2015, pp. 4,621–4,622). This suggests that the Channel Islands, along with the mainland's highest elevations and a narrow swath near the coast, may be somewhat buffered from the more extreme effects of a warming climate.

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. 1,158) 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. 1,158). Climate change may change and could potentially increase the parasites and disease vectors to which island foxes are exposed. However, we anticipate ongoing monitoring and management will detect any increase or changes in parasites or disease vectors that affect the population health of island foxes.

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. For example, 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). In addition, because island foxes have shown relative plasticity with regard to utilizing nonnative insects (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. Given the indications that the Channel Islands may be somewhat buffered from the more extreme effects of a warming climate and past demonstrated ability of island foxes to survive pervasive drought, current healthy population numbers, and the apparent ability of foxes to respond to changes in precipitation by shifting resource allocation, we do not consider changes in temperature or precipitation projected due to climate change to be a threat to island foxes at this time or 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 expect negative effects of such magnitude that would result in significant impacts at either the population or rangewide scales (*e.g.,* cause major declines). 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 populations were at their 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. Given the past demonstrated ability of island foxes to survive pervasive drought, their current healthy population numbers, and their 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. 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, habitat use, and resource allocation, we do not consider climate change to be a threat to island foxes now nor in the 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 for which the population may not be vaccinated. The primary measures in place on all islands to reduce the threat of disease 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 in the future.

During the period when the island fox populations were at their lowest, they were extremely vulnerable to extinction from stochastic events. There will always be some inherent risk of extinction due to stochastic events because each island fox subspecies is a single breeding population. However, the populations have now increased substantially, show stable or increasing trends, and are returning to historical population levels, and the threat of extinction from demographic stochasticity has accordingly been reduced.

Mortality due to motor vehicle strikes, habitat loss, feral cats, and domestic dogs results in loss of individuals, but these mortality factors are not resulting in significant impacts to island foxes at either the population or rangewide scales as documented by current population numbers and trends. When population numbers are healthy, island foxes respond to drought by shifting resource allocation; therefore, we do not consider drought to be a threat to island foxes at this time or in the future. 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.

Climate change is not considered a threat now or in the future because of the past demonstrated ability of island foxes to survive pervasive drought, their current healthy population numbers, the indication that the Channel Islands may be somewhat buffered from the more extreme effects of a warming climate, and the apparent ability of foxes to respond to changes in precipitation by shifting resource allocation.

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 populations. 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. 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. Another example is San Miguel Island where there have been combined effects of low reproductive output, dry climate, parasites, and low genetic variability. However, population estimates for the total San Miguel Island fox population likely represents carrying capacity for the island (Coonan 2014, p. 8), which has resulted in a general decline in reproductive effort as the population has increased. In addition, according to population viability analyses the San Miguel Island fox subspecies is at acceptably low risk of extinction (Guglielmino and Coonan 2016, p. 17) indicating that low reproductive output, dry climate, parasites, and low genetic variability do not constitute a combined threat to the population at this time nor do we anticipate that they will in the future. In conducting this analysis, we have considered whether the individual stressors identified for each island, considered in combination, result in a threat to the species. The combination of low mortality and robust population growth puts each island fox subspecies at acceptably low risk of extinction, according to population viability analyses. 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 significant impacts to San Miguel, Santa Rosa, and Santa Cruz Island foxes at either the population or rangewide scales at this time nor do we anticipate that they will in the future. Synergistic or cumulative effects do not pose significant impacts to Santa Catalina Island fox at either the population or rangewide scales at this time given the robust populations and current ongoing management and monitoring, but could in the future if there are lapses in monitoring and management in the future.

Determination

An assessment of the need for a species' protection under the Act is based on whether a species is in danger of extinction or likely to become so because of any of five 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. As required by section 4(a)(1) of the Act, we conducted a review of the status of these species and assessed the five factors to evaluate whether the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes are in danger of extinction, or likely to become so in the foreseeable future throughout all or a significant portion of their ranges. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by these subspecies. We also consulted with species experts and land management staff with NPS, TNC, and CIC, who are actively managing for the conservation of island foxes.

In considering what factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the exposure causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant the threat is. If the threat is significant, it may drive, or contribute to, the risk of extinction of the species such that the species warrants listing as an endangered species or threatened species as those terms are defined by the Act. This determination does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively is not sufficient to compel a finding that listing is appropriate; we require evidence that these factors are operative threats that act on the species to the point that the species meets the definition of an endangered species or threatened species under the Act.

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.

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.

Northern Channel Islands Subspecies

Based on the information presented in this final rule and the proposed rule (81 FR 7723; February 16, 2016), 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, save Santa Rosa Island where

numbers are returning to historical population levels. 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 experiencing significant impacts at either the population or rangewide scales. Thus, these island fox subspecies are no longer in danger of extinction throughout all of their ranges, nor are they likely to become so within the foreseeable future.

Significant Portion of the Range

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 the Service 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 reclassifying the listing status of the Santa Catalina Island fox as a threatened species under the Act (see *Santa Catalina Island Fox,* below), 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' ranges. As mentioned above, one way to identify portions for further analyses is to identify areas that may be significant, such as 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 (Service 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 notably separate or distinct portions that contribute independently 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 under Summary of Factors Affecting the Species, above, may continue to affect each of the subspecies, the factors affecting island foxes generally occur at similarly low levels throughout each of 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.

We have carefully assessed the best scientific and commercial data available and determined 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 significant portions of their ranges, nor are they likely to become so within the foreseeable future. As a consequence of this determination, we are removing the San Miguel, Santa Rosa, and Santa Cruz Island fox from the Federal List of Endangered and Threatened Wildlife.

Santa Catalina Island Fox

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 1,812 in 2015 (King and Duncan 2016, p. 10). 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 currently in danger of extinction), 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 coordinated with CIC to determine their ability to enter into an agreement to provide assurances for long-term funding and a commitment for long-term implementation of the epidemic response plan. Though we do not have assurances of long-term funding that would allow them to commit to long-term implementation of the epidemic response plan, we recognize that CIC's efforts have significantly contributed to a reduction of impacts to the Santa Catalina Island fox and its habitat. 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. Therefore, we are reclassifying the status of the Santa Catalina Island fox from an endangered species to a threatened species. 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, above).

Critical Habitat

Section 4(a)(3)(A) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that we designate critical habitat, to the maximum extent prudent and determinable, at the time a species is listed as endangered or threatened.

On November 9, 2005 (70 FR 67924), we determined that habitat on Santa Catalina Island (as well as the other three islands occupied by the island fox described herein) did not meet the definition of critical habitat under the Act. We made this determination based on the island fox being a generalist in all aspects of its life history. We stated that foxes are opportunistic omnivores that eat a wide variety of plants and animals in whatever habitat they use, and as such, they use all habitat available on each of the islands (70 FR 67927). We were not aware at that time nor are we aware currently of any existing or anticipated threats to Santa Catalina Island habitats that would likely affect the Santa Catalina Island fox. Accordingly, we continue to conclude that there is no information to support a conclusion that any specific habitat on Santa Catalina Island is essential to the conservation of the Santa Catalina Island fox. Thus, we do not find any habitat on Santa Catalina Island that meets the definition of critical habitat in section 3(5)(A) of the Act. Because there continues to be no habitat that meets the definition of critical habitat for the Santa Catalina Island fox, there is none to designate.

Effects of This Rule

This final rule revises 50 CFR 17.11(h) by removing the San Miguel Island fox, Santa Rosa Island fox, and Santa Cruz Island fox from the Federal List of Endangered and Threatened Wildlife. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, no longer apply to these subspecies. Federal agencies are no longer required to consult with the Service under section 7 of the Act in to ensure that any

action they authorize, fund, or carry out is not likely to jeopardize the continued existence of these subspecies.

This rule also revises 50 CFR 17.11(h) to reclassify the Santa Catalina Island fox from an endangered species to a threatened species on the Federal List of Endangered and Threatened Wildlife. However, this reclassification does not change the protection afforded to this subspecies under the Act. Anyone taking, attempting to take, or otherwise possessing this species, or parts thereof, in violation of section 9 of the Act or its implementing regulations, is subject to a penalty under section 11 of the Act. Pursuant to section 7 of the Act, Federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of the Santa Catalina Island fox. Whenever a species is listed as threatened, the Act allows promulgation of special rules under section 4(d) that modify the standard protections for threatened species found under section 9 of the Act and Service regulations at 50 CFR 17.31 (for wildlife) and 17.71 (for plants), when it is deemed necessary and advisable to provide for the conservation of the species. No special section 4(d) rules are proposed, or anticipated to be proposed, for Santa Catalina Island fox, because there is currently no conservation need to do so for this subspecies. Recovery actions directed at Santa Catalina Island fox will continue to be implemented, as funding allows, as outlined in the recovery plan for this species (Service 2015, entire).

Future Conservation Measures

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a monitoring program for not less than 5 years for all species that have been recovered and delisted. The purpose of this post-delisting monitoring (PDM) is to verify that a species remains secure from risk of extinction after the protections of the Act are removed, by developing a program that detects the failure of any delisted species to sustain itself. 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.

Post-Delisting Monitoring Plan

NPS and TNC have agreed to partner with us in the implementation of the post-delisting monitoring for the northern Channel Island foxes. The post-delisting monitoring is designed to verify that 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 will 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 available on the Internet at *https://www.regulations.gov* at 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 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 will 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 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 will be monitored, as they are now, via tracking of radio-collared foxes. Mortality checks will be conducted weekly on radio-collared foxes, and necropsies will 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).

In cooperation with NPS and TNC, we will annually review the results of monitoring, which include annual estimated adult population size, annual adult survival, and identified causes of mortality. If there are apparent sharp declines in population size or survival, or if the information indicates the appearance of significant mortality causes, the data will 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, NPS, TNC, and the Service will determine whether monitoring should continue beyond the 10-year monitoring period.

Summary of Comments and Recommendations

In the proposed rule published on February 16, 2016 (81 FR 7723) in the **Federal Register**, we requested that all interested parties submit written comments on the proposal by April 18, 2016. We also contacted appropriate Federal and State agencies, Tribal entities, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. We did not receive any requests for a public hearing. All substantive information provided during comment periods has either been incorporated directly into this final determination or is addressed below.

Peer Reviewer Comments

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited expert opinion from three knowledgeable individuals with scientific expertise that included familiarity with the island fox and its habitat, biological needs, and threats. We received responses from all three of the peer reviewers.

We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the status of the island fox. The peer reviewers generally concurred with our methods and conclusions, and provided new information and suggestions to improve the final rule. This information has been incorporated

into the final rule as appropriate. The peer reviewer comments are addressed in the following summary.

Comments From Peer Reviewers

(1) Comment: Two peer reviewers requested further mention of lack of genetic diversity as an important consideration for island foxes. They stated that numerous studies have now shown that island fox populations lack genetic variation, an outcome of long-term small population sizes and bottlenecks, coupled with the pervasive effects of genetic drift. The peer reviewers stated that although the threats to island fox populations on the northern Channel Islands have either been reduced or addressed and the populations have recovered to approximately historic levels, the various subspecies lack genetic variation, which could compromise their ability to respond to future environmental change if managers do not respond to a potential decline in a timely manner.

Our Response: We included the relevant scientific information presented by the peer reviewers related to lack of genetic variation in this final rule. We anticipate that ongoing monitoring and management as described in signed CMAs with NPS and TNC (Service and NPS 2015; Service and TNC 2015) will detect any significant changes in population health and allow for management responses, including possible relisting. If a decline is detected, we will act in concert with NPS and TNC in an expedient manner to uncover the agent of the decline and implement timely recovery actions as laid out in the golden eagle management strategy and epidemic response plans (Hudgens *et al.* 2013, entire; NPS 2015a, entire).

(2) Comment: One peer reviewer requested more information about evaluation of recovery objective 1 and recovery criteria E/1. In particular, the peer reviewer asked if demographic characteristics included measures of genetic characteristics, as the same standards should not apply to populations that have lost much of their genetic variation.

Our Response: Recovery objective 1 is that each federally listed subspecies of island fox exhibits demographic characteristics consistent with long-term viability. Recovery objective 1 is achieved when recovery criteria E/1 is met: an island fox subspecies has no more than 5 percent risk of quasi-extinction over a 50-year period; recovery criteria E/1 has been met. Recovery criteria E/1 is evaluated for each species using population viability models presented in Bakker *et al.* (2009) and appendix 2 of the recovery plan (Service 2015, pp. 135–140) that incorporate demographic information for each subspecies of island fox, which are influenced by genetics and the environment. Genetic variation is not one of the demographic characters that is measured, although we recognize that genetic variation has an influence on demographic characters.

(3) Comment: One peer reviewer asked how the quasi-extinction number of 30 individuals was derived. The peer reviewer asserted that if extreme bottleneck events have occurred, it is highly possible that quasi-extinction levels of 30 individuals are not appropriate, and numbers this low could essentially extirpate any genetic variation left in the population.

Our Response: Because short- to medium-term risk analysis is most important for island fox management, Bakker *et al.* (2009) ran each simulation for 50 years and used a quasi-extinction threshold of 30 foxes, set by the Service's island fox Recovery Team to further account for unidentified biological and sociopolitical uncertainties (Bakker *et al.* 2009, p. 92). We concur with the quasi-extinction level determined by the scientists on the island fox Recovery Team. However, we note that monitoring and management is designed to intervene well before a species would reach a quasi-extinction threshold. Quasi-extinction is not the threshold for action; rather, triggers for action would be if monitoring results indicate a sharp decline in population size or survival or the appearance of a significant mortality source. The intent is to avoid the quasi-extinction threshold by a wide margin by managing for a low risk of reaching such a threshold over a fairly long period of time.

(4) Comment: One peer reviewer asked what it would take to delist the Santa Catalina Island subspecies.

Our Response: The best available scientific data for Santa Catalina Island suggest that while Santa Catalina Island fox populations have increased to self-sustaining levels, potential disease epidemic remains an ongoing threat. Once disease and disease risk are controlled and managed to the point they are no longer a threat to the subspecies, and assuming no other stressors are resulting in significant impacts at either the population or rangewide scales, the Santa Catalina Island fox could be removed from the Federal List of Endangered and Threatened Wildlife (that is, delisted). Controlling the threat of disease would include assurances of long-term implementation of the epidemic response plan for Santa Catalina Island, which is currently being implemented by CIC. We coordinated with CIC to determine their ability to enter into an agreement to provide assurances, and they indicated they are currently unable to provide assurances for long-term funding and management. Though we do not have assurances of long-term funding that would allow them to commit to long-term implementation of the epidemic response plan, we recognize that CIC's efforts have significantly contributed to a reduction of impacts to the Santa Catalina Island fox and its habitat.

Public Comments

We requested written comments from the public on the proposed rule. To that end, we specifically sought comments concerning: (1) Additional information on the distribution, population size, and population trends of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina Island foxes; (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; and (5) our draft post-delisting monitoring plan.

During the open comment period, which closed on April 18, 2016, we received 10 comment letters from organizations or individuals directly addressing the proposed removal of the San Miguel, Santa Rosa, and Santa Cruz Island fox from the Federal List of Endangered and Threatened Wildlife, or reclassification of the Santa Catalina Island fox from an endangered to a threatened species. Seven of these letters opposed the proposal, and three provided support. Two of these letters provided substantive comments (beyond a succinct expression of agreement or opposition) on the proposed rule, one of which supported and one of which opposed our proposal. Substantive information has been incorporated into the final rule as appropriate. The public comments are addressed in the following summary.

Comments From the Public

(5) Comment: One commenter suggested we conduct a more detailed analysis of the effects of global climate change and that we hold public meetings to develop a response plan for climate change.

Our Response: We incorporated additional information into the climate change discussion in this rule based on new information that was provided by the peer reviewers. 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 result in significant impacts at either the population or rangewide scales (*e.g.,* cause major population declines). However, we anticipate ongoing monitoring and management will detect any significant changes in population health and allow for management responses, including possible relisting; therefore, public meetings to develop a response plan were not planned.

(6) Comment: One commenter expressed concern that if the northern Channel Islands subspecies are delisted, the disease and predator management programs may potentially be defunded.

Our Response: The post-delisting monitoring is designed to verify that northern Channel 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 will 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). Funding and implementation of post-delisting monitoring is assured for 10 years by signed CMAs between the Service, NPS, and TNC (Service and NPS 2015; Service and TNC 2015). At the end of the 10-year post-delisting monitoring period, the Service, NPS, and TNC will determine whether monitoring should continue beyond the 10-year monitoring period. In addition, NPS identified island foxes as an ecosystem element for which they will conduct long-term annual population monitoring as part of Channel Island National Park's long-term ecological monitoring program, regardless of their status under the Act.

(7) Comment: One commenter stated that the San Miguel Island fox population declined from 581 individuals in 2011 (Coonan and Gugliolmino 2011, p. 14) to 538 individuals in 2012 (Coonan 2013, p. 10), despite the high number of pups caught and low number of known mortalities. The commenter questioned the 2015 data presented in the proposed rule, which indicate that the San Miguel Island population rose by approximately 200 from 2014, despite less than a quarter of the number of captured pups compared to 2012 and more than triple the number of known mortalities. The commenter also pointed out that Santa Rosa Island foxes have yet to meet their carrying capacity, and so, given that population's limited size, delisting is inappropriate at this time.

Our Response: The population estimates presented in this rule for the San Miguel Island fox are based on the best available scientific information as reported to the Service by NPS. San Miguel Island fox population estimates for the total population (both adults and juveniles) reveal that the subspecies has hovered around at least 550 foxes since 2010, and this likely represents carrying capacity for that island (Coonan 2014, p. 8). This is supported by the general decline in reproductive effort as the population has increased. On the San Miguel Island monitoring grids, only three pups were caught in 2013 and 2014, and only seven were caught in 2015, compared to 32 caught in 2012 (Guglielmino and Coonan 2016, p. 13). The low reproductive output is likely due both to high fox density and extended drought. Even given this, the overall combination of low mortality and robust population growth continues to put the San Miguel Island fox subspecies at acceptably low risk of extinction, according to population viability analyses (Guglielmino and Coonan 2016, p. 17). The San Miguel population reached this level of acceptable extinction risk in 2009, and even recent mortality due to drought has not moved the population away from acceptable extinction risk.

Santa Rosa Island foxes have likely not reached carrying capacity. Carrying capacity is not a threshold for recovery or for healthy populations; rather, carrying capacity is the maximum number of individuals that the habitat can support. Most populations function below that threshold and still exhibit demographic characteristics for healthy, stable populations. Populations do not need to be at carrying capacity to have stable or increasing demographics consistent with long-term viability. On Santa Rosa Island, significant mortality during the early phase of reintroduction and again in 2010 prevented the Santa Rosa subspecies from attaining the level of biological recovery that the San Miguel and Santa Cruz Islands subspecies had attained by 2013. However, the predicted extinction risk (over the next 50 years) has been less than 5 percent since 2011 for Santa Rosa Island (Guglielmino and Coonan 2016, p. 22). As of 2015, all Roosevelt elk and mule deer have been removed from Santa Rosa Island, and the island fox population has increased to greater than 1,200 foxes (Coonan 2015b, pers. comm.; Guglielmino and Coonan 2016, p. 18). 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, are met for the San Miguel, Santa Rosa, and Santa Cruz Island foxes.

(8) Comment: One commenter presented information on Acanthocephalan parasites, which affect the gut of island foxes. The commenter stated that Acanthocephalans have been identified as a factor in the deaths of over 20 island foxes since 2013. In addition, the commenter pointed out that most of the foxes on San Miguel Island have become increasingly underweight and probably infected. The commenter expressed that the effect this parasite could have on the San Miguel population of island foxes is significant and there is too little information on this significant issue to proceed with the proposed delisting.

Our Response: In 2013, necropsies of five radio-collared San Miguel Island foxes revealed substantial, and in several cases massive, parasitism by an unidentified Acanthocephalan (spiny-headed) parasite in the intestines (Coonan *et al.* 2014b, pp. 11, 12). Six of the 16 mortalities in 2014 through June 2015 had infection by an Acanthocephalan parasite, as did five in 2013 (Coonan 2015b, pp. 7, 8). The parasite burdens were associated with one or a combination of colitis, enteritis, and emaciation, and likely contributed to mortality of the individuals, but have not yet been determined as the cause of mortality (Coonan 2015b, p. 2). In 2015, the Island Fox Health Working Group discussed the impact of Acanthocephalans to island foxes on San Miguel Island and determined that no specific management action or treatment is recommended at this time, as cases are continuing, but do not appear to be increasing or causing a population decline (Coonan 2015b, p. 15). Continued monitoring of mortality causes will determine whether the parasite is a significant mortality source for San Miguel foxes, and requires management. Thus, at this time, the best available data indicate that although potential impacts from Acanthocephalan parasites may be impacting San Miguel Island fox

individuals, there are no significant impacts at the population scale such that this parasite would be considered a threat to the subspecies. We anticipate that ongoing monitoring and management as described in signed CMAs with NPS and TNC (Service and NPS 2015; Service and TNC 2015) will detect any significant changes in population health and allow for management responses, including listing in the future if warranted.

(9) Comment: One commenter presented information that the San Miguel Island fox population is aging and that there are problems in reproduction or survival of pups. Information was presented by the commenter that 73 percent of the collared foxes are 4 to 10 years old, while 47 percent are 6 to 10 years old. Only 27 percent of these foxes are young animals of 1 to 3 years old, which reflects 3 consecutive years of poor recruitment for the population, signifying poor birth years or poor pup survival. The commenter stated that such an age structure puts this population at risk, particularly given the small size of the population, dry climate, parasite issue, and low genetic diversity among the San Miguel Island foxes.

Our Response: Population estimates for the total San Miguel Island fox population (both adults and juveniles) reveal that it has hovered around 550 foxes since 2010, and this likely represents carrying capacity for the island (Coonan 2014, p. 8). This is supported by the general decline in reproductive effort as the population has increased. During annual monitoring efforts, only three pups were caught in 2013 and 2014, and only seven were caught in 2015, compared to 32 caught in 2012 (Guglielmino and Coonan 2016, p. 13). The low reproductive output is likely due both to high fox density and extended drought, and is to be expected as the population hovers around carrying capacity and responds to extended drought. This does not in and of itself constitute a threat to the San Miguel Island fox population, and low reproductive effort has not been identified as a current threat to any island fox population.

The combination of low mortality and the population at likely carrying capacity (*i.e.,* 550 foxes since 2010 (Coonan 2014, p. 8)) puts the San Miguel Island fox subspecies at acceptably low risk of extinction, according to population viability analyses (Guglielmino and Coonan 2016, p. 17). We anticipate that ongoing monitoring and management as described in signed CMAs with NPS and TNC (Service and NPS 2015; Service and TNC 2015) will detect any significant changes in population health and allow for management responses, including listing in the future if warranted. If a significant decline is detected, we will act in concert with NPS and TNC in an expedient manner to uncover the agent of the decline and implement timely recovery actions as laid out in the golden eagle management strategy and epidemic response plans (Hudgens *et al.* 2013, entire; NPS 2015a, entire).

Required Determinations

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act, need not be prepared in connection with listing, delisting, or reclassification of a species as an endangered or threatened species under the Endangered Species 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 references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* under Docket No. FWS–R8–ES–2015–0170 or upon request from the Ventura Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this final rule are staff members of 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.

Regulation Promulgation

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

PART 17—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''.

The revision reads as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
MAMMALS				
* *	*	* *	*	* *
Fox, Santa Catalina Island	*Urocyon littoralis catalinae*	Wherever found	T	69 FR 10335; 3/5/2004 81 FR [*Insert* ***Federal Register*** *page where the document begins*]; 8/12/2016 50 CFR 17.95(a) CH
* *	*	* *	*	* *

§ 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: July 21, 2016.

Stephen Guertin,

Acting Director, Fish and Wildlife Service.

[FR Doc. 2016–18778 Filed 8–11–16; 8:45 am]

BILLING CODE 4333–15–P