Federal Communications Commission.

John A. Karousos,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

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FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 73

[DA 01–2737; MM Docket No. 01–322; RM–10332]

Radio Broadcasting Services; Fremont and Sunnyvale, CA

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: This document requests comments on a petition for rulemaking filed on behalf of Chase Radio Properties, L.L.C., licensee of Station KCNL(FM), Channel 285A, at Fremont, California, requesting the reallotment of Channel 285A from Fremont to Sunnyvale, California, and modification of its authorization accordingly, pursuant to the provisions of section 1.420(i) of the Commission's Rules. Coordinates used for requested Channel 285A at Sunnyvale, California, are 37–18–41 North Latitude and 121–48–58 West Longitude.

Petitioner's reallotment proposal complies with the provisions of section 1.420(i) of the Commission's Rules, and therefore, the Commission will not accept competing expressions of interest in the use of Channel 285A at Sunnyvale, California, or require the petitioner to demonstrate the availability of an additional equivalent class channel.

DATES: Comments must be filed on or before January 14, 2002, and reply comments on or before January 29, 2002.

ADDRESSES: Secretary, Federal Communications Commission, 445 12th Street, SW., Room TW–A325, Washington, DC 20554. In addition to filing comments with the FCC, interested parties should serve the petitioner's counsel, as follows: Harry C. Martin; Fletcher, Heald & Hildreth, P.L.C.; 1300 North 17th Street, 11th Floor; Arlington, Virginia 22209.

FOR FURTHER INFORMATION CONTACT: R. Barthen Gorman, Mass Media Bureau, (202) 418–2180.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Notice of Proposed Rule Making, MM Docket No. 01–322 adopted November 14, 2001, and released

November 23, 2001. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC's Reference Information Center at Portals II, 445 12th Street, SW., CY–A257, Washington, DC 20554. This document may also be may also be purchased from the Commission's duplicating contractors, Qualex International, Portals II, 445 12th Street, SW., Room CY–B402, Washington DC 20554, telephone 202–863–2893, facsimile 202–863–2898, or via e-mail *qualexint@aol.com.*

The provisions of the Regulatory Flexibility Act of 1980 do not apply to this proceeding.

Members of the public should note that from the time a Notice of Proposed Rule Making is issued until the matter is no longer subject to Commission consideration or court review, all *ex parte* contacts are prohibited in Commission proceedings, such as this one, which involve channel allotments. See 47 CFR 1.1204(b) for rules governing permissible *ex parte* contacts.

For information regarding proper filing procedures for comments, See 47 CFR 1.415 and 1.420.

List of Subjects in 47 CFR Part 73

Radio broadcasting.

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR part 73 as follows:

PART 73—RADIO BROADCAST SERVICES

1. The authority citation for Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303. 334, and 336.

§ 73.202 [Amended].

2. Section 73.202(b), the Table of FM Allotments under California, is amended by adding Sunnyvale, Channel 285A, and removing Channel 285A at Fremont.

Federal Communications Commission.

John A. Karousos,

Chief, Allocations Branch, Policy and Rules Division, Mass Media Bureau.

[FR Doc. 01–30387 Filed 12–7–01; 8:45 am]

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AI28

Endangered and Threatened Wildlife and Plants; Listing the San Miguel Island Fox, Santa Rosa Island Fox, Santa Cruz Island Fox, and Santa Catalina Island Fox as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose endangered status pursuant to the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*), for four subspecies of island fox (*Urocyon littoralis*): San Miguel Island Fox (*Urocyon littoralis littoralis*), Santa Rosa Island Fox (*U. l. santarosae*), Santa Cruz Island Fox (*U. l. santacruzae*), and Santa Catalina Island Fox (*U. l. catalinae*). Island fox populations on these four islands have experienced precipitous declines since 1995. The three island fox subspecies inhabiting the northern Channel Islands (San Miguel, Santa Rosa, and Santa Cruz) have declined due to predation by golden eagles (*Aquila chrysaetos*). Island foxes on San Miguel and Santa Rosa islands have been effectively extirpated in the wild; captive breeding efforts are underway on both islands. On Santa Cruz Island, the island fox population decreased from 1,300 to less than 100 animals; captive breeding efforts on Santa Cruz will begin in the fall of 2001. The Santa Catalina Island fox population experienced a precipitous decline in 1999 as a result of an outbreak of canine distemper virus; fewer than 200 Santa Catalina Island foxes are thought to remain in the wild.

DATES: Comments from all interested parties must be received by February 8, 2002. Public hearing requests must be received by January 24, 2002.

ADDRESSES: If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods.

(1) You may submit written comments to the Field Supervisor, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, California 93003.

(2) You may send comments by electronic mail (e-mail) to: *fw1islandfox@r1.fws.gov.*

See the Public Comments Solicited section below for file format and other information about electronic filing.

(3) You may hand-deliver comments to our office at 2493 Portola Road, Suite B, Ventura, California 93003.

FOR FURTHER INFORMATION CONTACT: Diane Noda, Field Supervisor, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office, at the address above (telephone 805/644–1766; facsimile 805/644–3958).

SUPPLEMENTARY INFORMATION:

Background

The island fox was first described as *Vulpes littoralis* by Baird in 1857 from the type locality of San Miguel Island, Santa Barbara County, California. Merriam (1888, in Hall and Kelson 1959) reclassified the island fox into the genus *Urocyon* and later described island foxes from Santa Catalina, San Clemente, and Santa Cruz islands as three separate taxa (*U. catalinae, U. clementae,* and *U. littoralis santacruzae*) (Merriam 1903). Grinnell *et al.* 1937 revised Merriam's classification, placing foxes from all islands under the species *U. littoralis* and assigning each island population a subspecific designation (*U. l. catalinae* on Santa Catalina Island, *U. l. clementae* on San Clemente Island, *U. l. dickeyi* on San Nicolas Island, *U. l. littoralis* on San Miguel Island, *U. l. santacruzae* on Santa Cruz Island, and *U. l. santarosae* on Santa Rosa Island). Recent morphological and genetic studies support the division of the *U. littoralis* complex into six subspecies which are each limited in range to a single island (Gilbert *et al.* 1990; Wayne *et al.* 1991a; Collins 1991a, 1993; Goldstein *et al.* 1999). Each subspecies is reproductively isolated from the others by a minimum of 5 kilometers (3 miles) of ocean waters. The island fox is closely related to the mainland gray fox, *U. cinereoargenteus*, but is smaller in size and darker in coloration (Moore and Collins 1995).

The island fox is a diminutive canid, weighing approximately 1.4 to 2.7 kilograms (3 to 6 pounds) and standing approximately 0.3 meters (1 foot) tall. Dorsal coloration is grayish-white and black. The base of the ears and sides of the neck and limbs are cinnamon-rufous in color. The underbelly is a dull white, and the tail is conspicuously short. Island foxes display sexual size dimorphism, with males being larger and heavier than females (Moore and Collins 1995).

Island foxes inhabit the six largest islands (San Miguel, Santa Rosa, Santa Cruz, San Nicolas, Santa Catalina, and San Clemente islands) off the coast of southern California. Genetic evidence suggests that all island foxes are descended from one colonization event (George and Wayne 1991), possibly from chance overwater dispersal by rafting on floating debris (Moore and Collins 1995). Fossil evidence indicates that island foxes inhabited the northern Channel Islands (San Miguel, Santa Rosa, and Santa Cruz) between 10,000 to 16,000 years ago (Orr 1968). However, island foxes are thought to have existed on the northern Channel Islands even before that time, during a period when Santa Cruz, Santa Rosa, and San Miguel were one land mass referred to as ''Santarosae,'' last known to have been united 18,000 years before present (Johnson 1978, 1983). The island fox was thought to have reached the southern Channel Islands (San Nicolas, San Clemente, and Santa Catalina) much more recently (2,200 to 3,800 years ago), most likely introduced to these islands by Native Americans as pets or semi-domesticates (Collins 1991a, b). However, island fox remains recently recovered from San Nicolas Island extend this time period to approximately 5,200 years before present (Vellanoweth 1998).

Genetic evidence confirms the pattern of dispersal suggested by archeological and geological findings (Gilbert *et al.* 1990). The pattern of genetic relatedness supports the geological evidence of the sequence of isolation for each island, and each population, as rising sea levels separated Santarosae into the northern Channel Islands. Santa Cruz separated from the other northern Channel Islands first, about 11,500 years ago, followed by the separation of San Miguel and Santa Rosa about 9,500 years ago. Together with the fossil record, genetic evidence indicates that San Clemente was the first southern Channel Island colonized, probably by immigrants from San Miguel. Dispersal then occurred from San Clemente to San Nicolas and then Santa Catalina (Gilbert *et al.* 1990).

Island forms of species generally have less genetic variability than their mainland counterparts (Gill 1980), and island foxes are no exception. Mainland gray foxes are more variable both morphologically and genetically than island foxes (Wayne *et al.* 1991b; Goldstein *et al.* 1999). Island fox population size and genetic variability seem to decrease with island size; the smallest island fox populations, San Miguel and San Nicolas, show the least genetic variability, with San Nicolas having virtually no genetic variability, which is highly unusual among mammals. This lack of variability could be attributed either to extensive inbreeding, or to the population having passed through a bottleneck, a period of very low population (George and Wayne 1991).

The diminutive island fox is the largest native carnivore on the Channel Islands. The island fox is a habitat generalist, occurring in valley and foothill grasslands, southern coastal dunes, coastal bluff, coastal sage scrub, maritime cactus scrub, island chaparral, southern coastal oak woodland, southern riparian woodland, bishop (*Pinus muricata*) and torrey pine (*Pinus torreyana*) forests, and coastal marsh habitats. Although foxes can be found in a wide variety of habitats on the islands, they prefer areas of diverse topography and vegetation (Von Bloeker 1967; Laughrin 1977; Moore and Collins 1995). Laughrin (1973, 1980) found woodland habitats to support higher densities of island fox due to increased food availability, while Crooks and Van Vuren (1996) found island foxes to prefer fennel grasslands and avoid ravines and scrub oak patches.

Island foxes are omnivores, taking a wide variety of seasonally available plants and animals (Collins and Laughrin 1979; Collins 1980; Kovach and Dow 1981; Moore and Collins 1995; Crowell 2001). Island foxes forage opportunistically on any food items encountered within their home range. Selection of food items is determined largely by availability, which varies by habitat and island, as well as seasonally and annually. Island foxes prey on native deer mice (*Peromyscus maniculatus*), as well as introduced house mice (*Mus musculus*) and rats (*Rattus rattus*). Small mammals may be especially important prey during the breeding season, because they are large, energy-rich food items that adult foxes can bring back to their growing pups (Garcelon *et al.* 1999). In addition to small mammals, island foxes feed on ground-nesting birds such as horned larks (*Eremophila alpestris*) and western meadowlarks (*Sturnella neglecta*), and a wide variety of insect prey (Moore and Collins 1995). At certain times of the year, foxes feed heavily on orthopterans (e.g., grasshoppers and crickets) (Crooks and VanVuren 1995), especially Jerusalem crickets (*Stenopelmatus fuscus*). Less common in the diet are amphibians, reptiles, and carrion of marine mammals (Collins and Laughrin 1979). Island foxes feed on a wide variety of native plants, including the fruits of manzanita (*Arctostaphylos* spp.), summer holly (*Comarostaphylis* spp.), toyon (*Heteromeles* spp.), chollo cactus (*Opuntia* spp.), island cherry (*Prunus ilicifolia*), sumac (*Rhus* spp.), rose (*Rosa* spp.), nightshade (*Solanum* spp.), and huckleberry (*Vaccinium* spp.) (Moore and Collins 1995). Fruiting shrubs do not occur on San Miguel

Island, where island foxes rely more on the fruits of the low growing sea-fig, *Carpobrotus chilensis*.

The island fox is a docile canid, exhibiting little fear of humans in many instances. Although primarily nocturnal, the island fox is more diurnal than the mainland gray fox (Collins and Laughrin 1979; Fausett 1993). This is thought to be a result of the historical absence of large predators and freedom from human harassment on the islands (Laughrin 1977).

Mated island foxes maintain territories that are separate from the territories of other pairs (Crooks and Van Vuren 1996; Roemer *et al.* 2001a). Island fox home range size varies with sex, season, population density, landscape features, and habitat type (Laughrin 1977; Crooks and Van Vuren 1996; Thompson *et al.* 1998; Roemer *et al.* 2001a). Estimates of territory size range from 0.24 square kilometers (km^2) (59 acres (ac)) in mixed habitat (Crooks and Van Vuren 1996) and 0.87 km^2 (214 ac) in grassland habitat (Roemer 1999) on Santa Cruz Island, to 0.77 km^2 (190 ac) in canyons on San Clemente Island (Thompson *et al.* 1998). Island fox territory configuration changes after the death and replacement of paired male foxes, but not after the death and replacement of paired females or juveniles, indicating that adult males are involved in territory formation and maintenance (Roemer *et al.* 2001a).

Although island foxes appear monogamous, copulations with individuals other than the mate, and offspring as a result of those unions, are common (Roemer *et al.* 2001a). Courtship activities occur from late January to early March; genetic evidence suggests that inbreeding avoidance occurs (Roemer *et al.* 2001a). Recent endocrine assays on fecal samples from San Miguel Island indicate that, unlike all other canids studied to date, island foxes are induced rather than spontaneous ovulators (*i.e.,* the presence of males is necessary in order for females to go into estrous) (Bauman *et al.* 2001). Young are born from late April through May after a gestation period of approximately 50 days. Island foxes give birth to their young in simple dens, which are usually not excavated by the foxes themselves (Moore and Collins 1995). Rather, any available sheltered site (*e.g.,* brush pile, rock crevice, and hollow stump) is used (Laughrin 1977). Litter size ranges from one to five (average = 2.17). Both island fox care for the young (Garcelon *et al.* 1999). By 2 months of age, young foxes spend most of the day outside the den and will remain with their parents throughout the summer. Some pups disperse from their birth territories by winter, although others may stay on their natal territories into their second year (Coonan 2001). Island foxes can mate at the end of their first year (Collins and Laughrin 1979), although most breeding involves older animals. Coonan *et al.* (1998) found that only 16 percent of females under the age of 2 bred over a 5-year period, in contrast to 60 percent of older females.

Due to the low reproductive output of island foxes, survival of adults is the most important factor influencing population growth rate (Roemer *et al.* 1994; 2001a). Compared with the gray fox, island fox populations are skewed toward older adults (Laughrin 1980; Garcelon 1988). Adult island foxes live an average of 4 to 6 years (Moore and Collins 1995), although this may be an underestimate (Coonan *et al.* 1998).

In the 1970s, island foxes were found at higher densities than any other canid species, likely due to the lack of competition and predation compared with the island foxes' mainland canid counterparts (Laughrin 1980). At the time of Laughrin's early studies, island fox populations were stable on all islands except Santa Catalina (Laughrin 1973). Pre-decline trapping on Santa Cruz Island in 1993 and 1994 reconfirmed that island foxes existed at high densities (Roemer *et al.* 2001a)

San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina island foxes have experienced precipitous declines in the last 6 years (Coonan *et al.* 1998, 2000, and in review; Roemer 1999; Timm *et al.* 2000; Roemer *et al.* in press). Total island fox numbers rangewide have fallen from approximately 6,000 individuals (Roemer *et al.* 1994) to fewer than 1,660 (Tim Coonan, Channel Islands National Park, pers. comm. 2001a). Island fox populations on San Miguel and Santa Cruz islands have declined by an estimated 80 to 90 percent and have a 50 percent chance of extinction over the next 5 to 10 years (Roemer 1999; Roemer *et al.* in press). During the period of decline, island fox population monitoring was not conducted on Santa Rosa Island; however, anecdotal observations and recent trapping efforts showed that a similar decline occurred for this subspecies as well (Roemer 1999; Coonan 2001). Island fox populations on the northern Channel Islands are considered critically endangered and in need of immediate conservation action (Coonan *et al.* 1998; Roemer 1999; Roemer *et al.* 2001b). On Santa Catalina, island foxes are now rare on the larger eastern portion of the island. This decline is thought to be a result of a canine distemper outbreak that swept through the population in 1999 (Timm *et al.* 2000).

San Clemente and San Nicolas islands have island fox populations estimated at more than 500 and 738 individuals, respectively (D. Garcelon, unpublished data; Roemer 2000), although the San Nicolas estimate is likely an overestimate, as it did not factor in habitat suitability (Grace Smith, Department of the Navy, pers. comm. 2001). San Clemente Island has not experienced the sharp declines seen on other islands; however, 13 years of trapping data display a slow decline of island fox since the early 1990s (Garcelon 1999; D. Garcelon, unpublished data). Populations of the San Nicolas Island fox appear to be stable. However, its small population size (Roemer *et al.* 1994), insular nature, lack of resistance to canine distemper and other diseases (Garcelon *et al.* 1992), high densities (Roemer 2000), and low genetic variability (Wayne *et al.* 1991a) increase the vulnerability of this subspecies (Roemer 1999). Protective measures have been put in place on these islands, such as implementing a wildfire management plan and feral cat management program and removing all feral ungulates, to prevent further decline of these two subspecies.

San Miguel Island Fox (Urocyon littoralis littoralis)

The first quantitative surveys for island foxes on San Miguel Island were conducted by Laughrin in the early 1970s (Laughrin 1973). Trap efficiency was high (43 percent) and Laughrin concluded that island fox populations were stable at 2.7 foxes per km^2 (7 foxes per square mile (mi^2)), although this may be an underestimate. In the late 1970s, the island foxes on San Miguel had an average density of 4.6 foxes per sq. km (12 foxes per mi^2) for a total estimated population of 151 to 498 individuals (Collins and Laughrin 1979). Island foxes on San Miguel Island were not surveyed again until the National Park Service (NPS) instituted a long-term population study in 1993 which recorded an average density of 7.7 foxes per sq. km (20 foxes per mi^2) on two trapping grids and estimated the total population at more than 300 foxes (Roemer *et al.* 1994; Coonan *et al.* 1998). A third trapping grid was added the following year, and yielded the highest island fox densities ever recorded to that point (15.8 foxes per km^2 (41 foxes per mi^2) in one study area), resulting in an island-wide estimate of 450 adults (Coonan *et al.* 1998). Annual population monitoring using capture-mark-recapture techniques documented a substantial decline in island fox

populations on San Miguel Island between 1994 and 1999 (Coonan *et al.* 1998; Coonan *et al.* in review). In the last 7 years, estimated population size dropped from as many as 450 adults in 1994 (Coonan *et al.* 1998) to 17 adults currently (T. Coonan, unpublished data). Data from a remote camera survey and from fox sign (scat and tracks) indicate only one fox (a lone female that has evaded capture efforts) exists in the wild on San Miguel Island (Coonan *et al.* in review); the remaining 16 foxes are captive.

In 1999, NPS captured 14 individuals (4 males and 10 females) from the San Miguel Island fox subspecies to protect them from further losses to predation and to initiate a captive propagation program. Captive breeding over the last 2 years has brought the captive San Miguel Island fox population up to 16 adults (5 males and 11 females) and 5 pups (all males). The captive San Miguel Island fox population has high parasite loads, which may affect the health of individual foxes (L. Munson, unpublished data). Until September 2001, all captive San Miguel Island foxes were held in one breeding facility, putting the subspecies in danger of extinction due to a catastrophic event such as wildfire or disease outbreak. The NPS moved half the captive foxes into a second breeding facility on San Miguel Island in October 2001 to minimize this risk (T. Coonan, pers. comm. 2001b).

Santa Rosa Island Fox (Urocyon littoralis santarosae)

The earliest island fox trapping study from Santa Rosa reported a trapping efficiency of 50 percent and a density of 4.2 foxes per km^2 (11 foxes per mi^2) (Laughrin 1973). Little population data has been collected on Santa Rosa Island foxes since Laughrin's studies. However, recent trapping data in 1998 and 2000 as well as anecdotal evidence suggests that Santa Rosa has experienced a decline similar to those on Santa Cruz and San Miguel Islands (Roemer 1999; Coonan 2001). During 132 trap nights in 1998, trap success was 4.8 percent, and only nine individuals were captured (Roemer 1999). Anecdotal sightings by park and ranch staff became much less frequent than in previous years (Coonan 2001).

Believing that fewer than 100 island foxes remained on Santa Rosa Island (T. Coonan pers. comm. 1999), the NPS captured 10 adult foxes (four males and six females) to initiate captive breeding in March 2000. Two seasons of captive breeding have increased the captive population to 22 adults (9 males and 13 females) and 10 pups (3 males and 7 females). The last known fox in the wild on Santa Rosa Island was brought into captivity in May 2001 (T. Coonan, pers. comm. 2001a). As with San Miguel Island, approximately half the captive foxes were moved to a second facility in October 2001 (T. Coonan, pers. comm. 2001b).

Santa Cruz Island Fox (Urocyon littoralis santacruzae)

Santa Cruz Island is the largest of the Channel Islands and has supported the highest known densities of island fox in the past (Laughrin 1973). Laughrin (1971) estimated the island fox population of Santa Cruz Island to be approximately 3,000 individuals. Average density between 1973 and 1977 was 7.9 foxes per km^2 (20.4 foxes per mi^2) (Laughrin 1980). Following Laughrin's studies, island fox populations on Santa Cruz Island were not surveyed again until 1993, when island foxes were found to be at an average density of 8.2 foxes per km^2 (21.2 foxes per mi^2) (Roemer *et al.* 1994). Since that time, the population has decreased from an estimated 1,312 in 1993 to an estimated size of 133 in 1999 (Roemer 1999; Roemer *et al.* 1994; Roemer *et al.* in press). In 1998, trapping efficiency was low (2.9 percent), and island fox density ranged from 0.0 to 2.4 foxes per km^2 (0.0 to 6.2 foxes per mi^2), the lowest ever reported from Santa Cruz Island (Roemer 1999).

Population monitoring efforts in 2001 have yielded captures of 75 individual foxes. Of these, 27 have been outfitted with radio collars. The highest numbers of foxes were captured in the areas of relatively high cover. Five radio-collared fox carcasses have been retrieved, and all deaths have been attributable to predation by golden eagles (David Garcelon, Institute for Wildlife Studies, pers. comm. 2001). The Island Fox Conservation Working Group, a team of experts convened by the NPS to recommend appropriate recovery actions for the island fox, found that ''the existence of one pair of golden eagles on the island as of October 1, 2001, will warrant bringing foxes into captivity as the necessary conservative step in preserving the Santa Cruz Island fox population.'' Intensive trapping efforts to capture and relocate the remaining golden eagles in the spring and summer of 2001 have resulted in three captures; however, four eagles remain on the island (Brian Latta, Santa Cruz Predatory Bird Research Group (SCPBRG), pers. comm. 2001b). Thus, captive breeding of foxes will be initiated on Santa Cruz Island in early 2002 (T. Coonan, pers. comm. 2001b).

Santa Cruz Island is currently occupied by a large feral pig population (estimated at approximately 3,000 to 5,000 individuals), which facilitates the colonization of the island by golden eagles. The Nature Conservancy and the NPS are planning an island-wide pig eradication program which will take years to complete.

Santa Catalina Island Fox (Urocyon littoralis catalinae)

Santa Catalina Island has the largest human population, a large population of domestic dogs, and the highest degree of human activity and accessibility of the Channel Islands. Island fox numbers on Santa Catalina Island have fluctuated widely over the past 30 years. In Laughrin's early 1970s studies, only 2 island foxes were trapped on Santa Catalina Island for a trap efficiency of 6 percent and an average density of 0.1 fox per km^2 (0.3 foxes per mi^2) (Laughrin 1973). This density was 37 percent lower than any other island during this study. The reason for past low island fox numbers on Santa Catalina Island is unknown; the available food and habitats are comparable to that on the other islands. Island fox numbers on Santa Catalina Island increased slightly between 1975 and 1977 with average densities of 0.29 foxes per km^2 (0.77 foxes per mi^2) (Propst 1975) and 0.30 foxes per km^2 (0.8 foxes per mi^2) (Laughrin 1980). Between 1988 and 1991, average density increased, ranging from 2.6 to 12.8 foxes per km^2 (6.7 to 33.1 foxes per mi^2) (Garcelon *et al.* 1991). The Santa Catalina Island fox population increased to an estimated 1,342 foxes by 1994 (Roemer *et al.* 1994).

The Santa Catalina Island fox population has experienced a recent dramatic decline attributed to canine distemper, presumably introduced by domestic dogs, in the eastern portion of the island (Timm *et al.* 2000). Santa Catalina Island is separated into a large eastern side (40,000 acres) and a small western side (8,000 acres) by a narrow isthmus, which has apparently served as a barrier to the canine distemper virus. Trap success on the eastern side dropped from 26 percent in 1998 to 0.96 percent in 1999 and 2000, while remaining stable at approximately 36 percent on the western portion. Two live foxes and one deceased fox recovered from the eastern portion of the island tested positive for canine distemper virus, constituting the first positive record of canine distemper in island foxes (Timm *et al.* 2000). Island fox trapping efforts during 2000 and 2001 captured 137 island foxes on the western end and 37 on the eastern

portion of Santa Catalina Island (D. Garcelon, unpublished data).

A captive propagation program for the Santa Catalina Island fox is currently underway. The Institute for Wildlife Studies captured 16 adults (10 females and 6 males) between February and mid-March 2001 as the founder population for the captive breeding program. Of these, three were pregnant females, which gave birth to a total of 18 pups. Twelve of these pups died within 7 days of birth, likely due to stress to the females from capture during late pregnancy. The six remaining pups will be released onto the east end of the island in the fall of 2001 (Steve Timm, Institute for Wildlife Studies, pers. comm. 2001).

In addition to the captive breeding program, the Santa Catalina Conservancy and the Institute for Wildlife Studies initiated a translocation program in 2001 to repopulate island foxes on the east side of the island. Of the 10 island foxes relocated from the west end to the east end, one has died as a result of trauma, potentially from a vehicle strike (S. Timm, pers. comm. 2001). The remaining nine foxes appear to be alive and healthy.

Previous Federal Action

We published an updated candidate Notice of Review for animals on December 30, 1982 (47 FR 58454). This notice included all six subspecies of island fox in a list of category 2 candidate species. We maintained all six subspecies of island fox as category 2 candidates in subsequent notices: September 18, 1985 (50 FR 37958), January 6, 1989 (54 FR 554), November 21, 1991 (56 FR 58804) and November 15, 1994 (59 FR 58982). As announced in a notice published in the February 28, 1996, **Federal Register** (61 FR 7596), we discontinued the designation of category 2 candidates. Thus, all six subspecies of island fox were not included in this and subsequent notices of review. In our most recent Notice of Review, published on October 30, 2001 (65 FR 54808), we included the San Miguel, Santa Rosa, Santa Cruz and Santa Catalina island foxes as candidate species. Candidate species are those species for which listing is warranted but precluded by other pending listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act.

On June 1, 2000, we received a petition from the Center for Biological Diversity (Center) in Tucson, Arizona, and the Institute for Wildlife Studies in Arcata, California, requesting that we add four subspecies of island fox, the San Miguel Island fox, Santa Rosa Island fox, Santa Cruz Island fox, and Santa Catalina Island fox to the list of endangered species pursuant to the Act. Due to a lack of funding, we did not issue a 90-day finding for the petition. In response to our lack of action on the petition, the Center sent us a 60-day notice of intent to sue on December 4, 2000. This proposed rule satisfies a measure in the settlement agreement with the Center (*Center for Biological Diversity, et al.* v. *Norton,* Civ. No. 01–2063 (JR) (D.D.C.), entered by the Court on October 2, 2001.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act and its implementing regulations (50 CFR part 424) issued to implement the listing provisions of the Act establish procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act. These factors and their application to the four island fox subspecies are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Habitat on all islands occupied by island foxes has been heavily affected by a history of livestock grazing, cultivation, and other disturbance. A century and a half of overgrazing by non-native herbivores, including sheep (*Ovis aries*), goats (*Capra hircus*), rabbits (*Oryctolagus cuniculus*), deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), cattle (*Bos taurus*), pigs (*Sus scrofa*), and horses (*Equus caballus*) resulted in substantial impacts to the soils, topography, and vegetation of the islands (Coblentz 1980; Johnson 1980; O'Malley 1994; Peart *et al.* 1994). Damage to native island plants and their habitats on the northern Channel Islands by introduced stock and game animals is evidenced by our 1997 listing of 13 endemic island plants as endangered or threatened (62 FR 40954). One result of overgrazing has been the replacement of much of the native coastal sage scrub, chaparral, and oak woodland habitats with other vegetation, especially non-native annual grasses such as *Avena* and *Bromus* spp. (Brumbaugh 1980; Klinger *et al.* 1994). Annual grasslands are less preferred as habitat by island foxes (Laughrin 1977; Kovach and Dow 1982). The California Department of Fish and Game (CDFG), in recommending the retention of the island foxes classification as threatened under State law, cited the continued habitat degradation by herbivorous mammals on Santa Rosa, Santa Cruz, Santa Catalina, and San Clemente islands (CDFG 1987). Since that time, alien species removal programs have eradicated or reduced the introduced herbivore populations on many islands, but pigs remain on Santa Cruz Island; deer, elk, and horses remain on Santa Rosa Island; and pigs and goats remain on Santa Catalina Island. Even though many of the introduced herbivores have been removed, their earlier presence facilitated the invasion of and spread of non-native annual grasses on the islands. This invasion continues to be a problem as native island habitats are replaced by annual grasslands, which constitute less preferred habitats for foxes. On Santa Rosa Island, the continued presence of deer likely results in less available food for foxes, as deer browse the flowering and fruiting branches of native shrubs such as manzanita and toyon, which can be an important component of island fox diets during some seasons.

Even after the removal of non-native grazers on some islands, habitat recovery is slow (Hochberg *et al.* 1979) and threatened by the spread of non-native plants that became established during the ranching era. These exotic species continue to invade and modify island fox habitat resulting in lower diversity of vegetation, less diverse habitat structure, and reduced food availability. The replacement of native shrub communities by non-native annual grasslands has reduced protective cover for island foxes, making them more vulnerable to predation (Roemer 1999; Coonan *et al.* in review). 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).

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

Although island foxes were used in the past for pelts and ceremonial uses by Native Americans (Collins 1991b), island foxes are not currently known to be exploited for commercial, recreational, scientific, or educational purposes.

C. Disease or Predation

Predation. Recent island fox declines on San Miguel, Santa Cruz, and Santa Rosa islands have been attributed to predation by golden eagles (Roemer 1999; Coonan *et al.* in review; Roemer *et al.* in press). Roemer (1999) linked 19 of 21 documented island fox mortalities on Santa Cruz Island between April 1994 and July 1997 to golden eagles. On

San Miguel Island, 5 of 7 mortalities of radio-collared foxes were attributed to golden eagle predation during 1998 to 1999 (Coonan *et al.* in review). No data exist from Santa Rosa Island, but due to its location between Santa Cruz and San Miguel islands, island foxes on Santa Rosa Island likely experience similar predation pressures from golden eagles. As island foxes did not evolve under the presence of a large avian predator, they are likely not vigilant towards avian predators, and thus provide an easy target for golden eagles (Roemer *et al.* in press). Golden eagle predation likely continues to be the leading cause of mortality of island foxes on Santa Cruz Island. The deaths of 5 radio-collared foxes during radio-tracking efforts in 2001 have been attributed to golden eagle predation, based on the state of the carcasses and the presence of golden eagle feathers or avian feces at the carcass site (D. Garcelon, pers. comm. 2001).

The current level of golden eagle activity on the northern Channel Islands is historically unprecedented (Paul Collins, Santa Barbara Museum of Natural History, unpublished data). Golden eagles were known to occasionally visit the islands but never to establish residence (Diamond and Jones 1980; Jones and Collins, in prep.). The first known active golden eagle nest from the Channel Islands was located on Santa Cruz Island in 1999 (Gary Roemer, New Mexico State University, pers. comm. 1999; SCPBRG 2001), but golden eagles were likely established on the island as early as 1994 (Roemer *et al.* in press). Island fox remains along with the remains of feral piglets (*Sus scrofa*), ravens (*Corvus corax*), Brandt's cormorants (*Phalacrocorax pencillatus*), and western gulls (*Larus occidentalis*) were found in the nest. In September 1999, surveys by SCPBRG identified 12 resident golden eagles, including possibly five breeding pairs on Santa Cruz Island. Santa Cruz Island is now the main nesting and roosting location for golden eagles on the northern Channel Islands, although one pair of golden eagles may have nested on Santa Rosa Island (B. Latta, pers. comm. 1999). Golden eagles breeding on Santa Cruz Island are thought to ''commute'' to Santa Rosa and San Miguel islands to feed, where eagles have fewer alternative prey species to island foxes (*i.e.,* no feral pigs as there are on Santa Cruz Island) and foxes have less cover from vegetation to hide them from avian predators (Roemer 1999).

Before golden eagles started utilizing 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; Moore and Collins 1995). The docile and inquisitive nature of the island fox (Laughrin 1977) suggests an evolutionary history lacking predation (Carlquist 1974).

The recent colonization of the northern Channel Islands by golden eagles is likely a combination of two factors: (1) Introduction of exotic mammals on the northern Channel Islands resulting in a historically unprecedented prey base, and (2) the extirpation of bald eagles (*Haliaeetus leucocephalus*) from the islands as a result of dichlorodiphenyltrichloroethane (DDT) poisoning. Historically, the small population of vertebrate island fauna would have provided little prey for golden eagles, which rely on a diet of small terrestrial vertebrates. Before the ranching era on the Channel Islands, transient golden eagles landing on the islands would have found little prey to encourage them to establish permanent residence. Furthermore, nesting bald eagles would have discouraged foraging golden eagles from establishing residence by aggressively defending their already established territories. Bald eagles are represented in the prehistoric fossil record of the northern Channel Islands (Guthrie 1993) and bred there until 1960 when nest failures, as a result of DDT contamination, extirpated them from the northern Channel Islands (Kiff 1980).

Roemer *et al.* (in press) modeled time-energy budgets and predation rates of golden eagles on Santa Cruz Island to determine if the precipitous decline in island foxes could be attributed to predation alone. They concluded that the island fox declines on the northern Channel Islands are a consequence of hyper-predation, defined as when a prey species that can sustain high predation rates subsidizes the extinction of another prey species by acting as an alternate food resource for a shared predator (Courchamp *et al.* 1999). In this case, the large feral pig population enabled the golden eagle to colonize Santa Cruz Island; a resident golden eagle population could not have been supported by the native terrestrial vertebrate fauna (Roemer *et al.* in press). Their model indicates that as few as six golden eagles could have driven the island fox populations to the current low levels. Between 1999 and the present, 19 golden eagles have been translocated from Santa Cruz Island (SCPBRG 2001).

To protect island foxes on the northern Channel Islands from further declines, the National Park Service, the Service, and The Nature Conservancy funded a golden eagle removal program beginning in August of 1999. Between the fall of 1999 and 2000, 13 golden eagles were captured from Santa Cruz Island and relocated to northern California. When trapping efforts ceased in the fall of 2000, an estimated seven golden eagles remained on the northern Channel Islands (Brian Walton, SCPBRG, pers. comm. 2000). Golden eagle trapping was resumed in 2001, with six eagles removed from Santa Cruz Island. Additional golden eagles seem to be coming from the mainland; currently, five eagles (two adult females, one adult male and two subadults) remain on Santa Cruz Island. Due to trap wariness, the abundance of feral pig prey, and the harsh topography of Santa Cruz Island, the remaining golden eagles have proven difficult to trap (B. Latta, pers. comm. 2001a). Thus, despite these efforts to remove golden eagles from the islands, golden eagle predation continues to be the main cause of mortality of island foxes on Santa Cruz Island, and would likely constitute a serious predation threat to any foxes subsequently released from captive breeding programs on Santa Rosa and San Miguel islands.

We are currently investigating the feasibility of reintroducing bald eagles to the northern Channel Islands (Valoppi *et al.* 2000). As part of this feasibility study, releases of juvenile bald eagles to Santa Rosa or Santa Cruz Island could begin as early as 2002 (Dan Welsh, U.S. Fish and Wildlife Service, pers. comm. 2001). The feasibility study is being conducted as a pilot project to assess the potential breeding success of bald eagles on the northern Channel Islands, and will include several aspects of monitoring bald eagle movement and exposure to 2, 2-Bis (p-chlorophenyl)-1, 1-dechloroethylene (DDE), the metabolized form of DDT. The presence of territorial golden eagles on the islands may hinder bald eagle reintroduction, because territorial golden eagles may chase away non-nesting bald eagles (B. Latta, pers. comm. 2001a). Currently, the NPS is in the process of capturing golden eagles on the northern Channel Islands as part of an overall island fox recovery strategy. The presence of territorial bald eagles on the northern Channel Islands may assist in discouraging transient golden eagles from establishing breeding territories on the islands. However, the success of bald eagle introduction efforts is uncertain, and would take years to discern, due to the long time it takes for bald eagles to reach sexual maturity (4 years or more). Therefore, if

reintroduction efforts are successful, bald eagles will not nest on this island until 2006. To ensure that no golden eagles return to the northern Channel Islands, a large resident bald eagle population would be necessary, because Santa Cruz Island is large enough for many eagle breeding territories.

Disease. On Santa Catalina Island, the large sudden decline in island foxes has been attributed to canine distemper, most likely brought to the island by a domestic dog (Timm *et al.* 2000). The steep and sudden pattern of decline on Santa Catalina Island is more indicative of a disease outbreak rather than the slower decline due to predation seen on the northern Channel Islands (Timm *et al.* 2000). In addition to positive testing for canine distemper in foxes caught on the east end of Santa Catalina Island, the evidence suggesting a disease-related decline versus other causes are: (1) The population decline on Santa Catalina Island is of a similar magnitude (90 percent) as on the northern Channel Islands, but has occurred within 1 year rather than the steady 6-year decline seen on San Miguel, Santa Cruz, and Santa Rosa Islands; (2) the declines on the northern islands are island-wide, while the geographically restricted western population on Santa Catalina Island has remained relatively healthy; and (3) sick foxes have been seen on Santa Catalina Island but not on the northern islands (G. Roemer, pers. comm. 2000).

Two healthy adult foxes caught on the east end of Santa Catalina Island in 1999 tested positive for canine distemper, constituting the first positive records of canine distemper in island fox. A necropsy of one island fox identified the cause of death as canine distemper (Timm *et al.* 2000). No island foxes tested positive for canine distemper in a previous comprehensive serologic survey of all islands (Garcelon *et al.* 1992), nor did any foxes from San Clemente, Santa Cruz, or San Miguel test positive for canine distemper virus during the period (1994 to 1997) of the fox decline on the northern islands (Roemer *et al.* in press). The absence of antibodies to canine distemper virus in any island foxes during these studies implies that either the virus had never been introduced to the islands, or the species is highly susceptible to the virus and none survive infection. As the closely related mainland gray fox is highly susceptible to canine distemper virus, island foxes likely have high susceptibility as well (Garcelon *et al.* 1992). This hypothesis is supported by the deaths of two island foxes in zoos from the inappropriate administration of modified live canine distemper vaccine (Linda Munson, University of California at Davis, pers. comm. 2001). Although the outbreak of canine distemper that precipitated the sudden decline of island foxes on Santa Catalina Island has apparently run its course, the Santa Catalina Island subspecies remains susceptible to another outbreak of the disease due to the continued exposure to domestic dogs that may transmit the virus.

Administration of an experimental canine distemper vaccine developed for ferrets (another species highly susceptible to canine distemper) to some island foxes captured on Santa Catalina Island has had promising preliminary results (S. Timm, pers. comm. 2001). With further testing, the vaccine may prove useful for protecting island foxes on all islands from future canine distemper outbreaks.

All island fox populations have been surveyed for other canine diseases and parasites. Although island foxes are known to carry antibodies for a variety of canine diseases, none of these could explain the type or geographic distribution of the observed decline on the northern Channel Islands (Garcelon *et al.* 1992; Coonan *et al.* 2000; Roemer 1999; Roemer *et al.* in press). Although pathology work has not identified a specific cause of population decline (with the exception of canine distemper virus on Santa Catalina Island), some underlying diseases or parasites may also affect population viability or individual health (L. Munson, pers. comm. 2001). The most common antibodies found in island foxes are canine adenovirus and canine parvovirus (Garcelon *et al.* 1992). Canine herpesvirus, coronavirus, leptospirosis, and toxoplasmosis have been recorded at low levels (Garcelon *et al.* 1992, Coonan *et al.* 2000, Roemer *et al.* in press). The relative occurrence of canine adenovirus was similar before and after the population crashes on these islands, while antibodies for parvovirus were detected from a small number of samples from 1994, but not detected in 1995 or 1997 samples (Coonan *et al.* 2000). Canine adenovirus may be typically present in the island fox populations (Garcelon *et al.* 1992), with little effect on individual health. Canine parvovirus has been found in other wild canids and can result in mortality of pups, prior to emergence from the den (Garcelon *et al.* 1992).

Canine heartworm (*Dirofilaria immitis*) has been documented in four island fox subspecies (San Miguel, Santa Cruz, Santa Rosa, and San Nicolas island foxes; Roemer *et al.* 2000). Despite the high seroprevalence or occurence of heartworm in these populations (between 58 and 100 percent in 1997–98), heartworm is not thought to be responsible for the decline of island foxes for the following reasons: (1) Seroprevalence on San Nicolas Island, where the population is stable, is higher than on Santa Cruz Island, where the population is decreasing (Roemer *et al.* in press), (2) heartworm was present in all four subspecies in or before 1988, pre-dating the population declines, (3) seroprevalence in the San Miguel population was high in 1994, when densities on that island reached the highest levels ever recorded for island foxes, and (4) necropsy results have found few adults worms in the hearts of island foxes and no evidence of heartworm disease (Roemer 1999). However, heartworm may have contributed to mortality in older foxes (Roemer *et al.* in press), exacerbating the conservation crisis for the island fox.

Necropsies performed at the University of California at Davis have detected an unusually high degree of thyroid atrophy (characterized by a complete absence of colloid in the thyroid gland) in island foxes from San Clemente, Santa Catalina, San Nicolas, and San Miguel islands (L. Munson, pers. comm. 2001). The cause of thyroid atrophy in island foxes has yet to be investigated; thyroid atrophy in other species has been linked to high levels of polychlorinated biphenyl (PCBs). It is unclear how thyroid atrophy is affecting fox populations (L. Munson, pers. comm. 2001). Pathology work on 89 foxes has also detected an increased prevalence of emaciation (20 percent pre-1994; 47 percent post-1994); it is unknown why increased emaciation has occurred.

Island foxes held in captivity are likely to be exposed to increased parasite loads due to artificial densities and unnaturally low mobility. On San Miguel Island, captive island foxes have been found to have high parasite loads of *Angiocaulus* spp., *Spirocerca* spp., and *Uncinaria* spp. (L. Munson, unpublished data). These parasites, thought to have had minor effects on the population in the past (see Coonan *et al.* in review), may have significant effects on individual fox health due to the facilitation of their spread and density by the captive breeding situation. For example, fox handlers have noticed high incidence of rectal bleeding in the captive San Miguel population, likely due to *Uncinaria* (a type of hookworm). Hookworms feed on the inner lining of the small intestine and cause loss of blood or hemorrhaging to the host, sometimes to the point of severe anemia and death. The NPS is working to address this threat by developing a

treatment process for hookworm in coordination with the veterinary team of the Island Fox Conservation Working Group. Captive breeding programs to facilitate recovery are planned to continue for these four island fox subspecies. Therefore, exposure to increased parasitic loads will continue to be a threat.

D. The Inadequacy of Existing Regulatory Mechanisms

The primary causes of the decline of the island fox are the degradation of habitat by introduced herbivores, unprecedented predation by golden eagles, and the rapid transmission of canine distemper through the Santa Catalina subspecies. Federal, State and local laws have not been sufficient to prevent past and ongoing losses of island foxes.

In 1971, the State of California listed the island fox as State-rare (a designation later changed to threatened), which means that it may not be taken without a special (*i.e.,* scientific collecting) permit (CRC, Title 14, Section 41) or an incidental take permit issued pursuant to section 2081 of the California Endangered Species Act. However, this protection applies generally only to actual possession or intentional killing of individual animals, or actual death of individual animals incidental to otherwise lawful activity, and may afford little or no protection to habitat. State law does not require Federal agencies to avoid or compensate for impacts to the island fox and its habitat. There are currently no State regulatory mechanisms designed to protect island foxes on federally managed lands, including San Miguel, Santa Rosa, and Santa Cruz islands.

Federal law governs the management of NPS and Navy lands, including the National Environmental Policy Act (NEPA), the Endangered Species Act, the National Park Service Organic Act, and the Marine Mammal Protection Act. Many federally listed plant and animals species, including 14 listed plants, the brown pelican (*Pelecanus occidentalis*), the southern sea otter (*Enhydra lutris nereis*), the island night lizard (*Xantusia riversiana*), and the western snowy plover (*Charadrius alexandrinus nivosus*), occur on the Channel Islands. NPS management is further dictated by Department of the Interior policies and NPS policies and guidelines, including NPS guidelines for natural resources management (NPS 1991), and the Channel Islands National Park Management Plan (NPS 1985). Both the NPS and the Navy have adequate authority to manage the land and activities under their administration to benefit the welfare of the island fox. The NPS developed a draft recovery plan for island foxes on the northern Channel Islands to guide their recovery options. Steps are being taken to eliminate feral pigs on Santa Cruz Island and decrease predation pressure on island foxes by relocating golden eagles from the northern Channel Islands. However, in some cases because of conflicting management concerns, other priorities, and lack of funding, conservation efforts are not proceeding as quickly as necessary. In addition to removing golden eagles, their feral pig prey base must be removed to prevent golden eagles from recolonizing the islands.

San Miguel Island is under the jurisdiction of the Navy, but the NPS assists in managing the natural, historic, and scientific values of San Miguel Island through a Memorandum of Agreement (MOA) originally signed in 1963, an amendment signed in 1976, and a supplemental Interagency Agreement (IA) signed in 1985. The MOA states that the ''paramount use of the islands and their environs shall be for the purpose of a missile test range, and all activities conducted by or in behalf of the Department of the Interior on such islands, shall recognize the priority of such use'' (Navy 1963). In addition to San Miguel, Santa Cruz and Santa Rosa lie wholly within the Navy's Pacific Missile Test Center (PMTC) Sea Test Range. The 1985 IA provides for PMTC to have access and use of portions of those islands, for expeditious processing of any necessary permits by NPS, and for mitigation of damage of park resources from any such activity (Navy 1985). Should the Navy no longer require use of the islands, NPS would seek authorization for the islands to be preserved and protected as units within the NPS system (Navy 1976). To date, conflicts concerning protection of sensitive resources on San Miguel Island have not occurred. However, if the Navy were to resume use of San Miguel Island, there are no mechanisms in place to protect the island fox.

On islands managed by Federal agencies, prohibitions against bringing domestic pets to the islands exist. These prohibitions are difficult to enforce and violations are known to occur. Boaters have been observed bringing pets onshore to all three northern Channel Islands with island fox populations. On Santa Catalina Island, health certificates or quarantines are not necessary to bring domestic pets to the islands, exposing island foxes to increased risk of disease. On Santa Rosa Island, a ranching enterprise operating under a special use permit from the NPS is allowed to have ranch dogs on the island provided that the dogs have proof of vaccination in compliance with Santa Barbara County regulations, which requires only rabies shots.

Federal protection of golden eagles by the Bald and Golden Eagle Protection Act of 1962, as amended, has increased the golden eagle population on mainland California (B. Walton, pers. comm. 2000). As a result, golden eagles have expanded their range in order to establish breeding territories. The protections afforded golden eagles limit management alternatives to protect island foxes. Lethal removal of golden eagles would require a depredation permit from the Service. Such a permit would allow golden eagles to be taken by firearms, traps, or other suitable means except by poison or from aircraft (50 CFR 22.23). The regulatory restrictions on taking golden eagles limit the effectiveness of golden eagle removal, as the very steep topography on Santa Cruz Island makes lethal removal of golden eagles from the ground unfeasible.

California State law (Food and Agricultural Code 31752.5) prohibits lethal control of feral cats unless cats are held for a minimum of six days. This law prevents the Catalina Island Conservancy from taking steps to eradicate feral cats on the island, as it does not have adequate facilities to hold cats (see Factor E).

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Several other factors, including competition from introduced species and stochastic environmental factors, may have negative effects on island foxes and their habitats.

Competition with feral cats. CDFG, in recommending the retention of the threatened classification of the island fox under State law, cited competition with feral cats on Santa Catalina, San Nicolas, and San Clemente islands (CDFG 1987). The effects of cats on island foxes are unknown and may differ among islands. Feral cats outweigh island fox by an average of 2 to 1 and may negatively affect island foxes by direct aggression, predation on young, disease transmission, and competition for food resources (Laughrin 1978). Island fox population decreases on San Nicolas Island were accompanied by a concomitant increase in feral cat populations (Laughrin 1978). The presence of feral cats increases the risk of a transfer of infectious disease to island foxes (Roelke-Parker *et al.* 1996). Feral cats have been found to displace island foxes from habitats on San Nicolas Island (Kovach and Dow 1985).

As has been seen on San Nicolas and San Clemente islands, feral cats are extremely difficult to eradicate, requiring ongoing yearly programs to keep numbers controlled (Phillips and Schmidt 1997). No feral cat control exists on Santa Catalina Island due to local ordinances and resistance to lethal control from the residents of the island.

Lack of genetic variability. As a population becomes genetically homogenous, its susceptibility to disease, parasites, and extinction increases (O'Brien and Evermann 1988) and its ability to evolve and adapt to environmental change is diminished (Templeton 1994). The four island fox subspecies that have suffered large population declines could be at risk of having reduced genetic variability. Such population or demographic ''bottlenecks'' may result in reductions in genetic variation, depending on the size of the bottleneck and the growth rate of the population afterward (Meffe and Carroll 1997). In fact, at least one previously variable microsatellite locus is now fixed (i.e., one DNA marker no longer exhibits any genetic variability) in the San Miguel Island captive population following the decline (Gray *et al.* 2001). The San Nicolas Island fox has an unusually low degree of genetic variability (Gilbert *et al.* 1990; Wayne *et al.* 1991a; Goldstein *et al.* 1999), which may have been due to a major historical bottleneck (Gilbert *et al.* 1990). A lack of genetic variability can correspond to a reduced resistance to disease or physical abnormalities due to inbreeding. Due to the low numbers of individuals in the captive breeding programs and the lack of wild populations on San Miguel and Santa Rosa Islands, the lack of genetic variability threatens the island foxes from these islands.

Stochastic environmental and population factors. Island endemic species have high extinction risk due to isolation and small population sizes (MacArthur and Wilson 1967). Because the island fox is restricted to small islands, it is more subject to the effects of environmental perturbations and decline of birth rates due to low densities (*i.e.,* Allee effects; Allee 1931) than species occurring on the mainland. Reduced population size exposes the island fox to both catastrophic environmental events (*e.g.,* drought, wildfire, or disease) and demographic factors (*e.g.,* skewed sex ratios) that could cause or hasten extinction. Wildfires could affect island foxes by reducing food availability, altering vegetation or resulting in the death of individual foxes (especially pups during the denning season). On San Miguel and Santa Rosa islands, which no longer have wild populations, the concentration of all island foxes into small geographic areas increases the vulnerability of these subspecies to disease outbreaks. The extremely small island fox population sizes on San Miguel, Santa Rosa and Santa Cruz islands puts those populations at risk of extinction due to demographic factors as well. For example, 4 of the 14 original island foxes brought into the captive propagation program on San Miguel Island were male. Skewed sex ratios may hinder recovery efforts for the species, because island foxes typically form long-standing pair bonds and unpaired females have never been recorded to raise a litter.

Road mortalities. The fearless nature of island foxes, coupled with relatively high vehicle traffic on the southern Channel Islands, results in a number of vehicle collisions each year on islands with human populations (Wilson 1976; Garcelon 1999; G. Smith, unpublished data). For example, on San Nicolas Island where vehicle collisions are the largest documented mortality source, an average of 13 fox carcasses attributed to vehicle collisions are recovered each year (G. Smith, unpublished data). On San Clemente Island, vehicle strikes claimed a minimum of 26 foxes between the years 1991 and 1995 (Garcelon 1999), while in earlier times, Wilson (1976) estimated that approximately 25 island foxes were killed each year. Although no records have been kept, vehicle collisions on Santa Catalina Island likely cause a number of deaths comparable to San Nicolas and San Clemente Islands. Vehicle collisions on the northern Channel Islands are uncommon due to low traffic volume and the rough unpaved nature of most roads.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these taxa in determining to propose this rule. The precipitous declines of all four island fox subspecies addressed in this rule are due to the indirect and direct effects of the introduction of non-native mammals on all islands. Other threats include disease and competition from feral cats, road mortality on Santa Catalina Island, and natural events which could diminish or destroy the small extant populations. Existing regulatory mechanisms are inadequate to protect these taxa. Based on our evaluation, the preferred action is to list the San Miguel Island fox, Santa Cruz Island fox, Santa Rosa Island fox, and Santa Catalina Island fox as endangered.

Critical Habitat

Critical habitat is defined in section 3 of the Act as: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management consideration or protection and, (ii) specific areas outside the geographical area occupied by a species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures needed to bring the species to the point at which listing under the Act is no longer necessary.

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. Our regulations (50 CFR 424.12(a)(1) state that the designation of critical habitat is not prudent when one or both of the following situations exist—(1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species.

In the case of these subspecies, designation of critical habitat would not be expected to increase the threats to the subspecies and may provide some benefits. The primary regulatory effect of critical habitat is the section 7 requirement that agencies refrain from taking any action that destroys or adversely modifies critical habitat. While a critical habitat designation for habitat currently occupied by this species would not be likely to change the section 7 consultation outcome because an action that destroys or adversely modifies such critical habitat would also be likely to result in jeopardy to the species, there may be instances where section 7 consultation would be triggered only if critical habitat is designated. Examples could include unoccupied habitat or occupied habitat that may become unoccupied in the future. Designating critical habitat may also produce some educational or informational benefits. Therefore, designation of critical habitat is prudent for the San Miguel, Santa Rosa, Santa Cruz, and San Clemente Island foxes.

However, our budget for listing activities is currently insufficient to allow us to immediately complete all the listing actions required by the Act. Listing these four island fox subspecies without designation of critical habitat will allow us to concentrate our limited resources on higher priority critical habitat and other listing actions, while allowing us to put in place protections needed for the conservation of these island fox subspecies without further delay. This is consistent with section 4(b)(6)(C)(i) of the Act, which states that final listing decisions may be issued without critical habitat designations when it is essential that such determinations be promptly published. We will prepare a critical habitat designation in the future at such time when our available resources allow it.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages public awareness and results in conservation actions by Federal, State, and local agencies, private organizations, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Funding may be available through section 6 of the Act for the State to conduct recovery activities. The protection required of Federal agencies and the prohibitions against certain activities involving listed animals are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service, under section 7(a)(2) of the Act. San Miguel and Santa Rosa islands are entirely federally owned and managed. Although 75 percent of Santa Cruz Island is owned by The Nature Conservancy, the entire island lies within the Channel Islands National Park and Channel Islands National Marine Sanctuary, and The Nature Conservancy and the NPS coordinate many of the resource management activities occurring on the island. Santa Catalina Island is the only island fox locality that does not have substantial Federal involvement. Federal agency actions that may affect the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina island foxes and may require conference and/or consultation with us include, but are not limited to, those within the jurisdiction of the U.S. Army Corps of Engineers, the Navy, the NPS, and the National Oceanic and Atmospheric Administration.

The listing of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina island foxes as endangered would provide for the development and implementation of a recovery plan for these taxa. Such a plan will bring together Federal, State, and local efforts for the conservation of these taxa. The plan will establish a framework for agencies to coordinate activities and to cooperate with each other in conservation efforts. The plan will set recovery priorities and estimate the costs of the tasks necessary to accomplish the priorities. It will also describe site-specific management actions necessary to achieve the conservation of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina island foxes. Additionally, pursuant to section 6 of the Act, we would be able to grant funds to the State for management actions promoting the protection and recovery of the San Miguel, Santa Rosa, Santa Cruz, and Santa Catalina island foxes.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.21 for endangered species, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Further, it is illegal for any person to attempt to commit, to solicit another person to commit, or to cause to be committed, any of these acts. Certain exceptions apply to our agents and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in the course of otherwise lawful activities. Permits are also available for zoological exhibitions, educational purposes, or special purposes consistent with the purposes of the Act. Requests for copies of the regulations on listed species and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Endangered Species Permits, 911 NE 11th Avenue, Portland, Oregon 97232–4181 (503/231–2063, facsimile 503/231–6243).

As published in the **Federal Register** on July 1, 1994 (59 FR 34272), it is our policy to identify to the maximum extent practicable at the time a species is listed those activities that would or would not constitute a violation of section 9 of the Act. The intent of this policy is to increase public awareness of the effect of this listing on proposed and ongoing activities within the species' range.

We believe that, based on the best available information, the following actions are not likely to result in a violation of section 9, provided these activities are carried out in accordance with existing regulations and permit requirements:

(1) Possession, delivery, or movement, including interstate transport and import into or export from the United States, involving no commercial activity, of dead specimens of these taxa that were collected prior to the date of publication in the **Federal Register** of a final regulation adding these taxa to the list of endangered species;

(2) Actions that may affect the San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes that are authorized, funded, or carried out by a Federal agency, when the action is conducted in accordance with an incidental take statement issued by us under section 7 of the Act;

(3) Actions that may affect the Santa Cruz or Santa Catalina island foxes that are not authorized, funded, or carried out by a Federal agency, when the action is conducted in accordance with

an incidental take permit issued by us under section 10(a)(1)(B) of the Act. To obtain a permit, an applicant must develop a habitat conservation plan and apply for an incidental take permit that minimizes and mitigates impacts to the species to the maximum extent practicable; and

(4) Actions that may affect the San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes that are conducted in accordance with the conditions of a section 10(a)(1)(A) permit for scientific research or to enhance the propagation or survival of the species.

We believe that the following actions could result in a violation of section 9; however, possible violations are not limited to these actions alone:

(1) Unauthorized collecting, trapping, capturing, killing, harassing, sale, delivery, or movement, including interstate, and foreign commerce, or harming, or attempting any of these actions, of San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes without a permit (research activities where San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes are trapped or captured will require a permit under section 10(a)(1)(A) of the Endangered Species Act);

(2) The transportation of unvaccinated domestic animals, which transmit diseases or parasites to island foxes causing serious injury or death on the San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina islands;

(3) Destruction or alteration of occupied habitat of the San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes (e.g., excavating, compacting, grading, discing, or removing soil or vegetation);

(4) Destruction or alteration of San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island fox dens, even when seasonally unoccupied when the destruction results in irreparable harm; and

(5) Discharges or dumping of toxic chemicals, or other pollutants into San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island fox habitat, including dens or burrows, that results in death or injury of the species or that results in degradation of their occupied habitat.

Questions regarding whether specific activities would constitute a violation of section 9 should be directed to our Ventura Fish and Wildlife Office (see **ADDRESSES** section).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial, trade, or other relevant data concerning any threat (or lack thereof) to San Miguel, Santa Rosa, Santa Cruz, or Santa Catalina island foxes;

(2) The reasons why any habitat should or should not be determined to be critical habitat pursuant to section 4 of the Act;

(3) Additional information concerning the essential habitat features (biotic and abiotic), range, distribution, and population size of these taxa; and

(4) Current or planned activities in the subject area and their possible impacts on these taxa.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods, as listed above in **ADDRESSES.** If you submit comments by e-mail, please submit comments as an ASCII file format and avoid the use of special characters and encryption. Please include ''Attn: [RIN 1018–AI28]'' and your name and return address in your e-mail message. If you do not receive a confirmation from the system that we have received your e-mail message, contact us directly by calling our Ventura Fish and Wildlife Office at phone number 805/644–1766. Please note that this e-mail address will be closed out at the termination of the public comment period.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Commenters may request that we withhold their home address, which we will honor to the extent allowable by law. In some circumstances, we may also withhold a commenter's identity, as allowable by law. If you wish us to withhold your name or address, you must state this request prominently at the beginning of your comment. However, we will not consider anonymous comments. To the extent consistent with applicable law, we will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

You may request a public hearing on this proposal. Your request for a hearing must be made in writing and filed within 45 days of the date of publication of the proposal in the **Federal Register**. Address your requests to the Field Supervisor (see **ADDRESSES** section).

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we will seek expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of such review is to ensure listing decisions are based on scientifically sound data, assumptions, and analysis. We will send copies of this proposed rule immediately following publication in the **Federal Register** to these peer reviewers. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

Executive Order 12866

Executive Order 12866 requires agencies to write regulations that are easy to understand. We invite your comments on how to make this proposal easier to understand including answers to questions such as the following: (1) Is the discussion in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposal? (2) Does the proposal contain technical language or jargon that interferes with its clarity? (3) Does the format of the proposal (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? What else could we do to make the proposal easier to understand?

National Environmental Policy Act

We have determined that an environmental impact statement and environmental assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

Paperwork Reduction Act

This rule does not contain any information collection requirements for which Office of Management and Budget (OMB) approval under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*, is required. Any information collection related to the rule pertaining to permits for endangered and threatened species has

OMB approval and is assigned clearance number 1018–0094. This rule does not alter that information collection requirement. For additional information concerning permits and associated requirements for endangered wildlife species, see 50 CFR 17.22.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

References Cited

A complete list of all references cited herein is available upon request from the Ventura Fish and Wildlife Office (see **ADDRESSES** section).

Author

The primary author of this proposed rule is Bridget Fahey, U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record keeping requirements, Transportation.

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. Section 17.11(h) is amended by adding the following, in alphabetical order under MAMMALS, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
*	*	*	*	*	*	*	
Fox, San Miguel Island.	*Urocyon littoralis littoralis*.	U.S.A., CA	U.S.A., CA	E	.....	NA	NA
Fox, Santa Catalina Island.	*Urocyon littoralis catalinae*.	U.S.A., CA	U.S.A., CA	E	.....	NA	NA
Fox, Santa Cruz Island.	*Urocyon littoralis santacruzae*.	U.S.A., CA	U.S.A., CA	E	.....	NA	NA
Fox, Santa Rosa Island.	*Urocyon littoralis santarosae*.	U.S.A., CA	U.S.A., CA	E	.....	NA	NA
*	*	*	*	*	*	*	

Dated: November 29, 2001.

Marshall P. Jones, Jr.,

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 01–30188 Filed 12–7–01; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Parts 20 and 21

RIN 1018–AI07

Migratory Bird Hunting and Permits; Regulations for Managing Harvest of Light Goose Populations; Extension of Comment Period

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; extension of comment period.

SUMMARY: The U.S. Fish and Wildlife Service (Service) is extending the comment period on a proposed rule published in the **Federal Register** on October 12, 2001. The rule would implement our preferred alternative identified in a Draft Environmental Impact Statement (DEIS) on light goose management. The rule would authorize new methods of take for light goose hunting. In addition, the rule would revise the regulations for the management of overabundant light goose populations and modifies the conservation order that will increase take of such populations.

DATES: Written comments on the proposed rule must be received on or before January 25, 2002.

ADDRESSES: Comments on the proposed rule should be mailed to Chief, Division of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, ms 634—ARLSQ, 1849 C Street NW., Washington, DC 20240. Requests for copies of the DEIS should be mailed to the above address. Copies of the DEIS can be downloaded from the Division of Migratory Bird Management web site at *http://migratorybirds.fws.gov/issues/snowgse/tblcont.html.* Comments on the DEIS should be sent to the above address. Alternatively, comments may be submitted electronically to the following address: *white_goose_eis@fws.gov.*

FOR FURTHER INFORMATION CONTACT: Jon Andrew, Chief, Division of Migratory Bird Management, (703) 358–1714.

SUPPLEMENTARY INFORMATION: On September 28, 2001 (66 FR 49668), and October 5, 2001 (66 FR 51274), notices were published in the **Federal Register** announcing the availability of our DEIS on light goose management. The DEIS evaluates four management alternatives to address habitat destruction and agricultural depredations caused by light geese on various breeding, migration, and wintering areas: (1) No Action or a continuation to manage light goose populations through existing wildlife management policies and practices (Alternative A); (2) modify harvest regulation options and refuge management (Alternative B) (PREFERRED); (3) implement direct agency control of light goose populations on migration and wintering