

document. Section 4(b)(3)(C) requires that petitions for which the requested action is found to be warranted but precluded should be treated as through resubmitted on the date of such finding, i.e., requiring a subsequent finding to be made within 12 months.

A petition dated February 22, 1992, from Mr. Jon C. Sharps was received by the Service on March 3, 1992. The petition requested the Service to list the swift fox (*Vulpes velox*) as an endangered species in the northern portion of its range, if not the entire range. A 90-day finding was made by the Service that the petition presented substantial information indicating that the requested action may be warranted. The 90-day finding was announced in the **Federal Register** on June 1, 1994 (59 FR 28328).

The Service has reviewed the petition, the literature cited in the petition, other available literature and information, and has consulted with biologists and researchers familiar with the swift fox. On the basis of the best scientific and commercial information available, the Service finds the petition presented information indicating that the listing may be warranted but the immediate listing of the species is precluded by work on other species having higher priority for listing.

The petition and its referenced documentation states that the swift fox once occurred in abundant numbers throughout the species' historical range. The species was known from the Canadian Prairie Provinces south through Montana, eastern Wyoming, and North and south Dakota to the Texas Panhandle. The petitioner asserts that the swift fox has declined and is considered rare in the northern portion of its range. The petitioner indicates that the swift fox is extremely vulnerable to human activities such as trapping, hunting, automobiles, agricultural conversion of habitat, and prey reduction from rodent control programs. The petitioner requests that, at a minimum, the swift fox be listed as an endangered species in Montana, North Dakota, South Dakota, and Nebraska. Justification for such action as cited by the petitioner includes the present status of the species and its habitat in the petitioned area, the strong link to the prairie dog ecosystem, the large distance from the kit (*Vulpes macrotis*)-swift fox zone of intergradation, and the potential for these populations to contain the northern subspecies (*Vulpes velox hebes*).

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The Service reviewed information regarding the status of the swift fox throughout its range. Historically, the swift fox was considered abundant throughout the Great Plains and the Prairie Provinces of Canada (Hall and Kelson 1959; Egoscue 1979; Zumbaugh and Choates 1985; U.S. Fish and Wildlife Service 1990; FaunaWest 1991). Beginning in the late 1800's to early 1900's, the swift fox declined in numbers, and the northern population disappeared with the southern population decreasing in numbers (Cary 1911; Warren 1942; Egoscue 1979; Bee et al. 1981; FaunaWest 1991).

In the mid-1950's, the swift fox staged a limited comeback in portions of its historical range (Long 1965; Kilgore 1969; McDaniel 1976; Sharps 1977; Hines 1980; FaunaWest 1991). However, this reappearance was limited in nature and, in recent years, many of these populations have again declined. Several factors are provided as reasons for the decline of the species throughout much of its historical range. These factors include (1) loss of nature prairie habitat through conversion for agricultural production and mineral extraction, (2) fragmentation of the remaining habitat, creating a less suitable cropland-grassland habitat mosaic, (3) degradation of habitat due to prairie-dog control activities, (4) predation and interspecific competition, and (5) the species' vulnerability to human activities such as predator control, trapping, shooting, and collisions with automobiles (Hillman and Sharps 1978; Hines 1980; Armbruster 1983; Uresk and Sharps 1986; Jones et al. 1987; Sharps 1989; U.S. Fish and Wildlife Service 1990; FaunaWest 1991; Carbyn et al. 1992).

Currently, swift fox exist in highly disjunct populations in a greatly reduced portion of the species' historical range (Hines 1980; Jones et al. 1987; U.S. Fish and Wildlife Service 1990; FaunaWest 1991). Swift fox are believed to be extirpated in North Dakota. Remnant populations remain in Montana and Oklahoma. Small, disjunct populations of unknown status remain in South Dakota, Wyoming, Nebraska, Kansas, Colorado, New Mexico and

Texas. There is limited but encouraging evidence that some reoccupation of its former range may be occurring in Montana, Oklahoma, Kansas, Colorado, and Wyoming. New Mexico also appears to contain localized populations distributed throughout reduced portions of the State's historical range. However, there has been no biological or scientific evidence presented to the Service during the extended status review period to confirm the viability or stability of any of these populations. Seventy to 75 percent of remaining swift fox populations are believed to reside on private lands, with the remaining populations on Federal lands belonging to the U.S. forest Service, the National Park Service, the Bureau of Land Management, and the Department of the Army.

Summary of Factors Affecting the Species

The following information is a summary and discussion of the five factors or listing criteria as set forth in section 4(a)(1) of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act and their applicability to the current status of the swift fox.

A. The Present or threatened destruction, modification, or curtailment of the species' habitat or range. The swift fox is a prairie-dwelling species that generally requires 518 ha to 1,296 ha (1,280 to 2,300 acres) of short to midgrass prairie habitat with abundant prey to support a pair (Cameron 1984; Jones et al. 1987; Rongstad et al. 1989; Jon Sharps, Wildlife Systems, pers. comm. 1993). Swift fox habitat is comprised of level to gently sloping topography containing an open view of the surrounding landscape (<15 percent slope), abundant prey, and lack of predators and competitors (Cutter 1958a; Hillman and Sharps 1978; Hines 1980; Fitzgerald et al. 1983; Lindberg 1986; U.S. Fish and Wildlife Service 1990; FaunaWest 1991; Carbyn et al. 1992).

Historically, the species was distributed throughout the contiguous short to midgrass prairie habitat from the south-central Prairie Provinces in Canada to the southern portions of the western Great Plains. In recent times, the swift fox has experienced a significant reduction in its historic range due to a combination of human activities. Based on current range-wide swift fox distribution information, the Service estimates that the swift fox is extirpated from 80 percent of its historical range. Within the remaining 20 percent of its historical range, swift fox populations exist in scattered,