
DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Notice of 90-Day Findings on Petitions to List the Corral Beach Sand Dune Weevil and to Delist the San Joaquin Kit Fox

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of petition findings.

SUMMARY: The U.S. Fish and Wildlife Service (Service) announces 90-day findings on a petition to add the Corral Beach sand dune weevil to the List of Endangered and Threatened Wildlife and on a petition to delist the San Joaquin kit fox. The Service finds that the petitions have not presented substantial information indicating that

the requested actions may be warranted.

DATES: The findings announced in this notice were made on October 23, 1990, for the Corral Beach sand dune weevil, and July 30, 1991, for the San Joaquin kit fox. Comments and materials related to these petition findings may be submitted to the Assistant Regional Director at the address below until further notice.

ADDRESSES: Data, information, comments, or questions concerning these two petitions should be submitted to the Assistant Regional Director, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Eastside Federal Complex, 911 N.E. 11th Avenue, Portland, Oregon 97232. The petitions, findings, supporting data, and comments are available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Leslie Propp, Staff Biologist, at the above address (503/231-8131).

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(A) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), requires that the Service make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. To the maximum extent practicable, this finding is to be made within 90 days of the receipt of the petition, and the finding is to be published in the *Federal Register*. If the Service finds that a petition presents substantial information indicating that a requested action may be warranted, then the Service initiates a status review on that species.

On June 15, 1989, the Service received a petition dated June 8, 1989, from Ms. Sandra Russell, Malibu, California, to delist the Corral Beach sand dune weevil (*Trigonoscuta dorothea corallana*) as threatened. The petition stated that the Corral Beach sand dune weevil is known only from the dune area of Corral Beach, Los Angeles County, California, and is threatened by a proposed housing development and construction of a golf course. The petitioner cited a publication by the late Dr. William D. Pierce, Curator of Insects, Natural History Museum of Los Angeles County, as part of her justification for listing. Dr. Pierce identified the Corral Beach population of sand dune weevils as a distinct subspecies, after examination of only three specimens collected in 1939.

The petition has been reviewed by the Fish and Wildlife Enhancement staff at

the Carlsbad Field Office in Carlsbad, California (formerly the Laguna Niguel Field Office, in Laguna Niguel, California). This finding is based on documentation and contacts with Dr. Elbert Sleeper, entomologist, Biology Department, California State University, Long Beach; Mr. Lee Stark, County of Los Angeles, Regional Planning Department; and the Fish and Wildlife Enhancement staff at the Sacramento, California Field Station.

Dr. Sleeper is re-evaluating the taxonomic status of *Trigonoscuta dorothea* populations in southern California. He believes the taxonomic status *Trigonoscuta dorothea corallana* is highly questionable based upon the obscure characteristics and small sample sizes previously used by Dr. Pierce in delineating this subspecies. No one has sampled sand dune weevils in areas immediately adjacent to Corral Beach, and hence, no data indicating whether or not this population interbreeds with other populations having adjacent and/or overlapping distributions is available. The Corral Beach sand dune weevil may not be a truly distinct subspecies.

Originally, a proposed development of approximately 340 acres in the Corral Beach and Corral Creek Canyon area of Los Angeles County, California, included construction of a golf course and several high density housing tracts. This development posed a potential threat to the Corral Beach population of the sand dune weevil through direct alteration, destruction, and/or contamination of the habitat in which the weevil resides. Currently, plans for the golf course and beach development have been suspended. Negotiations are ongoing between the National Park Service, Santa Ana National Recreation Area; the County of Los Angeles; and a private landowner, for a land exchange that will transfer ownership of approximately 200 acres of the area where the Corral Creek development was to occur to the National Park Service. In addition, only low density residential development would be allowed on the remaining 140 acres, which are located inland above Corral Creek Canyon. These actions should not pose a significant threat to this species.

Because of questionable taxonomic status and lack of threats facing this taxon, the Service finds that the petitioner has not presented substantial information indicating the requested action may be warranted. This decision is based on scientific and commercial information contained in the petition, referenced in the petition, and otherwise available to the Service at this time.

On December 23, 1990, the Service received a petition from Dr. Thomas P.

O'Farrell of Boulder City, Nevada, to delist the endangered San Joaquin kit fox (*Vulpes macrotis mutica*).

The petition, dated December 20, 1990, is based on taxonomic considerations concerning the two arid-land fox species known as the kit fox (*Vulpes macrotis*) and the swift fox (*Vulpes velox*), and their respective subspecies. Essentially, Dr. O'Farrell states that the San Joaquin kit fox should be delisted because it is no longer a valid taxon. To support the petition, he submitted a recent article from the *Journal of Mammalogy* entitled "Evolutionary and taxonomic relationships among North American arid land foxes" (Dragoo *et al.* 1990). Based on morphometric and electrophoretic analyses, these authors conclude that all arid-land foxes in North America should be synonymized under one species, *Vulpes velox*, but that two subspecies should be recognized, *V. v. macrotis* and *V. v. velox*, more or less coinciding with the taxa traditionally known as the kit fox and the swift fox, respectively. Under this arrangement, all formerly recognized subspecies of kit foxes and swift foxes would be synonymized under one or the other of the above subspecies. The taxonomic status of the federally listed San Joaquin kit fox would be reduced from a subspecies to a population of a subspecies.

The taxonomic relationships of the arid-land foxes have been debated for some time (Rohwer and Kilgore 1973, Waithman and Roest 1977, Hall 1981, Stromberg and Boyce 1986). In part, this results from the fact that there is little genetic variability in the Order Carnivora, particularly within the Family Canidae (Seal 1969, Clark *et al.* 1975, Wayne and O'Brien 1987), which has led to difficulties in determining where taxonomic divisions in these groups occur. The study on which this petition is based acknowledges this fact, stating that genetic similarity among populations of kit foxes and swift foxes analyzed is "extremely high" (Dragoo *et al.* 1990). For example, electrophoretic data indicated that *Vulpes velox* and the geographically nearest nominal subspecies of *V. macrotis* are nearly identical. Yet these authors also state that morphometric data from this study "clearly differentiate" between the kit fox and swift fox, and that morphometrically these taxa differ "undramatically but consistently"—a situation that "might be expected of either closely related species or well-differentiated subspecies of one species" (Dragoo *et al.* 1990).

The Service is aware of additional research, now in progress, that utilizes

mitochondrial DNA (mtDNA) analysis to clarify the genetic relationships of North American arid-land foxes. According to researchers conducting this study, mtDNA analysis is more sensitive to small population differences than either morphometric or electrophoretic techniques (Katherine Ralls, Smithsonian Institution, pers. comm.; Robert Wayne, University of California, Los Angeles, pers. comm.). Though not yet published, preliminary results of this study indicate that mtDNA haplotypes of kit foxes and swift foxes are more geographically structured than those of larger canids, suggesting more restricted gene flow in these small foxes. Results of this study also suggest that a hybrid zone exists between kit foxes and swift foxes in eastern New Mexico, as do previous studies (Rohwer and Kilgore 1973), and that some gene flow has occurred between Colorado swift fox populations and Nevada kit fox populations (Ralls, pers. comm.). Because of the incomplete stage of this study, it is not clear at this time what conclusions will be drawn concerning the specific or subspecific status of kit foxes and swift foxes (Wayne, pers. comm.).

The preliminary results of both the electrophoretic and mtDNA analyses tend to confirm that the San Joaquin kit fox is a distinct population of arid-land fox, regardless of how it is taxonomically defined. Dragoo *et al.* (1990) report that *Vulpes macrotis nevadensis* from Nevada and *V. m. mutica* from the San Joaquin Valley are the most divergent genetically of the nominal taxa analyzed. Preliminary results of the mtDNA study show that mtDNA haplotypes for the San Joaquin kit fox are the most derived (the most different from the ancestral type) of all kit fox and swift fox populations studied, suggesting that this fox is a distinct monophyletic group (Ralls, pers. comm.). These results support the general observation that the San Joaquin

kit fox is geographically isolated from other kit fox populations by the Sierra Nevada and Tehachapi mountain ranges. They also support current and continued Federal protection for this kit fox population, because the Act permits listing of "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature."

The petition to delist the San Joaquin kit fox has been reviewed by the Fish and Wildlife Enhancement staff in Sacramento, California, and by Regional Office staff in Portland, Oregon. No scientific data concerning kit fox population status or other demographic information of any kind was submitted in support of this petition. It is based only on taxonomic considerations.

Based on the preceding discussion, the Service concludes that the status of kit fox and swift fox taxonomy remains open to interpretation and is the subject of continuing scientific debate. Dragoo *et al.* (1990) presents information that certainly has scientific merit, and the taxonomy proposed therein has been accepted by some authors. However, taxonomic revisions referenced in the petition have not been accepted universally, and the ongoing mtDNA study may shed additional light on this question. The Service further concludes that the San Joaquin kit fox is a distinct population segment that is subject to protection under the Act regardless of the outcome of continuing debate over arid-land fox taxonomy.

In conclusion, the Service finds that the petitioner has not presented substantial information indicating that delisting the San Joaquin kit fox may be warranted. This decision is based on scientific information contained in the petition, referenced in the petition, and otherwise available to the Service at this time.

References Cited

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- Dragoo, J.W., J.R. Choate, T.L. Yates, and T.P. O'Farrell. 1990. Evolutionary and taxonomic relationships among North American arid land foxes. *Journal of Mammalogy*, 71:318-332.
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- Wayne, R.K., and S.J. O'Brien. 1987. Allozyme divergence within the Canidae. *Systematic Zoology*, 36:339-355.

Author

This notice was prepared by Bill Lehman (Sacramento Field Office); Kim Gould (Carlsbad Field Office); and Elizabeth Sharpe (Portland Regional Office).

List of Subjects in 50 CFR Part 17

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

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.

Dated: June 10, 1992.

Richard N. Smith,
Acting Director, U.S. Fish and Wildlife Service.

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