

Swift Fox News

The Swift Fox Conservation Team

June 2002

This is the third newsletter of the Swift Fox Conservation Team, a multi-agency group formed in 1994 to work cooperatively on swift fox management and conservation. The Team was assembled by state wildlife agency directors within the U.S. swift fox range in response to a U.S. Fish and Wildlife Service finding that the species was warranted for federal listing under the Endangered Species Act. The primary purpose of this effort was to assemble existing information, collect new biological data, and implement needed swift fox monitoring and management programs so the future of the species is assured and federal listing is unneeded.

The Team also includes representatives from Canada and federal wildlife and land management agencies in the U.S. The Team has open annual meetings at rotating sites within the range of the swift fox and produces an annual report that includes updates on monitoring efforts and research projects. If you are interested in receiving copies of Team reports or results from swift fox activities in your state, contact your state wildlife agency's Team representative.

NATIONAL FISH AND WILDLIFE FOUNDATION GRANT

The Swift Fox Conservation Team recently received funding from the National Fish and Wildlife Foundation (NFWF) for a project entitled "Determination of swift fox habitat characteristics associated with rangewide distribution data." For a number of years, many agencies and other cooperators have gathered information on swift fox habitats, but this information has never been analyzed in a collective and objective way. Dr. Marsha Sovada, of the USGS-BRD Northern Prairie Wildlife Research Center in Jamestown, North Dakota, will oversee the project.

Northern Prairie is currently generating a point database of swift fox distribution data, totalling more than 7,000 data points. Sources of data include direct observations, confirmed sightings, road-killed animals, collected specimens, track surveys, scent

stations, baited track plates, spotlighting, track surveys, harvest records, trapper surveys, and swift fox captures. Northern Prairie will attempt to determine if these data indicate preferential selection of habitats by swift fox. Project results may help identify areas suitable for swift fox expansion and possibly help formulate theories for swift fox absence in areas that appear suitable.

NFWF also awarded a \$99,000 grant to the Bureau of Land Management (BLM) in Montana for the international swift fox census in 2001. Montana Department of Fish, Wildlife and Parks received \$89,000 to participate in the international census and to complete state distribution surveys, primarily on BLM lands in northcentral and southeastern Montana in 2001 and 2002.

HIGHLIGHTS OF THE 2001 ANNUAL MEETING OF THE SFCT

The Swift Fox Conservation Team (Team) held its annual meeting on October 17-18, 2001 in Rapid City, South Dakota. Nearly 30 people attended, including most Team members and many others interested in swift fox management and conservation. In addition to the formal meeting, participants toured portions of Badlands National Park and the Conata Basin portion of Nebraska National Forest with the assistance of Forest Service and National Park Service personnel involved in black-footed ferret reintroduction on the Conata Basin/Badlands site.

A more detailed meeting report will be included in the 2001 Annual Report of the Team. A short summary is presented below:

Montana: Brian Giddings reported on the state's past and present swift fox distribution survey efforts, including cooperative work with the BLM in association with Canada in completing the international swift fox census along the U.S. border. The state population estimate for northcentral Montana is now more than 200 foxes with nearly 900 foxes present in the adjacent Canada/U.S. populations.

South Dakota: Jon Jenks, South Dakota State University, described recent survey efforts, primarily searching for tracks and other sign, in southwestern South Dakota in association with swift fox surveys conducted on Buffalo Gap National Grassland. One problem encountered was reluctance of private landowners to grant permission (only 2 of 9 private landowners gave permission, due to concerns about the candidate listing of the black-tailed prairie dog). Five den sites were located, two were active, and one was a natal den.

National Park Service: Dan Licht reported that resident populations of swift fox are not known to currently occur on any NPS units. NPS is increasing its monitoring efforts. Badlands National Park is

investigating the possibility of swift fox reintroduction.

Canada: Lu Carbyn described the history of swift fox extirpation and restoration in Canada. Reintroduction began in 1984, with nearly 1,000 animals released during 17 years. The population estimate prior to the international census was 877, including 221 in Montana.

Wyoming: Martin Grenier described Wyoming's upcoming monitoring program, which will make use of track plates to determine presence/absence in eastern Wyoming. The project will be conducted in cooperation with the Turner Endangered Species Fund.

Kansas: Matt Peek reported that the track survey results are available, and that they are pleased with the number of foxes detected.

North Dakota: Jacquie Gerads assumed Steve Allen's position as the agency's furbearer biologist. Some quarter-section track searching was conducted in 2000, with no swift fox detected. These surveys will be resumed in 2002.

Colorado: Francie Pusateri reported that Colorado's estimated swift fox population is 7,000-10,000 animals in shortgrass prairie habitat alone. Population monitoring will be conducted at 5-year intervals. Colorado is participating in the translocation of swift fox to South Dakota. Colorado DOW is considering reopening the season on swift fox, with a possible season length of December 1-January 21, a bag and possession limit of 25, and a quota of 500 foxes. Legal methods would be firearms and live-trapping, with season results to be evaluated with a harvest survey.

USDA, APHIS – Wildlife Services: Jeff Green reported that swift fox are not a target of any of his agency's control effort, but some limited incidental take occurs.

Northern Prairie Wildlife Research Center: Marsha Sovada stated that Northern Prairie is analyzing Kansas' swift fox monitoring data, obtained from track surveys conducted in ¼-sections in western Kansas. Analyses have produced a look at probabilities of detection and occurrence. Another product is a detailed state distribution map.

USDA, Forest Service: Bob Hodorff described his efforts to collect data from other Forest Service biologists. Both Ogallala and Buffalo Gap National Grasslands have swift fox.

USFWS: Pete Gober stated that the Service received very few comments on the removal of the swift fox from the candidate species list. His agency remains interested in swift fox efforts.

Nebraska: Richard Bischof reported that he began a limited scent station survey, and the technique is working well in Nebraska. Similar to Kansas, swift fox were detected in row crops and fallow fields. The survey will be expanded in 2002.

BLM: Chuck Berdan reported that his agency participated in the international census held in Canada and Montana.

New Mexico: Bob Harrison has finished a 3-year study on general ecology and to determine the best survey method for swift fox in New Mexico. The best method is scat collection and analysis using DNA analysis. One of the study areas, Kiowa National Grassland, may be a population sink for swift fox. Bob has submitted a proposal to New Mexico Game and Fish to conduct annual monitoring using the scat analysis technique. If approved, the work will begin in January 2002.

Reintroduction discussion: Several speakers shared updates on ongoing or planned reintroduction projects, including Badlands National Park, Bad River Ranches, and Blackfeet Indian Reservation. Part of the group's field tour included a discussion of suitability of Badlands National Park for swift fox reintroduction. A total of 101 swift fox have been released on the Blackfeet Reservation. Releases may end after 2002. The Bad River Ranches have received the necessary permits to begin reintroduction during the fall of 2002.

A few swift fox web-sites of interest...

swift and/or kit fox bibliographies:

<http://www.wildlifer.com/foxrefs.html>

<http://www.npwrc.usgs.gov/resource/1999/swiflit/swiflit.htm>

Turner Endangered Species Fund swift fox newsletter:

<http://tesf.org/newsletter/swiftfox-2001-11.pdf>

USFWS swift fox web-site:

<http://mountain-prairie.fws.gov/mammals/swiftfox/>

SWIFT FOX BASICS

- ❖ Currently ranges from Canada, where reintroduced, south through parts of Montana, Wyoming, South Dakota, Colorado, Nebraska, Kansas, Oklahoma, Texas, and New Mexico.
- ❖ 12 inches tall at shoulder; 2-3 feet long from nose to end of tail; weight 4-6 pounds.
- ❖ Distinguishing features are small size; dark markings on either side of muzzle; and long, bushy, black-tipped tail.
- ❖ Uses dens year-round for shelter, protection from predators, and places to rear young, making the swift fox the most den-dependent and subterranean North American fox.
- ❖ Habitats vary across the broad range of the swift fox and include shortgrass and mid-grass prairies, cultivated fields, and habitats dominated by pinyon-juniper, sand sage, or mesquite.
- ❖ Habitat features often include gently rolling topography, loose soils for easy burrowing, and low grass or shrub ground cover to allow distant viewing.
- ❖ Female bears one annual litter (average 4-5/litter) in April or May. Young remain in den until about one month old.
- ❖ Foods include jackrabbits, cottontails, prairie dogs, ground squirrels, mice, insects, birds, and carrion.
- ❖ Mortality due in part to predation (badgers, bobcats, coyotes, golden eagles), poisoning, hunting and trapping, or collisions with vehicles.



SWIFT FOX REMOVED FROM CANDIDATE SPECIES LIST

On January 8, 2001, the U.S. Fish and Wildlife Service announced that the swift fox was no longer listed as a federal candidate species. In its news release, the Service said: "In an assessment of the species' current status, the Service concluded that although the swift fox has been reduced across much of its historical range, viable populations currently occur in approximately 40% of those areas formerly occupied. The species also appears to be more adaptable to a wide range of habitat types and more tolerant of modified land uses than previously believed. Furthermore, the continuing efforts of the Conservation Team indicate that management activities for this species will be carefully considered in the future."

The work of the Swift Fox Conservation Team has not ended with the removal of this species from the candidate species list, although many of the initial research projects and intensive monitoring efforts have been concluded. Many entities are now involved in regular, although less frequent, monitoring efforts.

SWIFT FOX BOOK NEARS COMPLETION

All but three chapters of the book are in the publisher's hands. The three remaining chapters are in the final editing state. The book should be available during the fall or winter of 2002.

update provided by Marsha Sovada

2002 MEETING OF SWIFT FOX CONSERVATION TEAM

The next Team meeting will be held in Bismarck, North Dakota on September 23-24 at the Radisson Inn (Sept. 23) and the North Dakota Game and Fish Department (Sept. 24). Chair Richard Bischof is preparing an agenda.



2001 Team meeting in Rapid City, SD



2001 Team field trip to Badlands National Park and Buffalo Gap National Grassland

photos by Lu Carbyn

SWIFT AND KIT FOX GENETICS

The taxonomy of swift and kit foxes has been problematic since the late 1930's. Since that time the tendency has been to reduce the number of taxa (some species regarded as subspecies, and many subspecies considered not valid). This reduction in the number of taxa has been based on analyses of populations using cranial morphology as well as genetic characteristics. Even the recognition of swift and kit foxes as a single species or two distinct species has been controversial. Our genetic data still support the two foxes as a single species.

We here at the University of New Mexico have been using microsatellite DNA to examine gene flow among populations of swift and kit foxes. We used the mitochondrial DNA haplotypes that were found for swift and kit foxes to distinguish among these foxes. Animals with the swift fox haplotype in southeastern New Mexico were regarded as a population of swift foxes and those with the kit fox haplotype were regarded as a kit fox population. We then analyzed these populations using the nuclear microsatellite genetic markers. We found that there was no difference between the two sympatric populations in southeastern New Mexico, and therefore they should be managed as a single population in this part of the state.

We have discovered that the genetic variation observed between swift and kit foxes in general is insignificant. Whereas, the genetic variation among populations of these foxes is significant. In other words, two swift fox populations are likely to be as genetically distinct from each other as a population of swift foxes and a population of kit foxes are from each other. Each of these populations has the "potential" to undergo speciation. Therefore, protecting or managing distinct populations will preserve biodiversity regardless of taxonomic status. There currently is significant gene flow among populations however, to maintain the species' integrity. Speciation requires evolution to occur, but evolution can occur without resulting in speciation.



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