



Swift Fox

A Brief Report on the work undertaken in 2001 as part of the Swift Fox Reintroduction on Blackfeet Tribal Lands

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This programme, the first swift fox re-introduction in the USA, began in 1998 and is a collaborative effort between Blackfeet Tribal Fish & Wildlife, Cochrane Ecological Institute and Defenders of Wildlife.

This project releases only captive bred foxes from the colony at CEI in Canada. The progeny of the swift foxes bred at the CEI are then transported to Montana at the end of August every year for release. Because we have to cross an international border with significant numbers of swift foxes, a species classified as Endangered in Canada (COSEWIC 1998), this obviously involves working closely with several layers of government, federal (Canada and the USA), state, provincial, and tribal as well as the acquisition of various export, import and health certificates.

Part of the Mandate of the CEI is the development of non-intrusive methods of wildlife monitoring and 2000 –2001 saw:

- (1) The development and testing of a swift fox hair-trap, designed to non-intrusively collect hair from swift foxes in the wild for DNA analysis.
- (2) The confirmation that the sex and identification of individual swift fox could be reliably identified through their vocalizations, a method which could lead to spring vocalization surveys, and
- (3) A link with Trent University for DNA analysis of collected hair from released animals.

Samples of swift fox tissue were also sent off to the Natural Resources DNA Profiling and Resources Centre whose goal is to establish a functional National DNA Bank that is linked to the DNA Profiles in a GIS System.

In order to maintain the genetic heterozygosity of the CEI's captive swift fox colony founder foxes need to be obtained to add to the captive breeding colony. In 1999, the State of Wyoming kindly contributed three wild juvenile females to the CEI captive breeding colony, the progeny of which were released in 2000 and 2001. In 2001, Bismark Zoo, S.D., kindly provided a further 8 individuals to the CEI captive colony, these animals ranged in age from 2001 captive-bred juveniles to seven year old wild caught foxes. Defenders of Wildlife funded Craig Knowles of FaunaWest Consulting to collect the animals from Bismark, USA, and take them to the CEI at Cochrane, Canada.

The CEI presented a paper on the Blackfeet swift fox reintroduction at the Arctic/Swift Fox Workshop held as part of the IUCN Canid conference in Oxford, UK. There were six students, all of whom had done graduate or post graduate research at the CEI also at the IUCN Canid Conference. All these individuals were either in Ph.D. or M.Sc. research programmes. Two of these students, Safi Darden (University of Copenhagen, Denmark) and Sam Bremner (Queens University, Belfast) also presented papers and posters on the research they had done at the CEI and on the Blackfeet swift fox reintroduction programme.

Siân S. Waters presented a report on the Blackfeet swift fox reintroduction programme at the 2001 meeting of the US Swift Fox Conservation Team, and now represents the CEI on the Swift Fox Conservation Team Research Committee which is chaired by Marsha Sovada of the US Biological Survey..

After having proven the swift fox hair-trap over a winter study undertaken in Grasslands National Park, Saskatchewan, the hair-traps were then utilized in winter, spring, and summer surveys in the Blackfeet Tribal land in Montana.

The year 2001 saw the fourth release of captive-bred swift foxes from the CEI onto Blackfeet land, bringing the number of swift foxes released there to 101. Since 1999, funding has been found to monitor the released foxes using radio telemetry. The first release in 1998 consisted of 30 animals none of which were radio collared. However, follow up fieldwork tracking the foxes in the spring of 1999 revealed that breeding had already occurred in some individuals.

The second release in 1999 released 15 animals, a mix of adults and juveniles, eight of which were radio collared. Two of these individuals were found dead a few days after release but the remaining six individuals are still surviving two years after release. The radio telemetry funding for equipment and monitoring was kindly provided by Defenders of Wildlife, The Shared Earth Foundation, and Queen's University, Belfast.

The third release consisted of 31 juveniles, 16 of which were radio collared. Eight individuals are still surviving after one year. At least three of these individuals produced litters this in 2001.

This year a total of 25 juveniles were released and ten females were radio collared. Two individuals have been found dead so far (01/12/01).

A proportion of released swift foxes, where their natal dens have been found, are known to have bred and raised young every year since Spring 1999.

The swift foxes are released at the same place and time every year. They gradually disperse from the site, in some cases for quite long distances. A swift fox den is located at the side of

highway just outside the village of East Glacier which is approximately 15 miles from the original release site giving some idea of how far they are capable of travelling.

Monitoring is carried out by staff from Blackfeet Fish and Wildlife Department and CEI and continues throughout the year.

Future fieldwork will consist of monitoring the population using the hair trapping device developed and tested by CEI in both Canada and Montana. This is proving an effective and non-invasive method of ascertaining population size. However, intensive surveying for natal dens will also be undertaken in the spring of 2002 to ascertain the actual breeding population. Trapping and radio collaring of wild born cubs will also be carried out as rates of juvenile mortality in this population are still unknown.

This is presently an isolated population and, as has been the case with reintroduction programmes for other species, this population may need to be quite intensively monitored and managed to ensure its long term sustainability.

This project has benefited from lessons learned from the Canadian reintroduction programme. The CEI release methodology appears to have improved the survivorship of captive bred, released foxes in comparison to the apparently poor results of captive bred animals in the Canadian programme (Brectel et al 1992 and 1995). Specifically developing non-invasive survey methods such as the hair trapping device which can be used at any time of year, without the animal welfare issues which are a concern with live trapping, can only be of benefit to the programme. Another potential survey technique developed and tested at CEI is voice printing which has shown to definitively identify individuals of both sexes by their call.

This year a number of zoos have expressed interest in participating in this reintroduction project. As already noted, Bismark Zoo in South Dakota has donated 8 swift fox to the CEI in 2001. This is to replace old breeding stock and is a preferable alternative to obtaining animals from the wild. A husbandry and management protocol is being developed for those zoos interested in participating in this programme. Attempts at contacting the AZA SSP coordinator to offer information about the CEI colony have, unfortunately, never received a response. However, interested zoos have begun to contact us independently.



Swift fox at natal den site on Blackfeet Tribal Land, July, 2001-12-01

Swift Fox Individuals Released on Blackfeet Tribal Lands
26th August, 2001

Site	Dam & Sire	Sex	Tattoo	Name	Radio Collar
1	Jesse & Jelm	F	S06	Luned	150.824
1	Jesse & Jelm	F	S07	Leri	150.833
1	Jesse & Jelm	F	S08	Llangynidr	No
1	Jesse & Jelm	M	S09	Lion	No
2	Ichor & Impudence	M	S02	Llywelyn	No
2	Ichor & Impudence	F	S01	Llinos	No
2	Ichor & Impudence	F	S03	Lluan	150.765
2	Ichor & Impudence	F	S04	Lowri	150.686
2	Ichor & Impudence	F	S05	Lynwen	150.793
3	Dakota & Epiphany	M	S24	Lloyd	No
3	Born 1997	M	S951	Hosis	150.845
3	Born 1999	M	S947	Jinx	No
4	Georgio & Genoffa	F	S19	Lili	150.723
4	Georgio & Genoffa	M	S20	Llangors	No
4	Georgio & Genoffa	F	S21	Llywelydd	No
4	Georgio & Genoffa	M	S22	Llyr	No
5	Haloo & Hannover	F	S10	Lilwen	150.704
5	Haloo & Hannover	F	S11	Laura	150.814
5	Haloo & Hannover	F	S12	Llywela	150.863
5	Haloo & Hannover	F	S13	Llio	No
5	Haloo & Hannover	F	S14	Llanybytha	No
5	Haloo & Hannover	M	S15	Llynfi	No
6	20 Acre	M	S16	Llawen	No
6	20 acre	F	S17	Lleuce	No
6	20 Acre	F	S18	Languareth	150.805



Radio-collared Swift Fox on a den on Blackfeet Tribal Lands July 2001

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