

STATUS OF THE SWIFT FOX IN SASKATCHEWAN

DWIG N. CARBYN, Canadian Wildlife Service, 4999 - 98 Avenue, Edmonton, Alberta, T6B 2X3 and MARLON KILLABY, Saskatchewan Parks, Recreation and Culture, Regina, Saskatchewan. S4S 5W6

The Swift Fox is the smallest wild canid in North America. Though the Swift Fox is well adapted to prairie environments, few Saskatchewan residents have seen this predator. There are, however, still some old-time residents who can remember seeing or hearing about what was then called the "Kit Fox." (George Scotter, pers. comm.). The present Kit Fox is a closely related species which occurs in the southern United States and northern Mexico.

Fur records are one way in which the past abundance of fur-bearing animals can be measured. Hudson's Bay Company records show that between 1853 and 1877 an average of 4,876 Swift Fox pelts were marketed per year.¹ Commercial trapping continued into the early 1900s. By 1925 an average of only 180 foxes per year were sold from the Canadian prairie provinces (Statistics Canada number 23207).⁴ After 1925, the number of Swift Fox pelts sold in Canada was so small that separate records for this species were no longer kept.

Fur records can be misleading since it is not always possible to determine exact location of origin; however, in the absence of other data, such records do provide background statistics to population changes.

A major problem with Canadian fur records is that historically, American furs have been sent north into the Canadian markets. This practice continues today.

The IUCN (International Union for the Conservation of Nature) Red Data Book in 1986 listed the Swift Fox as "probably extinct" in the Canadian portion of its range. In 1978 the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 1978) classified the Swift Fox as "extirpated." The term applies to any species of fauna or flora no longer existing in the wild in Canada, but existing elsewhere. Official designation was assigned to the species 50 years after the last known specimens of foxes in Saskatchewan were collected from Ravenscrag in 1927 and Govanlock in 1928.¹ Other isolated reports of Swift Foxes in Saskatchewan were made in 1969, 1971 and 1972 but none of these were confirmed.⁷

South of Saskatchewan, in North Dakota and Montana, a few sightings have been reported within the last 20 years. The presence of a fox in southwestern North Dakota was documented in 1978. A male was trapped in Custer County, southeastern Montana.¹⁰ More recently (1984) a single male was trapped in Dawson County, eastern Montana (K. Walcheck, pers. comm.).

The idea of reintroducing the Swift Fox into its original environment began with Beryl and Miles Smeeton. In 1973 they imported the first two foxes from the United States and held them in captivity at their wildlife reserve near Cochrane, Alberta. The following year, this pair had their first litter (Smeeton, pers. comm.). In 1983 and 1984 releases took place in Alberta and Saskatchewan, respectively, using the "soft

release" technique.¹³ In October 1987 the first "hard releases" took place in both Alberta and Saskatchewan. Definition of soft and hard release techniques are given in the Methods Section.

This paper summarizes information on the fox releases from 1984 to 1989 in Saskatchewan. We discuss the potential impact that cattle management practices may have on Swift Fox habitat by comparing one situation in Saskatchewan with another in Alberta; the two areas are separated by about 80 km. Since the ultimate survival of Swift Foxes may well depend on habitat (both native and non-native) a brief discussion here should stimulate further

debate on the subject. Success of Alberta release program is not dealt with here but will be available (Herr *et al.*, in prep.).

Release Site

The Nashlyn Community Pasture forming part of the PFRA (Prairie Farm Rehabilitation Administration) complex was selected as a suitable release site for the Saskatchewan project.¹² The community pastures cover 81,034 hectares in the southwestern corner of the province; Nashlyn contains 24,800 hectares of this area. To the east Nashlyn pasture borders the Battle Creek pasture (28,297 hectares) and to the west the Govenlock pasture (27,800

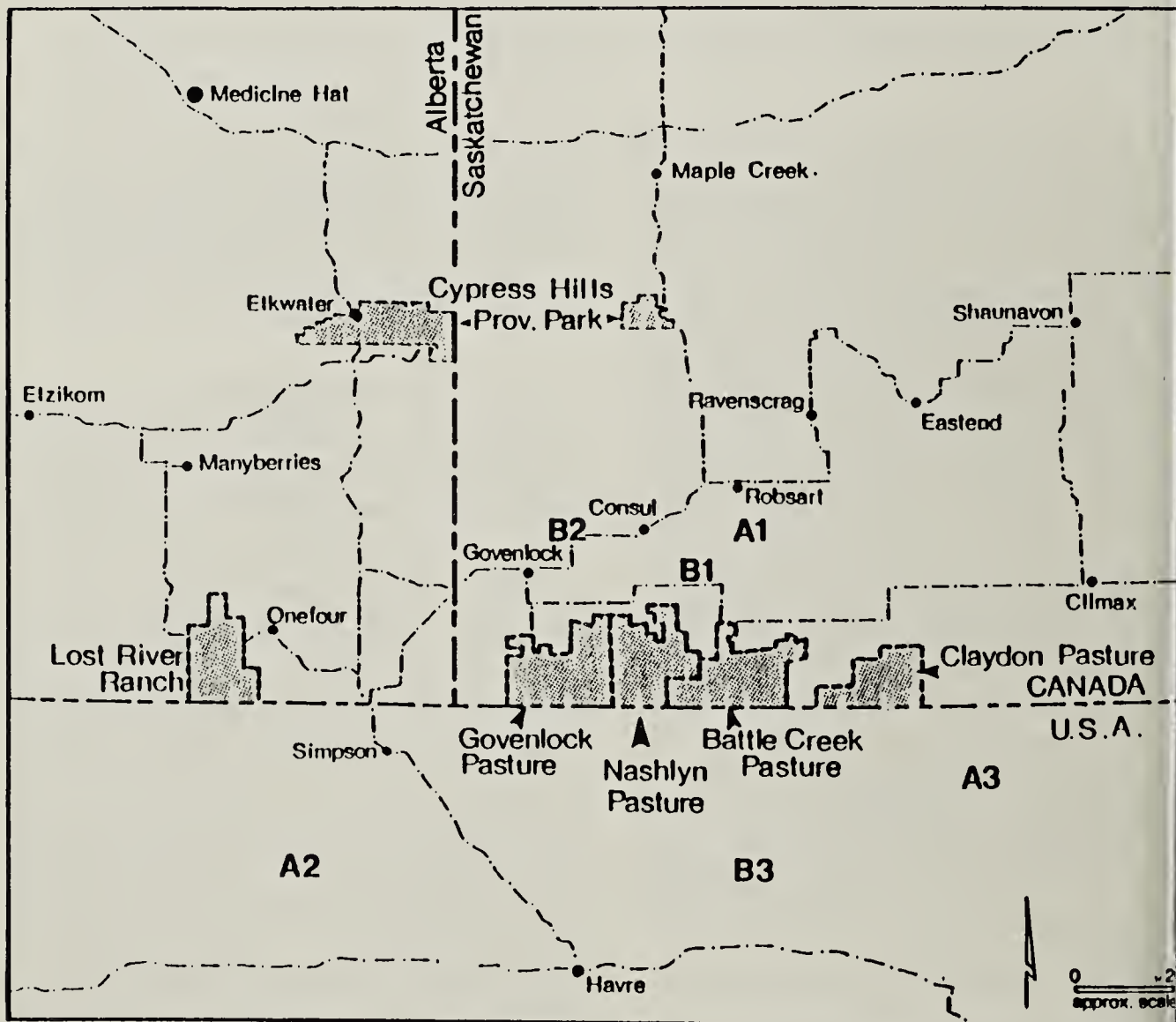


Figure 1. Locations of Swift Fox release sites in Alberta (Lost River Ranch) and Saskatchewan (Nashlyn) showing areas of known sightings (A series) and highly suspected sightings (B series) in Saskatchewan and Montana from 1984 to 1989 (results of soft release program).

ares) (Fig. 1). The Lost River Ranch includes 22,792 hectares along the River in southeastern Alberta.

The Nashlyn pasture is a flat to rolling with mixed grassland vegetation, dissected by coulees from Woodpile Battle creeks. Dugouts and dams provide sources of water for cattle that are on the pasture from about 1 May to November. Approximately 8% of the Nashlyn pasture has been cultivated and seeded with Crested Wheatgrass and Russian Wild Rye (Weins, pers. comm.).

In the fall of 1987, 389 hectares (960 acres) of native prairie were cultivated and seeded in 1988. Cattle management practices call for approximately 10% of the area under cultivation in order to pro-

vide early spring forage (R. Moorehead, pers. comm.). Crested Wheatgrass in particular, is an important forage species. Because of rapid growth in April/May, it makes excellent spring grazing for cattle. It can be grazed heavily until mid-June without injuring the stand or reducing its long-time yielding capacity. Once established it persists, even after the eventual reinvasion of native plants.

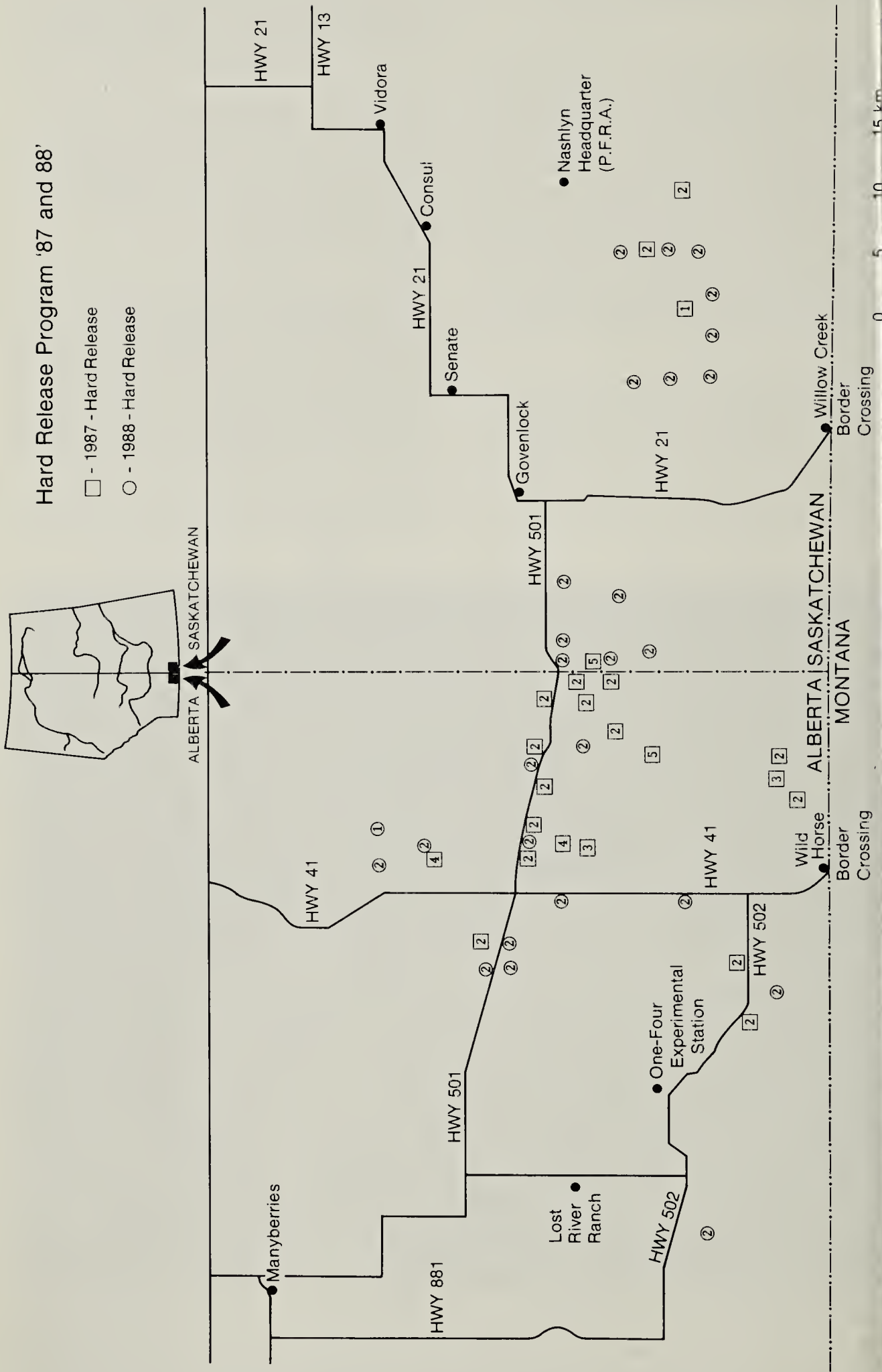
Native grasslands are characterized by a dominance of Blue Grama Grass and Spear Grass. Ground lichens are common. Various forbs and low bushes (mostly sage brush) occur in patches but are common. Temporary sloughs in flat, poorly drained areas are dispersed throughout. Flood plains contain a variety of forbs and shrubs such as



Figure 2. Satellite view of the mixed grass prairie areas along the Alberta/Saskatchewan/Montana border area. The picture clearly shows the challenges ahead for Canada to retain original grassland habitats. (Landsat Image courtesy of CCRS, Energy, Mines and Resources, Ottawa).

Hard Release Program '87 and '88

- - 1987 - Hard Release
- - 1988 - Hard Release



ary Sagebrush, Western Snowberry,
e, willow and Wolf Willow.

mix of native prairie and cultivated
land is found beyond the pasture
boundaries to the north and south,
the native grasslands extend both
east and west. The Canadian/U.S. bor-
der is clearly defined by intensive
agriculture south of the border (Fig. 2).
Nashlyn community pasture is quite
remote. The nearest town, Consul, is
located 10 km north of the Nashlyn
pasture.

The Lost River Ranch area contains
mostly native prairie and is further sur-
rounded by extensive areas of native
grasses. These extend to the Alber-
ta-Saskatchewan border, the core area
of the hard releases carried out in 1987
and 1988 (Fig. 3).

Methods

Swift Foxes for release were obtained
from three institutions, the Calgary Zoo,
the Jaw Wild Animals Park and
the Wildlife Reserve of Western Canada.
For soft release, some foxes in both
release strategies were fitted with radio-
collars and their subsequent move-
ments monitored, either from the
ground, or from the air. Spotlighting was
conducted 4 - 9 December 1986 and 26
January 1987.

The "soft" release strategy was used
initially.⁴ This entailed building field
pens (12' x 24'), transporting a pair of
foxes to each pen in December and
keeping the animals over the winter to
be released the following summer or
autumn. Through this method the foxes be-
came accustomed to the site, with the
expectation that often the release animals
would remain in the area. Unlike the Al-
berta releases, Saskatchewan animals in
the soft release program were not fed
while the pens were opened. This release
process has also been referred to as the
"soft-hard" release technique. In Sask-

atchewan, foxes were placed in pens in
1983; 1985 and 1986; they were
released in 1984, 1985, 1986 and
1987.

"Hard" releases involve taking
animals into the field and releasing
them directly into their new environ-
ment. These releases were initiated by
the Canadian Wildlife Service and car-
ried out in 1987 and in 1988.

Information on the local cattle in-
dustry was obtained from the manager
of Nashlyn community pasture and the
owner of the Lost River Ranch. The prac-
tices may vary from year to year, but the
general current trends are discussed.

Results

1. Releases

Seventy-seven foxes were released in
southwestern Saskatchewan from 1983
to 1988; 39 of these were by the soft
release and 38 by the hard release
(Table 1). A total of 22 of the 39 in the
soft release and 9 of the 38 in the hard
release were radio-collared.

Free-ranging Swift Foxes have been
sighted by the Nashlyn Pasture staff (R.
Moorehead and L. Flaig, pers. comm.).
As well, track observations were noted
by R. Moorehead in the winters of
1985-86 and 1986-87 while caring for
captive foxes. Late winter track surveys
in 1988-89 showed no evidence of
foxes in the area (C. Mamo, pers.
comm.) but R. Moorehead reported a
sighting for the summer of 1989.

D. Dobson, (Saskatchewan Parks,
Recreation and Culture, SPRC) has
received about 14, unconfirmed,
firsthand and second hand reports of
Swift Fox sightings from residents
within the Consul area. Most sightings
occurred at night and in areas with
mixed agricultural land use.

Table 1. SUMMARY OF SWIFT FOX SOFT RELEASES IN SASKATCHEWAN FROM JULY 1984 TO JULY 1987 AND HARD RELEASES IN OCTOBER 1987, AND SEPTEMBER 1988.

| <i>Date and number transferred</i> | | <i>Number of offspring</i> | <i>Number collared</i> | <i>Date of release (total number)</i> |
|------------------------------------|----|----------------------------|------------------------|---------------------------------------|
| Soft Release | | | | |
| December 1984 | 10 | 7 survived | 10 | 18 July 84 (17) |
| March 1985 | 2 | - | 2 | 25 March 85 (2) |
| December 1985 | 8 | 2 (did not survive) | 4 | June 86 (8) |
| December 1986 | 10 | 2 survived | 6 | late April 87 escaped (2) |
| Total | 30 | 9 | 22 | 23 June 87 (8) 14 July 87 (2) |
| Hard Release | | | | |
| October 1987 | 10 | Not applicable | 3 | 5/6 October 87 (10) |
| September 1988 | 28 | Not applicable | 6 | 16-18 September 88 |
| Total | 38 | | 9 | |

On 8 January 1986 a fox was struck by a vehicle and killed on Highway #13 near Robsart (Fig. 1 - A1). A possible den site was reported in the fall and winter of 1985 approximately 10 km northeast of the Nashlyn PFRA Headquarters (Fig. 1 - B1). The farmer in question had made a number of fox sightings in one general location. A den site was reported in April 1987 in an area of mixed agricultural use 16 km west of Consul (Fig. 1 - B2).

An open, mild fall greatly aided the establishment of foxes during the first hard release in October 1987. Availability of grasshoppers provided suitable food and possibly minimized dispersal of released foxes. In the spring of 1988, due to the mild winter, overwintering success was excellent. Tracks were seen and sightings of foxes occurred at several locations south and west of Consul. At least two litters were seen. One breeding pair was found 10 km west of Consul. The male of this pair had moved about 50 km to that location and mated with an unknown female. A second breeding pair was found south of the old townsite of Govenlock. This pair produced a record seven pups.

Reports of fox sightings have come from northern Montana. A resident of Chinook, Art Burns, reported that he and his wife had seen a Swift Fox along a road 16 km south of the Saskatchewan border near Hogeland, Montana in the late summer of 1986 (Fig. 1 - A3). Their description of the animal strongly fits that of a Swift Fox and is not likely to have been a Red Fox. A collar was not observed.

Burns also stated that a part-time trapper had trapped a radio-collared Swift Fox in the fall of 1986. Because the trapper feared prosecution, he disposed of the radio collar and animal. When asked to confirm his trapping of a Swift Fox, the individual denied the allegation. He did say, however, that he had heard of one or two Swift Foxes being sent to Pacific Hide and Fur Company, Havre, Montana. Pacific Hide and Fur stated that they had only one Swift Fox presented to them in 1985-86, being caught by a Hutterite boy north of Gilford, Montana near Sage Creek (Fig. 1 - A2) and further, Pacific Hide and Fur had heard of another report of a Swift Fox being caught north of Chinook, Montana.

Another report of free-ranging Swift foxes was given to Bob Plaster, Conservation officer, Cypress Hills Provincial Park. Supposedly, a 1986 big game hunter had shot two uncollared Swift foxes, not knowing what they were, nor was he aware of their protected status. Follow-up investigators could neither confirm nor deny this report.

Within the Nashlyn Pasture, numerous dens were found, with tracks and signs indicating they clearly were Swift Fox origin (probably taken over from other mammals). On 10 May 1986, a male radio-collared fox (released March 1985) was seen at a den which could have been a natal den, judging from extensive signs around the entrance. The following year, on 28 April, two dens were found within the pasture. One den was definitely occupied by foxes (likely a pair) while the second den may have contained a pair, though only one fox was seen at the entrance. All these observations did show that foxes could survive some winters in the area and that pups were born to free-ranging foxes.

In addition to the above, an unmarked fox was captured and collared on 25 February 1986. The animal weighed 2.1

kg and differed somewhat in physical appearance from captive, released animals (see Discussion).

Summer food shortages may occur in some areas during years of drought. Of the first release (17 foxes) three were found dead within three weeks of the release. The initial prognosis was that the animals succumbed to heat stress/exhaustion and starvation.¹³ To supplement losses, in March 1985, two additional males were transported from the Wildlife Reserve in Cochrane and released in Nashlyn.³ Of these two, one was confirmed dead and the second was located at a den on 10 May 1986. The second male survived the winter without supplemental feeding. Winter tracking in 1986/87 (prior to the 1987 releases) suggested that between four and six foxes were present in the area. An automatic photographic device and trapping revealed that at least two of the free roaming foxes were not radio-collared (Fig. 4). One fox was located on the nights of 4 and 7 December 1986 by spotlighting (R. Laing, pers. comm.).

II. Differences in agricultural practices

A comparison of two areas with different farming practices is summarized (Table 2). The main difference is that in

Table 2. COMPARISON OF DIFFERENT LAND MANAGEMENT PRACTICES BETWEEN LOST RIVER RANCH, ALBERTA AND NASHLYN COMMUNITY PASTURE, SASKATCHEWAN.

| | <i>Lost River Ranch</i> | <i>Nashlyn</i> |
|------------|---|---|
| | approx. 80 sections (22,792 ha) | approx. 97 sections (24,897 ha) |
| Topography | Rolling topography - major coulees | Flat, slightly undulating, some shallow coulees |
| Culture | cattle - 1,050 animal units free ranging 600 cows year round; 600 - 1200 calves/ yearlings with supplemental feeding in winter and not free ranging | cattle - 1,700 animal units fairly intensive summer grazing (1 May to November) carrying capacity increased with the presence of seeded areas |

1 cow/calf = 1 animal unit; 1 yearling = .75 animal unit

the Lost River Ranch operation the cattle graze only on native vegetation. Because of this, stocking rates are lower. On average 600 cows remain year round on the range and in winter receive some protein supplements (blocks) and mineral blocks (L. Pietrowski, pers. comm). In addition 600 calves and 600 yearlings are fed hay and supplements from 1 November to the end of April. Grazing in the Nashlyn operation is more intensive over a shorter period extending from around the first week of May to about the last week of October (see details in Table 2).

Discussion

(1) Releases

Up to the spring of 1987 the success ratio of surviving animals (and possibly their offspring), to the number released during the soft release (i.e. semi-hard) program was established at 6:27 or 22%. This does not include a figure on the hard release. Preliminary results indicated higher survivorship in the hard

release during the first year, probably due in part to a mild winter with ready access to grasshoppers into late fall. The winter of 1987/88 was one of the mildest on record since 1889 (Environment Canada).

Population dynamics and mortality of wild Swift Foxes is poorly documented in those areas where they are still abundant. For Red Foxes, it is reported that juvenile mortalities were at least 60% in the first year.¹⁵ We can assume that Swift Foxes experience similar high rates of mortality.

The unmarked fox that was captured in February 1986 could have been offspring of the 1984 or 1985 releases in Saskatchewan or an animal that moved into the area from the Alberta releases. Other possibilities are that the fox moved into the area from southern established populations or had been in the area for some time as a member of a small established population. On f

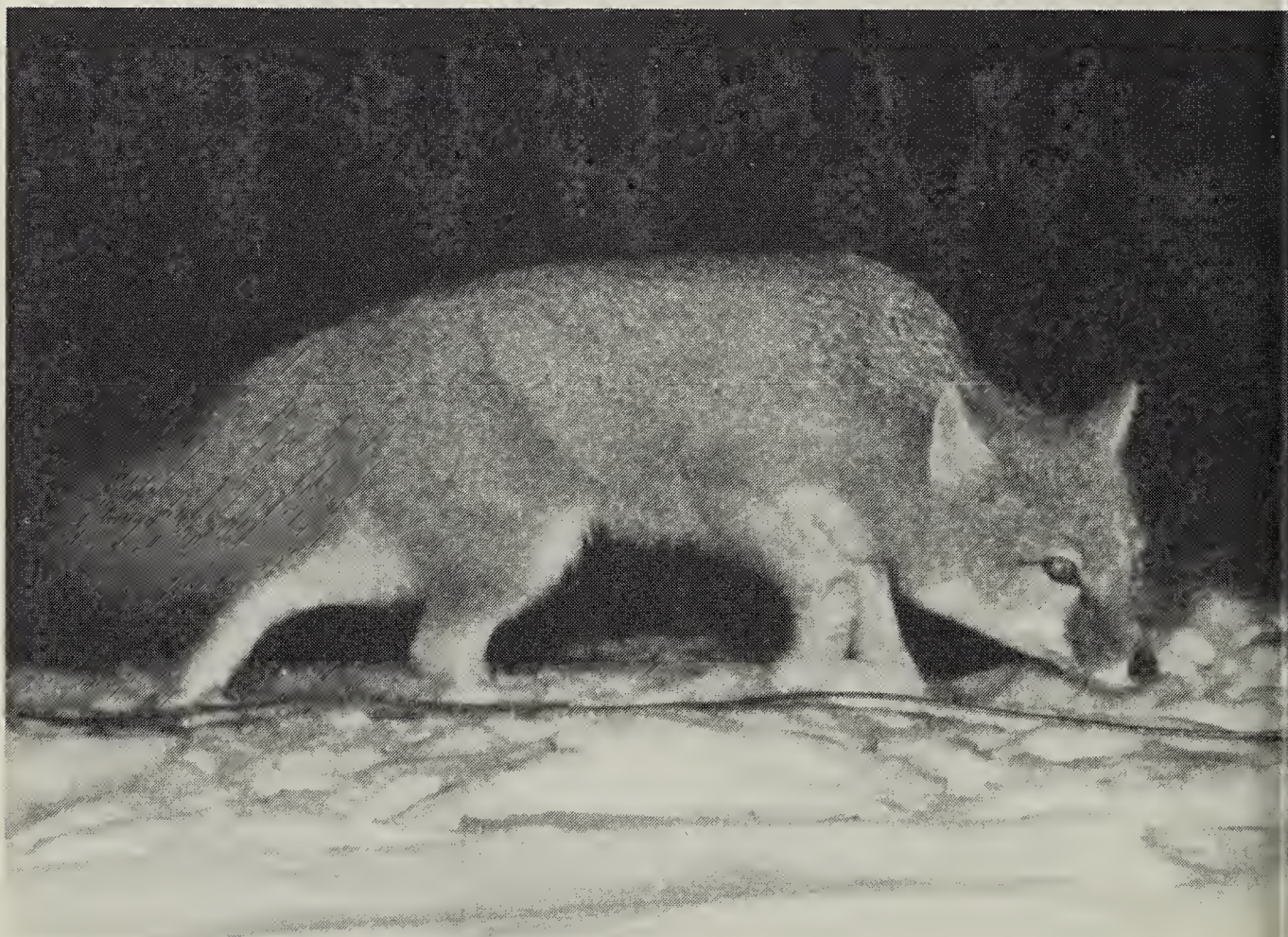




Figure 4. Sequence of photographs taken with an automatic camera device attached to a micro-computer that synchronized flash with shutter. Note approach of the fox to the bait tied to the end of a cord (keeps the animal in focus). These are the first photos of a free-roaming Swift Fox in Saskatchewan (taken in February 1986), since the demise of the species about 30-50 years ago. (Photos reproduced with permission of Alberta Naturalist).
L.N. Carbyn

examination, the overall appearance of that animal differed from those raised in captivity. The animal was shorter and appeared more robust and had a thick coat of fur which was greyer in colour than those of the released animals. However, even in captivity physical appearance can range widely (P. Rhodes, pers. comm.).

(2) Potential impact of cattle grazing on Swift Fox habitat

Cattle have replaced Bison in the prairie ecosystem. Physical evidence of the historical presence of Bison can still be found at both Saskatchewan and Alberta locations. Wolves are known to have frequented the area in the 19th century. Wolves were important predators of Bison. With the loss of Bison, wolf predation on cattle and sheep could not be tolerated, and, therefore two important elements (Bison and Wolves) in the prairie ecosystem were lost once Europeans settled there. An entry in the museum at Eastend notes that "the greatest pest of the ranching days was the Timber Wolf. A photo, showing wolves killed by ranchers, was taken at the Eastend post office in 1908. During the two years 1908 to 1909 bounty was paid from the Eastend post office on 76 Timber Wolves, all caught between Farwell Creek and the South Fork." The presence of both Bison and Wolves would have been of some benefit for Swift Foxes if carrion were available in winter. Bison, however, were known to have moved generally out of the prairies in winter and herds sought more sheltered wooded areas. Therefore, the Bison - Swift Fox relationship may well not have been as simple as it appears at first glance.

Wolves kill coyotes.² Coyotes in turn kill Swift Foxes. Predation by Coyotes on foxes has proven to be a major factor in Swift Fox mortality at the release site in Alberta (C. Mamo, pers. comm.).

Grazing and the use of pesticides be important to the survival of Swift Foxes. For example, the effects of grazing by livestock (or Bison) on Swift Foxes is poorly understood. In pristine conditions grazing by Bison was likely intensive in some areas and light, if absent in others. Movements of Bison from grazed to ungrazed areas therefore, allowed for carryover of grass and a patchy environment.

The presence of grazing ungulates may affect foxes in two ways. First, it is believed that both Swift and Kit Fox thrive best in areas with unobstructed views (Fitzgerald, pers. comm.); grazing would appear to be beneficial as it does not influence availability of prey. For example, areas with high Swift Fox numbers in parts of its current range in the United States are heavily grazed (C. Mamo, pers. comm., and pers. observations). In contrast, lagomorph rodent density may be negatively affected by heavy grazing. We believe the presence of rodents to be vital in the winter ecology of northern Swift Foxes. It has been suggested that since granivorous rodents depend on grass heads, removal of livestock could increase species dependent on those resources.⁹ Heavy grazing could shift availability of some prey species over to others. For example, Richardson's Ground Squirrels are diurnal while Deer Mice are nocturnal. Since Swift Foxes tend to be nocturnal grazing would be detrimental to foxes if such events favour diurnal species. Hungry foxes, undoubtedly will then hunt whenever prey becomes available and it then becomes a question of when Swift Foxes are themselves vulnerable to predation.

Swift Foxes are opportunistic omnivores and are capable of taking advantage of a variety of prey sources. Diversity provides added insurance against an over-reliance on one species.

particularly in critical, seasonal periods. Foxes feed extensively on invertebrates and therefore chemical control to reduce grasshopper damage could affect fox survival. The magnitude of current chemical use has been reported at an estimated 7 - 8 million litres sprayed for grasshopper control in 1986.⁶

Re-seeding native prairie and seeding with non-native grasses results in short or long-term habitat changes. In the short term, land that has been broken and seeded may not go into production until moisture conditions are favourable. The seed can lie dormant up to about 6 years before it no longer germinates (L. Pietrowski, pers. comm.). Long-term habitat changes may not be detrimental if, after subsequent plant succession, the prey base benefits. For example, White-tailed rabbits have been seen using irrigated areas at certain times of the year (Moorehead, pers. comm.).

We may ask ourselves "what is the future of Swift Foxes in Saskatchewan?" Initial signs are somewhat encouraging, but we cannot be overly optimistic. Even when the prairie environment may physically resemble those of earlier times, it could be that biological characteristics have drastically changed. For example, winter food may be present in quantity and availability would be important.³ Many rodents also undergo population fluctuations and such cycling may have an important influence on survival of Swift Foxes. We also cannot ignore the timing and sequencing of events. A severe winter would be less detrimental to fox survival if it coincided with high prey cycles. Two mild winters with abundant prey followed by a severe winter may buffer fox declines when compared to a sequence of alternating mild and severe winters. Patchiness and survival in micro-habitat areas may pro-

vide the source for dispersal in years of milder winters to offset losses in severe winters. Finally, we can only speculate about the abundance of the species in the past. Since it is at its northern range, it is not inconceivable that their distribution and abundance fluctuated widely at previous times.

In conclusion, a small nucleus of foxes has been established south-western Saskatchewan and southeastern Alberta. It is too early to be able to predict whether foxes can establish themselves as viable populations in the existing ecosystems. We can speculate about the environmental complexities, but our understanding of links and processes are not complete enough to predict the eventual outcome of our experimental work in the release program.

Acknowledgements

We would like to acknowledge the constructive atmosphere provided to us and the Swift Fox project by PFRA (Prairie Farm Rehabilitation Administration) and their personnel. In particular Richard Moorehead and his wife, Sandy, of Nashlyn, were most helpful. Mary-Jane and Leonard Pietrowski (owners of the Lost River Ranch) provided insights into cattle ranching that were important to us. We gratefully acknowledge support in many ways by G. Aiudi, H. Armbruster, D. Dobson, R. Edwards, J.

Fitzgerald, S. Herrero, D. Hjertaas, G. Holroyd, B. Isaac, J. Ives, C. Mamo, S. Mianka, P. Paquet, P. Rhodes, H. Stelfox and T. Weins. This report was written in preparation for a talk given by L. Carbyn to the Saskatoon Natural History Society meetings held in December 1987. It is a pleasure for us to acknowledge the important work done by Natural History groups in Saskatchewan.

Financial support was provided by the Canadian Wildlife Service, World Wildlife Fund Canada, and Saskatchewan Parks, Recreation and Culture.

- ¹ BECK, W.H. 1958. A guide to Saskatchewan mammals. Sask. Nat. Hist. Soc. Spec. Publ. No. 1. 52 pp.
- ² CARBYN, L.N. 1982. Coyote population fluctuations and spatial distribution in relation to wolf territories in Riding Mountain National Park, Manitoba. *Can. Field.-Nat.* 96:176-193.
- ³ CARBYN, L.N. 1986. Some observations on the behaviour of Swift Foxes in reintroduction programs within the Canadian Prairies. *Alberta Naturalist* 16:37-41.
- ⁴ CARLINGTON, B. 1980. Reintroduction of the Swift Fox (*Vulpes velox*) to the Canadian prairies. M.Sc. Univ. of Calgary. 180 pp.
- ⁵ COSEWIC. 1978. Committee on the status of endangered wildlife in Canada. Swift Fox Vol. 1.
- ⁶ JAMES, P.C. and G.A. FOX 1987. Effects of some insecticides on productivity of Burrowing Owls. *Blue Jay* 45:65-71.
- ⁷ LOOMAN, J. 1972. Possible recent Kit Fox record in Saskatchewan. *Blue Jay* 30:136.
- ⁸ MOORE, R.E. and N.S. MARTIN 1980. A recent record of the Swift Fox (*Vulpes velox*) in Montana. *Journal of Mammalogy* 61:161.
- ⁹ O'FARRELL, T.P. 1983. The San Joaquin Kit Fox recovery plan. U.S. Fish and Wildlife Service. Portland, Oregon. 84 pp.
- ¹⁰ PFEIFER, W.K. and E.A. HIBBARD 1970. A recent record of the Swift Fox (*Vulpes velox*) in North Dakota. *Journal of Mammalogy* 51:835.
- ¹¹ RAND, A.L. 1948. Mammals of eastern Rockies and western plain Canada. Nat. Mus. of Canada. 108:1-327.
- ¹² REYNOLDS, J. 1983. Evaluation of potential Swift Fox release area southwestern Saskatchewan. C. report. 22 pp.
- ¹³ SCOTT-BROWN, J.M. and S. HERRERO 1985. Monitoring of released Swift Foxes in Alberta and Saskatchewan. Progress Report. 62 pp.
- ¹⁴ SCOTT-BROWN, J.M., S. HERRERO and C. MAMO 1986. Monitoring of released Swift Foxes in Alberta and Saskatchewan. Unpubl. final report C. 96 pp.
- ¹⁵ STORM, G.L., R.D. ANDREWS, PHILLIPS, R.A. BISHOP, D.B. SIMON and J.R. TESTER 1976. Morphology, reproduction, dispersal and mortality of midwestern Red Fox population. *Wildlife Monograph* 49. 82 pp.

FERNAND PERRAULT

In the fall of 1988 Fernand and Perrault were the recipients of Society's Conservation Award. On February 1989 Fernand passed away. Fernand was a rancher for most of his life. He had a lifelong interest in natural history and was known to many people with interests in that field. In 1984 he donated his ranch to become part of Grasslands National Park. He will be sorely missed not only in Val Marie but elsewhere in Saskatchewan.