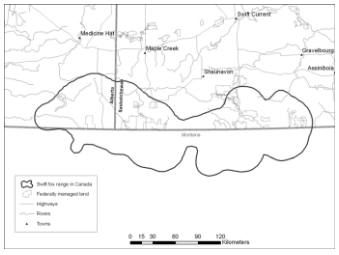
Species At Risk in Canadian wildlife poison use zones: Swift Fox – *Vulpes velox*

Federal Status: THREATENED in Canada / Provincial Status: ENDANGERED in Alberta and Saskatchewan

Figure 1 Swift Fox photo courtesy Cochrane Ecological Institute



Figures 2, 3, Maps of most recent "current swift fox distribution". COSEWIC. 2009. COSEWIC assessment and status report on the Swift Fox Vulpes velox in Canada. Map on left produced by Parks Canada for COSEWIC, right map version reconstructed by Sadie Parr.

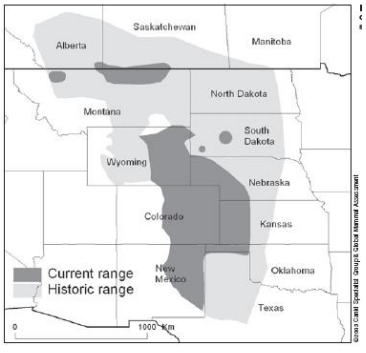


Figure 4 Historic and current distribution of Swift Foxes in North America (© 2003 Canid Specialist Group and Global Mammal Assessment).
Source: COSEWIC 2009

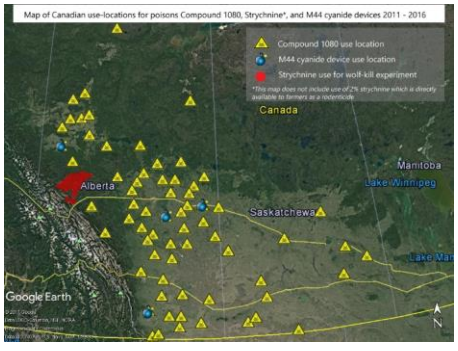


Figure 5 Map showing use-locations for Compound 1080, strychnine and sodium cyanide in Ab and SK 2011 – 2016.
Source: Wolf Awareness Inc 2017

Information below has been copied from species reports provided by COSEWIC and Environment Canada.

Source of reference:
COSEWIC. 2009. COSEWIC assessment and status report on the Swift Fox *Vulpes velox* in Canada.Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.
(www.sararegistry.gc.ca/status/status_e.cfm).

Pg 27 -28

THREATS:

Poisoning

Historically, poisoning for predator control had serious impacts on Swift Fox populations, likely contributing to their decline in the early 20th century (Scott-Brown et al. 1987). Poisoning of Swift Foxes is now illegal in Canada and therefor has declined as a threat. A 1972 ban on predator toxicant use on US federal lands aided the recovery of Swift Foxes (Pruss et al. 2008). Swift foxes readily consume poisoned baits laid out for Wolves, Coyotes, Striped Skunks (Mephitis mephitis), and Ground Squirrels (Spermophilus richardsonrii) (Pruss et al. 2008).Despite legal protection Swift Foxes are still occasionally poisoned. Two of 39 Swift Fox carcasses examined in a Canadian study (including Montana) died from poisoning (Moehrenschlager et al. 2007b).

Even when Swift Foxes are themselves not targeted, potential risk of mortality through encounter of poison baits directed at coyotes or secondary poisoning from consuming poisoned rodents is evident. The extent to which either occurs us unknown although it would stand to reason that the many poisons in use, both legally and illegally, consititute a risk factor for Swift Foxes. For example, many sheep ranchers perceive Coyotes as a problem predator and Compound 1080 (sodium monofluoroacetate) can be used for their control in both Alberta and Saskatchewan,. although the laws of limiting their used have become much more stringent than in the past. Strychnine is also used to control Coyotes in Alberta and Saskatchewan. In Alberta it comes in tablet form (50% strychnine) and may be handled only by authorized, trained provincial or municipal personnel (Pest Management Regulatory Agency [PMRA] 2005). The tablets are mixed with bait and covered with loose snow or dirt. As a precaution, product labels indicate that application is not permitted if species at risk occur in the area(PMRA 2005). Strychnine is used to control Striped Skunks (as the primary vector of rabies in Canada; Fehlner-Gardner et al. 2008) and ground squirrels in Alberta and Saskatchewan. Saskatchewan implemented temporary emergency control measures for Richardson's Ground Squirrel (Spermophilus richardsonii) in 2007. It should be noted that producers have access to 2% liquid strychnine concentrate, thereby increasing the opportunity for off-label use and stockpiling. Until July 2009, PMRA began to allow the use of strychnine-laced grain by pest control operators, agricultural producers, and authorized personnel from government approved pest control programs, in rural areas with high densities of Richardson's Ground Squirrel (PMRA 2008). In Alberta, the use of 2% strychnine for the same purpose was reinstated in 2009. Besides restrictions on use where species at risk are present, the only other safeguard against Swift Fox poisoning is product labeling.

Source of Reference: Environment Canada (1989). On the brink: endangered species in Canada. Saskatchewan, Western Producer Prairie Books

Pg 157-158

…Originally ranging from the Manitoba-Saskatchewan border west to the Alberta foothills, and from the American border north to about the latitude of Calgary, the shy nocturnal fox was well known to early settlers…

Why the swift fox vanished is unclear. The sweeping ecological changes that accompanied human settlement certainly had an impact. More specifically, the swift fox was an unintended victim of poisoning campaigns aimed at

Commented [sp1]: Need to find out if liquid strychnine is being used in swift fox zones. Can review ALL incident reports for all species (eg dogs) and compare locations of fox range.

Commented [sp2]: Does this mean that SK is breaking law even with collars in fox zone?

the wolf and coyote. The fox's curious nature and ready attraction to bait made it particularly vulnerable. Other factors such as disease, may have played a role.

Source of reference:

Pest Management Regulatory Agency – Health Canada. (2005). Re-evaluation of Strychnine. Proposed Acceptability for Continuing Registration: PACR2005-08

Pg 9.

*Species of concern, including the **endangered swift fox** and the endangered burrowing owl, are found in the same areas and type of habitat where strychnine is used for ground squirrel control. Additionally, incident reports from the United States clearly indicate that above ground strychnine use resulted in primary and secondary poisoning of non-target species.*

Aside from the unknowns surrounding the use of liquid strychnine by farmers in swift fox range, a further concern to note is the use of 1080 collars in areas nearby swift fox habitat.

Source of Reference: Pest Management Regulatory Agency – Health Canada. (2014). Special Review Decision for Compound 1080. Re-evaluation Decision: RVD2014-03

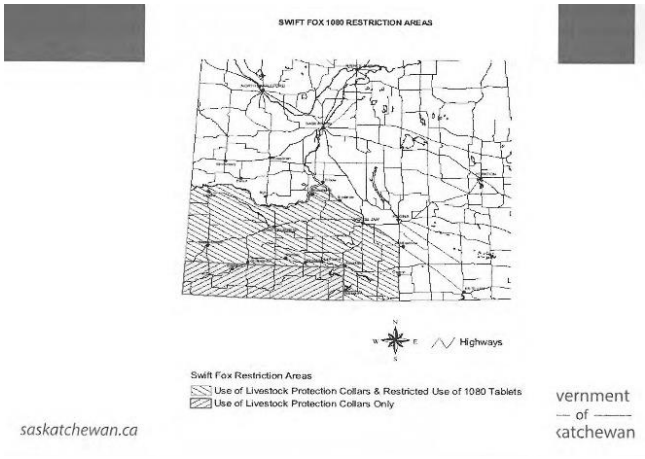
In 2014, the following statements were added to the Use Limitations section of the label requirements for Products containing Compound 1080:

Pg. 7

*Do not apply this product if species at risk (for example the **swift fox**) that may feed on Compound 1080 bait or on poisoned carcasses are present in your (local or specific) area. For information on species at risk in your area, contact the Fish and Wildlife Division of Alberta Sustainable Resource Development.*

Pg. 8 Do not apply this product if species at risk may feed on Compound 1080 bait or on poisoned carcasses *are present in your area. For information on species at risk in your area, contact the Saskatchewan Ministry of Environment Fish and Wildlife Branch.*

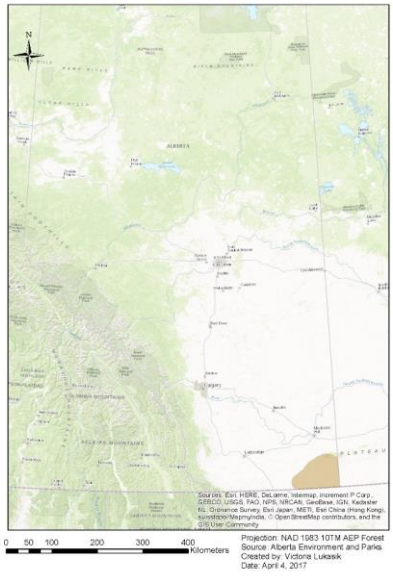
Although Saskatchewan had determined zones of restricted use of 1080 that coincide with Swift Fox habitat, these zones still allow the use of livestock protection collars. It is of high importance to note that swift foxes are still vulnerable to feeding off the poisoned carcass of the intended wolf or coyote (which punctures the liquid bladder and receives the first dose of poison). Due to the delayed onset of symptoms of 1080, poisoned animals may walk for several kilometers throughout swift fox recovery zones before succumbing to death, adding to the possibility of secondary poisoning of swift foxes from unrecovered carcasses.



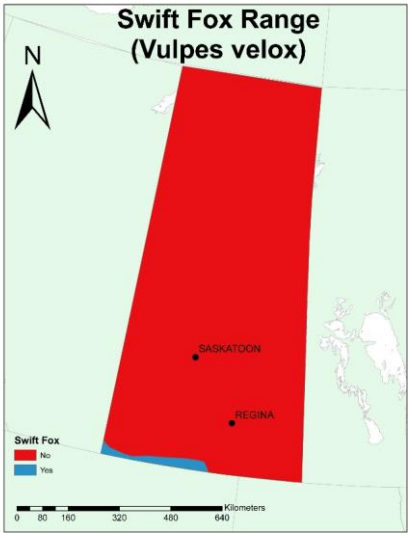
The maps below have been put together to demonstrate that compound 1080 is currently being used in areas too close to Swift Fox occurrences. We are not able to show where liquid strychnine is being used, but this use also causes great concern.

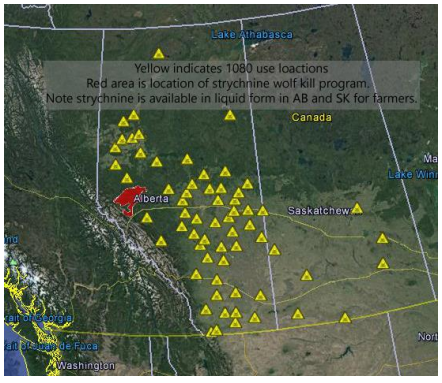
Alberta

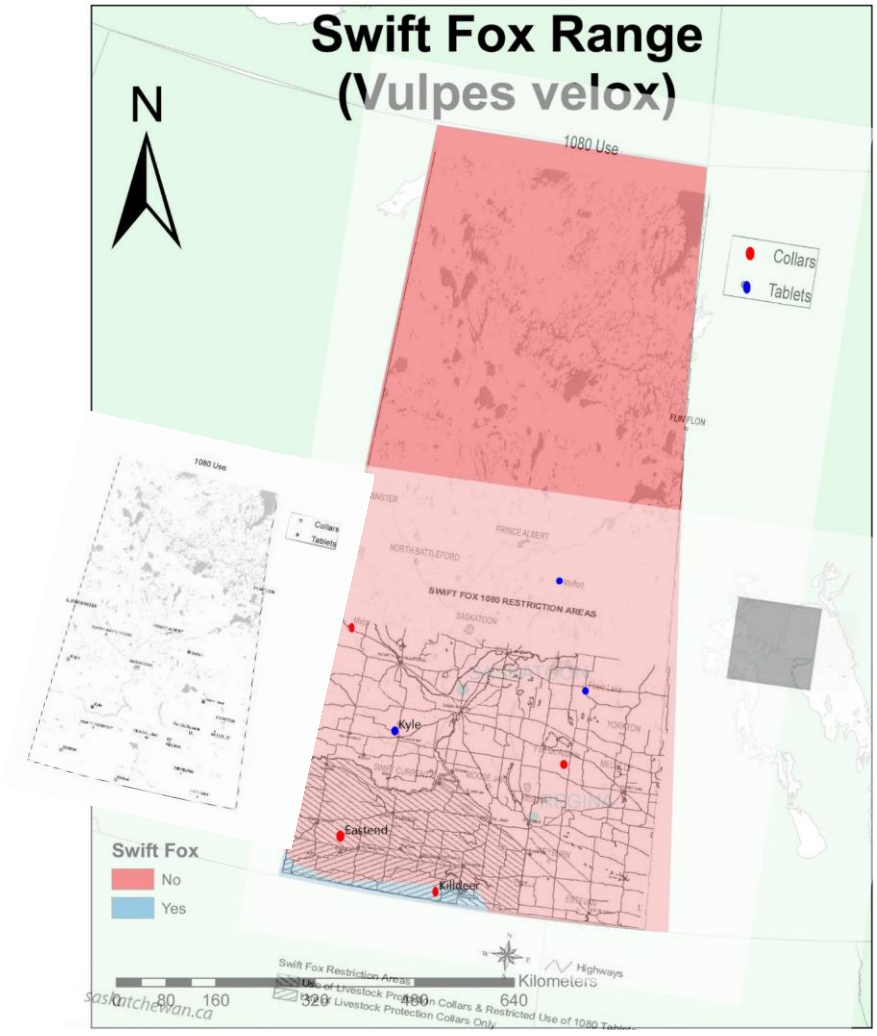
Swift Fox Range



Saskatchewan






Swift Fox Range
(Vulpes velox)
N
1080 Use
Collars
Tablets
SWIFT FOX 1080 RESTRICTION AREAS
Kyle
Eastend
Killdeer
Swift Fox
No
Yes
Highways
Kilometers
0 80 160 320 480 640
saskatchewan.ca

COSEWIC
Assessment and Status Report

on the

Swift Fox
Vulpes velox

in Canada

THREATENED
2009

COSEWIC
Committee on the Status
of Endangered Wildlife
in Canada

COSEPAC
Comité sur la situation
des espèces en péril
au Canada