

Swift Fox Scent Station Survey 2001

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Background:

Swift Fox (*Vulpes velox*) is a small fox species native to western Nebraska's short grass prairies. The species is listed as endangered in Nebraska. Recent information about swift fox in Nebraska is based mainly on observation and mortality reports tracked by the Heritage Program.

In an effort to begin an annual monitoring program, a preliminary scent station survey was conducted between April 17 and May 1, 2001 in the Nebraska Panhandle.

Survey:

The method used was tested and implemented by Robert Harrison and Greg Schmidt (with the Swift Fox Conservation Team) in New Mexico. 20 transects were placed in Sioux, Dawes, Box Butte, and Kimball Counties. Each transect consisted of 10 stations, separated by 1 mile, in the right-of-way along county roads (gravel or dirt). Transects were at least 6 miles apart. Stations were created by clearing vegetation and sifting fine sand mixed with glycerin (to create a good tracking medium). A plaster tablet soaked in a cod-liver/salmon oil mix was placed in the center of the station (attached to the ground with a nail and covered with a thin layer of sand).

Stations on a transect were inspected and re-set for 3 consecutive days or until at least one station showed signs of swift fox visitation (tracks, feces). If after 3 days no station on the transect had been visited by swift fox, the transect was counted as negative for swift fox presence. Swift fox signs were easily identified and the signs of other species visiting the stations were recorded as well.



Setting a scent station.



Swift fox tracks on a scent station.

Results:

Out of 20 transects set, 7 were positive for swift fox sign (5 in Sioux County and 2 in Kimball County). All stations visited by swift fox were either within or in close vicinity to short grass prairie habitats. 2 stations with swift fox signs were also on or next to fields with row crops or fallow (both in Kimball

County). Due to frequent rains, we were unable to run some transects for the required 3 days. 2 transects were abandoned immediately after setting. Most stations in Box Butte and Dawes Counties were rained upon at least once, which often significantly obscured potential sign on the tracking substrate. All of the 5 transects set in Kimball County were abandoned after the first night. From this, I conclude that swift fox surveys in coming years should be conducted at a time during the year when the chances of precipitation are lower (e.g. May, June, July).

Despite inconsistencies and problems with this survey due to weather and lack of expertise, the survey was a success in detecting swift fox presence. 7 out of 9 positive stations showed swift fox signs after just one night of operation, illustrating the responsiveness to the stations. By the end of the survey 2 surveyors able to check and set 5-6 transects (50-60 stations) in a day. Given adequate weather conditions a large area can be surveyed extensively by just a few people. Materials are also relatively inexpensive given that the only supply needed in large quantities is sand, an unlimited supply of which is available for free on and along roads in the survey area. Glycerin should not amount to much more than \$10-20 per 10 stations (one transect) depending on the number of times the transect needs to be reset.

Next Year:

My initial goal will be to determine the presence/absence (and to some degree density) of swift fox in Nebraska and identify the current range. By surveying areas with known swift fox abundance in 2001 we were able to show that this technique is in fact useful for detecting swift fox in Nebraska. Next year's survey will be targeted at areas believed to constitute the periphery of swift fox range in Nebraska.

