

Swift Fox Returns To Badlands NP

By Sue Consolo

On June 26, 1987, a family of swift fox (*Vulpes velox*) was reintroduced into Badlands National Park from Shannon County, SD. This culminated six months of searching and planning for the return of a native prairie predator whose decline stemmed from human activity earlier in this century.

Once common throughout the plains states, the swift fox is listed as threatened in South Dakota, and has been proposed for listing under the federal Endangered Species Act. Its decline has been attributed to hunting and trapping as the Great Plains were settled, and to widespread predator and rodent control programs. There were no sightings of swift foxes in South Dakota from 1914 to 1966, but then the species began to reappear in the Dakotas. In the late 1970s, State Department of Game, Fish and Parks researchers located a small population on the Pine Ridge Indian Reservation south of Badlands. However, a large-scale prairie dog control program recently initiated there has raised concern for the swift fox's survival.

The North Unit of Badlands NP contains 64,144 acres of designated Wilderness, with approximately 2,400 acres of uncontrolled prairie dog towns. Prairie dogs are a major prey of the swift fox as well as other predators, several of which are missing from the Badlands. The park's Resource Management Plan called for restoration of the native swift fox, and the Wilderness Area provided an excellent area for reintroduction because of its isolation and the abundance of prey.

In January 1987, after clearing the project with representatives of the state and the Oglala Sioux Tribe, South Unit District Ranger Glen Livermont and I began spotlight surveys on the reservation to see if swift fox remained in the area. As with all wildlife monitoring work, these nightly searches meant long hours of

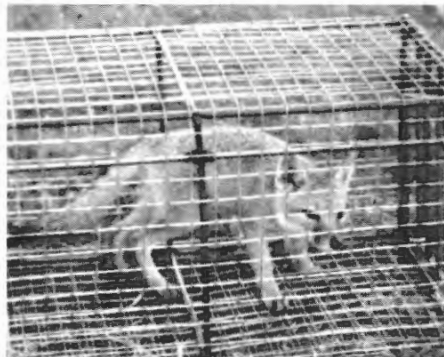
monotony and frustration, punctuated by moments of excitement! We were rewarded on a frosty night in February, when we saw swift foxes for the first time.

The swift fox is a nocturnal hunter relatively tolerant of humans. Among foxes, only the kit fox is smaller and was once thought to be the same species. Adult swift foxes stand about a foot tall and average 5-7 lbs. (2.2-2.5 kg), about the size of a small house cat. They are buff to gray colored, sometimes with a reddish tint. Their black-tipped tails and very pointed ears are diagnostic.

By spring, we had located several pairs and, to our delight, two dens of breeding foxes. Our hope was to locate a family to transplant into the park. Scientists with prior experience relocating foxes in South Dakota and Canada suggested that transplanting a breeding pair or, better yet, a family group offered the best chance for successful establishment.

We selected a reintroduction site in the Wilderness Area close to water and prairie dog towns, and accessible enough for us to build a temporary holding pen. The pen was a 10' x 20' wire enclosure, roofed and floored. Inside the pen we buried a den made of two plywood boxes connected to each other and the surface by PVC pipe. We were advised to fuss over construction of the fox's temporary home, as they are "little Houdinis" in their ability to escape!

Everything seemed on track, but by the first of June, we were getting discouraged; one pair of adults had not been seen for weeks, and another denning pair had relocated during bad weather, causing us to lose track of them. Then, in the early hours of June 16, a spotlight crew suddenly located four playful pups around a fox den not far from the abandoned site. The adult female and a pup were trapped almost immediately but released, as it was apparent that several nights would be needed to "out-fox" and trap the entire



Swift fox pup in holding cage.

family. The mother received a radio-collar to allow us to track her if she moved again. Like other canids, swift foxes often relocate dens several times when pups are young.

Trapping began in earnest the week of June 21. The swift fox was reported to be easy to trap (one adviser told us it would take "all night, but you'll get them all"), so we were a bit surprised that it took all week and a variety of baits and trapping schemes. Using prairie dogs for bait in staked-down traps proved the trick to catching the adults, and by dawn on June 26, we were convinced we had the entire family ready to translocate 80 miles to their new home.

With the help of a YCC crew and other ranger personnel, the swift fox family was measured, ear-tagged, and carried to the release site. The family consisted of a 5 1/4-lb. male, a 4 1/4-lb. female, and four pups, two males and two females weighing from 2.5 to 4 lbs. One by one the fox were handed into the pen and placed down one entrance to the artificial den. Within minutes, they scooted into the den and peered out the other entrance, appearing to find their temporary home acceptable.

During their time in captivity, the foxes received water and food (prairie dogs, mice, birds, and cat food) every three days. The pen was only approached during the day, when the foxes were generally not active above ground. The family was observed from a distance of 30-100 yards at dusk, dawn, and night with spotlights and a night vision scope. There was surprisingly little effort to escape confinement, and the foxes noticeably put on weight, especially the adult female, who was in fairly poor condition at the time of capture.

On July 21, nearly four weeks after being relocated, the pen was opened and the swift foxes were free to go. The artificial den remained, in case they wanted to continue to use it for cover or as their home base. The swift fox is one of several species that rely on their ability to dig burrows for escape from coyotes, eagles, and other dangers on the nearly treeless prairie.

Resource Management Rangers are monitoring the released family of foxes to determine whether they survive and stay in the area. Depending on the success of this transplant, we plan to use similar procedures to trap and release more swift foxes over the next few years. Spotlight surveys in and outside the park will help determine if this threatened species gains a firmer hold in western South Dakota. The swift fox is just one of many native species that have been extirpated from the Great Plains. For Badlands NP, it is exciting to see the return of this rare fox to its natural role as a prairie predator.

Consolo is formerly Resource Management Specialist for Badlands NP, now a Management Biologist at Yellowstone NP.



Sue Consolo prepares reintroduction pen in Sage Creek Wilderness.