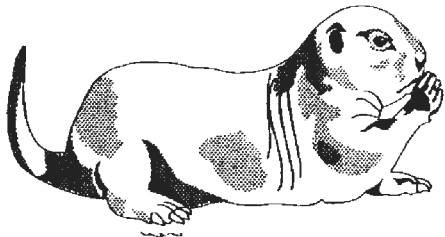


Prairie Dog Control at Fort Larned, Kansas

By Felix Revello, George Elmore, and James David

Fort Larned National Historic Site preserves original Santa Fe Trail ruts as a part of its cultural landscape. This 40-acre detached area where the ruts are located is also home to a colony of prairie dogs whose burrows are a threat to the historic ruts. While the park has managed the tract to maintain both its historic and natural values, its mandate places protection of the ruts first.



Despite control measures in the past that included both poisoning and shooting, the prairie dogs continually reestablish themselves in the historic ruts. In

April 1992 (after viewing a news story on a clever new method of control), and again this past May, the park used the innovative, but more expensive, treatment. The method involves using a modified sewer vacuum truck to suck the animals out of their burrows.

The contractor begins by first filling in most of the burrow openings with soil in order to identify the holes in use by the "dogs." Holes also used by the burrowing owl are left open and are not vacuumed so as to minimize disturbance of the symbiotic birds. The following day the vacuum truck circulates to the burrows that had been reopened during the night by the prairie dogs. The contractor inserts a large hose into each burrow to suction up everything close to the surface, including any prairie dogs. The truck is modified to protect the animals as they pass from the

large-diameter hose into the hopper where a padded deflection screen catches them.

In 1992, the weather was not helpful. Cold temperatures and high winds drove the prairie dogs deep into their burrows, reducing the effectiveness of the experiment. That year, only five prairie dogs (all appearing healthy) were captured. In 1994, 40 animals were trapped (three died). Resource managers compared pre- and post-treatment counts of prairie dog relative abundance and concluded that the effort had mixed results.

The treatment area had been divided into eastern and western plots of which the western section yielded better results. This was because most of the burrows there had two or more entrances and unclogged passageways, whereas the eastern plot was made up of burrows with either single openings or constricted subterranean passages. The contractor explained that vacuuming is ineffective on burrows with only one opening or blockages as only a static vacuum is created; this effect is similar to clogging the hose on your household vacuum. Each burrow must have at least

two entrances and clear passageways to obtain the air exchange necessary to generate the high speed air flow required to pull prairie dogs out of their burrows.

Before starting this project, we had no idea how many prairie dogs could be removed using this vacuuming technique. In the hopes of finding someone to adopt the animals, we had contacted numerous organizations before beginning the project. Fortunately, the Kansas Department of Natural Resources was able to take all the dogs provided and translocated them to Cheyenne Bottoms Wildlife Area.

This method of capture lacks the dangers associated with poisoning and is less objectionable than either poisoning or hunting. Public support and interest even ran high as judged from the newspaper and television coverage of the initial event. However, our take included other nontarget species (in 1994) including one burrowing owl (the first ever for this contractor), salamanders, mice, and numerous beetles (all released unharmed). One unexpected offshoot from this project was interest from the NBS (Dr. Jerry Godbey

of the Mid-continent Ecological Center in Fort Collins, 303/226-9460) who would like to survey invertebrates taken from prairie dog holes during the vacuuming process. Godbey feels that this technique may produce new species discoveries.

Following two experiments with this method, we conclude that this procedure is presently expensive, averaging \$30-\$40 per prairie dog, and is only moderately effective (the contractor has had much better results with other clients, however). It can be justified only for very small prairie dog towns or limited removals in high visibility locations. Then, it will be most effective if used on burrows free of blockages. The technique might also be useful where other control methods might be injurious to threatened and endangered species.

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