



COLORADO PARKS & WILDLIFE

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Swift Fox Sighting Investigation Report – May 2013

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In November of 2012, Loree Harvey, a seasonal field biologist with the Bureau of Land Management reported that several possible swift foxes were observed in the San Luis Valley during baseline surveys for the Antonito SE, solar energy zone (SEZ) designation. The observation was made in late summer, 2012. The observation included an adult (Fig. 1) and 2 young foxes (Fig. 2). A den site, possibly belonging to the observed animals, was also photographed (Fig. 3), unfortunately no measurements were taken of the diameter of the opening. UTM coordinates placed the observations southeast of Antonito Colorado (Fig. 4). This observation is well outside the current known range of swift fox in Colorado or New Mexico (Fig. 5).

Figure 1. Adult fox, possible swift fox.



Figure 2. Juvenile foxes, possible swift fox.



Figure 3. Possible den of the observed foxes.



Figure 4. General area of reported sighting.



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Figure 5. Current range of swift fox and kit fox in Colorado and New Mexico. Adapted from Fitzgerald et al. 1994 (kit fox range) and Sovada et al. 2009 (swift fox range).

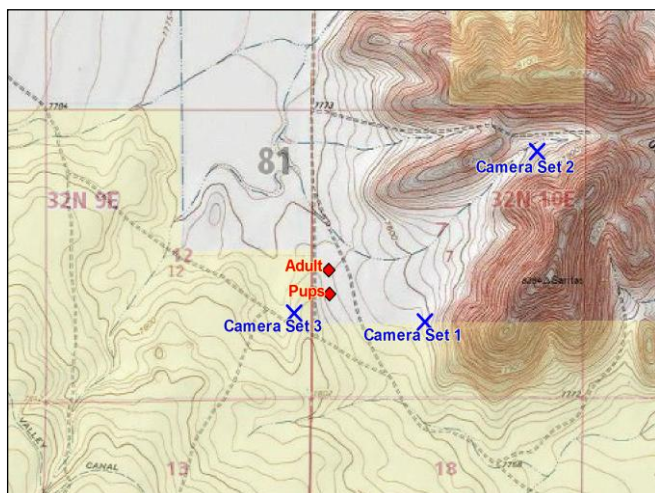


Swift fox and kit fox are closely related and not easily distinguished, morphologically or otherwise. We examined the proximity to both kit fox and swift fox habitats in Colorado and New Mexico (Fig. 5). The location of the reported observation is at about 150 miles southeast of the nearest kit fox habitat. In addition, there are numerous mountain ranges in excess of 13,000 feet and mountain passes, none less than 10,000 feet. In relation to swift fox the observation area is about 75 miles northwest or southwest of the nearest swift fox habitat in Colorado or New Mexico. Here again, mountain ranges of about 12,000 to 14,000 feet, and mountain passes not less than 10,500 feet, are geographic barriers to swift dispersal from abundant population in Colorado. In New Mexico, possible swift fox dispersal from currently documented habitat would most likely have to take place via lower elevation passes between Santa Fe and Albuquerque. Harrison and Schmitt (2003) observed swift fox tracks near Las Vegas, NM in scent station track plate surveys conducted in 1996-1997.

Despite the distance and apparent barriers to known occupied swift fox or kit fox habitats, the foxes in the photographs appear very much like swift fox. Therefore, between 4-22-2013 and 5-2-2013, we set an infrared

triggered camera in the area to obtain additional documentation. We followed baited camera trap methods used in swift fox occupancy surveys conducted by Colorado Parks and Wildlife in 2011. A stake baited with a scent lure was set about 9.5 feet from the camera. The top of the scent stake was 16 inches and the camera lens was set at 19 inches. Cameras were set for 3 consecutive nights at each trap location (Fig. 6)

Figure 6. Location of reported sighting and camera sets 1, 2, 3.



On the night of 4-29-2013 we obtained 4 photos at camera set location 3 of a fox investigating the lure (Fig 7a-d). Based on size relative to the scent stake, slight dark saddle on the muzzle, and slight dark fur around the tip of the tail, we believe the image to be a swift fox. We submitted these photos to two Colorado Parks and Wildlife experts with extensive previous background with swift fox. We did not disclose the location where the photos were taken and inquired which species of fox they believed it to be. Both indicated that the fox in question is either a swift fox or kit fox depending on where the photo was taken. Finally, we submitted the photos to Jim Stuart, NM Game and Fish, T & E and Non-game Mammals Program Manager. He also indicated that he thought it is a swift fox.

Figure 7 a-d. Fox captured in camera set 3 by Colorado Parks and Wildlife personnel on 4-29-2013.

a. Image 1.



b. Image 2.



c. Image 3.

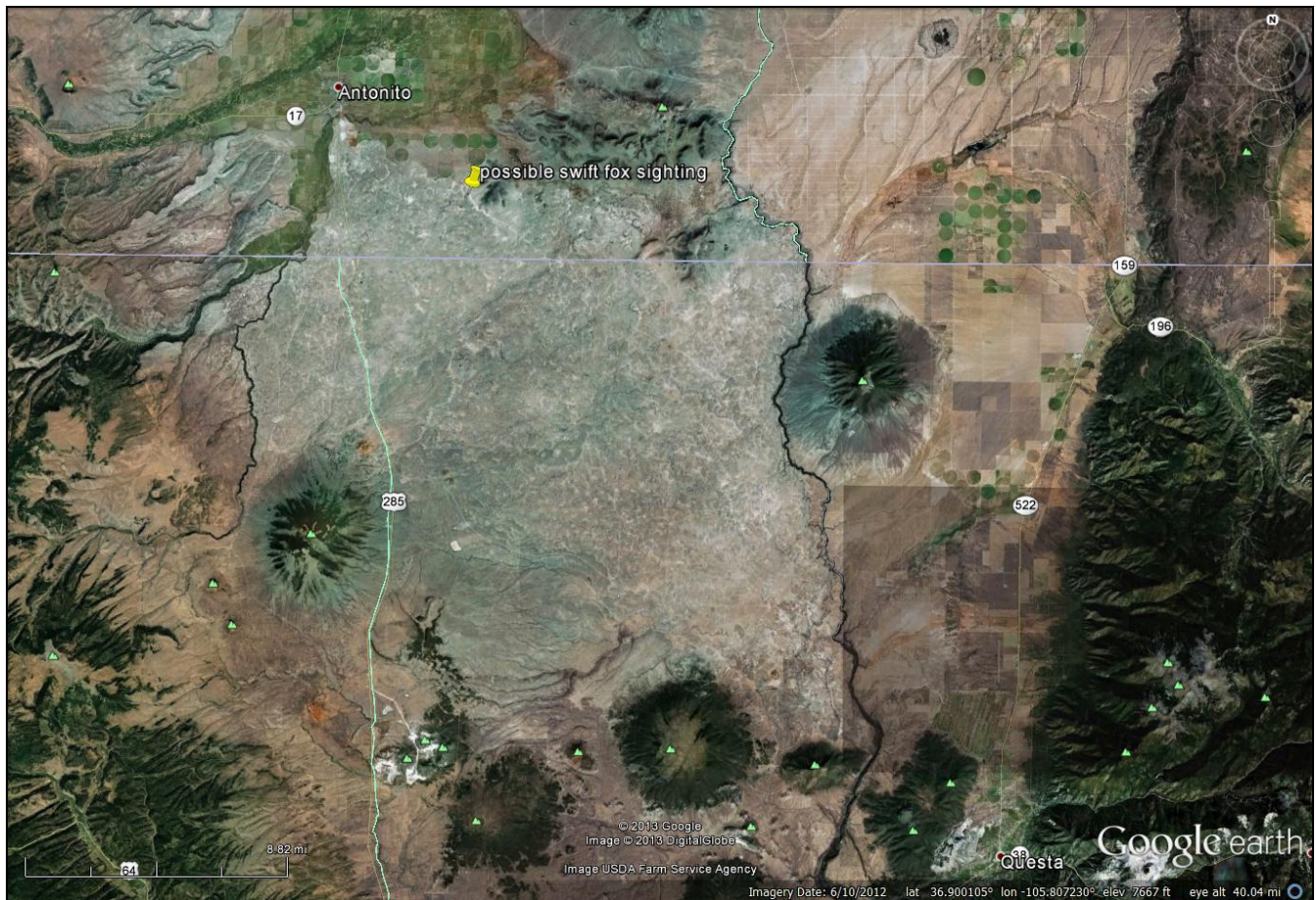


d. Image 4.



The observation site is at an elevation of about 7,900 feet. The habitat type is not considered short-grass prairie, but contains a high degree of structural similarity and some plant species found in short-grass habitats of eastern Colorado. According to NRCS Soil Classification and Associated Vegetation, common plant species in this area include: blue grama, Indian ricegrass, stipa spp., western wheatgrass, sand dropseed, bottlebrush squirreltail, Fendler threeawn, winterfat, fourwing saltbush, rubber rabbitbrush, artemisia spp., and prairie sagewort.

Figure 8. Satellite image of the landscape around the reported observation.



Conclusion: We conclude that swift fox presence in at least this location in the southern San Luis Valley is confirmed. Their presence in adjacent similar habitat extending northward and southward is highly probable. It is not known if this is a remnant population that predates U.S. expansion and settlement, or a more recent range expansion, or if these may have been the result of unofficial and unauthorized transplants. However, we speculate that the former is most likely.

Recommendation: Swift fox are common in short grass prairie habitats in Colorado. Although an intriguing biological anomaly, the long term sustainability of swift fox is neither enhanced nor jeopardized by the presence or absence of this isolated population. Therefore, we do not recommend the need for any special protections for this population. This represents a peripheral occupation of marginal habitat.

We do recommend that during the next routine swift fox occupancy survey, to be conducted in about 2016-2018, that this and similar adjacent habitats be mapped in Colorado and included in the occupancy survey.

Literature Cited

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