



*photo by Patrick Reijnders*

**American Mink (*Neogale vison*)  
Habitat and Population Survey  
in Northern New Mexico**

Submitted to:

New Mexico Department of Game and Fish, Share with Wildlife Program,  
U.S. Fish and Wildlife Service Grant  
(Wildlife Restoration Section 4 Grant W-208-R-1)

12 January 2022

Marty Peale, Brian Long & Jon Klingel  
9 Camino Arriba del Llano  
Chamisal, NM 87521



# American mink (*Neogale vison*) habitat and population survey in northern New Mexico, 2021

## Abstract

---

We conducted a survey for American mink (*Neogale vison*), across northern New Mexico, for eleven months in 2021 using 30 Reconyx wildlife cameras and several track plates. We collected more than 3,500 days of photographs from 85 camera sites in eleven (11) Hydrologic Unit Code 8 watersheds (HUC 8's). We set out five track plates in five watersheds for a total of 191 days.

We detected no mink on cameras or track plates, and we found no other evidence of their presence. Track plates proved to be ineffective for our survey design.

The cameras documented the presence of mustelids that are not riparian-obligates, including ermine (*Mustela erminea*), long-tailed weasels (*Neogale frenata*), and Pacific marten (*Martes caurina*). We detected no North American river otters (*Lontra canadensis*).

The cameras documented the presence of mink prey species (*i.e.*, bushy-tailed woodrat [*Neotoma cinerea*], cottontail [*Sylvilagus* spp.], Mexican woodrat [*Neotoma mexicana*], muskrat [*Ondatra zibethicus*], red squirrel [*Tamiasciurus* spp.], rock squirrel [*Otospermophilus variegatus*], vole [*Microtus* spp.], other small mammals, and birds) and predator species (bobcat [*Lynx rufus*], cougar [*Puma concolor*], coyote [*Canis latrans*], gray fox [*Urocyon cinereoargenteus*], and red fox [*Vulpes vulpes*]), as well as domestic animals (cats, cattle, dogs, and yaks).

We catalogued wildlife photos and recorded habitat observations, believing that this survey could serve as the basis for habitat improvement initiatives (*e.g.*, grazing exclosures, installation of beaver dam analogs), mink reintroduction, and/or future research. We recommend several public land units where mink habitat looks promising, further surveys are warranted, and habitat improvements could be beneficial to mink. Many private landowners also expressed interest in participating in mink habitat improvements and reintroduction, if such opportunities were to become available.

## Introduction

---

The American mink (*Neogale vison*) is one of nine mammalian species that the New Mexico Department of Game and Fish (NMDGF) ranks as “a Species of Greatest Conservation Need”, and one of three, including mink, Pacific marten (*Martes caurina*), and Gunnison’s prairie dog (*Cynomys gunnisoni*), that are also “of immediate concern” and “vulnerable” (NMDGF 2016b, BISON-M 2022). The State Wildlife Action Plan (SWAP; NMDGF 2016b) identifies “natural area modification”, with an emphasis on extreme wildfire, as the primary threat to mink habitats. Changes in streamflow related to climate change and human diversions of water are also serious threats.

While the American mink is common in most of North America, the species has been relatively uncommon in New Mexico, which is at the southern limits of its western range (Figure 1). Mink are considered by some to be extirpated from New Mexico, no longer warranting special protections. Because no comprehensive survey for mink has ever been



*Figure 1. Distribution of mink in North America (Armstrong 1972, p. 347).*

conducted in New Mexico, its distribution and occurrence in the state have remained unknown.

The 2021 Share with Wildlife “Call for Project Information”, issued by NMDGF, specifically listed a survey for mink as a research topic of interest and suggested that eDNA sampling and camera traps could be appropriate survey strategies. We proposed to conduct the first comprehensive survey for mink in New Mexico.

This survey helps to address conservation actions as identified in the SWAP and to fill an important information gap for an understudied mammal. Surveys such as this form a necessary foundation for focusing any effort to protect and/or restore remaining wildlife populations and their habitats (*i.e.*, forested riparian areas, riparian shrublands,

and especially beaver complexes for the mink). Field work has included observation of habitat conditions, threats, and limiting factors for mink.

### Background

American mink occur in riparian areas (both warm and cold waters) across North America where there is vegetative cover. Mink are active year-round, solitary except during the mating season, riparian-obligates, semi-aquatic, and mainly nocturnal.

Historically in New Mexico, mink may have occurred as far south as Bosque del Apache in the Rio Grande watershed (*Figure 1, Appendix A*), but trapping and changes in riparian habitat may have eliminated them. Neither trapping nor fur-farming of mink is legal in New Mexico today.

The USFS Region 3 list of Sensitive Species does not include mink (USFS 2013).

The distribution and occurrence of mink in New Mexico are currently unknown. The following recent reports are anecdotal and lack concrete evidence:

- 2001: Pecos River, Lisbosa Springs Hatchery and other reaches; Pecos Baldy; Vallecito (*sic*) River (hearsay, several possible sightings, reported by Nic Medley to Greg Schmitt, NMDGF 7/2001).
- 1995: Mora River — Nic Medley (reported to Greg Schmitt, NMDGF 2001).
- 1967: Chama River — reported to Berghofer (Frey, In press).

The following recent specimen records are the only two that we consider to be validated:

- 1987: Cimarron Canyon — Richard Grothe, State Park Ranger, two road-killed young males (as reported to Dr. John Hubbard, NMDGF).
- 1966-67: Mora River, Watrous — three specimen records from W.H. Bledsoe (Frey, In press)

See Appendix A (from Frey, In press) for the most complete records of specimens and reports from New Mexico and Appendix B, which contains data from New Mexico and southern Colorado from 1866-present. See Appendix C for a map of locations of historical specimens and records.

## Methods

---

Brian Long, Marty (Martha) Peale, and Jon Klingel conducted this survey for American mink. Thirteen (13) volunteers accompanied us throughout the course of the field work. We conducted this survey across northern New Mexico in January through December 2021, using wildlife cameras and track stations.

We contracted to place cameras at up to 16 locations in each of eight HUC 8<sup>1</sup> watershed units, for a total of up to 128 locations. Cameras were to be placed at each site for two to four (2-4) weeks. We also contracted to deploy at least one track station in each of the eight watersheds for at least two weeks. We contracted to survey within the following eight (8) HUC 8 watersheds:

HUC-8 Name	HUC 8 ID
Canadian, Headwaters	11080001
Canadian, Upper	11080003
Cimarron	11080002
Mora	11080004
Conejos	13010005
Rio Grande, Upper	13020101
Chama	13020102
Pecos, Headwaters	13060001

We added the following HUC 8 units to our survey area during the course of the project:

Rio Grande, Santa Fe	13020201
San Juan, Upper	14080101
Animas	14080104

---

<sup>1</sup> HUC is a Hydrologic Unit Code classification system for watersheds nationwide. The “8” refers to the level of sub-watershed or nested watershed. The watersheds included in this survey are tributaries of the Pecos, Rio Grande, and Colorado rivers.



The New Mexico Department of Game and Fish (NMDGF) provided 32 Reconyx wildlife cameras with cable locks and data cards. We deployed 30 of these cameras with the following settings:

- motion picture: ON
- 5 frames
- Rapid fire
- Video: OFF
- Sensitivity: Medium-High
- Flash: High
- Night: Optimized
- Resolution: 4:3 Standard (changed from Wide, which is lower resolution).

We also used personal cameras at two locations for 24 and 45 days, respectively. All camera deployment locations were marked with a GPS unit. We made camera stands (*Figure 2, right*) to use in cases where trees were not available. Cameras were deployed at least two (2) kilometers apart near the banks of rivers or streams.

We used track stations (*Figure 3*) consisting of an 11" x 30" metal base plate with an arched plexiglass cover. We set up stations so that they were blocked at one end and baited at the closed end with lure. We coated a tin track plate with soot from an acetylene torch and



*Figure 2. Camera stand used when trees not available.*



*Figure 3. Track stations are blocked at one end, where lure is placed. An animal that enters the track station walks across a sooty surface and leaves tracks on white contact paper.*





*Figure 4. Lure sticks. A hole bored in one end holds cotton balls doused with scent.*

set that at the open end of the station. A sheet of white contact paper secured to the inner, closed end of the station registers the sooty black tracks of animals that enter the station.

We made lure sticks (Figure 4) by sawing branches in short lengths, drilling a 3/4" hole in one end, into which cotton balls doused in scent were inserted, and a smaller hole for a wire rod to hold the branch segment above the ground, protecting the lure from weather and allowing the scent to be carried by air currents at ground level. Mink lure consisted of Hawbacker Mink #1, Cavin's Minkmaster, fish oil, and shellfish oil.

We did not make any particular effort to disguise our human scent at camera and track station sites. Virkon disinfectant was used to prevent the spread of invasive aquatic organisms (e.g., zebra mussels) and water borne pathogens.



We also printed “Mink Wanted” flyers (Appendix D) in an effort to gather additional data from local members of the public.

We received written permissions from the following entities to survey on public lands:

- Carson National Forest
- Santa Fe National Forest
- Cibola National Forest, Kiowa National Grasslands
- Maxwell (and Rio Mora) National Wildlife Refuge
- U.S. Bureau of Land Management (BLM), Taos Field Office
- U.S. Bureau of Reclamation, Western Colorado Area Office — Pine River Wildlife Management Area (WMA)
- New Mexico State Parks — Cimarron Canyon, Coyote Creek, Heron Lake, Navajo Lake, Pecos Canyon
- New Mexico Department of Game and Fish for access to the following WMAs — Bert Clancy, Colin Neblett, Edward Sargent, Jackson Lake, Pine River, Rio Chama, Rio de Los Pinos; and fish hatcheries: Lisboa Springs and Red River
- City of Santa Fe

We also received permission from 21 private landowners to survey on their properties. We placed cameras on 18 of those owners’ properties (several cameras in some cases).

We chose our camera and track-plate locations according to the following criteria:

- riparian areas
- where mink were previously known to occur (the last known New Mexico specimens date back to 1987; see appendices A-C)
- where undocumented sightings have been reported (from as recently as 2015)
- where there were signs of beaver (*Castor canadensis*) activity
- where there was likely to be open water throughout the year (*e.g.*, beaver ponds; reservoirs; hatcheries; and high-volume, low-elevation rivers)
- where prey species (muskrat [*Ondatra zibethicus*], fish, crayfish, and terrestrial small mammals) were likely to be abundant (*e.g.*, where water is perennial and where grazing, fire, and other disturbances have not eliminated grass and brushy cover)
- areas likely to be relatively free from domestic predators (*i.e.*, cats and dogs)
- areas close to the New Mexico-Colorado border, where mink populations in southern Colorado might be a source of mink to recolonize New Mexico habitats

We checked cameras every two to four (2-4) weeks. At two easily accessible sites, we experimented by retrieving camera data cards and refreshing lure weekly, to see how long it would take to document additional species.

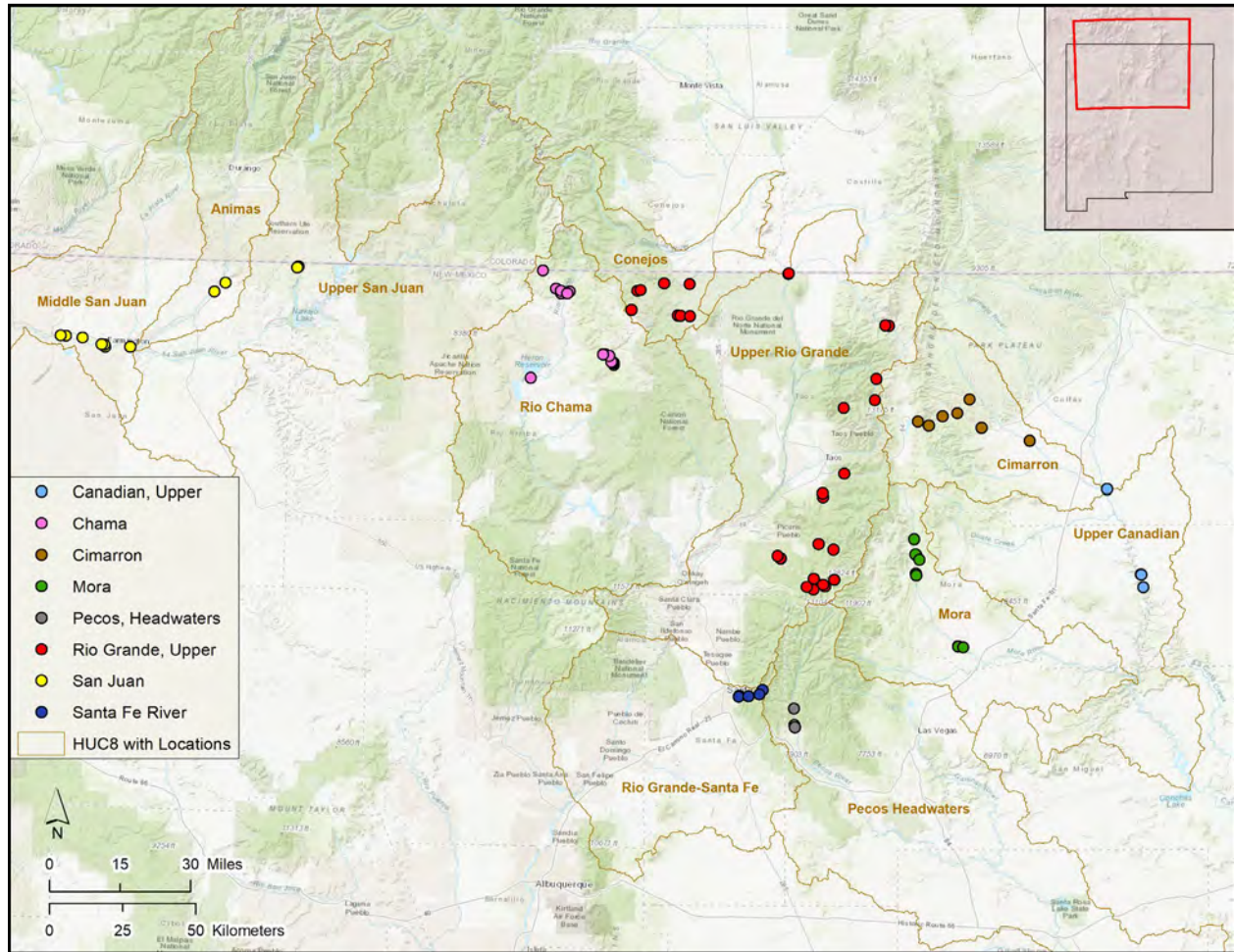
We deleted all photos that had no animals in them. We catalogued photos from the wildlife cameras, as well as site photos, by watershed and camera location (see Appendix E for location abbreviations).



## Results

### Number of HUC 8 units surveyed:

We conducted the survey within eleven (11) HUC-8 watershed units (*Figure 5*). We did not find suitable water in the Canadian Headwaters HUC unit in mid-August, so we did not deploy cameras there.



*Figure 5. Overview of 85 camera and five track-station locations in eleven (11) HUC-8 units across northern New Mexico (map by J. Smith, UNM Heritage Program).*

We set up 85 camera stations and five (5) track plates throughout northern New Mexico during the year.

In the greater Canadian River Watershed, we surveyed:

- Canadian River at Mills Canyon
- Cimarron River

- Ponil Creek
- Rio Mora/Mora River
- Coyote Creek

We surveyed the Upper Rio Grande at the Colorado border and in the following rivers and streams flowing west from the Sangre de Cristo Mountains to the Rio Grande:

- Rio Costilla/Costilla Creek
- Red River
- Rio Hondo
- Rio Fernando de Taos
- Rio Grande del Rancho
- Rio del Pueblo
- Rio Angostura
- Rio Santa Barbara
- Rio de las Trampas
- Upper Santa Fe River

We surveyed the following streams and rivers flowing from the San Antonio Mountain area east to the Conejos River and Upper Rio Grande:

- Rio de Los Pinos
- Beaver Creek
- Rio San Antonio
- Lagunitas Creek

For rivers flowing south from the Sangre de Cristo Mountains, we surveyed in:

- Pecos River

We surveyed along the Chama River near the Colorado border and near Heron Lake and in the following Chama River tributaries:

- Rio Chamita
- Rio Brazos
- Rio Encinado/Encinado Creek

In the San Juan River watershed, flowing west to the Colorado River, we surveyed the San Juan mainstem in and west of Farmington and in the following San Juan tributaries:

- Pine River
- Animas River

<b>Watershed unit name</b>	<b>Number of cameras</b>
Canadian, Upper	3
Cimarron	6
Mora	9
Conejos	8
Rio Grande, Upper	23
Rio Grande, Santa Fe	5
Chama	16
Pecos Headwaters	3
Upper San Juan	2
Middle San Juan	8
Animas	2
<i>Total</i>	<i>85</i>

Maps of the 85 camera locations by watershed are shown in Appendices F-M. The Mink Field Data Table, which includes location descriptions, habitat notes, and wildlife photographed, is Appendix N. The camera location codes (Appendix E) in the photo catalogue (Appendix O) match the location codes in our Mink Field Data Table (Appendix N) and the labels on our maps.

We made 159 visits to check and retrieve cameras in addition to the visits to set up cameras.

#### **Number of days that 85 cameras were deployed:**

Canadian Headwaters	0
Canadian, Upper	201
Cimarron	515
Mora	526



Conejos	243
Rio Grande, Upper	812
Rio Grande, Santa Fe	105
Chama	493
Pecos Headwaters	138
Upper San Juan	59
Middle San Juan	307
Animas	115
<i>Total</i>	<i>3,514</i>

**Number of days that five (5) track stations were deployed:**

Canadian Headwaters	0
Canadian, Upper	32
Cimarron	16
Mora	84
Conejos	0
Rio Grande, Upper	28
Rio Grande, Santa Fe	0
Chama	31
Pecos Headwaters	0
San Juan, Upper	0
San Juan, Middle	0
Animas	0
<i>Total</i>	<i>191</i>

We detected no mink on cameras or track plates, and we found no other evidence of their presence.

We did observe other mustelids on cameras (*Figures 6-8*) along the following rivers:

- Long-tailed weasels (*Neogale frenata*) — Cimarron, Rio Hondo, Rio de las Trampas, Santa Barbara, Lagunitas Creek, Beaver Creek, Encinado Creek, Rio Chamita
- Ermine (*Mustela erminea*) — East Fork Red River, Rio del Pueblo/Embudo, Encinado Creek
- Pacific marten — Santa Barbara, Lagunitas Creek

We detected no river otters (*Lontra canadensis*).



*Figure 6. Pacific marten (Martes caurina) in the Santa Barbara watershed, November 2021.*



*Figure 7: Pacific marten (Martes caurina) on Lagunitas Creek, June 2021.*



*Figure 8: Long-tailed weasel (Neogale frenata) with Mexican woodrat (Neotoma mexicana) in Cimarron Canyon, February 2021.*

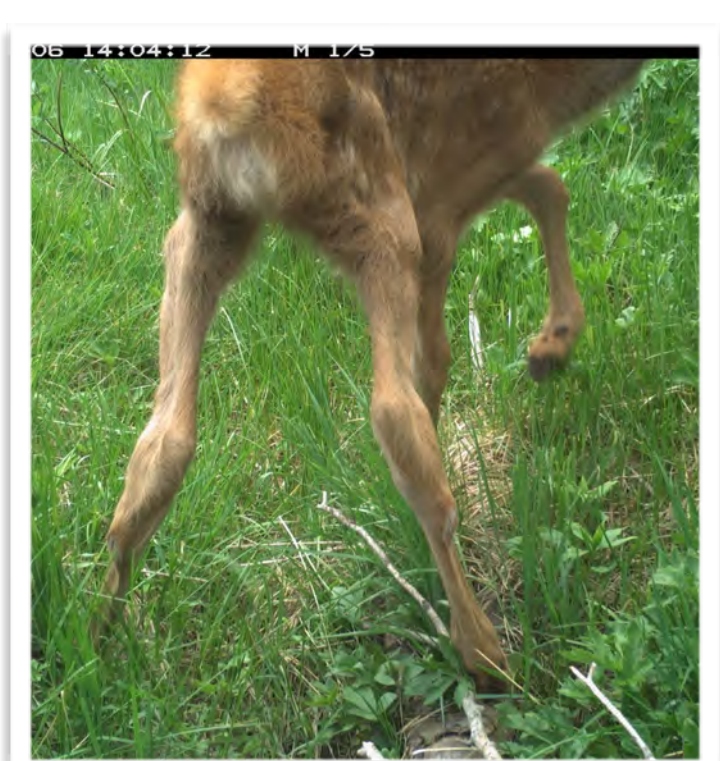


Other species and events of interest include (Figures 9-10):

- Red fox (*Vulpes vulpes*) — San Juan (5 sites), Animas (2 sites), Lagunitas Creek
- Albino raccoon (*Procyon lotor*) — San Juan
- Ringtail (*Bassariscus astutus*) — Animas, Canadian River/Mills Canyon, Cimarron, Rio de las Trampas
- Black-crowned night heron (*Nycticorax nycticorax*) — Rio de las Trampas
- Elk (*Cervus canadensis*) calf being born — Rio Chamita



Figure 9. Red fox (*Vulpes vulpes*) and albino raccoon (*Procyon lotor*) along San Juan River in October 2021. Ringtail (*Bassariscus astutus*) and black-crowned night heron (*Nycticorax nycticorax*) along Rio de las Trampas in December and May, 2021, respectively.



*Figure 10: Elk (Cervus canadensis) calf being born and taking its first steps, along Rio Chamita, June 2021.*



*Figure 11: Cat on the Animas River that had caught prey.*

Our track plates did not prove to be helpful. We set out five track plates from mid-January through early August for a total of 191 days. We recorded only two tracks in Cimarron Canyon; a bobcat (*Lynx rufus*) entered the station and swiped, but did not step on, the contact paper. Another track plate along the Rio Mora recorded a probable skunk track. We stopped using track plates in early August.

New Mexico's unrelenting spring winds also triggered cameras that we strapped to the base of willow clumps and the trunks of exposed trees. Herbaceous vegetation obscured our cameras relatively quickly in May and June. In spring and early summer, cameras should be checked every week or two (not left for a month at a time).

In the San Juan watershed, we detected very few rodents that would be mink prey species. In 481 days of camera coverage at eleven (11) sites, we documented only one rock squirrel (*Xerospermophilus spilosoma*), one Mexican woodrat (*Neotoma mexicana*), and one small rodent. We did photograph the largest rodent, beaver, in the San Juan watershed; two of the four that we photographed there may have been the same individual.

At one site along Coyote Creek (T-Cy-04) in the Canadian watershed, we photographed a diverse set of mammal species, including several different domestic/feral cats, over the course of four weeks, but only photographed one rodent.

We photographed only one muskrat, a favored mink prey species, in the Upper Rio Grande watershed, south of Taos.

Red fox (*Vulpes vulpes*) appear to be common in the San Juan watershed; they appeared frequently in seven different camera locations along the San Juan mainstem and Animas River.

We photographed many other species, from cougars (*Puma concolor*) to voles (*Microtus* spp.) and songbirds. We catalogued all mammal and bird species (see Appendix O for a sample showing how the photo catalog is organized). Rodents (*i.e.*, mink prey), especially Mexican woodrats, were the most frequently photographed species in most areas (but not the San Juan as mentioned above). They did not necessarily pay any attention to the lure itself; we may have simply invaded their territories. The cameras also documented the presence of many dogs and feral/domestic cats, as well as cattle and yaks. One cat on the Animas River had caught prey (*Figure 11*).

## **Discussion**

---

We detected no mink during our surveys. The fact that we detected no mink does not mean that there *are* no mink present in New Mexico. Low detection probability, rather than actual absence, could account for failure to document the presence of mink in northern New Mexico.

With respect to mustelids in general, we documented the presence of Pacific marten in two watersheds: the Conejos and Upper Rio Grande HUC 8 units. We photographed long-tailed weasels in four watersheds: the Chama, Cimarron, Conejos, and Upper Rio Grande HUC 8 units. We photographed ermine in two watersheds: the Chama and Upper Rio Grande HUC 8 units. We photographed no river otters.

It may be worth noting that an extensive marten study throughout the Pecos Wilderness in 2014 recorded only one photograph of a marten, at about that same location in the Upper Rio Grande as in this study (Long et al. 2015). This may suggest that, at least for marten, a wildlife camera with lure is an effective survey tool.



The fact that we did not detect mustelids that are riparian obligates – otters and mink – may suggest that New Mexico’s riparian systems have been more greatly disturbed than other habitats. This may corroborate other observations that beaver avoid areas where grazing has suppressed willows (Small et al. 2016), that mink avoid degraded reaches of streams (Armstrong 1972), and that riparian areas, especially those with meadows (*e.g.*, grass cover for mink prey species), is or has historically been severely impacted by grazing (Frey 2018).

We also did not observe many riparian areas where 1) perennial water would be ponded or otherwise deep, flowing, and accessible throughout the winter; and 2) grass cover was healthy enough to support abundant mink prey species. Nineteenth century elimination of beaver populations (deBuys 2015) likely accounts for much of the destruction of mink habitat/ponded water (*e.g.*, Canadian River, Rio Grande, Rio Santa Barbara, Rio de las Trampas, Pine River). Other extreme but “natural” events, *in combination with* human pressure, have eliminated beaver from waterways (Small *et al.* 2016). For instance, a severe flood in 1966 washed beaver out of the Rio de las Trampas (*pers. comm.* N. Montoya).

It is apparently contemporary hostility toward beaver (*i.e.*, the perception that beavers inevitably interfere with irrigation) that has prevented beaver from recolonizing the watershed. Forest thinning, prescribed burning, and associated removal of understory vegetation along six (6) miles of the Santa Fe River in the closed/reservoir portion of the watershed may also have impacted mink habitat; however, the riparian corridor remains brushy and/or grassy in the thinned area (*Figure 12*).

With respect to small-mammal populations, and the fact that we photographed few in the San Juan area, it may be worth noting that the San Juan area is low in elevation ( $\pm 5,000'$ ) relative to the rest of the region that we surveyed. It is also relatively warm and dry compared with the rest of northern New Mexico. Previous research has documented other small rodent populations shifting to higher elevations in other parts of the Southwest and has attributed this shift, in large part, to climate change (USGCRP 2018).

Long-term drought and reduced snow pack (USGCRP 2018, deBuys 2013, NMDGF 2016b) are likely to reduce water volumes and/or increase variability in delivery of precipitation (USGCRP 2018). This is expected to result in extremes of drought and floods in what have been perennial riparian systems (*e.g.*, Canadian River, Ponil Creek, Coyote Creek, Rio Mora, Beaver Creek/Rio San Antonio). One consequence would be loss of potential mink habitat.



*Figure 12: Riparian area along the Santa Fe River.*

We did not survey all of the potential habitat in New Mexico. Certain areas were not surveyed at all (*e.g.*, the middle Rio Grande Valley as far south as Bosque del Apache, which reportedly supported mink in the past).

We did not get permission from private landowners to survey some key areas, including but not limited to:

- along the Rio los Pinos (Conejos watershed)
- Black Willow Ranch on the Rio Mora near Watrous
- along the Navajo River at the Colorado border
- on tribal lands

## **Recommendations/Conclusions**

---

Future surveys using other techniques (*e.g.*, eDNA) may have greater sensitivity and/or cover larger areas (Sales *et al.* 2020). At this time, an eDNA marker for mink has not been developed.

The following public land areas have potentially good mink habitat (see Appendix N) and land managers who are, or may be, amenable to improving habitat and/or reintroducing mink:

- Pine River WMA, U.S. Bureau of Reclamation and NMDGF
- Rio Chama, Edward Sargent WMA, NMDGF
- Cimarron Canyon State Park, Colin Neblett WMA, NMDGF
- Upper Santa Fe River Watershed above Nichols Reservoir, Santa Fe National Forest including the Pecos Wilderness Area, City of Santa Fe
- Rio San Antonio, Stewart Meadows Wildlife Viewing Area, Carson National Forest
- Upper Red River, Carson National Forest
- Rio Costilla, Valle Vidal, Carson National Forest
- Rio Fernando de Taos in the Tienditas area, Carson National Forest

It is recommended to establish and maintain riparian grazing exclosures on public lands where mink habitat is otherwise promising (see habitat notes in Appendix N). Such areas include but are not limited to:

- Mills Canyon, Canadian River, Cibola National Forest
- Rio San Antonio at Stewart Meadows Wildlife Viewing Area, Carson National Forest
- Beaver Creek, Cruces Basin Wilderness Area, Carson National Forest

- Lagunitas Creek, Carson National Forest
- Rio Chamita, Edward Sargent WMA
- Rio Santa Barbara, Carson National Forest
- Pine River WMA (U.S. Bureau of Recreation manages the riparian corridor; NMDGF)

Consider creating ponded areas in perennial rivers and streams where mink habitat is otherwise promising. For instance, managers could encourage or reintroduce beaver with or without beaver deceivers or install beaver-dam analogs (Pollock et al. 2014). Public lands areas where this may be feasible and beneficial include many of the above-mentioned areas.

Many public and private land units warrant further examination for the presence of mink. Such public lands include but are not limited to:

- Cimarron Canyon State Park, Carson National Forest and NMDGF
- Rio Quemado above Truchas, Carson National Forest
- Upper Santa Fe watershed, Santa Fe National Forest and City of Santa Fe
- Rio Chama Wilderness Study Area and Chama River Canyon Wilderness north of the end of FR 151 and Christ In the Desert Monastery, Carson National Forest
- Rio de Los Pinos WMA, Carson National Forest and NMDGF
- Pine River WMA, U.S. Bureau of Reclamation and NMDGF

We could recommend private lands, pending further conversation with the owners.

# # #



## Appendix A — Table: Historic Mink Specimens and Records, New Mexico

Frey, J.K. In Press. American mink (*Neogale vison*). Chapter 24 in (J-L. Cartron and J.K. Frey, editors) *The Wild Carnivores of New Mexico*. University of New Mexico Press, Albuquerque, New Mexico, USA.

Records of the American mink ( <i>Neogale vison</i> ) in New Mexico <sup>1</sup> . This table is taken verbatim from Frey (In press).							
County	Locality	Date	Reference	Collector	Number of animals	Nature	Remarks
San Juan River Drainage							
San Juan	La Plata [La Plata River]	6 Apr 1892	AMNH MS-523/ MO-4114	Charles P. Rowley	1	specimen (skin, skull)	Allen (1893:83): "One specimen, La Plata, N. Mex. "Minks are quite plentiful on all the streams of this region, but I was only lucky enough to catch one, on the La Plata River" (Rowley, MS. notes)."
San Juan	Farmington	20-Nov-1908	USNM 158900	Clarence Birdseye	1	specimen (skull)	Bailey (1931:324-325): "In 1908 Clarence Birdseye reported minks as formerly common along the Animas and San Juan Rivers near Farmington but at that time rather scarce. One trapper reported the diminishing numbers of 20, 12, and 10 taken there during the three preceding winters."
San Juan	Animas Rivers near Farmington	1908	Bailey (1931)	Clarence Birdseye	na	na	Bailey (1931:324-325): "In 1908 Clarence Birdseye reported minks as formerly common along the Animas and San Juan Rivers near Farmington but at that time rather scarce. One trapper reported the diminishing numbers of 20, 12, and 10 taken there during the three preceding winters."
San Juan	San Juan River near Farmington	1908	Bailey (1931)	Clarence Birdseye	na	na	Bailey (1931:324-325): "In 1908 Clarence Birdseye reported minks as formerly common along the Animas and San Juan Rivers near Farmington but at that time rather scarce. One trapper reported the diminishing numbers of 20, 12, and 10 taken there during the three preceding winters."
San Juan	Liberty [San Juan River]	October 1908	Bailey (1931)	Vernon Bailey party	na	na	Bailey (1931:325): "A few were also reported at Liberty and Fruitland..." Liberty was a settlement located 17 miles west of Farmington, west of Waterflow, on the north bank of the San Juan River (Judyann 1998).
San Juan	Fruitland [San Juan River]	October 1908	Bailey (1931)	Vernon Bailey party	na	na	Bailey (1931:325): "A few were also reported at Liberty and Fruitland..."
San Juan	vicinity Chaco Canyon	< 1937	Brand (1937)		na	na	Brand (1937:48): "Among the carnivores occasionally seen in the Chaco area (and presumably more common in past time) are: ...mink ( <i>Lutreola vison enermenos</i> )..." This report probably pertains to the nearby San Juan River.
McKinley	Fort Wingate	probably 1884-1888	YPM 7646	Robert W. Shufeldt	1	specimen (skull)	Robert W. Shufeldt was stationed at Fort Wingate from 1884-1888 during which he collected specimens for his osteology collection in the Zuni Mountains and elsewhere in the region. All of his specimens in the Yale Peabody Museum were labeled "Fort Wingate" rather than the specific location from which they came, including a <i>Lepus callotis</i> , which is not known to occur near Fort Wingate. Thus, it is possible the mink specimen did not come from McKinley County.
Rio Grande Drainage							
Taos	Costilla River, 9,600 ft	24-Aug-1904	USNM 133631	James Hamilton Gaut	1	specimen (skin, skull)	Bailey (1931:324): "On August 24, 1904 an immature male was collected by Gaut at 9,600 feet altitude on Costilla River in the Sangre de Cristo Mountains, ..."
Taos	Costilla River, 9,400 ft	August 1904	Bailey (1931)	Vernon Bailey party	na	tracks observed	Bailey (1931:324): "At 9,400 feet [on the Costilla River] their tracks were seen in the mud around an old beaver house, and a family were evidently living in the beaver house, where they had well-worn entrances and trails." According to F. Bailey (1928) this location was 5 miles below the mouth of Comanche Creek.
Taos	Costilla River, 8,000 ft, near Costilla	August 1904	Bailey (1931)	Vernon Bailey party	na	tracks observed	Bailey (1931:324): "their tracks were common along this river [Costilla River] down to 8,000 feet near the town of Costilla in the Rio Grande Valley."
Rio Arriba	Brazos River	ca 1892	Coape (1893)	A.P.F. Coape	1	captured	Coape (1893:261): "The next day I shot eight grouse, a mink, and a coyote, rather a mixed bag."
Rio Arriba	Chama River		Berghofer (1967)		na	na	Berghofer (1967:189-190): "Through the 1940's the mink ( <i>Mustela vison</i> ), considered one of the most valuable furbearers, was common throughout the northern half of New Mexico and the Gila drainage, and plentiful in the Upper Rio Grande and Chama River drainage." Note-- there is no evidence that mink ever occurred in the Gila River drainage.
Rio Arriba	Velarde [Rio Grande]	25-Dec-1904	USNM 136273	C. C. Beattie	1	specimen (skull)	Bailey (1931:324): "The trappers along the Rio Grande above Santa Fe usually catch a few minks during the winter, and from one of these trappers during the winter of 1904-05 four skulls were obtained."
Rio Arriba	Velarde [Rio Grande]	2-Dec-1904	USNM 136274	C. C. Beattie	1	specimen (skull)	Bailey (1931:324): "The trappers along the Rio Grande above Santa Fe usually catch a few minks during the winter, and from one of these trappers during the winter of 1904-05 four skulls were obtained."
Rio Arriba	Velarde [Rio Grande]	6-Mar-1905	USNM 136276	C. C. Beattie	1	specimen (skull)	Bailey (1931:324): "The trappers along the Rio Grande above Santa Fe usually catch a few minks during the winter, and from one of these trappers during the winter of 1904-05 four skulls were obtained."
Rio Arriba	Alcalde [Rio Grande]	25-Feb-1905	USNM 136275	C. C. Beattie	1	specimen (skull)	Bailey (1931:324): "The trappers along the Rio Grande above Santa Fe usually catch a few minks during the winter, and from one of these trappers during the winter of 1904-05 four skulls were obtained."
Los Alamos / Sandoval	Rio Grande near El Rito de los Frijoles	<1914	Henderson and Harrington (1914)	Nathan Dowell	na	na	Henderson and Harrington (1914:23): "Mr. Dowell says mink occur along the Rio Grande near El Rito de los Frijoles."
Santa Fe	Santa Fe Canyon	22-Feb-1905	KU 1454	L.L. Dyche	1	specimen (skin, skull)	
Valencia	Rio Grande river at Los Lunas; T7N, R2E	15-Mar-1919	MSB 15072	James Stokely Ligon	1	specimen (skull)	
Socorro	Socorro [Rio Grande]	<1927	Ligon (1927)		na	na	Ligon (1927:156): "Mink are not common in New Mexico, their habit being the Rio Grande Valleys far south as Socorro and along watercourses in the Sangre de Cristo Range."
Socorro	near San Antonio [Rio Grande]	Sept 1991-May 1992	Thompson et al. (1992)	Damien Miller	1	observation	Thompson et al. (1992:49): "One road kill/observation survey respondent reported a mink sighting near San Antonio, Socorro county (Appendix L)." Thompson et al. (1992:Appendix L page 8: tabular entry): Species (total observed): "mink"; County: "Socorro"; Observer: "Miller, Damien NMSU"

(continued on the following page)

(continued from the previous page)

## Appendix A — Table: Historic Mink Specimens and Records, New Mexico

— Frey, J.K. In Press

Pecos River Drainage							
San Miguel	Pecos River Mountains, 8,000 ft	Jul-Aug 1903	Bailey (1931)	Vernon Bailey party	na	tracks observed	Bailey (1931:324): "In the Pecos River Mountains a few mink tracks were seen along the river at 8,000 feet, and a skin was seen hanging in one of the houses at Willis [=Cowles] on the upper Pecos at 8,500 feet"
San Miguel	trout streams of the upper Pecos, 8,600 ft	Jul-Aug 1903	Bailey (1931)	Vernon Bailey party	na	na	Bailey (1931:324): "In the Pecos River Mountains . . . Others were reported at 8,600 feet along the trout streams of the upper Pecos, but they were by no means common at that time, July and August, 1903."
San Miguel	Rio Mora [near junction Bear Creek, ca 8,200 ft elevation], Santa Fe National Forest: T18N, R12E, NE1/4 Sec. 14	summer 1995	Schmitt (2001)	confidential	1	observation	Schmitt (2001:1): "A single mink was observed running along the left bank (i.e., looking downstream of Rio Mora) of Rio Mora. [The observer] noticed the "undulations" in its back as it was running along bank of Rio Mora. Was seen ca 10 seconds in the early afternoon ca 1400 to 1600h from a distance of ca 25ft. The specimen was ca 18 inches in total length. Pelage coloration was described as dark brown."
San Miguel	Las Vegas [Gallinas River watershed]	< 1903	Stone and Rhen (1903)	Marshall Robbins	1	specimen (skin)	Stone and Rhen (1903:25): "A skin of a mink collected at Las Vegas, San Miguel county, N.M., by Marshall Robbins, was submitted by Prof. Cockerell." The Academy of Natural Sciences of Philadelphia does not have a record of mink from New Mexico in their catalog or in the collection (Ned Gilmore, pers. comm.).
DeBaca	Pecos River, near Fort Sumner	ca 1866	Clifford (1871, 1877)	Josephine Clifford	1	captured	Clifford (1871:66-67; 1877:134-135): "But my mink, Max, was a dear little pet. He was given me by a soldier at Fort Union, and had been captured on the Pecos River, near Fort Sumner. He was of a solid, dark-brown color, and the texture of his coat made it clear at once why a set of mink-furs is so highly prized by the ladies."
Canadian River Drainage							
Colfax	Cimarron Canyon, on US 64 about 1/4 miles west of Clear Creek	1 April 1987	Hubbard (1987)	confidential	2	photographed	Hubbard (1987:1): "[A state park ranger] . . . found two recently-dead mink ( <i>Mustela vison</i> ) in Cimarron Canyon, Colfax County, on April 1, 1987. The exact locality was along US 64, about 1/4 mile west of Clear Creek—between Ute Park and Eagle Nest. The two were found side-by-side at about 9:30 a.m., probably having been killed by a vehicle the previous night. [The collector] noted the carcasses when crows flushed from beside the highway. There was some damage to the carcasses, but both animals were sexable as males. They are now fluid specimens at the Museum of Southwestern Biology, University of New Mexico, Albuquerque, NM. Note: The Museum of Southwestern Biology has no record of these specimens.
Colfax	southwestern Colfax County	1938	Hill (1942)	John Eric Hill party	na	na	Hill (1942:78): "Mink occur in this area and have been trapped; but none was secured by the expedition."
Mora	Mora River, Watrous	Dec 1966	Yarbrough and Studier (1968)	Walton H. Bledsoe	5	captured	Yarbrough and Studier (1968: 105): "During the past winter (1966-1967), a commercial trapper, Walton H. Bledsoe, captured nine adult male mink, <i>Mustela vison</i> , near Watrous, N.M. The distribution of captures and localities are as follows—five in December, 1966, Mora River, Watrous, Mora Co., N.M.; two in January, 1967, 3 1/2 mi E of Watrous, Mora Co., N.M.; and, two in March, 1967, at the same locality. Of the nine mink, only the skulls of the last two were retrieved. These have been deposited in the Mus. of Southw. Biol. UNM (Nos. 24807, 24808)."
Mora	Mora River, 3.5 mi E Watrous	Jan 1967	Yarbrough and Studier (1968)	Walton H. Bledsoe	2	captured	Yarbrough and Studier (1968: 105): "During the past winter (1966-1967), a commercial trapper, Walton H. Bledsoe, captured nine adult male mink, <i>Mustela vison</i> , near Watrous, N.M. The distribution of captures and localities are as follows—five in December, 1966, Mora River, Watrous, Mora Co., N.M.; two in January, 1967, 3 1/2 mi E of Watrous, Mora Co., N.M.; and, two in March, 1967, at the same locality. Of the nine mink, only the skulls of the last two were retrieved. These have been deposited in the Mus. of Southw. Biol. UNM (Nos. 24807, 24808)."
Mora	Mora River, 3.5 mi E Watrous	Mar 1967	MSB 24807, 24808	E. H. Studier (Walton H. Bledsoe)	2	specimen (skull)	Yarbrough and Studier (1968: 105): "During the past winter (1966-1967), a commercial trapper, Walton H. Bledsoe, captured nine adult male mink, <i>Mustela vison</i> , near Watrous, N.M. The distribution of captures and localities are as follows—five in December, 1966, Mora River, Watrous, Mora Co., N.M.; two in January, 1967, 3 1/2 mi E of Watrous, Mora Co., N.M.; and, two in March, 1967, at the same locality. Of the nine mink, only the skulls of the last two were retrieved. These have been deposited in the Mus. of Southw. Biol. UNM (Nos. 24807, 24808)." MSB records reported collector as E.H. Studier, date 7 June 1967, and location "Mora River, 3.5 mi E Watrous".
<sup>1</sup> Excluded from the table are two specimens in the Museum of Southwestern Biology (MSB 7623, 7844) that were cataloged as from Santa Fe (Santa Fe County), but actually were ranched mink donated to the museum by William Huey. Also excluded are pre-Columbian records: a partial dentary of Wisconsin/early Holocene age from Isleta Cave No. 2 (Bernalillo County) identified by Elaine Anderson (Harris 1993); two specimens from Arroyo Hondo Pueblo (Santa Fe County; located along a tributary of the Santa Fe River ca 7 km S Santa Fe) that date to 1315-1330 and 1410-1425 (Lang and Harris 1984); and a ramus (AMNH M-249736) found in 1896 by B.T. Hyde at Pueblo Bonito Ruin in Chaco Canyon (San Juan County).							

## Appendix B — Table: Historic Mink Specimens and Records, New Mexico and Southern Colorado

— compiled by Jon Klingel  
as a basis for Map (Appendix C)

Year	Latitude	Longitude	County	River	Approx. Precision (km)	Specimen "S" or Reported "R"	Reference	Note / Comment
1880	35.6859	-105.8949	Santa Fe, NM	Santa Fe	5	S	VertNet.org	Skin and skull at KU KUM #1454. Recorded by Dyche. Santa Fe County, Santa Fe Canyon [Note: "Santa Fe Canyon Preserve" in a later note, "Preserve" may have been added later?]
1892	36.93	-108.19	San Juan, NM	San Juan / La Plata	5	S	Allen 1893 in Findley et al. 1975, VertNet.org	Collector Charles P. Rowley, 6 Apr. 1892, La Plata, NM. One specimen – skin and skull at AMNH #MO-4114.
1893	36.93	-108.19	San Juan, NM	San Juan / La Plata	5	R	Allen 1893 in Bailey 1931-1932	Rowley reported them quite plentiful in streams near La Plata, NM.
1903	35.83	-105.64	San Miguel, NM	Pecos	5	R	Bailey 1931-1932	Willis, NM [Cowles] on upper Pecos River at 8,500' elevation. Saw skin on house; not common. Saw tracks down to 8,000' [near confluence of Pecos and Mora rivers].
1903	35.57	-105.21	San Miguel, NM	Canadian / Mora / Gallina?	15	R	Stone and Rehn 1903 in Findley et al. 1975, Frey in press	Las Vegas, NM, specimen reported but apparently lost.
1904	36.16	-105.98	Rio Arriba, NM	Rio Grande	5	S	Bailey 1931-1932, Findley et al. 1975, VertNet.org	Trapper: C. C. Beattie, Velarde, NM, winter 1904-1905. Three specimens, skulls, at USNM #136273, 13627, and 136276.
1904	36.93	-105.25	Taos, NM	Rio Grande / Costilla	5	S	Bailey 1931-1932, Findley et al. 1975, VertNet.org	Costilla River, one specimen at USNM #133631. Collected by Gaut 9,600' elevation. [JK note: 9,600' is on Vermejo Park Ranch, above Costilla Reservoir.] Tracks were common; beaver present. Tracks observed down to 8,000' near Costilla, NM.
1905	36.09	-106.07	Rio Arriba, NM	Rio Grande	5	S	Bailey 1931-1932, Findley et al. 1975, VertNet.org	Collector C. C. Beattie, 25 Feb. 1905. Alcalde, NM. One specimen, skull, at USNM #136275.
1908	36.73	-108.4	San Juan, NM	San Juan	5	R	Bailey 1931-1932	A few mink were reported at Liberty and Fruitland.
1908	36.71	-108.22	San Juan, NM	San Juan and Animas	5	S	Bailey 1931-1932, Findley et al. 1975, VertNet.org	Clarence Birdseye reported mink as formerly common along Animas and San Juan rivers near Farmington but rather rare by 1908. Trapper reported taking 20, 12, and 10 during preceding winters. Specimen skull at USNM #158900.
1919	34.8	-106.72	Valencia, NM	Rio Grande	5	S	Findley et al. 1975, VertNet.org	Los Lunas, NM. One specimen at MSB #15072. Collector James Stokely Ligon. The Vertnet record states, "J.S. Ligon data questionable."
1938	36.5	-105	Colfax, NM	Canadian and tributaries	15	R	Hill 1942 in Findley et al. 1975, Frey in press	SW Colfax county: "Mink occur in this area and have been trapped but none were secured by the Hill party."
~1938	36.76	-108.13	San Juan, NM	Animas / San Juan	1	R	pers. comm., Greg Schmitt to M. Peale, October 2021	Greg's father (born in 1923) trapped mink here (NE Farmington, in the wetlands northeast of Rt. 516 and Gila Street) when he was in high school in Kirtland, NM.
1966-67	35.8	-104.98	Mora, NM	Mora / Canadian	1	R	Yarbrough and Studier 1968, Frey in press	Fur Trapper Walton H. Bledsoe trapped five mink Dec. 1966 at Watrous, NM. Trapped a total of nine mink in winter 1966-1967. See 1967 record.
1967	35.81	-104.92	Mora, NM	Mora / Canadian	1	S	Yarbrough and Studier 1968 in Findley et al. 1975, VertNet.org, Frey in press	Fur Trapper Walton H. Bledsoe, March 1967. 3.5 miles east of Watrous. Two skulls at MSB #324807 and 324808. Also reported two more taken at same locality in January (no specimens).

(continued on the following page)

(continued from the previous page)

## Appendix B — Table: Historic Mink Specimens and Records, New Mexico and Southern Colorado

— compiled by Jon Klingel  
as a basis for Map (Appendix C)

Year	Latitude	Longitude	County	River	Approx. Precision (km)	Specimen "S" or Reported "R"	Reference	Note / Comment
1987	36.53	-105.17	Colfax, NM	Cimarron / Canadian	1	S	NMDGF memo to Bruce Morrison, NMDGF from John P. Hubbard, NMDGF. June 12, 1987; VertNet.org	Collector Mr. Richard Grothe, State Park Ranger, found two dead male mink on highway US 64 in Cimarron Canyon, about 1/4 mile west of Clear Creek. They were prepared as fluid specimens at Museum of Southwestern Biology (MSB). [JK Note: Specimens lost]
1991	33.92	-106.85	Socorro, NM	Rio Grande	5	R	Thompson et al. 1992 in BISON-M	Damien Miller reported seeing a mink near San Antonio, NM.
1995	35.79	-105.65	San Miguel, NM	Mora / Canadian	1	R	NMDGF memo to file by Greg Schmitt, NMDGF. July 26, 2001	Sighting reported by Nick Medley, NMDGF along Rio Mora, Santa Fe National Forest (T18N R12E NE1/4 S14). Summer 1995. Also comments about other people who claim to have seen mink in NM.
?	37.22	-108.34	Montezuma, CO	Mancos River / San Juan	5	R	Anderson 1961 in Armstrong 1972	Mancos and Weber Canyons, Mesa Verde National Park, sight record.
1907	37.5	-107.43	La Plata, CO	Los Pinos / San Juan	20	R	Cary 1911 in Armstrong 1972	Saw two skins from upper Los Pinos River hanging in a store in Bayfield, CO.
1916	37.22	-106.47	Conejos, CO	Conejos / Rio Grande	5	S	Armstrong 1972, VertNet.org	Skin and skull, recorded by J. Knight. Conejos River near South Fork. Two specimens at USNM #224506. [Note: Apparently near confluence with South Fork of Conejos River, as the town of South Fork, CO is not near the Conejos River.]
1907	37.52	-105.01	Huerfano, CO	Cucharas / Arkansas	1	R	Cary 1911 in Armstrong 1972	Cucharas River at La Veta
1908	37.27	-107	Archuleta, CO	San Juan	1	S	Cary 1911 in Armstrong 1972, VertNet.org	Skin and skull at USNM #159430 recorded by M. Green from Pagosa Springs
1960	37.41	-107.18	Archuleta, CO	Gordon Creek / Piedra River / San Juan	1	S	VertNet.org	Right dentary only at MSB #11002. Collector: Arthur H. Harris. Location: Gordon Creek near confluence with Piedra River
Fossil	34.88	-106.88	Bernalillo, NM	Rio Grande	1	S (Fossil)	VertNet.org	Isleta Cave #2. Fossil found in 1946. Collector: UNM. Rio Grande drainage (T8N R1E N1/2 S31). Earliest epoch of Pleistocene. Specimen catalog #UTEP:ES:46-143.1.
1896	36.65	-108	San Juan, NM	?	1	S (archaeological)	VertNet.org	One specimen, ramus, from Chaco Canyon, Pueblo Bonito archeological site at AMNH #M-249736. Collector B.T. Hyde.

### NOTES:

**See also:** Frey, J.K. In press. American mink (*Neogale vison*). Chapter 24 in J. L. Cartron and J. K. Frey (Editors). *Wild Carnivores of New Mexico*. University of New Mexico Press, Albuquerque, New Mexico, USA.

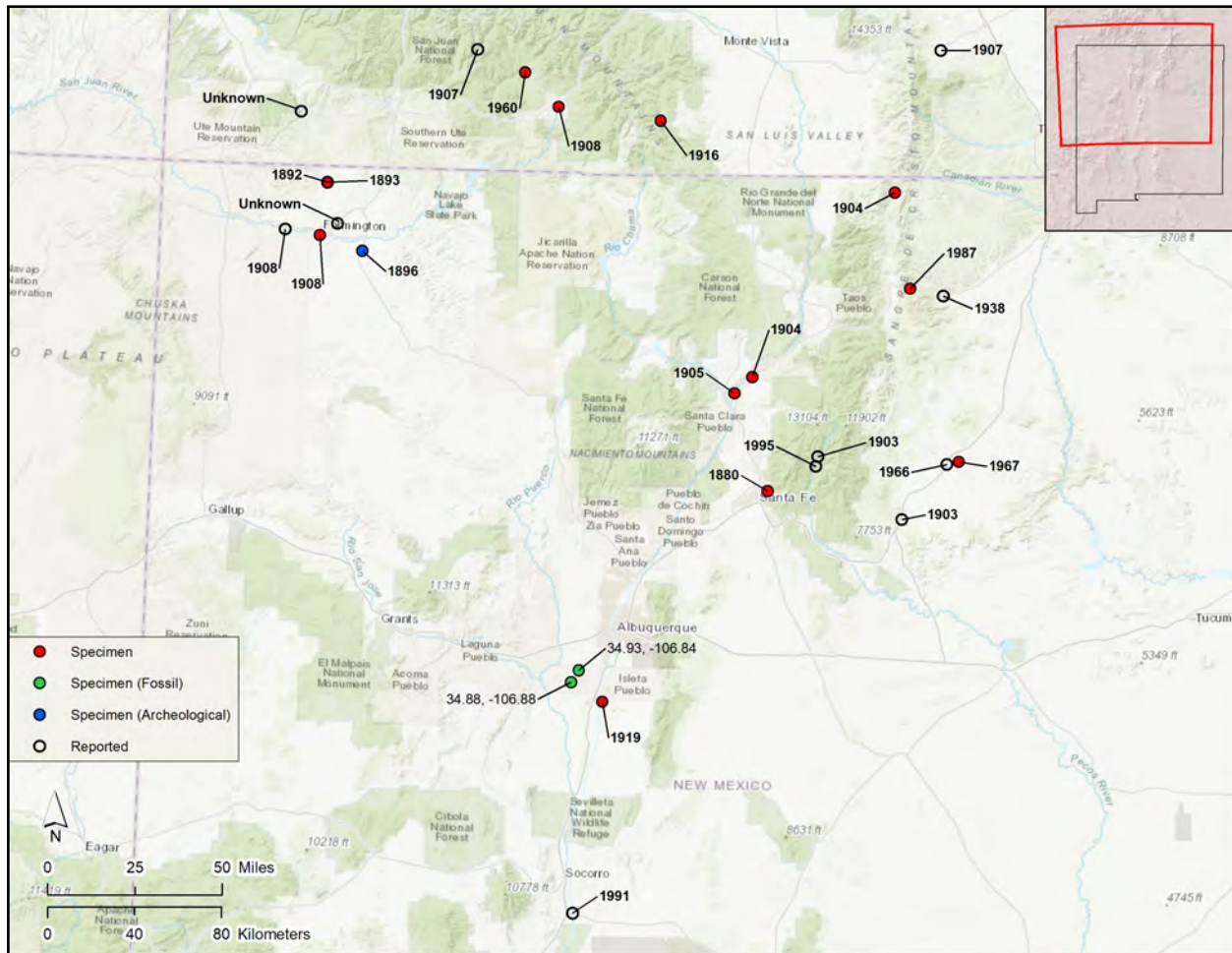
**Abbreviations:** USNM: National Museum of Natural History; AMNH: American Museum of Natural History; KU: Kansas University; MSB: Museum of Southwestern Biology, University of New Mexico; UNM: University of New Mexico; UTEP: University of Texas at El Paso.

**Approximate Precision** is a rough estimate based on the information available with the specimen record or published paper.



## Appendix C — Map: Historic Mink Specimens and Records, New Mexico and Southern Colorado

— created by Jackie Smith,  
Natural Heritage New Mexico, UNM  
from approximate locations compiled by J. Klingel, 2021 (Appendix B)



# WANTED



Pedreijnders/Wikipedia Commons

## AMERICAN MINK

**AMERICAN MINK** are extremely rare – or no longer exist – in New Mexico. Have you ever seen one here?

Mink live near open water. They are chocolate-brown with a white patch on the chin, throat and/or chest. An adult's body is 12-18" long. The bushy tail about half again as long.

Mink are closely related to weasels and otters. They're about the same size as a weasel but much darker all over. Mink are about 1/4 the size of an otter. An otter's tail is tapered; its muzzle/nose is broad; and its chin, neck and chest are grayer than its body. A young otter, closer to the size of an adult mink, would be with other otters, whereas mink are usually solitary.

If you may have seen a mink, please contact Brian Long (575/770-8399, [brianjaylong@gmail.com](mailto:brianjaylong@gmail.com)) with the location, date and time and, if possible, a photograph.

## LONG-TAILED WEASEL



Wikipedia Commons

## RIVER OTTER



Wikipedia Commons

## **Appendix E — River and Stream Abbreviations for Maps, Field Data Spreadsheet, and Photo Catalogue**

### Upper Canadian River (11080003)

R-CaU Upper Canadian River mainstem

### Cimarron River (11080002)

R-Cm Cimarron River mainstem

T-Pn Ponil Creek

### Mora River (11080004)

R-Mo Mora River mainstem

T-Cy Coyote Creek

### Conejos (13010005)

T-An Rio San Antonio

T-Lg Lagunitas Creek

T-Pg Rio del Los Pinos (“g” for Grande – not Los Pinos/Pine River/San Juan)

T-Bv Beaver Creek

### Upper Rio Grande (13020101)

R-GrU Upper Rio Grande mainstem

T-Cs Costilla Creek

T-Rd Red River

T-Rn Rio Grande del Rancho

T-Hd Rio Hondo

T-Pp Rio del Pueblo (Sipapu area; “p” for Picuris – not Taos)

T-Pt Rio del Pueblo (“t” for Taos, not Picuris)

T-Fn Rio Fernando de Taos

T-Ag Angostura/Serpent Lake

### Rio Grande Santa Fe (13020201)

T-Sf Santa Fe River

### Rio Chama (13020102)

R-Ch Rio Chama mainstem

T-Bz Rio Brazos

T-En Rio Encinado

T-Ch Rio Chamita

### River Headwaters (13060001)

R-PeH Pecos River Headwaters

### Upper San Juan (14080101)

T-Pj Los Pinos/Pine River (“j” for Juan – not Rio de Los Pinos/Rio Grande)

### Middle San Juan (14080105)

R-Sj Middle San Juan mainstem

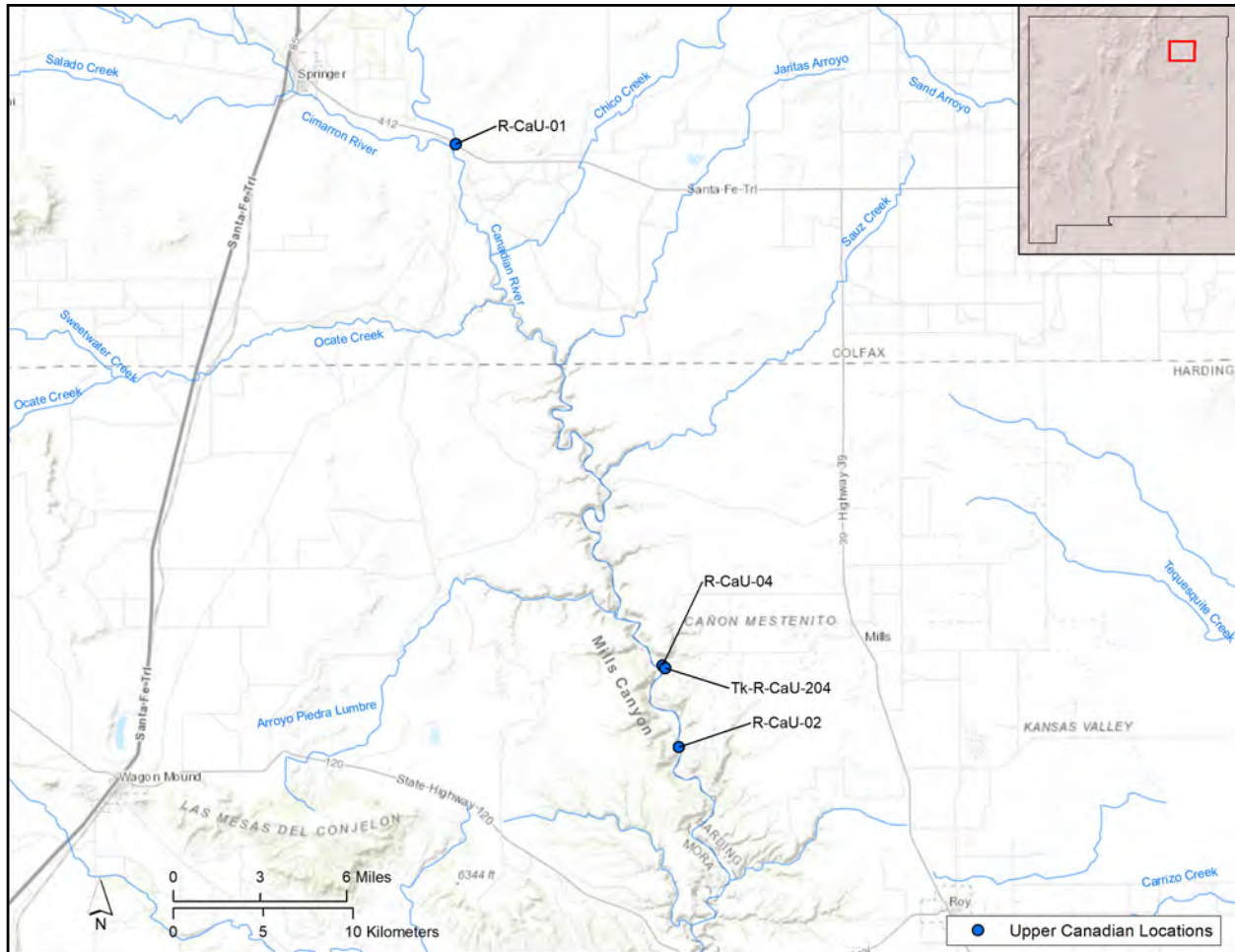
### Animas River (14080104)

R-As Animas River mainstem



## Appendix F — Map: Camera and Track Station Locations Along the Canadian River (Upper Canadian HUC 8)

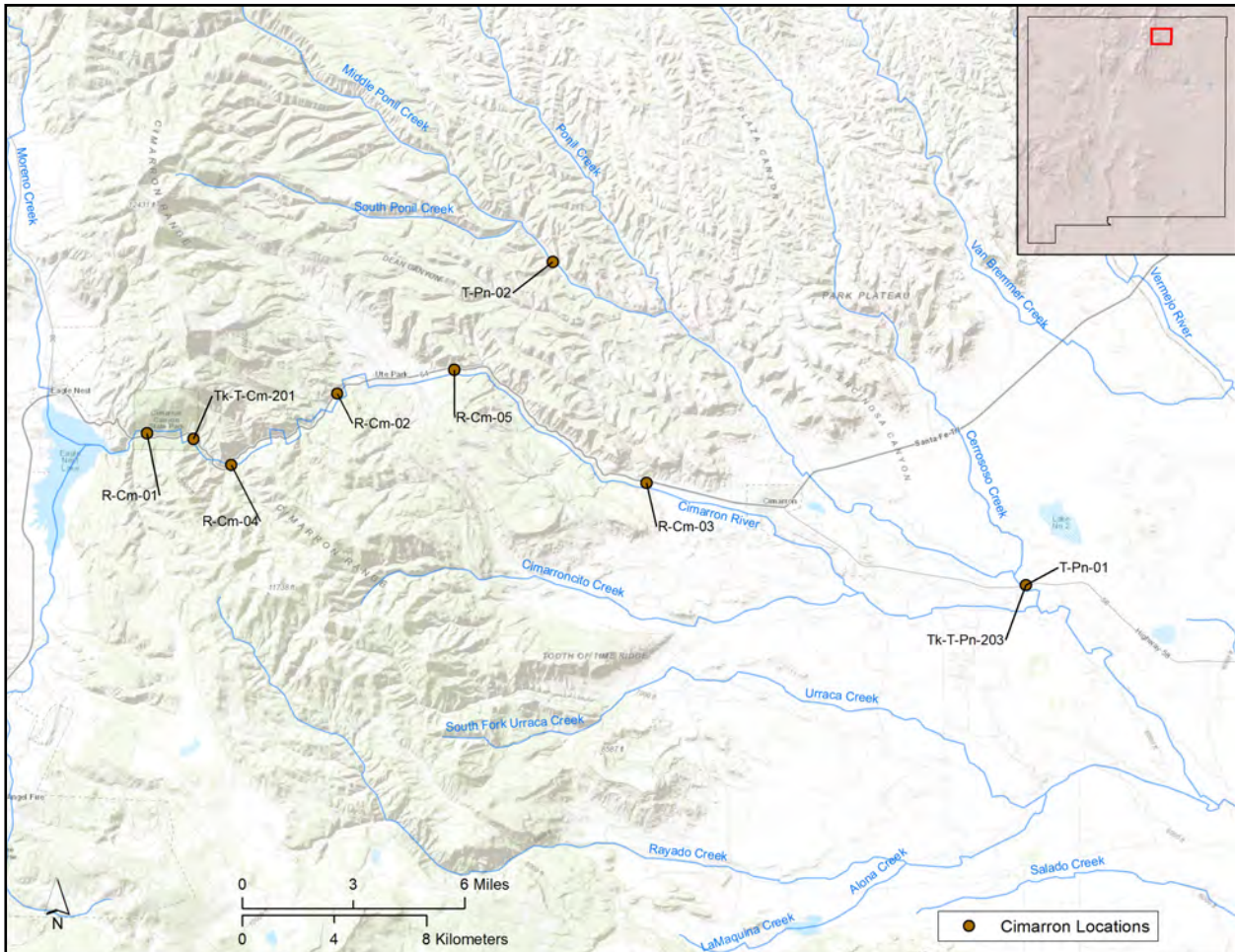
— created by Jackie Smith,  
Natural Heritage New Mexico, UNM





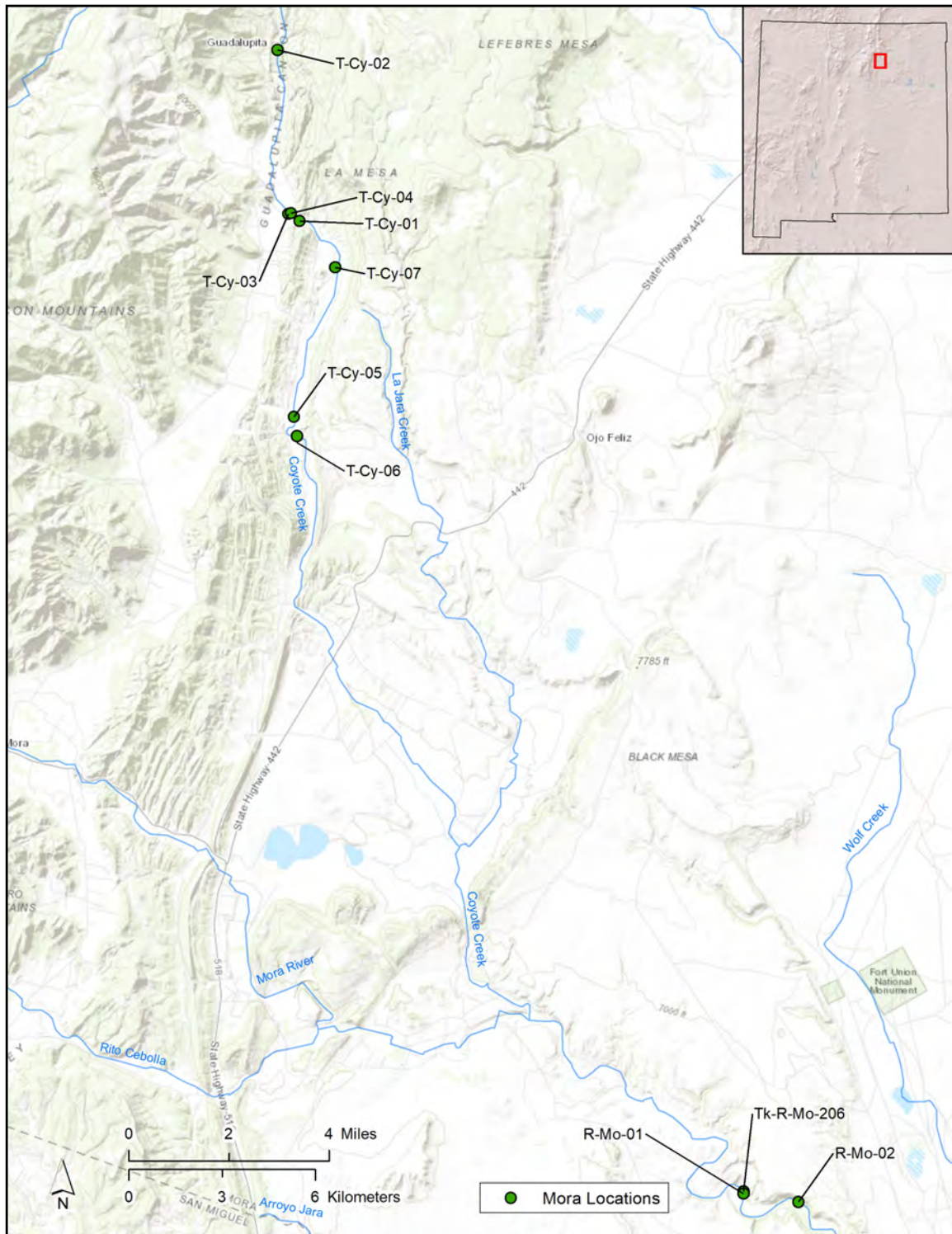
## Appendix G — Map: Camera and Track Station Locations in the Cimarron Watershed (Cimarron HUC 8)

— created by Jackie Smith,  
Natural Heritage New Mexico, UNM



## Appendix H — Map: Camera and Track Station Locations in the Mora Watershed (Upper Canadian HUC 8)

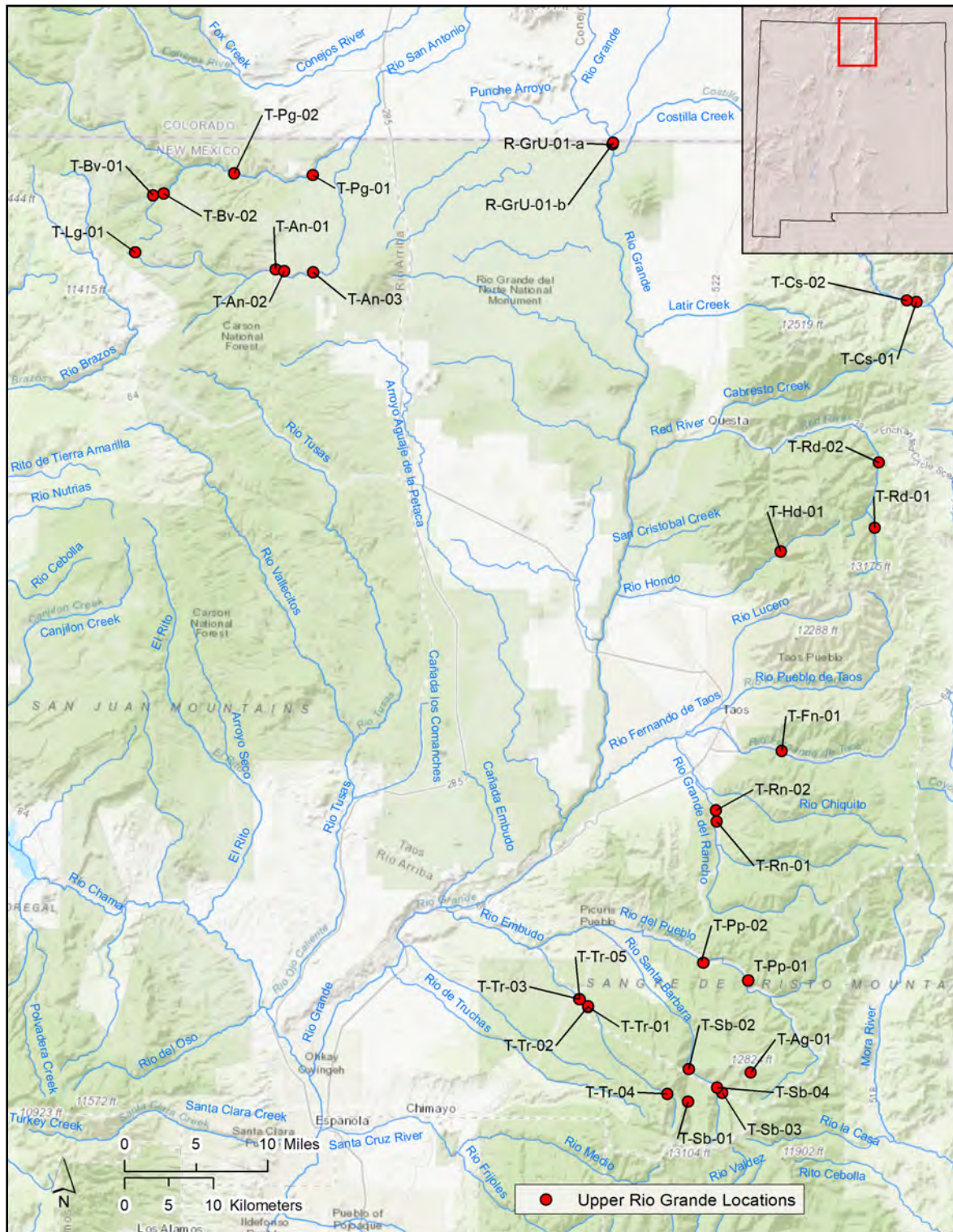
— created by Jackie Smith,  
Natural Heritage New Mexico, UNM





# **Appendix I — Map: Camera Locations in the Upper Rio Grande Watershed (including the Upper Rio Grande and Conejos HUC 8 Units)**

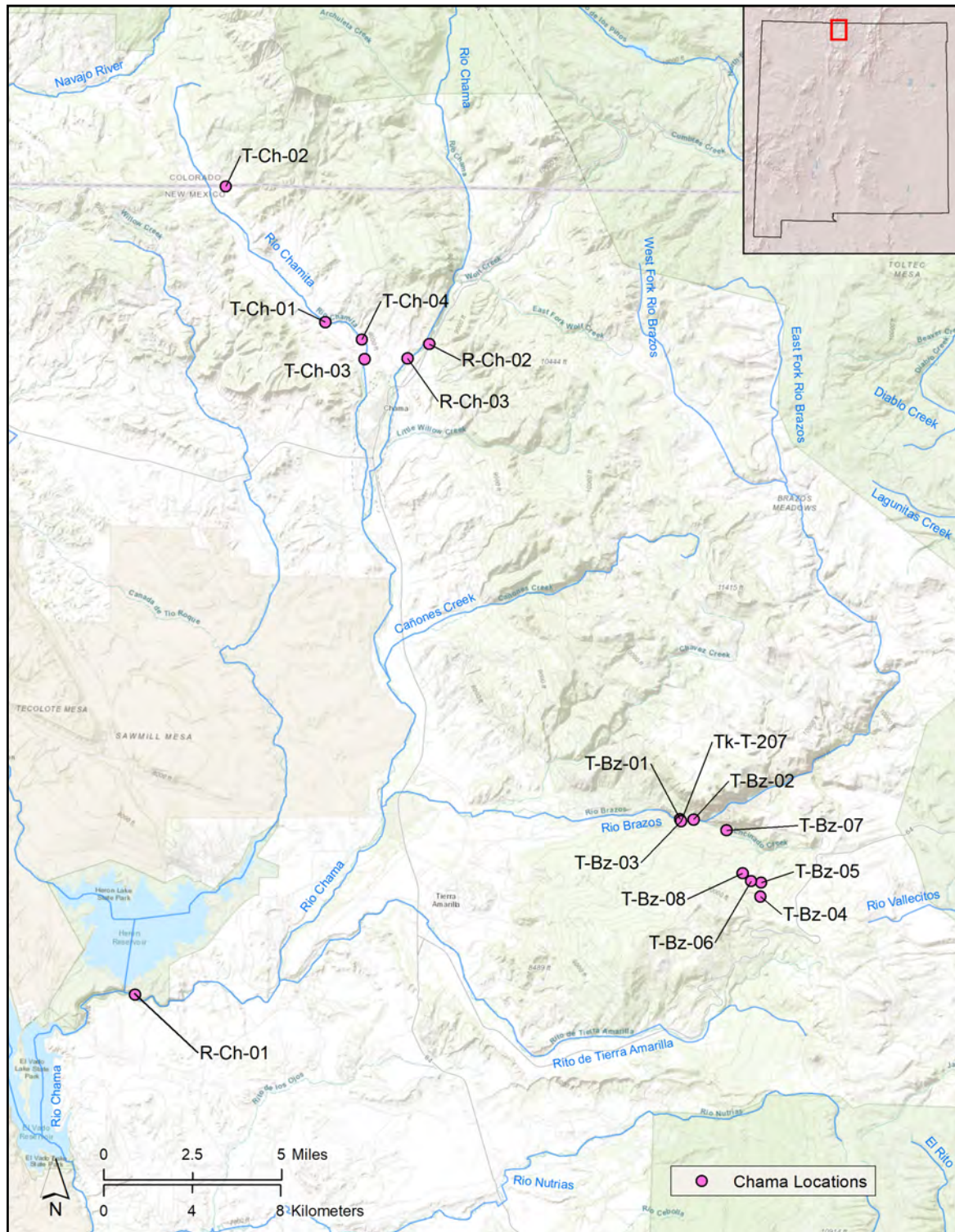
— created by Jackie Smith,  
Natural Heritage New Mexico, UNM





## Appendix J — Map: Camera and Track Station Locations in the Chama Watershed

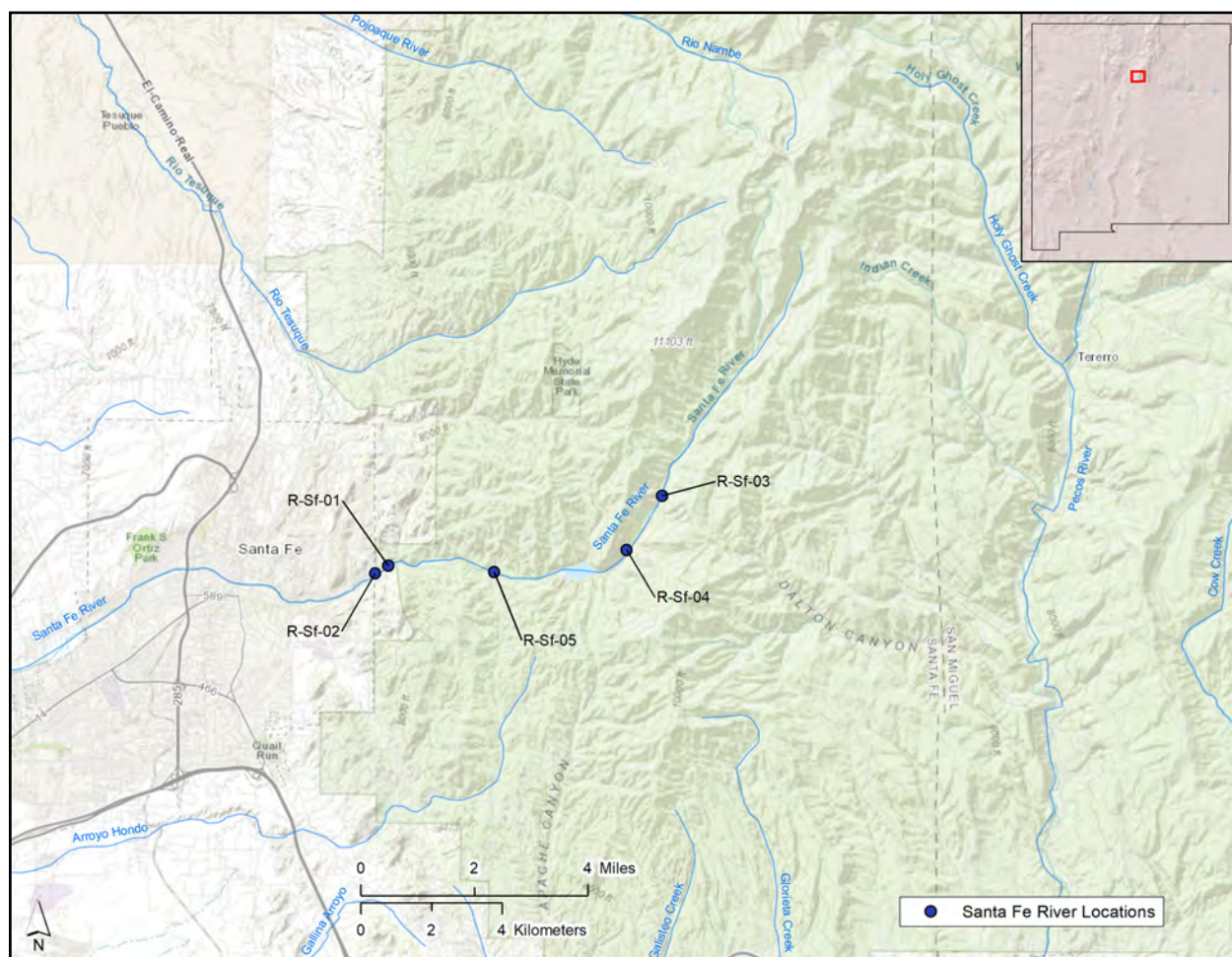
— created by Jackie Smith,  
Natural Heritage New Mexico, UNM





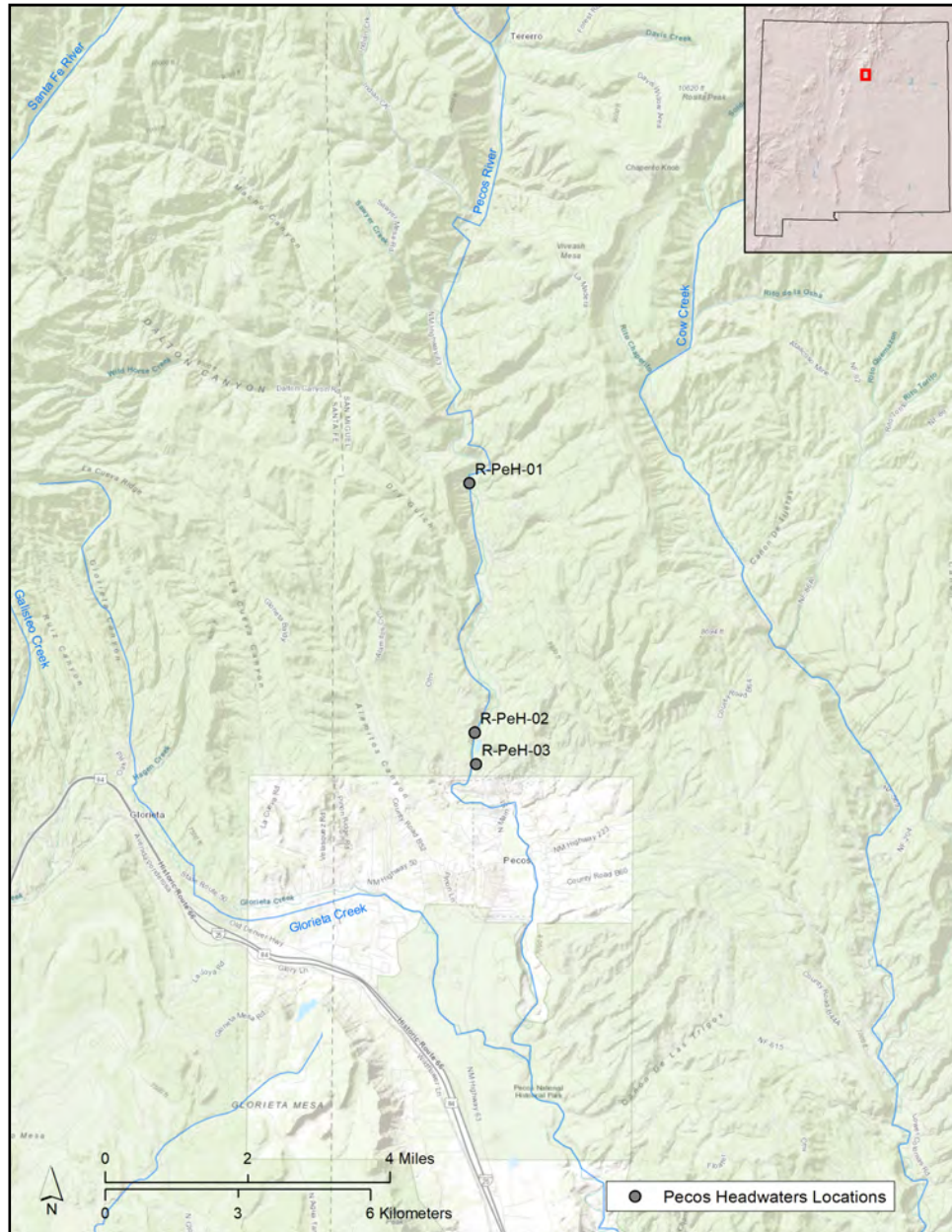
## Appendix K — Map: Camera Locations Along the Upper Santa Fe River (Rio Grande/Santa Fe HUC 8)

— created by Jackie Smith,  
Natural Heritage New Mexico, UNM



## Appendix L — Map: Camera Locations in the Pecos Headwaters

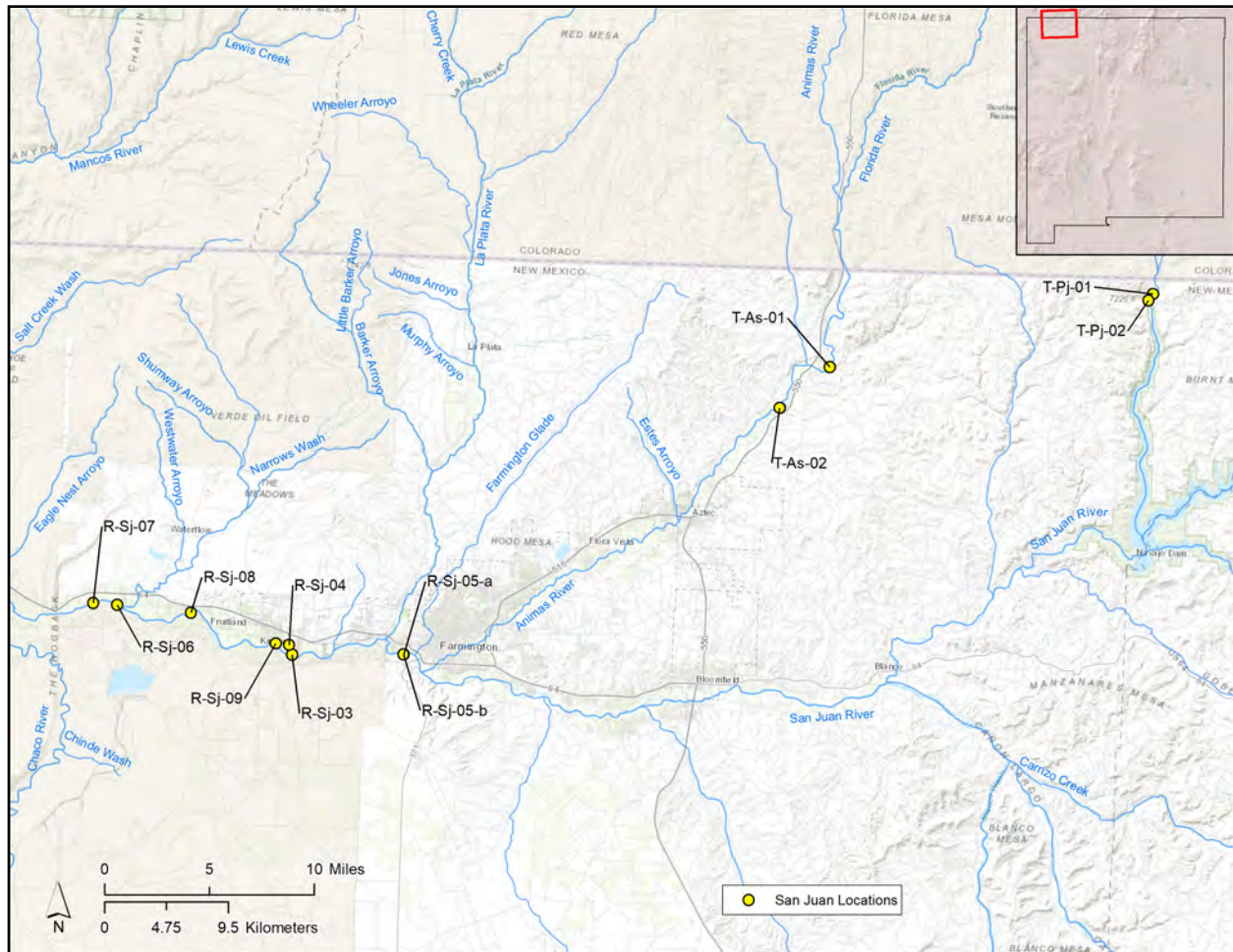
— created by Jackie Smith,  
Natural Heritage New Mexico, UNM





## Appendix M — Map: Camera Locations in the San Juan Watershed (including the Upper San Juan, Middle San Juan, and Animas HUC 8 Units)

— created by Jackie Smith,  
Natural Heritage New Mexico, UNM



Appendix N- Mink Field Data Table (observations of interest shown in bold)

Watershed Unit, Site #	HUC 8	County	Location Code	Location/Ownership	Elevation	Start Date	End Date	Days deployed	Beaver Pond or Perennial Open Water	Habitat Quality	Species and Activity Photographed	Mammal photos and tracks	Camera #
<b>Canadian Headwaters</b>	11080001												
<b>Canadian, Upper</b>	11080003	Various											
<b>1</b>		Colfax	R-CaU-01	Canadian River, Highway	—	02/07/21	04/27/21	80	Yes	Good: Grassy, thick willow (mostly dead stems), tamarisk, but human access/fishing activity, uplands grazed	2/7-26: Raccoon, coyote, song sparrow; 110 photos. 2/26-3/30: Cottontail, rodents, bobcat, deer, junco; 3,966 photos. 3/30-4/27: Cottontail, rodent, gopher, mangey coyote who stole the lure (4/13); dog; turkey, robin, magpie, wren; 3,546 photos. Observed: Old bank den, great-horned owl and nest under bridge; raccoon, (feral?) cat, Canada goose tracks.	Raccoon, coyote, cottontail, rodent, bobcat, deer, gopher, dog	18081
<b>2</b>		Harding	R-CaU-02	Canadian River, Mills Canyon, Cibola National Forest	—	02/25/21	04/26/21	61	No	Fair: Remote, beaver (abandoned, disturbed by restoration activity), no cattle, but flows are no longer perennial	2/25-3/29: Gray fox, woodrat; robin, sparrow, juncos, spotted towhee; 621 photos. 3/29-4/26: Gray fox, ringtail, rodents: spotted towhee, sparrow, finch? Lure stick gone 3/30 early am. Fox (4/21) is the only other animal to show interest in the spot where the lure had been; 4,136 photos. Less water in the river than before. Observed: Soft-shelled turtle sunning, carp spawning in pool; dog, cattle, deer tracks. Flushed cottontail.	Gray fox, Mexican woodrat, ringtail, rodent	18079
<b>3</b>		Harding	R-CaU-04	Canadian River, Mills Canyon, Cibola National Forest	—	02/26/21	04/26/21	60	No, not perennial. Beaver-chewed branches in riverbed, beaver channels in shallow water, bank den?; restoration work underway	Fair: Remote, beaver, no cattle, but flows are no longer perennial	2/26-3/29: Gray fox, ringtail, woodrat, rodent, human, dog; turkeys, white-crowned sparrow, spotted towhee, junco; human; 507 photos. 3/29-4/26: Gray fox, woodrat, deer; dog, human; sparrow, white-crowned sparrow; 2,275 photos. Observed: turkey, dog, coyote and fox tracks.	Gray fox, ringtail, Mexican woodrat, rodent, deer, dog	18507
<b>Track Station A</b>		Harding	Tk-R-CaU-204	Canadian River, Mills Canyon, Cibola National Forest	—	02/26/21	03/29/21	32	Yes	Fair: Remote, beaver, no cattle, but flows are no longer perennial	No track in track station.Tracks in the area: Fox, soft-shelled turtle.		
<b>Cimarron</b>	11080002	Colfax											
<b>1</b>		Colfax	R-Cm-01	Cimarron Canyon State Park	—	01/17/20	02/01/21	15	Yes	Very good: Beaver, no grazing, brushy, but angler traffic	Cougar (adult and young?), bobcat (adult and young), striped skunk (adult and young), woodrat, rodent; coot, magpie. Observed: Raccoon, bobcat? and weasel? tracks in snow.	Cougar, bobcat, striped skunk, Mexican woodrat, rodent	BJL's
<b>2</b>		Colfax	R-Cm-02	Colin Neblett Wildlife Management Area	7,500'	02/01/21	04/23/21	82	Yes	Very good: Active beaver dam and pond nearby, no grazing, brushy, cattails, willows, forested above (ponderosa/oak, mixed conifer), but angler traffic	2/1-20: Rodent, raccoon, gray fox, Mexican woodrat; sparrow, white-crowned sparrow, bird; 261 photos. 2/20-3/19: Gray fox, raccoon, rodent, woodrat; sparrow; 136 photos. 3/19-4/23: Woodrat mostly, raccoon; robin, sparrow; 586 photos. Observed: bald eagle, hawk.	Rodent, raccoon, gray fox, Mexican woodrat	18534
<b>3</b>		Colfax	R-Cm-03	Cimarron Canyon, Private Philmont Scout Ranch	—	02/01/21	04/23/21	82	Yes	Very good: Beaver, no grazing, brushy, protected; within burned area	2/1-20: Gray fox, bobcat (2/5); junco, bird; 120 photos. 2/20-3/19: Gray fox, bobcat (2/28), striped skunk, woodrat, rodent; 41 photos. Observed: Roadrunner tracks, gray fox scat with juniper berries, mallards.	Gray fox, bobcat, striped skunk, Mexican woodrat	18537
<b>4</b>		Colfax	R-Cm-04	Cimarron Canyon State Park, Clear Creek	—	02/01/21	04/23/21	82	Yes	Very good: Beaver, no grazing, brushy, deadfall in river, small fir trees, but angler traffic	2/1-20: Mexican woodrat, striped skunk, human; 250 photos. 2/20-3/19: <b>Long-tailed weasel with woodrat prey (2/25)</b> , woodrat; 160 photos. 3/19-4/23: Woodrat, gray fox, raccoon, anglers; robin; 240 photos.	Mexican woodrat, striped skunk, long-tailed weasel, gray fox, raccoon	18565
<b>5</b>		Colfax	R-Cm-05	Cimarron Canyon, Private, Philmont Scout Ranch	—	02/07/21	04/23/21	76	Yes	Good: Beaver, no grazing, brushy, protected	2/7-10: Coyote, chickadee; 41 photos. 2/10-26: No life; 31 photos. 2/26-3/19: Ringtail, gray fox, rodent; 215 photos. 3/19-4/23: Ringtail, gray fox; Stellar's jay; 4,469 photos.	Coyote, ringtail, gray fox, rodent	18087
<b>6</b>		Colfax	T-Pn-01	Ponil Creek, Highway	6,162'	02/07/21	06/19/21	133	Yes, open	Very good: Extensive willow thickets, but the grassy uplands are grazed. No fishing traffic	2/20: Bobcat, vole. 3/29: Striped skunk. 4/23: Striped skunk, coyote.	Bobcat, vole, striped skunk, coyote	18070
<b>7</b>		Colfax	T-Pn-02	Upper Ponil Creek, Private, Philmont Scout Ranch	—	04/23/21	06/06/21	45	Yes. Beaver ponds above and below	Very good: Brushy/lots of alder, no grazing, protected. Collaborative restoration work underway	4/23-6/6: Black bear, elk, Mexican woodrat, coyote?; Stellar's jay (5/27); 2,555 photos. Elk was the last animal to show interest in the lure (4/30).Almost no activity after 5/9; vegetation obscures the view and blows in the wind.	Black bear, elk, Mexican woodrat, coyote	18589
<b>Track Station B</b>		Colfax	Tk-T-Pn-203	Ponil Creek, Highway	—	02/20/21	04/26/21	66	May freeze solid in winter	Very good: Brushy, extensive marshes, but the grassy uplands are grazed.	No tracks	—	
<b>Track Station C</b>		Colfax	Tk-T-Cm-201	Cimarron Canyon State Park, Horseshoe Mine	—	01/17/22	02/01/22	16	Yes	Very good: Brushy, grassy, active beaver dams nearby, no cattle sign	Bobcat track, probably	Bobcat?	
<b>Mora</b>	11080004	Mora											
<b>1</b>		Mora	R-Mo-01	Rio Mora National Wildlife Refuge	—	03/28/21	04/27/21	31	Yes	Very good: Beaver, grassy, protected, but grazing	Striped skunk (batteries died).	Striped skunk	18570
<b>2</b>		Mora	R-Mo-02	Rio Mora National Wildlife Refuge	—	04/27/21	06/05/21	40	Yes	Very good: Beaver, grassy, protected, but grazing	Black bear (5/16), <b>beaver (5/4)</b> , bison, elk (5/3), striped skunk; magpie, mallards wood ducks, turkey, great blue heron. Lure submerged 5/4-8 and after 5/17.	Blackbear; beaver; bison, elk, striped skunk,	18537
<b>3</b>		Mora	T-Cy-01	Coyote Creek, Private	7,425'	01/17/21	04/23/21	97	Yes. Open water, active beaver, dams and ponds	Good: Grassy, ample willow. No cattle, but many cats and dogs	Coyote, raccoon, gray fox, rodent, domestic cat, dog.	Coyote, raccoon, gray fox, rodent, domestic cat, dog	18085
<b>4</b>		Mora	T-Cy-02	Coyote Creek State Park	7,696'	02/13/21	04/23/21	70	Yes. Open. Beaver pond drained, dam partly blown out	Good: Beaver; perennial, alder, willow, cottonwood, steep forested slope on east bank; but many people, dogs, cattle	Gray fox, cottontail, coyote, bobcat, human, woodrat, cattle; Stellar's jay.	Gray fox, cottontail, coyote, bobcat, woodrat, cattle	18547
<b>5</b>		Mora	T-Cy-03	Coyote Creek, Private	—	02/13/21	03/06/21	22	Yes	Very good: Beavers, protected, no grazing, but domestic cats and dog	Domestic/feral cat (including one catching a rodent), coyote.	Domestic cat, rodent	18517
<b>6</b>		Mora	T-Cy-04	Coyote Creek, Private	—	03/06/21	06/05/21	92	Yes	Very good: Beavers, protected, no grazing, but domestic cats and dog	3/6-6/5: Bobcat (4/9), deer, elk, raccoon, coyote, cottontail, woodrat?, young cougar (4/25), striped skunk, deer; songbirds, spotted towhee, catbird? (5/11), robin, domestic cats. Coyote stole lure stick 3/31 or 4/1. By 5/22, vegetation had obscured view.	Bobcat, deer, elk, raccoon, coyote, cottontail, woodrat?, cougar, striped skunk, deer	18517
<b>7</b>		Mora	T-Cy-05	Coyote Creek, Private	—	03/06/21	05/17/21	73	Yes	Good: Grassy, beavers, rodents, but grazing and dogs	Gray fox, yak, dog; Canada geese.	Gray fox, yak, dog	18577
<b>8</b>		Mora	T-Cy-06	Coyote Creek, Private	—	03/19/21	06/02/21	76	Yes	Poor: Grassy, but grazing and dogs, not perennial	Mule deer, chipmunk, rock squirrel, dog, cattle; turkey, jay.	Dog, cattle, mule deer, chipmunk, rock squirrel	18568
<b>9</b>		Mora	T-Cy-07	Coyote Creek, Private	7,374'	04/23/21	05/17/21	25	Yes. Active beaver pond	Good: Grassy, willows, no grazing, but dogs	Rock squirrel; magpie, bird.	Rock squirrel	18091
<b>Track Station D</b>		Mora	Tk-R-Mo-206	Mora NWR, upstream	—	03/28/21	06/19/21	84	Yes	Very good: Beaver, grassy, protected, but grazing	Striped skunk.	Striped skunk	
<b>Conejos</b>	13010005	Rio Arriba											
<b>1</b>		Rio Arriba	T-An-01	Rio San Antonio, Stewart Meadows Wildlife Viewing Area, Carson National Forest	8,800'	06/12/21	07/11/21	30	Yes	Excellent, when cattle will be gone. Extensive beaver pond, alder thickets, grassy. Cattle are still a problem at this time.	6/12-25: Chipmunk, cattle; robin. 6/25-7/11: Bobcat (6/30), deer, chipmunk, vole, cottontail (young), cattle; green-tailed towhee.	Chipmunk, bobcat, deer, chipmunk, vole, cottontail, cattle	18564
<b>2</b>		Rio Arriba	T-An-02	Rio San Antonio, Stewart Meadows Wildlife Viewing Area, Carson National Forest	—	06/12/21	07/11/21	30	Yes	Excellent: Extensive beaver pond, grassy, is meant to be protected, <i>should</i> be no cattle.	6/14-25: Chipmunk, cottontail, golden-mantled ground squirrel, coyote, cattle; magpie, green-tailed towhee, flicker, blackbird, sandpiper; songbird. 6/25-7/11: Chipmunk, squirrel, cottontail, coyote, human, cattle; evening grosbeaks, mallard and ducklings, sparrow, green-tailed towhee, young robin, blackbird, bird (7/8). Observed: Wilson's snipe with four eggs, spotted sandpiper, great blue heron, fish in still water. Elk and deer tracks.	Chipmunk, cottontail, golden-mantled ground squirrel, coyote, cattle	18589
<b>3</b>		Rio Arriba	T-An-03	Rio San Antonio, canyon, Carson National Forest	8,752'	06/12/21	07/11/21	30	Yes	Good: Remote, grassy/brush, deadfall, no grazing	6/12-7/11: Mexican woodrat (adult and young), cottontail, chipmunk, golden-mantled ground squirrel, vole, red squirrel, cattle; robin, green-tailed towhee. Observed: rabbit sign,	Mexican woodrat, cottontail, chipmunk, golden-mantled ground squirrel, vole, red squirrel, cattle	18517



Watershed Unit, Site #	HUC 8	County	Location Code	Location/Ownership	Elevation	Start Date	End Date	Days deployed	Beaver Pond or Perennial Open Water	Habitat Quality	Species and Activity Photographed	Mammal photos and tracks	Camera #
4		Rio Arriba	T-Lg-01	Lagunitas Creek, Carson National Forest	10,312'	06/11/21	07/11/21	31	Yes. Old beaver pond, dam intact	Good: Grassy, rolling meadows, but not much brush/willow. Many cattle.	<b>Pacific marten (6/15), red fox (6/27 and 29),</b> gray fox, <b>long-tailed weasel (6/18),</b> mule deer, other deer, elk, coyote, golden-mantled ground squirrel, chipmunk, rock squirrel, red squirrel, cattle, domestic dog; robin. Observed: beaver, porcupine scat.	Pacific marten, red fox, gray fox, long-tailed weasel, mule deer, other deer, elk, coyote, golden-mantled ground squirrel, chipmunk, rock squirrel, red squirrel, cattle, dog	18568
5		Rio Arriba	T-Bv-01	Beaver Creek, Cruces Basin Wilderness, Carson National Forest	9,310'	06/11/21	07/12/21	32	No	Poor: Remote, but grazing, fresh but partly breached beaver dam, may not be perennial	Mule deer, elk, chipmunk, cottontail, golden-mantled ground squirrel; flicker, robin. Observed: beaver tracks.	Mule deer, elk, chipmunk, cottontail, golden-mantled ground squirrel	18543
6		Rio Arriba	T-Bv-02	Beaver Creek (canyon), Cruces Basin Wilderness, Carson National Forest	9,208'	06/11/21	07/12/21	32	Yes. Fresh but breached beaver dam, likely perennial	Very good: Grassy, large deadfall, brushy, little grazing, group campsite though	<b>Long-tailed weasel (6/23),</b> golden-mantled ground squirrel, chipmunk, vole, rodent; robin and young and nest material, mallard and young, flicker, green-tailed towhee, evening grosbeak, bird flying with prey? Observed: beaver tracks.	Long-tailed weasel, golden-mantled ground squirrel, chipmunk, vole, rodent	18363
7		Rio Arriba	T-Pg-01	Rio de Los Pinos Wildlife Management Area, NMDGF	8,071'	06/10/21	07/08/21	29	Yes	Good: Beaver sign, willows/brushy, cottonwoods	Bobcat (6/16), striped skunk, mule deer, rock squirrel, raccoon, a gray ear (7/6), vole?, rodent, magpie, immature robin?	Bobcat, striped skunk, mule deer, rock squirrel, raccoon, vole?, rodent	18087
8		Rio Arriba	T-Pg-02	Rio de Los Pinos, Carson National Forest	5,739'	06/10/21	07/08/21	29	Yes	Fair: Forested with brush. Beaver sign. Many cattle.	<b>Bushy-tailed woodrat (6/10),</b> coyote, red squirrel, golden-mantled ground squirrel, baby cottontail, chipmunk, raccoon, Mexican woodrat, cattle.	Bushy-tailed woodrat, coyote, red squirrel, golden-mantled ground squirrel, cottontail, chipmunk, raccoon, Mexican woodrat, cattle	18085 (Hyperfire)
<b>Rio Grande, Upper</b>	13020101	Various											
1		Taos	T-Rn-01	Rio Grande del Rancho, Carson National Forest	—	02/11/21	03/27/21	45	Yes, ponds and open	Good: Beaver, marsh, dense willow, no grazing, muskrat, abundant vole runs	3/4: Raccoon. 3/27: <b>Muskrat (including possible mating pair and a spat/fight), beaver,</b> cottontail, rodent, coyote (including stealing the lure post); robin, spotted towhee.	Raccoon, muskrat, beaver, cottontail, rodent, coyote	18043
2		Taos	T-Rn-02	Rio Grande del Rancho, Carson National Forest	—	02/11/21	03/27/21	45	Yes, ponds and open	Good: Beaver, very dense willows, no grazing	2/11-3/4: Coyote. 3/4-27: Striped skunk, rodent.	Coyote, striped skunk, rodent	18362
3		Taos	T-Cs-01	Rio Costilla (upstream), Valle Vidal, Carson National Forest	—	05/15/21	07/03/21	50	Yes	Good: Forested, grassy along river, some brush, beaver sign, cattle?	5/15-6/13: Coyote, deer, <b>bushy-tailed woodrat</b> , rodent, red squirrel, golden-mantled ground squirrel; yellow-rumped warbler, robin, dark-eyed junco, ruby-crowned kinglet, green-tailed towhee? 6/13-7/3: <b>Bushy-tailed woodrat</b> , squirrel, dog; robin, Stellar's jay.	Coyote, deer, bushy-tailed woodrat, rodent, red squirrel, golden-mantled ground squirrel, dog	18079
4		Taos	T-Cs-02	Rio Costilla (downstream), Valle Vidal, Carson National Forest	8,805'	05/15/21	07/03/21	50	Yes	Good: Forested, grassy along river, some brush, beaver sign, cattle?	5/15-6/13: Coyote, cottontail, rock squirrel. 6/13-7/3: Bobcat (6/14), coyote (6/24), deer? (6/28), mule deer and fawn (7/1), golden-mantled ground squirrel, cattle. No rodents.	Coyote, cottontail, rock squirrel, bobcat, coyote, mule deer, golden-mantled ground squirrel, cattle	18570
5		Taos	T-Tr-01	Rio de Las Trampas, Private	7,497'	03/29/21	05/14/21	47	Yes	Good: Cottonwood bosque, grassy/brush, private, limited grazing but many dogs	3/29-4/19: Rock squirrel, raccoon, coyote, dogs; song sparrow. 4/19-30: <b>Long-tailed weasel (4/25),</b> coyote (peed on lure 4/24), dog (peed on lure 4/24), raccoon, rock squirrel; Clark's nutcracker, Townsend's solitaire, sparrow, robin, Stellar's jay, hummingbird.	Rock squirrel, raccoon, coyote, dog, long-tailed weasel	Bill's
6		Taos	T-Tr-02	Rio de Las Trampas, Private	7,393'	03/29/21	06/02/21	65	Yes	Good: Grassy/brush, private, limited grazing but many dogs	3/29-4/19: Coyote, rock squirrel, raccoons, dog; Stellar's jay, songbird. 4/19-30: Coyote, dog, raccoon, rock squirrel; robin. 4/30-6/2: Rock squirrel, raccoon, dog; spotted towhee, Stellar's jay, <b>black-crowned night heron</b> , songbird.	Coyote, rock squirrel, raccoon, dog	18363
7		Taos	T-Tr-03	Rio de las Trampas Canyon, above Las Trampas, Carson National Forest	7,416'	04/25/21	06/13/21	50	Yes	Good: Fairly remote, grassy/brush, many prey species but dogs	6/2: <b>Long-tailed weasel (4/30, 5/28, and 5/29),</b> Mexican woodrat, rodent, chipmunk, rock squirrel, dog; lizard, robin. 6/13: Rock squirrel, woodrat, chipmunk; robin with nest material.	Long-tailed weasel, Mexican woodrat, rodent, chipmunk, rock squirrel, dog	18535
7		Taos	T-Tr-03	Rio de las Trampas Canyon, above Las Trampas, Carson National Forest	7,416'	11/10/21	12/17/21	38	Yes	Good: Fairly remote, grassy/brush, many prey species but dogs	11/10-16: Rock squirrel, Abert's squirrel, domestic cat. 11/16-22: Mexican woodrat, rock squirrel, dog. 11/22-28: Woodrat, rock squirrel. 11/28-12/5: Woodrat, small rodent. 12/5-14: Mexican woodrat, <b>ringtail (12/14),</b> domestic/feral cat, small rodent.	Rock squirrel, Abert's squirrel, Mexican woodrat, rock squirrel, ringtail, rodent, dog, domestic cat	18577
8		Taos	T-Tr-05	Rio de las Trampas Canyon, Carson National Forest	7,235'	10/05/21	12/17/21	74	Yes, open	Good: Brushy, some grassy openings. No beaver. Dogs.	Mexican woodrat, raccoon, Abert's squirrel; robin. 10/23: Rock squirrel (persistent), chipmunk. 10/31: Rock squirrel, rodent, vole?, Abert's squirrel, dog; robin. 11/10: Woodrat, rock squirrel, Abert's squirrel, small rodent (woodrat?), raccoon. 11/16: Rock squirrel, dog. 11/28: Rock squirrel, woodrat, domestic dog. 12/5: Woodrat. 12/17: Woodrat, rodent.	Mexican woodrat, raccoon, Abert's squirrel, rock squirrel, chipmunk, rodent, vole?, dog	18582
9		Rio Arriba	T-Tr-04	Rio de Las Trampas, Carson National Forest	~10,000'	06/14/21	07/07/21	24	Yes	Good: Brushy, meadow nearby. No beaver.	<b>Ermine? or Long-tailed weasel.</b>	Weasel (ermine? or long-tailed?)	18535
10		Taos	T-Pp-01	Rio del Pueblo, Carson National Forest	8,360'	06/19/21	07/16/21	28	Yes, open	Good: Forested, very brushy, alders	6/19-7/4: <b>Ermine (6/20),</b> raccoon; Stellar's jay, robin, bird. 7/4-16: Black bear (7/10), rodent; ruby-crowned kinglet, hermit thrush.	Ermine, raccoon, black bear, rodent	18590
11		Taos	T-Pp-02	Rio del Pueblo, Carson National Forest	—	07/04/21	07/16/21	13	Yes, open	Good: Forested, very brushy	Photos misplaced.	—	18362
12		Taos	T-Sb-01	Rio Santa Barbara, West Fork, Carson National Forest	—	06/29/21	07/21/21	23	Likely, open	Very good: Shrubby riparian, much open pasture but much grazing impact. Rodents likely abundant. No beaver present; the ponds are shallow, filled with sediment.	Black bear, porcupine, golden-mantled ground squirrel, red squirrel?, rodent(s); robin.	Black bear, porcupine, golden-mantled ground squirrel, red squirrel?, rodent	18547
13		Taos	T-Sb-02	Rio Santa Barbara, Middle Fork, Carson National Forest	—	06/29/21	07/21/21	23	Likely, open	Very good: Shrubby, deadfall in riparian. Herbaceous vegetation but no beaver nearby.	<b>Weasel (long-tailed or ermine? 7/14),</b> raccoon, red squirrel, rodent, cattle, dog; robin, bird.	Weasel (long-tailed or ermine?), raccoon, red squirrel, rodent, cattle, dog	18565
14		Taos	T-Sb-03	Rio Santa Barbara, East Fork, Carson National Forest	10,158'	10/24/21	11/07/21	19	Maybe not open all winter	Good: Brushy and deadfall but not much grass, water may not stay open	Rodent, red squirrel, <b>Pacific marten (11/6);</b> flicker.	Rodent, red squirrel, Pacific marten	18577
15		Taos	T-Sb-04	Rio Santa Barbara, Middle Fork, Carson National Forest	9,925'	10/24/21	11/07/21	19	Maybe not open all winter	Good: If water stays accessible. No beaver. Grassy above river, brushy and forested along river. Very remote but cattle in summer.	Rodent, red squirrel, <b>long-tailed weasel (11/6).</b>	Rodent, red squirrel, long-tailed weasel	18507
16		Taos	T-Fn-01	Rio Fernando, Private	7,572'	08/20/21	09/06/21	18	Some water (but not much) flows year-round	Good: Very brushy, beaver sign.	Mexican woodrat, raccoon, striped skunk, mouse, chipmunk, domestic cat; hermit thrush, robin, catbird?	Mexican woodrat, raccoon, striped skunk, mouse, chipmunk, domestic cat	18070
17		Taos	T-Ag-01-a&b	Serpent Lake, Angostura River headwaters, Carson National Forest	11,292'	08/20/21	09/20/21	32	Open water	Good: Shallow lake, grassy, forested. Much human/dog traffic on northeast side of the lakes. Other side more remote.	Many humans and dogs, red squirrel, chipmunk, cottontail, mule deer, elk cow and calf, cougar (8/31); robin, junco. NOTE: MP deleted other photos of people and wildlife that were captured on the paired camera T-Ag-01-a.	Red squirrel, chipmunk, cottontail, mule deer, elk, cougar, dog	18577 and 18565
18		Taos	T-Hd-01	Rio Hondo, Carson National Forest	8,486'	10/03/21	11/02/21	31	Some beaver sign, open water	Good: Brushy, adjacent to mixed conifer forest. Fish, rodents.	10/3-21: Rodent, vole?, Mexican woodrat, chipmunk. 10/21-11/2: Rodent, woodrat, chipmunk, <b>long-tailed weasel (11/2).</b>	Rodent, Mexican woodrat, chipmunk, long-tailed weasel, vole?	18590
19		Taos	T-Rd-01	Red River, East Fork, Carson National Forest	9,676'	10/04/21	11/03/21	31	Flow year-round, no ponds	Good: Dense forest, deadfall in river, fishing traffic	Vole, mule deer, <b>ermine or long-tailed weasel (10/8, 10/10, and 11/3),</b> human, coyote stealing lure stick, cottontail or showshoe hare?	Vole, mule deer, weasel (ermine or long-tailed?), coyote, rabbit (cottontail or showshoe hare?)	18070
20		Taos	T-Rd-02	Upper Red River, between Red River town and West Fork, Carson National Forest	8,908'	10/04/21	11/03/21	31	Flow year-round, no ponds	Good: Forested with meadows, fishing traffic, no cattle sign, beaver sign	Coyote, gray fox, raccoon, red squirrel, cottontail, mule deer, rodent, human.	Coyote, gray fox, raccoon, red squirrel, cottontail, mule deer, rodent	18564
21		Taos	R-GrU-01	Upper Rio Grande, Rio Grande del Norte National Monument, Carson National Forest	7,346'	10/07/21	11/03/21	28	Open water	Good: Very lush grass, few trees, no willow, bouldery	Raccoon, Mexican woodrat, rodent, chipmunk, human; robin, white-crowned sparrow?	Raccoon, Mexican woodrat, rodent, chipmunk	18544

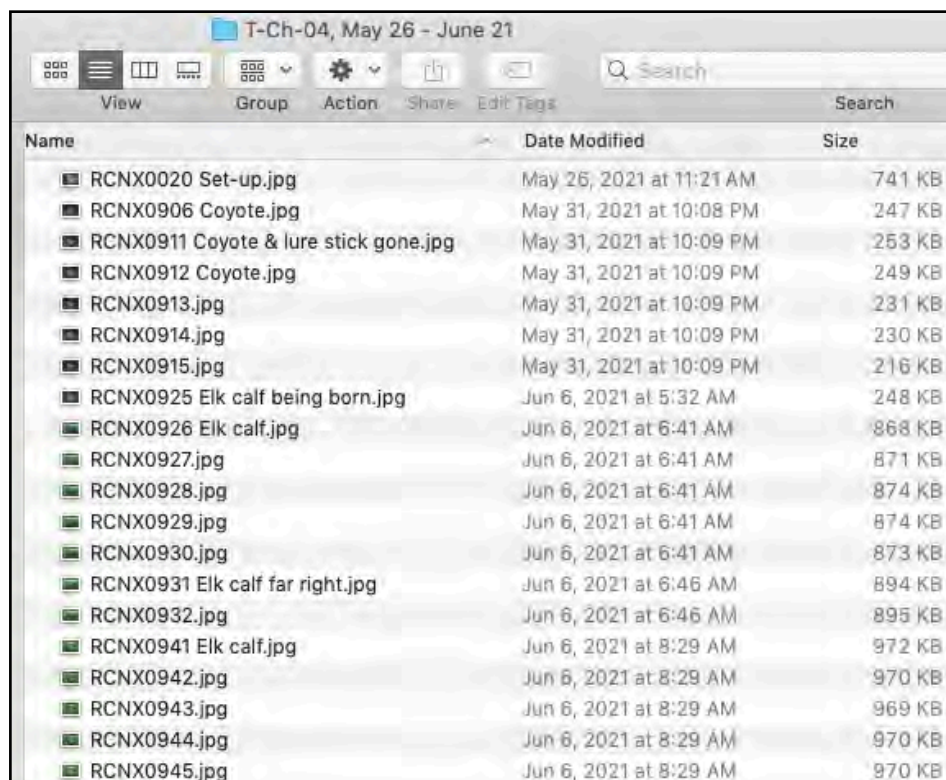
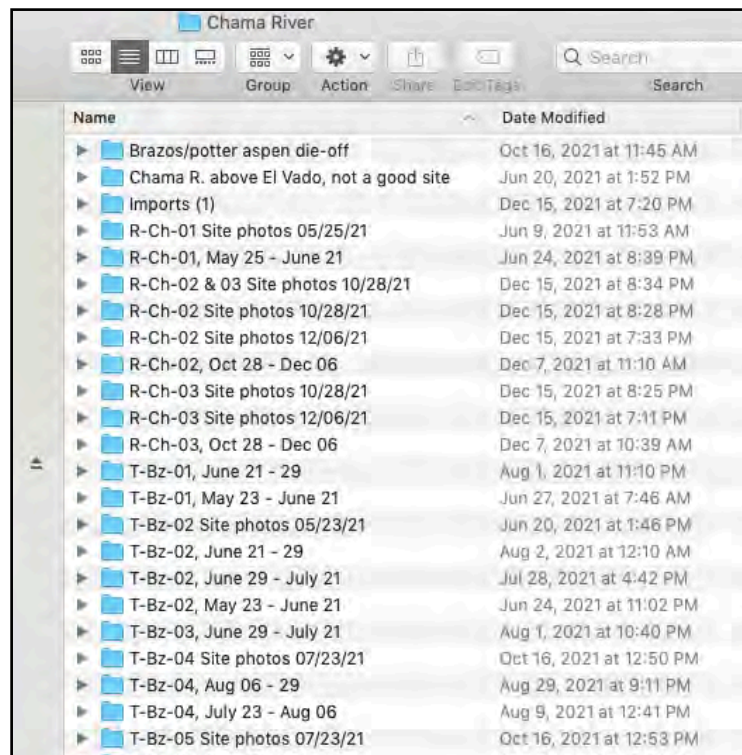
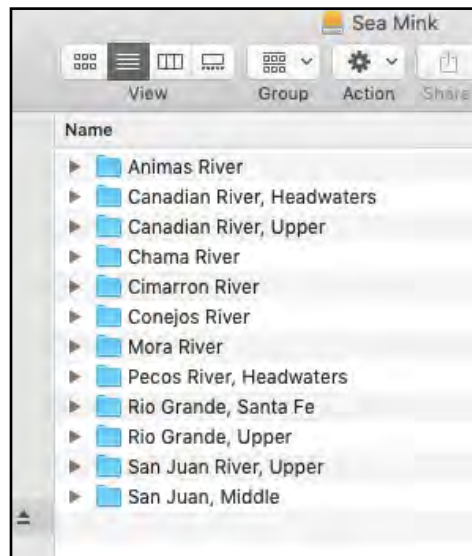


Watershed Unit, Site #	HUC 8	County	Location Code	Location/Ownership	Elevation	Start Date	End Date	Days deployed	Beaver Pond or Perennial Open Water	Habitat Quality	Species and Activity Photographed	Mammal photos and tracks	Camera #
22		Taos	R-GrU-02	Upper Rio Grande, Rio Grande del Norte National Monument, Carson National Forest	7,390'	10/07/21	11/03/21	28	Open water	Good: Grassy, some juniper, some willow	Mexican woodrat, rodent, chipmunk, raccoon, porcupine (10/21); dogs; robin, hermit thrush, spotted towhee (10/16), magpie (10/30), robin with camera strap (10/17). Tracks in area: coyote, deer, fox.	Mexican woodrat, rodent, chipmunk, raccoon, porcupine, dogs	18081
Rio Grande, Santa Fe	13020201	Santa Fe											
1		Santa Fe	R-Sf-01	Santa Fe River, Santa Fe Canyon Preserve, The Nature Conservancy	7,330'	11/23/21	12/13/21	21	Yes, open water. Old beaver-chewed stumps/branches	Good: Brushy, but much human traffic	Mule deer, feral cattle, raccoon, Mexican woodrat, rodent, human; robin (mostly), screech owl.	Mule deer, cattle, raccoon, Mexican woodrat, rodent	18085 (Hyperfire)
2		Santa Fe	R-Sf-02	Santa Fe River, Santa Fe Canyon Preserve, The Nature Conservancy	7,300	11/23/21	12/13/21	21	Yes, open water. Old beaver-chewed stumps and branches	Good: Willow, large pond with cattail, willow, cottonwood, bouldery	Mexican woodrat, rodent, cottontail, rock squirrel, dog, domestic cat?	Mexican woodrat, rodent, cottontail, rock squirrel; dog, domestic cat?	18507
3		Santa Fe	R-Sf-03	Santa Fe River, Santa Fe National Forest and City of Santa Fe	8,250'	11/23/21	12/13/21	21	Likely, open. Running stream but no ponded water. Brushy (willow), old beaver dam	Very good: Running stream but no ponded water. Forest canopy, deadfall. Human access limited. Adjacent to designated Wilderness.	Rodent, red squirrel, bobcat, gray fox.	Rodent, red squirrel, bobcat, gray fox	18568
4		Santa Fe	R-Sf-04	Santa Fe River, Santa Fe National Forest and City of Santa Fe	8,000'	11/23/21	12/13/21	21	Likely, open	Good: Running stream but no ponded water. Forest canopy, deadfall. Human access limited.	Rodent, Mexican woodrat, gray fox, red squirrel.	Rodent, Mexican woodrat, gray fox, red squirrel	18570
5		Santa Fe	R-Sf-05	Santa Fe River, Agua Sarca, Santa Fe National Forest and City of Santa Fe	7,620'	11/23/21	12/13/21	21	Possibly open water. Old beaver lodge, chewed stump	Very good: Depositional apron from intermittent tributary. Large beaver pond washed out three years ago. Open meadow, much deadfall. Ponderosa, alder, willow thickets. Human access very limited.	Feral cow, coyote, Mexican woodrat, rodent.	Coyote, Mexican woodrat, rodent, cattle	18589
Chama	13020102	Rio Arriba											
1		Rio Arriba	R-Ch-01	Rio Chama, Heron Lake State Park	7,170'	05/25/21	06/21/21	28	Yes, open	Very good: Remote, brushy (alder), grassy bank, deadfall (beware poison ivy and stickweed)	Mexican woodrat, rock squirrel, raccoon, chipmunk.	Mexican woodrat, rock squirrel, raccoon, chipmunk	18091
2		Rio Arriba	R-Ch-02	Rio Chama, Edward Sargent Wildlife Management Area	8,000'	10/28/21	12/06/21	40	Yes, old beaver chewed cottonwoods and alders; river is shallow but perennial	Very good: Remote, no cattle, white fir, cottonwood, brushy (alder, willow), mullein, dogwood, willow), grassy bank, deadfall. No beaver sign.	Bushy-tailed woodrat, Mexican woodrat, bobcat, black bear, elk, chipmunk, striped skunk, red squirrel, rodent, raccoon; Stellar's jay; 316 photos. Observed: Raccoon track, crayfish scavenged.	Bushy-tailed woodrat, Mexican woodrat, bobcat, black bear, elk, chipmunk, striped skunk, red squirrel, rodent, raccoon	18535
3		Rio Arriba	R-Ch-03	Rio Chama, Edward Sargent Wildlife Management Area	7,915'	10/28/21	12/06/21	40	Yes, beaver sign; river is shallow but perennial	Very good: Remote, no cattle, cottonwood bosque, brushy (alder, willow), mullein, grassy, and deadfall. Wide cobble point bar.	Rodent, elk, raccoon, cougar (11/10), striped skunk, dog, domestic cat, humans. Observed: deer tracks, bear scat with serviceberries and acorns.	Rodent, elk, raccoon, cougar, striped skunk, dog, domestic cat	18511
4		Rio Arriba	T-Ch-01	Rio Chamita, Edward Sargent Wildlife Management Area	8,020'	05/24/21	06/21/21	29	May not flow all winter	Good: Remote, limited human traffic, no cattle but no beaver. Alder thickets, heavily browsed willow, currants, old chewed cottonwood.	Elk, deer?, coyote, raccoon; robin, catbird? (5/25 and 5/29), black-headed grosbeak, western meadowlark, western tanager, wren, sparrow, other birds. Observed: mallards, frogs, swallows.	Elk, coyote, raccoon, deer?	18565
5		Rio Arriba	T-Ch-02	Rio Chamita, Edward Sargent Wildlife Management Area	8,455'	05/24/21	06/21/21	29	May not flow all winter	Good: Remote, limited human traffic, no cattle but no beaver. Binkley's worker says beaver dam is just upstream.	Long-tailed weasel (5/30 and 6/3), elk, elk and bird together; coyote, raccoon, squirrel, Mexican woodrat, rodent? at night; raven, Stellar's jay, flicker, evening grosbeak. Observed: Blackbirds, swallows, mallards, raccoon scat.	Long-tailed weasel, elk, coyote, raccoon, squirrel, Mexican woodrat, rodent?	18577
6		Rio Arriba	T-Ch-03	Rio Chamita, Edward Sargent Wildlife Management Area	—	05/26/21	06/21/21	27	May not flow all winter	Good: Remote, open grassy/herbaceous meadows, brushy (thick willow with some alder), limited human traffic, no cattle, but dogs and no beaver	Dog rolls on lure (5/26), vole, rodent, another dog; mallard. Observed: Old and fresh beaver-chewed branches, coyote, Brewer's blackbird.	Vole, rodent, dog	18547
7		Rio Arriba	T-Ch-04	Rio Chamita, Edward Sargent Wildlife Management Area	7945	05/26/21	06/21/21	27	May not flow all winter	Good: No beaver. Brushy (alders), grassy/herbaceous, some willow, shrubby cinquefoil.	Coyote, elk, brand new elk calf (6/6 5:32am), walks at 2:00pm with cow/mother in background, rodent. Coyote moved lure stick (5/31 at 10:09 pm).	Coyote, rodent, elk	18085
8		Rio Arriba	T-Bz-01	Rio Brazos, Private	7,960'	05/23/21	06/29/21	38	Yes, open	Very good: Remote; no cattle; protected; young, beaver-pruned/stunted cottonwoods; dense forested slope (mature spruce); bouldery riparian zone; gravel floodplain terrace	5/23-6/21: Red squirrel; Stellar's jay. 6/21-29: Mexican woodrat, Abert's squirrel, deer or dog?, rodent, raccoon? (6/29). Observed: Elk and deer tracks.	Red squirrel, Mexican woodrat, Abert's squirrel, rodent, raccoon?, deer or dog?	18507
9		Rio Arriba	T-Bz-02	Rio Brazos, Private	—	05/23/21	07/21/21	60	Yes, open	Very good: Remote, thick brush, steep forested slope (cottonwood, Doug fir, ponderosa, limber/white pine, oak), bouldery river bank, no cattle, protected	6/21: Red squirrel, golden-mantled ground squirrel, Abert's squirrel, chipmunk, woodrat?, rodent, angler. 6/29: Chipmunk, rock squirrel, Abert's squirrel, rodent. 7/21: Mexican woodrat, chipmunk, gray fox? (7/4 and 7/18), rock squirrel, humans (4).	Red squirrel, golden-mantled ground squirrel, Abert's squirrel, rock squirrel, chipmunk, Mexican woodrat, rodent, gray fox?	18070
10		Rio Arriba	T-Bz-03	Rio Brazos, Private	—	06/29/21	07/21/21	23	Yes, open	Good: Remote, thick brush, no cattle, protected	7/21: Bobcat, black bear, mule deer, gray fox, Mexican woodrat, small rodent. Observed: Deer and bear tracks.	Bobcat, black bear, mule deer, gray fox, Mexican woodrat, rodent	18507
11		Rio Arriba	T-Bz-04	Rio Brazos/Encinado Creek, Private	9,615'	07/23/21	08/29/21	38	Probably not open	Potentially good: Low stream flow, new pond. Cattle-grazed meadow but cattle won't be here next year. Marshy small rivulet, beamed to create pond in 2020, spruce forest with patchy understory forbs.	7/23-8/6: Chipmunk, red squirrel, mule deer?, elk, long-tailed weasel (7/31), cattle. 8/6-29: Deer, red squirrel, cattle, elk; turkeys. Observed: cattle herd at camera site.	Chipmunk, red squirrel, elk, long-tailed weasel, cattle, mule deer?	18532
12		Rio Arriba	T-Bz-05	Brazos/Encinado tributary, Cutthroat Creek, Private	9,470'	07/23/21	08/29/21	38	Probably not open	Good: Brushy (alder), forested (aspen, spruce/fir both long and mature, deadfall). Known to have cutthroat trout. Cattle this year, stream probably too small.	7/23-8/6: Elk, cattle; grouse, great blue heron. 8/06-29: Cattle, chipmunk, bobcat (8/10), cottontail, deer; grouse.	Elk, chipmunk, bobcat, cottontail, deer, cattle	18079
13		Rio Arriba	T-Bz-06	Brazos/Encinado tributary, Private	9,540'	07/23/21	08/29/21	38	Deep water	Good: Large beaver pond but no active beaver for 25 years. Widespread tall rushes, alder, currants, forest edge (spruce, fir, cork bark fir), meadow edge, but much grazing. No longer any aspen for beavers.	7/23-8/6: Ermine (7/29-30), elk, deer?, golden-mantled ground squirrel, red squirrel, cattle; flicker, grouse. 8/06-29: Cattle, deer, elk.	Ermine, elk, deer, golden-mantled ground squirrel, red squirrel, cattle	18551
14		Rio Arriba	T-Bz-08	Brazos/Encinado tributary, Private	9,390'	07/23/21	08/29/21	38	Deep water	Good: Old beaver pond, no active beaver. Forest edge, wetland vegetation, deep and shallow water. No rushes, restoration enhanced.	7/23-8/6: Long-tailed weasel (7/24), black bear (7/26), elk, golden-mantled ground squirrel, red squirrel, chipmunk; junco. 8/6-29: Golden-mantled ground squirrel, red squirrel, rodent, rock squirrel, chipmunk. Observed: Young grebes, elk tracks, bear tore up rotten log.	Long-tailed weasel, black bear, elk, golden-mantled ground squirrel, red squirrel, rock squirrel, rodent, chipmunk	18507
15		Rio Arriba	T-Bz-07-a&b	Encinado and tributary confluence, Private	8,545'	07/23/21	08/29/21	38	Possibly open all year	Very good: Forested (fir, some spruce), brushy (alder, thimbleberry, Juneberry, vaccinium), grassy, deadfall, rushing water, confluence of Encinado and tributary, little sign of grazing	7/23-8/06: Long-tailed weasel (7/24 and 28), small black bear with ear tag (8/4), large black bear (8/6), elk (7/24 and 7/28), mule deer (7/26 and 29), Mexican woodrat, big bear moved camera; birds. 8/06-29: Black bear with ear tag (8/6), woodrat, red squirrel, bushy-tailed woodrat, elk, cottontail; Stellar's jay, grouse. 4,060 photos on "b" card.	Long-tailed weasel, black bear, elk, mule deer, Mexican woodrat, red squirrel, bushy-tailed woodrat, elk, cottontail	18363 and 18537
Track Station E		Rio Arriba	Tk-T-Bz-208	Rio Brazos, Private	—	06/21/21	07/21/21	31	Yes, open	Good: Remote, thick brush, no cattle, protected	6/29: No tracks. Black bear? toppled the station (7/12).		



Watershed Unit, Site #	HUC 8	County	Location Code	Location/Ownership	Elevation	Start Date	End Date	Days deployed	Beaver Pond or Perennial Open Water	Habitat Quality	Species and Activity Photographed	Mammal photos and tracks	Camera #
<b>Pecos Headwaters</b>	13060001	San Miguel											
<b>1</b>		San Miguel	R-PeH-01	Pecos River, Santa Fe National Forest, Rt. 63, mi. 11.8	—	02/22/21	03/25/21	32	Yes. Old beaver cuttings	Good: Cottonwood, alder, juniper, vines, roses	Gray fox, Mexican woodrat, raccoon, red squirrel, striped skunk, elk, deer, domestic cat, dog; mallard pair, junco?, great blue heron, robin, great blue heron tracks. Mergansers on the river.	Gray fox, elk, deer, Mexican woodrat, raccoon, red squirrel, striped skunk, domestic cat, dog	18511
<b>2</b>		San Miguel	R-PeH-02	Pecos River, Pecos Benedictine Monastery, north	—	04/03/21	05/25/21	53	Yes. Old and fresh beaver cuttings	Good: Willow, but many dogs and people	Gray fox, rabbit, red squirrel, rock squirrel, small mammals, humans, dogs; spotted towhee, dove, bird. Human took lure stick 4/11. 460 photos.	Gray fox, rabbit, red squirrel, rock squirrel, rodent, dog	18043
<b>3</b>		San Miguel	R-PeH-03	Pecos River, Pecos Benedictine Monastery, south	—	04/03/21	05/25/21	53	Yes. Active beaver	Very good: Meadow adjacent to cattail marsh	Bobcat (4/5), coyote, deer, cougar (4/17), raccoon (4/15). 675 photos.	Bobcat, coyote, deer, cougar, raccoon	18582
<b>San Juan, Upper</b>	14080101	San Juan											
<b>1</b>		San Juan	T-Pj-01	Pine River Wildlife Management Area, U.S. Bureau of Reclamation	6,000'	09/08/21	Stolen 10/20/21	—	Yes. Old willow cuttings, probably open water	Very good: Close to Colorado border, fairly remote, extensive willow thickets. Cattle and hostile neighbors.	Camera stolen. Observed: Kokanee salmon, bald eagles, cattle sign.	—	18091
<b>2</b>		San Juan	T-Pj-02	Pine River Wildlife Management Area, U.S. Bureau of Reclamation	5,740'	09/08/21	11/05/21	59	Yes. Old willow cuttings, probably open water	Same as above. Canyon coming in from west adds brushy habitat.	9/8-10/20: Gray fox, raccoon, striped skunk, cattle, dogs; scrub jay. 10/20-11/5: Raccoon, coyote, deer, rodent, <b>sneaker of someone tampering with camera (10/24)</b> ; flicker.	Gray fox, raccoon, striped skunk, deer, coyote, rodent, cattle, dog	18085 (Hyperfire)
<b>San Juan, Middle</b>	14080105	San Juan											
<b>1</b>		San Juan	R-Sj-03	San Juan River, Kirtland, Private	5,000'	09/09/21	11/05/21	58	Open water	Good: Very brushy, willows, beaver sign	9/9-10/18: Raccoons, mule deer, <b>beaver (10/16)</b> , dogs; Canada geese, mergansers, mallards. 10/18-11/6: Raccoon; mallard. Sheriff Department homicide investigation (10/22), no further photos. Observed: raccoon, deer, heron, coyote, shorebird track.	Raccoon, mule deer, beaver, dog	18405
<b>2</b>		San Juan	R-Sj-04	San Juan River, Kirtland, Private	4,930'	09/09/21	11/06/21	59	Open water. Old? beaver den and chewed sapling	Very good: Open water; beaver present, grassy, brushy but dogs	9/10-10/18: Raccoons, mule deer, <b>beaver (9/20 and 10/17)</b> , dogs; Canada geese, mergansers, mallards. 10/4-11/3: <b>Red fox (10/27 and 11/1)</b> , <b>beaver (10/24 and 11/2)</b> , mule deer, striped skunk. Observed: Coots, barnyard ducks.	Raccoons, mule deer, beaver, red fox, striped skunk, dog	18531
<b>3a</b>		San Juan	R-Sj-05-a	San Juan River, Farmington, Private	5,000'	09/10/21	11/05/21	57	Open water, beaver in the area	Good: 40 acres but isolated in City of Farmington. Protected habitat on both sides of the river. Brushy, but not much grass. Beaver present.	9/10-11/18: Raccoons, gray fox/coyote?, <b>beaver (9/22 and 10/11)</b> ; turkey vulture, Canada geese, mallard, flicker. 10/18-11/5: Gray foxes, <b>red fox (10/29 and 10/31)</b> , raccoons, <b>rodent (10/25)</b> , cattle?; Canada geese. Observed: Raccoon, Canada goose, duck, dog, human tracks, mallards.	Raccoons, gray fox, red fox, beaver, rodent, coyote?, cattle?	18087
<b>3b</b>		San Juan	R-Sj-05-b	San Juan River, Farmington, Private	5,000'	09/10/21	11/05/21	57	Open water, possible beaver slide marks at river edge	Good: 40 acres but isolated in City of Farmington. Protected habitat on both sides of the river. Brushy but not much grass. Beaver present.	9/10-11/19: Raccoon, striped skunk, gray foxes, <b>red fox (10/17)</b> ; white-crowned sparrow (immature), green-tailed towhee, spotted towhee, mallard, flicker. 10/19-11/5: Raccoon, gray fox, <b>red fox (10/21, 10/24, and 10/31)</b> , coyote; flicker, mallard, bird. Observed: Beaver, mule deer, raccoon, duck, Canada goose, great blue heron, human tracks.	Raccoon, striped skunk, gray fox, red fox, coyote	18589
<b>4</b>		San Juan	R-Sj-06	San Juan River, Waterflow, Private	5,215'	10/18/21	11/06/21	20	Open water year-round	Good: Cottonwood, brushy (tamarisk, Russian olive, willow), Navajo/remote on south side. Beaver in the area. Agricultural, large private parcel. Dog tracks 10/19.	Raccoons, striped skunk, <b>beaver (10/21)</b> , cattle; mallards, great blue heron, Canada geese, raven. <b>Raccoon and heron together (10/21 and 22)</b> .	Raccoons, striped skunk, beaver, cattle	18547
<b>5</b>		San Juan	R-Sj-07	San Juan River, Waterflow, Private	4,975'	10/19/21	11/06/21	19	Open water year-round	Good: Brushy, Navajo/remote on south side. Beaver in the area. Agricultural, large private parcel. Two dogs live nearby.	Rock squirrel, gray fox, striped skunk, dogs; sparrow, spotted towhee?. Observed: Great blue heron and dog tracks.	Rock squirrel, gray fox, striped skunk, dog	18532
<b>6</b>		San Juan	R-Sj-08	San Juan River, Waterflow, Private	5,205'	10/19/21	11/06/21	19	Open water year-round	Good: Grassy (but grazed) and brushy, private (but a lot of predator activity)	Gray fox (16 days), <b>red fox (21 visits 10/20-11/4)</b> , cattle, striped skunk, raccoon, coyote, human/owner; mallards, magpies. Observed: cattle and raccoon tracks.	Gray fox, red fox, cattle, striped skunk, raccoon, coyote	18565
<b>7</b>		San Juan	R-Sj-09	San Juan River, Kirtland, Private	4,820'	10/20/21	11/06/21	18	Open water year-round	Good: Brushy but many domestic dogs. Maybe not enough grassy terrain.	<b>Raccoons (6) including an albino, red fox (10/21, 10/23, 10/26 and 10/27)</b> , striped skunk, dogs; mallards	Raccoon, red fox, striped skunk, dog	18537
<b>Animas</b>	14080104	San Juan											
<b>1</b>		San Juan	T-As-01	Animas River, Private	5,647'	09/09/21	11/05/21	58	Open water	Very good: Near Colorado border. Protected from grazing. Brushy.	9/9-10/19: Raccoon, mule deer, <b>ringtail (9/10, 9/12)</b> , gray fox (9/18, 9/19, 9/22, 9/25), <b>red fox (9/21)</b> , black bear (9/30), striped skunk, rock squirrel, chipmunk; Canada geese, great blue heron, mallards, turkey, flicker. 10/19-11/5: Gray fox, raccoon, Mexican woodrat, ringtail, mule deer. Observed: mule deer, dog, duck, raccoon and great blue heron tracks.	Raccoon, mule deer, ringtail, gray fox, red fox, black bear, striped skunk, rock squirrel, chipmunk, Mexican woodrat, ringtail, mule deer	18534
<b>2</b>		San Juan	T-As-02	Animas River, Private	5,434'	09/10/21	11/05/21	57	Open water	Very good: Close to Colorado, cottonwood bosque, brushy (willow, Russian olive, elm), grassy ( <i>Bromus</i> sp.), bouldery, fairly remote, protected. No cattle. Left bank not populated, may have few cats and dogs. Dogs and cats on this right/west bank.	9/10-10/19: Rock squirrel, raccoons, striped skunk, <b>red fox (9/23, 10/2, 10/12, and 10/14)</b> , gray fox (9/15 rubbing on lure), domestic dogs and cats. 10/19-11/5: Raccoons, striped skunk, rock squirrel, gray fox, domestic cat (with prey 10/31). Raccoon and skunk together (10/25). Observed: raccoon tracks.	Rock squirrel, raccoon, striped skunk, red fox, gray fox, domestic cat, dog	18570

## Appendix O — Sample Screenshots of Photo Catalogue





## Appendix P — Abbreviations

---

<b>BLM</b>	U.S. Bureau of Land Management
<b>GPS</b>	Global Positioning System
<b>HUC</b>	Hydrologic Unit Code ( <a href="https://nas.er.usgs.gov/hucs.aspx">https://nas.er.usgs.gov/hucs.aspx</a> )
<b>NMDGF</b>	New Mexico Department of Game and Fish
<b>RECONYX</b>	Brand name of wildlife cameras that we used for this survey ( <a href="https://reconyx.com">reconyx.com</a> )
<b>USFS</b>	U.S. Forest Service
<b>USFWS</b>	U.S. Fish and Wildlife Service
<b>WMA</b>	Wildlife Management Area ( <a href="http://www.wildlife.state.nm.us/conservation/state-game-commission-lands/">www.wildlife.state.nm.us/conservation/state-game-commission-lands/</a> )

## Appendix Q — References

---

[BISON-M] Biota Information System of New Mexico. 2022. ([www.bison-m.org](http://www.bison-m.org))

Armstrong, David. 1972. *Distribution of Mammals in Colorado*, Monograph 3. Museum of Natural History, University of Kansas , Kansas, USA.

Armstrong, David, J. P. Fitzgerald, and C.A. Meaney. 2011. *Mammals of Colorado*, 2nd edition, Denver Museum of Nature and Science, University of Colorado Press , Colorado, USA.

California Department of Fish and Game. 1996. Identification of Mammal Tracks from Smoked Track Plates. USDA Forest Service, General Technical Report PSW-GTR-157. 9 pp.

Bailey, Vernon. 1931-32. *Mammals of the Southwestern United States* (with special reference to New Mexico), Dover Publications, New York, USA. pp. 324-325.

deBuys, William. 2015. *Enchantment and Exploitation: The Life and Hard Times of a New Mexico Mountain Range*. University of New Mexico Press, Albuquerque, New Mexico, USA. 384 p.

deBuys, William. 2013. *A Great Aridness – Climate Change and the Future of the American Southwest*. Oxford University Press, New York, USA. 384 p.

Findley, James S., A.H. Harris, D.E. Wilson, and C. Jones. 1975. *Mammals of New Mexico*, University of New Mexico Press, Albuquerque, New Mexico, USA.

Fitzgerald, James P., C.A. Meaney, and D.M. Armstrong. 1994. *Mammals of Colorado*, Denver Museum of Natural History and University of Colorado Press. pp 345-348.

Frey, J.K. In Press. American mink (*Neogale vison*). Chapter 24 in (J-L. Cartron and J.K. Frey, editors) *The Wild Carnivores of New Mexico*. University of New Mexico Press, Albuquerque, New Mexico, USA.

Frey, J.K. 2018. Beavers, livestock, and riparian synergies: bringing small mammals into the picture. In *Riparian Research and Management: Past, Present, and Future. Volume 1*. US Forest Service, Rocky Mountain Research Station, General Technical Report, RMRS-GTR-377.

Long, B., M. East, and J. Klingel. 2015. Snow-tracking Surveys and Camera Trapping for American Marten in the Pecos Wilderness and San Pedro Parks Wilderness Areas, in North Central New Mexico. Final report prepared for the Share with Wildlife Program, New Mexico Department of Game and Fish, Santa Fe, New Mexico, USA.

- [NMDGF] New Mexico Department of Game and Fish. 2016a. Biennial Review of Threatened and Endangered Species. ([http://bison-m.org/documents/48928\\_2016BiennialReview\\_FINAL\\_05October.pdf](http://bison-m.org/documents/48928_2016BiennialReview_FINAL_05October.pdf))
- [NMDGF] New Mexico Department of Game and Fish. 2016b. State Wildlife Action Plan for New Mexico. ([www.wildlife.state.nm.us/download/conservation/swap/New-Mexico-State-Wildlife-Action-Plan-SWAP-Final-2019.pdf](http://www.wildlife.state.nm.us/download/conservation/swap/New-Mexico-State-Wildlife-Action-Plan-SWAP-Final-2019.pdf))
- [NMDGF] New Mexico Department of Game and Fish. 1967. *New Mexico Wildlife Management*. Santa Fe, NM. pp. 189-190.
- Padgett-Stewart, T.M., T.M. Wilcox, K.J. Carim, K.S. McKelvey, M.K. Young, and M.K. Schwartz. 2016. An eDNA assay for river otter detection: a tool for surveying a semi-aquatic mammal. *Conservation Genetics Resources* 8:5-7. doi: 10.1007/s12686-015-0511
- Pollock M.M., T.J. Beechie, J. M. Wheaton, C.E. Jordan, N. Bouwes, N. Weber, and C. Volk. 2014. Using beaver dams to restore incised stream ecosystems. *Bioscience* 64:279–290
- Sales, N.G., M.B. McKenzie, J. Drake, L.R. Harper, S.S. Browett, I. Coscia, O.S. Wangenstein, C. Baillie, E. Bryce, D.A. Dawson, E. Ochu, B. Hänfling, L.L. Handley, S. Mariani, X. Lambin, C. Sutherland, and A.D. McDevitt. 2020. Fishing for mammals: Landscape-level monitoring of terrestrial and semi-aquatic communities using eDNA from riverine systems. *Journal of Applied Ecology* 57:707–716.
- Small, B.A., J.K. Frey, and C.G. Gard. 2016. Livestock grazing limits beaver restoration in northern New Mexico. *Restoration Ecology* 24(5):646–655.
- U.S. Forest Service. 2013. USFS R3 Regional Forester's Sensitive Species. ([www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsbdev3\\_021328.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_021328.pdf))
- USGCRP. 2018. *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, 1515 pp. doi: 10.7930/NCA4.2018. (<https://nca2018.globalchange.gov>)
- Yarbrough, J.W., and E.H. Studier. 1968. Mink in Northeast New Mexico. *The Southwest Naturalist* 13(1):105. <https://doi.org/10.2307/3668826>
- Zielinski, W. J., and T.E. Kucera. 1995. *American Marten, Fisher, Lynx, and Wolverine: Survey Methods for Their Detection*, General Technical Report PSW-GTR-157, Pacific Southwest Research Station.

## Acknowledgements

---

This survey was conducted under the auspices of the New Mexico Department of Game and Fish, Share with Wildlife Program, with funding from the U.S. Fish and Wildlife Service (Wildlife Restoration Section 4 Grant W-208-R-1).

We would like to acknowledge and thank the scores of people who helped to make this mink survey as thorough as possible. Some of you gave us permission to work on the public and private lands that you steward. Some of you volunteered in the field with us. Some of you did both. Some of you expressed interest in conducting your own surveys on your own lands. You all answered our questions about whether you'd ever seen mink or knew of records or promising habitat in New Mexico or southern Colorado. And all of you were a pleasure to work with.

We would especially like to acknowledge and thank Ginny Seamster, Coordinator of the Share with Wildlife Program at the New Mexico Department of Game and Fish, for her steady, exceptionally competent, and gracious guidance and support throughout the year.

Our thanks and appreciation go out to all of you: Art Anaya, Chris Anderson, Mike Atkinson, Bryden Baker, Jean "Nikki" Berkebile, Lance Bernal, Frank Blackmer, Lindsay Blade, Kylie Brunette, Mark Bundren, Melvin "Danny" Burton, John David Blagg, Tom and Bridget Boyle, Bill deBuys, Alfredo Castro, David Certain, Christa Coggins, Francisco Cortez, Ryan Darr, Sean Dunn, Andrew Ellis, Jon Erz, Nick Foreman, David Franklin, Lee Ferguson, Bob Findling, Dave Ford, Jennifer Frey, Roddy Gallegos, Scott Gilmore, Brother Aiden Gore, Jay Harris, Shannon Hatch, Keri Hatley, Neil Hogan, Alan Hook, Phillip Hughes, Ryland Hutchins, Jake Ivan, Janon Johnson, Elisa Keir, David Kenneke, Micah Kiesow, Heidi Klingel, Adam Ladell, Jennifer Lindsley, Chris Lohrengel, Jeff Long, Todd and Raye Malzhan, Cameron Martinez, Christa Martinez, Francina Martinez, Kay Matthews, Scott Miller, Jonathan Montoya, Esteban Muldavin, Bud Nelson, Jeff Ogburn, Andy Otto, Kate Pendleton, Sarah Potter, Alyssa Radcliff, Shantini Ramakrishnan, Greg and Donna Schmitt, Ginny Seamster, Alysha Shaw, Andre Silva, Jackie Smith, Sue Strebe, Jim Stuart, Brendon Sucher, Kyle Tator, Kathryn Turner, Calvin Vialpando, Mark Vieira, Christopher Vigil, Kristen Warren, Lynn Wilbur, and Bill Zeedyk.