

Black-footed Ferret Conservation and Recovery

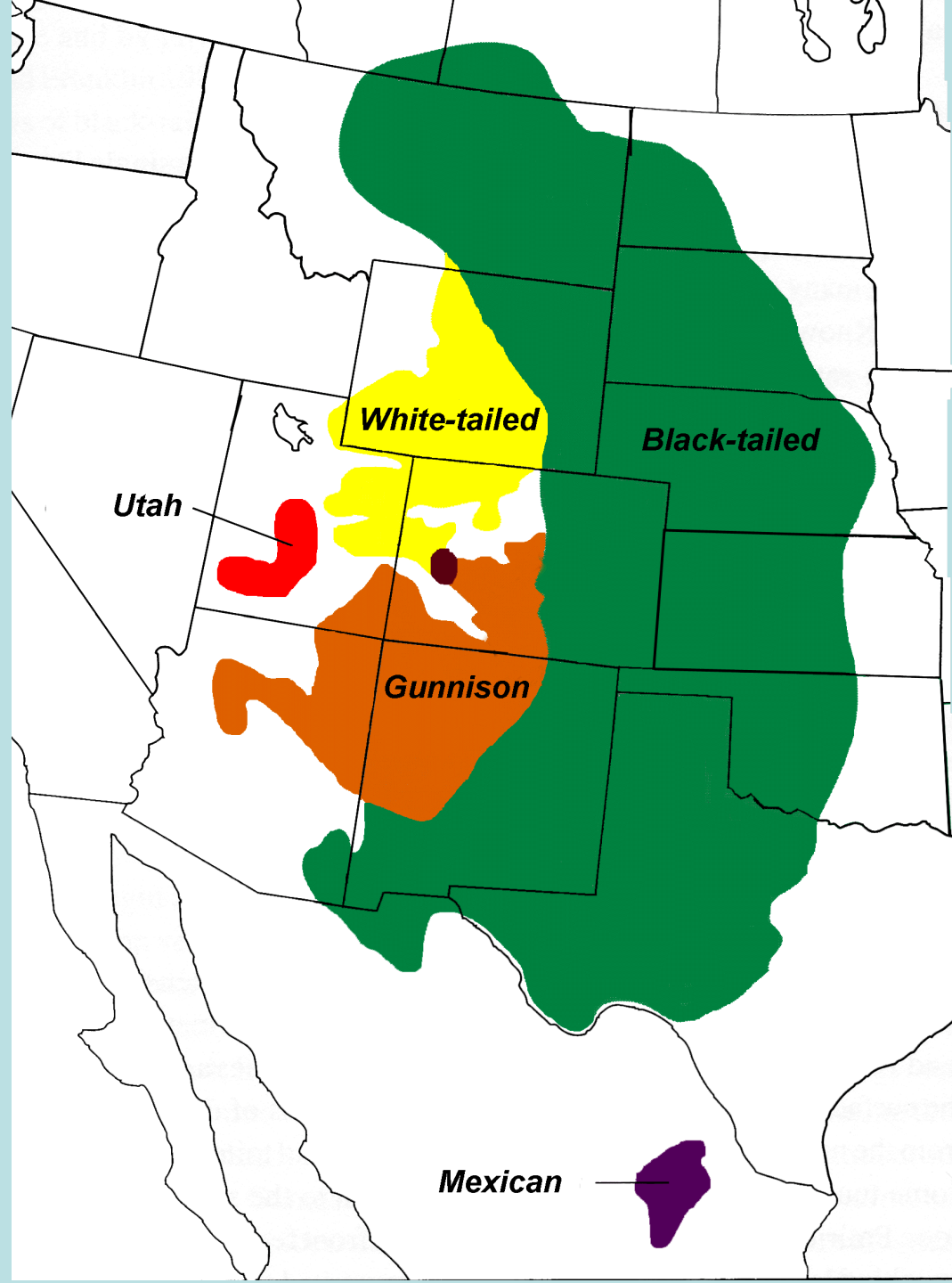


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The historical range of the black-footed ferret coincided with ranges of the black-tailed, white-tailed, and Gunnison's prairie dogs. Approximately 85% of all ferrets occurred in black-tailed prairie dog habitat, 8% in Gunnison's, and 7% in white-tailed.



Black-footed Ferret Decline

The decline of the black-footed ferret was tied to its close association with prairie dogs, which were dramatically reduced beginning in the late 1800s due to:

- Conversion of native range to cropland (1880s - 1920s)
- Large-scale prairie dog poisoning (1918 - 1972)
- Sylvatic plague (1940s - present)
- Unregulated recreational shooting (certain circumstances; 1960s – present)

Mellette County, SD 1964-1974

- First BFF population ever studied
- First gained ecological insights
- Presumed extinct in wild by 1974
- Black-tailed prairie dogs



Meeteetse, WY 1981-1987

- Gained first real data on population parameters
- Population peaked at 129 BFFs in 1984
- White-tailed prairie dogs
- Declined due to sylvatic plague
- Last 18 individuals captured for captive breeding



Captive breeding 1987-present

- Founder population of 7 animals
- Took considerable effort to produce enough kits to consider reintroductions back into wild.



Black-footed Ferret Recovery Goals & Habitat Needs by State

STATE	Minimum # Breeding Adults Alive	# Adults / # Acres Suggested to Downlist	# Adults / # Acres Suggested to Delist
Arizona	20	74 adults/17,000 ac	148 adults/34,000 ac
Colorado	57	149 adults/29,000 ac	288 adults/58,000 ac
Kansas	18	123 adults/18,500 ac	246 adults/37,000 ac
Montana	48	147adults/22,000 ac	294 adults/44,000 ac
Nebraska	0	134 adults/20,000 ac	268 adults/40,000 ac
New Mexico	0	220 adults/39,000 ac	440 adults/78,000 ac
North Dakota	0	38 adults/6,000 ac	76 adults/12,000 ac
Oklahoma	0	70 adults/10,500 ac	140 adults/21,000 ac
South Dakota	145	102 adults/15,000 ac	204 adults/30,000 ac
Texas	0	254 adults/38,000 ac	508 adults/76,000 ac
Utah	10	25 adults/6,000 ac	50 adults/12,000 ac
Wyoming	72	171 adults/35,000 ac	342 adults/70,000 ac
Total	370	1,507 adults/256,000 ac	3,004 adults/512,000 ac

Plague Pathway

Yersinia pestis – non-native bacterium that causes plague



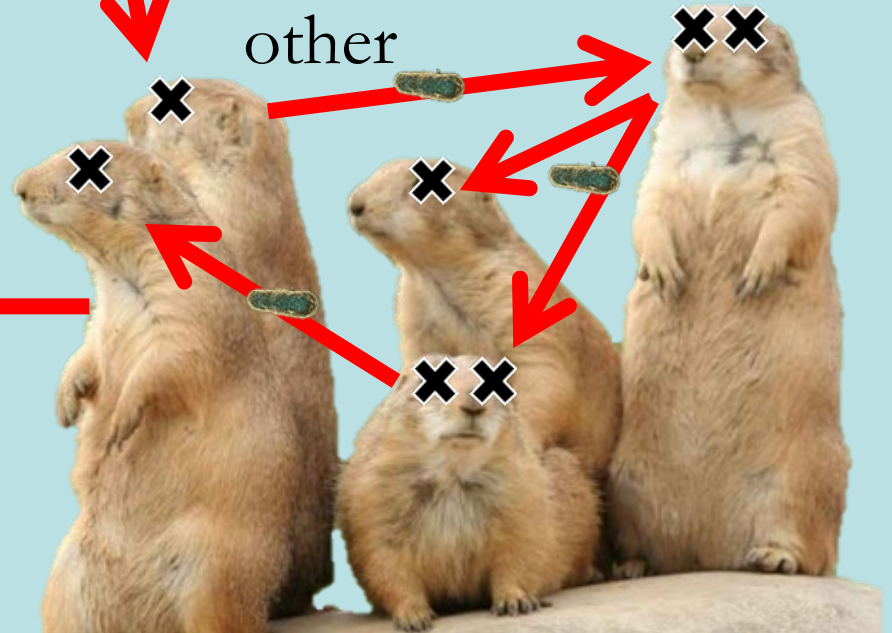
Flea bites BFF



Flea bites prairie dog



Prairie dogs infect each other



BFF eats prairie dog

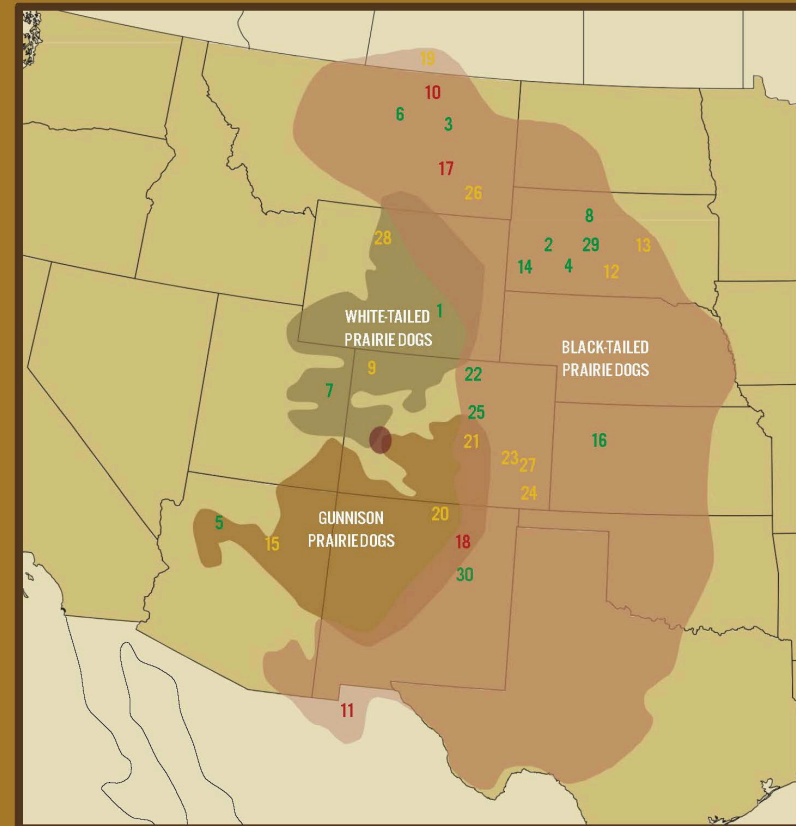
Plague Management Options

- Initiate more reintroduction sites to enhance risk management options - **ongoing**
- Dusting prairie dog burrows with deltamethrin – **ongoing**
- Exploring use of different products, Fipronil
- USGS is conducting research & development of vaccines to prevent plague in prairie dogs and ferrets.
 - Vaccinate ferrets directly – **Ongoing**
 - Vaccinate prairie dogs via oral bait – **Field testing studies**



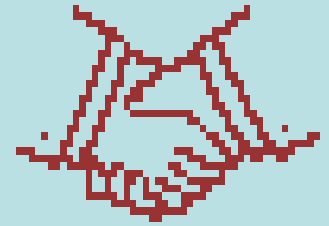
BLACK-FOOTED FERRET REINTRODUCTION SITES

INITIAL RELEASE # (YEAR)



1. Shirley Basin, WY (1991)
2. Badlands NP, SD (1994)
3. UL Bend NWR, MT (1994)
4. Conata Basin, SD (1996)
5. Aubrey Valley, AZ (1996)
6. Ft. Belknap Reservation, MT (1997)
7. Coyote Basin, UT (1999)
8. Cheyenne River Reservation, SD (2000)
9. Wolf Creek, CO (2001)
10. BLM 40-Complex, MT (2001)
11. Janos, Mexico (2001)
12. Rosebud Reservation, SD (2004)
13. Lower Brule Reservation, SD (2006)
14. Wind Cave NP, SD (2007)
15. Espee Ranch, AZ (2007)
16. Logan County, KS (2007)
17. Northern Cheyenne Reservation, MT (2008)
18. Vermejo Park Ranch, NM (2008)
19. Grasslands NP, SK, Canada (2009)
20. Vermejo Park Ranch, NM (2012)
21. Walker Ranch, CO (2013)
22. Soapstone Complex, CO (2014)
23. North Holly Complex, CO (2014)
24. Liberty Complex, CO (2014)
25. Rocky Mountain Arsenal National Wildlife Refuge, CO (2015)
26. Crow Indian Reservation, MT (2015)
27. South Holly Complex, CO (2015)
28. Meeteetse, WY (2016)
29. Bad River Ranch, SD (2017)
30. Moore Ranch, NM (2018)

Partners & Participants



- **Federal Agencies** (FWS, USGS, USFS, BLM, NPS, NRCS, APHIS, US Army, BIA)
- **States** (AZ, CO, KS, MT, NM, SD, UT, WY)
- **Local Governments** (Fort Collins, Boulder County)
- **Foreign Governments** (Canada, Mexico)
- **Tribes** (Cheyenne River Sioux, Crow, Ft. Belknap, Lower Brule, Northern Cheyenne, Rosebud, Navajo)
- **NGOs** (Audubon KS, Defenders of Wildlife, NWF, Prairie Wildlife Research, Turner ESF, TNC, WWF)
- **Zoos** (FWS NBFFCC, Smithsonian, Louisville, Cheyenne Mountain, Phoenix, Toronto)
- **Private landowners** (AZ, CO, KS, NM, SD, WY)

Ferret Reintroduction Efforts in South Dakota

Cheyenne River Sioux Tribe 2000

**Conata Basin
Badlands
1994-96**

**Wind Cave
2007**

**Rosebud Sioux
Tribe 2004**

**Bad River
Ranch 2017**

**Lower Brule Sioux
Tribe 2006**



The state's role....





Responsibility and Authority

- Endangered And Threatened Species (SDCL 34A-8A)
 - State Endangered
 - “The Department of Game, Fish and Parks and the Department of Agriculture shall perform those acts necessary for the conservation, management, protection, restoration, and propagation of endangered, threatened, and nongame species of wildlife.”
 - Status review of endangered and threatened species
 - Cooperate with USFWS in meeting down-listing and delisting goals as identified in the federal recovery plan (2013)
 - If federally down-listed or delisted, we will reevaluate state listing status



Responsibility and Authority

- Section 6 of the Endangered Species Act
 - Agreement to cooperate in the conservation and recovery of listed species (1977 to present)
 - Work with the USFWS in meeting down listing and delisting goals
 - Share information
 - Funding
 - Disease research to assess risk pre and post-Conata Basin reintroduction ; 6 years of research in 1990's
 - Monitor SD's first reintroduced population via radio-telemetry

Conservation Actions

- Relationships
- Partnerships
- Reintroductions



Conservation Actions-Relationships



- Extensive public involvement
 - “I have nothing against ferrets...”
 - Ferrets need prairie dogs
 - Finding places that had enough prairie dogs
- Neighboring Landowners
 - Unwanted ferrets
 - Unwanted prairie dogs
 - Public to private land encroachment-SDGFP
 - Private to private land encroachment-SD Dept. of Ag.

Conservation Actions- Partnerships



- Black-footed Ferret Recovery Implementation Team
 - National
 - State
- Conata coordination meetings (>25 years)
 - FS, NPS, SDGFP, Prairie Wildlife Research, USGS, additional NGOs
- Prairie Dog Conservation Team
 - Multi-state conservation planning
 - WAFWA

Conservation Actions- Reintroductions



Conata Basin



Reintroduction Site	Year	Current Ferret Estimate
Badlands NP	1994	➤ 50
Buffalo Gap NG	1996	➤ 64
Cheyenne River	2000	➤ 3
Rosebud	2003	➤ 5
Lower Brule	2006	➤ 5
Wind Cave NP	2007	➤ 30
Bad River Ranch	2017	➤ ----
		157

Conservation Actions- Bad River Ranches



- First reintroduction on private land in SD
- Safe Harbor Agreement
 - encourage non-federal landowners to voluntarily engage in conservation activities to benefit and advance recovery of TE species
 - withdraw at any time without penalty
 - provide regulatory assurances and flexibility
 - neighbors are protected
- Bad River Ranches



Black-footed Ferret Reintroduction Project at Bad River Ranches, SD 1999-2018



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Bad River Ranches

Stanley and Jones Counties, SD

Stanley

Pierre

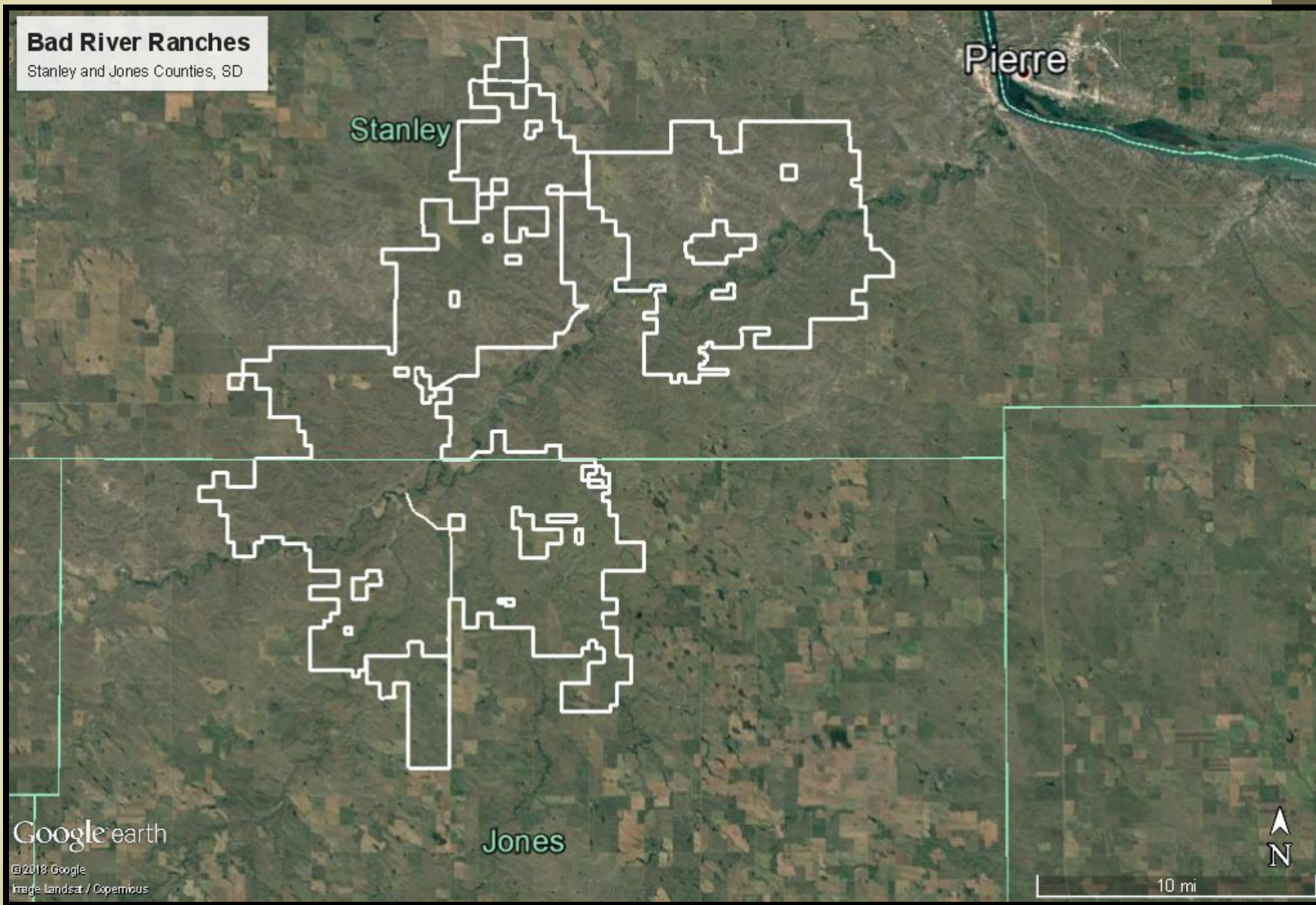
Jones

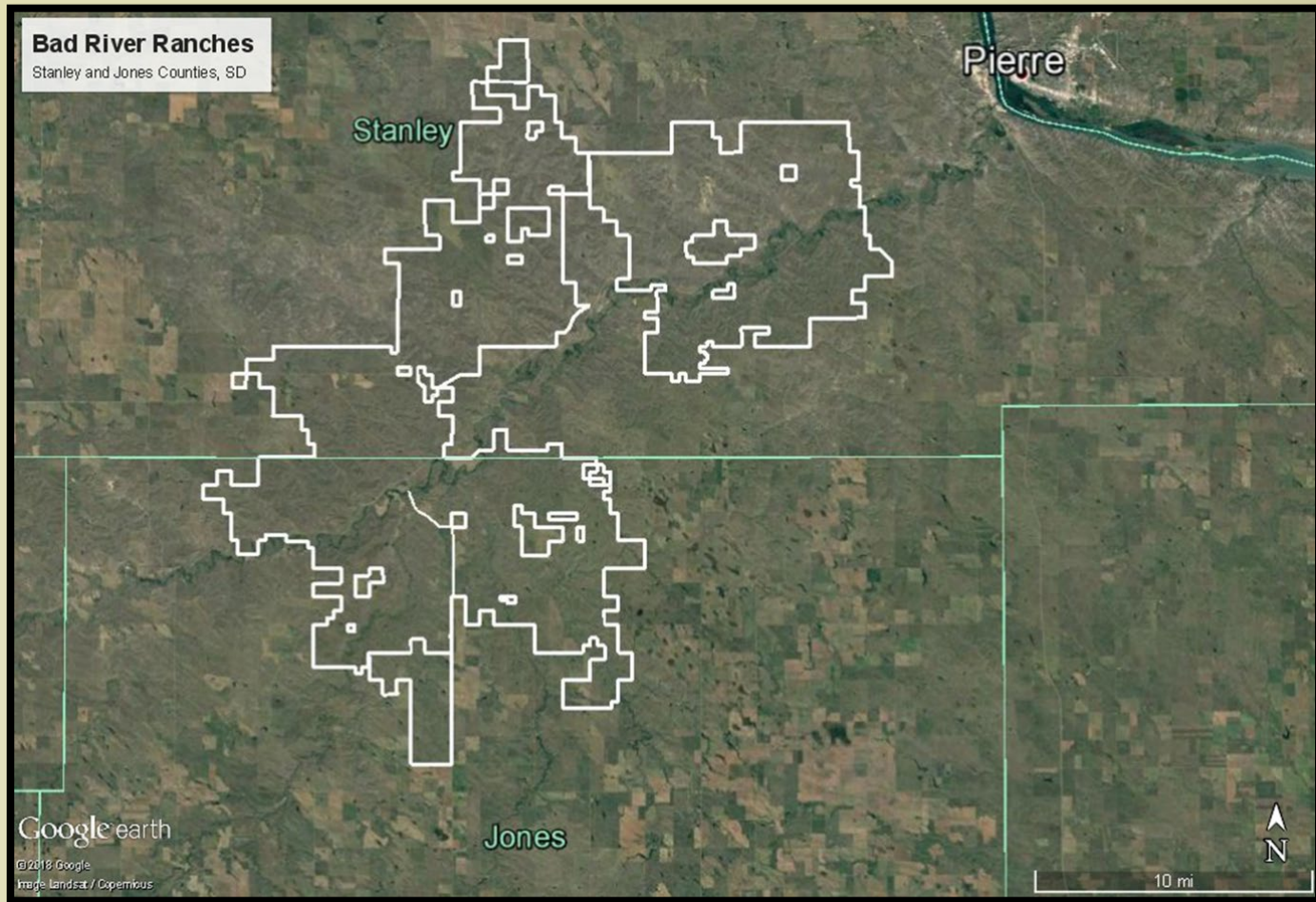
Google earth

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Image Landsat / Copernicus

N

10 mi





- 141,000 acre property
- Largest private landholding in Stanley and Jones counties and within South Dakota
 - Largest bison operation in North America



Credit: National Weather Service



- 8,400 acres of farmland returned to grassland; 260 acres of wildlife food plots maintained
- All 38 river miles of Bad River are fenced off; uplands and tributaries managed to limit sedimentation in Lake Sharpe



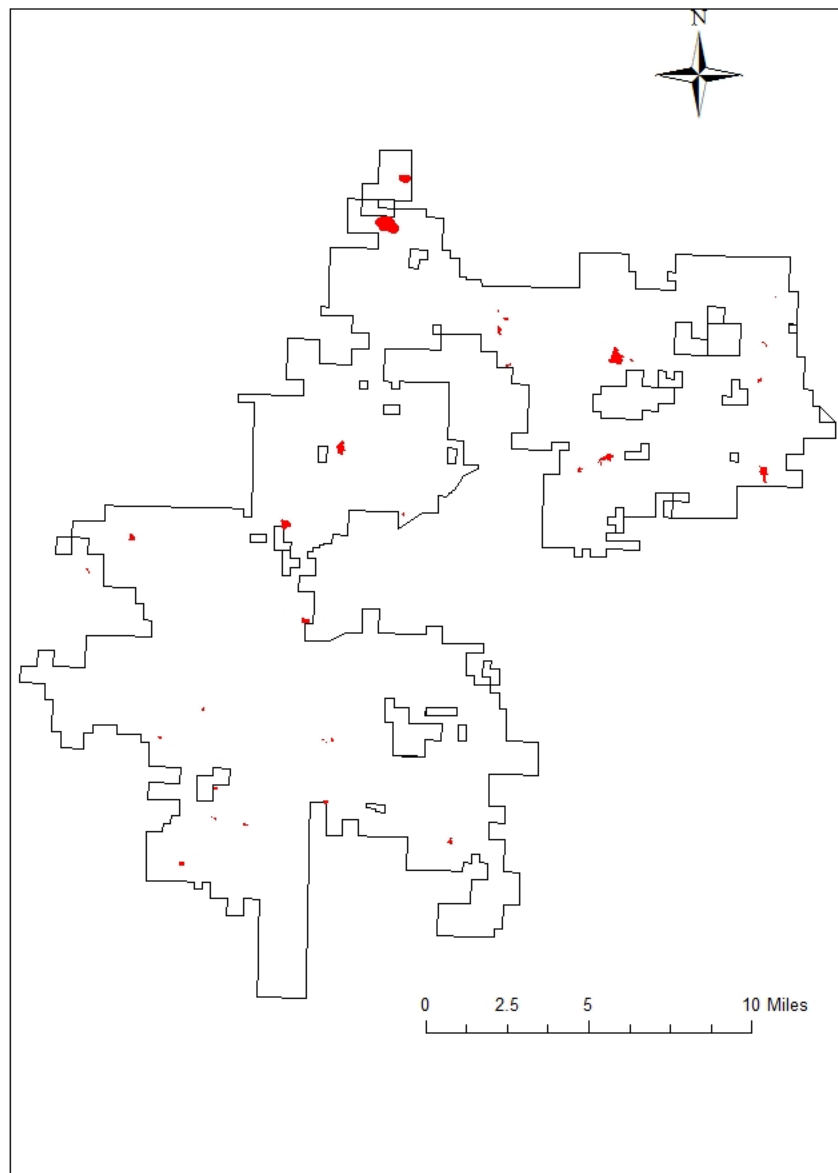
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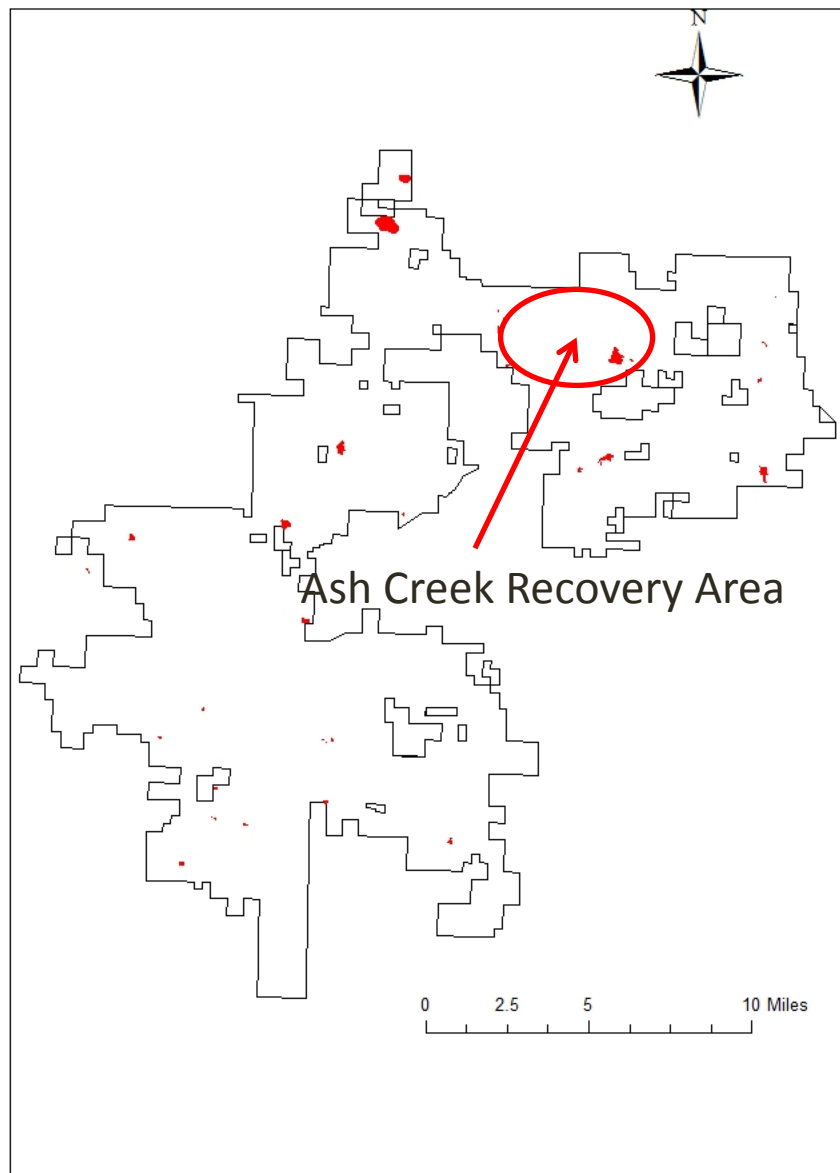


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1999



1999



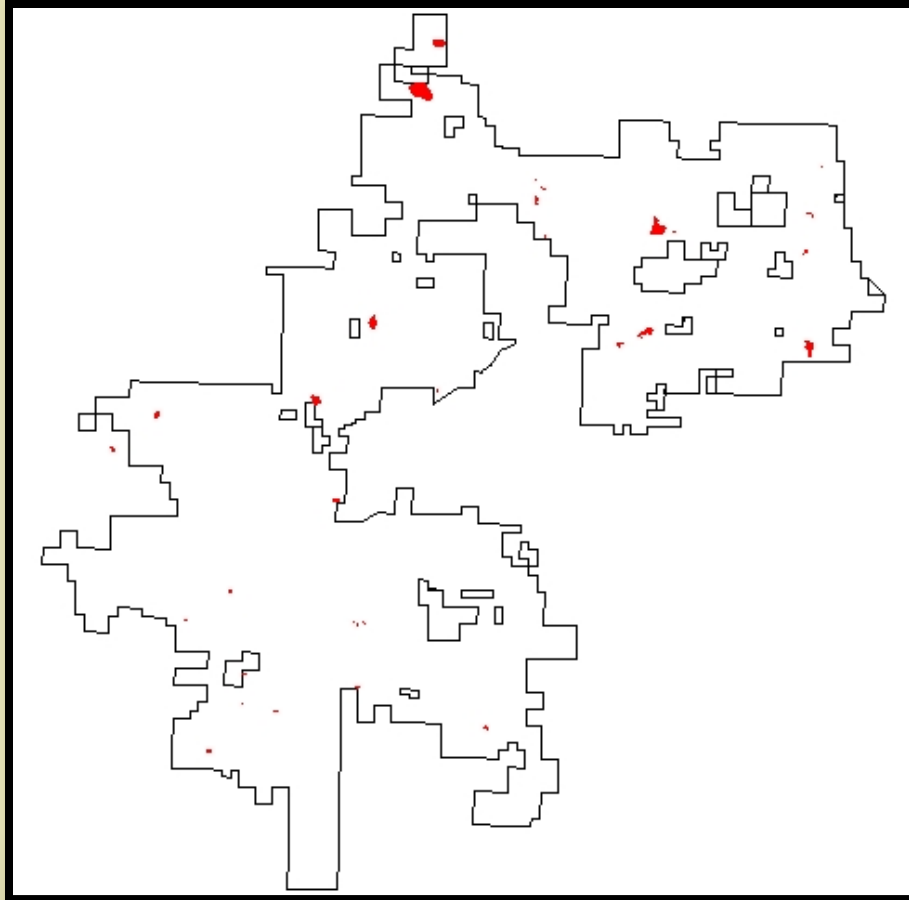
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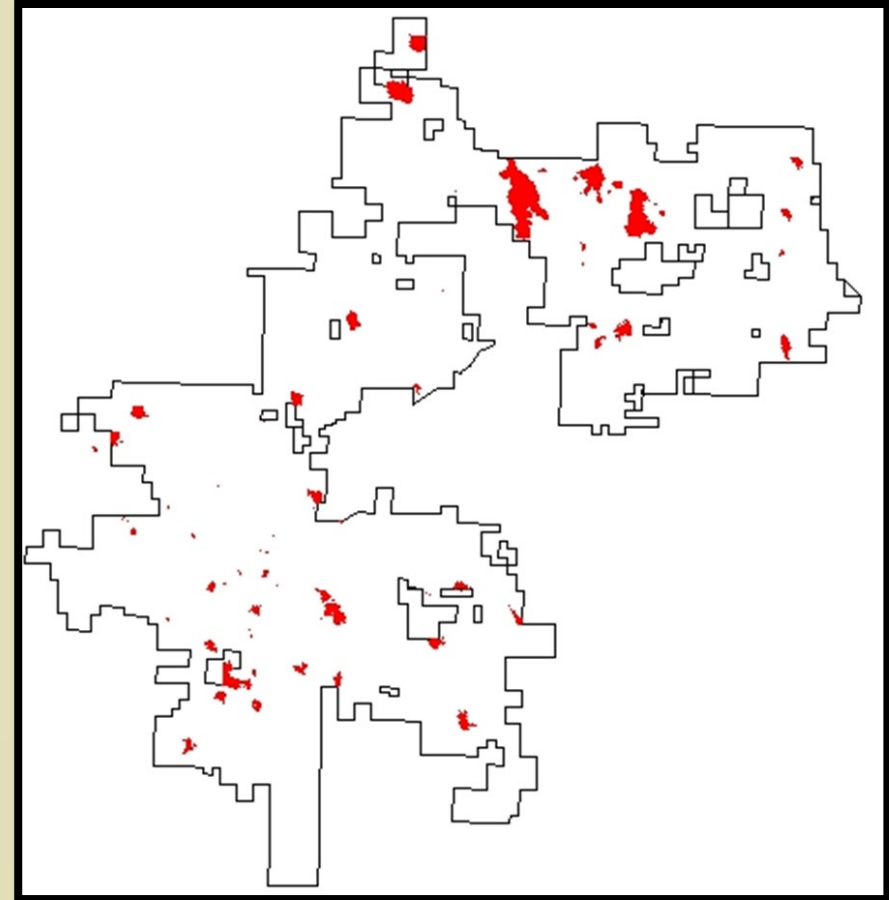
Credit: D. Showalter



Bad River Ranches Prairie Dog Colonies

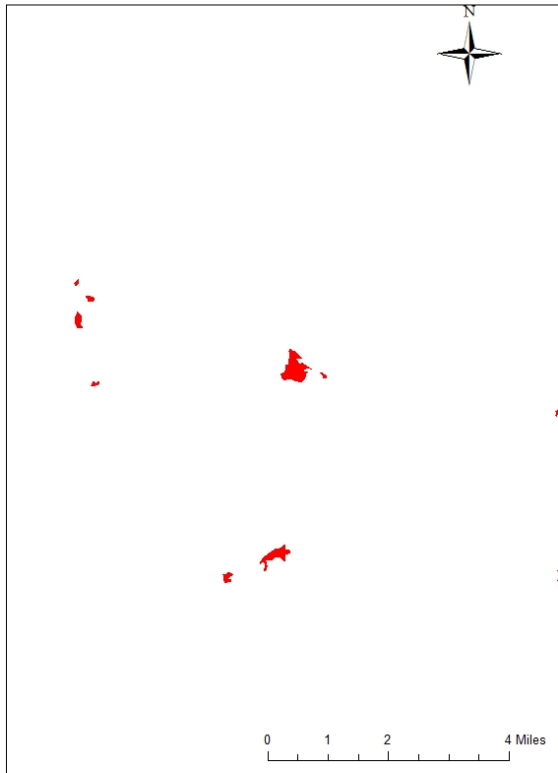


1999
670 acres



2011
3,253 acres

Ash Creek Recovery Area



1999
125 acres



2011
1,600 acres





2009-2011

- “Wild pre-conditioning” releases
- Would not contribute to Federal recovery objectives for species
- 37 ferrets released / 17 recaptured





2011

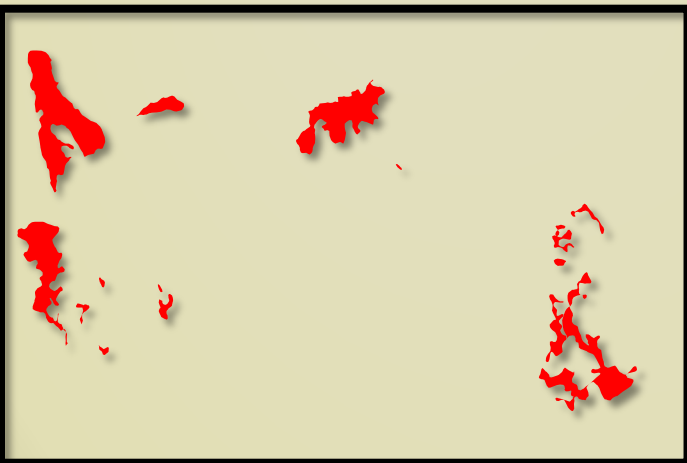
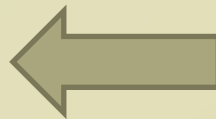


Getty Images

2012



2012



2013



2012-2017

Dusted prairie burrows with Deltamethrin which kills fleas and disrupts the plague cycle



contribute to Federal recovery
objectives for species



2017

Applied Sylvatic Plague Vaccine (SPV) to prairie dog colonies



- By early summer 2018 it became apparent plague once again had moved into the ferret release colonies.
- It is unclear why the SPV did not prevent or even limit the epizootic.
- All areas treated with the SPV plagues out while those areas we dusted with Deltamethrin persist.

