

Black-footed Ferret Recovery Program



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Press Release

Tigers, Rhinos, Polar Bears And Elephants Among Most Threatened Species In 2009, Says World Wildlife Fund

Iconic Animal Populations Being Decimated by Poaching, Loss of Habitat and Climate Change

For Release: Dec 16, 2008

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WASHINGTON DC, December 16, 2008 – World Wildlife Fund today released its annual list of some of the most threatened species around the world, saying that the long-term survival of many iconic animals is increasingly in doubt due to a host of threats.

WWF's list of "9 to Watch in 2009" includes such well-known and beloved species as polar bears, tigers, gorillas, pandas, elephants, whales and rhinos, as well as the lesser-known black-footed ferret and vaquita. WWF scientists say these, and many other species, are at greater risk than ever before because of poaching, habitat loss and climate change-related threats.

"If we don't get serious about saving these spectacular species, it's quite likely that many won't be around in the years to come," said Tom Dillon, WWF's senior vice president for Field Programs. "The potential loss of some familiar and beloved wildlife should be a wake-up call that immediate action must be taken if we want to live in a world with wild elephants, polar bears, and tigers. At the dawn of the new year, our global resolution for 2009 should be to save these amazing species before it's too late."

WWF's "9 to Watch in 2009" list:

1. Javan Rhinoceros
2. Vaquita
3. Cross River Gorilla
4. Sumatran Tiger
5. North Pacific Right Whale
6. Black-Footed Ferret

Population: 500 breeding adults. Location: Northern Great Plains, U.S. and Canada.

Found only in the Great Plains, it is one of the most endangered mammals in North America because its primary prey, the prairie dog, has been nearly exterminated by ranchers who consider it a nuisance. Few species have edged so close to extinction as the black-footed ferret and recovered, but through captive breeding and reintroduction, there are signs the species is slowly recovering. WWF has been working to save the black-footed ferret and the prairie dog population upon which the ferrets depend.

7. Borneo Pygmy Elephant
8. Giant Panda
9. Polar Bear

The black-footed ferret is an iconic species with worldwide attention.



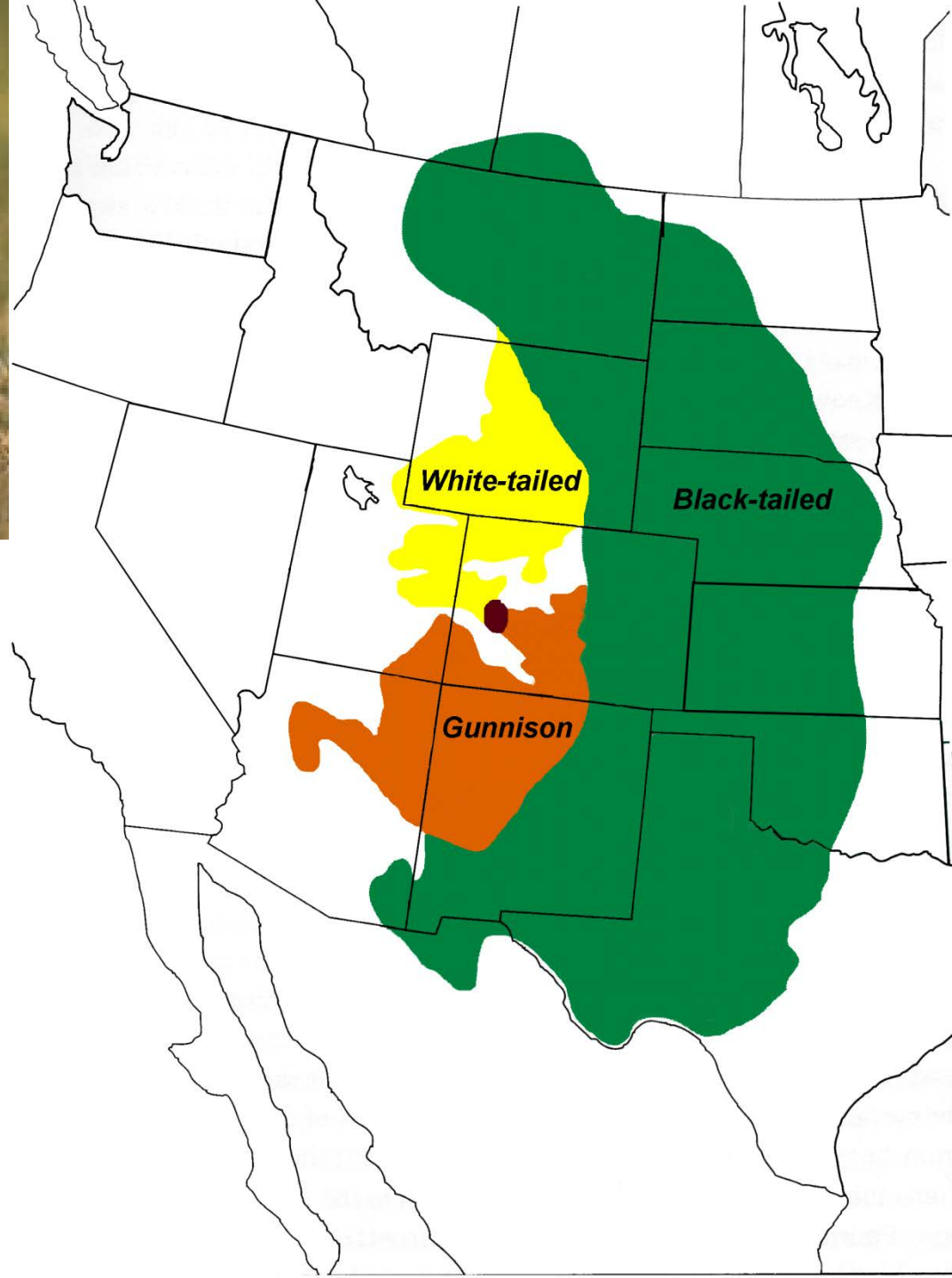


Black Footed Ferret





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.



Historically, the black-footed ferret occupied an estimated 100 million acres of intermountain and prairie grasslands in the western U.S., Canada, and Mexico, within ~ 562 million acres of potential habitat. By 1987, there were no remaining wild ferrets.

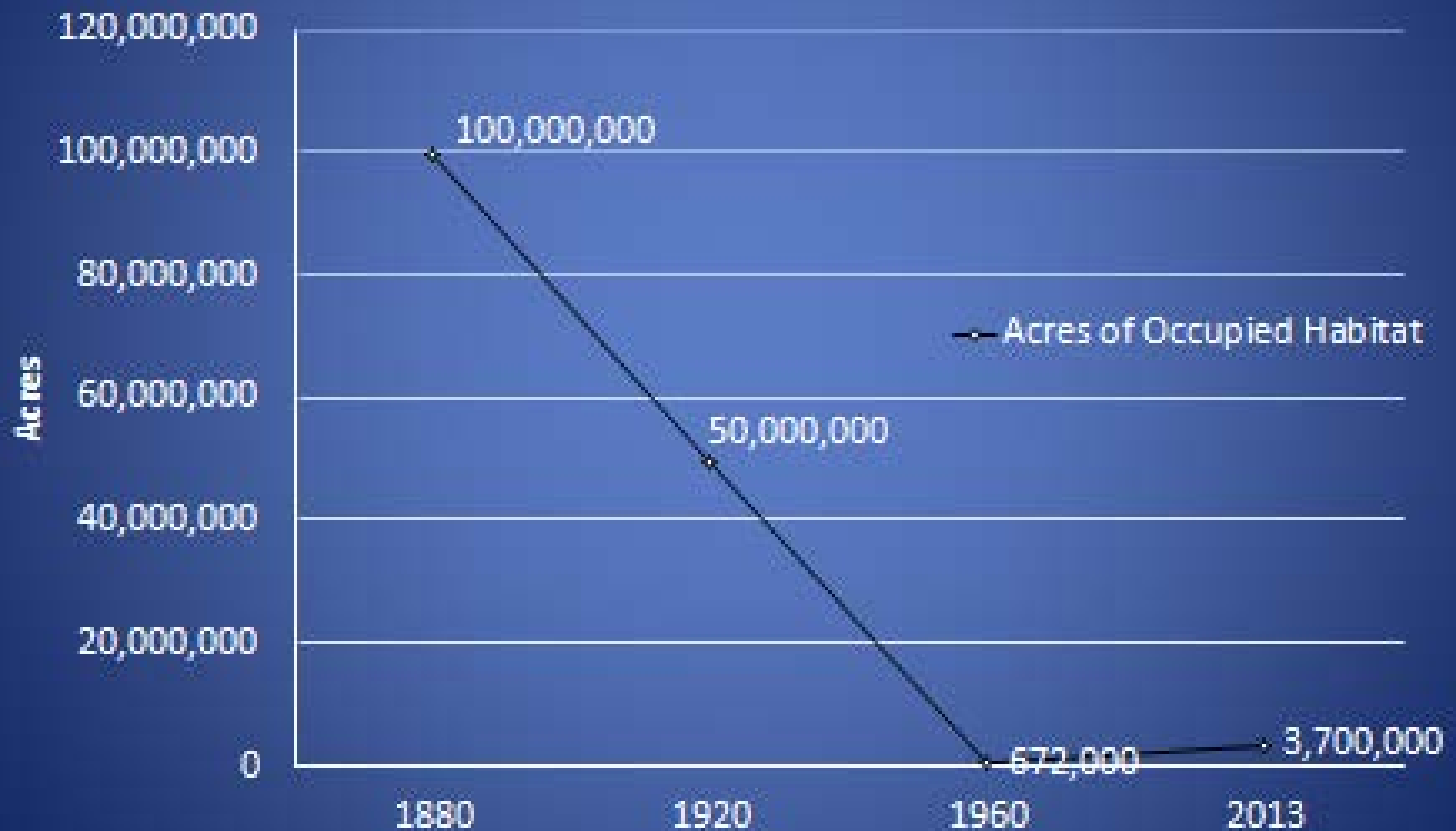


The decline of the black-footed ferret was tied to its close association with prairie dogs, which were dramatically reduced beginning in the late 1800s due to:

- Conversion of native range to cropland (1880s - 1920s)
- Large-scale prairie dog poisoning (1918 - 1972)
- Sylvatic plague (1940s - present)



Estimates of Occupied Prairie Dog Habitat



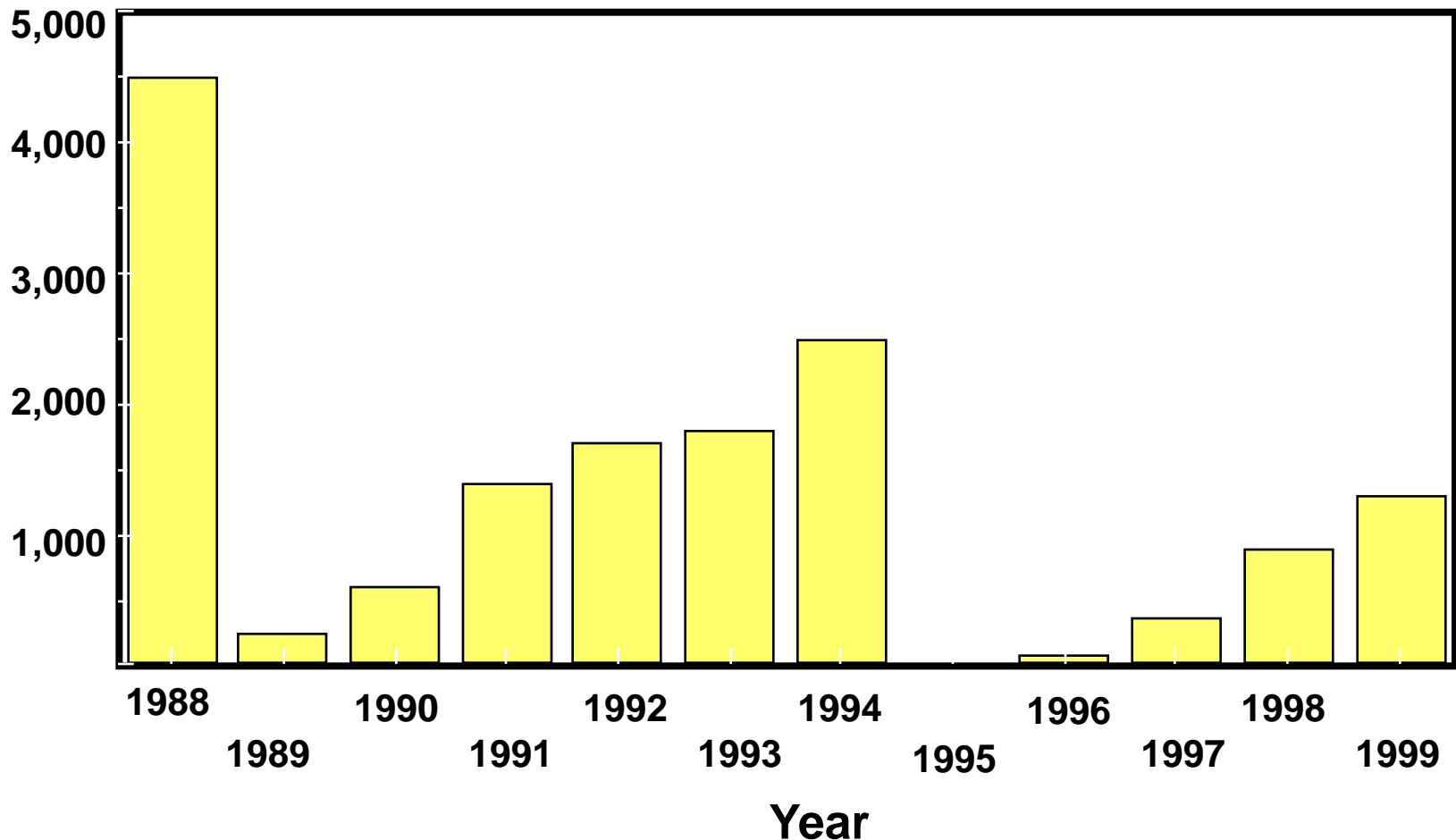
Sylvatic Plague

- **Caused by a bacterium in fleas**
 - Transmitted by flea bite,
 - Transmitted pneumonically, or
 - Transmitted by ingestion
- **Foreign to evolutionary history of North American species prior to 1900.**
- **Ferrets & prairie dogs have little or no immunity and die quickly following exposure.**
- **Other more tolerant rodents may act as enzootic hosts.**

Black-tailed Prairie Dog Occupied Habitat at Rocky Mountain Arsenal NWR

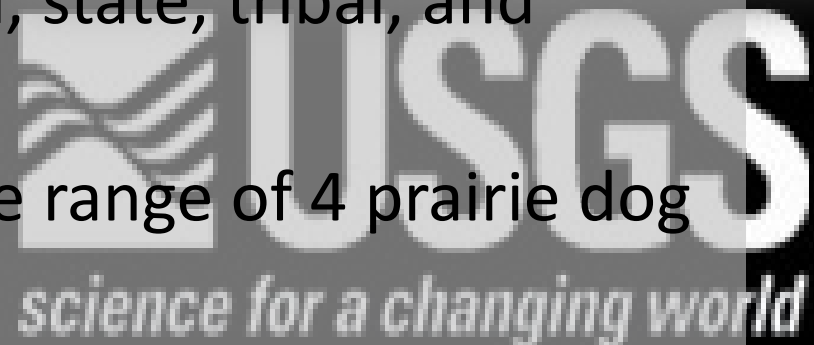
Fluctuations in Response to Plague

Acres



Plague Management

- Plague can be **managed** through ferret vaccination and vector control.
- Support is actively being sought for large-scale assistance from USDA APHIS-Wildlife Services.
- Vector control has limitations; oral sylvatic plague vaccine research trials show promise.
 - Conducted by USGS National Wildlife Health Center with several federal, state, tribal, and international partners.
 - 29 research sites across the range of 4 prairie dog species.



Captive Breeding Has Been Successful

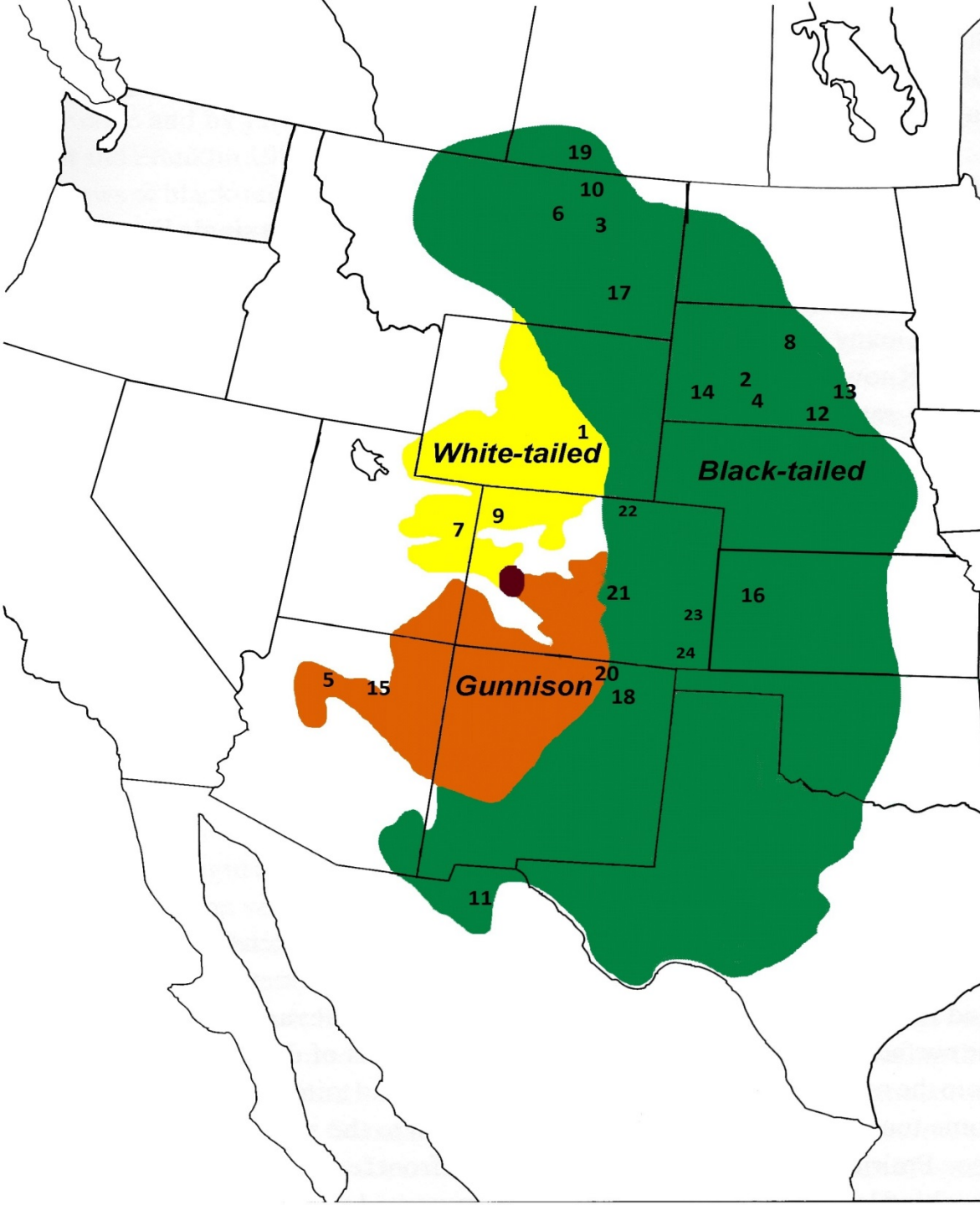
- Captive population ranges from 280 to 300 individuals (37.5% male and 62.5% female).
- Goal is to minimize decline in genetic diversity.
- Most genetically valuable kits retained in Species Survival Plan (85-100 per year).
- Remaining kits are allocated to reintroduction sites (approximately 210-230 each year) based on a suitability ranking matrix.

Pen-rearing has enriched natural behaviors & increased BFF survival rates when released into the wild.





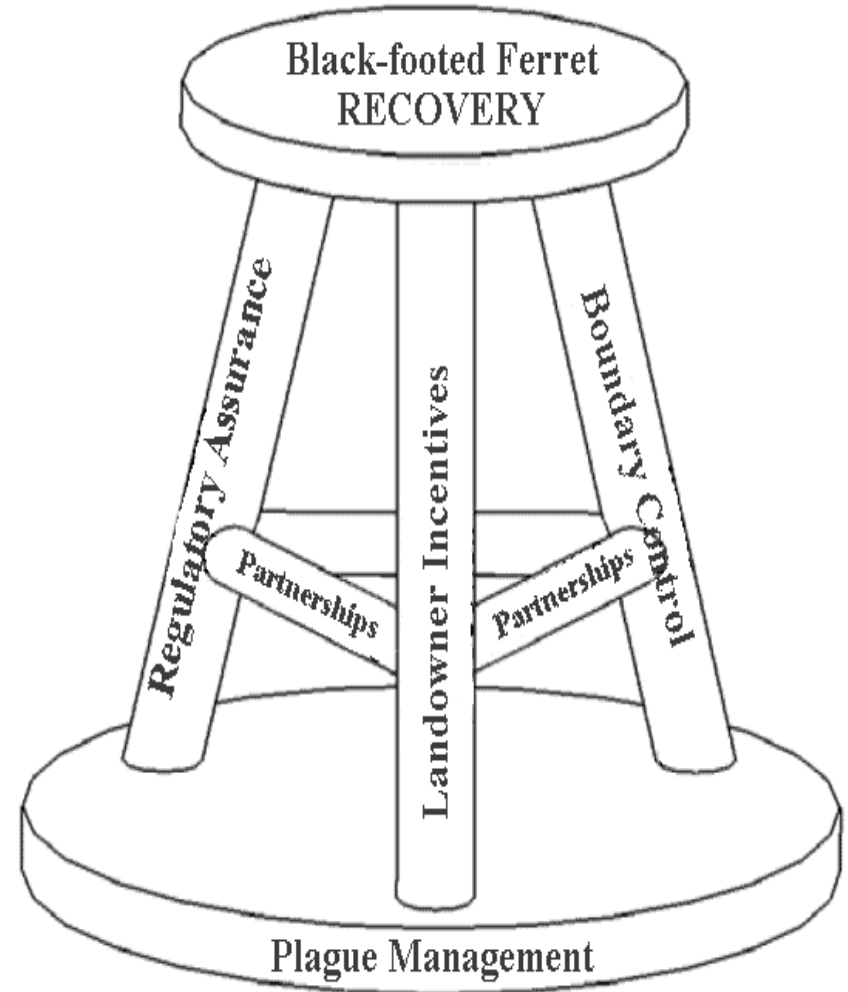
Reintroduction efforts have been successful



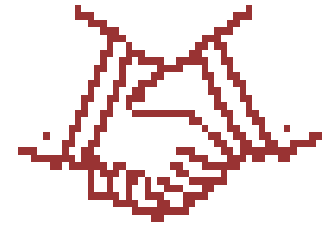
- 1) **Shirley Basin, WY, 1991**
- 2) Badlands NP, SD, 1994
- 3) UL Bend NWR, MT, 1994
- 4) **Conata Basin, SD, 1996**
- 5) Aubrey Valley, AZ, 1996
- 6) Ft. Belknap, MT, 1997
- 7) Coyote Basin, UT, 1999
- 8) Cheyenne River, SD, 2000
- 9) Wolf Creek, CO, 2001
- 10) BLM 40 Complex, MT, 2001
- 11) Janos, Mexico, 2001
- 12) Rosebud, SD, 2003
- 13) Lower Brule, SD, 2006
- 14) Wind Cave NP, SD, 2007
- 15) Espee Ranch, AZ, 2007
- 16) Logan County, KS, 2007
- 17) Northern Cheyenne, MT, 2008
- 18) Vermejo Ranch, btpr NM, 2008
- 19) Grasslands NP, SK, 2009
- 20) Vermejo Ranch gpd, NM , 2012
- 21) **Walker Ranch, CO, 2013**
- 22) City of Fort Collins, CO, 2014
- 23) Prowers County, CO, 2014
- 24) Baca County, CO, 2014

Management Challenges

- Regulatory assurances (Programmatic Safe Harbor Agreement and existing 10j areas)
- Landowner incentives to increase tolerance of prairie dogs
- Boundary prairie dog control (where needed)
- Refinement of an oral plague vaccine for prairie dogs



Partners & Participants



- **Federal Agencies** (FWS, USGS, USFS, BLM, NPS, APHIS-WS, US Army, BIA)
- **States** (AZ, CO, KS, MT, NE, ND, NM, OK, SD, TX, UT, WY)
- **Tribes** (Hualapai, Navajo, Cheyenne River, Ft. Belknap, Lower Brule, Northern Cheyenne, Rosebud, Standing Rock)
- **NGOs** (Audubon KS, Defenders of Wildlife, NWF, Prairie Wildlife Research, Turner ESF, TNC, WWF)
- **Zoos** (Cheyenne Mountain, Toronto, FWS BFFCC, Lincoln Park, Louisville, Phoenix, Smithsonian, Toronto)
- **Private citizens** (AZ, CO, KS, UT, WY)
- **Foreign Governments** (Canada, Mexico)



Great Partners!



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Progress: ferrets



CN

Year	# Released	MNA (1 yr survivor or wildborn kit)	# Adult Females	# Litters
2009	34	-	-	-
2010	15	12	7	1
2011	15	13*	4	3
2012	11	12	5	3
2013	0	3	2	0

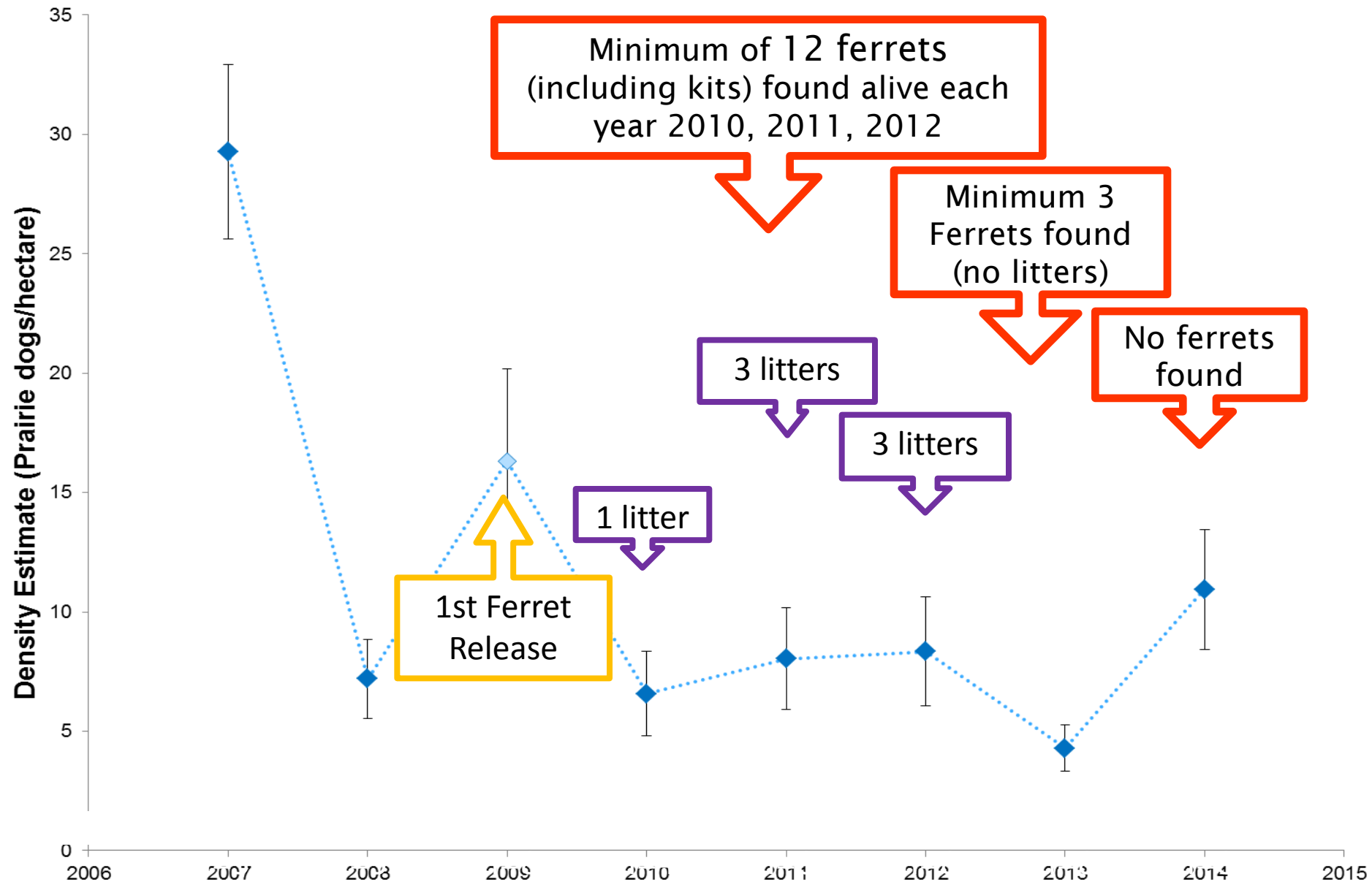
*12 MNA confirmed in survey, with 1 additional ferret confirmed alive in a subsequent survey

- Ferrets established initially; Annual MNA = 12 - 13
- 6 ferrets had litters (2010-2012); includes a second generation of wild born kits in 2012.
- 2011 released ferrets had poor 300 day retention (8%) compared to 2009 (26%) and 2010 (20%) release cohorts.
- No ferrets released since 2012 due to low prairie dog densities.

Challenges: ferret decline

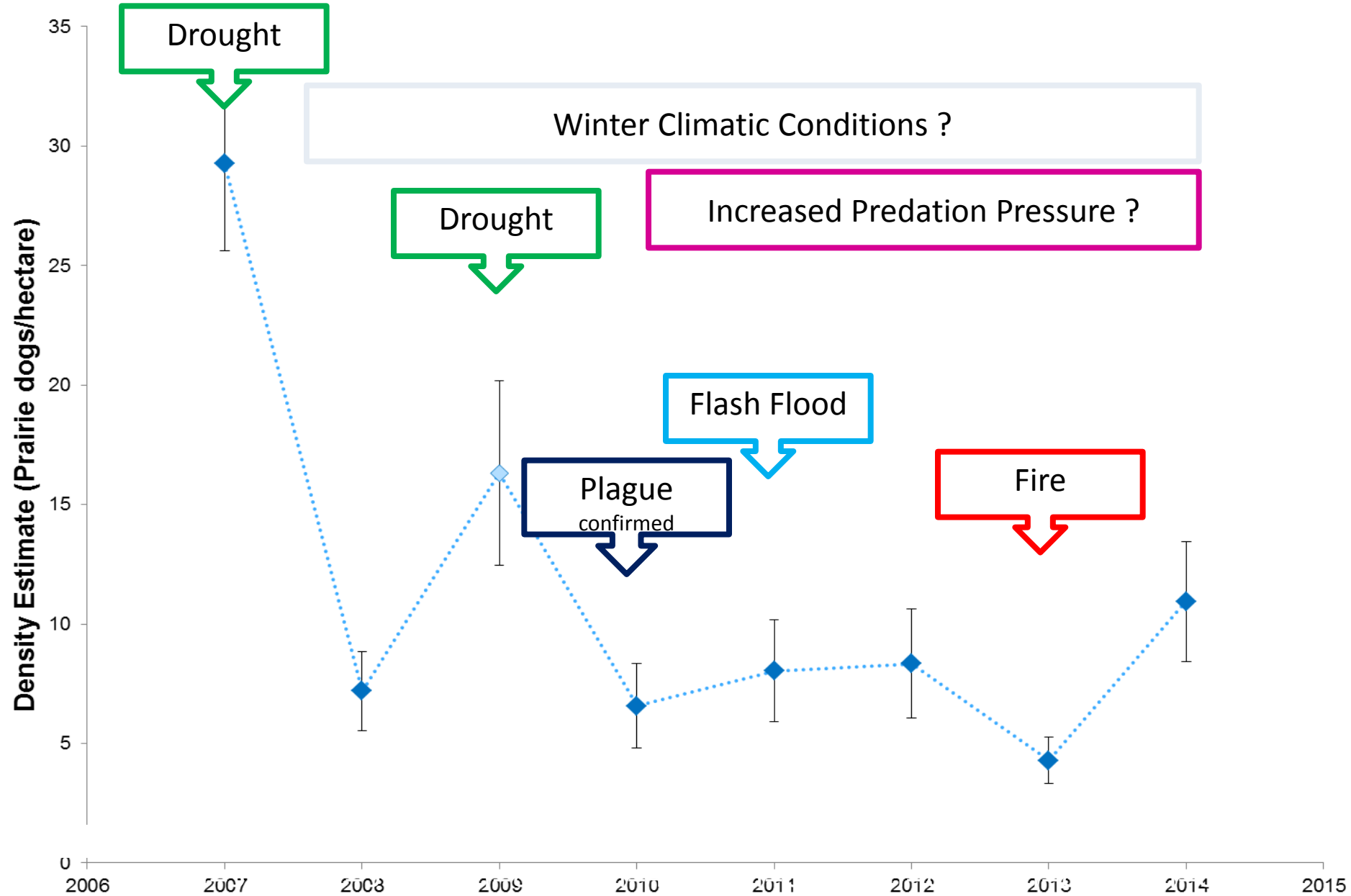


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Potential Drivers?





Challenges: Plague and Habitat



CN

- Magnitude of enzootic plague is unknown.
- No clear detectable effect of dusting on prairie dog survival or density; scale of research may be an issue.
- Regulatory challenges associated with deltamethrin use.
- Further research is required to understand plague ecology at northern extent of prairie dog range.
- Site may be added to future sylvatic plague vaccine research trials.
- Prairie dog density and abundance must increase before reintroduction efforts can resume.

Releases and Monitoring

Seven release events between 2001 and 2009

314 black-footed ferrets released with passive integrated transponders (PIT)

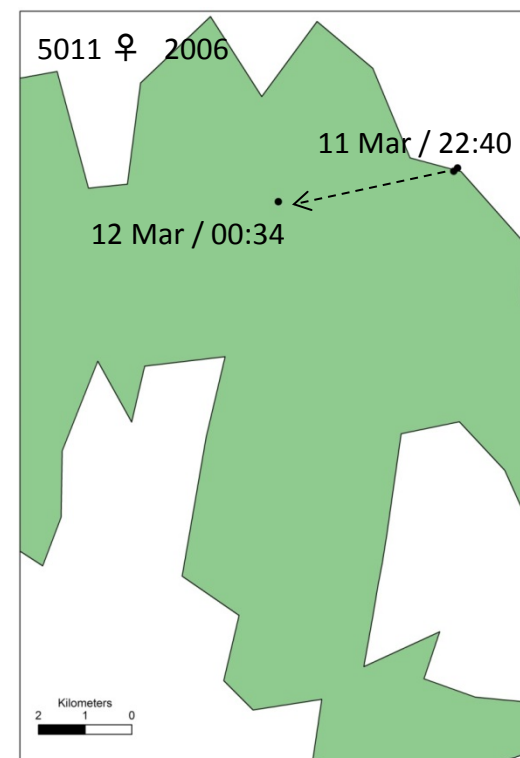
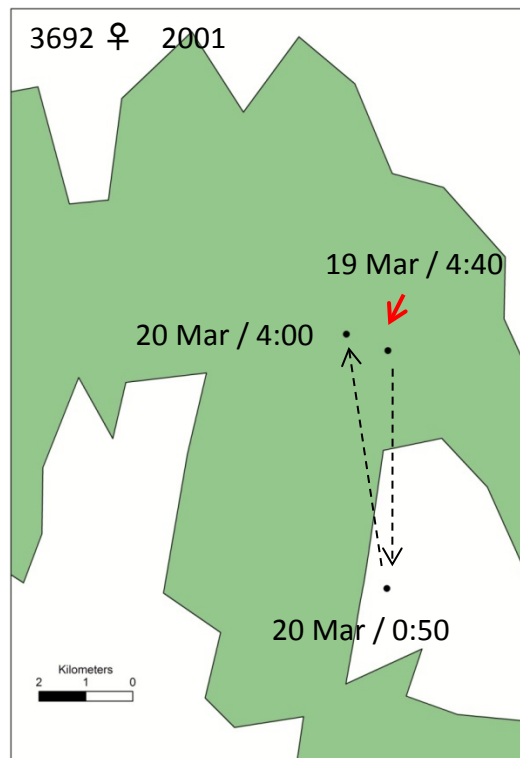
Total monitoring effort: 68 nights and 3608 hours



Dean Biggins

Maximum distance for released ferrets

Ferret	Sex	Release Year	Period	Time (h)	Year	Distance (m)
3692	♀	2001	19-20/Mar	3.2	2003	6051
5011	♀	2006	11-12/Mar	1.9	2006	3812
5005	♀	2006	13-14/Mar	21.7	2006	2439
3694	♀	2001	12-13/Dec	12.0	2002	2272





RESULTS: MONITORING

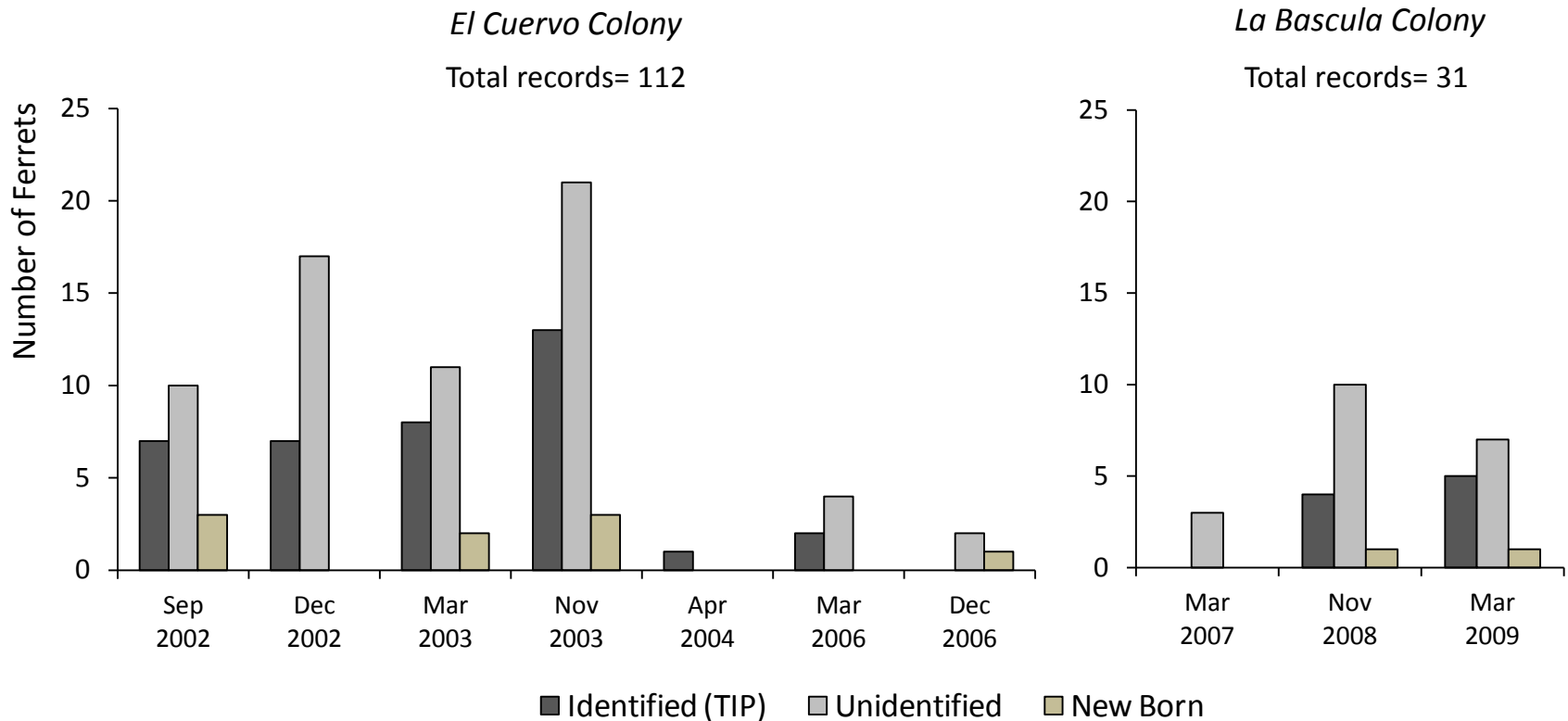
MX

Total records of ferrets between 2001 and 2009 = 143

Identified ferrets = 47 (*El Cuervo* 38 / *La Bascula* 9)

Unidentified= 85 (65 / 20)

New born ferrets= 11 (9 / 2)



Individuals identified and monitoring

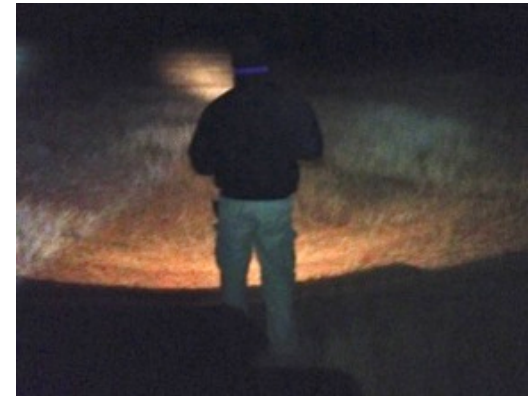
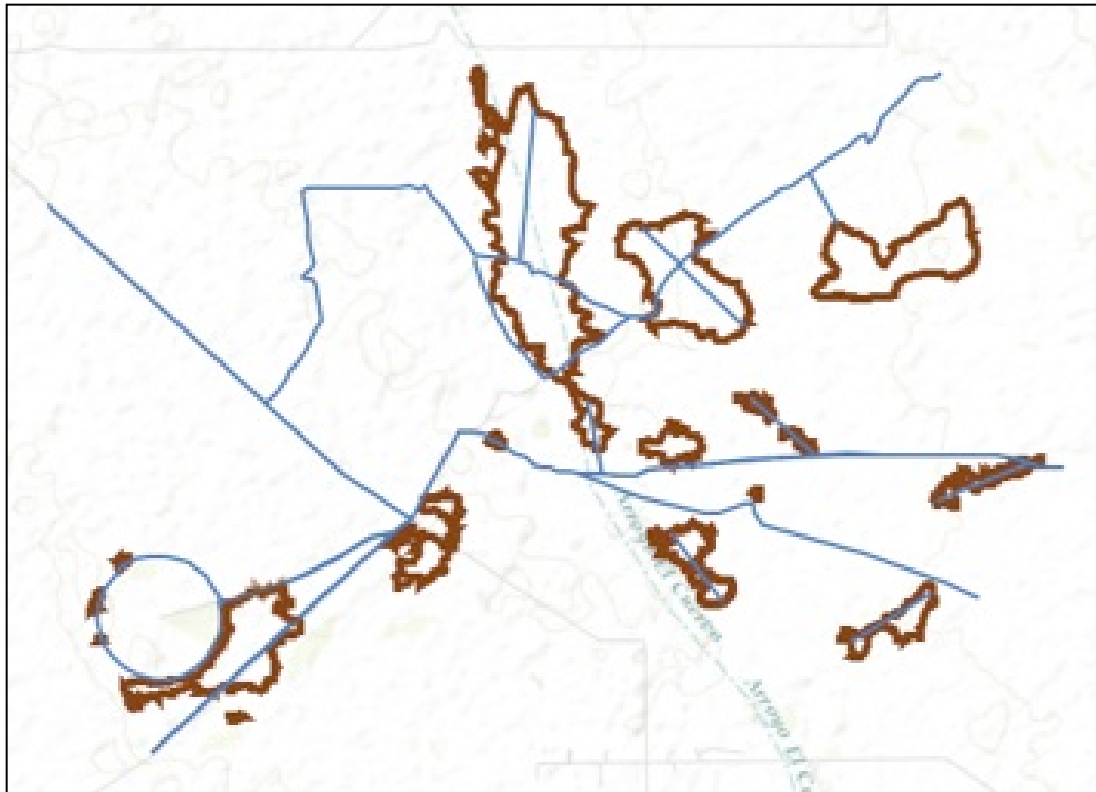
- El Cuervo colony 32 ferrets
- La Bascula colony 7 ferrets
- All were ferrets released as kits

Number of monitoring ferrets and days of known survival in El Cuervo and La Bascula colonies

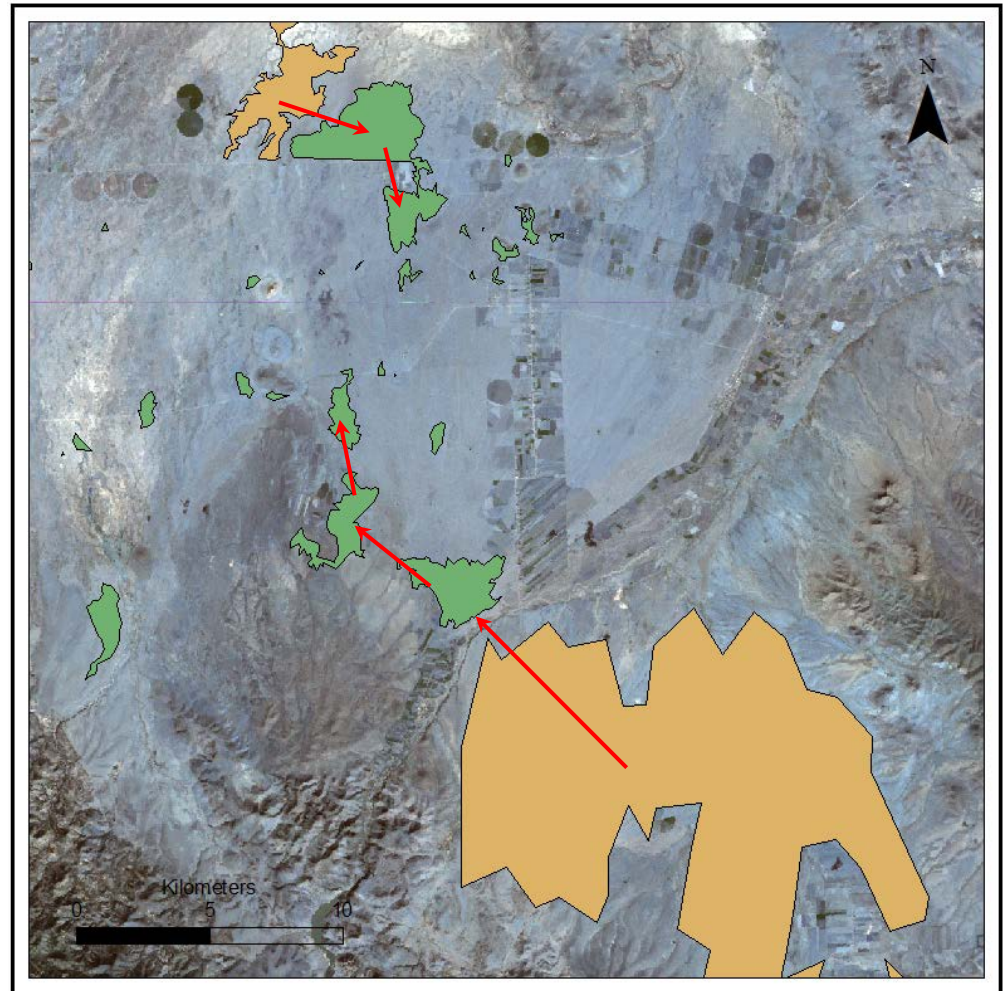
Year	No. Ferrets		Days			
			Mean	SD	Min	Max
El Cuervo Colony						
2001	15	(16%)	497	156	307	769
2002	8	(12%)	214	166	28	379
2003	7	(9%)	35	64	4	179
2006	2	(10%)	41	1	40	42
La Bascula Colony						
2007	4	(16%)	428	49	355	453
2008	3	(18%)	178	153	89	355

Population and Habitat Availability Analysis

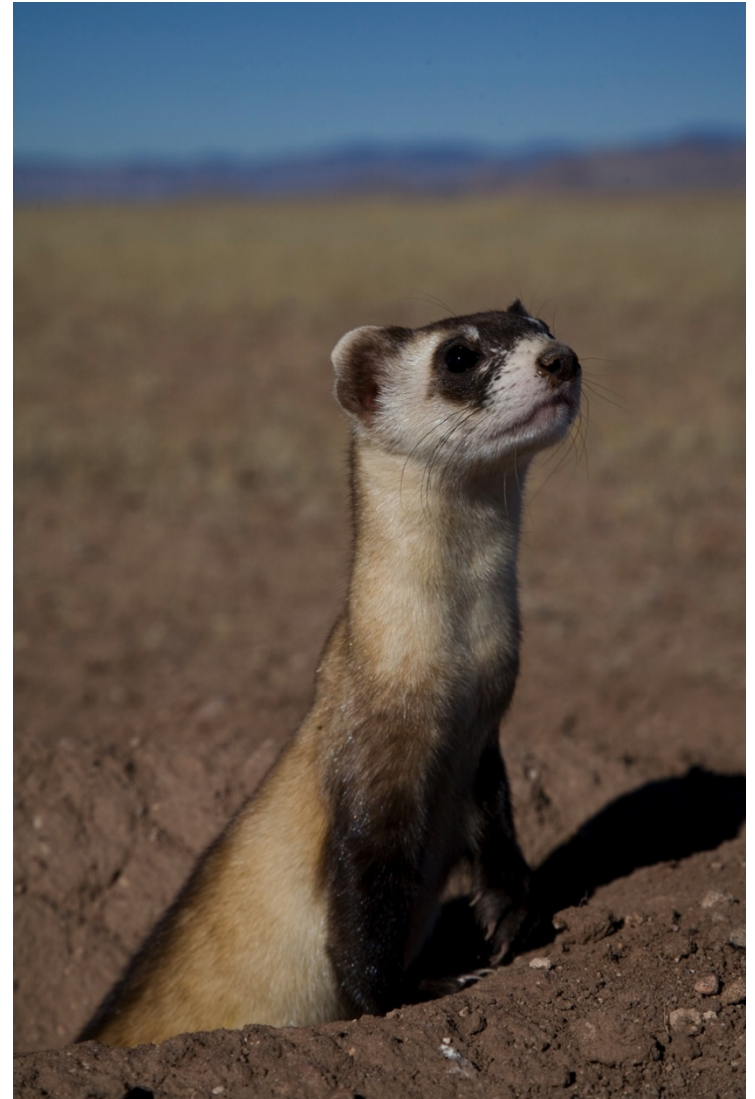
- The population is specially sensitive to female mortality and to the percentage of reproductive females
- The carrying capacity is the main factor in the growth of population
- The low prairie dog density (PD) ($<1/\text{ha}$) requires BFF supplementation, but with a minimum density of 7/ha PD (2001), the population can grow without supplementation



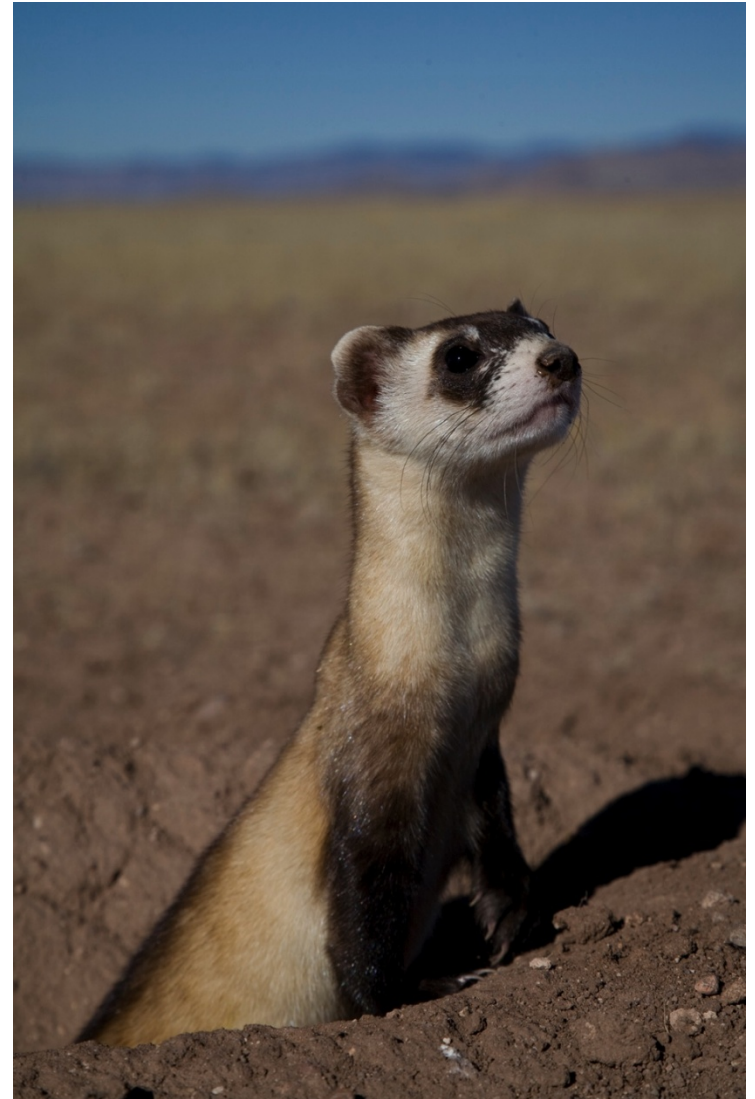
- Low BFF population
- Low number of ferrets recaptured
- Monitoring (15,521 ha / 6,683 ha) of large colonies and limited to only the reintroduction colonies
- Not all ferrets were likely located in the reintroduction sites → Permanent dispersal to other colonies
- Inability to identify all individuals during surveys → 85 records unidentified.
- Insufficient sampling effort



- Spotlighting is insufficient to effectively assess ferret survival
- The obtained survival data suggests that Janos was indeed suitable for ferrets at least until 2005
- Prairie dog density and colony size has decreased sharply since 2009
- Rising drug-related violence in the Janos region from 2010-2013 forced the suspension of all nocturnal work, including ferret monitoring.
- Reintroduction planned for late summer-fall 2015



- Conduct intensive spotlighting to effectively assess ferret survival
- Reinforce the BFF population in Mexico
- Release BFF equipped with radiocollars to:
- Determine the BFF short-term survival after release
- Determine home range and habitat use of released ferrets, and
- Evaluate interactions with other species (predators, preys, and prairie dogs)





1986, *Nature* (Robert May) “If such a mess can be made of efforts to save a creature as attractive as the black-footed ferret in a country as well organized and prosperous as the United States, prospects for conservation in other parts of the world are indeed bleak.”



2008, IUCN Press Release “The most comprehensive assessment of the world’s mammals has confirmed an extinction crisis, with almost one in four at risk of disappearing forever but it is not all bad news. The assessment of the world’s mammals shows that species can recover with concerted conservation efforts. The black-footed ferret moved from extinct in the wild to endangered after successful reintroductions into eight western states and Mexico from 1991-2008.”