Data Submitted (UTC 11): 1/8/2020 10:00:00 AM
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Comments: Please see attached.

Re: Thunder Basin Plan Amendment Comments (EIS No. 20190250), sent via: https://cara.ecosystem-management.org/Public/CommentInput?Project=55479

Dear Mr. Bacon,

As an experts on black-footed ferret (Mustela nigripes) recovery, I respectfully submit this letter regarding the Thunder Basin National Grassland 2020 Plan Amendment Draft Environmental Impact Statement (DEIS), in response to notice 84 Federal Register 54899. Of primary concern in the three proposed action alternatives (e.g., proposed action, grassland-wide, and prairie dog emphasis) is the elimination of the Management Area 3.63 - Black-footed Ferret Reintroduction Habitat (MA 3.63) and associated conservation measures for black-tailed prairie dogs (Cynomys ludovicianus). These proposed action alternatives effectively reduce the prairie dog acreage needed to sustain a viable population of black-footed ferrets on this grassland. Black-footed ferret recovery relies on the restoration and conservation of large, connected prairie dog populations and Thunder Basin National Grassland has the biological potential to substantially advance recovery of this endangered species. In this letter I outline the ecological requirements for establishing and maintaining a black-footed ferret population that contributes to national delisting criteria.

The proposed action alternatives (e.g., proposed action, grassland-wide, and prairie dog emphasis) in the Thunder Basin National Grassland 2020 Plan Amendment Draft Environmental Impact Statement (DEIS) fail to provide the ecological conditions to contribute to the recovery of the endangered black-footed ferret (Mustela nigripes).

As a Federal agency, the Forest Service has a responsibility to contribute to the recovery of threatened and endangered species according to section 7 of the Endangered Species. Act. Building on the foundation of the National Forest Management Act, the 2012 Planning Ruler also states that ecosystem plan components, and when necessary, species-specific plan components must be in place to provide the ecological conditions to contribute to the recovery of federally listed threatened and endangered species (36 CFR 219.9(2)(b)). (DEIS, page 8.)

All proposed action alternatives eliminate the Management Area 3.63 (MA 3.63), call for prairie dog density control and prairie dog colony acreage limits, fail to include sylvatic plague mitigation in prairie dogs, and overall, are not consistent with black-footed ferret recovery needs. I outline below the ecological requirements for establishing and maintaining a black-footed ferret population that contributes to national delisting criteria (U.S. Fish and Wildlife Service 2013).

Black-footed Ferret Population Trends

The black-footed ferret is one of North America's most endangered mammals (Jachowski 2014, U.S. Fish and Wildlife Service 2017). It was listed as endangered throughout its range on March 11, 1967 (32 FR 4001), listed again on June 2, 1970 (35 FR 8491), and was "grandfathered" under the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.). The species endangered status is due, in large part, to its dependence on prairie dogs (Cynomys spp.) for survival (Hillman 1968; Biggins et al. 2006a; Biggins and Eads 2017). Prairie dog numbers and occupied habitat were reduced by habitat loss (i.e., conversion of native prairie to cropland), poisoning, and disease from the late 1800s to about 1960 (Biggins et al. 2006a); black-footed ferret populations

subsequently declined (Biggins 2006) to a low point of 10 known individuals in the spring of 1985 (Biggins et al. 2006). Captive breeding, habitat protection, disease mitigation, reintroductions, and partnerships among federal, state, tribal and non- governmental agencies twice saved the black-footed ferret from the brink of extinction in the 20th century (U.S Fish and Wildlife Service 2013, 2017). Continued efforts to establish and maintain populations of the endangered black-footed ferret, however, is critical to the species survival and its removal from the federal list of endangered and threatened wildlife. Delisting criteria (U.S. Fish and Wildlife Service 2013) are to:

Establish free-ranging black-footed ferrets totaling at least 3,000 breeding adults, in 30 or more populations, with at least one population in each of at least nine of 12 States within the historical range of the species, with no fewer than 30 breeding adults in any population, and at least 10 populations with 100 or more breeding adults, and at least five populations within colonies of Gunnison's and white-tailed prairie dogs.

To date, after nearly 30 years of reintroductions, the black-footed ferret recovery program has reached just 5.6% of this delisting goal. According to the U.S. Fish and Wildlife Service (J. Hughes, personal communication) there were an estimated 170 breeding adult black-footed ferrets in the wild (~340 total individuals) at 14 active reintroduction sites in 2019. Of these sites, only one has 30 breeding adults and zero sites have 100 breeding adults. A decade ago, the recovery program was nearly three times (14.9%) closer to reaching the black-footed ferret delisting criteria. In 2009, there were approximately 448 breeding adult black-footed ferrets at 13 reintroduction sites, and four of those populations had 30 breeding adults and one site had 100 breeding adults. Progress toward recovery has regressed in the past 10 years and this is very concerning. Sylvatic plague and a lack of suitably-sized prairie dog habitat (both complex size and prairie dog density) are key factors limiting recovery efforts today (Cully and Williams 2001; Gage and Kosoy 2006; Jachowski and Lockhart 2009, Abbott and Rocke 2012; U.S. Fish and Wildlife Service 2013). Both factors can be addressed with adequate investment of resources, innovative solutions, and leadership by site managers.

Ecological Requirements of Black-footed Ferrets

Black-footed ferret recovery relies on the restoration and conservation of large, connected prairie dog populations (Jachowski et al. 2011; U.S. Fish and Wildlife Service 2013). The minimum 1,500-acres of black-tailed prairie dogs suggested by the U.S. Fish and Wildlife Service in their 2013 Black-footed Ferret Programmatic Safe Harbor Agreement (64 FR 32717) for a site to be considered for a reintroduction is well below the acreage needed to host a black-footed ferret population that counts toward delisting criteria. This acreage number even defies the science outlined in the U.S. Fish and Wildlife Service's 2013 Black-footed Ferret Recovery Plan that 4,500 acres of black-tailed prairie dogs are needed to support 30 breeding adults black-footed ferrets and more than 15,000 acres are needed to support at least 100 breeding adults (U.S. Fish and Wildlife Service 2013). In the 2013 Black-footed Ferret Recovery Plan, the U.S. Fish and Wildlife Service suggested:

[hellip]that 225 ac (90 ha) of black-tailed prairie dog habitat per female ferret, or 3 times the 75 ac (30 ha) estimated by Biggins et al. (2006a) and Livieri and Anderson (2012), is appropriate based upon the Conata Basin data. (Recovery Plan, page 73.)

Furthermore, the 1,500-acre minimum has never supported even close to 30 breeding adult black-footed ferrets in the species' history. Under the more realistic stocking rates (225 acres/adult female), relied on in the 2013 Recovery Plan (U.S. Fish and Wildlife Service 2013), 1,500 acres of black-tailed prairie dogs results in no more than 7 female territories. While the adult sex ratio (2 females: 1 male) for black-footed ferrets suggests such a population would also contain at least 3 males, the 10 adults are far from the 30- breeding adult goal. The 2013 Recovery Plan clearly describes the current science, although more recent analysis of the data points to even more conservative estimates of black-footed ferret carrying capacity.

All lines of evidence reject the notion that a 1,500-acre site could support 30 breeding adults over any length of time, thus failing to meet the criteria of providing habitat for the persistence of species for which the U.S. Forest

Service has a federally mandated responsibility in recovery assistance.

For example, since black-footed ferrets were first reintroduced in 1991, only black-tailed prairie dog complexes of 6,000 acres and greater have hosted 30 breeding adults and reintroduction sites with over 30,000 black-tailed prairie dog acres or more of have supported 100 breeding adults. Today, in the presence of widespread sylvatic plague, the only site supporting 30 breeding adults is 13,500 acres (i.e., Conata Basin-Badlands, South Dakota) and no reintroduction site currently supports 100 breeding adults. In the case of the Conata Basin-Badlands, South Dakota black-footed population, where sylvatic plague is present yet managed for annually, one adult female occupied an average of 496 acres (range: 305-715) of black-tailed prairie dogs during 2013-2018 (Livieri 2014, 2015, 2016, 2017, 2018, 2019). This suggests a range of 20,495 (305 acres x 67 adult female ferrets) to 47,931 acres (714 acres x 67 adult female ferrets) with an average of 33,323 acres of occupied prairie dog colony area is likely needed to support 100 breeding adult black-footed ferrets.

A fundamental shortcoming in reintroduction strategies is releasing black-footed ferrets on increasingly smaller prairie dog complexes that do not have the potential to host a minimum of 30, let alone, 100 breeding adults. The basic biological habitat requirements of the species cannot be ignored in deference to political or social conflicts fearing too many prairie dogs on the landscape if there is to be any real expectation for black-footed ferret recovery progress. Restoration of adequate prairie dog habitat to sustain black-footed ferrets will require "more time, patience, and commitment by Federal, State, local, Tribal, and private land managers than has occurred to date." (U.S. Fish and Wildlife Service 2013). Recovery of black-footed ferrets is biologically achievable if provide the species with the following critical components:

* Large prairie dog complexes with naturally occurring prairie dog densities. In a systematic review of reintroduction attempts up to 2009 and the attributes contributing to establishment of a population with 30 breeding adults, Jachowski et al. (2011) found that the only significant predictors of success were prairie dog biomass and prairie dog complex size (a complex is an aggregation of prairie dog colonies in close proximity; Biggins et al. 1993). The State Wildlife Action Plan for Wyoming (Wyoming Game and Fish Department 2017) also asserts "[hellip] the size of prairie dog colonies and density of burrows are the most important factors in the success of reintroduction sites". To sustain 100 breeding adult black-footed ferrets, black-tailed prairie dog complexes must be at least 15,000 acres - yet preferably 20,495 to 47,931 acres - where no one colony in complex is more than 0.9 miles from another colony in that same complex (1.5 km rule; Forrest et al. 1985; Biggins et al. 1993; Biggins et al. 2006b; and Eads et al. 2012).

Black-footed ferrets require prairie dog colony complexes with high prairie dog densities and high prairie dog burrow densities (Biggins et al. 2006b; Eads et al. 2011; Livieri and Anderson 2012; Eads et al. 2012; U.S. Fish and Wildlife Service 2013). Studies in Montana and South Dakota have found that that "high" may range from 101 to 168 prairie dogs per acre and from 207 to 528 active burrows per acre (Biggins et al. 2006b; Livieri and Anderson 2012; Eads et al. 2012; U.S. Fish and Wildlife Service 2013).

There is no scientific basis for what the U.S. Forest Service is calling "density control". As noted above, black-footed ferrets fare best when prairie dog densities are high and not artificially depressed.

* Annual sylvatic plague mitigation. The key to sustaining black-footed ferret populations is prophylactic, annual sylvatic plague mitigation in both black-footed ferrets and their prairie dog prey (U.S. Fish and Wildlife Service 2013; Biggins and Eads 2017). Sylvatic plague is imminent, pervasive, and we know little about when or where it will erupt. We do know, however, that we need a suite of tools to prevent plague from occurring or to stop it in its tracks. There is an effective-for-a-lifetime, injectable plague vaccine for black-footed ferrets. The most reliable tool to prevent and curtail plague in prairie dog populations is deltamethrin (tradename DeltaDust), which when deployed into prairie dog burrows reduces flea populations - the vector of plague. Dusting burrows with deltamethrin has proven effective in suppressing the fleas that transmit plague, which is why it is one of the most effective tools for conserving black-footed ferret and prairie dog populations (Seery et al. 2003; Biggins et al.

2010; Matchett et al. 2010). In addition, it is the only plague mitigation tool currently available with no documented negative impacts to black-footed ferrets and their prairie dog prey.

Two additional plague mitigating tools for prairie dogs that are being tested and evaluated include sylvatic plague vaccine baits and fipronil (in grain and bait form), the systemic flea control product for prairie dogs. Although progress is being made, the jury is out on the latter two tools until we are assured that they work well at the scale needed to recover black-footed ferrets and they are safe for wildlife.

* Protection of prairie dogs within the complexes from poisoning and shooting. Recreational shooting and targeted poisoning of prairie dogs negatively impacts black-footed ferret populations by reducing abundance and density (Knowles 1988) of their primary prey (Pauli 2005; Reeve and Vosburgh 2006; U.S. Fish and Wildlife Service 2013). These lethal impacts are amplified when coupled with sylvatic plague.

Importance of Thunder Basin National Grassland for black-footed ferret recovery

Federal lands within the Thunder Basin National Grassland (TBNG) are essential to recovery of the black-footed ferret. As stated by the U.S. Fish and Wildlife Service, "it is one of the few grassland properties in North America capable of sustaining a black-footed ferret population that could significantly advance the species' recovery."1,2 Consequently, the MA 3.63 should be maintained to the maximum extent possible to foster recovery and uphold the U.S. Forest Service's obligations under section 7(a)(1) of the ESA (16 U.S.C. [sect][sect] 1536(a)(1) et seq.) and the National Forest Management Act of 1976, as amended (16 U.S.C. [sect] [sect] 1600 et seq.). Provisions must be made in black-tailed prairie dog management plans to include a large prairie dog complexes to support self-sustaining black-footed ferret populations.

With so few remaining prairie dog populations of suitable size required to successfully restore a black- footed ferret population, the TBNG represents a unique opportunity to contribute to the recovery of this species. As written in the current TBNG Land and Resource Management Plan and outlined in the "no action alternative", the MA 3.63 can be managed to maintain at least 18,000 acres of prairie dog colonies. This is a great place to start to set the stage for black-footed ferret reintroduction. However, the amendment and action alternatives at outlined in the DEIS strip key protections and sufficient habitat that would preclude supporting a viable population of black-footed ferrets.

Recommendations

Modify the no-action alternative to include:

1. Retain the MA 3.63 as Black-footed Ferret Reintroduction Habitat.
2. Maintain the existing 1-mile buffer zone around residences and establish a [frac14] mile buffer zone within MA 3.63 adjacent to private land.
3. Restore, maintain, and protect from lethal control (except in the buffer zone) a minimum of 18,000 acres of active prairie dog colonies within MA 3.63 with the goal of increasing these acres for the reintroduction of black-footed ferrets. For black-footed ferret recovery, the most recent science suggests 20,495 to 47,931 acres of active prairie dog colonies are needed to host 100 breeding adults. These prairie dog acres may be distributed in several subcomplexes that each follow the 1.5-km rule.
4. Create a sylvatic plague mitigation Standard for annual plague mitigation to occur on prairie dog colonies within MA 3.63.

Footnotes:

1 Letter from Mr. J. Michael Lockhart (U.S. Fish and Wildlife Service, Black-footed Ferret Recovery Coordinator) to Mr. Bob Luce (Black-tailed Prairie Dog Interstate Coordinator). March 16, 2001.

2 Letter from Ms. Noreen Walsh (Regional Director, U.S. Fish and Wildlife Service, Mountain-Prairie Region) to Mr. Brian Ferebee (Regional Forester, U.S. Forest Service, Rocky Mountain Region). May 30, 2017.

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Attached: David Scott Jachowski Resume