

Comments	How comment dealt with
Colorado Canyons National Conservation Area name has been changed to McInnis Canyons NCA	Changed name in section.
Colorado Canyons, Gunnison Gorge and Colorado National Monument are all outside of the overall range as mapped in figure 11	The entire portion of the National Conservation areas do not fall within the overall range, but colonies are found within the boundaries of NCAs. With a map at such a large scale, this is difficult to see.
<p>Para 1: If I understand them correctly, the University of Colorado studies (if this is the same as Felger 1910) gave little insight into the overall and upland distribution of prairie dogs in northwest Colorado; their travels were apparently limited to the major drainages you have listed. These locales represent the main, but relatively narrow valleys radiating from the population hub of Meeker. The White River and its larger perennial tributary valleys were converted to intensive irrigated agriculture early in the valley's settlement--a situation where prairie dog colonies were likely viewed as an intolerable nuisance. Several small pockets of prairie dogs north of the river, long isolated from former arterial distribution along the White River valley, essentially blinked out in the mid-1980's through the early 1990's (Wray, Black's, Smizer Gulches).</p>	<p>The reviewer makes a good point that the Ramaley (1910) citation only speaks to areas along major drainages between Rifle and Axial Basin, as well as the upper White River above Meeker. All this area is currently outside the mapped distribution of WTPD in the Northwest IPA. The point of this paragraph (paragraph 1, page 55) is to document a change in overall distribution of WTPD in northwest Colorado. Addition of citation from Cary (1911; A biological survey of Colorado) and Armstrong (1972; distribution of mammals in Colorado) would support the document conclusions because both take a broader view of the distribution of WTPD in northwest Colorado - documenting WTPD in the upper Little Snake, Craig, Hayden, Steamboat, and upper Yampa areas where WTPD no longer occur. Added description on page 61: The approximate historic range of the WTPD in northwest Colorado was documented by Ramaley (1910) and Cary (1911). Additional data on the distribution of this species based on museum records is presented by Armstrong (1972). These sources indicate that WTPDs once occurred in many areas where there are few, if any, remaining populations. Ramaley (1910) noted that WTPD colonies were common between Rifle and Meeker, between Meeker and Axial Basin, along Little Beaver Creek in the White River Valley, and up the White River to a point just below Buford. Cary (1911) documented WTPD colonies along the upper Little Snake River to near Honnold (Routt County), along the upper White River as far as the South Fork, throughout the Bear River (Yampa) region upstream to Egeria Park, and from Axial Basin across the lower passes of the Danforth Hills to Meeker. Locations of museum specimens reviewed by Armstrong (1972) corroborate these descriptions as well as documenting the presence of WTPD throughout western Moffat and Rio Blanco counties.</p>
Issues, para 1, sent 2: It's not clear whether the authors understand that this mineral estate has been leased and held by leaseholders on an essentially continual basis--probably since the mid-1940's.	The statement is factual - much of the area within WTPD range in NW Colorado is currently leased, and many areas have been leased in the past.
Current Conservation Efforts: The White River Field Office is undertaking an RMP amendment, not a revision. More importantly, the current (1997) White River RMP and integral 2001 Wolf Creek ferret management plan adopted an array of management decisions that promote maintenance or enhancement of prairie dogs, with particular, if not overwhelming, emphasis on accommodating prairie dog abundance and distribution in the face of oil and gas development.	Clarified in document on page 75 that the Little Snake is undergoing an RMP revision and White River is undergoing an RMP amendment, as the reviewer states. There is existing language in the White River RMP specific to oil and gas development impacts on WTPD, as well as in the Wolf Creek Management Plan - again, as the reviewer states.
This section should be updated to recognize GUPD's montane populations which now are considered to have "candidate" status by the U.S. Fish and Wildlife Service.	Information was updated within each IPA. Each IPA was designated as falling into the "montane" or "prairie" portion of the range as defined by the USFWS.

<p>Suggest that the Fig 1 indicate why there are no black polygons for Gunnison colonies in AZ and NM (see completeness of Figure 3 for WTPD). It is unclear why we can predict with apparent detail Gunnison habitat but are not able to depict where the colonies are located.</p>	<p>Arizona and New Mexico do not release colony locations, so this information could not be included in the map. This plan is not a multi-state assessment.</p>
<p>Some of the colors in Fig. 2 are difficult to distinguish. Although it is helpful that you labeled the populations with names, still you might consider modifying the legend.</p>	<p>The legend was modified, and we modified the color shading on the map. Printing of the document will change color shading depending on the printer and so items are labeled on the map.</p>
<p>It is confusing to also include the WTPD numbers in this GUPD IPA. We suggest removing from here and put them into the appropriate WTPD IPA. Or provide better explanation as to why you are including these figures here.</p>	<p>This figure is included here because it is referenced on the GU IPA page. We did not want to make a table for each individual species, so the first time a table is referenced it is presented in the document.</p>
<p>This and other maps show extensive areas of inactive colonies; keeping in mind that plague is the biggest factor in colony declines/changes suggest a composite map showing active and inactive areas. Also, it is not clear on the map where the separation between the LaPlata Archuleta and Southwest IPA's are.</p>	<p>The colony maps will now be presented in an appendix and will only be designated as a colony location and not designated as inactive/active/unknown. We do not survey the colonies adequately to evaluate activity levels on an annual basis. We have clarified on the maps the boundaries between IPAs.</p>
<p>Under the "Current Conservation Efforts" section the species is discussed as a Forest Service Sensitive Species. This is helpful but is not consistently mentioned for the other IPAs. Sensitive Species receive emphasis in project planning and management to maintain viable populations. Nancy Warren of the FS Regional Office could assist you with developing additional text for inclusion into IPAs that provide habitat on NFS lands.</p>	<p>The USFS considers the WTPD and GUPD Region 2 sensitive species and this will be stated in the document under each IPA.</p>
<p>IPA boundaries on the map are difficult to see and follow, not sure if they are complete.</p>	<p>The boundaries were modified to clarify extent of IPAs.</p>
<p>The fact that the Gunnison's prairie dog's chromosomal count is more similar to other ground squirrels should suggest that this lineage diverged earlier than other prairie dog lineages, not more recently as the plan asserts. The Service's 2006 finding on the Gunnison's prairie dog stated: "The number of chromosomes for the Gunnison's prairie dog (2n = 40) is different from all other prairie dog species (2n = 50), suggesting the species' uniqueness and its early evolutionary divergence from other prairie dog species (Goodwin 1995; Pizzimenti 1975)" (71 Fed. Reg. 6241 (Feb. 7, 2006)).</p>	<p>Divergent evolution is the process of two or more related species becoming more and more dissimilar. Because the chromosomal number of the GUPD is more similar to ground squirrels, this indicates that the GUPD is less divergent from ground squirrels than the WTPD. In addition, the GUPD is smaller, with a more similar tail pattern to ground squirrels, and its habitat resembles those of <i>Spermophilus richardsonii elegans</i> and <i>S. armatus</i> in the central Rocky Mountains, whereas the WTPD is better adapted to xeric conditions (Lechleitner, 1969). Mound-building behavior also shows this pattern, being least developed (most <i>Spermophilus</i> -like) in the GUPD, and most specialized in the BTPD with the WTPD intermediate (Lechleitner, 1969).</p>
<p>CDOW references Pizzimenti's chromosomal work but makes no mention of his finding that different populations of white-tailed prairie dogs had differing chromosomal numbers. CDOW cites Pizzimenti (1975) in this section, but also includes Pizzimenti (1976) in the sources cited. However, the sources cited section does not include part II of Pizzimenti's 1976 Evolution paper ("II. Genetic analyses"), which includes these statements concluding that the maintenance of 2n=48, 49, and 51 forms in certain white-tailed prairie dog populations is probably a result of habitat fragmentation:</p>	<p>Pizzimenti's 1976 work was incorporated into the genetic section (page 134): The pattern in <i>Cynomys</i> is believed to be the result of finely tuned adaptations to local environments. Maintenance of the interlocality variation probably reflects severely restricted gene flow which is the result of habitat and colony destruction by man, coupled with the already sedentary nature of prairie dogs, and in some cases physiographic barriers.</p>

The plan states that both species “may aestivate”. White-tailed prairie dogs usually aestivate.	Changed wording to say "will" aestivate.
The plan states that the breeding season lasts two to three weeks. Please clarify that individual females are only sexually receptive for a few hours of a single day each year (Hoogland 2001).	Added statement as per request.
The plan states that females produce one litter per year, “regardless of forage availability”. In contrast, Hoogland has observed some years with very low reproduction. In 2006, only 20% of adult white-tailed prairie dogs at his Arapaho National Wildlife Refuge study site weaned litters, and many females never gave birth that year. This statement also contrasts with the statement on the following page that reproductive success is linked to body mass. Perhaps CDOW intends to say that regardless of forage ability, prairie dogs produce a maximum of one litter per year.	The most recent Hoogland data results were incorporated into the document on page 12: In 2006 Hoogland found only 20% of 64 females at his six study-colonies weaned a litter. This percentage was markedly lower than the percentages that he observed during research as a graduate student at ANWR in 1974 through 1976. Indeed, the 20% was lower than any percentage he had ever seen in previous research with black-tailed, Gunnison’s, and Utah prairie dogs. Most of the unsuccessful females never gave birth, but some gave birth and then lost their offspring at some point during lactation. In 2007, 36/40 = 90% of females weaned a litter. In 2008, 27/37 = 73% weaned a litter. Thus, it appears that the unusually low frequency of weaning in 2006 was anomalous.
This section should include average litter size, which is available for Gunnison’s prairie dogs in Hoogland 2001. For white-tailed prairie dogs, our petition presented a range of data on average litter size. Hoogland’s current research should provide a useful figure – in 2006, average litter size was 5.47, but his 2007 and 2008 results should be used to calculate an overall average since 2006 seemed to be an unusual year for reproduction at that site.	Included litter size in this section on page 12. With respect to Hoogland's data, as in 2006 and 2007, the most common litter sizes in 2008 when juveniles first emerged from their nursery-burrows were 4, 5, and 6. But Hoogland documented 2 litters of size 8 in 2008. These were only the 2nd and 3rd litters of size 8 that he had observed in 35 years of research with black-tailed, Gunnison’s, Utah, and white-tailed prairie dogs.
The plan states that “both species have a polygynous mating system (i.e., females mate with more than 1 male).” However, the correct term is polyandrous.	Corrected as suggested
The plan states that pups “remain underground until weaning, at 4-5 weeks of age”. However, nursing has been observed aboveground. Hoogland refers to white-tailed pups at emergence as “weaned or nearly-weaned juveniles” (2006 report p. 7). He states that pups emerged at around 5.5 weeks. Our white-tailed petition cites Tileston and Lechleitner (1966) and Bakko and Brown (1967) in stating that emergence occurs four to six weeks after birth.	Updated with WTPD citations and emergence schedule on page 12.
Please provide a citation for the correlation between reproductive success and body mass, for example Hoogland (2001).	Added citation page 12-13.
The plan states that juvenile dispersal occurs in July and August. However, research by Orabona-Cerovski (1991) and Grant (1995) found little evidence for white-tailed prairie dog dispersal. Hoogland’s current research may provide more insight on whether juvenile dispersal is common in white-tailed prairie dogs. Hoogland (1999) found that most Gunnison’s prairie dog females did not disperse, and that males usually remained within their natal colony but moved to another clan.	Added additional known data on dispersal from Orabona-Cerovski (1991) and Grant (1995). Page 13.

<p>The plan cites research by Menkens to document that white-tailed prairie dog population fluctuation is common. However, plague was known to be active in half of his study sites.</p>	<p>Plague is now a part of prairie dog biology; that is why we added the statement that "variation in density is likely driven by disease cycle..." Pages 13-14.</p>
<p>Cheatgrass is commonly one word.</p>	<p>Corrected where needed.</p>
<p>Annual weeds also provide little nutrition for much of the growing season (they dry up quickly), which also contributes to instability in forage supply.</p>	<p>This is discussing between-year densities.</p>
<p>In the social structure section, please include information documenting that immigrants are usually tolerated by white-tailed prairie dogs.</p>	<p>I do not have any data to support this. If you have information that you could provide it can be added to the plan.</p>
<p>The plan states that white-taileds and Gunnison's prairie dogs are located in open areas. However, we have observed white-taileds in areas dominated by big sagebrush and/or with relatively closed canopies (Wolf Creek, for example).</p>	<p>We agree that GUPD and WTPDs can occur in open areas as well as areas that have relatively dense shubby habitats. However, if the area becomes too closed in with a shrub canopy, prairie dogs usually vacate the area. Because of the variation in occupied areas we opted for the wording in the document "relatively open plant communities."</p>
<p>In the discussion of associated species, please discuss black-footed ferrets and mountain plovers.</p>	<p>Page 15 - added a sentence on the importance of prairie dogs to BFF. Added plovers to the list of associated species since they are an irregular visitor, mostly fall and early winter, to western valleys; it is a casual migrant (three spring records and four fall records) in northwestern and west-central valleys and in the San Luis Valley (three spring records). There has been a study completed in South Park that found a large concentration of breeding adults.</p>
<p>The plan should discuss in more detail the fact that white-taileds and Gunnison's prairie dogs do not clip vegetation.</p>	<p>We do mention in the plan that GUPD and WTPDs do not clip vegetation as BTPDs do (page 16). If you have additional details that we can add on this behavior please send those documents and we can add that information.</p>
<p>The plan states that "Grasses comprise the bulk of the diet of these 2 species". However, Kelso (1939) found that grasses only comprised 28% of the white-tailed prairie dog's diet.</p>	<p>Added additional data on diet to the section: Kelso's research was added to the Assessment section on under Diet page 16.</p>
<p>The plan states that baseline data are incomplete for Gunnison's prairie dogs. What about for white-taileds?</p>	<p>Added WTPD to sentence.</p>
<p>The occupancy modeling technique will not allow monitoring of prairie dog populations; instead it will only allow for the assessment of range contraction, extirpations, and colonization events.</p>	<p>Occupancy Models allow for large scale monitoring and not at the individual population scale. We are assuming that the estimates of occupancy are a good index of the true prairie dog population occupation of the landscape. The hypothetical relationship between occupancy and population size is discussed by Thompson et al. (1998) . Population monitoring at the individual site scale is too varied to detect a trend with any level of precision as shown by the Wolf Creek and Coyote Basin data. We are making sure that we maintain prairie dog populations across the landscape. If the individual population is not viable, then we will record an extinction event. If there are no colonization events to replace the extinction, then our occupancy rate goes down. Too many extinction events and no colonization events will result in a downward trend . Site specific monitoring may be undertaken at the local scale depending on the need and the results of the implementation process.</p>

Shouldn't at least the Aubrey Valley Gunnison's colonies show up on this map?	AZ did not provide colony data for the WAFWA Conservation Assessment and thus it is not available for our state assessment. This is not a multi-state assessment.
Is the population between the Uncompahgre and Gunnison Rivers truly Gunnison's prairie dog?	This colony was mis-labeled in the GIS data set and is considered a WTPD colony based on vocalizations. Additional information on the overlap of these 2 species was added on page 17.
The amount of occupied habitat and population densities" are known to have declined in the Little Snake Complex, for example.	Little Snake Complex was not added as an example in this context. We don't have reliable estimates of acreage or density there now.
The IPAs listed do not match those in Figure 4 (which includes the additional IPAs Laramie River and Eagle.	The North Park Population and the Laramie River Population were combined to form one population area. The Eagle Population Area was removed since it represents a single colony.
Prairie dog declines are not just "one factor in the decline of ferrets" – this is the main cause.	We agree that declines in prairie dog colonies are the main cause of ferret declines and changed our statement on page 23 to reflect this.
The plan should disclose here that the last ferrets were discovered in a white-tailed prairie dog complex (the plan mentions the Meeteetse ferrets at p. 132 – it should clarify that these were the last wild ferrets).	Clarified that these were the last wild ferrets and that they were discovered in a WTPD colony on page 23.
Poor range condition may be due to overgrazing and weeds. Shooting may also be affecting the Wolf Creek population.	Historically, Wolf Creek was heavily grazed. In recent years, overall grazing intensity has been reduced; however, the loss of native species dominance and invasion of weeds that was initiated by historic heavy grazing is still present. Shooting may be causing fluctuations at local levels, but not throughout the complex. Drought does have an effect on WTPD numbers; this has been observed concurrently in Utah and Colorado.
Please break out acreage estimates by species.	Colony acreage will be removed from the plan, because mapping is not comprehensive and it is only the best guess of the biologist drawing polygons on a map. Colony mapping was designed primarily for CDOW employees to have a general idea of species distribution. It was not designed to map occupied acres or determine the amount of acreage of active/inactive colonies in the state. The mapping completed by CDOW is currently rough and subjective, and the use of this data needs to be for prairie dog distribution purposes only.
What was the acreage estimate after field verification?	Field verification did occur at some level. In 2002, we asked biologists to identify known prairie dog colonies on GIS maps. This colony mapping was based on their knowledge of on the ground occurrences. These maps are now updated periodically and biologists are asked if colonies still exist or if they know of new colonies. Colonies that were identified were not then ground-truthed and mapped using GPS units. Mapping is simply a best guess by the biologist for that area.

The plan asserts that occupancy modeling “will allow managers to detect population declines”, but the method will actually only allow for the detection of range contraction, extirpations, and colonization events. Populations could undergo dramatic declines without registering any change in occupancy.	Individual population areas fluctuate quite dramatically in densities from year-to-year. Because of these often dramatic fluctuations, determining a trend with any acceptable precision is impossible. Site specific monitoring can be useful for plague surveillance, and mapping of colonies can be useful for identification of activity areas in the face of landuse planning.
The plan explains that two years of monitoring have already occurred for Gunnison’s prairie dogs, but only lists 2005. It should here state that monitoring also occurred in 2007.	2007 was added.
Did the 2008 white-tailed survey occur? Our impression was that monitoring would take place every three years for each species, but it appears that four years lapsed between white-tailed surveys. 2008 is provided as a start date for white-tailed surveys at p. 135. Please report on the 2008 results.	Plan updated with current WTPD occupancy data on pages 25 and 26.
Has CDOW collected any information about the plots from which Gunnison’s prairie dogs have disappeared?	We have not collected data (other than plot occupancy) at plots where extinction occurred or at plots where colonization occurred.
It is worth considering that colony expansion can be indicative of poor conditions for prairie dogs. When resources are abundant there is little need to expand colony boundaries. This is another reason why occupancy modeling is of limited utility in assessing prairie dog population trends.	Colony expansion could be the result of a number of factors including higher densities of animals. No matter what the root cause of expansion or decline, occupancy modeling is still a useful and a robust method for assessing trends in prairie dog distribution across the landscape.
The fact that Gunnison’s prairie dogs only occupy less than 10% of the predicted range should cause CDOW great concern and motivate the agency to implement protections now	Baseline occupancy has not changed significantly between 2 surveys. The overall range is a modeled range and not all of the modeled range has been or will be occupied. The occupancy surveys serve as the basis of current occupation levels that we can not compare to historic levels. CDOW is implementing conservation measure now for the GUPD including monitoring program, development of this strategy, genetics and <u>plague research</u> .
The plan should clarify that the population area acreages do not reflect occupied prairie dog acreage.	Clarified this in each introductory sentence for each IPA.
Healthy understories” are absent in much of the Gunnison Valley. This is a concern for sage-grouse as well. The BLM has done extensive vegetation monitoring in the valley, and CDOW should seek out their information on understory condition.	We concur that unhealthy understories are abundant throughout the Gunnison Basin and influence Gunnison Sage-grouse and Gunnison's prairie dog populations. The CDOW routinely monitors vegetation conditions via data collected by CDOW and other agencies.
Suitable habitat may be limited but potential habitat should not be.	Changed wording to reflect this.
Typo: "may not be improve" Gunnison's prairie dogs should not suppress forbs.	Fixed typo
Urbanization is probably a concern around Pagosa Springs as well.	Removed reference to La Plata County only.
What is the current status of prairie dogs in the Valley?	All available information is summarized on pages 36 and 38.
Typo: should be Rio Grande National Forest.	Fixed
What is the current status of prairie dogs in South Park?	All available information is summarized on pages 39 and 41.
Who holds these easements?	This level of detail was deemed unnecessary.

Relocated prairie dogs have been targeted by shooters in this area - the plan should disclose that at the current time receiving sites on BLM lands have no protection from shooting aside from the statewide seasonal closure on public lands	We have no data that relocated dogs are targeted by shooters. We state that shooting closures occur on public lands that include BLM. No shooting closure means that individuals can shoot prairie dogs during the open season - no need to add additional statements.
CDOW should more closely scrutinize management of the BLM lands described. To our knowledge, prairie dogs are not found within Colorado Canyons NCA. Gunnison Gorge NCA is still open to shooting and contains an ORV play area along with areas that are restricted to designated routes. When we last inquired, Colorado National Monument had a few small colonies adjacent to one of the entrances that were at risk because they abutted a private development.	BLM restrictions are not applied to prairie dogs, but in recognition of the designation as a National Conservation Area. Through the added protections of these designated areas, prairie dogs may indirectly benefit if colonies occur on these properties. Enforcement of these regulations is not discussed and we do not have information to adequately address enforcement on these areas.
Dean Biggins reported to us that the North Park white-tailed prairie dog population had declined dramatically.	Response from Dean Biggins added to the plan on page 56: I was thinking that I had heard about plague in North Park but I have not found any hard evidence in my files. I guess the evidence I have at this point is circumstantial. I would be surprised if plague had not impacted WTPDs in North Park because (1) there is plague north, south, east, and west of North Park, (2) there are literally thousands of acres of old mounds with only scattered small colonies now (which looks like many other places where we know plague had serious impacts years ago), (3) the area is on the wet and high end of the spectrum for WTPDs, where plague seems to be more of a problem, and (4) Tileston and Lechleitner (1966) had recapture rates of only 25% for WTPDs there, much lower than their rates for BTPDs on the other side of the mountain. Tileston and Lechleitner speculate on causes other than disease, but I am suspicious because of our similar rates. This would be a great area to encourage APHIS to do additional serosurveys of carnivores (if they haven't). If plague has not been detected, maybe it is because nobody has looked.
Can at least acreage estimates for Hoogland's study colonies be given?	We do not have the acreage estimates for Hoogland's colonies. This is private research that is in its preliminary stages.
Arapaho National Wildlife Refuge staff informed us that plague had gone through the refuge's colonies.	According to Hoogland, they have seen no evidence of plague on the colonies that they are studying. Do you have another contact person that has evidence of plague epizootics occurring on ANWR?
We commented on the document, and were disappointed by the lack of specific management for prairie dogs.	Thank you for your comment.
Hoogland's research is mentioned here but his results to date do not seem to have been incorporated throughout this plan yet. Please include his results.	Hoogland's updated research information was incorporated into the document.
What evidence is available to corroborate the statement that white-taileds occupy 7,000 acres "at any given time" in Coal Oil Basin?	The 7,000 acre figure may be a bit of an overestimate, but it is the only available information as cited in the document. The figure is based on one mapping effort that did not use GPS, but instead drew colonies on maps. This is another example of problems and issues involved with mapping and comparing mapped acreage.

<p>We are not aware of prairie dogs occurring on Brown's Park National Wildlife Refuge. Multiple sources informed us that white-taileds were extirpated from the refuge after 1995.</p>	<p>There is suitable habitat for WTPD within the Brown's Park NWR, but no currently active colonies are known within the refuge.</p>
<p>The White River Field Office may not actually address oil and gas impacts in their plan revision. Their goal is to revise the Reasonably Foreseeable Development scenario to allow for an order of magnitude increase in the number of wells allowed, but they have told us that they do not intend to do land use planning like ACEC designation as part of the revision.</p>	<p>The first step in the RMPA is to revise the RFD scenario. Developing mitigation and protection measures associated with the increase in oil and gas is the central task of completing the RMPA and will be done. Designation of ACECs is, however, outside the scope of the amendment, as the reviewer states.</p>
<p>There is no mention of Sand Wash in this section - perhaps it is Complex B?</p>	<p>Sand Wash is part of Complex A described in this section.</p>
<p>Typo: acres missing from 14,381.</p>	<p>Fixed and added acres.</p>
<p>This section recounts FFRs but does not include ferret counts and population estimates. Those should be added. Ferrets in Wolf Creek have shown low reproductive success, which may indicate a management problem (e.g., shooting may be impacting the prairie dog population).</p>	<p>This plan addresses prairie dog conservation, and is not intended to be a conservation plan for associated species.</p>
<p>Disease should be the main suspect when wide population fluctuations are detected. As Biggins and others have pointed out, ferrets probably would not have evolved to be obligate prairie dog associates if prairie dog populations were inherently unstable.</p>	<p>Information from Utah indicates that drought has had an effect on populations. We are surveying for plague in Wolf Creek and Coyote Basin as part of ongoing obligations to support black-footed ferret reintroduction in northwestern Colorado. CDOW has developed in-house capacity for conducting large-scale plague surveillance in white-tailed prairie dog colony complexes. These approaches were developed in hopes of providing tools for identifying endemic plague foci and emerging plague epidemics in prairie dog populations to facilitate preventive management where warranted. For surveillance, fleas were collected by systematically swabbing white-tailed prairie dog burrows at four sites: Wolf Creek, Little Snake, Coyote Basin, and Snake John Reef. Fleas were identified to species, pooled by burrow and species, and tested for presence of Yersinia pestis DNA using polymerase chain reaction (PCR). In addition to burrow sampling, carcasses from prairie dogs and other mammals were collected or sampled opportunistically in the field and subsequently tested for evidence of plague. We are also collecting fleas off of GUPD throughout their range to evaluate plague distribution.</p>
<p>CDOW should disclose the full extent of the discrepancy between the 1997 RFD and current projections (1300 wells versus 30,000).</p>	<p>The reviewers numbers are not accurate, but we can expand this discussion to include a more full discussion of the reasonable foreseeable development projections in the Little Snake and White River BLM resource management plan drafts. However, as is noted in the response to comment #22, the vast majority of the additional drilling activity in the White River Field Office is expected to occur outside of WTPD habitat. The comment addresses page 67, but the more appropriate place for this discussion is in the <u>oil and gas issue and strategy section</u>.</p>
<p>Typo: affects of oil and gas should be effects.</p>	<p>Fixed as stated</p>
<p>Shooting and lead deposition must be included in this issues section.</p>	<p>Lead deposition is addressed in the "Recreation Shooting" issues section (page 162).</p>
<p>The draft White River RMP is not yet available.</p>	<p>This is true.</p>

<p>Has the study on oil and gas impacts begun? Please report on the initial results. Who will be the PI? From which institution?</p>	<p>Initiation of the study was hampered by problems in development of an acceptable study proposal, contracting with a researcher, and uncertainty in the availability of funds during the freeze on spending within state government; and remains “on hold”. The Division believes this research is important to the conservation of white-tailed prairie dog in NW Colorado, and is starting over to determine a suitable study design through our terrestrial research unit. Funding through severance tax or the species conservation trust fund have been tentatively identified, but projections of declining revenues for state government may force further postponement of this research.</p>
<p>The treatments referred to in the issue section have not been undertaken to improve habitat for GUPD or because of the Range wide Conservation Plan. The treatments are for Gunnison sage grouse. GUPD may benefit from the treatments but I guarantee that PD are the last thing people who are implementing these treatments want to see move in.</p>	<p>Gunnison prairie dog and Gunnison sage grouse coexist in the Gunnison Basin. In a large enough landscape, these two species can coexist and will facilitate each other's survival through the maintainance of early successional vegetation states that are not dominated by mountain sagebrush communities with little to no understory. Treatments specifically conducted for Gunnison sage grouse may benefit Gunnison prairie dogs; however, we are unaware of any treatments for sage grouse over the past 10 years that have been colonized by prairie dogs. Treatments that reduce sagebrush canopy cover and facilitate understory regeneration provide healthier habitat for both of these species.</p>
<p>There is also no discussion of poisoning or dietary competition with livestock in the issues section. Studies have shown there is up to a 68% dietary overlap between livestock and PD. There is also an active PD poisoning program on private lands in the IPA. More than likely similar poisoning programs are also taking place on private lands in other GUPD IPAs.</p>	<p>Livestock grazing issues are discussed in the issues and strategies section. Poisoning is discussed in the issues and strategies section as well. Anecdotal evidence of poisoning in the GU IPA on private lands. If you can provide information on an active poisoning campaign in the GU IPA that data can be added. Poisoning is discussed as an issue in the GU IPA on page 31.</p>
<p>The overall range maps used to calculate area occupied by prairie dogs and subsequent effects to prairie dog populations do not account for suitable habitat within that “overall range”. Much of the area within the “overall range” is already occupied by residential and commercial infrastructure, actively farmed agricultural land, road systems, water bodies, forest and shrub land, and steep slopes. Therefore, the total acreage available for prairie dog use within the overall range is very different and gives a misinterpretation of actual area available and ultimately affected. This is cause for concern because figures calculated with concern to impacts, based on calculations using this “overall range”, could be greatly misunderstood and not applied correctly.</p>	<p>Please see description of how the model was developed in the "Analysis" section page 76. We used certain vegetation classes that are suitable for prairie dog occupation (including agricultural lands), slopes of 0-20%, and an elevation range from 3,773 ft to 10,006 ft. This model was further refined by biologist expert opinion of known suitable prairie dog habitat. Areas unsuitable such as water bodies, cities, forest etc. were not included in the overall range model. We do agree that the overall range model is an overestimate of the area that prairie dogs could occupy, but it is the best range model we could develop with the availability of current data. This model could be refined further if we had a soils layer for the GUPD and WTPD range in Colorado.</p>
<p>The draft conservation plan does not distinguish between these two populations. The USFWS decision to separate the two populations was based on genetic differences; separation by mountain ranges; greater abundance in the prairie habitat area; and montane populations being more susceptible to the plague due to smaller populations, and more isolated populations. However, the conservation plan refers only to one general population of Gunnison’s Prairie Dog. Therefore, it is suggested that management strategies be focused differently depending on the population being managed (montane vs. prairie) for GUPD.</p>	<p>The Gunnison prairie dog is considered a single species at the current time (Integrated Taxonomic Information System). CDOW does divide GUPD population management among IPAs with the GU IPA, the SLV IPA, SP IPA, and the SE IPA constituting the "montane" population as defined by the USFWS. The "montane" designation, however, is a USFWS designation and not a CDOW designation, but each IPA may be managed differently depending on the Implementation Process.</p>

<p>We request that the CDOW not use or reference the Capodice and Harrell (2003) GUPD report. In reading this report, we see far-reaching, unsubstantiated conclusions, such as Capodice and Harrell suggesting a 94% decline of GUPD in the Gunnison Basin, based upon comparison from a Colorado Department of Agriculture (1990) mail questionnaire to a 2002 BLM GUPD “wind-shield” survey.</p>	<p>This part of the Capodice and Harrell report was removed from the plan due to the questionable comparison with the Colorado Department of Agriculture (1990) mail questionnaire.</p>
<p>Plan states that urbanization severely reduced one the largest and most viable GUPD population in the City. This information originated from the Capodice and Harrel (2003) paper. The GCSA differs from this assessment of this GUPD population. This GUPD population did not exist prior to the mid 1980’s, as this land was an irrigated hay meadow. Prairie dog colonies began to appear only after the rancher sold the land, and urbanization (development) began to occur. The Capodice paper neglected to deduce and state how quickly viable GUPDs can originate and become one of the largest Gunnison Basin colonies, but rather to further his agenda, only focused on how the colony(ies) can disappear, and blames the demise of the colony on the very thing that caused its existence.</p>	<p>We mentioned this particular colony because it is an example of how anthropogenic activity can influence colonization, movement, and survival of Gunnison's prairie dogs. While the parcel was in agricultural status, irrigation water likely made the area inhospitable for GUPDs. When irrigation ceased the land became suitable for colonization with abundant nutritious forage. These conditions led to the establishment of a dense colony within urban development preventing adequate dispersal. The result was a large, viable population which led to an overabundant, overgrazed, dense colony. Such dense colonies are artifacts of human influence. It is important to demonstrate how anthropogenic activity impacts GUPD conservation through either creation of suitable habitat or eradication efforts.</p>
<p>Regarding the statement: “with slope aspects less 30%.” Slope and aspect refer to two different things, and it is incorrect to refer to “slope aspects.” Also, you omitted the word “than.” I believe the sentence should read “with slopes generally less than 30%.”</p>	<p>Removed "aspect" and added "than."</p>
<p>It may be confusing to some readers that you refer to GUPD and WTPD collectively as “the 2 white-tailed species.” It is discussed earlier in the Taxonomy section that they are both members of the white-tailed sub-genus, but that is several pages back and somewhat of an academic discussion. Also, the individual species are referred to as WTPD and GUPD in the interim, so I believe you should keep that consistent.</p>	<p>Removed reference.</p>

<p>The third sentence on this page seems to contradict statements in the first paragraph of page 55 regarding the findings of the Ramaley expedition and distribution of WTPD in the state. On this page (17) you state that the distribution of the species is thought to have changed little in the last century, but on page 55 you state that the Ramaley expedition found WTPD in many areas where they are no longer present. I would suggest that the statements on page 55 are more representative of the current situation. Historic museum records of WTPD from NW Colorado also support the page 55 statements. Armstrong (1972, Distribution of Mammals in Colorado) reported WTPD from many areas where none are currently known to occur including: all of Routt County, eastern Moffat County (including Axial Basin), the upper White River Valley including the Meeker Valley and Powell Park, and several areas in Eagle County where only a small isolated population is thought, but not confirmed, to occur. In general, prairie dogs have disappeared from most of the more productive areas in the northwest part of the state where agriculture has become dominant.</p>	<p>The reviewer makes a good point that the Ramaley (1910) citation only speaks to areas along major drainages between Rifle and Axial Basin, as well as the upper White River above Meeker. This area is currently outside the mapped distribution of WTPD in the Northwest IPA. This paragraph (pararaph 1, page 55) documents a change in overall distribution of WTPD in northwest Colorado. Addition of citations from Cary (1911; A biological survey of Colorado) and Armstrong (1972; Distribution of mammals in Colorado) were added (page 61) to support this conclusion because both take a broader view of the distribution of WTPD in northwest Colorado – documenting WTPD in the upper Little Snake, Craig, Hayden, Steamboat, and upper Yampa areas where WTPD no longer occur.</p>
<p>Will these two paragraphs be updated to reflect the fact that a second year of occupancy surveys was completed in Colorado in 2008?</p>	<p>These data were updated with the 2008 data for WTPD (pages 25-26)</p>
<p>Typographic error in first sentence: “may not be improve habitat for GUPD occupation.”</p>	<p>Corrected as stated</p>
<p>Should read “Currently, 270,440 acres (24%) of the...”</p>	<p>Corrected as stated</p>
<p>You state that “a few scattered prairie dog colonies remain in the Colorado River drainage just east of DeBeque Canyon near Rifle, including the Parachute and Roan Creek drainages.” The only WTPD in this area are in the vicinity of the town of DeBeque and Roan Creek. There are currently no WTPD up-valley from DeBeque, near Parachute, or near Rifle. I had people visit all mapped areas in the CDOW database in the Grand Valley above Grand Junction in 2007. This area probably had limited WTPD historically, as Cary (1911) reported none from Grand Junction to Glenwood Canyon. This same thing should be addressed on Page 44 under <i>Issues</i>.</p>	<p>Sentence now reads: "In addition, a few scattered prairie dog colonies remain near the town of Mesa and in the Roan Creek drainage near DeBeque."</p>
<p>Check grammar, should be “...most of which falls as rain during occasional...”</p>	<p>Corrected as stated</p>
<p>Annual precipitation of 9 inches occurs in the driest areas of the NW IPA. You should probably indicate that average annual precipitation throughout the IPA ranges from 9-15 <u>inches</u>.</p>	<p>Corrected as stated</p>
<p>Dominant shrubs: correct spelling is Gardner saltbush, not Garner’s.</p>	<p>Corrected as stated</p>

<p>In the first sentence it is probably sufficient to simply refer to the transecting approach as the “Biggins Method” and delete the last three words of the sentence “BFF habitat surveys.” The way it is currently written is awkward. Also, I would suggest near the bottom of the paragraph adding a few words to the sentence beginning “The minimum density of prairie dogs required...” I would suggest adding the caveat “according to this model” or “according to this paper” since this minimum density is currently coming under debate as potentially being inadequate.</p>	<p>Added changes as requested</p>
<p>This sentence does not make sense. You state “the WTPD population estimate for the 4 sub-complexes combined was 5,820 ha (14,381).” A population estimate should not be reported in terms of acreage, but in animal numbers. I think you mean total acreage of “good habitat” for the 4 subcomplexes combined, but this is not clearly stated here.</p>	<p>Changed sentence to: "The total area of good BFF habitat for the 4 subcomplexes combined was 14,381 ac." Changed sentence to: "In 1994, only colonies that contained at least 763 WTPD during the survey conducted in 1993 were sampled."</p>
<p>You should not say colonies that had densities of equal to or greater than 763. Density is a number per unit area. You should say colonies with at least 763 prairie dogs in 1993 or <u>something to that affect</u>.</p>	<p>Corrected as stated</p>
<p>It’s not clear what you mean by “unfavorable land ownership patterns.” It may be better to omit this portion of the sentence, and you could simply say “This led to the conclusion...” It would be just fine without the land ownership statement, because given the acreage in the subcomplex and low densities (regardless of land ownership) the area <u>was still unsuitable for ferrets</u>.</p>	<p>Corrected as stated</p>
<p>The sentence referring to the 3 WTPD carcasses found with no apparent injuries is probably not needed. It is very anecdotal and is a stretch to say it implied the presence of plague without having laboratory data to confirm, especially given that no large die-offs were observed.</p>	<p>Removed sentence</p>
<p>Grammar: “The survey was conducted to determine the amount of occupied...” Also, should be “...then east along US Highway 40...” NOT “US State Highway 40.”</p>	<p>Corrected as stated</p>
<p>Should be US Highway 40, not US State Highway 40 as in the text. Also, consider using acres instead of square miles to describe the Wolf Creek Management Area to be <u>consistent with the rest of the plan</u>.</p>	<p>Corrected as stated</p>
<p>A final, published version of the Holmes citation is now available. It would be more appropriate to cite than the 2007 draft. It is as follows, please also correct in the Literature Cited section: Holmes, B.E. 2008. A review of black-footed ferret reintroduction in northwest Colorado, 2001-2006. Technical Note 426. U.S. Department of the Interior, Bureau of Land Management, White River Field Office, Colorado. 43pp.</p>	<p>Corrected as stated</p>

<p>The last sentence in the first paragraph in this section is poorly written and convoluted (eg. “it is likely that this development most likely will affect...”). In the second paragraph in this section, instead of saying “WCMA has managed to rebound...” I would suggest saying “Prairie dog populations in the WCMA have managed to rebound...” Also, anywhere WCMA is used it should be preceded by the word “the.” It is used both ways (with and without a “the”) in the text in this section and preceding pages and should be consistent. Finally, the last sentence in this Issues section should be cleaned up (add a comma) for grammar purposes.</p>	<p>Corrected as stated</p>
<p>What factual basis for the conclusion of range wide decline? When little or no data exists and the Black tail experience show healthy populations when factual research was done in cooperation with landowners? While Prairie dog numbers have fluctuated over the years on our ranch they seem to remain viable in most all areas of their historic range</p>	<p>The evidence for a range-wide decline are loss of multiple areas across the ranges of both species that once held relatively large and healthy prairie dog populations. Examples include South Park, the Gunnison Basin, Peach Valley and Little Snake in Northwest Colorado. These areas were historically occupied by prairie dogs and today they contain very few colonies or very few, if any, prairie dogs. Though not all areas across the range show this pattern of decline, there are enough examples of obvious declines/extirpations that provide the basis for this conclusion. In addition, some of these declines occurred in the 1940s and today prairie dogs no longer occupy these historical ranges (i.e. South Park). Our occupancy modeling works with private landowners to evaluate GUPD and WTPD populations. These occupancy models conclude that only 7-8% of the GUPD overall range and 24% of the WTPD range are occupied which corresponds with what we are seeing on the ground.</p>
<p>How does the CDOW map of the Gunnison’s Prairie Dog range compare with the USFWS map for the species? Does DOW anticipate mapping the “montane” population of the species?</p>	<p>CDOW has not designated 'montane' and 'prairie' GUPD. Our management is related to the IPA, not "montane" or "prairie" designation. This approach will allow for stakeholder participation and will facilitate addressing issues specific to each IPA.</p>
<p>The Gunnison IPA map does not include all colonies that Gunnison County is aware of. Gunnison County believes that the range within the IPA, and the number and area of the colonies is seriously underestimated.</p>	<p>The mapping of GUPD colonies in the state is not exhaustive and should only be used for determining the distribution of the species and not estimating acreage. Mapping occupied acreage is difficult and is not useful for monitoring the species at a statewide level. Mapping is useful for evaluating site specific landuse evaluations where it is necessary to know the extent of the animals' activity and distribution.</p>
<p>Based upon communications with NPS employees, the statements regarding NPS management of prairie dog populations within the NRA is not accurate, at least for the timeframe referenced.</p>	<p>This section was updated per NPS staff recommendations (page 30).</p>

<p>A survey within the Gunnison IPA by Capodice and Hurrel in 2003 is referenced and then is given credit for accuracy by “suggesting” a 94% decline in occupied habitat in 12 years. Gunnison County believes this survey to be fraught with inaccuracy. It appears they did not access any (or very few) colonies on private lands. Further, based upon local knowledge, they did not find all colonies on BLM managed lands. It is also unlikely that an assessment 12 years earlier was not accomplished using similar protocols, making any statement on a “decline in occupied habitat” purely an unsubstantiated guess. Unfortunately these statements, which generally can be classed as opinions without scientific basis, become fact as time progresses. Gunnison County suggests that these types of assessment statements be removed from the Plan or clearly noted as having little or no scientific basis.</p>	<p>We are using the following information from this source: From 1979-1980, BLM survey data indicated that GUPDs occupied 15,568 acres within 19 colonies in the Gunnison Field Office jurisdictional boundaries (Capodice and Harrell 2003). Capodice and Harrell (2003) identified 279 acres within 5 previously measured colonies, in addition to 5 new active colonies on BLM lands. The results of this survey indicated a 50% reduction in active colonies since the 1979-1980 surveys (Capodice and Harrell 2003).</p>
<p>The issue of apparent conflict between many of the habitat requirements of the Gunnison Sage-grouse and the Gunnison’s Prairie Dog is inadequately addressed. It is a question that is clearly of concern, but is largely ignored in this Plan.</p>	<p>Gunnison prairie dog and Gunnison sage grouse coexist in the Gunnison Basin. In a large enough landscape, these two species can coexist and will facilitate each other's survival through the maintenance of early successional vegetation. Treatments specifically conducted for Gunnison sage grouse may benefit Gunnison's prairie dogs. However, we are unaware of any treatments for sage grouse over the past 10 years that have been colonized by prairie dogs. Treatments that reduce sagebrush canopy cover and facilitate understory regeneration provide healthier habitat for both of these species. Dense overgrazed conditions typically associated with prairie dog colonies are an artifact of human influence limiting dispersal and movement of prairie dogs. With the new implementation process, this concern can be addressed during the public ranking process, but does not need to be addressed in the range-wide plan.</p>
<p>Urbanization is defined as becoming a problem within both the town (city) of Gunnison and the county... Urban development is cited as having severely reduced one of the largest and most viable GUPD populations in the City. For most wildlife species, development close to urban centers is preferable to diffuse development in rural areas. This statement seems to indicate that concept is not applicable to GUPD in the City of Gunnison. The statement is misleading. Gunnison County recommends that CDOW re-phrase this section to acknowledge that development within and immediately adjacent to the City of Gunnison and other communities is preferable to diffuse development in rural areas.</p>	<p>CDOW clarified section according to the comment (page 31). While the CDOW recommends that future development occur within or adjacent to existing urbanization, thereby minimizing additional disturbance to other wildlife populations, land that typically provides the best habitat for prairie dogs is also the best land/parcel for development. Prairie dogs are typically only tolerated on fringes of agricultural lands, with numbers commonly controlled to prevent damage to hay meadows/pastures. These agricultural areas provide prime habitat for prairie dogs, but are also prized areas for development. CDOW described the large historic colony that existed within city limits because it is an example of the continued struggle between prairie dog occupancy and development.</p>

<p>The statement that a lack of irrigation water ... to fallow their croplands and the prairie dogs quickly colonized those areas is accurate for some parts of Gunnison County. This occurred even during drought years when little or no activity was noted. This conflicts with statements regarding the inability of the species to colonize and survive due to the smaller size and dispersed nature of the colonies.</p>	<p>If prairie dogs are within the dispersal distance of an area that becomes suitable, they can disperse into that area. Currently we know very little about the dispersal ability of GUPD or WTPD, but in the Gunnison Basin we do see the healthiest colonies on private lands. Many of these colonies are within dispersal distance from one another and can easily be colonized. However, we have examples of many other areas where colonies have become isolated and may no longer have the ability to move among colonies. We have initiated a genetics study to investigate migration rates among colonies.</p>
<p>The population models for plague affects ALL demonstrate robust population growth dynamics, seemingly indicating a lesser affect by plague than stated otherwise in the Plan.</p>	<p>Plague is the number one threat to prairie dogs, and we have seen the loss of populations and colony complexes due to plague outbreaks. The PVA does demonstrate that plague can have a devastating impact on populations, but it also demonstrates that with a lower severity and/or frequency of epizootics, prairie dogs can survive the disease.</p>
<p>1st paragraph of the assessment mentions that the Gunnison Basin encompasses Gunnison and Saguache Counties. In the next paragraph it mentions Hinsdale county. The counties that have PD habitat should be clarified.</p>	<p>Added counties encompassed within the IPA to the section</p>
<p>This discussion should explain how many acres have been treated and the monitoring results (both positive and negative) of the treatments, particularly as how they benefit or negatively impact GuPD.</p>	<p>No research on the impacts of these treatments on GUPD has been conducted. CDOW is unaware of any treatments for sage-grouse over the past 10 years that have been colonized by prairie dogs. During the implementation process, local details can be presented and discussed, such as the number of acres that have been treated.</p>
<p>Is any more data available on the current status of the 148 ac colony observed in 1981 by Rayor and in 1989 by Cully? Any such data could provide insight into how GuPD are able respond to plague in this area.</p>	<p>These data were updated per NPS staff (page 30).</p>
<p>For each of the populations it would be good to know if any local, county, State, or Federal regulations provide conservation measures to either GuPD or WTPD.</p>	<p>We have added available information regarding city, county, and federal conservation measures.</p>
<p>Any additional data available on the status of the colony discussed in 2nd paragraph?</p>	<p>CDOW biologists working in the Chubb Park area have not seen GUPDs there for at least 27 years (Randy Hancock, Buena Vista DWM, personal communication 2009) and there have been no colonies detected anywhere near Chubb Park. The only colonies found to be occupied are on the Arkansas Valley floor (page 45).</p>