To: Pike-San Isabel National Forests & Cimarron and Comanche National Grasslands Supervisor's Office

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I hereby submit comments in relation to the Draft Assessment (June 2025) of the US Forest Service Land Management Plan for the Comanche and Cimarron National Grasslands.

These comments were prepared by myself, Andee Leininger, owner of SECO Ranch Planning, and a fifth-generation rancher and Certified Professional in Range Management (licensed through the Society for Range Management) whose family also ranches on the Comanche National Grasslands (CNG) on the Timpas Unit. As someone who has personally assisted in collecting data for Ecological Site Descriptions (ESD) within Colorado when working for the Natural Resources Conservation Service (NRCS), Andee is familiar with the Ecological Sites contained within the Timpas & Carrizo units of the CNG.

1. In January 2013, the Interagency Ecological Site Handbook for Rangelands was published as a joint document between the Bureau of Land Management (BLM), Natural Resources Conservation Service (NRCS) and United States Forest Service (USFS). According to the Purpose of Handbook in Section 1, "The Interagency Ecological Site Handbook for Rangelands was developed to implement the policy outlined in the Rangeland Interagency Ecological Site Manual. This policy provides direction to Bureau of Land Management (BLM), Forest Service (FS), and Natural Resources Conservation Service (NRCS) to cooperatively identify and describe rangeland ecological sites for use in inventory, monitoring, evaluation, and management of the Nation's rangelands. This is a response, in part, to direction from Congress in the Department of the Interior and Related Agencies Appropriations Act of 2002. In that Appropriations Act, Congress expected the Secretary of Agriculture and the Secretary of the Interior to prepare a coordinated plan and budget that would identify the cost of completing standardized soil surveys and ecological classification on all rangeland for use at local management levels. This interagency handbook promulgates ecological sites as the component of ecological classification at local management levels (USDI and USDA 2003)." A reference to the

Interagency Ecological Site Handbook for Rangelands cannot be found in the Draft Assessment.

   a. The Draft Assessment does not name all major Ecological Sites contained within the shortgrass prairie ecosystem or the canyonlands ecosystem.
   b. Ecological Site Descriptions (ESDs), developed by the Natural Resources Conservation Service (NRCS) with extensive, in-person data collection, in accordance with directives from the Interagency Ecological Site Handbook for Rangelands, National Ecological Site Handbook and the National Range and Pasture Handbook, are written, in part, to "develop preliminary management interpretations"(National Ecological Site Handbook Part 631.10). Ecological Site Descriptions are cited as a source less than 10 times in the 1500+ page Draft Assessment.

2. According to the USDA-NRCS Web Soil Survey website, Loamy Plains is the dominant ecological site within the Timpas Unit, accounting for almost half of the shortgrass prairie ecosystem (excludes canyonlands). The Loamy Plains ESD appears to be referenced twice in the Draft Assessment, once in relation to Trinidad Milkvetch (*Astragalus puniceus*) which the Draft Assessment identifies as a species of conservation concern on the Carrizo unit of the Comanche, and once in relation to the Splendid Tiger Beetle (*Cicindela splendida*) for which "No sources consulted identified threats to this species' habitat...(Draft Assessment)".
   a. The Loamy Plains ESD for Major Land Resource Area (MLRA) 69 (The Timpas Unit of the Comanche is in MLRA 69) is not referenced in "Table 4. Dominant plant species in the shortgrass prairie ecosystem" (Draft Assessment page 149). Instead, a workshop held in Washington D.C. seems to be the cited source for Table 4. Workshops are generally not accepted as citable literature, unless some sort of literature was published as a result of the workshop.
   b. Page 25 of DA, it says "Precipitation shifts [although shifting direction is not specified], coupled with increases in temperatures, may support the expansion of juniper tree cover along with increases in tree density, which could negatively affect the herbaceous layer." Juniper trees, and trees in general, require more water, not less, than do grasses and forbs. Evergreen trees specifically require more water as they do not go dormant to the extent which deciduous trees, grasses and forbs do in the winter.

3. According to the USDA-Natural Resources Conservation Service (NRCS) Web Soil Survey website, Sandstone Breaks is the dominant ecological site within the canyonlands of the Timpas Unit. The Sandstone Breaks ESD is only referred to twice in the Draft Assessment, that I can find. The source used for "Table 6. Dominant plant species in the canyonlands (CCNG Draft Assessment page 29)" appears to be a workshop held in Washington, D.C. in

2024. "USFS, USDA Forest Service. 2024a. Canyonlands. Terrestrial ecosystem integrity workshop. Date: 2024. Washington, DC. 6 p." (Draft Assessment page 149).

a. In that same Table 6 on page 29 of the Draft Assessment, black grama (*Bouteloua eriopoda*) is listed as being a dominant species in the canyonlands.
b. According to the Sandstone Breaks ESD, black grama is not a dominant species in MLRA 69. In fact, the ESD states on page 7 that black grama occurs "on the site in minor amounts", producing anywhere from "0 – 30 pounds per acre". Which means Black Grama is not a dominant species (R069XY053CO Sandstone Breaks plant list in Ecological Dynamics section).
c. Furthermore, the USDA Plants Database houses a Characteristics document specifically for black grama (Plants Database black gramma characteristics). Under the section labeled Growth Requirements, it states that black grama requires a minimum of 155 frost free days each year. The Sandstone Breaks ESD clearly states the average length of the frost-free period in the canyonlands of the Timpas Unit is 149 days (R069XY053CO Sandstone Breaks).
d. Lastly, the USDA Plants Database Fact Sheet for black gramma states "Two favorable successive growing seasons are required for reproduction by stolons: First year, to produce stolons; second year, for stolons to take root and establish new plants" (USDA Plants Database Fact Sheet black gramma). Colorado weather is extremely variable, and as already stated on the USDA Fact Sheet, the average frost-free days in the Plan area are less than what is required for prolific growth of black gramma.
e. In conclusion, the canyonlands of the Timpas Unit does not contain favorable habitats for black gramma and black gramma has not been shown to grow in abundance on the site. For the Draft Assessment to claim that black grama is "threatened by and declining habitat trend from woody plant encroachment..." in Table C-1 of Appendix C is misleading. A species cannot be "threated" and "declining" when it has not been known to grow in abundance on the site and the climate is not favorable for the plant to grow in abundance.

4. In the document The Regional Forester's SCC Identification Process for the Rocky Mountain Region (R2), within the Species of Conservation Concern folder, it states:
    a. "a species is determined to be 'native to, and known to occur in the plan area' if the BASI [best available scientific information] at the time of plan development indicates that the species is:
        1) A native species AND
        2) At the time of plan development, is established or is becoming established in the plan area"

b. The Regional Forester's Species of Conservation Concern (SCC) Identification Process for the Rocky Mountain Region (R2), in relation to determination of Species of Conservation Concern, says, "The sole direction around determining substantial concern in the handbook is a prohibition on identifying species that are secure and not at risk as SCC or identifying species for which there is insufficient information to determine substantial concern as SCC. The handbook does not include an affirmation of what substantial concern is. To this end, there are 5 elements that demonstrate a species is secure and not at risk and thus cannot be identified as SCC. Of those five elements, four are directly related to the Indicators of Conservation Concern.

1. Abundance (Indicator 4) or
2. Distribution (Indicator 3) or
3. Lack of threats (Indicator 1) or
4. Trends in habitat (Indicator 2) or
5. Responses to management

Requiring all 4 Indicators of Conservation Concern to be met to rise to the level of "substantial" demonstrates that a species does not fall under the prohibition to identify species as SCC that are secure and not at-risk. Further, the Handbook19 makes it clear that the rationale for not identifying species as SCC can include either "the knowledge of..." the elements described above or a lack of sufficient scientific information available about a species status."

Since the process document mentioned above, in addition to the Draft Assessment, do not define the time when a species has become abundant or established, or is becoming established in an area, the sources quoted in the Regional Forester's SCC Identification Process for the Rocky Mountain Region (R2) were consulted. This source: Andelman, S.J., Groves, C. and Regan, H.M., 2004. A review of protocols for selecting species at risk in the context of US Forest Service viability assessments. Acta Oecologica, 26(2), pp.75-83, references a review of the USDA Forest Service (USDA-USFS) process for conducting viability assessments under the National Forest Management Act (NFMA). This review was commissioned by the USDA-USFS in December 2000. In this review, planning regulations (Federal Register, 2000, 65, 67580–67581) were referred to, which defines species viability as "A species consisting of self-sustaining and interacting populations that are well distributed through

the species' range. Self-sustaining populations are those that are sufficiently abundant and have sufficient diversity to display the array of life history strategies and forms to provide for their long-term persistence and adaptability over time." The commissioned review goes on to state "The regulations further state that a species is well-distributed when individuals can interact with each other in the portion of the species' range that occurs within the planning area. One of the first tasks in the viability assessment process is the identification of species at risk of loss of viability due to forest management actions."

1. This information is conflicting. In order for a species to be called a SCC, it must be "native and known to occur in the plan area (be established or becoming established)", but if it doesn't meet the undefined Abundance Indicator standards it can be called a SCC.

c. Out of the 70 At-Risk and Other Highlighted Species (both plant & animal) in Pages 1-11 of Appendix C, 65 of those species are either "at the edge of their known habitat/range" and/or there are anywhere from 1 to 75 occurrences of these species, indicating the species are not established in the Plan area, nor are they likely to become established since the plan area is already on the edge of suitable habitat.

d. The information, including the number of times the species occurs in the Plan area, came from either the Colorado Natural Heritage Program or from one auto-generated source. "Van Scoyoc, M. 2024. Species Occurrence Data for the Cimarron-Comanche National Grasslands (HTML output auto-generated from multiple data sources such as iDigBio, GBIF, and others). Dated: April 2024. Denver, CO: USDA Forest Service, Mountain Planning Service Group." There is no statement in the Draft Assessment that shows an attempt to validate the information found on these different website sources with in-person, boots-on-the-ground plant and animal inventories. In fact, the iDigBio (Integrated Digitized Biocollections) website states "Although iDigBio is a *repository* for recordsets of primary biodiversity data of vouchered natural history collections, it is not a "data repository" as defined by most journals. Accepting individual researcher datasets, even those consisting of vouchered, natural history specimen digitized data and media, currently falls outside of the Scope of iDigBio. A *data repository* in its broadest sense is a destination for data storage. There are many online data repositories, and several organizations, such as re3data.org (Registry of Research Data Repositories) and biosharing.org Information Resources

provide curated listings of data repositories." In other words, this website makes no attempt to screen data or articles for accuracy or attempt to determine if articles have been peer-reviewed. This one source is cited within the Draft Assessment text as "(Van Scoyoc 2024)" and is quoted no less than 550 times.

5. It would be helpful to define the word "occurrence" as it relates to occurrences of potential SCC's. I cannot find a definition of "occurrence" in the glossary or body of the text within the Draft Assessment. Does one "occurrence" of a species in the plan area mean "one plant" or "one amphibian" was found in the plan area? Or does it mean that the species was encountered once in the plan area with an undefined number of individuals?
6. The following species listed as potential species of conservation concern in Appendix C of the Draft Assessment all have population occurrences in the plan area which were documented outside of the current time of plan development. As listed earlier in this document, the Regional Forester's SCC Identification Process Guide for the Rocky Mountain Region (R2) states that species must meet 2 overarching criteria in order to qualify as a species of conservation concern. The first criteria is that the species be native and known to occur in the plan area. The Regional Forester's process also states that in order to be considered "known to occur" in the plan area means that a species must be established, or is becoming established *at the time of plan development.* This list of plant species, below, all have occurrences listed in years which fall outside of the current window of plan development, and thus they should not be considered as "known to occur" in the plan area, because they are not listed in this document as being established in the plan area *right now*, when the plan is being developed. Since the process for plan development began, according to USFS records, in 2023, any species with a last known occurrence of 2023 or later are not included in this list.
    a. Beaked spikerush (*Eleocharis rostellata*) last known occurrence in the plan area in 2007, page 19 in the Plant Species Evaluations (PSE)
    b. Bigelow's bluegrass (*Poa bigelovii*) last known occurrence in the plan area in 1997, page 24 in the PSE
    c. Blue three-awn grass (*Aristida purpurea var. nealleyi*) last known occurrence in the plan area in 2008, page 41 in the PSE
    d. Buckley's beardtongue (*Penstemon buckleyi*) last known occurrence in the plan area in 2007, page 45 in the PSE
    e. California amaranth (*Amaranthus californicus*) last known occurrence in the plan area in 1982, page 50 in the PSE
    f. Cobea beardtongue (*Penstemon cobaea*) last known occurrence in the plan area in 1989, page 86 in the PSE

g. Comb-like evening-primrose (*Oenothera coronopifolia*) last known occurrence in the plan area in 2008, page 96 in the PSE
h. Cooley's mimosa (*Desmanthus cooleyi*) last known occurrence in the plan area in 2022, page 102 in the PSE
i. Cutleaf germander (*Teucrium laciniatum*) last known occurrence in the plan area in 2022, page 114 in the PSE
j. Dwarf milkweed (*Asclepias involucrata*) last known occurrence in the plan area in 2007, page 132 in the PSE
k. Ear muhly (*Muhlenbergia arenacea*) last known occurrence in the plan area in 2021, page 137 in the PSE
l. Engelmann's goldenweed (*Oonopsis engelmanii*) last known occurrence in the plan area in 1990, page 149 in the PSE
m. Fendler's three-awn grass (*Aristida purpurea var. fendleriana*) last known occurrence in the plan area in 2007, page 172 in the PSE
n. Flax-leaf stenosiphon (*Setenosiphon linifolius*) last known occurrence in the plan area in 1989, page 185 in the PSE
o. Fragrant indigobush (*Amorpha nana*) last known occurrence in the plan area in 2013, page 190 in the PSE
p. Giant dropseed (*Sporobolus giganteus*) last known occurrence in the plan area in 2018, page 199 in the PSE
q. Great Plains flatsedge (*Cyperus lupulinus*) last known occurrence in the plan area in 2021, page 202 in the PSE
r. Greene milkweed (*Asclepias uncialis*) last known occurrence in the plan area in 2012, page 215 in the PSE
s. Gummy lovegrass (*Eragrostis curtipedicellata*) last known occurrence in the plan area in 2007, page 220 in the PSE
t. Hartweg's sundrops (*Calylophus hartwegii ssp. Pubescens*) last known occurrence in the plan area in 1989, page 235 in the PSE
u. Havard's Three-awn grass (*Aristida havardii*) last known occurrence in the plan area in 1998, page 240 in the PSE
v. Hoary Tansy-aster (*Dieteria canescens var. glabra*) last known occurrence in the plan area in 1996, page 252 in the PSE
w. Honey mesquite (*Prosopis glandulosa var. glandulosa; Prosopis glandulosa*) last known occurrence in the plan area either in 1978 or 2002, page 259 in the PSE
x. James' beardtongue (*Penstemon jamesii*) last known occurrence in the plan area in 2018, page 278 in the PSE
y. Least duckweed (*Lemna minuta*) last known occurrence in the plan area in 1991, page 290 in the PSE

z. Lyreleaf greeneyes (*Berlandiera lyrata*) last known occurrence in the plan area in 2022, page 303 in the PSE

aa. Low silverbush (*Argythamnia humilis*) last known occurrence in the plan area in 2008, page 309 of the PSE

bb. May grass (*Phalaris caroliniana*) last known occurrence in the plan area in 2007, page 320 in the PSE

cc. Nealley's dropseed (*Sporobolus nealleyi*) last known occurrence in the plan area in 1997, page 339 in the PSE

dd. New Mexico blackberry (*Rubus neomexicanus*) last known occurrence in the plan area in 2022, page 343 in the PSE

ee. One-flower flatsedge (*Cyperus retroflexus*) last known occurrence in the plan area in 2007, page 350 in the PSE

ff. Painted milkvetch (*Astragalus ceramicus var. filifolius*) last known occurrence in the plan area in 2007, page 357 in the PSE

gg. Plains ironweed (*Vernonia marginata*) last known occurrence in the plan area in 2005, page 367 in the PSE

hh. Poison suckleya (*Suckleya suckleyana*) last known occurrence in the plan area in 2004, page 375 in the PSE

ii. Queen's delight (*Stillingia sylvatica; Stillingia sylvatica ssp. Sylvatica*) last known occurrence in the plan area in 2010, page 393 in the PSE

jj. Reiuchenbach's hedgehog cactus (*Echinocereus reichenbachii var. perbellus*) last known occurrence in the plan area in 2018

kk. Running fleabane (*Erigeron flagellaris*) last known occurrence in the plan area in 2018, page 422 in the PSE

ll. Sandsage prairie-clover (*Dalea cylindriceps*) last known occurrence in the plan area in 2018, page 438 in the PSE

mm. Shortbeak arrowhead (*Sagittaria brevirostra*) last known occurrence in the plan area in 1961, page 448 in the PSE

nn. Southwestern cloak fern (*Astrolepis integerrima*) last known occurrence in the plan area in 2008, page 478 in the PSE

oo. Springfield bluestem (*Bothriochloa springfieldii*) last known occurrence in the plan area in 2021, page 486 in the PSE

pp. Texas bergia (*Bergia texana*) last known occurrence in the plan area in 2007, page 499 in the PSE

qq. Toad rush (*Juncus bufonius*) last known occurrence in the plan area in 1961, page 510 in the PSE

rr. Trailing ratany (*Krameria lanceolata*) last known occurrence in the plan area in 2022, page 515 in the PSE

ss. Woolly Prairie-clover (*Dalea lanata*) last known occurrence in the plan area in 2022, page 575 in the PSE

1. In Table C-2 in Appendix C, Beaked spikerush (*Eleocharis rostellata*) was identified as a potential species of conservation concern. Both page 1 of Appendix C, page 12 of Appendix C and page 19 of the Plant Species Evaluations all say there was one occurrence of Beaked spikerush in the Cimarron National Grassland. Page 19 of the Plant Species Evaluations specifically says one occurrence was recorded in 1961 and another occurrence was recorded in 2007.
    a. One occurrence from 60 years ago, and another occurrence from 18 years ago does not make the plant "established", according to the NFMA's definition of species viability. According to the Regional Forester's SCC identification process, in order for the plant to be considered as "Known to Occur" in the plan area, it must "be established or is becoming established in the plan area", and that establishment must be present "At the time of plan development..." not 60 years or even 18 years prior to plan development.
2. In Table C-2 in Appendix C, Bigelow's bluegrass (*Poa bigelovii*) was identified as a potential species of conservation concern in the shortgrass prairie ecosystem. However, on page 24 of the Plant Species Evaluation section, it is stated that there was one occurrence of Bigelow's bluegrass on the Carizzo Unit, in Picketwire Canyon. Picketwire Canyon is on the Timpas Unit, not the Carizzo Unit, indicating the Draft Assessment was not proof-read before being released for public comment. Additionally, Picketwire Canyon would belong in the canyonlands ecosystem, not the shortgrass prairie ecosystem (Figure 3 in the Draft Assessment).
        a. One occurrence of a plant in an area over a thirty-year time period, according to the National Forest Management Act planning regulations mentioned earlier (Federal Register, 2000, 65, 67580–67581), does not qualify the plant as being established in that ecological site or ecosystem. Therefore, that species should not be listed as a species of conservation concern, because it doesn't normally grow on that ecological site and it doesn't normally grow within the plan area. This species should probably qualify as transient or accidental.
        b. The source quoted for this one occurrence of Bigelow's bluegrass seems to have come from an internet query which garnered data from the Global Biodiversity Information Facility (GBIF), Integrated Digitized Biocollections (iDigBio) and other internet sources which are not listed in the bibliography. "Van Scoyoc, M. 2024. Species Occurrence Data for the Cimarron-Comanche National Grasslands (HTML output auto-generated from multiple data sources such as iDigBio, GBIF, and others). Dated: April

2024. Denver, CO: USDA Forest Service, Mountain Planning Service Group." Thus, the information about this one occurrence was gathered from an unverified data source on the internet, and none of these occurrences were documented in-person by USFS personnel.

3. Black Willow (*Salix nigra*) is not listed on any of the plant lists in MLRA69 (Timpas Unit) ESD's or MLRA 67B (Carrizo Unit) ESDs. Page 1 Appendix C says there are 4 occurrences in the plan area and the plan area is on the edge of the species range. Plant cannot be "declining" within the Plan area if it has never grown in abundance in the Plan area to begin with.
    a. Fact Sheet from USDA Plants database says Black Willow grows best in areas with 51" average rainfall, with 20" falling between April and August. It's also adapted to ample soil moisture. Not only do the Timpas Unit and Carrizo Units of the Comanche National Grasslands fall into the 10-12" and 12-16" precipitation zones, but soils within these units are classified as Ustic Aridic and Aridic Ustic, which are moderately dry, to dry soils. Soils within both units of the Comanche are typically moderately drained to well drained. Additionally, black willow grows best in areas whose average maximum temperature in the summertime is 93F and 60F in winter (PLANTS DatabaseSANI). Southeastern Colorado regularly sees temperatures over 100 F in the summer. In regards to the Cimarron National Grasslands in southwest Kansas, average yearly rainfall is 16 – 22" with well-drained soils, indicating the Cimarron grasslands would also not be suitable habitat for the black willow. The entire plan area is not suitable habitat for Black Willow and it should not be a species of concern.
4. Blue three-awn grass (*Aristida purpurea var. nealleyi*) is another plant named in the Draft Assessment as a possible species of conservation concern.
    a. Page 1 of Appendix C states there is one known occurrence of this plant in the plan area, and in relation to trends of the species in the plan area, page 13 of Appendix C states there are "No known trends from the consulted sources."
    b. Page 41 of the Plant Species Evaluations states there was one occurrence record of this plant in the plan area in 2008. Additionally, this page states the population of this plant is currently "unknown" and the "Population trends in the plan area are unknown." One occurrence, in combination with unknown population trends does not constitute the plant as being "established" according to the RMFA and Regional Forester's SCC process definitions of "known to occur" in the plan area.
    c. Blue three-awn grass does not appear on any of the ESD's in the plan area, including MLRA 69, MLRA 72 and MLRA 77A. The only varieties of purple three-awn (*Aristida purpurea*) that appear in those ESD's are Fendler's three-awn

(*Aristida purpurea var. longiseta*) and Wright's three-awn (*Aristida purpurea var. wrightii*).

d. It is common knowledge among rangeland specialists that all three-awn grasses in the Aristida genus are well-adapted to disturbed rangelands. Stubbendieck et al. in North American Wildland Plants: A Field Guide, 2003, University of Nebraska Press, state that Aristida species are "...most abundant on abused rangeland" (page 47).
    a. By the USFS' own admission on page 62 of Appendix C, Aristida "species is documented in the NRCS ecological site descriptions as occurring in the lower diversity/high disturbance states."
        1. Does the USFS intend to abuse rangelands in the plan area in order to increase the abundance of three-awn (Aristida) species?
e. This species would appear to qualify as "transient" or "accidental"

5. Buckley's beardtongue (Penstemon buckleyi) is another plant named in the Draft Assessment as a possible species of conservation concern.
    a. Page 45 of the Plant Species Evaluations section states "There is one occurrence on the Cimarron and Comanche National Grasslands (CCNGs) from 2007..."
        a. One occurrence does not meet any definitions of establishment or viability, as described in the RFMA and Regional Forester's SCC process.
    b. Page 46 of the Plant Species Evaluation section states "The occurrence is adjacent to a well-developed dirt road. It is approximately 47 feet from the Picture Canyon picnic site where an examination of satellite imagery shows a proliferation of user-created trails, dispersed camping sites and developed facilities between 1988 and present which represents a declining trend in habitat." Simply because there was one occurrence of this species in the Carrizo Unit of the CNG does not imply that suitable habitat for the species ever existed. Therefore, it is misleading to say there is a "declining trend in habitat" when there has never before been suitable habitat, and there is no suitable habitat now, for the species to grow in abundance and become established.
6. California amaranth (Amaranthus californicus) is listed in Table C-1, page 2 of Appendix C as a species of possible conservation concern.
    a. Page 2 of Appendix C and page 50 of the Plant Species Evaluation section state there is one occurrence of California amaranth on the Cimarron National Grassland from 1982. The plan area is at the eastern edge of the species' habitat.
        a. One occurrence from forty years ago does not meet any definitions of establishment or viability, as described in the RFMA and Regional Forester's SCC process.

b. Page 51 of the Plant Species Evaluation states "Plants can be found in seasonally moist flats or near bodies of water (Flora of North America 1993)..." then it states "Riparian and wetland habitat is limited on the Cimarron NG (see Threats and Trends Appendix), although this species may not depend on riparian areas and rather grow in early successional environments with water availability." Additionally, this page, under Population states "California amaranth has a low tolerance for drought (NRCS 2025)..."

1. These statements are contradicting. If a plant is known to grow in moist/wet environments, and there are very few of those environments in the Cimarron NG, and it's known that California amaranth has a low tolerance for drought, then it stands to reason that the Cimarron and Comanche NG are not ideal habitat for this species and it is not likely to become established in abundance and demonstrate viability.

7. Cardinal-flower (*Lobelia cardinalis*) is listed as a possible species of concern on page 2 of Appendix C, with 7 known occurrences in the plan area between 1961-2023, and a restricted wetland ecological condition.
   a. According to page 14 of Appendix C, and page 65 of the Plant Species Evaluations, there are no known population trends of Cardinal-flower in the plan area. Yet, page 2 of Appendix C states "Threatened by climate stressors, groundwater depletion and drought with resultant declining trend in habitat from these threats."
      1. If a plant is known to grow in moist/wet environments, and be threatened by drought, and there are very few suitable environments in the Cimarron and Comanche NG, then it appears that the Cimarron and Comanche NG are not ideal habitat for this species and it is not likely to become established in abundance and demonstrate viability.
8. Cobea Beardtongue (Penstemon cobaea) is listed as a possible SCC on page 2 of Appendix C, with one occurrence in the plan area. Page 86 of the Plant Species Evaluation section states "This occurrence records is ~3 meters from the edge of the plan area." That same page 86 states the year of last known occurrence was 1989.
   a. One occurrence from 1989 does not meet any definitions of establishment or viability, as described in the RFMA and Regional Forester's SCC process, rather it seems one occurrence would be considered transient or accidental.
9. Colorado gentian (*Frasera coloradensis*) is listed as a possible SCC on page 2 of Appendix C, with fifteen occurrences in the plan area.

a. Page 91 of the Plant Species Evaluations states: "Population size in plan area is not known."
    a. If the population size is not known, how can it be known if the plant is established (as established within the known-to-occur definition), or abundant, particularly during the time of plan development, per the Regional Forester's SCC ID process? Additionally, if all four Indicators of Conservation of Concern must be met, then it cannot be determined if the population is declining or not if the population size is not known. More information needs to be gathered on this species.
    b. Colorado gentian does not appear on any of the species lists in the MLRA 76B ecological site descriptions, and if it is endemic to the area, it should appear on the ESD's in that area.

10. Comb-like evening-primrose (*Oenothera coronopifolia*) is listed as a possible SCC on page 2 of Appendix C, with one occurrence in the plan area from 2008.
    a. One occurrence does not automatically imply the species is established, particularly if the population size is unknown.
    b. The year 2008 does not meet the Regional Forester's SCC ID process criteria that the plant must be established, or is becoming established, during the time of plan development.
    c. If the population size is not known (page 15 of Appendix C and page 96 Plant Species Evaluations), how can it be known if the plant is established (known to occur), or abundant, particularly during the time of plan development, per the Regional Forester's SCC ID process? Additionally, if all four Indicators of Conservation of Concern must be met, then it cannot be determined if the population is declining in abundance if the population size is not known.
    d. Page 96 of the PSE also states "Population: No sources consulted identified threats to this species (Ackerfield 2022, NatureServe 2025)."
        a. Furthermore, page 96 of the Plant Species Evaluations goes on to say, "Ecological conditions: No sources consulted identified any ecological requirements needed for this species aside from general habitat needs which is not restricted in the plan area. It can persist in many different habitat types and can occur in disturbed locations."
        b. If this plant can exist in many different types of habitats, and there are no known threats to the population, and the abundance of the population hasn't been established during the time of plan development, why is it being considered as a species of conservation concern?

11. Cooley's Mimosa (*Desmanthus cooleyi*) is listed as a possible SCC on page 2 of Appendix C, with 13 occurrences in the plan area between 1947 and 2022.

a. While page 102 from the PSE states that "The species is considered extirpated from Morton County, so the species has declined in at least a portion of the plan area.", it also states that the population is unknown in the Comanche National Grasslands.
    a. The years 1947 to 2022 do not fall within the time of plan development, which didn't begin until 2023
    b. No parameters are given to determine if the plant has been established in the plan area to the point at which it meets the NFMA definition of viability.
    c. Page 103 from the PSE also states that "the population size and trend in the plan area is not known.", but it goes on in the next sentence to state that the "Estimated frequency within viewshed: Frequent (11-100)."
    d. Page 104 in the PSE states "Given this species' use of varied, dry habitat types, including shortgrass prairie, sandsage prairie, and roadsides (Freeman 1989, Hazlett 2004, Kuhn et al. 2011), its ecological condition requirements are not considered restricted in the plan area."
        1. If the species grows "frequently" in the plan area, and it's not restricted to one specific habitat type, and there are no known threats to the habitat, and no concrete evidence of threats to the population, why is it being considered a species of conservation concern?

12. Cutleaf germander (*Teucrium laciniatum*) is listed as a possible SCC on page 2 of Appendix C, with between 5-16 occurrences (page 114 PSE) in the plan area between 1936 and 2022.
    a. Page 15 of Appendix C states "Population: No known trends from the consulted sources." And it also states "Population: No known threats from the consulted sources."
        a. Yet, in several contradictory statements on page 109 of the PSE, the document states "the species seems to have declined or possibly been extirpated from the Cimarron National Grassland, indicating a declining trend in the plan area" and "grazing and habitat conversion" is a significant threat to the population of this plant. Page 115 of the PSE goes on to quote a 1989 article by Freeman which states "Grazing and habitat conversion are *probably* only *minor* threats to the species."
13. Dwarf Milkweed (*Asclepias involucrata*) is listed on page 3 of Appendix C as a potential species of conservation concern, with "A total of 8 above-ground stems...documented in the plan area at 2 locations."
    a. Additionally, page 132 of the PSE identifies grazing as a threat to this species.

a. However, milkweeds, as a group, contain cardiac glycosides, which means they can be toxic to any livestock, humans or pets which consume them (Merck Veterinary Manual). As long as livestock have plenty of other feed (grass and non-toxic forbs) to eat, they will, as a general rule, not eat poisonous plants.
b. Dwarf milkweed is not threatened by grazing and is actually toxic to livestock

14. Ear Muhly (*Muhlenbergia arenacea*) is listed on page 3 of Appendix C as a potential species of conservation concern, with two known occurrences in the plan area between 2007 and 2021.
    a. The years 2007 to 2021 do not fall within the timeframe of plan development
    b. Page 3 of Appendix C states "...the population in the plan area is disjunct from the rest of the species range to the south." It would appear that the plan area is not prime habitat for this species, and that its prime habitat lies further south towards Mexico.
    c. After doing extensive research, both online and through available published texts, it appears that very little is known about ear muhly, besides the fact it grows in dry places and becomes more prolific the closer one gets to Mexico. How does the USFS expect to manage habitat for a species about which little is known?
15. Englemann's Goldenweed (*Oonopsis engelmannii*) is listed on page 3 of Appendix C as a potential species of conservation concern, with two known occurrences in the plan area from 1990.
    a. The year 1990 does not fall into the timeframe of plan development.
    b. Pages 149 and 150 of the PSE states "Population trend and abundance in the plan area are unknown." The species cannot be determined to be declining in abundance, if the population is unknown.
    c. USDA Plants Database shows this species occurring in only one county within the plan area, Las Animas County in Colorado, which only constitutes about 5% of the plan area.
16. Fendler's Three-awn grass (*Aristida purpurea var. fendleriana*) is listed on page 3 of Appendix C as a potential species of conservation concern, with 9 known occurrences in the plan area, and last known occurrence in 2007.
    a. The year 2007 does not meet the Regional Forester's species of conservation concern guidelines which says plants must be established, or becoming established, during the time of plan development.

b. Page 172 of the PSE states "Population trends in the plan area are unknown." How can a species be determined to be declining in abundance if the population is unknown?
c. It is common knowledge among rangeland specialists that all three-awn grasses in the Aristida genus are well-adapted to disturbed rangelands. Stubbendieck et al. in North American Wildland Plants: A Field Guide, 2003, University of Nebraska Press, state that Aristida species are "...most abundant on abused rangeland" (page 47).
    a. By the USFS' own admission on page 62 of Appendix C, Aristida "species is documented in the NRCS ecological site descriptions as occurring in the lower diversity/high disturbance states."
        1. Does the USFS intend to abuse rangelands in the plan area in order to increase the abundance of three-awn (Aristida) species?

17. Flax-leaf stenosiphon (*Stenosiphon linifolius*) is listed on page 3 of Appendix C as a potential species of conservation concern, with one known occurrence in the plan area from 1989.
    a. The year 1989 doesn't fall within the current time of plan development.
    b. One occurrence from 36 years ago doesn't make the species established in the plan area. This would appear to better qualify as transient or accidental.
18. Fragrant indigobush (*Amorpha nana*) is listed on page 3 of Appendix C as a potential species of conservation concern, with three known occurrences in the plan area from 1989 to 2013.
    a. The years 1989 to 2013 do not fall within the time of plan development.
    b. Page 190 of the PSE states: "Population trends in the plan area are unknown." How can the population be determined to be threatened/declining if the population is unknown? How can the species be determined to be in less abundance than before if the current population size isn't known?
19. Giant dropseed (*Sporobolous giganteus*) is listed on page 3 of Appendix C as a potential species of conservation concern, with 7 to 15 occurrences in the plan area between 1961 and 2018.
    a. The years 1961 to 2018 do not fall within the time of plan development.
    b. Page 199 of the PSE states that both GBIF and iDigBio list 7 occurrences from 1965 to 1996, but no attempt is made to verify if those 7 occurrences are the same, or different occurrences.
    c. Page 199 of the PSE also states that population trends are unknown at this time. How can a species meet abundance concerns if the population isn't even known?

20. Great Plains flatsedge (Cyperus lupulinus) is listed on page 3 of Appendix C as a potential species of conservation concern, with three known occurrences in the plan area between 1947 and 2021.
    a. Three occurrences over a span of almost 100 years doesn't meet the viability or establishment definitions as established by the NFMA and Regional Forester's SCC ID process. The years 1947 to 2021 also do not fall within the time of plan development.
    b. Page 203 of the PSE states: "There are three documented occurrences in the plan area. Population numbers are not known." It also states "Ecological Conditions: Unknown, but not likely to be restricted due to the broad habitat preferences of Great Plains flatsedge documented in the literature."
    c. Pg 203 of the PSE states "population trends in the plan area are unknown." How can it be determined that the species doesn't meet the abundance indicator when the population and population trend is unknown?
    d. How does the USFS plan to manage for the habitat of this species when its specific ecological conditions are unknown?
21. Greene Milkweed (Asclepias uncialis) is listed on Page 4 of Appendix C as a potential species of conservation concern, with five occurrences recorded before 2012 (page 215 PSE).
    a. That timeframe does not fit within the current plan development timeframe. According to the Regional Forester's SCC ID process, the species must be established, or becoming established in the plan area, during the time of plan development.
    b. On page 215 of the PSE, the document also states: "Population: Most of the known populations are small, discrete, and isolated with large areas of apparently suitable habitat being unoccupied." That page also states, "This species is considered at the northeastern edge of its range."
    c. Perhaps, since the species is at the edge of its range, the "apparently suitable habitat" really isn't suitable habitat, which would account for the low population numbers.
    d. Additionally, milkweeds, as a group, contain cardiac glycosides, which means they can be toxic to any livestock, humans or pets which consume them (Merck Veterinary Manual). As long as livestock have plenty of other feed (grass and non-toxic forbs) to eat, they will, as a general rule, not eat poisonous plants.
    e. One of the sources listed for this species "Decker, K. 2006. Asclepias uncialis Greene (Wheel Milkweed): A Technical Conservation Assessment. Dated: April 24, 2006. Washington, DC: USDA Forest Service, Rocky Mountain Region (R2). 51

p. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5206820.pdf" doesn't actually link to a PDF and the website says "Page Not Found".

22. Gummy lovegrass (Eragrostis curtipedicellata) is listed on Page 4 of Appendix C as a potential species of conservation concern, with one demonstrated occurrence from 2007.
    a. One occurrence would more likely qualify this species as transient or accidental, not as an established species in the plan area. Additionally, the year 2007 does not fall within the current time of plan development.
    b. No known population trends in the area and no known threats, and the plan area is at the northern edge of the species range. How can it be said that the population is declining in abundance when there are no known trends?
23. Hartweg's sundrops (*Calylophus hartwegii ssp. pubescens*)
    a. One occurrence in the plan area from 1989
        a. 1989 is outside of timeframe of plan development
        b. One occurrence doesn't count as being established – should be transient or accidental.
24. Havard's three-awn grass (Aristida havardii)
    a. The name of this plant is spelled wrong in Appendix C. It's Havard not Harvard.
    b. 11 occurrences from 1948 to 1998. This window of time is not within the timeframe of plan development.
    c. Population unknown – how can it be determined if a species is not abundant if the population is not known?
    d. Page 241 of the PSE states: "Hazlett (2004) lists Havard's three-awn as being associated with the "Planted" habitat category, something that is not apparent from NAIP aerial imagery of the collections nor the descriptions of the habitat from the various collections in the plan area." This means that a person planted the grass. There is no naturally occurring habitat called "Planted".
    e. It is common knowledge among rangeland specialists that all three-awn grasses in the Aristida genus are well-adapted to disturbed rangelands. Stubbendieck et al. in North American Wildland Plants: A Field Guide, 2003, University of Nebraska Press, state that Aristida species are "...most abundant on abused rangeland" (page 47).
        a. By the USFS' own admission on page 62 of Appendix C, Aristida "species is documented in the NRCS ecological site descriptions as occurring in the lower diversity/high disturbance states."
            1. Does the USFS intend to abuse rangelands in the plan area in order to increase the abundance of three-awn (Aristida) species?

25. Hoary Tansy-Aster (*Dieteria canescens ssp. glabra var. glabra*) is listed on Page 4 of Appendix C as a potential species of conservation concern, with three occurrences from 1972 – 1996.
    a. New scientific name for this species is *Machaeranthera canescens ssp. Glabra var. glabra* per USDA's Plants Database (PlantsMACAC3)
    b. Page 252 in the PSE states that "Population trends are unknown". How can it be determined that a species is declining in abundance when the current populations are unknown?
    c. How can the habitat be said to be declining when no occurrences since 1996 would suggest that the habitat in the plan area is generally unsuitable? Also, 1996 was a wet year. Lots of plants grew in 1996 that haven't grown since. It would make sense to have species of conservation concern that are somewhat drought tolerable, instead of species which require more water to grow.
26. Honey mesquite (Prosopis glandulosa var. glandulosa) is listed on page 4 of Appendix C as a potential species of conservation concern, with two occurrences in the plan area, one in 1978 and one in 2002 (page 259 in PSE).
    a. USDA Plants Database states minimum frost free days required for honey mesquite is 250 days (PLANTSPRGLG)
        a. As earlier established in these comments, the average number of frost-free days in the Timpas Unit of the Comanche grasslands is 149 days.
        b. The average frost free days for the Carrizo Unit in Baca County is 136 days (R067BY024CO_SandyPlains)
        c. The average frost free days for the Cimarron National Grasslands is anywhere from 143-156 days (R077AY666TX_Sandy 16-22")
    b. The Comanche and Cimarron National Grasslands are not suitable habitat for honey mesquite.
27. James' beardtongue (Penstemon jamesii) is listed on page 4 of Appendix C as a potential species of conservation concern, with 7 occurrence records in the plan area up until 2018, which is the year of last known occurrence.
    a. Page 278 of the PSE identifies "*Potential* threats" to habitat as "prescribed fire and wildfire, road building and maintenance, livestock grazing, interspecific plant species competition, and climate stressors..."
        a. The document makes no attempt at identifying if these *potential* threats are *actual* threats in the plan area.
    b. Page 278 of the PSE also states "Habitat: There was no specific information suggesting the habitat trend is declining. Species appears to be a habitat generalist"

c. Page 278 of the PSE also states "Population: No sources consulted identified threats to this species..."
d. Page 278 of the PSE also states "Population size in the plan area is not known."
    a. If there are no threats to the population, and there are no actual and identified threats to the habitat, why is this species being called a potential species of conservation concern? If the size of the population is unknown, or if it's unknown whether the species even exists currently in the plan area, how can the species be determined to be declining in abundance, or even be established in the plan area in the first place?

28. Large-bract scurfpea (Pediomelum cuspidatum) is listed on page 4 of Appendix C as a potential species of conservation concern, with five known occurrences in the plan area between 1961 and 2023 (page 287 in PSE).
    a. Page 287 in the PSE states "Population trends in the plan area are unknown.", and "Habitat trends in the plan area are unknown.", and "Ecological conditions: Unknown."
        a. How does the USFS expect to manage for a species in which the current population and habitat trends are unknown?
    b. Page 288 in the PSE also states "Livestock grazing is likely to be a threat to populations."
        a. Again, no attempt was made to determine if livestock grazing is *actually* a threat to this species.
29. Page 5 of Appendix C lists Longleaf Greeneyes (Berlandiera lyrata) as a potential species of conservation concern.
    a. Longleaf is a typo, it should be lyreleaf.
    b. USDA Plants Database states the minimum precipitation required for this species is 12 inches per year.
        a. Mean annual precipitation on the Timpas Unit of the CNG is 11 inches. This information should be taken into consideration if this plant is determined to be a species of conservation concern, as it would not make sense to try and manage for a species in an area which doesn't provide enough water to the species.
    c. USDA Plants Database also states that lyreleaf greeneyes is not adapted to coarse textured soils. This would include sandy soils, which make up a large part of the soils in the Carrizo unit.
30. Page 5 of Appendix C lists Low Silverbrush (Argythamnia humilis) as a potential species of conservation concern.
    a. Silverbrush is a typo, it should be silverbush.

b. Page 309 of the PSE identifies livestock grazing as a threat to the species. However, Everitt, et al in their *Field guide to the broad leaved herbaceous plants of South Texas used by livestock and wildlife* (1999), describes low silverbush as only being 2-5% of the diets of large mammalian wildlife, not cattle (PLANTSARHU5)

31. May Grass (Phalaris caroliniana) is listed on page 5 of Appendix C as a possible species of conservation concern, with three known occurrences in the plan area between 1944 and 2007 (page 320 in PSE), with only on occurrence definitively in the plan area.
    a. One occurrence within the plan area does not make the plant established according to the definition of species viability within the NFMA.
32. Nealley's dropseed (Sporobolus nealleyi) is listed on page 5 of Appendix C as a potential species of conservation concern, with one occurrence in the plan area in 1997 (page 338 in PSE).
    a. One occurrence from almost thirty years ago does not make the species established in the plan area now, in 2025.
33. New Mexico blackberry (Rubus neomexicanus) is listed on page 5 of Appendix C as a potential species of conservation concern, with two occurrences listed from 1948 and 2022 (page 343 in PSE).
    a. Two occurrences over the span of almost 80 years does not make the plant established in the plan area
    b. Page 343 of the PSE states there are no known threats to the population, and that the population in the plan area is at the northern edge of the species range
    c. Page 343 also states that "habitat alteration" is a threat to the species' habitat, but there is no explanation of what that specific habitat alteration is.
    d. Page 343 also states that "Riparian habitat in the plan area is declining..." but instead of specifically saying how it's declining in the plan area, it says "...(see Threats and Trends Appendix)..."
        a. Page 70 of Appendix C states "Riparian and wetland ecosystems comprise an estimated 6,333 acres, or *1%* of the plan area."
        b. How does the USFS plan to manage the plan area for this specific habitat, when the current habitat only comprises 1% of the plan area and the species has not been proven to be established in the plan area?
34. One-flower flatsedge (Cyperus retroflexus) is listed on page 5 of Appendix C as a potential species of conservation concern, with one known occurrence in the plan area from 2007 (page 350 in PSE).
    a. One occurrence from almost 20 years ago does not make the plant established in the plan area.

b. Abundance and trend in the plan area are unknown, according to pages 350-351 in the PSE.
c. Page 350 in the PSE also states "Riparian ecosystems in the plan area are declining from groundwater depletion and invasive species."
    a. Page 70 of Appendix C states "Riparian and wetland ecosystems comprise an estimated 6,333 acres, or *1%* of the plan area."
    b. How does the USFS plan to manage the plan area for this specific habitat, when the current habitat only comprises 1% of the plan area and the species has not been proven to be established in the plan area?

35. Painted milkvetch (Astragalus ceramicus var. filifolius) is listed on page 6 of Appendix C as a potential species of conservation concern, with six known occurrences in the plan area, the last occurrence being in 2007 (page 356 in PSE).
    a. Page 356 in the PSE states "In the Kansas herbarium records it indicates populations are usually small and local. These may be vulnerable to local extinction from overgrazing by livestock or conversion of habitat to cropland and oil and gas development."
        a. Per the USDA Ag Research Service (ARS), at least half of all Astragalus species are toxic to livestock. Unless the USFS knows for a fact that this specific variety of Astragalus is not toxic to livestock, then it's misleading to say that this species is threatened by livestock grazing.
36. Plains ironweed (Vernonia marginata) is listed as a potential species of conservation concern on page 6 in Appendix C, with six known occurrences in the plan area, with the last known occurrence in 2005 (page 367 in PSE).
    a. Page 367 in the PSE states "The collection remarks describe 'weedy prairie' habitat where specimens of this species were collected; predominance of weeds and groundwater depletion represent a decline in habitat quality." Since the last known occurrence of this species was in 2005, I'm assuming that's when this habitat was last observed. The plan area was in the middle of a long and severe drought in 2005. It would be better to go back, during the current plan development in 2025, to look at this habitat to see if it is still declining or not. Using habitat descriptions from 20 years ago should have no bearing on current habitat descriptions in 2025, unless those habitat descriptions from 20 years ago can serve as a baseline.
37. Poison suckleya (Suckleya suckleyana) is listed on page 6 of Appendix C as a potential species of conservation concern with two known occurrences in the plan area.
    a. If this is a species that requires more water than what the plan area normally offers, and the plan area is already on the edge of its range, wouldn't that make

it harder to manage for this species if it does make it onto the final Species of Conservation Concern list?

b. This species is poisonous to cattle and sheep, and grazing is the biggest income generator on the grasslands for the USFS because permittees pay to graze their livestock on USFS public lands.

38. Queen's delight (Stillingia sylvatica; Stillingia sylvatics ssp. Sylvatica) is listed on page 6 of Appendix C as a potential species of conservation concern, with three occurrences in the plan area.
    a. Page 393 in the PSE states that "Sand-sage prairie is threatened by overgrazing, fire and trampling and has high vulnerability to climate stressors" and these factors are the biggest threat to the species' habitat
        a. Conversely, Page 394 in the PSE, under Habitat, states "Because the species' sparse occurrence records are proximate or intersected by a road and a windmill, habitat is considered to have declined for the species." How exactly does a road and a single windmill relate to overgrazing, fire, trampling or climate stressors? Perhaps it's the fact that the species which occur in the plan area are at the edge of their range, and there is not very much suitable habitat in the plan area, that is causing this plant to grow in low numbers, not a road and a single windmill.
39. Reiuchenbach's hedgehog cactus (*Echinocereus reichenbachii var. perbellus*) is listed on page 6 of Appendix C as a potential species of conservation concern, with seven occurrences in the plan area.
    a. Page 298 in the PSE states "Population size in plan area is not known – reportedly locally common on the Cimarron, while rare within the Comanche. There are seven occurrences known in the plan area."
    b. Page 299 in the PSE also states "The population size in the plan area is not known. Freeman (1989) reports the species to be locally common in Cimarron National Grassland ['fairly common in sections 16 and 17, T34S, R43W, where it occurs in mixed populations with E viridiflorus'][Freeman 1989], USDA 2001]]. Hazlett [2004] describes the species as rare on Comanche National Grassland; he notes it as an 'infrequent' plant that needs additional survey work to discern its presence and/or abundance on the Comanche National Grassland."
        a. This tells me the USFS and the contractor who wrote the Draft Assessment didn't actually go out to the plan area in person to see if this species actually exists in the plan area right now, during the time of plan development.
    c. Page 299 in the PSE also states "The population trend in the plan area cannot be determined from this data but does not suggest a population decline."

a. Then why is this species listed as a potential species of conservation concern? Is it because the habitat has supposedly declined from oil and gas development? If that's the case, wouldn't the population numbers also be declining instead of staying stable?

40. Running fleabane (*Erigeron flagellaris*) is listed on page 6 of Appendix C as a potential species of conservation concern, with one occurrence in the plan area from 2018.
    a. Page 422 in the PSE states "no population trends in plan area are available" but then it also states that "habitat in the plan area has declined because of natural gas pipelines that overlap species' occurrence polygon."
        a. Wouldn't the species have declined if the natural gas pipelines were really causing a big disturbance?
        b. Where is the baseline inventory that shows the state of the habitat before oil and gas development, and where is the current inventory which shows, quantitatively, that the habitat has declined? Where are the numbers?
41. Sandsage prairie-clover (Dalea cylindriceps) is listed as a potential species of conservation concern on page 6 in Appendix C, with four known occurrences in the plan area.
    a. Page 439 in the PSE states "Across its range, it occurs in sand dunes, sandy shortgrass and sandsage prairie, pinyon-juniper woodlands, and sandy to gravelly banks along intermittent rivers and streams at elevations from 5,000 – 7,000 ft (Freeman 1989, SEINet 2024).
    b. The Timpas Unit of the Comanche National Grasslands (CNG) averages 4,500 feet in elevation and contains very little sandy shortgrass and sandsage prairie.
    c. The Carrizo Unit of the CNG averages 4,900 feet in elevation, although it contains a much larger portion of sandsage prairie than does the Timpas Unit.
    d. The average elevation in the Cimarron National Grasslands is 3,450 feet.
42. NatureServe is listed as another source of information for plant, animal and climate information in the Draft Assessment, yet in looking at NatureServe's website, specifically the information pertaining to the "International Terrestrial Ecological System: Southern Rocky Mountain Pinyon-Juniper Woodland", no ESD's are cited in that document and there is no reference to NatureServe itself gathering data in-person from this area. All of the information contained in this document on the NatureServe website is garnered from other, outside sources. Additionally, the NatureServe data quotes a LANDFIRE developed state-and-transition vegetation dynamics VDDT model when describing levels of development of pinyon-juniper woodlands. Upon further research, it appears that the USFS developed the LANDFIRE Rapid Assessment Vegetation Models. The LANDFIRE Models pre-date the Interagency Ecological Site Handbook for Rangelands directive

which states that BLM, USFS and NRCS should work to "cooperatively identify and describe rangeland ecological sites for use in inventory, monitoring, evaluation, and management of the Nation's rangelands."

43. On page 24 of the Draft Assessment, within Table 4, Thelesperma species are more commonly known as greenthread, rather than threadleaf. I would suggest changing threadleaf to greenthread. (USDA-NRCS Plants DatabaseTHELE). The term threadleaf more often refers to forbs of the Coreopsis genus.
44. Page 198, or page 24 of Appendix A, the first paragraph states that there is a livestock sale barn in Beaver, CO. That is incorrect, it is in Beaver, OK.
45. Page 144 of the Draft Assessment, this link no longer works and needs to be updated "NatureServe. 2018. International Ecological Classification Standard: Terrestrial Ecological Classification, Terrestrial Ecological Systems of CONUS and Puerto Rico on the LANDFIRE Legend. Date: August 28, 2018. Arlington, VA: NatureServe." https://landfire.gov/documents/LANDFIRE_Ecological_Systems_Descriptions_CONUS.pdf
46. Page 103 of the Invertebrate Species Evaluations section contains this resource "NRCS, USDA Natural Resources Conservation Service 2024. Ecological site R063AY011SD Clayey (website). U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS), Ecosystem Dynamics Interpretive Tool (EDIT), Last Modified June 26, 2024. https://edit.jornada.nmsu.edu/catalogs/esd/063A/R063AY011SD"- this specific ESD is found within South Dakota, *not* within southeastern Colorado or Southwestern Kansas. This is not a valid source as it has nothing to do with the plan area.
47. Page 89 of Invertebrate Species Evaluations, says "Several other soil types in the plan area, such as loamy plains, also include a high clay content...". Loamy plains is an ecological site, not a soil type. In the plan area, a loamy soil which includes a high clay content could be a clay loam or a silty clay loam (Loamy Plains ESD MLRA 69 R069XY006CO Soil Section).

As a Certified Professional in Range Management (through the Society for Range Management), I would respectfully request that this Draft Assessment be re-written by local USFS staff who conduct updated plant and animal inventories so that we know which species actually exist in the plan area, during the current plan development. If more help is needed, the Natural Resources Conservation Service also employs Range Management Specialists and Wildlife Biologists who could assist in determining current populations and habitat conditions.

I would also respectfully request that grazing permittees, on all units, be contacted to ask for their assistance and knowledge about local climate, ecology, land management styles and

socioeconomics of the area. I'm sure they'd be happy to assist in providing current information for the Draft Assessment, especially since the grazing fees that they pay contribute the most income to the USFS, more than any other use on the grasslands.

Sincerely,

Andee Leininger, CPRM