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Working to Protect and Restore Our Public Lands

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Chad,

I am addressing this directly to you as you are the Forest Supervisor and, as such, you need to understand what goes on under your watch. I would appreciate it if you could respond after reviewing the materials, instead of handing it off to Randy or some range con.

Last year, I was reviewing FOIA documents and came across two documents that I wanted to bring to your attention, as they highlight a common problem within your range program.

It is basically the using of inappropriate data and biased and inappropriate desired conditions to draw flawed conclusions.

Here, the range con, Aaron Zoebel, after receiving observations of degraded conditions from the area biologist, uses utilization data to come to the flawed conclusion that the biologist's observations were wrong.

Aaron's arguments are fatally flawed because he incorrectly conflates utilization with condition.

He argues that conditions are good because utilization is light. But this is a false and unsupportable conclusion based on his data.

Firstly, let's examine his data, found in Table 2 of his response. For someone not trained in range science and range management, at first glance, one would see light use and conclude, as Aaron speciously has, that conditions must be fine and that there are no problems.

To understand why his conclusions are incorrect, one needs to first examine the species used by Aaron to measure utilization.

Nearly all the species he has chosen are unpalatable to livestock and are not forage species, so it would be expected that livestock use on non-forage species would be light. Below are the species codes, names and palatability descriptions.

BAMA4	Cutleaf Balsamroot	USDA Plants Database - It is moderately palatable to grazing animals during the spring and early summer but has low protein content (Walter, 2007). Leaves are grazed lightly and flowers are often eaten. The plant becomes dry and worthless as forage by midsummer (Forest Service, 1937;
WYAM	Wyethia – Mules Ear	FS FEIS Plants Database - Sheep forage new leaves in spring and early summer. Mature foliage is coarse and harsh, and plants dry out by mid-summer, so it is little used after early summer. Mule-ears is generally unpalatable These stands are poor livestock range and poor wildlife habitat because of a lack of structural and species diversity
POGL9	Sticky geranium	FS FEIS Plants Database - Livestock forage value of sticky cinquefoil ranges from poor to fair for domestic sheep and is poor for cattle and horses Sticky cinquefoil is considered an increaser in livestock grazed areas of the West. <u>Palatability/nutritional value:</u> General palatability of sticky cinquefoil ranges from fair to poor. Its flowering tops are considered most palatable. Leaves and stems are less palatable because of an acrid

		taste, presumably caused by tannic acids
MEAR5	Stickleaf	This is an early seral species generally growing on bare soil and disturbed sites. Considered not a forage species.
CARA6	Reynold's sedge	USDA Plants Database - Palatable Browse Low Animal Palatable Graze Low Animal

So the first failure Aaron made is to choose species which livestock avoid eating. But this failure is compounded by his failure to understand the ecology of the plants chosen within the spectrum of plant community degradation.

The species chosen are symptomatic of severe plant community degradation. The fact that these are the remnant species left in the community Aaron completely and conveniently ignores.

I see this nearly universally throughout the Forest Service and BLM range programs. As the agency's mismanagement strips out the most palatable species from the system, the range cons then move to progressively less and less palatable species as each successive seral layer of species is stripped out of the system.

Examine the photos in the DeLong and Wilder report. While the photos speak for themselves, most of these are typical of end stage or near-end stage degradation of what once were tall forb communities. Ground cover percentages in the DeLong and Wildlife report, mostly below 60%, indicate poor conditions relative to the ground cover thresholds in FSH 2209.21-2005-1 and O'Brien et al. (2003).

Review the BT Range email along with its attachments for photos of these degraded states from the range con.

You can find end of season pictures from the range con in the email Key Species and attachments.

Basically, in systems degraded to the point of being wyethia, cutleaf balsamroot, coneflower or similar monocultures, you have nearly 9.5 months out of the year with far above 50% bare ground and during the remaining 2.5 months you may have high foliar cover that may partially protect against rain drop impact but you still have extremely high levels of bare ground unprotected from overland flow erosion.

Aaron, typical of most range cons, refuses to see or admit to these degraded conditions, which is the first and necessary step to change the trajectory, the other major source of soil erosion.

Next in the range con's response is the reliance on "effectiveness monitoring". Here the range con fallaciously argues:

Long-term monitoring indicates satisfactory conditions for the K17 Range NEPA project are being met within the majority of these allotments (i.e. K-17 Draft Desired Conditions).

Current monitoring using historic photos and other historic data indicate areas impacted via this heavy grazing are trending upward and as such can be considered at satisfactory condition.

But his reliance on “satisfactory conditions” is misplaced because, he, himself, set the “desired conditions” to be the current degraded conditions so as to make sure there was no need for change in the K17 NEPA process. Coincidentally, the desired conditions he used were only proposed (see June 2017 scoping letter) and never approved. Desired ground cover thresholds defined in Region 4’s FSH 2209.21-2005, based in part on the BT-specific research by O’Brien et al. (2013), still apply. Using his own thresholds as the goal posts paints a completely different picture. It is telling that nearly all range plots completed across sheep allotments on the Kemmerer District meet the desired future conditions defined by Aaron, yet a large majority of them don’t meet R4 ground cover thresholds.

But ground cover is only the most crude of ecosystem function parameters.

So, by fiat and completely ignoring R4 ground cover thresholds, he set the “desired future conditions” for the K17 group of allotments to be these severely degraded monocultures of wyethia, cutleaf balsamroot and coneflower.

Here are some examples showing the intent behind crafting desired conditions. Desired future conditions in the June 2016 scoping letter (Table 1 of Enclosure 1) were written to make them exceptionally easy to meet, no matter how impacted the vegetation actually is.

Desired percentages for herbaceous canopy cover came from wildlife reports, but standard range terms were redefined.

- **“Silver sagebrush and shrubby cinquefoil canopy cover to count towards herbaceous canopy cover.”** The same was done for the willow type: **“Willow canopy cover to count towards herbaceous canopy cover.”**
 - By definition, herbaceous plants are vascular plants that do not have persistent woody stems above ground, and Aaron knows this very well.
 - Changing desired herbaceous canopy cover by counting the canopy cover of woody vegetation is a brazen way to make sure measured canopy cover is guaranteed to be high enough to meet the threshold.
- **“Standing litter to be counted as herbaceous cover”** in all four vegetation types covered in the desired condition statements.
 - “Standing litter” is an oxymoron since, as defined in FSH 2209.21, “Litter [is] the uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material,” emphasis added. Standing dead material is not counted toward canopy cover in range monitoring
 - The point of counting standing dead plant material toward canopy cover seems pretty clear. It will help make sure desired conditions are met regardless of actual conditions.

- **“At ≥60% of these sites”** was added to desired conditions for herbaceous canopy cover (above) and species richness (below) for each vegetation type except wet meadow (“≥80% of these sites”), rather than having to meet desired conditions on all sites.
 - This is getting close to only needing to meet desired conditions on half the sites! This, after editing canopy cover thresholds to make sure most or all sites meet them (above).
- **“Youngblood et. al. (1985) disturbance-induced variants, also considered acceptable where sufficient evidence exists that a threshold has been crossed”** (footnote 4) in reference to “desirable species of preference” for graminoids in Table 1, applicable to all four vegetation types.
 - As if all the above quoted material isn’t enough to guarantee all monitoring sites will meet desired conditions, this apparently was added to be absolutely sure.
 - No doubt thresholds have been crossed, so this part of desired future conditions means dominance by smooth brome, red top, Kentucky bluegrass, bulbous bluegrass, and many other nonnative, disturbance-induced graminoids will be “satisfactory.”

This was all included in a public scoping letter.

Along these lines, results of Gregory (1983) on existing conditions of tall forb communities on the Bridger-Teton National Forest were copied directly into desired future conditions for K17 allotments. This, of course, means desired future conditions are existing conditions, thereby better assuring monitoring won’t show any deviations from desired future conditions. Though these desired conditions aren’t approved, they show yet again the intent behind crafting desired conditions.

Gregory, 1983 solely addressed existing conditions in tall forb communities on the BTNF. Aaron simply copied-and-pasted existing condition summaries from Gregory’s Master’s thesis into desired conditions (see portion of Table 2 of propose action, below); no attempt was made in Gregory (1983) to define desired conditions or potential natural community for the plant communities she described. This further solidified the alignment of proposed desired conditions with existing conditions.

Portion of Table 2 of the February 26, 2018, version of “Proposed Action for the Kemmerer Grazing and Rangeland Management Project.” This summary of existing conditions came straight from Gregory (1983).

Forb Type	Herbaceous Veg. Canopy Cover ⁶	# Species Present ⁷	Bare Ground ⁷
<i>Lupinus argenteus</i> - <i>Fragaria virginiana</i> c.t. ⁸	50-100%	27 ±9 SDE	7 ±6 SDE
<i>Balsamorhiza</i> <i>macrophylla</i> c.t.	50-100%	23 ±8 SDE	27 ±20 SDE
<i>Wyethia</i> <i>amplexicaulis</i> c.t. ⁹	50-100%	26 ±8 SDE	12 ±13 SDE
<i>Ligusticum filicinum</i> - <i>Delphinium</i> <i>occidentale</i> c.t.	75-100%	26 ±8 SDE	6 ±6 SDE
<i>Agastache</i> <i>urticifolia</i> - <i>Viguiera</i> <i>multiflora</i> c.t.	50-100%	26 ±4 SDE	6 ±9 SDE
<i>Artemisia</i> <i>ludoviciana</i> – <i>Valeriana edulis</i> c.t. ⁹	50-100%	24 ±6 SDE	18 ±17 SDE
<i>Helenium hoopesii</i> c.t.	50-100%	24 ±12 SDE	9 ±9 SDE

Aaron did this without considering the findings of Gregory (1983) in the context of how her findings can *inform* the definition of desired conditions. This means that, for the seven forb types for which the copying-and-pasting was done, the range of conditions expressed in the new proposed desired conditions very likely encompass the full range of existing conditions that would be expected on K-17 allotments. Because four of these types are consistently characterized as altered forbland communities in published literature and by experts¹, and because these types comprise the vast majority of the acreage of the tall forbland acreage on the K-17 project area (Zobell 2018), these severely degraded conditions were not only built into desired conditions, this was done in a very big way that is well outside the sideboards of conditions identified by experts identified in the footnote. This, in turn, means that negative impacts on wildlife could potentially be very large if the proposed desired conditions were to be implemented.

This is a common approach by the range staff throughout the Forest Service.

- 1) Collect data that avoids exposing actual ecological conditions
- 2) Setting objectives related to this data
- 3) Finding current conditions meet “desired future conditions”
- 4) Therefore, everything is good and there is no need for change

Unfortunately, its layer upon layer of fiction, but because its easy for decision-makers either to not understand the implications or probe to understand them, the range con gets away with it, with no oversight.

The excuse that things are not as bad as when a million sheep swarmed over the Wyoming Range is also not a strong position to take at this point in history.

The next excuse is to blame the degradation on elk (“elk impacts have and continue to occur throughout much of these allotments,”). Why is it that the range con acknowledges impacts when talking about elk, but in the same report say the area is in satisfactory condition? Blaming elk is a common tactic among range cons and their permittees. This fails for a number of reasons.

¹ For example, Mueggler and Campbell 1982, Mueggler 1988, Murray and Mayland 1994, USFS 1997, Winward 1998, Winward 2003, Winward 2004, USFS 2009, Winward 2009 as noted in DeLong 2009, Kachergis et al. 2014, Stringham et al. 2015. While Clause et al. (2014) was only in draft form, it can be viewed as representative of the expert opinions of the authors. Other supporting documents are USFS (1997) and USFS (2009).

Firstly, wildlife are a natural part of the ecosystem, unlike non-native livestock. Secondly, the two wildlife biologists concluded there were few elk using the area, which contrasts with the thousands of sheep that recently grazed there. The range cons presented no data supporting their claim that elk were to blame for impacts. Wildlife densities are a tiny fraction of those of domestic livestock. Thirdly, unlike livestock production which is a discretionary authorization, wildlife are not discretionary.

In my quarter of a century of dealing with public lands issues, the only times I have seen any significant wildlife impacts are 1) in situations where wildlife are treated like livestock, such as the network of elk feedlots 2) in situations where livestock remove most of the annual biomass, leaving wildlife in desperation for food.

Next, the range con argues:

A review of relevant photos strongly suggests that natural forb processes associated with senescence have been confused with utilization and excessive bare ground. This is a common problem within the Tall Forb type with those not trained in utilization within this type. A good example of this are photos 12a to 12f. In this case, senescence of tall forbs has been confused with utilization by sheep.

But here again, the range con avoids the obvious widespread degradation. In a normal, healthy tall forb community, you do not have conditions like this with nearly 100% bare ground, only in systems that have degraded to the point of wyethia, cutleaf balsamroot and coneflower monocultures.

In healthy tall forb communities, these species, wyethia, cutleaf balsamroot and coneflower, which grow rapidly in the spring but by midsummer desiccate and crumble, make up only a small fraction of the plant community, and so don't lead to the vast areas of bare ground 9.5 months out of the year as seen in the DeLong report and elsewhere.

Only where the tall forb community has been degraded to the point of wyethia, cutleaf balsamroot and coneflower monocultures do you find the extreme levels of bare ground as discussed in the DeLong and Wilder report.

The range con, either purposefully or through ignorance, deflects from the obvious fact of the severely degraded conditions by blaming the extreme levels of bare ground and erosion on plant senescence, when that is only the symptom of the degradation.

There are a few remnant fairly healthy tall forb communities left on the Bridger Teton. About 30 years ago Jim Ozenberger, who was the Jackson RD range con at the time, did a data collection project comparing these few fairly healthy tall forb communities with grazed allotments in the Wyoming Range. The copy I obtained through FOIA has fairly low resolution photos but even then you can see the stark contrast. The data collection and narratives also demonstrate the stark contrast. I attach the report for your review.

Notice specifically the differences in species richness, bare ground and production differences between the degraded sites similar to those being discussed in the DeLong report with the healthy tall forb sites.

A number of the sites in the Ozenberger report are in the same area as the DeLong report.

I also add a few examples of healthy tall forb communities taken by recently retired B-T employee, Susan Marsh who also helped create the Forest Service's Tall Forb website at https://www.fs.usda.gov/wildflowers/beauty/Tall_Forb/index.shtml

If you are not familiar with the history of the tall forb community in the Intermountain Region, it is well worth taking a bit to review the sections of this site.

For more detailed review I highly recommend the RMRS publication [RMRS-GTR-154](#) Beginnings of Range Management: An Anthology of the Sampson-Ellison Photo Plots (1913 to 2003) and a Short History of the Great Basin Experiment Station available online

Next, Aaron blames pocket gophers for the problems. While pocket gophers are a native species, they tend to increase in heavily grazed and poor condition areas. Two years ago I was working on a Forest in north central Colorado. I was on a 3 pasture allotment. Pasture 1 was always grazed from turnout through mid summer and the adjoining pasture was grazed late in the season. Pasture 1 receives very heavy livestock use throughout most of the summer every year and use was heavy and the vegetative conditions were very degraded. On the other side of the fence, the permittee rarely used the pasture. Vegetative conditions were much better and little livestock use.

In Pasture 1, pocket gopher soil disturbance was about 65% right up to the fence. Immediately on the other side of the fence pocket gopher disturbance was around 5%.

Key species: When you first arrived we had a brief discussion about the B-T's abuse of key species in order to get the results they want.

As a recap, for nearly all cattle allotments on the B-T, FEID (Idaho fescue) is used as the key species. FEID is a low stature, increaser (it increases under grazing pressure) species.

FACT 1: Across the B-T, the B-T's own data shows ungrazed FEID plants average 3.5 to 5.5". Since this is the B-T's own data, it would be doubtful that they would now be able to repudiate it.

FACT 2: The B-T uses the Utilization Wheel (height weight curves) method for determining utilization.

FACT 3: When you set the wheel to 5.5" for the ungrazed plant height, 50% utilization, which is generally the limit set in permits, a grazed plant would have to be grazed to 5/8" to trigger the 50% limit

FACT 4: It is physically impossible for a cow to graze a grass plant that close to the ground due to the size of their lips and how they grasp a plant.

I have attached the presentation to refresh your memory. Please review pages 6 – 10 of the presentation.

FACT 5: As you can see on page 11 of the presentation, based on how low a cow can crop a grass plant (basically 2") it would require a FEID plant to grow 20" tall for a cow to physically be able to reach 50% utilization. This is about 4 times the height that it grows, based on your own data.

It does not take a rocket scientist or a range degree to understand that across virtually all cattle allotments on the B-T, the range cons have implemented requirements that are designed to be impossible for the permittees to exceed.

You don't have to pass this off to someone else. You don't need any range training to be able to answer the question, as the Forest Supervisor, does it make sense, setting aside if it complies with agency directives, to set an impact trigger that is impossible to trigger?

Does it make sense to have an impact trigger that is ecologically and practically meaningless?

For more on the question if FEIS fits the Forest Service's definition of a "key species" see pages 18 – 21 of the presentation for the cites.

For the sheep allotments on the Forest, the situation is basically the same. The range cons have chosen species with are inedible, toxic or non-forage species, as discussed earlier, in order to always get very low utilization.

Of course you are going to get low utilization if the species you are measuring livestock avoid.

Again you don't need a range degree to understand this simple concept.

I will attach another example from other areas on the Forest.

Take a look at page 3 of the Blucher 2023 report. Here the average ungrazed FEID was 3.3" to 4.4".

Could you review these materials and get back to me with your responses, not Randy's or a range con's responses?

Thanks for your help with this,

A handwritten signature in blue ink, appearing to read "Jonathan B. Ratner". The signature is stylized with large, flowing loops and is positioned above the printed name.

Jonathan B. Ratner
Director