SCOPING COMMENTS

INCLUDING THE SUSTAINABLE GRAZING AND RESTORATION ALTERNATIVE for Koosharem, Rock Springs, Hunts Lake, and Dry Lake Allotments and Associated Environmental Assessment Richfield Ranger District, Fishlake National Forest

Grand Canyon Trust • Great Old Broads for Wilderness
Utah Chapter Sierra Club • Wildlands Network
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A. Introduction

The following scoping comments are submitted by Grand Canyon Trust, Great Old Broads for Wilderness, the Utah Chapter of Sierra Club, and Wildlands Network.

The Fishlake National Forest (NF), Richfield Ranger District (RD), is proposing to reauthorize livestock grazing on the Koosharem and Rock Springs cattle allotments and Dry Lake and Hunts Lake Allotments. These four allotments occupy 70,145 acres on the south-central portion of Monroe Mountain.

These scoping comments propose a Sustainable Grazing and Restoration Alternative ("SG&R Alternative") for Forest Service and public consideration within the four-allotment Environmental Assessment (EA) that will consider reauthorization of the four allotments' livestock term permits.

B. Four Allotments: Considerations

There are a number of conditions observed on Koosharem, Rock Springs, Dry Lake and/or Hunts Lake Allotments as well as scientific data that have led to the enclosed Sustainable Grazing and Restoration Alternative (Part D) and to which that Alternative could at least partially respond with beneficial consequences.

1. Global Warming.

The Intermountain West and Southwest regions in which Monroe Mountain lies are experiencing and predicted to experience increasing temperature, longer and deeper droughts, and more extreme precipitation events.

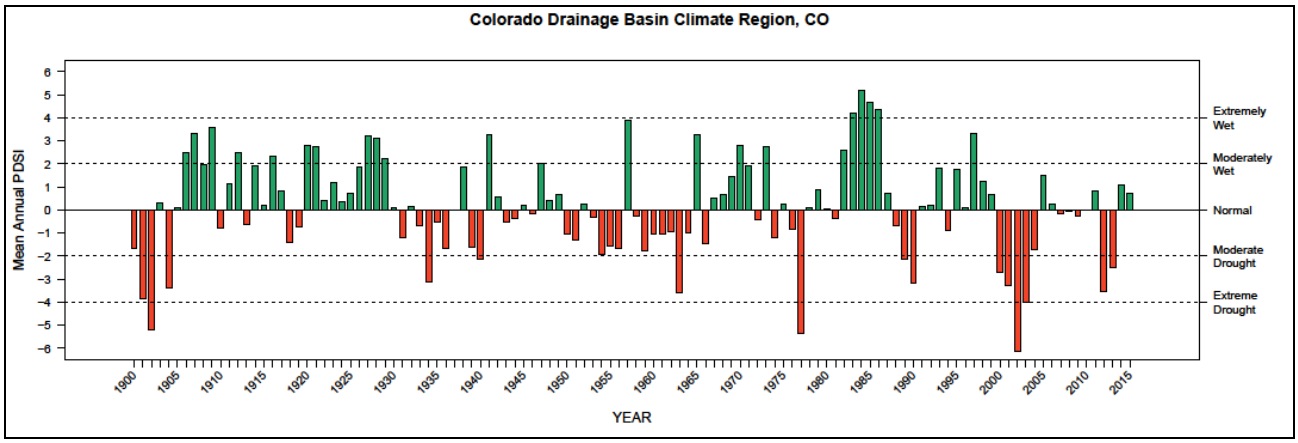
The December 2014 Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts by the Council on Environmental Quality (which develops guidance and regulations for implementation of the National Environmental Policy Act) describes several sources that can help a federal agency such as Fishlake National Forest (FLNF) assess climate change impacts on the national public lands it manages. The guidance counsels agencies to ". . . use the information developed during the NEPA review to consider alternatives that are more resilient to the effects of a changing climate."

The guidance notes:

> It is essential . . . that Federal agencies not rely on boilerplate text to avoid meaningful analysis, including consideration of alternatives or mitigation.
>
> . . .
>
> An agency should identify the affected environment so as to provide a basis for comparing the current and the future state of the environment should the proposed action or any of its reasonable alternatives proceed.
>
> . . .

> Broadly stated, the effects of climate change observed to date and projected to occur in the future include more frequent and intense heat waves, more severe wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea-level rise, more intense storms, harm to water resources, harm to agriculture, and harm to wildlife and ecosystems.

See, for instance, the following analysis of drought using the Palmer Drought Severity Index for the Colorado Drainage Basin 1900-2015 (Fig. 1). Ten of the last 15 years in the Colorado Drainage Basin Climate Region, in which Fishlake NF resides, has experienced drought, with six of those years experiencing moderate drought, and one experiencing severe drought.



F1g. 1. Drought within the Colorado Drainage Basin, 1900-2015, based on Palmer Drought Severity.

An assessment via Normalized Difference Vegetation Index [NDVI] of changes in vegetation productivity over a 25 year period on the Fishlake, Dixie, and Manti-La Sal NFs found that on average, all vegetation types had declined in productivity during 2000-2011 compared to 1986-1995 (Hoglander 2016). As seen in Fig. 2, there is a mixture of productivity increases and declines detected within the four allotments.

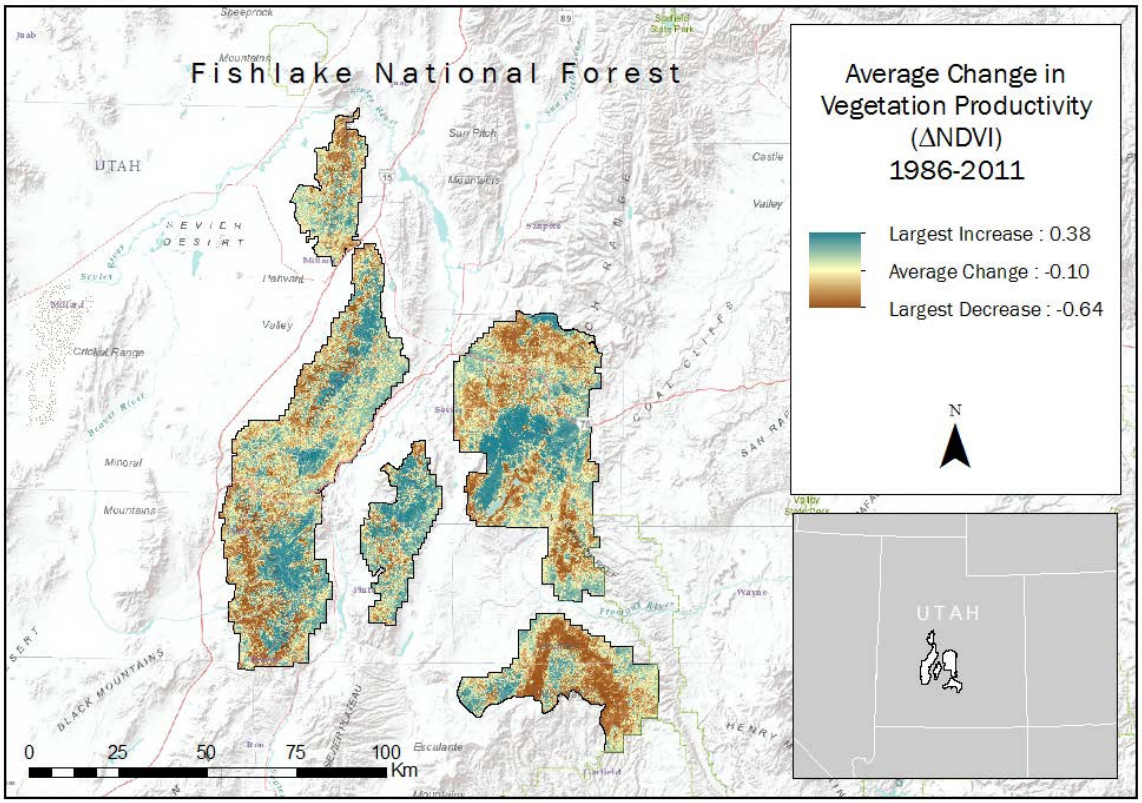


Figure 2. Average change in vegetation productivity (ΔNDVI) by vegetation type for the Fishlake National Forest, 1986-2011. NDVI is a vegetation index and is therefore unitless. It can range from -1 to 1

The cumulative consequences of global warming and ungulate grazing are myriad, and the EA must not fail to consider how global warming impacts and ungulate grazing impacts can be additive; and they can exacerbate each other (Beschta, et al. 2013; and O'Brien 2016a, unpublished summary).

The references noted in the Beschta, et al. (2013) review of research on ungulate grazing, coupled with global warming impacts are either available online , or available upon request from Grand Canyon Trust. We include a critique of Beschta, et al. (Svejcar, et al. 2014) on the CD we are mailing to the Richfield RD as part of our scoping comments, as well as a response to that critique (Beschta, et al. 2014). We expect the EA to discuss and respond to the evidence of the cumulative impacts of both ungulate grazing and global warming.

2. 60% Utilization (Heavy Grazing)

60% utilization is the utilization standard being used by Richfield RD per the 31-year old Fishlake National Forest plan, but this amount of utilization is considered "heavy utilization," with consequences for aspen, willow, beaver, sagebrush understory, exotic invasive species, vegetation biodiversity, and wildlife habitat (see items 5 to 11, below). This amount of utilization is associated not only with a downward trend in grazed lands, but also with reduced economic returns in both cattle and sheep operations (See Table 1 reprinted from Holechek 1999).

Table 2. Summary of 25 studies on effects of grazing intensity on native vegetation and livestock production in North America.

	Grazing intensity		
	Heavy	Moderate	Light
Average use of forage (%)	57	43	32
Average forage production (lbs./acre)	1,175[1] (1,065)[2]	1,473[1] (1,308)[2]	1,597[1]
Forage production drought years (lbs./acre)	820[1]	986[1]	1,219[1]
Range trend in ecological condition	down (92%)[3]	up (52%)4	up
(78%)[4] Average calf crop (%)	72[1](77)[2]	79[1](84)[2]	
82[1]			
Average lamb crop (%)	78	82	87
Calf weaning wt (lbs.)	381[1](422)[2]	415[1](454)[2]	431[1]
Lamb weaning wt (lbs.)	57	63	---
Gain per steer (lbs.)	158	203	227
Steer/calf gain per day (lbs.)	1.83	2.15	2.30
Steer/calf gain per acre (lbs.)	40.0	33.8	22.4
Lamb gain per acre (lbs.)	26.0	20.4	13.8
Net returns per animal ($)	38.06[1] (29.00)[2]	51.57[1] (39.71)[2]	58.89[1]
Net returns per acre ($)	1.29[1] (1.72)[2]	2.61[1] (2.24)[2]	2.37[1]

[1]Average for those studies comparing heavy, moderate, and light grazing (studies comparing only heavy and moderate grazing excluded).
[2]Average for all studies
[3]Percentage of studies with downward trend.
[4]Percentage of studies with upward trend.

Table 1. Summary of 25 studies on effects of grazing intensity on native vegetation and livestock production in North America; this is Table 2 in Holechek (1999).

Koosharem allotment is particularly heavily used by both cattle and elk, resulting in generally heavy browsing of sprouts in persistent aspen stands that have not experienced recruitment in decades (Kitchen and O'Brien 2013, unpublished report).

The 2015 Monroe Mountain Aspen Ecosystems Restoration Environmental Impact Statement (EIS) and Record of Decision for the Monroe Mountain Aspen Ecosystems Restoration Project are predicated on the assumption that burning of conifer-overtopped seral aspen will generate such a large amount of aspen and forage that livestock and elk will be drawn away from persistent aspen stands that are currently lacking recruitment. We believe that the current, allowable heavy grazing (60%) will continue to overwhelm the generally diminished density of aspen sprouts in the sagebrush and on flat or low-gradient slopes of aspen not adjacent to seral aspen. The quantitative thresholds for persistent aspen are more subjective than those for post-fire seral aspen, and it is our best estimate that if the aspen sprouts of persistent aspen long lacking recruitment are to recruit, utilization will need to be at 30% or less.

While utilization in some places (especially on slopes) may not always be at or more than 60% on the four allotments, it appears to be common on low gradient slopes and in favored locations (e.g., beneath aspen on low-gradient areas) and "forage" utilization appears to be nearly the only metric regularly monitored by the Richfield RD on the four allotments. Often the estimates of utilization are ocular, not measured quantitatively, as in clip-and-weigh, and the 4" stubble height limit utilized within riparian areas almost certainly greatly exceeds 60% compared to an ungrazed riparian area, though guides to approximate stubble height equivalent to 30% for various riparian graminoids could be developed.

Further, if 60% is the limit for a pasture that is grazed by livestock in early or mid-season, later grazing by elk, deer, and other herbivores later in the season would lead to exceedances of 60%.

At any rate, many aspen, riparian, and sagebrush areas appear closely cropped with current grazing utilization on the four allotments, which provides little overstory for small mammals and ground-nesting birds; removes most tall, palatable, native forbs; and increases the heat to which the soil is subject in the absence of overhanging grass and forb cover..

Rotational grazing does not compensate for heavy stocking (Briske, et al. 2008, and Briske, et al., 2011).

For these reasons and other reasons mentioned below, the consequences of 30% utilization rather than 60% utilization need to be candidly analyzed in the EA on the basis of best available science.

3. Lack of Large, Ungrazed Areas

Very little of Monroe Mountain (except steep slopes) is not grazed by cattle or sheep (Fig. 3). There are no exclosures in Dry Lake and only one temporary exclosure in Hunts Lake.

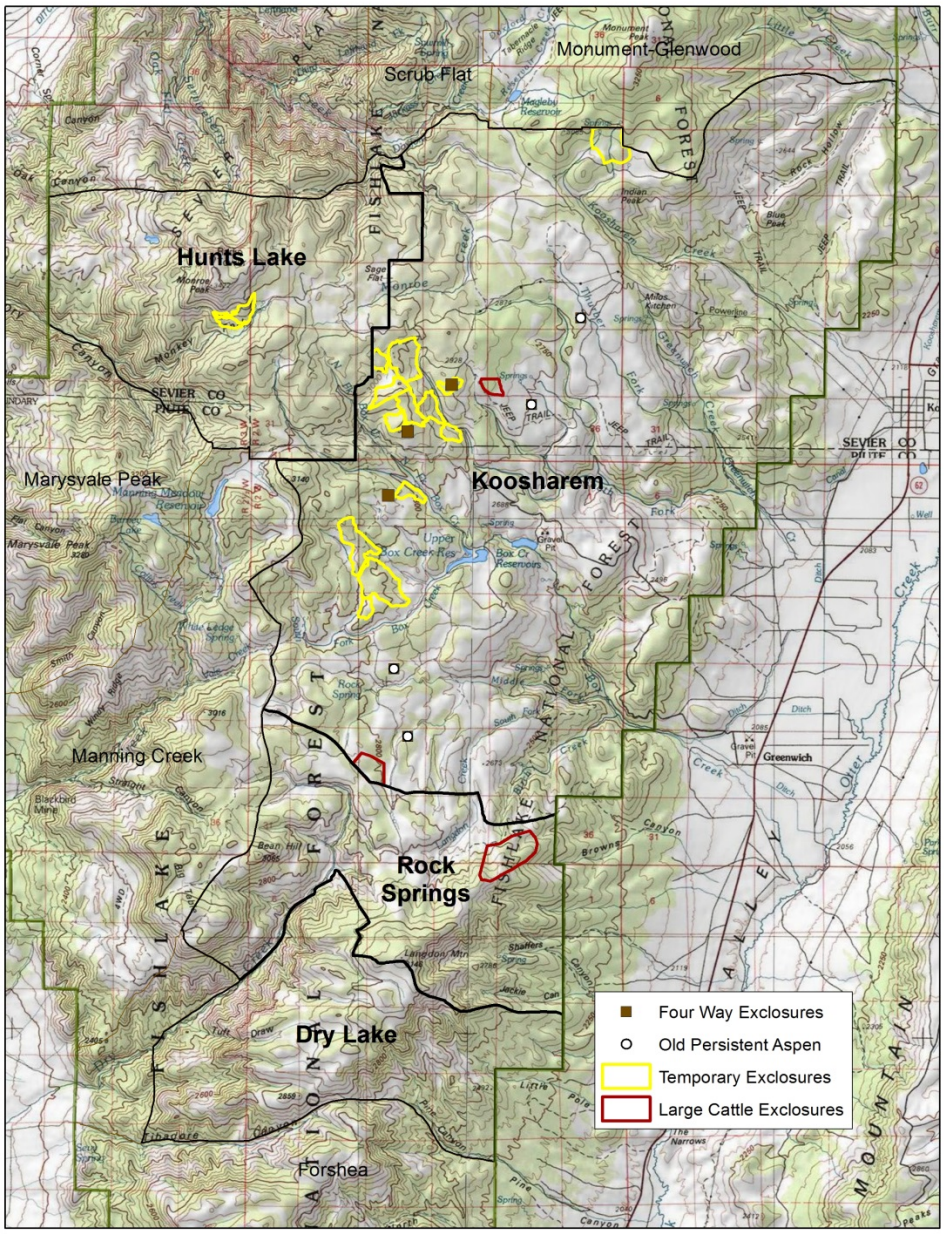


Fig. 3. Exclosures that are (a) existing (i.e., temporary and four-way) or (b) planned (i.e., old persistent and large cattle) exclosures on Monroe Mountain.

Areas not grazed by livestock are essential for understanding the impacts of livestock, and of wild ungulates separate from livestock. Areas not grazed by ungulates are essential for separating ungulate grazing from global warming impacts such as drought combined with increased heat (Beschta, et al. 2013).

Ungrazed reference areas and exclosures provide crucial information on the capacity for grazed lands to recover, and to quantify impacts of grazing (e.g., on ground cover, wildlife habitat, erosion, seedhead production).

Briske, et al. (2010) cite an example of the role ungrazed areas can play in leading to changed grazing management:

> Consider the case of the four ranch families who participated in the Grass Bank on the Gray Ranch in the 1990s (Rissman and Sayre 2011). Three of them decided to change their management significantly when they returned to their own ranches because the experience of complete destocking for 3–5 yr had been revelatory: It had enabled them, for the first time in their lives, to observe their lands without livestock present. They saw how little forage growth took place during drought, even without grazing, and they saw how much more recovery could occur in the absence of livestock when it did rain.

4. Aspen Recruitment

There are 12,040 acres of aspen in the four allotments. Recruitment of sprouts above browse height is lacking in persistent aspen stands (i.e., stands without a significant presence of conifers), particularly on slopes <10%. Cores taken from the youngest recruitment cohorts within 100 aspen stands on Monroe Mountain demonstrated lack of recruitment dating back as much as 130 years in some aspen stands, with the longest lacks of recruitment tending to be in the central (e.g., Koosharem Allotment) portions of Monroe Mountain (Fig. 4).

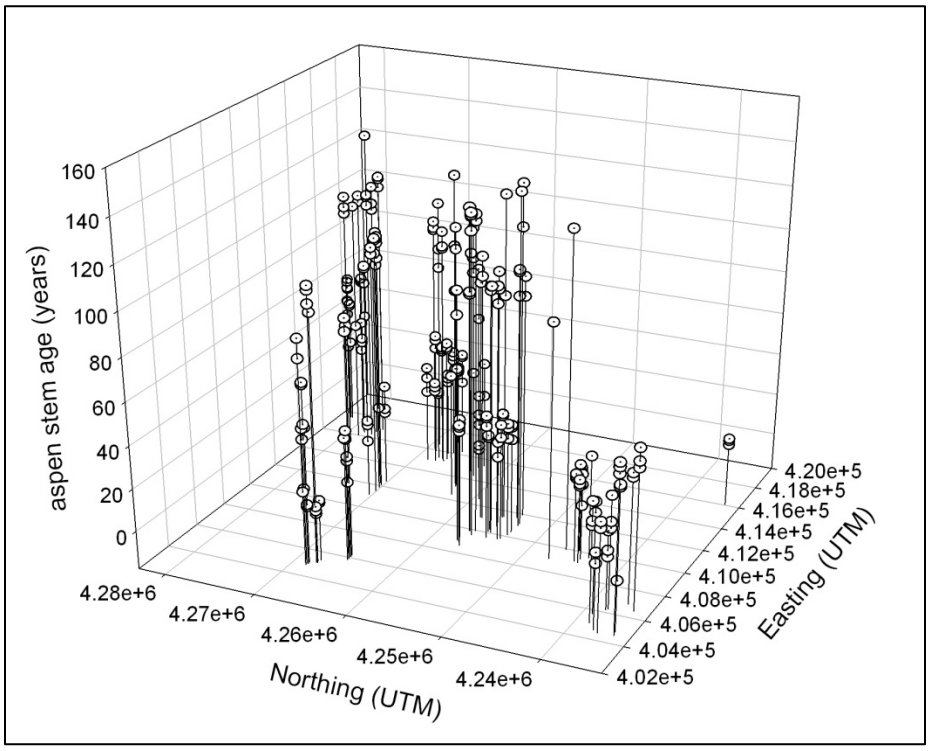


Fig. 4. Aspen stem ages in relation to topographic position. Right to left is south to north and front to back is west to east (Fig. 3 in Kitchen and O'Brien unpublished report to Monroe Mountain Working Group.2013).

5. Aspen Understory

The 36 nested frequency transects beneath persistent aspen that have been completed within the four allotments during 2013-2015 (Fig. 5) have found that the exotics Kentucky bluegrass and dandelion are by far the most dominant species. (O'Brien 2016b, unpublished report).

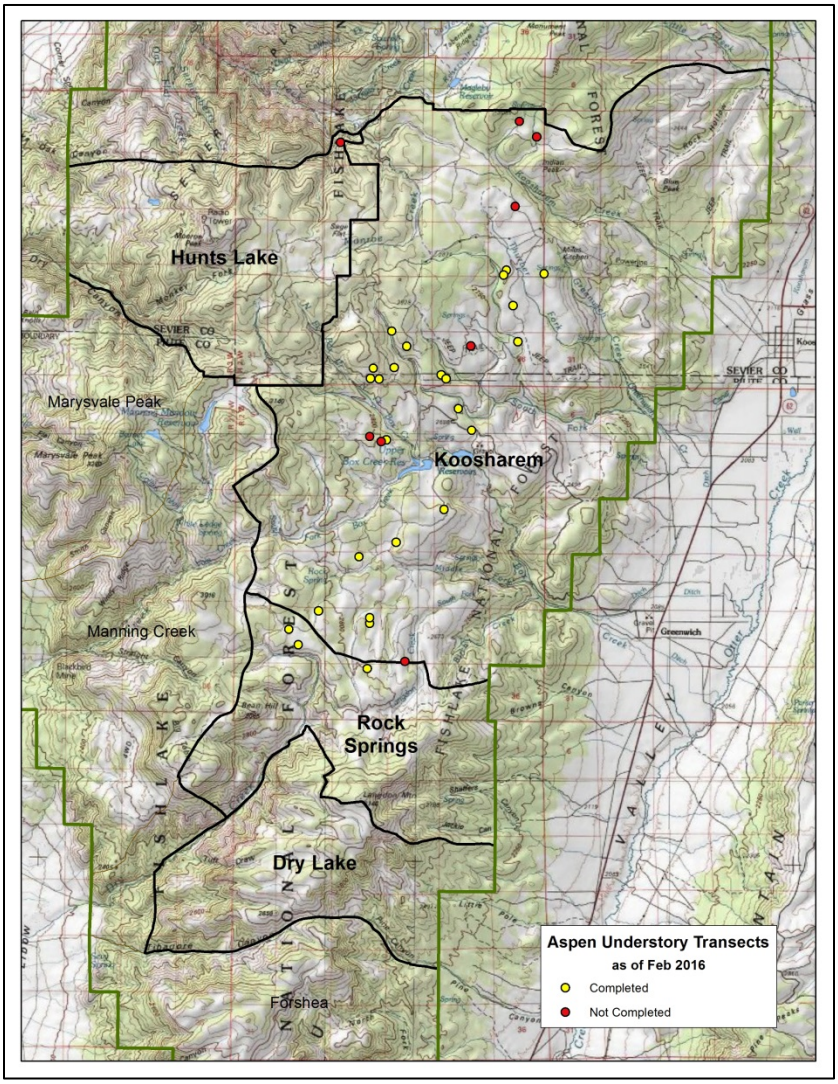


Fig. 5. Aspen understory transects, completed and not completed, 2013-2015.

Further, as noted in the 2014 comments, the native grasses that were present in the nested frequency transects were often of minimal size and number of leaves due to grazing:

> Most forbs and grasses were of minimal size, with many of the native grass species consisting of a few leaves and little dead stalks from the previous year(s). The presence of at least 12 native grass species indicates potential for greater structure in the understory, but most are grazed back to minimal size; they are not generally robust.

The five transects read in 2015 were in the Dairies pasture that had been rested for 3 years and were about to be grazed again by cattle. In these transects, the grasses were tall, with numerous seedheads.

6. Sagebrush Understory

Sagebrush communities (12,118 acres in the four allotments) are heavily hit in the four allotments, because they are open "steppe" (grass) communities and often on flat or low-gradient ground.

Although exclosures have not been established in the four allotments specifically in sagebrush, persistent aspen stands are often in sagebrush, and can provide comparisons with conditions inside and outside. The exclosure near the Clay Pit Mine in Koosharem allotment provides stark contrasts in terms of sagebrush understory – grasses, forbs, aspen sprouts. Fig. 6 below, showing two photos inside and two outside the old persistent exclosure are examples of the contrasting conditions, not only for aspen recruitment, but also for sagebrush understory. The establishment of five more old-aspen exclosures ion 2016 (4 in Koosharem Allotment, one in Rock Springs allotment) may help; Hunts Lake and Dry Lake should have sagebrush exclosures.

Inside Old, persistent aspen/sagebrush exclosure near Clay Pit Mine (July 29, 2014)	
	
Outside Old-aspen/sagebrush exclosure near Clay Pit Mine (July 29, 2014)	

Fig. 6. Photos inside and outside exclosure of old, persistent aspen (Koosharem Allotment)

On October 16, 2014, the Forest undertook a clip-and-weigh study of a site on Burnt Flat pasture in Koosharem allotment (i.e., North Burnt Flat Utilization Study). The results from clipping five plots outside the cage and comparing it to the cage inside indicated 75% utilization had occurred. It was noted that the cage had been in place for three years prior to the clipping. It would be interesting to know what percent utilization would have been measured if the five outside plots had been compared to a utilization cage that had been placed on grasses that had been utilized 75% the previous season. No observations were made of whether forbs are present in the sagebrush understory.

Fig. 7. Oct. 16, 2014 FS photo inside and outside a utilization cage; 75% utilization was measured at the site.

Sagebrush exclosures will be critical for estimating whether grazed lands within the four allotments are remaining within approximately 80% of ground cover, species diversity, and canopy cover of inside; and whether desired conditions are being met (Sustainable Grazing and Recovery Alternative).

Without a relevant exclosure it is difficult to know whether conditions seen at FS study sites such as at site 62-13A (Fig. 8; Rock Springs Allotment; 2010; no plant list or cover data) are far below potential. Site 73-16 (Fig. 9; Dry Lake Allotment ; 2014), a mountain sagebrush site with 0.9% cover of forbs and 0.9% grass cover would appear to be not meeting potential or desired conditions.

Fig. 8 Study point 62-13A in 2010; Rock Springs Allotment; Sagebrush, sparse understory; note aspen w/o recruitment in background.

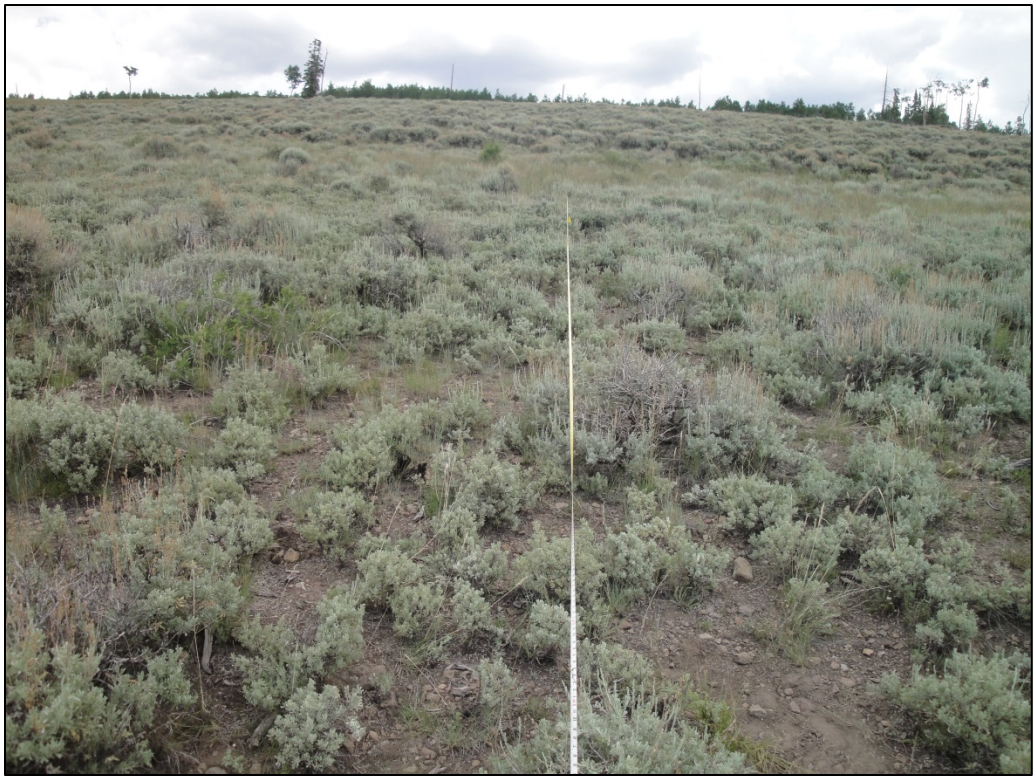


Fig. 9 Study point 73-16 in 2014; Dry Lake Allotment; Sagebrush with less than 1% cover of forbs and less than 1% cover of grasses.

7. Big Game

The Utah Division of Wildlife Resources manages the number of elk, deer and other game animals, while the Forest Service manages habitat. The number of elk on Monroe Mountain have increased greatly since their introduction to Monroe Mountain in the 1980s (Fig. 10). Because elk and cattle have similar diets, there are effectively the same number of cattle/elk AUMs (with one elk/calf AUM corrected for being 0.6 of a cow/calf AUM) in 2014 as there were cattle AUMs in 1920 (when no elk were on Monroe Mountain), prior to the main decrease in cattle numbers between 1920s and 1930s. Meanwhile, vegetation productivity has appeared, on average, to decrease in the past 25 years (Hoglander 2016).

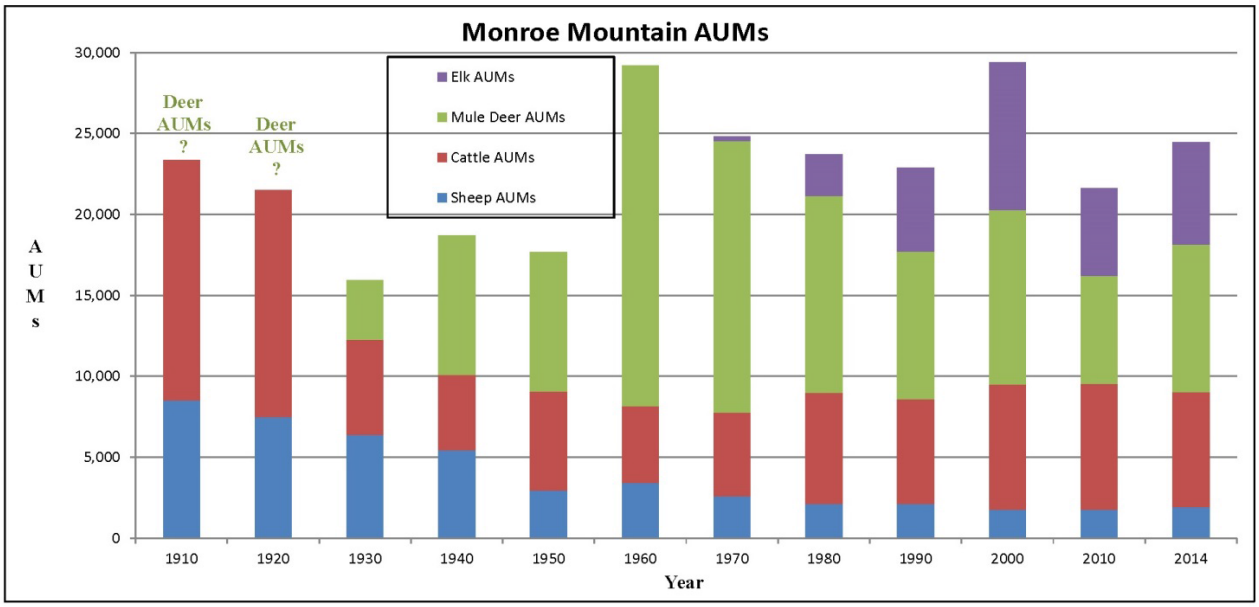


Fig. 10 (Reprinted from Fig. 5 , USDA 2015): Summary of elk, mule deer, cattle, and sheep Animal Unit Months (AUMs) since the early 1900s. Deer AUMs are unknown for 1910 and 1920.

8. Beaver

In 2014, the state of Utah was mapped by Joseph Wheaton and William Macfarlane (2014) for the potential locations and density of beaver dams persisting at least 2 years with the Utah Beaver Restoration Assessment Tool. Shapefiles for the Beaver Restoration Assessment Tool (BRAT) map for Utah are available at http://etal.usu.edu/BRAT/

Fig. 11 shows BRAT"s estimated potential density of beaver dams in the four allotments and in adjacent Monument-Glenwood Allotment. Among the four allotments, Koosharem has the greatest potential to support pervasive dams (16-30/km).

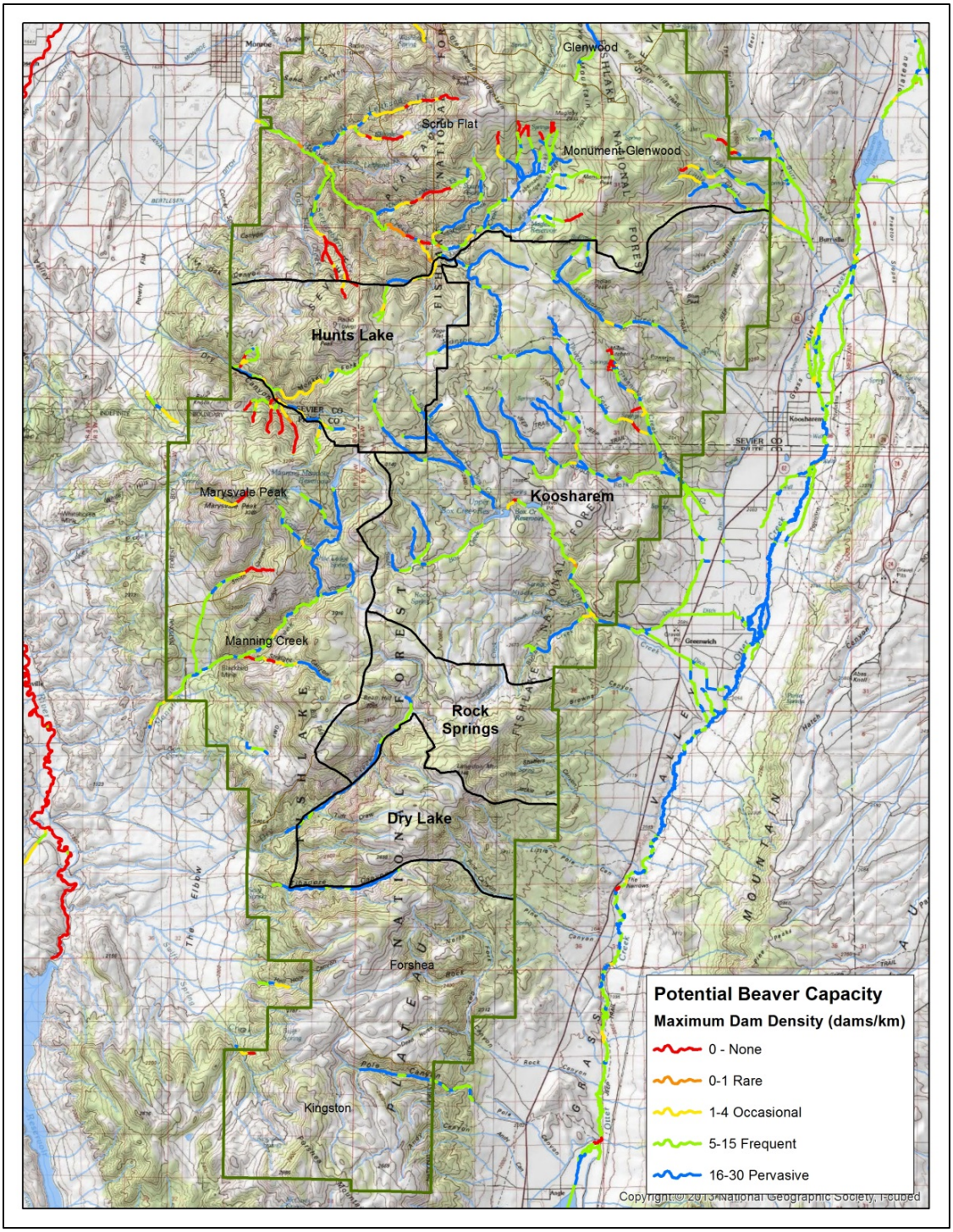


Fig. 11 Potential beaver capacity within the four allotments.

In 2015, Grand Canyon Trust surveyed beaver dams on Box Creek (Fig. 12; 17 active dams) and North Fork Box Creek (Fig. 13; 18 active dams), both of which re mapped on the Utah BRAT map.as holding potential for pervasive and frequent densities of beaver dams. Numerous recent dams between the north and south portions of North Fork Box Creek were inactive in 2015, but were not mapped. Both of these creeks are in the Dairies pasture

which had not been grazed since 2012 due to the Box Creek prescribed fire. Cattle resumed grazing of Dairies pasture in 2015.

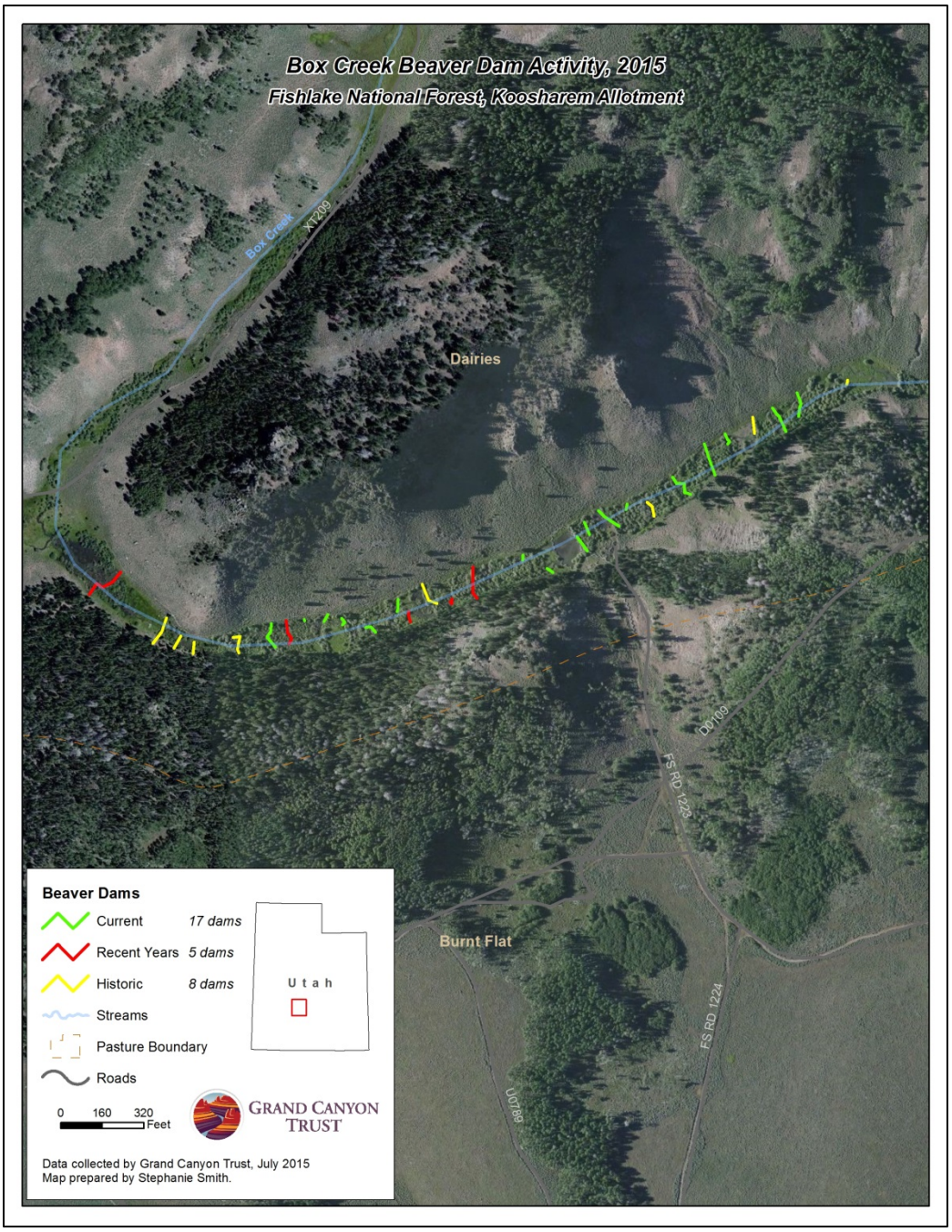


Fig. 12 Box Creek, Koosharem Allotment, July 2015; 17 active dams; 12 inactive dams.

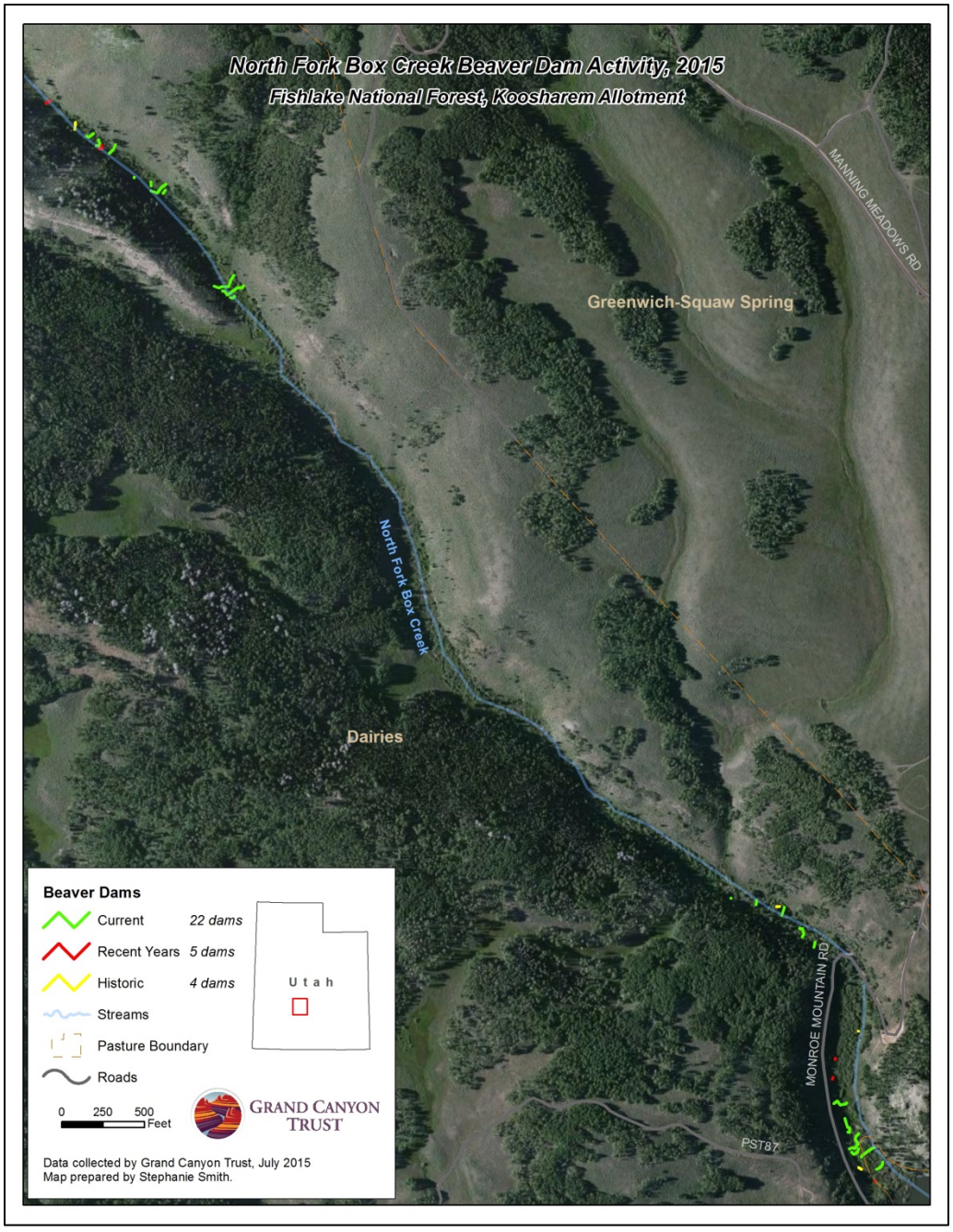


Fig. 13. North Fork Box Creek, July 2015. Inactive dams were not mapped between the lower and upper stretches in the creek in 2015.

Beaver are not present in numerous Monroe Mountain creeks that would be expected to be capable of supporting significant numbers of beaver dams, given hydrology and vegetation type (MacFarlane, et al. 2015. After reviewing the BRAT map of potential beaver dams on Monroe Mountain in July 2015, Utah Division of Wildlife Resources biologist Kevin Wheeler made informal notes to Mary O'Brien on his observations (while surveying for boreal toads) of which Monroe Mountain creeks mapped for frequent or pervasive dams in fact recently or currently had did not have beaver dams (not distinguishing between active or recently-inactive dams:

Christensen Spring Creek: There were no beaver Dams when you, I, and volunteers surveyed it in 2013 - listed as Pervasive, Frequent, and Occasional in portions that we looked at.

Doxford Creek and headwater tribs are mostly shown as Frequent - I surveyed two of these streams last month, and didn't see any dams.

Monkey Fork: Shown as Frequent: there were no dams in the area that we surveyed last month, and the canyon gets quite steep below this, I doubt that there are more for a ways downstream.

Upper Koosharem Creek: The areas that you and I walked last month are shown as Pervasive and Frequent - we saw no beaver dams.

Monroe Creek: Shown as Pervasive and Frequent. There are a few historic dams, but they don't hold much water.

Thurber Fork Greenwich Creek: Shown as Pervasive and Frequent. You and I walked last month. There's historic dams, but don't hold much water.

Greenwich Creek tribs near Milo's Kitchen: has some that are shown as Frequent. We surveyed this last year and didn't see any dams.

North Fork Box Creek: Shown as Pervasive and Frequent. There are no dams north of the Box Creek Road. Below the road there are some, especially near the confluence with the west (unnamed) branch.

South Fork Box Creek: Shown as Pervasive and Frequent - this may be somewhat accurate, although I remember more dams downstream and not as many in the headwaters - the map seems to show the opposite.

Vale Creek: Shown as Pervasive and Frequent - there are no beaver dams here.

Dry Creek: Shown as Frequent - a lot of this is adjacent to the road, and I can't think of any dams here.

Beaver are not expected to be present in all creeks that could offer food and building materials. For instance, they may move away for several years when food and construction materials are depleted; may be absent due to trapping or disease; or may have been displaced if floods destroyed their dams. However, given the frequently low occupancy of Monroe Mountain creeks that appear to hold potential for dense beaver populations and dams, it would be wise for the District to assess the habitat conditions for beaver on those creeks, particularly whether willow and aspen are exhibiting a variety of height classes and recruitment, or whether they are heavily browsed and lacking in productivity and recruitment.

Again, 30% utilization in riparian areas would almost certainly increase the likelihood of willow and aspen maintenance and recovery.

9. Willow

There are only 779 acres of riparian area in the four allotments; 67% of those acres (i.e., 524 acres) are in Koosharem Allotment. Willow communities are key for holding creek banks, preventing stream incision, and providing critical habitat for neotropical migratory birds and other wildlife. Old, scattered willows with no recruitment are not infrequent along creeks within the four allotments, and when fenced, rapidly exhibit recovery (as with a site that was fenced as part of an Eagle Scout project in 2014; Jason Kling knows the location in which the photo in Fig. 14 was taken in late September 2015).

Fig. 14. 9/29/2015. Excessively browsed mature willow beginning to recover one season after being fenced.

On October 17, 2014, the District placed utilization cage at a site along South Fork Greenwich Creek and a report, "South Fork Greenwich Creek ---Riparian Vegetation Study" was prepared. The willows in Fig. 15 ("Photo 2" in the report) reveals old, mature, heavily-hedged willows in the foreground and trampled banks with no overhanging grasses, and yet the report writes only this of Photo 2:

> Photo 2 shows cage and good view of stubble height. Note sedge and poa [presumably Kentucky bluegrass?] mix and condition of willows at site. . . Photos 1 and 2 show good stream conditions that exists [sic] at the site."

What was to be "noted" about the condition of willows is not clear. It's not clear whether the shrub in the foreground is a heavily-browsed willow. Absent a riparian exclosure, the degree to which this is a heavily-degraded site does not appear to be noted.

Fig. 15 Oct. 17, 2014. "Photo 2" in Forest Service South Fork Greenwich Creek riparian vegetation study.

Interestingly, this same "riparian vegetation" study includes the chart of current Fishlake NF utilization standards, but only two standards have been highlighted in yellow in the chart: (1) Riparian hydric species - 4" stubble height; and (2) Riparian ground cover - Maintain ground cover of at least 70% within riparian areas. What is <u>not</u> highlighted in the chart in the report are standards for willow, which are also "riparian vegetation": (1) Riparian upland browse - sprouts and young-aged plants - ≤40% removal of current year's available twigs; and (2) Riparian/upland mature browse - ≤50% removal of current years available twigs removed. Whether either or both of those two forest plan standards was being exceeded is not recorded or noted.

This is not a unique case. We have rarely seen any attention at all being paid to the Forest standards for willow browse standards, height distribution (e.g., are there only tall, old

willows, and browsed short willows?), density (i.e., are willows only scattered or occasional along the creek?), or diversity (e.g., is more than one willow species present?).

As with the many persistent aspen stands lacking recruitment, every creek lacking willow recruitment cannot be fenced. But changed livestock management, especially use of riders, can make a large difference. The example of changed livestock management within the arid Elko BLM District in Nevada shows that changed management here in the four allotments could reverse the degradation too often seen (See the BLM powerpoint, Managing Livestock Grazing on Streams on the Elko District.[1]

Utilization of 30% within riparian areas would require riding, but would allow for rapid recovery of many willow communities.

10. Dominance by Exotics

Dandelion and Kentucky bluegrass are the dominant species throughout persistent aspen stands (O'Brien 2016b). Much of the grasslands (1,470 acres in the four allotments) are heavily grazed and dominated by exotic forage grasses, with unpalatable forbs dominating.

11. Pollinators

The current standard of 60% utilization results in palatable forbs, other than those that are close to the soil (e.g., dandelion, pussytoes) generally being grazed close to the ground, eliminating the flower-pollinator interactions that are essential for certain forbs to reproduce or maintain genetic diversity, and for certain pollinators to remain present to pollinate those flowers.

The U.S. Department of Agriculture draft *Pollinator-Friendly Best Management Practices for Federal Lands* notes

> Livestock grazing alters the structure, diversity, and growth pattern of vegetation, which affects the associated insect community. Grazing during a time when flowers are already scarce may result in insufficient forage for pollinators. Grazing when butterfly larvae are active on host plants can result in larval mortality and high intensity grazing can cause local loss of forb abundance and diversity.

Very few of the following management suggestions in the *Pollinator-Friendly Best Management Practices* publication are being implemented on Monroe Mountain. We have placed in bold font those elements to which the Sustainable Grazing and Restoration Alternative responds, given that the Richfield Ranger District (and indeed, Fishlake National Forest) have not assessed which types of pollinators (e.g., which butterflies and their larvae) and habitat elements are present on Monroe Mountain, 30% utilization provides the best chance that some forbs will remain ungrazed in a pasture. It is not enough to heavily graze only every other year or every two years, given that many native bees are annual and will not return to a site if their preferred flowers (and many bees are specialists, not generalists in their flower choice) are gone. Likewise, if a forb supporting a particular butterfly species' larvae has been heavily grazed one year, the butterfly will not be present the next year.

[1] Available at http://www.grandcanyontrust.org/sites/default/files/ut_forests_Evans_NV_powerpoint.pdf

Implementation: The following actions should be considered in rangelands when livestock grazing is present:

- Determine which types of pollinators and which pollinator habitat elements are affected by grazing livestock.
- Assess if grazing is compatible with the specific needs of target pollinator species on site, including targeted butterfly species.
- Prevent trampling ground-nesting sites by implementing practices to minimize hoof action of grazing animals, which causes soil compaction or erosion in pollinator nesting and shelter patches.
- Minimize livestock concentrations in one area by **rotating livestock grazing timing and location** to help maintain open, herbaceous plant communities that are capable of supporting a wide diversity of butterflies and other pollinators.
- Protect the current season's growth in grazed areas by **striving to retain at least 50% of the annual vegetative growth on all plants**.
- Enhance the growth of forbs to ensure their ability to reproduce and to provide nectar and pollen throughout the growing season **by setting grazing levels to allow forbs to flower and set seed.**
- **Leave nearby ungrazed areas** to provide reserves for pollinator populations.
- **Prevent grazing during periods when flowers are already scarce** (e.g., midsummer) to maintain forage for pollinators, especially for bumble bee species.
- In important butterfly areas, avoid grazing when butterfly eggs, larvae, and in some cases pupae are on host plants.
- Consider the needs of pollinators when placing range improvements and structures on the landscape.
- Ensure that fencing is adequate and well maintained.
- **Include protection of pollinator species in grazing management plans**. [Emphases added.]

Additional recommendations for supporting pollinator/flower systems is found in Black, et al. (2011) in the section "Grazing: Key Points" on p. 10.

Within Koosharem Allotment, four pastures (Koosharem Canyon, Greenwich/Squaw Springs, Dairies, and Box Creek) have been grazed at approximately the same time of season over the past seven years. While Box Creek is rested for two years every four years, it is grazed at the same time during the two years it is grazed. Within Hunts Lake Allotment, Lower Hunts Lake is grazed at the same time every year, as is Tuft Draw within Dry Lake Allotment. Although Spring Range within the Rock Springs Allotment is grazed briefly, it is grazed at the same time every year. (See the folder AOIs 2007-2015 in the CD accompanying these scoping comments.)

To our knowledge, the Fishlake NF has neither surveyed nor mentioned pollinators or pollinator habitat in the course of their livestock management planning.

While rotation of timing can help with pollinators, it is unable to compensate for heavy grazing. As Briske, et al. (2008) note,

> . . . longer-term rest and reduced stocking, especially during conditions favorable to plant growth, contribute to the sustainability and recovery of grazed ecosystems.

The Sustainable Grazing and Restoration Alternative (Part D, below) attempts to reduce some of the impacts of grazing on pollinators by (a) 30% utilization; as well as (b) staggered grazing times.

12. Economics

The Environmental Assessment is not required to compare alternatives for their economic implications (40 CFR §1502.23). However, when/if the EA compares the grazing alternatives for their economic impacts, it will be important to account for and distinguish between private costs and benefits and public costs and benefits. That is, who is paying for what aspects of grazing management, e.g., fencing, piping, water troughs, monitoring, administration? Who is receiving money from grazing on the four allotments? What are public benefits? What are public costs?

As well, it would be important to discuss the relationship between monetary costs and benefits and "...any analyses of unquantified environmental impacts, values, and amenities" such as depletion of biodiversity (40 CFR §1502.23).

When, in 2006, the Fishlake National Forest used a narrow input-output method for comparing alternatives for grazing management on eight cattle allotments on the Fishlake NF, the Final EIS was appealed on economic analysis grounds. An Appeal Resolution regarding the inadequacy of the EIS economics analysis resulted in the Trust working a year with the USFS Washington Office Economist to agree jointly on guidelines for comparing grazing alternatives within an EIS (Trust 2008). These guidelines include consideration of natural resources costs/benefits and unquantified economic costs.

C. NEPA and Alternatives

The National Environmental Policy Act of January 1, 1970 (NEPA) directs all federal agencies to consider and report the potential environmental impacts of proposed federal actions, and established the Council on Environmental Quality (CEQ) to develop implementing regulations for NEPA. The Forest Service is developing this 4-allotment grazing EA in accordance with CEQ regulations. Section 1507.2(d) of these regulations requires federal agencies to "Study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

Perceived and/or real conflicts are unresolved concerning current livestock grazing management within the 4 allotments. Hence the need to study, develop, and describe alternatives for resolving such conflicts. The Sustainable Grazing and Restoration Alternative (Part E of these scoping comments) is submitted for publication and detailed analysis in the EA for grazing management of the four allotments.

The Sustainable Grazing and Restoration Alternative we offer in these scoping comments is reasonable, within the scope of the purpose and need, based in science, and within the jurisdiction of the FS to implement. In Section D of our scoping comments, we provide a description of benefits that accrue to the Sustainable Grazing and Restoration Alternative.

Nothing in the NEPA regulations prevents detailed analysis or adoption of parts or all of an alternative submitted early in a NEPA process by a non-agency entity. The 2003 EIS for a new Hells Canyon National Recreation Area Comprehensive Management Plan fully considered (and eventually adopted major elements of) a Native Ecosystem Alternative (Alternative N) submitted by the Hells Canyon CMP Task Force, a coalition of non-governmental organizations, individuals, and two Tribes. The EIS also fully analyzed an alternative that had been submitted by the Wallowa County Commission (Alternative W). While the Wallowa-Whitman National Forest did not alter either alternative in any manner, the agency did contact the Task Force to ask for clarification of certain phrases and allowed the Task Force to alter the wording of two elements to render them legal within Forest Service regulations.

Similarly, the 2007 *Final Environmental Impact Statement for the Reissuance of Term Grazing Permits on Eight Cattle Allotments, Beaver Mountain Tushar Range, Beaver Ranger District, Fishlake National Forest; and Millard, Piute, Garfield, Beaver, and Iron Counties* fully analyzed, without altering, an alternative (Sustainable Multiple Use Alternative) submitted by seven non-governmental organizations (Three Forests Coalition). The Fishlake National Forest asked for clarifications of the meaning of certain elements, and allowed the Three Forests Coalition to reword its fire section in standard Forest Service terminology.

2012, Judge Marcia Krieger of the U.S. District Court in Colorado set aside a resource management plan for oil and gas development in the Roan Plateau that had been approved by BLM in 2007. Her Opinion was based on failure of the BLM to consider an alternative that had been submitted in a 2005 letter by the non-governmental group, Rock the Earth. Judge Krieger wrote in her Opinion in *Colorado Environmental Coalition, et al v. Salazar*[8]:

> Contrary *to the BLM's position at oralargument that the Community Alternative was a 'moving target' that was 'not clearly defined' so as to permit meaningful analysis, the Court finds that the April 8, 2005 letter from Rock the Earth sets forth the general contours of the (or at least 'a') Community Alternative in sufficient detail so as to permit meaningful analysis of that alternative by the BLM. The Court further finds that the Community Alternative, at least as described in Rock the Earth's letter, was indeed a distinct and concrete 'alternative' to the other courses of action being contemplated by the BLM*

This (and other court rulings) indicates that the FS is able to analyze in detail and present to the public the Sustainable Grazing and Restoration Alternative.

A 1972 case, Calvert Cliffs Coordinating Committee, Inc. v. Atomic Energy Commission, 404 U.S. 942 (1972) was a non-governmental organization's challenge to AEC's NEPA procedures. In its ruling for Calvert Cliffs Coordinating Committee, the Court noted:

> *NEPA requires that [all Federal agencies] must – to the fullest extent possible under its other statutory obligations – consider alternatives to its actions which would reduce environmental damage.*

We believe the Sustainable Grazing and Restoration Alternative would reduce environmental damage associated with current grazing management.

Moreover, we expect that the Sustainable Grazing and Restoration Alternative will be, to quote Judge Krieger, a "distinct and concrete 'alternative' to the other courses of action being contemplated" by the Forest Service.

As yet, we are unable to place the Sustainable Grazing and Restoration Alternative in the precise format the FS will use to present other alternatives because we have only the scoping notice with its intent to reauthorize grazing on the four allotments However, we have numbered the various elements of the Sustainable Grazing and Restoration Alternative in such a manner that the elements could be moved around into a format allowing for comparative analysis with FS Alternatives once we see the format the FS is using.

Just as the FS will develop alternatives the agency believes are integrated and comprehensive, so we have done. We therefore explicitly request that the Sustainable Grazing and Restoration Alternative be presented unaltered to the public alongside FS and any other alternatives, including the No Grazing Alternative. Placing other elements into the Sustainable Grazing and Restoration Alternative, deleting particular elements, or rewording certain elements without our permission could compromise the integrity, reasonableness, feasibility, scientific basis, environmental consequences, and/or social acceptability of the Sustainable Grazing Alternative.

That said, if the FS finds particular phrases or elements in the Sustainable Grazing Alternative unclear or, for reasons currently unknown to us, not legally possible, we request that the FS notify us and give us the opportunity to clarify the wording, or alter an element so as to bring it into legal possibility.

D. SUSTAINABLE GRAZING AND RESTORATION ALTERNATIVE

The following is an alternative to be considered "as is" in the EA. Just as the FS hopefully develops a reasonable, internally consistent alternative or alternatives, the Sustainable Grazing and Restoration Alternative is reasonable and internally consistent, and will likely be different than that proposed by the FS.

1. **Desired Conditions**

1.1. Applicable to all sites

1.1.1. Management does not impair existing conditions and will lead to the achievement or maintenance of desired conditions.

1.1.2. Conditions on site are at least 80% of those within ungrazed reference areas

1.1.3. Conditions approximate desired conditions

1.1.4. The following desired conditions for herbaceous vegetation apply:

1.1.4.1. Two to four species of native perennial bunch grasses that typically decrease under grazing pressure make up the majority of the grass component.

1.1.4.1.1. If the site is dominated by rhizomatous exotic grasses, e.g., smooth brome or cheatgrass, desired conditions will specify an increase, over 5 years, of native perennial grasses.

1.1.4.2. Two to four species of native perennial forbs that typically decrease under grazing pressure make up the majority of the forb component, with flowers available for pollinators.

1.1.5. The grazing system provides presence of seedheads for reproduction of grasses and forbs on a predictable schedule.

1.2. Aspen

1.2.1. Aspen stands contain appropriate proportions of height classes from <1' to >15'.

1.2.2. Ground cover (i.e. basal vegetation, litter, moss/lichen or rock ≥3/4") is greater than 90%. Appropriateness of percent basal vegetation should be considered.

1.2.3. Browse intensity allows for recruitment of aspen sprouts consistent with long-term maintenance of aspen.

1.2.4. Aspen canopy cover >40%.

1.3. Sagebrush

1.3.1. Ground cover (i.e. basal vegetation, litter, moss/lichen or rock ≥3/4") is greater than 85% and if less than 85% is increasing. Appropriateness of percent basal vegetation should be considered.

1.3.2. Community structure: Sagebrush / steppe habitat conditions meet the needs of sagebrush obligate species.

1.4. Riparian areas

1.4.1. Riparian areas include the area on each side of a stream or creek, or surrounding a spring or wetland area that supports riparian vegetation, not just the greenline. Riparian vegetation includes plants that require water in excess of annual precipitation.

1.4.2. Stream banks are capable of withstanding significant flow events without showing excessive erosion.

1.4.3. Based on potential, stream banks are ≥ 95% vertically stable.

1.4.4. Based on potential, native shrub cover is almost continuous, with distribution of height classes sufficient to provide ongoing recruitment.

1.4.5. Ground cover (i.e., basal vegetation, litter, moss/lichen or rock≥3/4") is greater than greater than 90%. Appropriateness of percent basal vegetation should be considered.

1.4.6. Deep-rooted native riparian grasses and grasslike species are in a condition that they can regain ground that is being lost to Kentucky bluegrass, bare ground, and a depleted diversity.

1.4.7. Of the grass/grass-like species component, ≥70% is native species (i.e., not Kentucky bluegrass or other non-natives).\

1.4.8. Willow and aspen height classes indicate ongoing recruitment above ungulate browse height (e.g., ≥20% of individual cottonwood or willow plants are in the 4.1'-6' height class).

1.5. Springs

1.5.1. Riparian areas surrounding springs are maintained such that the vegetative and wildlife community within the spring's riparian zone and associated wetlands remain intact.

1.6. Fish / In-stream conditions

1.6.1. In fish-bearing streams:

1.6.1.1. Peak water temperature <20° C

1.6.1.2. Cobble embeddedness is ≤ 25%.

1.6.1.3. Frequent, high-quality pools are present according to potential.

1.6.1.4. A healthy and diverse clean water assemblage of macroinvertebrates is present according to potential.

1.6.1.5. Multiple age classes of fish are present and average of current biomass is maintained.

1.6.1.6. Grasses are overhanging the creek/stream at bank edge.

1.7. Cheatgrass / noxious weeds

1.7.1. Existing and new noxious weed populations are decreasing in acreage, number of sites and plant density.

1.7.2. Cheatgrass is declining in acreage, number of sites and plant density.

1.8. Wildlife

1.8.1. Food and construction materials exist for beavers where conditions are ecologically and hydrologically appropriate for beaver to exist.

1.8.2. Allotments support deer and elk populations within ecological capacity.

1.8.3. Sagebrush / steppe habitat conditions meet the needs of sagebrush obligate species.

1.8.4. Healthy aspen stands, older age class aspen stands, and prey conditions are present and restored for goshawk reproduction.

2. Management and Monitoring

2.1. Global warming/climate change

2.1.1. Through adaptive management strategies, respond to climatic variability (e.g., drought) and change by utilizing a variety of tactics, including flexible stocking rates and grazing strategies to conserve natural resources.

2.2. Utilization

2.2.1. Utilization limits for both herbaceous and shrub forage species would be a maximum of either 30% or 40% depending on conditions in the respective pasture(s) relative to desired conditions and reference areas not grazed by livestock (Table 2).

2.2.1.1. If desired conditions are being met and conditions are generally at least 80% of those within ungrazed reference areas, 40% utilization may be utilized for maintaining desired conditions.

2.2.1.2. If desired conditions are not being met and conditions are generally less than 80% of those within ungrazed reference areas, 30% utilization will be used in order to allow desired conditions to be achieved.

2.2.1.3. During drought (using the Standardized Precipitation Index of the National Drought Mitigation Center), a 25% utilization standard will be instituted.

2.2.1.4. Utilization will be measured only on key native, palatable plant species within ¼ to ½ mile of the nearest water source.

2.2.1.5. If no native, palatable plant species are present within ¼ to ½ mile of the nearest water source, the species most sensitive to grazing will serve as the key species.

2.2.2. Changes in authorized grazing use would be triggered, if utilization monitoring documents a pattern of two or more years of excessive use over a 5-year period which exceeds the established acceptable utilization level in the same pasture.

2.2.3. The intent of adjustments to grazing is to reduce utilization levels down to or below the aforementioned utilization limits. [2]

2.2.4. Any necessary adjustments would be implemented by reducing the number of days used in that pasture. [3]

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[2] Utilization levels would be compared with actual grazing use records for the relevant pastures. Adjustments would be proportionate and applied to the actual grazing levels that occurred: for example, if two years of utilization data over a 5-year period on key forage species at key monitoring sites in a pasture averaged 10% above the maximum level, then the average level of grazing use that resulted in this overutilization would be the baseline used to decrease the AUM's of livestock grazing in that pasture by 10% in the subsequent grazing seasons.

[3] If reduced days of grazing are implemented in a pasture, then the day cattle leave the allotment would be decreased by that number of days, unless utilization studies show that actual grazing use

2.2.5. The established utilization limits can be adjusted if it is determined through long term monitoring that significant improvement in land health conditions within the allotment and/or pasture has improved over time.

Table 2. Maximum Allowable Forage Use Criteria		
Vegetation Type	**Stubble**	**Comments**
Riparian Hydric Species and Riparian Emphasis Management Areas	30% (if not meeting Desired Conditions); 40% if meeting Desired Conditions	Triggers the time to move livestock between units or off the allotment. There is a potential to estimate species-specific stubble height for specific hydric species that correlates to 30% and 40%.
Non-hydric Sod-Forming Grass Species in Riparian Areas	30%	Primarily Kentucky bluegrass – Triggers the time to move livestock between units or off the allotment. May allow for some restoration of native hydric species.
Exotic Species Seedings	30%	Thirty percent use may allow for some restoration of native vegetation.
Riparian/Upland Browse Sprouts and	30%	Percent of buds browsed on the top 6" vertically and horizontally from the tallest leader of palatable shrubs <6' tall.
Riparian/Upland Mature Browse	<40%	• Percent of buds browsed on the top 6" vertically and horizontally from the tallest leader of mature, palatable woody plants <6' tall. • Percent of buds browsed on accessible twigs of palatable woody plants >6' tall
Upland Grass/Forb	30% if not meeting relevant Desired Conditions; 40% if meeting relevant Desired Conditions. 25% during drought.	Percent of current year's growth by weight (clip-and-weigh). If ocular, compare with growth in utilization cage that has been in place 2 years; and at least one clip-and-weigh following a recorded ocular estimate in each pasture.
Riparian Ground Cover	Maintain ground cover of at least 90% within riparian areas, where that is expected	

2.3. Staggered seasonal use

At a minimum, there will be six weeks between the beginning of seasonal use of a particular allotment or pasture one year and when the season of use begins the following year. If this is not possible in a particular area, the area will be rested every other year.

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in other pastures have consistently resulted in utilization levels, on key forage species at key monitoring sites, far below the 30% or 40% allowable limit. If this proves to be the case, small increments of no more than 10% increases in days grazed may be authorized in those pastures.

2.4 Specific short term trend monitoring objectives and associated adaptive management actions

2.4.1 Within 5 years show a statistically significant movement toward achievement of key desired conditions currently not being met. These data will be analyzed at the 80% confidence level.

2.4.2 If it is determined through this trend monitoring that progress has not been made towards attainment of desired conditions, then reduce the amount of authorized grazing time during the most critical season relevant to the desired condition(s) not being met.

2.4.3 Select the simplest and most appropriate monitoring methods that are objective and capable of detecting trends for the particular desired condition(s) being tracked.

2.5 Exclosures

2.5.1 A permanent exclosure at least 50' X 50' will be established in every pasture on a site representing the pasture's dominant soil/vegetation type unless another such livestock exclosure already exists within the pasture.

2.5.2 Exclosures with gated openings accessible to livestock will be locked, with the FS providing a key to the permittee(s); and retaining another key for as-needed use by public members who wish to access the site for non-grazing purposes.

2.5.3 Consider retention of one or more temporary, post-fire exclosures as a permanent reference area.

2.6 Annual Operating Instructions

2.6.1 ach annual operating instruction (AOI) for the four allotments will reflect the best estimate that the number of days authorized and other instructions will result in utilization limits and desired conditions being met.

2.6.1.1 Pasture movement within annual permits. Gathering of livestock will commence prior to the end date of the use of a pasture or area such that all livestock will have been moved and stragglers found by the off date, or before utilization standards are exceeded.

2.6.1.2 A deferred/rest rotational grazing management system will be used to move livestock through pastures until scheduled use dates are met or until forage utilization thresholds ("triggers", e.g., 30% or 25% utilization) are met. When use dates or triggers are met, livestock will be moved to other ungrazed pasture(s) or completely removed from the allotments.

2.6.1.3 Annual authorized livestock numbers, stocking rates, and scheduled rotations will be identified through annual operating instructions, with explicit consideration of the previous season's monitoring; actual use; production of palatable, native vegetation; availability of livestock water; and current climatic and resource conditions.

2.7 Invasive plant species

2.7.1 The permittee(s) will manually maintain an area within 100 feet of a watering trough or pond free of all invasive, exotic plant species.

2.8 Gates

2.8.1 All gates through which the public may pass will be easily operable by members of the general public.

2.8.2 A sign on any gate through which the public passes will indicate the current dates of livestock in the unit (e.g., unit/pasture, riparian pasture) on either side of the fence and direction to keep the gate closed during those times the livestock should be in one of the two adjacent units.

2.9 Fire

2.9.1 Grazing will be suspended from post-fire areas for at least two years or until whichever is longer:

2.9.1.1 The majority of native plant species in the area have seeded.
2.9.1.2 Sufficient aspen recruitment is insured.

2.10 Roads for livestock management

2.10.1 Maintain roads and trails essential for facilitating livestock grazing in a manner that minimizes the effects on landscape hydrology (avoid concentrating overland flow, prevent sediment transport, and minimize compaction to maintain infiltration capacity).

2.11 Voluntary reduced use or non-use

2.11.1 A permittee request for multi-year non-use or partial use will be granted for conservation or recovery outcomes that can be objectively documented and measured. An approved monitoring plan and schedule will be part of the application.

2.12 Utilization cages

2.12.1 For purposes of quantitatively measuring utilization, utilization cages will be in place for two years (rather than one) in order to more accurately depict production against which utilization will be measured.

2.13 Livestock infrastructure

2.13.1 All grazing infrastructure is maintained to standard prior to livestock entering a pasture, unless non-maintenance of infrastructure in a given pasture could affect another pasture, in which case the grazing infrastructure must be maintained to standard prior to livestock entering the allotment.

2.13.2 Maintenance of improvements in rested pastures occurs each grazing season.

2.14 80% of ungrazed

2.14.1 Grazed conditions will be considered to be appropriate when monitoring documents that conditions are at least 80% (e.g., of soil cover, native plant species richness, recruitment of willow family species) of those in areas not grazed by livestock and of the same ecological site type (e.g., soil type, precipitation, elevation, slope, as relevant). Such reference areas may consist of exclosures, or comparable areas in an ungrazed pasture or allotment. Forest Service or other objective documentation of conditions below 80% of the reference site(s) are appropriate subjects for problem-solving among the FS, permittees and interested publics.

2.15 Passive and active vegetation treatments

2.15.1 Vegetation treatments will:

2.15.1.1 Have the objective of restoring or supporting potential native vegetation and ecosystem processes;

2.15.1.2 Address underlying causes of the problematic conditions prompting vegetation treatments;

2.15.1.3 When livestock and/or wild ungulate grazing have contributed to the problematic conditions being treated, grazing will be managed to avoid return of the problematic conditions.

2.15.1.4 Utilize native seeds or seedlings only, of local genetic stock whenever possible;

2.15.1.5 Include measurable Desired Outcomes and the methods that will be used to monitor outcomes when compared to outcomes in a portion of the treated area that is not grazed by livestock.

2.15.1.6 Be detailed in project-level plans and NEPA analyses, which provide for public comment on a full range of reasonable alternatives.

2.15.1.7 Use a variety of measures to protect planted and naturally regenerated seedlings from the effects of trampling, browsing, and girdling by livestock and wildlife. Such measures could include temporary suspension of grazing, and may include fencing, tubing, netting, and/or animal repellants; and

2.15.1.8 Mimic natural processes to the degree possible, including, but not limited to succession and use of prescribed fire.

2.15.1.9 A budget for monitoring to determine vegetation treatment outcomes will be part of each project.

2.16 Non-native and/or invasive plant species

2.16.1 Passive restoration and non-chemical methods will be the first priority for preventing the introduction, establishment and spread of exotic, invasive plant species.

2.16.2 If herbicides are deemed essential, least use of herbicides will be accomplished using Integrated Vegetation Management principles, including reducing or eliminating stressors contributing to the introduction, establishment and/or spread of exotic, invasive plant species.

2.16.3 Actively seek partnerships for removal of invasive species

2.17 Livestock watering

2.17.1 Engineer spillways from active and abandoned stock ponds to prevent failure and resource damage.

2.17.2 Re-contour abandoned stock ponds where surrounding natural resources will benefit.

2.17.3 Water troughs will contain a float that will prohibit water flow when the trough is full.

2.17.4 Water will be piped to water troughs only while livestock are actively using the pasture.

2.17.5 Critter ramps will be present in all water troughs.

2.18 Permittee reporting

2.18.1 Permittees will provide the following information within one month of the end of the livestock seasonal use, including but not be limited to:

2.18.1.1 Times on and off each pasture

2.18.1.2 Actual use

2.18.1.3 Missing cows

2.18.1.4 Salt management

2.18.1.5 Infrastructure maintenance/construction

2.18.1.6 Other issues

2.19 Independent monitoring

2.19.1 Upon objective documentation of on-ground indications of resource problems, any member of the public can arrange, through the District Ranger, for a meeting with FS staff to discuss and propose solutions to the problem(s).

2.19.1.1 A written record of evidence of the problem(s), solutions considered, and commitments by the FS, interested public, and/or permittees will be retained in the file(s) of the relevant allotment(s).

2.19.1.2 Objective, repeatable data gathered (e.g. georeferenced photos) are required in problem-solving meetings. All such meetings are open to, and invitations extended to, the permittees and other interested publics.

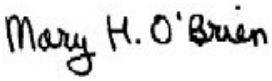
E. Conclusion

We thank you for consideration of these scoping comments for grazing management of the Koosharem, Rock Springs, Dry Lake and Hunts Lake allotments. We look forward to participating throughout the EA process and to continue to observe conditions throughout these allotments, and offer suggestions for how livestock grazing can best be balanced with the

protection of all living communities and the values of all people who visit and value Monroe Mountain. Please let us know if you have any questions.

Again, we request that the Sustainable Grazing and Restoration Alternative, Section D within these comments, be retained "as is", as a cohesive proposal for consideration by FS and all interested publics, alongside other alternatives. We request that if you are uncertain about the intention of particular alternative elements, that you contact us to discuss those questions rather than risk misinterpretation in the EA analysis.

Sincerely,



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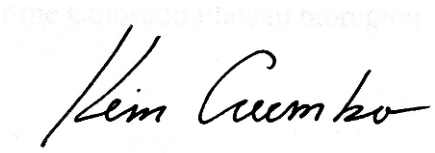

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F. References

[*Note: A copy of all reference documents is being mailed separately on a CD to the FS on 02/16/2016*]

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G. Referenced Documents

All documents referenced in these comments were mailed to Jason Kling, Richfield Ranger District on separate CD 2/16/2016).