



United States Department of Agriculture
Forest Service
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Record of Decision Upper Green River Area Rangeland Project

Responsible Official
Rob Hoelscher
District Ranger

USDA Forest Service
Pinedale Ranger District, Bridger-Teton National Forest
Sublette, Teton, and Fremont Counties, Wyoming
Portions of Townships 37 to 42 N and Ranges 108 to 111 W of the 6th principle meridian

Rob Hoelscher
District Ranger

Date

Introduction

In compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws, the Forest Service has prepared the Upper Green River Area Rangeland Project Final Environmental Impact Statement (FEIS, U.S. Forest Service 2017) to disclose the potential effects of livestock grazing in the Upper Green River project area. The FEIS is incorporated in its entirety into this Record of Decision (ROD) and is available on the Bridger-Teton National Forest website at: <http://www.fs.usda.gov/goto/btnf/projects>.

The Upper Green River project area is located in western Wyoming (Figure 1), approximately 30 miles northwest of Pinedale, Wyoming near the Green River Lakes. The majority of the project area lies within Sublette County, with small portions that extend into Teton and Fremont counties. The entire 170,643-acre project area lies within the boundaries of the Pinedale Ranger District of the Bridger-Teton National Forest (BTNF) and encompasses the headwaters of both the Green River drainage of the Colorado River System and the Gros Ventre River drainage of the Snake/Columbia River Basin System. The project area is also located within the Greater Yellowstone Ecosystem which is one of the largest intact ecosystems remaining in the temperate zones of the world. The Greater Yellowstone Ecosystem supports timber harvest, livestock grazing, recreational activities, mineral development as well as a full complement of native birds, mammals, and fish, including predators such as grizzly bears, wolves, and some of the last large herds of migratory ungulates in North America.

During the early 1900s, the Forest Service developed a livestock grazing allotment system. Currently there are six cattle and horse allotments included in the project area: Badger Creek, Beaver-Twin Creeks, Noble Pastures, Roaring Fork, Wagon Creek, and Upper Green River allotments (Figure 2). Allotment management plans and other direction allow approximately 9,089 livestock including 9,042 cow/calf pairs and yearlings and 47 horses to graze in the six allotments from June 14th to October 15th. This is the maximum permitted use; actual use is often less than this ceiling level.

The purpose of the Upper Green River Area Rangeland project is to authorize livestock grazing in a manner that will maintain or improve resource conditions. The need for continued livestock grazing on the six allotments is to contribute to the accomplishment of Bridger-Teton Land and Resource Management Plan (Forest Plan) Goal 1.1 to support community prosperity and Objective 1.1(h) to provide forage for about 260,000 animal unit months of livestock grazing annually (U.S. Forest Service 1990, p. 113). There is also a need to avoid unacceptable effects from livestock use (Forest Plan Goal 4.7, U.S. Forest Service 1990, p. 120). Monitoring conducted in the project area indicates that, in most areas, current resource conditions are meeting the desired conditions, however, there are some locations that do not. These areas are displayed in the FEIS in Table 1.

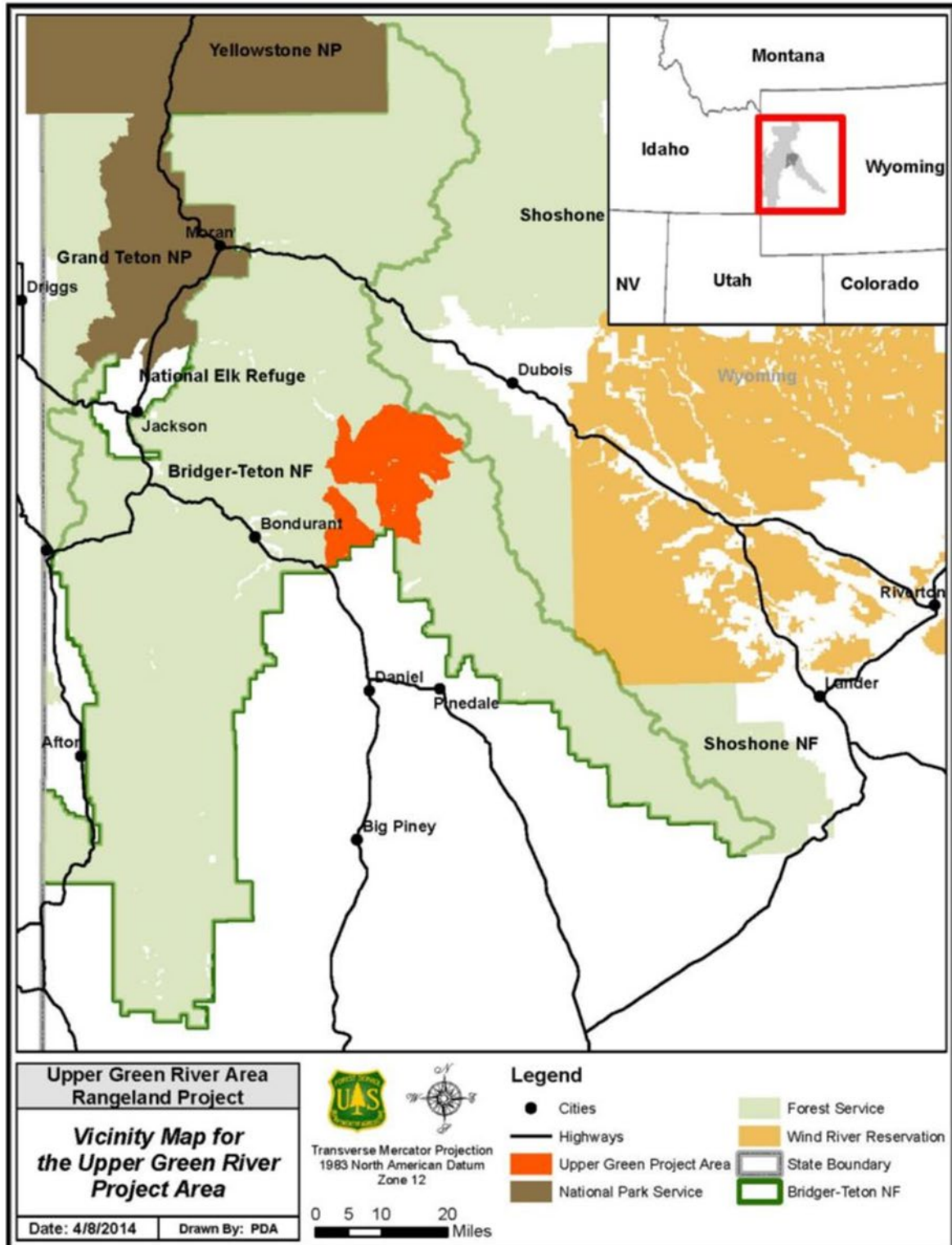


Figure 1. Vicinity map for the Upper Green River project area, Bridger-Teton National Forest

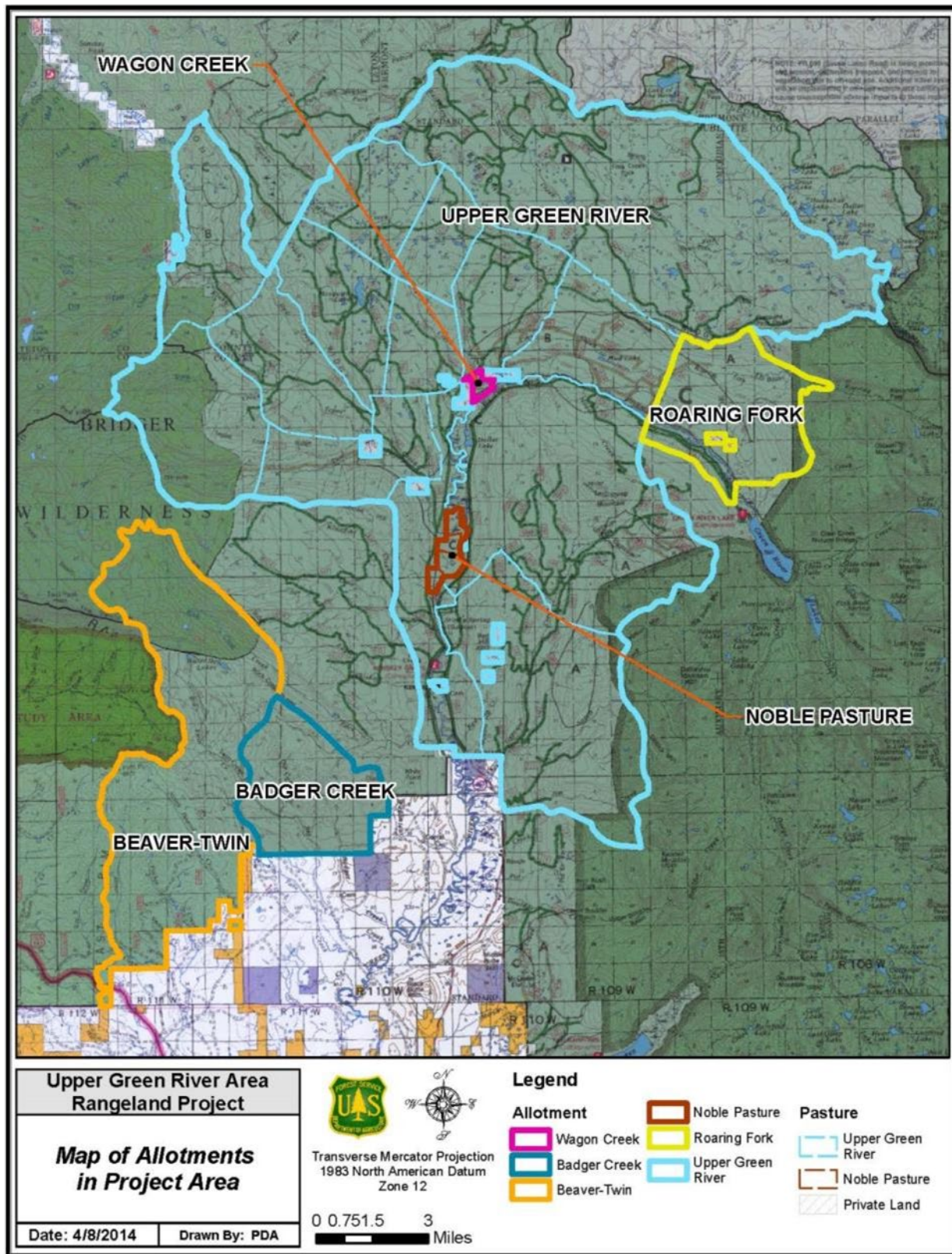


Figure 2. Map of the six allotments in the project area: Badger, Beaver-Twin, Noble Pastures, Roaring Fork, Upper Green River and Wagon Creek allotments.

Decision

I have decided that livestock grazing will continue to be authorized on the Badger Creek, Beaver-Twin, Noble Pastures, Roaring Fork, Wagon Creek, and the Upper Green River allotments using a management strategy that includes restrictions on the amount of forage utilization, greenline stubble height requirements, implementation of focus area prescriptions, and construction and maintenance of structural improvements. This strategy also provides for adaptation of management if monitoring determines that adequate progress towards the desired conditions is not occurring. This decision is a modification of Alternative 3 that includes some elements of Alternative 2, as these two alternatives are described in the 2017 Final Environmental Impact Statement.

Allowable Use in Allotments/Pastures: Forage Utilization Standards, Stubble Height Standards, and streambank alteration guidelines

A maximum forage utilization on key forage species is assigned for each pasture and for seven focus areas in this decision. Key forage species are primarily Idaho fescue (*Festuca idahoensis*) in the uplands and sedges (*Carex* species) or tufted hairgrass (*Deschampsia*) in riparian and meadow areas.

- Restrictive livestock grazing prescriptions will be implemented for specific focus areas in order to move existing resource conditions toward resource objectives and desired conditions. Prescriptions for focus areas include reduced levels for maximum forage allocation limits, a stubble height requirement of 6 inches along the greenline, willow plantings, and/or fencing. Focus area prescriptions are detailed in Table 1. The focus areas are:
 - Waterdog Lake focus area in North Beaver Pasture of Beaver-Twin Creeks Allotment,
 - Tosi Creek focus area in Pasture 1 of the Noble Pastures Allotment
 - Klondike Creek focus area in Pasture 4 of the Noble Pastures Allotment,
 - Roaring Fork focus area in Roaring Fork West Pasture in Roaring Fork Allotment,
 - Fish Creek focus area in Fish Creek Pasture,
 - Wagon Creek focus area in the Mosquito SE Pasture, and
 - Tepee Creek focus area in the Lower Tepee Pasture of the Upper Green River Allotment.
- The Noble Pastures Allotment will have a maximum forage utilization of 60% in uplands and 65% in riparian/meadow areas and all other allotments will incorporate a maximum of 50% forage utilization in the upland and riparian/meadow areas.
- A maximum of one week shift in the grazing season may be authorized when needed to respond to seasonal weather conditions. In addition, this decision includes the requirement to consider potential effects on Greater Sage-grouse populations and habitat before allowing a shift.
- A 6-inch stubble height minimum will be retained at the greenline of South Gypsum Creek in Lower Gypsum Pasture and Strawberry Creek in the Fish Creek Pasture of the Upper Green River Allotment. This limitation will remain in place until these creeks meet the streambank stability objective of 80% for two consecutive monitoring cycles. A 4-inch stubble height minimum will be retained at the greenline of all other streams.

Adaptive Management

Adaptive management will be incorporated into allotment management plans for each allotment. Adaptive management was referred to as “progressive design features” in the specialist reports (Anderson 2015, Booth 2016, Booth and Hayward 2015, DeLong A. 2015, DeLong D. 2016, Eagan 2015, Johnson 2014, Murphy 2016, Roberts 2017, Robertson 2016, Schoen 2015, Stein 2016, Wilmot 2015, Winthers 2015). The term “progressive design features” is synonymous with “adaptive management.”

The management described in Tables 1 and 2 is designed to maintain existing rangeland and riparian conditions where desired conditions are being met and improve rangeland and riparian conditions in areas where desired conditions are not being met. Resource objectives include:

- Minimum ground cover objectives vary from 70 to 90 percent according to vegetation type in the allotments except in the River Bottom pasture the minimum is 60%. The livestock driveway is not held to the same objective as the River Bottom Pasture. However, with the exception of the road itself, best management practices such as having 4 weeks during the grazing season where the area will be unoccupied, will be used to maintain the groundcover that exists.
- The species composition objective for the project area (by pasture system) is plant communities in mid-seral or later ecological status with stable or upward ecologic trend in plant species composition. Any declining trends would initiate adaptive management unless the site is in Late Seral or PNV ecological status
- The invasive plant objective is to control or reduce species distribution and abundance.
- The stream bank stability objective is 80%. The streambank alteration guideline is 20% for most areas, as defined in the Forest Plan. Streambank alteration is just one indicator of streambank stability. Streambank alteration is an annual or short term measurement assists managers in accomplishing streambank stability objectives. Riparian systems capture sediment, maintain a high water table, and support hydric vegetation that is capable of slowing high flows, and protects and stabilizes the stream banks.
- The stream temperature objective is 68 degrees Fahrenheit or colder (measured as the warmest mean weekly maximum temperature). This objective will be reviewed annually based upon climatic changes.
- The soil quality objective is a soil health rating of satisfactory, when evaluating indicators including soil structure, compaction, active erosion including presence of rills and gullies, effective ground cover, soil displacement, and soil deposition. Ratings are described in the Region 4 qualitative soil health assessment and consist of potential determinations of either satisfactory, impaired, or unsatisfactory.

Progress towards meeting or moving towards these objectives will be measured and evaluated by members of the interdisciplinary team in five-year intervals as funding allows. If the management prescribed in Tables 1 and 2 is not resulting in conditions that meet or move towards meeting these objectives, causal factors will be reviewed by the interdisciplinary team, permittees and District Ranger. If the District Ranger determines that the undesirable condition is unrelated to timing, intensity, frequency or duration of livestock grazing, livestock grazing management will not be altered. If livestock grazing is a substantial causal factor, the District Ranger will assess timing, intensity, frequency and/or duration of livestock grazing within the associated allotment or pasture system within the allotment. The District

Ranger will implement a change in grazing strategies to move towards the objective, after considering advice from the interdisciplinary team and the permittees.

Adjust Forage Utilization: After progress is assessed by pasture, and grazing intensity is determined to be the substantial causal factor for rangeland and riparian conditions not meeting objectives or moving towards meeting objectives, the maximum allowable use on key forage species will be reduced in increments of 10% in subsequent years to a maximum of 30% forage utilization.

Adjust Riparian Stubble Height: If riparian condition and/or stream bank stability are not meeting nor moving toward resource objective(s) and livestock grazing is determined to be a causal factor, the minimum riparian stubble height threshold will increase from 4 inches to 6 inches.

Initiation and Duration of Adjustments: The more restrictive forage utilization threshold and/or stubble height requirement will be required in the grazing season following the District Ranger's determination. The adjustments will be implemented for at least five years, allowing time for resource recovery. The adjustments will continue until such time as the long-term monitoring data for ground cover, and/or species composition, and/or streambank stability demonstrates an upward trend toward the resource objective.

Monitoring and Adaptive Management – An Open Process: The overall intent of adaptive management for this project is to proactively manage livestock grazing consistent with meeting other resource objectives, using all available tools. This includes an intent to avoid the need for drastic consequences unless other tools and management options have not met desired outcomes. To address this intent, I will provide a forum for new information, current monitoring results sharing, and other information to be presented and considered so that solutions to issues can be considered in a collaborative, proactive way. The forum would consist of at least one annual meeting which would be open to collaborators and include, at a minimum, the following agenda items. Objectives set forth in this Rod will be reconsidered based upon forest plan revision.

1. If conditions indicate a need for change a report will be given at the forum for suggestions from the group to be taken at that time. The agency, rangeland scientists, and permittees will develop management options and solutions based on the need for a management change and those will be given to the District Ranger for consideration.
2. Grizzly Bear - review of previous year conflicts, conflict reduction actions implemented in previous year and proposed changes upcoming year;
3. Review of previous year vegetation, utilization and streambank monitoring and suggestions for upcoming year monitoring and areas to focus;
4. Updates (if any) on status of focal areas, monitoring or research developments on amphibians, sage grouse, other wildlife and fisheries and recreation conflicts and solutions (if any);
5. Review of focus areas use, and plans for management of focus areas in the coming year;
6. Upcoming grazing season monitoring plans, and invitation to interested parties to be involved in annual monitoring; and

This process does not change my ability to take action to address issues as necessary during the grazing season.

Structural Improvements

Existing structural improvements will be used and new improvements, such as fences, hardened water crossings and cattle guards, will be constructed to improve the distribution of livestock and forage use, reduce livestock impacts in sensitive areas, and/or improve resource conditions. Existing structural improvements include approximately 76 miles of existing fence. Approximately 10.5 miles of fence construction will be authorized. Other improvements include installation of a culvert, construction of a holding area, hardening of stream crossings and their approaches, maintenance of irrigation ditches, and development of water sources. Locations of these new structural improvements are listed in Table 1 and are described in more detail by allotment in the Appendix A of this ROD. The new structures are expected to be constructed when funding is available to purchase the materials and maintained as needed. Schedules and details will be outlined in the Annual Operating Instructions.

No new roads are authorized for construction as the result of this decision and no Forest Service system roads will be removed. Two management actions will be taken to enforce existing travel management regulations. The road to the Wagon Creek focus area will be closed to preclude motorized access by the general public; administrative use of the road will remain the same as described in the Travel Management Plan (U.S. Forest Service 1995). A user-created two-track route that leads to the Fish Creek focus area will be ripped and seeded to eliminate all motorized access for all users. This unauthorized route is 875 feet in length and is a spur route off of Forest Service Road 691 to Fish Creek.

Table 1 displays a summary of allowable use, new structures, and focus area prescriptions by allotment and pasture. As described above, adaptive management to adjust the allowable use may be applied on any pasture.

Table 1. Livestock Grazing Strategy

Allotment	Pasture	Grazing System	Allowable Use - Uplands	Allowable Use – Riparian/Meadow	Minimum Stubble Height – Riparian Greenline	New Structures, Improvements, and select maintenance requirements	Focus Area Prescription
Badger Creek	Badger	Deferred 1 pasture	50%	50%	4 inches	N/A	N/A
Beaver - Twin Creeks	Rock Creek	Deferred rotation: 3 pastures	50%	50%	4 inches	Reconstruct fence along Rock Creek Buttes	N/A
	Twin Creeks		50%	50%	4 inches	Construct approximately 0.3 mile of pasture fence between North Beaver and Twin Creeks Pastures within three full field seasons of project implementation	Waterdog Lake Focus Area: 20% maximum forage utilization in uplands
	North Beaver		50%	50%	4 inches	Construct 0.4 mile drift fence, T37N, R111W, Sec. 10&11	N/A
Noble Pastures	Pasture 1 (northern)	Rotation: 4 pastures 2-3 times grazing per season	60%	65%	6 inches	If other management tools are not sufficient to achieve focus area prescription, consider a temporary electric fence. Maintain irrigation ditches to provide off-stream livestock water and maintain hydric vegetation.	Tosi Creek Focus Area: 6" stubble height. The Forest will continue to monitor stream channels and streamside vegetation using MIM protocol or Winward greenline and work cooperatively to evaluate and adopt indicators for riparian health, including streambank alteration for beaver dominated systems along this focus area. Management objectives will be modified as science supports this change. Until such time, the 6-inch stubble height requirement will remain.
	Pasture 2		60%	65%	No creek in this pasture	Maintain irrigation ditches to provide off-stream livestock water and maintain hydric vegetation	N/A

	Pasture 3		60%	65%	No creek in this pasture	Install culvert and add fill Maintain irrigation ditches to provide off-stream livestock water and maintain hydric vegetation	N/A
	Pasture 4 (southern)		60%	65%	4 inches	Rebuild fence entire length of creek w/ two hardened crossings. Construct holding area in unfenced portion of pasture Maintain irrigation ditches to provide off-stream livestock water and maintain hydric vegetation	Clondike Focus Area: Rebuild and slightly expand the riparian fence with a top rail fence, & two harden crossings. Plant live-stake willows. Manage as a riparian pasture with brief grazing to stimulate willow establishment. The area would be grazed at a maximum forage utilization of 0.5 AUMs per acre per year and would likely not be grazed some years.
Roaring Fork	Roaring Fork South	Deferred rotation: three pastures	50%	50%	4 inches	N/A	N/A
	Roaring Fork East		50%	50%	4 inches	N/A	N/A
	Roaring Fork West		50%	50%	4 inches	N/A	Roaring Fork West Focus Area: Cattle would be herded to avoid the focus area when forage utilization by elk is $\geq 50\%$ prior to the "on date" for livestock. Cattle would not be placed (herded) to the focus area and salting would not be allowed in the focus area. If forage utilization in the focus area exceeds 50% and herding proves ineffective to keep livestock out of the focus area, livestock would be moved to the Roaring

							Fork East pasture or off the allotment when Roaring Fork East pasture has already been used by livestock for the grazing season.
Wagon Creek	Wagon Creek	Deferred rotation: one pasture	50%	50%	4 inches	N/A	N/A
Upper Green River - Gypsum rotation	Upper Gypsum	Deferred rotation: two pastures	50%	50%	4 inches	N/A	N/A
	Lower Gypsum		50%	50%	6 inch stubble height on South Gypsum Creek until meeting stream bank stability objective for two consecutive monitoring cycles, then implement 4 inch stubble height. 4 inch stubble height on other creeks and 50% forage utilization in riparian/ meadow areas	N/A	N/A
Upper Green River – Mud Lake/ Fish Creek rotation	Mud Lake East	Deferred rotation: three pastures	50%	50%	4 inches	Relocate fence to move Crow Creek into Mud Lake West pasture and consider development of up to two water sources one from Crow Creek and/or a spring. Alternative water sources will be explored and, if feasible, developed after appropriate NEPA analysis is completed. If water source development relieves issues with Crow Creek, or if other solutions are identified that	Upper Green Elk Feedground: No salting would be allowed and livestock would not intentionally be placed here.

						resolve the concern the fence will not be required. Establish new location for long term species composition monitoring site. Initial evaluation of trend to be accomplished at 10 year monitoring interval. Salt a minimum of ½ mile from Mud Lake	
	Mud Lake West		50%	50%	4 inches	N/A	N/A
	Fish Creek		50%	50%	4 inches	N/A Raspberry Creek: Continue monitoring and identify alternative trailing locations	Fish Creek Focus Area: Fish Creek Site #1: 6" stubble height and 20% bank alteration guideline Rehabilitate (rip and seed) unauthorized road off of Forest Road #691 Fish Creek Site #2: 6" stubble height
Upper Green River – Mosquito Lake rotation	Mosquito SE	Deferred rotation four pastures with option of rest rotation	50%	50%	4 inches	Harden stream crossing approaches upstream of focus area	Wagon Creek Focus Area: 6" stubble height within the focus area boundary. Electric fence may be used to assist in meeting the stubble height requirement.
	Mosquito NE	Note: 15% reduction in cattle numbers compared to Alt. 2	50%	50%	4 inches	N/A	N/A
	Mosquito NW		50%	50%	4 inches	Initial evaluation of trend to be accomplished at five year monitoring interval.	N/A
	Mosquito SW		50%	50%	4 inches	Initial evaluation of trend to be accomplished at five year monitoring interval.	N/A
Upper Green River – Tosi Creek/	Tosi Creek	Deferred rotation: four pasture	50%	50%	4 inches	N/A	N/A
	Upper Teepee Creek		50%	50%	4 inches	N/A	N/A

Tepee Creek rotation	Lower Tepee Creek		50%	50%	4 inches		Tepee Creek Focus Area: Remove nonfunctional logs cabled into Tepee Creek. Construct temporary fence along Tepee Creek to protect the disturbed area that is created when revetments are removed. The temporary fence is to be in place until recovery is adequate to sustain grazing use. The Forest would construct the temporary fence and partner with permittees and others like the Wyoming Game and Fish, to maintain it.
	South Kinky Creek		50%	50%	4 inches	Construct permanent fences in order to add Kinky Creek Pasture to Tosi-Tepee Creek rotation	N/A
	North Kinky Creek	May be used to relieve pressure from predators or other resource concerns	50%	50%	4 inches	N/A	N/A
Access to the Upper Green River, Wagon Creek, Roaring Fork, and Noble Pasture allotments	River Bottom Pasture and livestock driveway	Livestock are herded in along the livestock driveway in the spring, and drift out in the River Bottom Pasture and driveway during the	50% in the River Bottom Pasture	50% in the River Bottom Pasture	4 inches in the River Bottom Pasture	N/A	N/A

		fall. The River Bottom pasture will remain unoccupied between July 15 and August 15. The livestock driveway would also remain unoccupied unless livestock are being actively moved between pastures or off of the National Forest.						
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Permitted Livestock Numbers, Season of Use, and Grazing Management System

This decision allows for the issuance of grazing permits that will authorize a maximum of 8,819 head of livestock on the Upper Green River project area. The 8,819 head of livestock is made up of 8,772 cow/calf pairs or yearlings and 47 horses. A maximum of 44,722 animal unit months of forage will be authorized for consumption. This decision reduces the number of cattle previously authorized in the Mosquito Lake rotation in the Upper Green River Allotment by 15% or 270 head of cattle. Actual livestock numbers turned out during a grazing season may be administratively reduced through the adaptive management process in order to meet allowable use standards and/or resource objectives.

The stocking rate described in the previous paragraph is based on currently permitted livestock numbers, supported as being within the capacity of the area to produce enough forage for livestock, wildlife, and soil and vegetation health. It is backstopped by annual allowable use standards which would limit livestock use if drought or other factors severely limited the available forage in a given year. Additional explanation of the forage capacity analysis and the methodology employed in the analyses are available in the following reference materials: 1) Project Record #1252 Wilmot Report with appendices pages 12-15, FEIS pages 181, 182, as well as Responses #52 and #194 of the Response to Comments in Appendix B of the FEIS). The “Wilmot Report” provides this additional explanation: “Across alternatives, combined elk and livestock forage use on lands suitable and capable for grazing was less than the amount of forage available (allowed) in each alternative. The estimates indicate that sufficient forage is sufficient to support elk in the project area during the period (typically April–December) when elk are not supplemented at local feedgrounds. Because we did not account for forage production at sites that were not both suitable and capable for cattle grazing, we overestimated the percentage of forage removed by elk and cattle at the scale of the project area. Lands both capable and suitable for cattle grazing represent 44% of the project area. The remainder (56%) also produces forage, and it is grazed by elk and other wild herbivores, but receives little (suitable but not capable sites) or no (capable but not suitable) use. We fully expect elk to utilize forage available in those lands outside of grazing suitable and capable (for example, slopes steeper than 30% and areas farther than 1 mile from water) thus the net negative effect on forage available to elk after grazing is even less significant. Also, grazing production data compiled from 1968 to 1982 were conservative with respect to forage production because they were based on dry weights of forage clipped from plots at a variety of times during the grazing season, and failed to account for additional forage produced later at the same sites. In addition, we most likely overestimated offtake authorized specifically in a portion of the assessment (Table A-1) where permitted maximum forage utilization varied between smaller pastures in Noble Pastures, Roaring Fork allotment, and the Mosquito Rotation of the Upper Green Allotment. In the small cases where utilization varied, we used the higher percentage of offtake for the overall estimation. If we overestimated in these proportionally small areas, that means even more forage would be available to elk.

The permitted season of use varies by allotment, but generally occurs from June 14th to October 15th annually across the project area. The season of use may be adjusted by a maximum of one week, which would allow livestock to enter an allotment one week earlier or leave the allotment one week later. An adjustment to the season of use will be authorized on an infrequent basis (approximately two out of ten years). Adjustment of the season of use will not result in increasing the number of days livestock are

authorized on an allotment. Thus, if livestock are authorized to enter an allotment one week early they will be removed a week early. Any shift in the season of use is subject to prior, written approval.

My decision changes season-long grazing systems to rotational or deferred grazing systems. Beaver-Twin Creeks, Noble Pastures, Roaring Fork, and Upper Green River allotments will be managed under a deferred rotation system with the option of implementing a rest rotation. Badger Creek Allotment will be managed for a deferred entry date in one out of four years, so that timing of defoliation is deferred for two weeks at least once in every four years. This application of deferment was made although there were no gaps identified between existing and desired condition related to grazing management. Wagon Creek Allotment will be managed with a variable entry date. Flexibility in the sequence of rotating livestock through pastures is allowed in order to respond to emergencies such as avoiding predators or areas where wildfires have burned.

My decision adds the South Kinky Creek Pasture to the Tosi/Tepee Creek rotation in the Upper Green River Allotment.

New allotment management plans will be developed for the Badger Creek, Beaver-Twin Creeks, Noble Pastures, and Wagon Creek allotments and existing allotment management plans for the Upper Green River and Roaring Fork allotments will be revised to reflect the management described in this decision. Table 2 summarizes the livestock management strategy for the six allotments and the livestock driveway. Interested parties will have the opportunity to review the Allotment Management Plans.

Table 2. Livestock management strategy within the Upper Green River project area

Allotment	Capable & Suitable Acres / Total Acres (%)	Permitted Number of Livestock	Kind	Class	Permitted Season of Use *	Permit animal unit months (AUMs)	Management System
Badger Creek	1,217 / 7,254 (17%)	157	cattle	cow/calf or yearling	07/01-09/30 for up to three years of each four year period. 7/15 to 10/14 for at least one year in the four year period,	622	one pasture deferred
Beaver-Twin Creeks	6,337 / 22,079 (29%)	700	cattle	cow/calf or yearling	07/15-10/15	2,772	three pasture deferred rotation
Noble Pastures	743 / 762 (98%)	314	cattle	cow/calf	06/14-09/20	1,605	four pasture deferred rotation
		110	cattle	yearling			Grazed twice over.
		4	horse	horse			Livestock enter and exit rotation in Pasture 1 or 4. There is an infrequent

							option for grazing three times over (with District Ranger approval)
Roaring Fork	4,449 / 8,416 (53%)	170	cattle	cow/calf or yearling	06/16-6/30 Roaring Fork South Pasture. All other pastures 6/16-10/15	898	three pasture deferred rotation
Wagon Creek	186 / 186 (100%)	52	cattle	cow/calf or yearling	07/15-10/15 not to exceed 45 days	103	one pasture with variable entry date
Upper Green River –Mud Lake/Fish Creek rotation	23,834 / 44,527 (54%)	2,780	cattle	cow/calf or yearling	06/16-10/15	14,678	three pasture deferred rotation
Upper Green River – Mosquito Lake rotation	11,634 / 17,181 (68 %)	1,530	cattle	cow/calf yearling	06/16-10/15	8,078	four pasture deferred rotation
Upper Green River –Tosi Creek /Tepee Creek / S. Kinky Creek rotation	9,738/ 23,983 (41%)	1,000 27	cattle horse	cow/calf or yearling & horse	06/16-10/15	5,280 130	four pasture deferred rotation (South Kinky Creek added to rotation)
N. Kinky Creek Pasture	1,300 / 2,951 (44%)	0	cattle	-	06/16-10/15	0	-
Upper Green River – Gypsum Creek rotation	9,852 / 36,173 (27%)	1,985	cattle	cow/calf or yearling	06/16-10/15	10,480	two pasture deferred rotation
Upper Green River – Distributed among pastures		16	horse	horse	06/16-10/15	76	
River Bottom Pasture and livestock driveway+	4,973 / 7,131 (70%)	[7,901] + (livestock driveway) [5,746] + (River Bottom Pasture) 20	cattle horse	cow/calf or yearling & horse	06/12-10/15 Unoccupied from 7/15 - 8/15	AUMs included in the allotment calculations	Herded in along the livestock driveway in the spring, and drift out on the River Bottom Pasture during the fall

Total	74,263/ 170,643 (44%)	8,819				44,722	
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*See previous text concerning the potential to shift these dates by one week earlier or later than shown.

+ River Bottom Pasture and livestock driveway are used to access Upper Green River, Wagon Creek, Roaring Fork, and Noble Pasture allotments. The number of livestock using the River Bottom Pasture and livestock driveway to access allotments have already been accounted for in each allotment.

The management described in this decision is further described in Appendix A of this document with maps displaying pastures, focus areas, existing and new structural improvements, and other features pertinent to management.

Design Features

The following measures are part of my decision to ensure compliance with various Forest Plan standards and guidelines.

Livestock Distribution, Range Improvements, and Best Management Practices

- Range readiness: Livestock will not be allowed to enter the allotment prior to range readiness. The determination of range readiness is dependent on precipitation and temperature and their effects on vegetation production. Range readiness takes into account whether key plant species have had sufficient growth and development to adequately provide for their vigor and whether soils are dry enough to prevent substantial damage from hoof compaction.
- Within the maximum occupancy authorized by the permit, allowable use standards and resource conditions determine the dates of actual livestock use. The permittee must be aware of the actual use levels relative to allowable use standards. Key areas are identified in each allotment as described in the EIS. If the allowable use is reached on key areas prior to the scheduled off-date, permittees are required to remove their livestock from the pasture earlier than scheduled. If actual use on the key areas is less than the allowable use standards by the scheduled date to move to the next pasture, and within the maximum occupancy authorized by the permit, permittees may request approval to remain on a particular pasture for an additional period of time.
- Livestock permittees are expected to manage livestock distribution through herding and proper salt placement. Details concerning this management will be identified in allotment management plans, grazing permits, and annual operating instructions. Salt may be placed a minimum distance of 200 yards from system trails and ¼ mile from streams.
- Herders typically operate from horseback to move cattle from pasture to pasture and will operate from horseback and from vehicles (trucks, ATVs) to herd cattle along the livestock driveway. Herders and permittees use trucks and all-terrain vehicles on roads to access areas. Occasional use of motorized vehicles off of designated roads and trails to access, maintain, and construct existing fences, proposed fences and to implement other improvements and livestock management activities such as salt distribution, may be authorized on a case-by-case basis by the District Ranger under the Travel Management Plan for the Pinedale Ranger District (U.S. Forest Service 1995).
- Grazing will comply with the surface and ground water conservation practices described in the current version of the Livestock/Wildlife Best Management Practice Manual issued by Wyoming Department of Environmental Quality Water Quality Division Nonpoint Source Program.

- Except for the livestock driveway, livestock grazing will not be allowed on areas that contain less than 60% ground cover, such as an area immediately following a wildfire.
- Only certified weed-free hay is allowed on the Bridger-Teton National Forest.

Recreation Resources

- Fences and cattle guards will continue to be maintained to exclude cattle from the Green River Lakes Campground, Whisky Grove Campground, Kendall Guard Station, and Fish Creek Guard Station.
- Salting will not be allowed at Green River Forest boundary, Kendall Bridge, Dollar Lake and Roaring Fork Trail (#7146) to minimize potential conflicts with Forest recreationists and visitors.

Heritage Resources

If monitoring indicates that heritage resources sites are being directly affected, then procedures will be developed in conjunction with the Wyoming State Historic Preservation Office to protect those sites. Protective measures may include fencing the site area, placing barriers or woody debris over site areas to prevent livestock from impacting sensitive site areas, or data recovery.

Wildlife Resources

- Range improvement construction, reconstruction, and maintenance activities will generally not occur: 1) within identified amphibian breeding zones of concern for the Columbia spotted frog, western boreal toad, and boreal chorus frog during the breeding season (May 1 to June 30) in areas where the species are present, and 2) in riparian or wetland areas during trumpeter swan nesting season (May 1 to July 10), in areas where the species are present. Exceptions may be authorized on a case-by-case basis.
- The enclosure fence at Kendall Warm Springs will be maintained to limit livestock impacts on the Kendall Warm Springs dace.
- Cooperative work with Wyoming Game and Fish Department (WGFD) will continue in order to address such issues as meeting herd objectives for various species, monitoring forage availability, and maintaining migration routes.
- This decision includes the requirement to consider potential effects on Greater Sage-grouse populations and habitat before allowing a one week shift prior to the grazing season.
- No salting will be allowed in the elk feedground and livestock will not be intentionally placed at the feedground.
- New fences and reconstructed fences will conform to the Forest Plan Fencing Riparian Area Guideline and the Structural Improvement Standard (U.S. Forest Service 1990, p. 125 and 129), the Greater Sage-grouse Forest Plan Amendment, and the Wyoming Game and Fish Department's wildlife friendly fencing standards (Paige 2012). New permanent fences will be either a three or four strand wire fence with wood or metal posts. The bottom wire will be smooth and 16 to 18 inches off the ground. The top wire may be barbed or smooth, with a maximum height of 42 inches off the ground and approximately 12 inches above the second wire. Proposed

fences may tie into topographic features and forested vegetation cover types that naturally deter cattle movement. Permanent fences across riparian areas or upland areas adjacent to riparian areas will be built using a wooden top pole or other state-of-the-art marking technique to increase visibility of the fence and reduce possible collision of swans, cranes, waterfowl, and sage-grouse. Temporary electric fences will be a maximum height of 42 inches. Electric tape will be used across riparian areas, instead of electric wire, to increase visibility. Electric wire/tape will be removed within two weeks after livestock departure from the pasture.

Grizzly Bear

- Annual discussions between BTNF, WGFD, Wildlife Services, and permittees will be conducted to discuss the conservation measures and notification protocol.
- Livestock depredations will be investigated and managed by WGFD or its authorized agent following Interagency Nuisance Bear Guidelines (U.S. Fish and Wildlife Service et al. 1986, pp. 51-70).
- Bear Sanitation Guidelines will be followed for all camps associated with livestock operations (Forest Food Storage Order 04-00-104, U.S. Forest Service 2004).
- Riders are required to watch all livestock closely for sick, injured, or stray animals.
 - All carcasses located within ½ mile of Green River Lakes Road, Union Pass Road, FS 605, 660, 663B and 663C roads, Green River Lake and Whiskey campgrounds, private cabins, Kendall and Fish Creek guard stations, permitted cow camps, permitted outfitter camps, Waterdog Lakes, and North Beaver and Tosi trailheads will be removed if possible or moved so that the carcass is at least ½ mile away from the above described facilities, trailheads or roads;
 - All carcasses in locations not described in the above text that pose a health or safety hazard to the public or to the environment will be removed if possible or moved so that the carcass is at least ¼ mile from live streams, springs, lakes, riparian areas, system roads and trails, developed recreation areas, dispersed camping sites, and picnic sites.
 - Known sick or injured animals will be treated and/or removed.
 - In the event that compliance with the three previous measures is not possible or practical, an exception may be granted per the discretion of the Pinedale District Ranger and/or his designated representative. In the event that rider safety is deemed an issue, an exception may be allowed. Exceptions to requirements for removing or moving carcasses be granted by the Pinedale District Ranger and/or his/her designated representative if human rider or herder safety is of concern. Rider safety concerns include the possible presence of a grizzly bear in the immediate vicinity of carcasses, and carcasses being located in hazardous terrain such that attempting to move or remove may not be possible or is unsafe. In such cases, a USFS employee or the WGFD bear specialist will be notified immediately of the hazard location and need for exception.
- It is recommended that all permittees and their representatives (herders, riders, or other employees) carry bear spray while working within allotments. Spray canisters should be holstered or otherwise carried so that they are available for use in the event of encounters with bears. Storing spray canisters

in back packs, saddle bags, and vehicles are acceptable methods of storage during non-working time periods.

- Permittees and the Forest Service will continue to identify and implement opportunities that reduce the potential for grizzly bear conflicts. Permittees may be provided opportunity to move pastures to avoid conflict with large carnivores.
- Permittees and the Forest Service will continue to work in cooperation with Wyoming Game and Fish Department, and the Interagency Grizzly Bear Study Team to identify and collect information related to the habitat use, survival, reproduction, and depredation tendencies of grizzly bears inhabiting livestock grazing allotments on Northern Portions of the Pinedale Ranger District. With assistance of cooperators listed above, the Forest Service will continue to support trapping efforts to capture and radio collar bears in the Upper Green project area and initiate the data collection process described.
- The Forest Service will continue to provide information to livestock grazing permittees and their employees about conservation of grizzly bears, the potential occurrence of grizzly bears on grazing allotments, the risks of working in bear country, the need for heightened awareness of bears, appropriate personal safety measures, and proper behavior in bear country.

Monitoring

The objectives of monitoring are to ensure that: 1) this decision is implemented, 2) anticipated results are achieved, and 3) necessary adjustments are made to achieve desired results. (See FSH 1909.15 Chapter 50).

Implementation monitoring is the short-term monitoring used to determine if the management practices are implemented as detailed in the decision. Allotment administrators and permittees will make field observations and their findings will be documented in the individual permit files. These observations could include, for example, whether livestock were moved to other pastures or removed from an allotment before the maximum prescribed utilization parameters are exceeded.

Effectiveness monitoring is used to identify whether the actual effects of implementing the selected alternative are consistent with the effects originally projected, and/or whether adjustments are needed to attain intended outcomes. The methods used to conduct effectiveness monitoring include establishing and monitoring long-term or permanent monitoring sites, such as multiple indicator monitoring (MIM) sites, riparian photo points, greenline and groundcover transects, as well as habitat monitoring for sage grouse and other species of concern.

Range Vegetation Monitoring

Interagency monitoring technical references provide the range vegetation monitoring methodologies that will be used in this project. Technical references may be supplemented by regional handbooks (FSH 2209.13) or the Wyoming Rangeland Monitoring Guide (as updated).

Utilization is measured on key species and is defined as the percentage of use by all herbivores, on current year's growth, by weight, at the end of the growing season. Use prescriptions expressed as stubble height apply to riparian areas. Stubble height is measured at the greenline on vegetative parts of key species, at the end of the growing season, and expressed as the median height of the plants. Where long-standing protocols are in place that express stubble height as average height, those protocols may continue to be employed if they are contributing to meet long-term objectives.

The project interdisciplinary team, in collaboration with grazing permittees, identified at least one key area for every pasture to serve as a monitoring and evaluation site. Key areas are a relatively small portion of rangeland which because of its location, grazing or browsing value, are indicative of the level of domestic livestock use that occurs within each pasture. By overlaying the key areas with vegetation data, the interdisciplinary team selected key sites for sampling within each key area. Vegetation utilization monitoring will take place primarily on key areas. However, should monitoring of other areas be determined necessary to insure that long term desired conditions will be achieved, they could also be monitored. At least one long term trend study will be established in each pasture. Additional effectiveness monitoring studies may be established on focus areas as determined necessary. If a key site does not continue to represent grazing use of the pasture for which it was chosen, a new key site may be selected.

Long term trend studies will be re-read every 5-10 years. The long term trend studies for each allotment will be used to determine if the grazing strategy is meeting or moving towards resource objectives, however, administrative action may be taken for exceeding short term use standards, because those annual standards are designed to meet long-term objectives. The objectives for ground cover, species composition, or other long-term trend parameters are to be meeting or trending toward the respective desired condition. Emphasis will be placed on obtaining trend data for those areas that are not currently meeting desired conditions.

Failure to meet long-term objectives should be demonstrated by a statistically significant measured change in ground cover or other long-term trend indicator. The parameter would show a declining change from desired condition, as specified in the Allotment Management Plan. The latest measured value must be outside of the threshold for properly functioning or desired condition. Values that vary less than 5% from minimum desired condition will not be considered a departure from desired condition due to variability of natural distribution and specific sample location. Statistical significance for changes in plant species composition are already defined in the Range Analysis Handbook (essentially a change must be detectable at 80% probability with one degree of freedom). While the desired condition will be defined according to ecological status, namely mid-seral or higher ecological status, those sideboards may be met by specifying in the Allotment Management Plan the degree of change necessary in the frequency of key desirable species or species assemblages, on a certain key site within a pasture to meet the desired ecological status. The consequence of failing to meet long-term objectives will be either to implement adaptive management, or to require management changes that are determined by an inter-disciplinary team to be likely to result in improvement.

Livestock Grazing System Monitoring

Periodic examinations will take place to insure all livestock management, maintenance of range improvements, and herding practices are being followed as described in this decision.

Riparian Condition Monitoring

Stream bank alteration will be measured at least once in every 5-10 years at the Tosi and Fish Creek focus areas. Key sites in each allotment will be monitored approximately once every five years (as funding allows) using multiple indicator monitoring protocol or Winward Greenline to evaluate bank stability and riparian vegetation composition.

Threatened, Endangered, and Sensitive Species Monitoring

Kendall Warm Spring Dace – Annually check the integrity of the enclosure fence.

Heritage Resource Monitoring

Proposed locations will be inspected, evaluated, and cleared by a heritage resource specialist prior to construction of range improvements. Existing heritage resource sites will be inspected approximately once every five years (as funding allows) to ensure grazing is not affecting their integrity.

Other Monitoring

As determined by the District Ranger, other monitoring will occur as needed and as funding allows.

Rationale for the Decision and Response to Issues

As the Pinedale District Ranger, it is my duty to develop, administer, and protect range resources, and permit and regulate the appropriate amount of grazing use of livestock on the lands I administer. My range management objectives are:

- To manage range vegetation to protect basic soil and water resources, provide for ecological diversity, improve or maintain environmental quality, and meet public needs for interrelated resource uses.
- To integrate management of range vegetation with other resource programs to achieve multiple use objectives contained in the Forest Plan.
- To provide for livestock forage, wildlife habitat, outdoor recreation, and other resource values dependent on range vegetation.
- To contribute to the economic and social well-being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood.

In the process of making this decision, I weighed the impacts of livestock grazing in this project area against the benefits of livestock grazing on National Forest System lands in this project area. I considered grazing's contribution to the economy and lifestyles of the local community and beyond. I considered the values of local residents, including permittees, historically significant land uses, and the interests and concerns of the United States citizenry.

The selected livestock grazing strategy is designed to provide a continuation of livestock grazing while maintaining existing rangeland and riparian conditions where they meet desired conditions and improving rangeland and riparian conditions in other areas. I believe this strategy best meets the purpose and need for this project (FEIS – Chapter 1 – Purpose and Need for Action), responds to the four issues (FEIS – Chapter 1 – Significant Issues), best meets the resource objectives identified in the Forest Plan, and will maintain and/or move the area toward the desired rangeland and riparian conditions described (FEIS, pp. 6-15). I expect this strategy to restore the aquatic, terrestrial, and hydrologic resources where needed, while providing for long-term sustainable livestock grazing.

Through use of both internal and public scoping, four significant issues were identified and addressed in the environmental analysis for this project. These issues, and their influence on this decision are listed in this section.

Issue 1: Effects on threatened, endangered, and sensitive species (TES), as well as other species of interest

Livestock grazing could affect the recovery of threatened, endangered, proposed, and sensitive species, in addition to viability and habitat of other species in the project area. Maintaining all vegetation complexes in good ecological condition is crucial for providing effective habitat for TES and other animals and plants. Watersheds and vegetation communities that are not functioning properly, or are functioning at risk, provide less than optimal conditions for native wildlife and plants.

The impacts to TES and other species of interest have fully been analyzed and disclosed in the FEIS. Specific actions and adjustments to management have been incorporated into this decision to minimize the effects of livestock grazing on the TES and other species of interest. In response to this issue, actions required in this decision will improve existing conditions and move the project area toward desired future conditions. Utilization, stubble height, stocking rates, and stream bank alteration guidelines are established to maintain or improve upland range and riparian habitat. Pastures where use is occasionally deferred and pastures where the option of rest rotation is offered will provide periods of time when wildlife should not be displaced by cattle or additional human activities associated with livestock management. Additionally, over 40% of the project area is rarely used by domestic livestock due to distance from water, steep slopes, inaccessibility and/or insufficient amounts of forage for cattle. Fencing at Kendall Warm Springs will be maintained to allow access to the springs by native ungulates but exclude access to livestock.

Consultation under Section 7(a)(2) of the Endangered Species Act was completed before the final decision was signed. Concurrence from the U.S. Fish and Wildlife Service was received concerning expected effects of the grazing strategy on the following federally listed species: grizzly bear, Kendall Warm Spring dace, Canada lynx and Canada lynx critical habitat. With the incorporation of appropriate conservation measures, implementation of this decision is not expected to contribute to further decline of these species. Table 3 displays the expected impacts to TES species that are expected to be affected as the result of implementation of the grazing strategy I am choosing. The table is followed by additional information about certain species of interest, including species proposed for listing and Forest Service sensitive species.

Table 3. Biological Assessment/Biological Evaluation Summary of Conclusion of Effects for This Decision.

Species	Effects Determination
Grizzly bear (threatened)	<i>Likely to adversely affect</i>
Kendall Warm Spring dace (endangered)	<i>May affect, not likely to adversely affect</i>
Colorado River cutthroat trout (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.</i>
Wolverine (proposed)	<i>Will not jeopardize the continued existence of the species.</i>
Canada lynx and critical habitat (threatened)	<i>May affect, not likely to adversely affect individual lynx or critical habitat.</i>

Amphibian - boreal toad (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Amphibian - Columbia spotted frog (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Greater sage grouse (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Trumpeter swan (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Great gray owl (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Bald eagle (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Peregrine falcon (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>
Northern goshawk (sensitive species)	<i>May impact individuals or habitat but will not likely contribute to a trend toward federal listing or loss of viability to the population or species.</i>

Grizzly Bear

It is my intention to support the recovery of grizzly bear populations. Within the Greater Yellowstone Ecosystem, interagency federal land managers have signed a Conservation Strategy for management of grizzly bears. Within this strategy, the grizzly bear population and its habitat is managed utilizing an approach that identifies a Primary Conservation Area (PCA) and adjacent areas described as the Demographic Monitoring Area (DMA). The PCA is intended to be a secure area for grizzly bears, with population and habitat conditions maintained to ensure a recovered population is maintained for the foreseeable future and to allow bears to continue to expand outside the PCA. In the DMA and other lands outside of the PCA, the key to successful management of grizzly bears lies in bears utilizing lands that are not managed solely for bears but in which their needs are considered along with other uses. Outside of the PCA, the objective is to maintain existing resource management and recreational uses and to allow agencies to respond to demonstrated grizzly bear problems with appropriate management actions.

This project area is outside of the PCA and within the DMA. My decision is expected to result in the relocation and/or mortality of individual grizzly bears. Certain management actions are included in this decision to reduce the need for removals and relocations. These actions include:

- Add S. Kinky Creek pasture to Tosi/Tepee rotation.
- Require appropriate storage of food, refuse and carcasses at livestock operations camps.

- Remove or treat sick or injured livestock if physically possible and can be accomplished safely.
- Recommend that permittees and their representatives carry bear spray while working within allotments.
- Provide information to livestock grazing permittees and their employees about conservation of grizzly bears, the potential occurrence of grizzly bears on grazing allotments, the risks of working in bear country, the need for heightened awareness of bears, appropriate personal safety measures, and proper behavior in bear country.
- Support grizzly bear data collection efforts.

Grizzly bear management on the Bridger-Teton National Forest is an ongoing process. The Forest Service will continue to work with the permittees and interested parties to consider and implement additional Grizzly Bear Conservation Measures that are considered effective, safe, feasible, and prudent in minimizing grizzly bear/livestock and grizzly bear/human safety concerns.

Kendall Warm Spring Dace

The Kendall Warm Springs dace is federally listed as an endangered species by the U.S. Fish and Wildlife Service. This decision maintains the current management of Kendall Warm Springs, the only known habitat of the Kendall Warm Springs dace, by allowing access to the springs by native ungulates, but excluding access to livestock with the use of fencing.

Sage Grouse

I recognize that livestock grazing and grazing management structures can affect habitat that supports Greater Sage-grouse (GRSG) populations. The Forest Plan was amended by the Record of Decision for the Greater Sage-grouse Wyoming Plan Amendment (US Forest Service 2015). Grazing management in the Upper Green River Area Rangeland Project is currently governed by the standards and guidelines in that Amendment, including restrictions on new surface occupancy, timing of disturbance, noise, infrastructure, timing restrictions, provision of screening cover during nesting season (perennial grass height), livestock trailing, fences, and more. This decision does not modify or re-decide the direction in that Forest Plan amendment. Continued implementation of the direction in the Forest Plan amendment is expected to meet desired habitat conditions for Greater-Sage-grouse

In addition, this decision includes the requirement to consider potential effects on Greater Sage-grouse populations and habitat before allowing a one week shift prior to the grazing season. I included this requirement in my decision because early grazing could reduce the opportunity for seed-set and delay resource restoration.

Amphibians

Amphibians typically occupy wetlands and riparian areas that have non-flowing surface water and vegetative cover. To be suitable for breeding amphibians, wetlands must have standing water during the breeding season. After the breeding season, wetland habitats used by amphibians are more encompassing, including those with no surface water but with saturated soils. Riparian areas are lands directly adjacent to creeks, rivers, streams, ponds, or lakes where surface water influences the surrounding vegetation. Livestock grazing can affect amphibian habitat by destabilizing stream banks, increasing sedimentation, degrading water quality, reducing cover, crushing individuals, and discouraging beaver colonization.

This decision protects riparian and wetland habitat as described later in the riparian section of this rationale, and favors amphibian breeding habitat by reducing the maximum forage utilization on key forage species in riparian and meadow areas from 65% to 50%.

I recognize that desired conditions for utilization of key forage species may not be achieved in certain areas under maximum allowable utilization levels; however, the livestock management strategy in this decision balances amphibian health with other socio-economic and multiple use considerations. This strategy positively affects riparian function through the design features and a mix of effects associated with range improvements and permittee travel. This decision improves range condition in breeding habitat for amphibians. In addition to beneficial focus area prescriptions, this decision favorably modifies the grazing systems for several allotments and reduces unauthorized motorized travel in one of the riparian areas. The design features and range improvements are expected to maintain or improve riparian health in focus areas.

Wildlife Movement and Migration

The construction and maintenance of fences is needed to appropriately manage livestock use and not exceed the prescribed allocation of forage. Fences can impede wildlife movement and migration as well as cause injury or death. The design features in this livestock management strategy include fence requirements to reduce the potential for this effect.

Issue 2: Effects on Riparian and Aquatic Conditions

Livestock tend to congregate in riparian areas, and without appropriate management can exceed forage allocation amounts, damage stream banks, and accelerate erosion. This affects: 1) water quality by increasing sediment and adding nitrogen and bacteria, 2) livestock and wildlife habitat by reducing the amount of vegetation and cover, and 3) aquatic species habitat by reducing water quality and increasing water temperature. Riparian areas are currently meeting desired conditions on the majority of the project area (Hydrologist Specialist Report, Robertson 2017 and Fisheries Specialist Report, Anderson 2015). However, there are limited areas (including focus areas) where resource objectives are not met. The selected livestock grazing strategy includes the following list of actions intended to improve riparian area conditions:

- Limit the maximum forage utilization on key forage species in riparian and meadow areas to a maximum of 65% in Noble Pastures and 50% in the all other pastures:
- Retain a 4-inch stubble height minimum at the greenline of all streams except South Gypsum Creek in Lower Gypsum Pasture and Strawberry Creek in the Fish Creek Pasture of the Upper Green River Allotment where 6-inch stubble height minimum is required.
- Add S. Kinky Creek pasture to Tosi/Tepee rotation.
- Install a gate on an unauthorized trail that crosses Wagon Creek to allow for administrative access only.
- Decommission an unauthorized route that accesses Fish Creek.
- Continue to irrigate Noble Pasture (reduces pressure on Tosi Creek by providing off-creek watering).

- Harden several stream crossings, two on Klondike Creek in the Noble Pastures Allotment, and two in the Upper Green Allotment (one on Wagon Creek and one on Teepee Creek).
- Authorize approximately 10.5 miles of fence construction.
- Remove logs in Teepee Creek.
- Place salt a minimum distance of ¼ mile from streams and disallow salt use on the elk feedground due to heavy wintertime use attributed to wintering elk.
- Implement all range improvements associated with riparian or wetland areas outside of the amphibian breeding season and trumpeter swan nesting seasons, when they are present, to minimize disturbance to these species.
- Implement structural improvements that benefit riparian areas: construct new fences, alter existing fence locations, use electric fences, armor stream crossings, install a culvert, change a pasture configurations, remove a non-functional stream improvement structure, and construct a holding area.

These limits on allowable use and development of structural improvements are expected to reduce livestock impacts on riparian areas and move areas of concern toward desired conditions, including stabilizing stream banks, reducing sedimentation into streams, and improving fish habitat. In addition, stream channels are expected to maintain a seasonal water level in which the bank-full discharge accesses the floodplain regularly, thereby recharging riparian aquifers, ameliorating spring floods, and providing for optimal late season stream flows and cool water temperatures necessary to provide for full support of the streams beneficial uses.

In riparian and meadow areas in Badger Creek, Beaver-Twin Creeks, Roaring Fork, Wagon Creek, and Upper Green River allotments, this decision limits the forage utilization of key forage species to 50%. This is a reduction of 15% from the amount described in the Forest Plan (65%, see pages 127-128, Forest Plan). This, along with greenline stubble height requirements on key forage species in focus areas is expected to maintain or improve stream bank stability and riparian function. The retention of 4-inch or 6-inch stubble height along the greenline of streams is expected to maintain or improve stream bank stability and riparian function. If, however, monitoring indicates otherwise and livestock grazing is a causal factor, adaptive management will be implemented and forage utilization will be reduced further by increments of 10% to a minimum of 30% and/or stubble height along the greenline will be increased from 4 to 6 inches. With this adaptive management as an option, I expect that riparian and meadow areas will meet or move toward desired conditions.

Issue 3: Effects on Social and Economic Impacts

Prosperity

Authorizing livestock grazing in the project area supports the custom and culture in surrounding communities and contributes to Forest Plan goals for community prosperity. Reducing livestock numbers and placing further restrictions on livestock grazing can adversely affect permittees and local communities. This decision prescribes incremental restrictions on allowable use with the adaptive management strategy of monitoring and then increasing those restrictions if needed to meet vegetation objectives, rather than opting for the most conservative allowable use standard from the beginning. This

decision allows authorization of livestock grazing in a manner that retains full numbers and season for current permittees, although a vacated permit for 270 cattle is no longer authorized.

I recognize that this decision will create operational and economic impacts to the livestock operators. My decision will require permittees to exert additional effort in management of livestock and perform additional monitoring of their operations. I concluded that these impacts were necessary to move the areas that are currently in less than desirable conditions toward the desired future conditions while continuing to allow livestock grazing.

Management Flexibility

Response to the annual variation in winter snowpack and spring moisture/green-up is best addressed through flexibility in the initiation of the season of use. To this end, this range management strategy allows for the management flexibility of authorization of a one-week shift of the season.

Construction of structural improvements is needed to support grazing use, and those projects may be expedited through use of motor vehicle transportation, therefore this decision allows for authorization of motorized vehicles on routes and trails and in areas that are closed to motorized use by the general public. Permittees must request permission for a season shift or use of motorized vehicles, and use may be granted on a case-by-case basis.

This decision facilitates flexibility in proper livestock management by allowing for authorization of cow camps. The existing irrigation system is expected to provide additional forage for livestock.

Recreation

Interaction with livestock can create a negative experience for some recreation users, including complaints about the impacts to naturalness, reductions in vegetation, odor, and occupation of developed and dispersed camp and picnic sites. My decision intends to reduce these conflicts by excluding cattle from certain developed recreation sites and requiring herding and salting to discourage livestock use near certain areas where dispersed recreation and trail use occur. These actions include:

- Maintain fences and cattle guards to exclude cattle from the Green River Lakes Campground, Whisky Grove Campground, Kendall Guard Station, and Fish Creek Guard Station.
- Place salt a minimum distance of 200 yards from system trails and ¼ mile from streams.
- Salting will not be allowed at Green River Forest boundary, Kendall Bridge, Dollar Lake and Roaring Fork Trail (#7146) to minimize potential conflicts with Forest recreationists and visitors.

Protection of Property

This decision intends to protect government and private property through the following actions:

- Maintain water rights related to Noble Pasture irrigation.
- Protect heritage resource sites by fencing the site area, placing barriers or woody debris over site areas to prevent livestock from impacting sensitive site areas, or data recovery

- Maintain fences and cattle guards to exclude cattle from the Green River Lakes. Campground, Whisky Grove Campground, Kendall Guard Station, and Fish Creek Guard Station.
- Require permittees to maintain livestock grazing improvements to extend their effective use.

Issue 4: Effects on Rangeland Function

The management prescribed in this decision includes range improvements and adaptive management that are designed to reduce livestock grazing impacts in areas identified as needing improvement. In addition, more restrictive grazing use levels and/or stream bank stability indicators will be implemented in selected locations in order to improve ground cover and/or stream bank characteristics. Utilization or stubble height requirements are designed to indicate if we are achieving our long-term resource objectives. Long-term vegetation and soil improvement will remain a desired objective. Monitoring and adaptive management will be used to test the effectiveness of achieving long-term objectives by following annual utilization guidelines.

Adaptive management and design features are also employed to improve rangeland function in areas identified as needing improvement. The decision eliminates season-long grazing and replaces that practice with grazing systems that defer livestock use until later in the season or rotates use among pastures. Adaptive utilization or stubble height features are prescribed to maintain areas that are already in desired condition. Site specific utilization limits are employed in areas that are in less than desired condition. Cattle numbers have been reduced to address rangeland function in a portion of one allotment. I captured an opportunity to expand the land and forage base within the project area and allowed for some of the livestock to graze this area, in order to reduce grazing pressure in other areas. Limits were set on the amount of ground cover loss that will be acceptable across the project area. Rangeland vegetation plant species assemblages will be monitored for departure from potential vegetation and limits are set on changes in grass and forb species as a result of grazing. Finally, the decision specifies fence construction and alignment strategies that will provide additional control of livestock and reduce grazing pressure on some sensitive areas.

With proper application of adaptive management, vegetation on all key sites is expected to improve, because the design features associated with my decision have been effective in similar situations to improve vegetation as well as hydrologic and stream function. I expect the focus areas to improve because of the reduced livestock use as well as other restoration efforts prescribed for them.

Desired conditions are expressed in terms of ground cover, species composition, riparian function, stream bank stability, and stream temperature objectives for rangeland and/or riparian areas. It is my intention to maintain or improve species composition and amount of ground cover in areas currently meeting desired conditions and to improve areas where desired conditions are not being met. The grazing strategy I am selecting is expected to accomplish this through the following actions:

- Change maximum utilization rate from 65% (Forest Plan maximum rate) to 50% (project specific rate) in Badger Creek, Beaver-Twin Creeks, Roaring Fork, Wagon Creek, and Upper Green River allotments.
- Change the management of Badger Creek, Beaver-Twin Creeks, Roaring Fork and Wagon allotments and Noble Pasture 4 from season-long grazing to rotational or deferred grazing systems.

- Construct and/or relocate fences that prevent drift and/or divide allotments into pastures.
- Maintain a minimum of 4-inch stubble height at the greenline of all streams except South Gypsum Creek in Lower Gypsum Pasture and Strawberry Creek in the Fish Creek Pasture of the Upper Green River Allotment where a 6-inch stubble height minimum is required. The 6-inch stubble height is also required in sections of other creeks in certain focus areas.
- Manage Badger Creek Allotment for a deferred entry date in one out of four years.
- Manage Wagon Creek Allotment with a variable entry date.
- Add the South Kinky Creek Pasture to the Tosi/Tepee Creek rotation in the Upper Green River Allotment.
- Adjust the maximum amount of allowable forage utilization and increase the required stubble height when established allowable use levels, design features, and structural improvements do not result in improved resource conditions where monitoring shows that improvement is needed and livestock grazing is determined to be a causal factor (Adaptive Management).
- Require herding on Roaring Fork Focus Area if elk have exceeded 50% forage utilization before livestock begin grazing. If herding proves ineffective to keep livestock out of the focus area, move livestock to the Roaring Fork East pasture or off the allotment when Roaring Fork East pasture has already been used by livestock for the grazing season.
- No salting will be allowed No salting will be allowed on the elk feedground and livestock will not intentionally be placed in this area. No salt will be allowed within ½ mile from Mud Lake.
- Livestock grazing on the elk feedground was discussed in the previous AMP and was carried forward in this analysis. However, the Wyoming Game and Fish Department is not concerned with leaving winter forage on the feedground because the elk are being fed hay during the winter months.
- Except for incidental locations in the livestock driveway, do not allow livestock grazing on areas that support less than 60% ground cover, such as an area immediately following a wildfire.
- Maintain/improve species composition and amount of ground cover in certain locations by allowing seed set. The need for seed set will be considered before allowing the beginning of season shift in some allotments.

This decision contributes to the accomplishment of Forest Plan Goal 1.1 - Support Community Prosperity and Objective 1.1(h)-Provide forage for about 260,000 animal unit months of livestock grazing annually (U.S. Forest Service 1990, p. 112) by allowing for the annual consumption of up to 44,722 animal unit months of forage. Appropriate management of natural range as well as continued irrigation of the Noble Pasture allotment is necessary to support this amount of grazing use. My decision reduces the number of cattle that will be authorized in the Mosquito Lake rotation of the Upper Green River Allotment by 270 head of cattle in order to address concerns regarding upland vegetation species composition and stream bank stability in this rotation.

The Upper Green River Cattle Association is proactive in the management of the Upper Green River allotment. This is demonstrated by the voluntary permittee monitoring and adjustments to grazing

practices that have occurred on the allotments for over 30 years. The permittees regularly seek information and assistance from experts in research when a problem confronts them and have a documented willingness to try new management concepts and options or take on additional responsibility if it is to the benefit of the natural resources. The flexibility and effort put forth to date by this group has formed a robust working partnership with the Forest Service to quickly address resource protection issues. Permittees on the Badger Creek, Beaver-Twin, Noble Pastures, Roaring Fork, and Wagon Creek allotments have also demonstrated their commitment to protect the resources. This history provides me the confidence that the permittees will use monitoring results to continue to maintain or move toward desired conditions.

Alternatives Considered

This decision is a modification of Alternative 3 that includes some elements of Alternative 2, described in the FEIS for Upper Green River Area Rangeland Project. Four alternatives were described in detail in that document, and are summarized below. A more detailed comparison of these alternatives can be found in the EIS on pages 155-156 and a detailed description of the alternatives on pages 30-154.

Alternative 1

No Livestock Grazing (No Action and Environmentally Preferred Alternative)

Alternative 1 would eliminate livestock grazing in the project area. Analysis of this alternative demonstrates the effects that eliminating domestic cattle grazing would have on the environment and so more clearly illustrates, by comparison, the potential effects of implementing Alternatives 2, 3, and 4. Under this alternative, domestic livestock grazing in all six allotments of the project area would be phased out over two years as existing grazing permits expire. Forest Plan livestock grazing standards and guidelines would no longer be applicable in the project area after grazing permits expired; however, Forest Plan forage utilization standards would still apply to wildlife and recreational stock. Implementation of Alternative 1 would result in the least environmental disturbance, and therefore, Alternative 1 is the environmentally preferable alternative.

I have not selected Alternative 1 because it clearly does not meet the first part of the project's purpose: continuing to authorize livestock grazing in a manner that will maintain or improve resource conditions. My decision in this ROD does continue to authorize livestock grazing in a manner which maintains or improves resource conditions as disclosed in the FEIS (see especially FEIS Table 19 which summarizes the environmental effects of the alternatives).

Alternative 2

Grazing As Currently Permitted and Current Management

Under the Grazing as Currently Permitted and Current Management Alternative, current management plans that authorize livestock grazing would continue to guide management of the project area. Although allotment management plans would be prepared or updated for each of the six allotments, the grazing management practices specified for the allotments with existing allotment management plans would not be changed. The Upper Green River and Roaring Fork allotments would continue to operate under the guidelines specified in current Allotment Management Plans that are over 25 years old, and season-long grazing (which does not comply with Forest Plan rotational grazing requirements) would persist in the Badger Creek and Beaver-Twin Creeks allotments. In addition, no new utilization standards would be

initiated to move existing resource conditions in the project area toward the desired conditions. The Forest Plan forage utilization standards for wildlife, livestock, and recreational stock would remain in effect.

I have not selected Alternative 2 because, while it clearly continues to authorize grazing, it would not result in maintaining or improving resource conditions in all locations. The interdisciplinary team identified instances of undesirable resource conditions in the project area including issues regarding ground cover, vegetative species composition, stream bank stability, riparian function, and soil quality. These undesirable conditions are discussed in Chapter 1 of the FEIS in the section titled “Gap between Desired and Existing Conditions.” As disclosed in the FEIS, continued livestock grazing under this alternative would not correct these conditions and would likely add to and exacerbate them. For a summary of the effects to resource conditions under this alternative, see FEIS Table 19. It is because of the effects to resources under this alternative that three other alternatives were developed and analyzed in detail in the FEIS.

Alternative 3

Modified Grazing Management (Modified Proposed Action and Preferred Alternative)

Alternative 3 describes a livestock grazing strategy that would be more conservative than allowable use proposed in Alternative 2. Alternative 3 would establish maximum allowable use with site specific prescriptions and/or structural improvements tailored to improve all areas of concern that are currently not meeting resource objectives. In general, a maximum of 50 percent forage utilization on key forage species would be permitted in upland, riparian, and wetland areas and a 4-inch stubble height minimum would be retained at the greenline of streams across the project area where rangeland and riparian objectives are being met. More conservative livestock management prescriptions would apply to Noble Pastures 1, Mosquito Lake NW and SW Pastures, South Gypsum and Strawberry creeks, and focus areas. Adaptive management would be implemented when livestock grazing is determined to be a causal factor and allowable use levels, design features, and structural improvements proposed in Alternative 3 do not result in meeting or moving towards desired rangeland and riparian conditions. More stringent allowable use standards, including a reduction in forage utilization of key forage species to 30 percent and/or increases to 6-inch stubble height along the greenline of streams, would be implemented incrementally under Alternative 3 to improve resource conditions if satisfactory progress toward meeting desired conditions were not achieved.

The strategy I have selected is similar to Alternative 3, with the exception of some design features for Noble Pastures Allotment and Mosquito Allotment SW and NW pastures. Instead of limiting allowable use to 40 percent in pasture 1 of Noble Pastures and 50 percent utilization in pastures 2, 3, and 4, the chosen strategy allows up to 65 percent in riparian meadow areas and 60 percent in uplands. Concerns regarding ground cover and stream health will still be addressed because stream protections are left in place, and long term objectives for ground cover will be addressed, if necessary, because the adaptive management strategy remains in place with the same objectives.

For the two Mosquito pastures, rather than allowing an average forage utilization of 30 percent in the upland and riparian/meadow areas over a five year period with a maximum forage utilization of 50 percent in any given year, my decision would allow 50 percent utilization every year. Concerns regarding plant species composition and other parameters in the SW and NW pastures will be addressed by changing the grazing system to rotational rather than rest rotation as well as reducing the allowable number of livestock in this rotation to 1,530 head. In addition, long term objectives will be addressed, if necessary, because the adaptive management strategy remains in place with the same objectives. Aside

from this, I am satisfied with the significant improvements to resource conditions expected under the modified Alternative 3 along with the additional flexibility that is afforded to livestock operations.

Alternative 4

Modified Grazing Management with Riparian Emphasis

Alternative 4 describes a livestock grazing strategy designed to generally promote healthy riparian and wetland conditions and improve existing conditions at certain areas. The management emphasis of this alternative is to provide habitat to meet the needs of fish and riparian-dependent wildlife in balance with livestock grazing as described in the Forest Plan for Desired Future Condition 10 (U.S. Forest Service 1990, p. 235). Alternative 4 prescribes the most restrictive livestock allowable use levels of all action alternatives. It is similar to Alternative 3 with the primary difference being a lower forage utilization level permitted in riparian and meadow areas across four allotments. Specifically, Alternative 4 would permit a 35% maximum forage utilization on key forage species in riparian and meadow areas for Badger, Beaver-Twin, Roaring Fork and Upper Green River allotments compared with the 50% in Alternative 3 in pastures where existing riparian conditions meet desired conditions. Alternative 4 prescribes the maximum forage utilization level for riparian and meadow areas that has occurred under current management as actual livestock use. Similarly to Alternative 3, adaptive management would be implemented when livestock grazing is determined to be a causal factor and allowable use levels, design features, and structural improvements do not result in meeting or moving towards desired rangeland and riparian conditions.

I have not selected Alternative 4 because I am satisfied with the significant improvements to resource conditions expected under the selected alternative. For the great majority of resource conditions, there is little if any difference between the effects of my selected alternative and Alternative 4. For example, effects to rangeland vegetation are the same; effects to Cultural Resources are the same. Effects to Wilderness character are similar. Effects to soils are similar. Effects to fisheries are similar. Because I am satisfied with the resource conditions projected to result from implementation of my selected alternative, and because the resource impacts of these two alternatives are so similar, I am not selecting Alternative 4 which would set a strict utilization limit of 35% on four of the allotments, thereby reducing flexibility in livestock operations.

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by National Environmental Policy Act (NEPA) to explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Three alternatives were considered, but dismissed from detailed consideration for reasons summarized below.

Allotment Management Plan Alternative

An alternative considered but not analyzed in detail was an alternative proposing livestock management requirements specified solely by allotment management plans and not requirements found in the annual operating instructions or updated term grazing permits. The Allotment Management Plan Alternative was not analyzed in detail for several reasons. First, four of six allotments lack an allotment management plan and the allotment management plans for the remaining two allotments have not been updated. The annual

operating instructions and term grazing permits best define current management for all six allotments in the project area and these were used to develop Alternative 2 (Grazing as Currently Permitted and Current Management). Second, the Allotment Management Plan Alternative would require analysis of an alternative that had little chance of being chosen by the decision maker because it does not meet Forest Plan direction and the requirements associated with conserving threatened and endangered species.

Adaptive Management by Monitored Ecological Objectives Alternative

The second alternative considered but eliminated from detail study was the Adaptive Management by Monitored Ecological Objectives Alternative submitted by the permittees. This alternative was not analyzed in detail because 1) it proposes to restart the planning process by revisiting goals and objectives, 2) is similar to Alternative 2 (Grazing as Currently Permitted and Current Management) even in terms of adaptive management, which as proposed, is non-specific and can be implemented through permit administration and proposed monitoring in Alternative 2, and 3) is too vague and does not propose any specific changes in livestock management at this time, and therefore does not warrant detailed analysis as a separate alternative.

Bear-Friendly Alternative

Another alternative considered but eliminated from detail study was a Bear-Friendly Alternative designed to implement design features that were proposed and considered over the course of 2013 and 2014 Section 7 Consultation with the U.S. Fish and Wildlife Service. The Forest Service has considered requiring permittees to graze yearlings and/or mature cattle only and not permit calves. An option to graze yearlings solely or in combination with cow/calf pairs would be authorized under Alternative 2, 3 and 4, but was not developed as an alternative for several reasons. First, the assumption that yearlings are less susceptible to predation by bears may not be entirely accurate. During 2012 and 2013 grazing seasons in the Upper Green project area, 32% of all known grizzly bear-caused cattle mortalities involved yearlings or adult cattle (Turnbull, Wyoming Game and Fish Department, personal communications). While depredating bears may often select younger cattle, they also can and will kill older age classes of livestock (Anderson et al. 2002). A change to yearlings may not appreciably reduce grizzly bear-livestock conflicts and the resulting bear mortalities. Rather grizzly bears could switch from preying on calves to preying on yearlings.

Second, whole ranch operations which are currently built on cow-calf operations would need to change to accommodate yearlings. This conversion in ranch operation would be economically costly with questionable reductions in grizzly bear-livestock conflicts and associated bear mortality.

The Forest Service considered the use of guardian dogs to protect livestock and reduce grizzly bear-livestock conflicts. However, guardian dogs are more effective in guarding sheep that can be penned at night, rather than cattle that roam free. In addition, guardian dogs are aggressive and can pose a threat to recreationists and their dogs.

The Forest Service considered design features such as close herding of livestock, removal of all carcasses within 48 hours and “blasting” of carcasses with explosives, but they were not analyzed in detail because the effectiveness of these design features was too uncertain.

Public Involvement

Public Mailing

This analysis was initiated in January of 2000. A scoping letter was mailed to those listed on the Bridger-Teton National Forest's general mailing list on February 10, 2000. The mailing list included private landowners, term grazing permit holders, special interest groups, interested members of the public, and local, state, and federal agencies. The letter described the proposed action, the purpose and need for the project, the process that would be followed for completing the environmental analysis, and the scope of the decision to be made. Additionally, the letter solicited public participation in the process, specifically the submission of comments, concerns, and recommendations regarding management of the six allotments in the project area.

Contacting Term Grazing Permit Holders

Term grazing permit holders, or their representatives, were contacted shortly after the project was initiated to solicit their input concerning management of the six allotments within the project area. Additional informal contacts, discussions, and updates have taken place throughout the analysis process.

Notice of Intent - 2003

On July 23, 2003 a Notice of Intent to publish an EIS was published in the Federal Register for this project. This NOI publication opened an additional 30 day public comment period.

Availability of the Draft EIS for Public Comment - 2004

Availability of the 2004 draft EIS was announced in the Federal Register on March 12, 2004. The deadline for public comment was April 26, 2004.

Using the comments from the public, other agencies, grazing permittees, special interest groups, state and local government, and local landowners (see Issues section), the interdisciplinary team identified several issues regarding the effects of the proposed action. Main issues of concern included the effects that the alternatives may have on (1) threatened, endangered, and sensitive species (2) riparian and aquatic conditions (3) social and economic conditions and (4) rangeland function. To address these concerns, the Forest Service created three alternatives.

Availability of the Final EIS - 2005

A notice of availability of a 2005 final EIS and record of decision was published on February 4, 2005. The comment letters to the draft EIS and Forest Service responses were included in Appendix 2 of the record of decision (October 2004). The record of decision was later withdrawn and a decision was made to supplement the 2004 draft EIS.

Draft Supplemental Environmental Impact Statement - 2010

The Bridger-Teton National Forest published a notice of intent to prepare a supplemental EIS for the Upper Green River Area Rangeland Project on December 1, 2009. The 2010 draft supplemental EIS updated and supplemented the 2004 draft EIS. This supplement analyzed the effects of domestic livestock grazing in the Upper Green River project area. The 2010 draft supplemental EIS was made available for public review and comment with a notice of availability published in the Federal Register on June 18, 2010. Reviewers had 45 days to comment on the 2010 draft supplemental EIS and five comment letters

were received. Those who commented in response to the 2004 draft EIS were not required to comment again in order to maintain eligibility to appeal the decision. Appendix B of the 2017 FEIS contains a summary of comments received on the 2010 draft supplemental EIS as well as the Forest Service's responses to comments.

Pre-decisional Administrative Review Process- 2014

A letter was mailed to the Upper Green River Rangeland Area Project mailing list on January 28, 2014 to notify interested parties that the project moved from the appeal process (36 CFR 215) to the Pre-decisional Administrative Review Process (36 CFR 218), also known as the objection process. The new regulations provide an opportunity for those who submitted specific written comments related to this project during the scoping period or during the comment period for the 2004 draft EIS or 2010 draft supplemental EIS to file an objection before the final decision is signed. When the draft Record of Decision is made available to the public, a 45-day objection filing period will begin with the publication of a legal notice in the Casper Star-Tribune.

Development of a Fourth Alternative - 2015

On February 12, 2015, the District Ranger sent a letter to the mailing list which provided a status update on the project. Stakeholders were informed that the interdisciplinary team was completing detailed evaluation of an array of four alternatives, including a newly developed alternative. As with other alternatives, the fourth alternative was developed to respond to issues identified by the public. A summary of each alternative was provided in the letter and tables further describing the action alternatives were posted to the Bridger-Teton National Forest website.

Draft Environmental Impact Statement - 2016

A 2016 draft EIS updated the 2010 draft supplemental EIS. The 2016 draft EIS was made available for public review and comment with a notice of availability published in the Federal Register on October 7, 2016. Reviewers had 45 days to comment on the 2016 draft EIS and over two hundred comment letters were received. Those who commented in response to the 2004 and 2010 draft EIS's were not required to comment again in order to maintain eligibility to object to the decision. Appendix B of the 2017 FEIS contains a summary of comments received on the 2016 draft EIS as well as the Forest Service's responses to comments.

Final Environmental Impact Statement and Draft Record of Decision – 2017

On October 20, 2017 Pinedale District Ranger released the draft Record of Decision (ROD) and the Final EIS for public review. The Notice of Availability of the FEIS was published in the Federal Register on October 27, 2018. Pursuant to 36 CFR 218 Subpart A and B, a legal notice establishing a 45-day objection period was published in the Casper Star-Tribune on November 22, 2017. Eight objections were received. The Objection Reviewing Officer, Forest Supervisor O'Connor, met with the objectors on March 9 and 14, 2018 and on June 22, 2018 she offered a resolution proposal to the objectors. The parties were unable to reach a resolution agreement. On August 16, 2018, the Objection Reviewing Officer signed a response letter to the objectors with instructions to the District Ranger.

Findings Required by Other Laws and Regulations

The Forest Plan was approved in 1990 and has since been amended and clarified to include additional direction concerning Wild and Scenic Rivers, grazing in wilderness, fires, grizzly bears, lynx, pronghorn migration, and greater sage-grouse. It provides broad-scale management policy and long-term direction and guidance for managing the Bridger-Teton National Forest. It contains management emphases and actions needed to move toward the desired future state of the Forest. My decision to authorize grazing use within the project area is consistent with the intent of the Forest Plan's long term goals, objectives, standards, and guidelines. The direction provided in the Forest Plan and its amendments that affects livestock grazing is being implemented independently of this decision.

The selected alternative also meets requirements imposed by the following list of laws, regulations, and policies.

Clean Water Act of 1977: This decision is consistent with the Clean Water Act and amendments. My decision will not affect the existing high quality water flowing through the area. No construction or ground disturbing activities within wetlands are involved and therefore no permit is required from the U.S. Army Corps of Engineers. No state permit for streambed alteration is required because no streambed alteration is involved in the project.

Consistency with the 2005 Travel Rule: As a permitted activity, this decision complies with 36 CFR Parts 212, 251, 261, and 295 Travel Management; Designated Routes and Areas for Motor Vehicle Use. Based on the effects analysis, requirement to consider effects on soil, watershed, vegetation, wildlife and wildlife habitat “with the objective of minimizing” them is being met. The effects to these resources have been analyzed throughout the Final EIS.

Executive Order 12898 (Environmental Justice) - This EO requires the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Implementation of any project alternative is not anticipated to cause disproportionate adverse human health or environmental effects to minority or low-income populations. Throughout public scoping, there were no comments suggesting a disproportionate negative consequence resulting from the proposed action or alternatives. In Sublette County, only 2.5% of families are below the poverty level, while that figure is 10.9% in the United States as a whole. People that are below the poverty level in Sublette County are White or consider themselves a mix of two or more races. No Black or African American, American Indian, Asian, Native Hawaiian and Oceanic, or any other race alone are below the poverty level in Sublette County (Headwaters Economics 2013). While the Agriculture sector of the economy in Sublette County has less than average annual county-wide income, that average income in 2013 was \$38,673 per year. That annual income would be above national poverty levels unless the family size dependent on that income was 8 or more family members (USDA Department of Health and Human Services, 2013 Poverty Guidelines).

Executive Order 11990 of May 1977 (Wetlands): This order requires the Forest Service to take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural

and beneficial values of wetlands. In compliance with this order, Forest Service direction requires that an analysis be completed to determine whether adverse impacts will result. Based on discussions in Chapter 3 of the 2016 FEIS, the 2016 Hydrology Report, and the Project Record concerning wetlands, the decision complies with EO 11990 by maintaining and restoring riparian conditions (Robertson 2015).

Executive Order 13186 of January 2001 (Migratory Bird Treaty Act): This Act requires the Forest Service to provide for the protection of migratory birds. High priority migratory bird species breeding habitats are analyzed and discussed in the effects analysis chapter of the 2016 FEIS. Based on discussions in Chapter 3 of the FEIS and the Project Record, my decision complies with EO 13186 by providing for protection of migratory birds.

Executive Order 13112: This decision incorporates the implementation of a weed management plan. My decision will therefore not increase the spread of invasive plant species.

Civil Rights Act of 1964: There will be no adverse effects to groups or individuals protected under the federal Civil Rights Act.

Violating Federal, State and Local Laws: My decision does not violate any federal, state or local laws or requirements for the protection of the environment.

Treaty Rights: This decision does not conflict nor affect any Treaty Rights. The relationship of the U.S. Government with American Indian tribes is based on legal agreements between sovereign nations. In June 1867, an Executive Order established the Fort Hall Indian Reservation, as a collective place to consolidate the various bands of Shoshones and Bannocks from their aboriginal lands. The United States then signed the Fort Bridger Treaty of 1868 with Shoshone and Bannock Chiefs and Headmen. Today, descendants of the Lemhi, Boise Valley, Bruneau, Weiser and other bands of Shoshoni and Bannock reside on the Fort Hall Indian Reservation. Tribal members continue to exercise off reservation treaty rights, and return to aboriginal lands to practice their unique culture and traditions. The 1868 Fort Bridger Treaty reserves the right to continue traditional activities on all unoccupied lands of the United States for hunting, fishing, and gathering of resources for subsistence purposes.

Endangered Species Act and Forest Service Sensitive Species (TES): A summary of the effects of my decision on individual TES can be found in the issues section of this document. Detailed effects analyses are provided in the biological assessment/biological evaluation, wildlife reports, and the Upper Green River Area Rangeland Project FEIS.

Implementation of this Decision

Implementation may begin immediately after the decision is made (36 CFR 218.12).

Contact Person

For additional information concerning this decision, contact David Booth, Natural Resource Specialist, Pinedale Ranger District, P.O. Box 220, Pinedale, Wyoming, 82941 or phone (307)367-4326.

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Appendix A

Detailed Description of Allotment Management Prescribed by this Decision

Table 1 displays descriptions and locations of existing structural improvements located in each allotment. The following tables with pasture rotation dates depict examples of pasture rotation schedules for each allotment. Actual dates may vary (within the maximum permitted occupancy stipulated on the permit face) and depend on resource conditions and actual use. Flexibility in the sequence of rotating livestock through pastures is allowed in order to respond to resource conditions such as avoiding predators or avoiding areas where wildfires have burned.

Table 1. Existing Structural Improvements

Description	Pasture	Location	Comments
Badger Creek Allotment			
Beaver-Twin/Badger Creek Allotment Boundary Fence		Township (T) 37N,Range (R) 111W, Sections 1,12 Township 38N,Range 111W, Section 36	~2 miles of 3-wire, let down
Beaver-Twin Allotment			
Beaver-Twin/Badger Creek Allotment Boundary Fence		T37N,R111W, Sections 1,12 T38N,R111W, Section 36	~2 miles of 3-wire, let down
Rock Creek Fence		T38N,R110W, Sections 18,19	~0.25 mile 3-wire with top pole
Waterdog Fence		T38N, R111W, Sections 14, 15	~0.25 mile 3-wire, let down
Noble Pastures Allotment			
Allotment Boundary Fence		T37N,R110W, Sections 7,8,17,18	~2.5 miles of post/wire
Allotment Interior Fence		T37N,R110W,769001, Sections 19,20	~1.5 miles of post/wire
Corral		T37N, R110W, Section 2	Post/wire
Roaring Fork Allotment			
Roaring Fork/Upper Green River Fence		T39N,R109W Sections 2,10,11,15	~3 miles of 3-wire, 1 mile of buck & pole, maintenance shared with Upper Green River Allotment
Gunsight Pass Fence		T40N,R109W, Section 36 T39N,R108W, Section 6	~2 miles of buck & pole, and .5 mile 3-wire with top rail
Roaring Fork Allotment Boundary Fence		T39N,R108W Section 30	~.75 mile buck & pole, .25 mile 3-wire, adjacent to the Green

Appendix A
Record of Decision - Upper Green River Area Rangeland Project

Description	Pasture	Location	Comments
			River Administrative Site
Roaring Fork Stock Bridge		T39N,R109W, Section 11	Treated timber with concrete foundation, permittee maintains deck and side rails only
Wagon Creek Allotment			
Wagon Creek Boundary Fence	Wagon Creek	T39N, R110W, Section 11	1.5 miles of barbed-wire
Upper Green River Allotment – Mud Lake/Fish Creek Rotation			
Mud Lake Fence	Mud Lake West	T40N,R109W, Sections 20,29,31,32; T39N,R109W, Section 6	4 miles barbed-wire let-down, built in 2003
Pinyon Ridge Management Fence	Mud Lake West	T40N,R109W, Sections 27,28,34,35	3.5 miles barbed-wire let-down, built in 2006
Cow Pie #1 Waterline	Mud Lake East	T40N,R109W, Sections 34,35	1.5 miles spring/ line/ trough, built in 1983
Strawberry Creek Cow Camp and 40-acre Horse Pasture	Fish Creek	T41N,R110W, Section 36	1 cabin, built in 1975
Upper Green River Allotment – Mosquito Lake Rotation			
Mosquito Lake Unit Fences		T39N,R110W, Sections 2-4,9-11; T40N,R110W, Sections 2,11-13,15,22-24,26,27,34,35; T40N,R110W, Sections 17,18,20-22	21 miles barbed-wire, built in 1964
Mosquito Lake Extension Fence		T40N,R110W, Sections 2-4	1 mile barbed-wire, built in 1982
Mosquito Lake Boundary Fence		T40N,R110W, Section 24; T40N,R110W, Sections 7,8,18,19	3 miles log & block, built in 1961
Raspberry Creek Boundary Fence	Mosquito SW	T40N,R110W, Sections 4,5; T40N,R110W, Section 4; T41N,R110W, Sections 26,34,35	3 miles barbed wire, built in 2001
Pinyon Ridge Fence	Mosquito SE	T40N,R109W, Sections 17,18,20,21; T40N,R110W, Section 13	3 mile barbed-wire let-down, built in 2003
Tepee Ridge Water	Mosquito SE	T39N,R111W, Section 13	Development troughs, built in 1984
Mosquito Lake Cow Camp and 40-acre Horse Pasture	Mosquito NW	T40N,R110W, Section 22	1 cabin, built in 1964
Upper Green River Allotment – Tosi Creek / Teepee Creek Rotation			
Klondike-Rock Creek Fence	Upper Teepee Creek	T39N, R110W, Sections 20,29	.7 mile, built in 1961
Tosi Creek Boundary Fence	Tosi Creek	T39N,R111W, Section 16	.5 mile barbed-wire, built in 1955
Bacon Ridge Fence	Kinky Creek	T40N,R111W, Section 24	1 mile buck & pole, built in 1990

Appendix A
Record of Decision - Upper Green River Area Rangeland Project

Description	Pasture	Location	Comments
Tepee Creek Drift Fence	Upper Tepee Creek	T39N,R110W, Sections 9,16	1 mile buck & pole, built in 1983
Tepee Creek Cow Camp	Lower Tepee Creek	T38N,R110W, Section 26	1 cabin, built in 1977
Tosi Creek Stock Bridge-#1	Tosi Creek	T39N,R110W, Section 15	1 bridge, built in 1980
Tosi Creek Stock Bridge-#2	Tosi Creek	T39N,R110W, Section 17	1 bridge, built in 1980
Tepee Cattle guard		T39N,R111W, Section 1	1 cattle guard, built in 1982
Upper Green River Allotment – Gypsum Creek Rotation			
Little Sheep Mountain Boundary Fence	Upper Gypsum	T39N,R109W, Sections 15,22	.5 mile buck & pole, built in 1964
Gypsum Creek Cow Camp and 40-acre Horse Pasture	Upper Gypsum	T39N,R109W, Section 32	1 cabin, built in 1977
Gypsum Creek Division Fence	Upper and Lower Gypsum	T39N,R109W, Section 31; T39N,R110W, Section 36; T38N,R110W, Section 1	2.7 miles barbed-wire, rebuilt in 2001
Gypsum Creek Stock Bridges	Lower Gypsum	T38N,R109W, Sections 31,32	2 bridges, built in 1981
Jim Creek Boundary Fence	Lower Gypsum	T37N,R109W, Sections 5,6	2 miles 4-strand barbed-wire built in 1934
Gypsum Creek Boundary Fence	Lower Gypsum	T38N,R109W, Section 31 T37N,R109W, Section 6	2 miles barbed-wire, built in 1947
Gypsum Hill Fence	Lower Gypsum	T38N,R110W, Section 25	0.7 mile buck & pole, built in 1947
Livestock Driveway and River Bottom Pasture			
Pot Creek Driveway Fence	Out of project area/ driveway	T37N,R109W, Sections 7,18,19	2.5 miles barbed-wire, built in 1938
Kendall Drift Fence	River Bottom	T38N,R110W, Section 14	.5 mile buck & pole, built in 1982
Kendall Drift Extension	River Bottom	T38N,R110W, Sections 11,14	.1 mile barbed-wire, built in 1986
Kendall Warm Springs Protection Fence	River Bottom/ Livestock Driveway	T38N,R110W, Section 2	1.5 miles barbed-wire and buck & pole, rebuilt 2008-2009
Kendall Administrative Site Fence	River Bottom/ livestock driveway	T38N,R110W, Sections 14,23	2 miles buck & pole and barbed-wire, built in 1930, Maintained by FS
Kendall Cattleguard-#1 Maintained by FS	River Bottom/ livestock driveway	T38N,R110W, northeast part of Section 14	1 cattleguard, built in 1982
Kendall Cattleguard-#2 Maintained by FS	River Bottom/ livestock driveway	T38N,R110W, northeast part of Section 14	1 cattleguard, built in 1982
Green River Boundary Fence	River Bottom Pasture/livestock driveway	T38N,R110W, Sections 25,26	1.5 miles barbed-wire, built in 1940, reconstructed to facilitate antelope migration in 2005

Description	Pasture	Location	Comments
Whiskey Grove Campground Fence Maintained by FS	River Bottom /livestock driveway	T38N,R110W, Section 14	.3 barbed wire, rebuilt in 2002

Badger Creek Allotment

Permitted Livestock Numbers, Season of Use and Management System

Badger Creek Allotment will remain as a single 7,254-acre pasture with 157 permitted cow/calf pairs or yearlings for a maximum of 622 animal unit months. The area determined to be capable and suitable for livestock grazing is 1,217 acres or 17 percent of the allotment. The grazing system will change to a deferred grazing system such that in three out of four years, livestock grazing will occur from July 1st to September 30th and in one out of four years, livestock grazing will occur from July 15th to Oct. 14th. This will defer livestock grazing until after seed-set for primary forage species in one of four years.

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Key forage species for this and all allotments in this project area are primarily Idaho fescue (*Festuca idahoensis*) in the uplands and sedges (*Carex* species) and/or Tufted hairgrass (*Deschampsia*) in riparian and meadow areas. Other key species may be identified as appropriate on a site specific basis. Allowable use and long-term monitoring will be monitored at one key site.

Focus Area Prescription

There are no focus areas in the Badger Allotment.

New Structural Improvements

There are no new structural improvements.

Beaver-Twin Allotment

Permitted Livestock Numbers, Season of Use and Management System

The Beaver-Twin Allotment is a 22,079-acre allotment that will be divided into three pastures to enhance livestock distribution and forage use. The three pastures will be Rock Creek (5,835 acres), Twin Creeks Pasture (6,883 acres) and North Beaver (9,361 acres). The grazing system will change from a season long grazing system to a three pasture deferred rotation grazing system (Table 2). The allotment will continue to be permitted for 700 cow/calf pairs or yearlings from July 15th to October 15th (permitted season of use) for a maximum of 2,772 animal unit months. The area determined to be capable and suitable for livestock grazing is 6,337 acres or 29 percent of the allotment.

Table 2. Pasture rotation schedule for Beaver-Twin Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
North Beaver	700	7/15	8/15	8/15	9/15
Twin Creeks	700	8/15	9/15	7/15	8/15
Rock Creek	700	9/15	10/30	9/15	10/30

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Allowable use and long-term monitoring will be monitored at three key sites.

Focus Area Prescription

Waterdog Lake Focus Area will be located within the Twin Creeks Pasture once the allotment is divided into three pastures. Cattle grazing will continue to be limited to a maximum forage utilization of 20 percent key forage species and outfitters will continue to not be allowed to graze their stock in the Waterdog Lake focus area.

New Structural Improvements

Fences will be constructed to divide the allotment into three pastures. The Beaver-Twin Allotment Interior Fence #1 is located along the Rock Creek Buttes in the Rock Creek Pasture. This interior fence will be reconstructed along the ridgeline and tied into geographic features that restrict cattle movement. The fence will be approximately 0.4 miles in length, likely post and wire construction. Approximately 3 miles of post and wire fence will be constructed along the North Beaver Pasture and Twin Creeks Pasture to facilitate pasture division. The new Structural Improvements are described in Table 3.

Table 3. New Structural Improvements in the Beaver-Twin Allotment

Description	Location	Legal Description	Type and Length
Beaver-Twin Allotment Interior Fence #1	Rock Creek Buttes in the Rock Creek Pasture	Township 38N Range 111W, Section 11 Township 38N Range 111W, Section 14	~0.4 mile, permanent fence
Beaver-Twin Allotment Interior Fence #2	Boundary of North Beaver Pasture and Twin Creeks Pasture	Township 37N Range 111W, Section 10	~3 mile, permanent fence

Noble Pastures Allotment

Permitted Livestock Numbers, Season of Use and Management System

The Noble Pastures Allotment is a 762-acre irrigated four pasture allotment located in the center of the project area within the boundaries of the Upper Green River Allotment. The area determined to be capable and suitable for livestock grazing is 743 acres or 98 percent of the allotment. The allotment will continue to be permitted for 314 cow/calf pairs, 110 yearlings (or equivalent) and four horses. Livestock will graze a pasture for up to two weeks then rotate to the next pasture. Because this allotment is flood irrigated, each pasture will be grazed at least twice during the grazing season from June 14th to September 20th. **Table 4** shows an example of how rotations might be accomplished over a two year period. The

actual dates will likely vary from the example. A maximum of 1,605 animal unit months will be permitted. Pastures will generally be rested from grazing four to eight weeks (recovery period) before grazing will occur again however, flexibility will be allowed when cattle are moved to avoid conflict with carnivores.

Table 4. Pasture rotation schedule for Noble Pasture Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Pasture 4	428	6/14 7/24	6/19 8/7	6/14 9/4	6/19 9/20
Pasture 3	428	6/19 8/7	6/26 8/21	6/26 7/24	7/10 8/7
Pasture 2	428	6/26 8/21	7/10 9/4	7/10 8/7	7/24 8/21
Pasture 1	428	7/10 9/4	7/24 9/20	6/19 8/21	6/26 9/4

Allowable Use

The maximum forage utilization on the key forage species is 65 percent in riparian areas and 60 percent in uplands. See the Focus Area Prescription for allowable use on Tosi Creek (Pasture 1) and Klondike Creek (Pasture 4). There are no creeks in pastures 2 and 3; cattle water from irrigation ditches. Allowable use and long-term monitoring will be conducted at four key areas.

Focus Area Prescription

Tosi Creek Focus Area is located along the entire length of Tosi Creek within Pasture #1. The Forest will continue to monitor stream channels and streamside vegetation using MIM or Winward Greenline protocols and work cooperatively to evaluate and adopt indicators for riparian health, including streambank alteration for beaver dominated systems along this focus area, as science supports this change. Until such time, the 6-inch stubble height requirement will remain.

Klondike Creek Focus Area is located within Pasture #4. The Klondike enclosure fence will be rebuilt and the area slightly enlarged with a top rail along the entire length of Klondike Creek. Two hardened water crossings will also be constructed to allow livestock access to drinking water. The two fences will be located at T38N R110W, Section 2, T39N R110W, Section 35. The Forest Service will construct and maintain the fence and plant willow stakes along Klondike Creek. The fenced enclosure will be managed as a riparian pasture with brief grazing allowed stimulating willow establishment by reducing competing grasses and sedges. The area will be grazed at a maximum forage utilization of 0.5 animal unit month per acre per year. The enclosure will be approximately 10 acres; therefore, 0.5 animal unit month per acre will equate, for example, to 50 head for three days or 15 head for ten days. Actual livestock numbers and use periods will be adjusted to enhance willow establishment.

New Structural Improvements

New Structural Improvements include fences, a culvert, hardened crossings, and a trap as displayed in Table 5. The Forest Service will install a culvert in an irrigation ditch within Pasture 3 where cattle are currently trailing through the area and will construct a cattle holding area or trap adjacent to and south of Pasture 4.

Table 5. New Structural Improvements in the Noble Pastures Allotment

Description	Location	Legal Description	Type and length
Install culvert	Pasture 3	Township 39N Range 110W, Section 35	
Klondike Creek Focus Area, fence #1	Pasture 4	Township 38N Range 110W, Section 2 T39N R110W, Section 35	~0.4 miles of 3 or 4-strand wire with a top pole
Klondike Creek Focus Area, fence #2	Pasture 4	Township 38N Range 110W, Section 2 T39N R110W, Section 35	~0.4 miles of 3 or 4-strand wire with a top pole
Klondike Creek Focus Area, hardened crossing #1	Pasture 4	Township 38N Range 110W, Section 2	
Klondike Creek Focus Area, hardened crossing #2	Pasture 4	Township 39N Range 110W, Section 35	
Trap	South of Pasture 4	Township 38N Range 110W, Section 2	~0.1 miles of fence enclosing ~0.65 acres

Roaring Fork Allotment

Permitted Livestock Numbers, Season of Use and Management System

The 8,416-acre Roaring Fork Allotment will be managed as a three pasture deferred rotation system: Roaring Fork South (997 acres), Roaring Fork East (3,425 acres), and Roaring Fork West Pasture (3,994 acres). Managing the allotment as a three pasture rotation instead of one season-long pasture will bring the allotment in compliance with the Forest Plan Forage Utilization Standard (U.S. Forest Service 1990). The allotment will continue to be permitted for 170 cow/calf pairs or yearlings from June 16th to October 15th for a maximum of 898 animal unit months. The area determined to be capable and suitable for livestock grazing is 4,449 acres or 53 percent of the allotment.

Cattle will be moved through the allotment and managed by means of herding to help prevent livestock from congregating along the Green River bottom and manage livestock use of the Roaring Fork focus area (see prescription below). No new fencing is planned for the Roaring Fork Allotment. Livestock will be allowed to graze in the Roaring Fork South Pasture annually from June 16th to June 30th in years that water flow in the Green River is low enough that the cattle can cross the river. This typically occurs every second year. Cattle will then be moved into Roaring Fork East Pasture and Roaring Fork West Pasture, alternating the order of the first pasture used between these two pastures annually. Table 6 displays this rotation.

Table 6. Pasture rotation schedule for Roaring Fork Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Roaring Fork South [#]	170	06/16	06/30	06/16	06/30
Roaring Fork West	170	06/30	08/15	08/15	10/15
Roaring Fork East	170	08/15	10/15	06/30	08/15

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Allowable use and long-term monitoring will be conducted at one key site and in the Roaring Fork focus area.

Focus Area Prescription

Roaring Fork Focus Area is located in the Roaring Fork West Pasture and is impacted by the congregation of elk associated with the Upper Green River elk feedground. The focus area will be managed with special management consideration such that prior to livestock turn-out, forage utilization by elk will be determined. If forage utilization on key forage species (*Idaho fescue*) is greater than or equal to 50 percent, livestock use of the focus area will be avoided by actively herding livestock away from the area. If herding proves ineffective to keep livestock out of the focus area, livestock will be moved to the Roaring Fork East Pasture or off the allotment when Roaring Fork East Pasture has already been used by livestock for the grazing season. If forage utilization on key forage species is less than 50 percent, livestock will be allowed to use the focus area until 50 percent forage utilization is reached. Salting will not be allowed in the focus area.

New Structural Improvements

There are no new structural improvements.

Wagon Creek Allotment

Permitted Livestock Numbers, Season of Use and Management System

The Wagon Creek Allotment is a 186-acre single pasture adjacent to private land and is managed jointly in a pasture rotation system. The Forest Service will continue to authorize 52 cow/calf pairs or yearlings to graze the allotment for a maximum of 103 animal unit months. The area determined to be capable and suitable for livestock grazing is 186 acres or 100 percent of the allotment. Livestock grazing will be authorized for a 45-day livestock grazing period (instead of a 90-day use currently permitted) with a variable entry date within the July 15th to October 15th permitted season of use. This means that the 45-day period of livestock use does not take place during the same exact calendar dates in the subsequent year.

Table 7 shows an example of how management actions might be accomplished over a two year period. The actual dates will likely vary from the example.

Table 7. Pasture rotation schedule for Wagon Creek Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Wagon Creek	52	7/15	9/1	8/15	9/30

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in the upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Allowable use and long-term monitoring will be conducted at one key area.

Focus Area Prescription

There are no focus areas in the Wagon Creek Allotment.

New Structural Improvements

There are no new structural improvements.

Upper Green River Allotment

The Upper Green River Allotment is a 131,944-acre allotment that encompasses the majority of the project area and contains four pasture rotations: the Mud Lake/Fish Creek rotation, Mosquito Lake rotation, Tosi Creek/Tepee Creek/Kinky Creek rotation, and Gypsum Creek rotation. The area determined to be capable and suitable for livestock grazing is 61,331 acres or 46 percent of the allotment. In this decision, 7,295 cow/calf pairs or yearlings and 43 horses will be authorized to graze from June 16th to October 15th (the permitted season of use) for a maximum of 38,722 animal unit months. Of the 43 horses authorized in the allotment, 16 horses will be distributed throughout the allotment and 27 horses will be authorized in the Tosi/Tepee Creek rotation. Permittees of the Upper Green River, Wagon Creek, Roaring Fork and Noble Pastures allotments, move their livestock through the livestock driveway and the River Bottom Pasture to access their allotment and/or exit the Forest. Detailed information is presented by rotation and the River Bottom Pasture and livestock driveway below.

Mud Lake/Fish Creek Rotation

Permitted Livestock Numbers, Season of Use and Management System

Mud Lake/Fish Creek area is a 44,527-acre three pasture system Mud Lake East (6,297 acres), Mud Lake West (5,422 acres), and Fish Creek pastures (32,808 acres). The area determined to be capable and suitable for livestock grazing is 23,834 acres or 54 percent of the rotation. This decision allows for 2,780 cow/calf pairs or yearlings to be authorized to graze in a deferred rotation grazing system from June 16th to October 15th (the permitted season of use) for a maximum of 14,678 animal unit months, with the option to implement a rest rotation system. Table 8 displays this rotation.

Table 8. Pasture rotation schedule for the Mud Lake/Fish Creek rotation in the Upper Green River Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Mud Lake West	2,780	6/16	7/15	9/15	10/15
Fish Creek	2,780	7/15	9/15	7/15	9/15
Mud Lake East	2,780	9/15	10/15	6/16	7/15

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams for almost all pastures. Monitoring will continue at Raspberry Creek and alternative trailing routes will be identified. Allowable use and long-term monitoring will be monitored at three key sites.

No salting will be allowed on the elk feedground and livestock will not intentionally be placed in this area. No salt will be allowed within ½ mile from Mud Lake.

Focus Area Prescription

Fish Creek Focus Area is located within the Fish Creek Pasture. The allowable use at the Fish Creek site #1 will be a 6-inch stubble height minimum measured along the greenline and 20 percent stream bank alteration guideline. An unauthorized two-track route to Fish Creek, off of Forest Service Road #691, will be rehabilitated by ripping and seeding with native seeds.

The allowable use at the Fish Creek site #2 will be a minimum 6-inch stubble height measured along the greenline with an option to add the 20 percent stream bank alteration guideline depending on stream bank stability monitoring results collected during the next monitoring cycle.

New Structural Improvements

Alternative water sources near Crow Creek will be explored and if feasible, developed after appropriate NEPA analysis is completed.

The Forest Service will consider water development(s) from up to two water sources in the Mud Lake East Pasture, a water source from Crow Creek and/or a spring to the east of Crow Creek. The proposal to implement water developments will be scoped pursuant to Forest Service Handbook 1909.15.31.3 and analyzed under NEPA in a separate document. These new improvements are displayed in Table 9.

Table 9. New structural improvement in Mud Lake/Fish Creek rotation of the Upper Green River Allotment

Description	Location	Legal Description	Type and Length
Consider up to two water developments	Water from Crow Creek and/or a spring	Township 39N Range 109W, Section 6 water development off Crow Creek Township 39N Range 109W, Section 6 location of spring water development	To be determined in future NEPA analysis

Effectiveness Monitoring or Long-term Trend Monitoring

The Forest Service will establish a new key area for long-term monitoring of species composition in the Mud Lake East and Mud Lake West pastures. The initial evaluation of species composition trend will occur ten years post implementation.

Mosquito Lake Rotation

Permitted Livestock Numbers, Season of Use and Management System

Mosquito Lake rotation is a 17,181-acre four pasture unit located in the northwestern portion of the project area. The four pastures are Mosquito NE (3,126 acres), Mosquito SE (3,826 acres), Mosquito SW (5,990 acres), and Mosquito NW (4,839 acres). The area determined to be capable and suitable for livestock grazing is 11,634 acres or 68 percent of the pasture area. This decision allows for 1,530 cow/calf pairs or yearlings to be authorized to graze in a deferred rotation grazing system from June 16th to October 15th (the permitted season of use) for a maximum of 8,078 animal unit months. Livestock will enter the Mosquito SE Pasture and rotate counterclockwise in year one and enter the Mosquito SW Pasture and rotate clockwise in year two. This rotation is displayed in Table 10.

Table 10. Pasture rotation schedule for the Mosquito Lake rotation in the Upper Green River Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Enter Unit	Year 1 Date Leave Unit	Year 2 Date Enter Unit	Year 2 Date Leave Unit
Mosquito SE	1,530	6/15	7/15	9/15	10/15
Mosquito NE	1,530	7/15	8/15	8/15	9/15
Mosquito NW	1,530	8/15	9/15	7/15	8/15
Mosquito SW	1,530	9/15	10/15	6/15	7/15

Allowable Use

In the Mosquito pastures, the maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Allowable use and long-term monitoring will be monitored at four key sites. Concerns regarding plant species composition in the SW and NW pastures will be addressed by changing the grazing system to rotational rather than rest rotation as well as reducing the allowable number of livestock in this rotation to 1,530 head. See the Focus Area Prescription section for allowable use standards for the Wagon Creek focus area.

Focus Area Prescription

Wagon Creek Focus Area is located in the Mosquito SE Pasture in the Upper Green River Allotment. The Forest Service will harden the stream crossing approaches on Wagon Creek. On a voluntary basis the permittees will maintain an existing electric fence enclosure (0.7 miles) when necessary. A 6-inch stubble height minimum will be retained outside of the enclosure and within the focus area.

New Structural Improvements

The new Structural Improvements planned for the Mosquito Lake rotation are located within the Wagon Creek focus area and are described above in the Focus Area Prescription and displayed in Table 11.

Table 11. New Structural Improvements in the Mosquito Lake rotation in the Upper Green River Allotment

Description	Location	Legal Description	Type and length
Wagon Creek enclosure #1	Wagon Creek focus area in the Mosquito SE Pasture	Township 40N Range 110W, Section 27	0.7 miles of electric fence
Wagon Creek harden approaches to crossing	Wagon Creek focus area in the Mosquito SE Pasture	Township 40N Range 110W, Section 27	

Tosi Creek/Tepee Creek/Kinky Creek Rotation

Permitted Livestock Numbers, Season of Use and Management System

Tosi Creek/Tepee Creek area is a 26,934-acre four pasture system. South Kinky Creek Pasture will be added to the rotation while the number of livestock and season of use will remain as authorized under Alternative 2. The four pastures consistently used in the rotation will be Tosi Creek Pasture (5,828 acres), Upper Tepee Creek Pasture (8,747 acres), Lower Tepee Creek Pasture (6,081 acres) and South Kinky Creek Pasture (3,327 acres). The North Kinky Creek Pasture (2,951 acres) will be authorized for livestock grazing as a contingency pasture with variable use by livestock. The area determined to be capable and suitable for livestock grazing in the Tosi Creek/Tepee Creek/Kinky Creek rotation is 9,738 acres or 41 percent of the pasture rotation. The Forest Service will continue to authorize 1,000 cow/calf pairs or yearlings and 27 horses to graze in a deferred rotation grazing system from June 16th to October 15th (the permitted season of use) for a maximum of 5,280 animal unit months (AUMs) for cattle and 130 AUMs for horses. The Forest Service will maintain an option to implement a rest rotation system.

Livestock use of South Kinky Creek Pasture will be concurrent with livestock use in Lower Tepee Creek Pasture. The permitted number of cattle (1,000 cow/calf pairs or yearlings) will be divided between the two pastures with a minority number in the Kinky Creek Pasture. The rotation is displayed in Table 12. Approximately 57 acres of the South Kinky Creek Pasture (an area adjacent to the Darwin Ranch, a private inholding) was managed under a special use pasture permit, but beginning in 2014 the special use permit was not renewed. The Darwin Ranch holds a term-grazing permit to graze 27 horses in the Tosi Creek/Tepee Creek/Kinky Creek rotation. In this decision, 27 horses will be permitted to graze the four pastures in the rotation according to the rotation schedule established for all livestock. If the permittee chooses to use only the South Kinky Creek Pasture, the permittee will be allowed to graze the horses in the South Kinky Creek Pasture only during the period when cattle are allowed in the same pasture.

North Kinky Creek Pasture serves as a contingency pasture with variable use by livestock. Conditions under which this pasture will be used include 1) to shorten the duration of livestock grazing in any of the other four pastures, 2) to alleviate predator problems, poisonous plant problems or to allow for rest of a pasture recovering from a wildfire or prescribed fire, and/or 3) to implement a rest rotation system. Livestock will be allowed to graze in this pasture for a maximum of 21 days within the same season of use for this rotation.

Table 12. Pasture rotation schedule for the Tosi Creek/ Teepee Creek/ Kinky Creek rotation in the Upper Green River Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Lower Tepee Creek & South Kinky Creek	1,000 cattle 27 horses	08/01	09/15	08/01	09/15
Upper Tepee Creek	1,000 cattle 27 horses	09/16	10/15	09/16	10/15
Tosi Creek	1,000 cattle 27 horses	06/16 North Side	07/30	06/16 South Side	07/30
North Kinky Creek	1,000 cattle 27 horses	Variable use	Variable use	Variable use	Variable use

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas for Lower Tepee Creek, Upper Tepee Creek, North and South Kinky Creek, and Tosi Creek Pastures. A minimum of a 4-inch stubble height will be retained along the greenline of streams for all five pastures. Allowable use and long-term monitoring will be conducted on four key sites.

Focus Area Prescription

The Tepee Creek focus area is located in the Lower Tepee Creek Pasture along Tepee Creek downstream of the bridge crossing Forest Road 620. The Forest Service will assess logs that were cabled into the Tepee Creek stream bank in the 1980s to promote riparian restoration, but that are currently contributing to stream bank instability and erosion. Logs and cables that are not contributing to stream health will be removed with a backhoe during low water flow. A temporary fence may be constructed along Tepee Creek to protect the disturbed area that is created when revetments are removed. The temporary fence would be maintained by the Forest Service and will stay in place for two grazing seasons.

New Structural Improvements

Fences in the Kinky Creek Pasture will be constructed and tied into geographic features that restrict cattle movement in order to add the South Kinky Creek Pasture to the Tosi Creek/Tepee Creek rotation. Fences will be permanent fences, totaling approximately 3.6 miles in length. Table 13 describes the new fences in the Tosi Creek / Tepee Creek/Kinky Creek area. The Tepee Creek focus area exclosure is also described above in the Focus Area Prescription.

Table 13. New Structural Improvements in the Tosi Creek/Teepee Creek/ Kinky Creek rotation in the Upper Green River Allotment

Description	Location	Type and Length
Kinky Creek Drift Fence	Township 40N Range 111W, Sections 13, 14, 22, and 23	fence ~ 1.8 mile
South Kinky Creek Allotment Boundary Fence	Section 24 Township 40N Range 111W, Section 13 Township 40N Range 111W, Section 25 Township 40N Range 111W	fence ~1.8 miles
Temporary Tepee Creek Focus Area Exclosure	Township 39N Range 111W, Section 1, Township 39N Range 110W Section 6	Temporary fence , up to 1.2 miles

Gypsum Creek Rotation

Permitted Livestock Numbers, Season of Use and Management System

Gypsum Creek area is a 36,173-acre two pasture system located in the eastern portion of the project area. The two pastures are the Upper Gyp Pasture (20,391 acres) and Lower Gyp Pasture (15,782 acres). The area determined to be capable and suitable for livestock grazing is 9,852 acres or 27 percent of the pastures combined. This decision allows 1,985 cow/calf pairs or yearlings to continue to be authorized to graze in a deferred rotation grazing system from June 16th to October 15th (the permitted season of use) for a maximum of 10,480 animal unit months. This rotation is displayed in Table 14.

Table 14. Pasture rotation schedule for the Gypsum Creek rotation in the Upper Green River Allotment

Pasture	Permitted Livestock Numbers	Year 1 Date Cattle Enter Unit	Year 1 Date Cattle Leave Unit	Year 2 Date Cattle Enter Unit	Year 2 Date Cattle Leave Unit
Upper Gyp	1,985	6/16	8/15	8/15	10/15
Lower Gyp	1,985	8/15	10/15	6/16	8/15

Allowable Use

The maximum forage utilization on key forage species will be 50 percent in upland, riparian, and wetland areas. Implementation of a 4-inch stubble height minimum along the greenline of streams applies to both pastures with the exception of a 6-inch stubble height minimum along South Gypsum Creek in the Lower Gyp Pasture. Monitoring indicates that low stream bank stability on South Gypsum Creek is a result of sedimentation from the 2007 Salt Lick Fire and a 6-inch stubble height will be implemented to reduce potential livestock impacts on riparian recovery. A 4- inch stubble height minimum along the South Gypsum Creek will be implemented when monitoring indicates the stream bank stability objective is met for two consecutive monitoring cycles. Allowable use and long-term monitoring will be conducted at two key sites.

No salting will be allowed on the elk feedground and livestock will not intentionally be placed in this area.

Focus Area Prescription

There are no focus areas in the Gyp Creek rotation.

New Structural Improvements

There are no new structural improvements.

River Bottom Pasture and Livestock Driveway

Permitted Livestock Numbers, Season of Use and Management System

River Bottom Pasture and livestock driveway (also known as the Green River Drift Trail) are located within the south-central portion of the Upper Green River Allotment. The pasture and driveway are used jointly by livestock permitted to the Upper Green River, Wagon Creek, Roaring Fork, and Noble Pastures allotments to access the allotments in the spring and exit the Forest in the fall each year. Maps and text within this document do not portray the entire driveway within National Forest System lands. The River Bottom Pasture is approximately 7,131 acres of which 4,973 (70%) is capable and suitable for livestock grazing. This decision allows 7,901 cow/calf pairs or yearlings and 20 horses to be authorized to use the livestock driveway and 5,746 cow/calf pairs or yearlings and 20 horses will be authorized to use the River

Bottom Pasture from June 16th to October 15th (the permitted season of use), however the River Bottom Pasture would remain unoccupied from July 15 through August 15. The livestock driveway would also remain unoccupied during this period, unless livestock are actively moved between pastures or from allotments during this time period.

The livestock driveway was enrolled on the National Register of Historic Places in 2013. It is generally considered to extend 200 feet on either side of the road; however, in some cases it is narrower when confined by fences or the Green River and adjacent riparian vegetation. The livestock driveway will be used primarily in the spring by Wagon Creek Allotment, Roaring Fork Allotment, Noble Pastures Allotment and the Upper Green River Allotment permittees to herd their cattle into the allotments. Livestock primarily travel on the roadway and the area immediately adjacent to the roadway with limited grazing. Cattle will be confined to the roadway when they are actively herded through the Kendall Warm Springs enclosure.

The River Bottom Pasture will be used in the fall. Livestock will be allowed to drift through the pasture heading south to the Forest boundary, where they will be gathered and moved off the Forest.

Allowable Use

The maximum forage utilization level on key forage species permitted for the River Bottom Pasture will be 50 percent in upland, riparian, and wetland areas and a 4-inch stubble height minimum will be retained along the greenline of streams. Allowable use will be monitored at one key site.

Spring cattle drives move livestock rapidly through the livestock driveway to the allotments and pastures; livestock primarily travel on the roadway and the area immediately adjacent to the roadway with limited time allowed for grazing. Cattle will be confined to the roadway when they are actively herded through the Kendall Warm Springs enclosure. In the fall, cattle will be allowed to drift out towards the southern Forest boundary and spend additional time grazing within the River Bottom Pasture and along the livestock driveway.

Focus Area Prescription

There are no focus areas in the River Bottom Pasture and livestock driveway.

New Structural Improvements

There are no new structural improvements.