

# *Chapter 1*

## *Purpose and Need for Action*

### A. DOCUMENT STRUCTURE

The Forest Service has prepared this Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized in five chapters:

- ***Chapter 1. Purpose and Need for Action.*** The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving the purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- ***Chapter 2. Alternatives, Including the Proposed Action.*** This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes design features intended to reduce or prevent undesirable effects of livestock grazing. To provide continuity and readability, the Proposed Action and The SMU-G Alternative are displayed in outline form discussing the same key components. Table 2-14 provides an easy-to-review summary comparison of the environmental consequences associated with each alternative.
- ***Chapter 3. Affected Environment.*** This chapter describes the existing environment of the specific resource issues identified in chapter 1.
- ***Chapter 4. Environmental Consequences.*** This chapter describes the environmental consequences of implementing the proposed action and other alternatives. The analysis is organized by resource issues listed in chapter 1 and described in chapter 3.
- ***Chapter 5. Consultation and Coordination.*** This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.
- ***Appendices.*** The appendices provide more detailed information to support the analyses presented in the environmental impact statement.

### B. HOW THIS CHAPTER IS ORGANIZED

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## C. CHAPTER DEFINITIONS

A number of terms commonly used in rangeland management and analysis documentation occur throughout this chapter. There are many terms that are specific to rangeland issues. A glossary of definitions is included at the end of the chapter and in the appendix to ensure proper understanding of terms used in rangelands and rangeland management.

## D. INTRODUCTION

The two most critical factors influencing impacts of livestock grazing on rangeland ecosystems are 1) the amount and intensity of utilization and 2) the grazing behavior of the animal itself.

**Amount and Intensity of Utilization.** European settlement brought with it the sedentary grazing of the plains and foothills by domestic stock: first, during the brief period of open range grazing in the late 1800's, and later through the early ranching system with pasture units undefined by barbed wire fences. Guidelines for western ranchers were non-existent. By the time forest reserves were proclaimed, ranchers had become accustomed to unregulated use of forest lands for summer range.

Scientific management of rangeland (range management) began early in the twentieth century. The management aim was to adjust the number, kind, and location of the grazing in such a way as to restore and maintain the natural resources. Range managers and livestock operators found that controlling grazing improved both range condition and livestock production. Development of this new concept marked the end of the exploitive period of grazing and the beginning of managed grazing (grazing management) on the Western ranges.

The Forest Service accepted the full administration of the forest reserves in the spring of 1905 and immediately began a process for determining the range's "carrying capacity"; that is, the stock numbers that could be allowed to graze. Selection of the correct stocking rate is the most important of all grazing management decisions from the standpoint of vegetation, livestock, wildlife, and economic return. This has been the most basic problem confronting ranchers and range managers since the initiation of scientific range management early in the twentieth century. Early rangeland management practices concerned manipulation of stocking rates to include grazing intensity, timing, and frequency. Stocking rate has more influence on vegetation productivity than any other grazing factor.

The focal point of range management continues to be the control or regulation of livestock grazing; i.e., manipulating the grazing activities by large herbivores so that plant production would be maintained or improved. Forage utilization guidelines are developed to ensure, with proper implementation and management, the achievement of identified future conditions of forest rangeland resources. Properly managed livestock grazing, permitted within appropriate utilization prescriptions, is designed to cause no significant impacts to rangeland resources.

To ameliorate adverse grazing impacts on the soil and vegetation, five utilization principals are fundamental to regulating livestock use.

1. Utilize the range with the proper class of livestock. Each area of range has soil, vegetation, topographic, and climatic characteristics which makes it suitable for some uses but unsuitable for others.

2. Utilize the range at the proper intensity. Each area of range has a level of use that cannot be exceeded without causing deterioration of the land. However, an area can withstand some degree of soil compaction, vegetation harvest, and other use impacts without causing undue deterioration.
3. Utilize the range during the proper season. Soils and plants--two basic range resources--are more susceptible to damage during certain times of the year.
4. Utilize the range at the proper frequency. The frequency and severity of defoliation of individual plants and species of plants varies depending upon preference and availability. The result is that most preferred plants would be defoliated more frequently or severely than less preferred plants.
5. Utilize all suitable range areas with uniform and proper distribution. Livestock distribution is a common problem in rangeland environments; however, moving use from an area of concentration to an unused or underused area is essential to proper management.

This analysis focuses on re-authorizing livestock grazing under current utilization prescriptions, including: grazing intensity, timing, and frequency. The Forest Plan Amendment of Forage Utilization Standards & Guidelines, approved in 2002, discloses the environmental effects of using both utilization and residual stubble height methods for determining appropriate levels of utilization by livestock.

**Cattle Grazing Behavior.** Cattle are considered to be grazers, which consume grass-dominated diets. However, on some ranges cattle consume large amounts of forbs and shrubs, such as bitterbrush and mountain mahogany. This occurs primarily when green grass is unavailable or has cured and thus provides less available protein. Cattle show a strong avoidance of shrubs high in volatile oils (junipers, rabbitbrush, various sagebrushes, etc.) because they lack mechanisms to reduce the toxic effects of these substances (Holechek, et al. 1989, pg. 283). When other factors do not limit grazing distribution, distance from drinking water ultimately controls the limit of vegetation utilization. Cattle often heavily graze forage plants near water rather than traveling moderate to long distances to better forage. This results in deterioration of forage resources near the water supply and under-utilizes forage at long distances from water.

Cattle grazing within the Fishlake National Forest is usually permitted for cows with calves at their sides. Often a cow is unwilling to travel long distances with a calf at her side. This may result in distribution and use patterns that leave portions of the range unused while other areas receive more concentrated use. This is particularly important when water is poorly distributed, because the cow needs abundant water for milk production. Cows are often retained in the base herd 6 to 10 years. Such cows develop traditional patterns of grazing that may not provide good distribution. In general, cows scatter over the range best in the spring and fall when the weather is cooler and less energy is dissipated in movement.

Cattle prefer accessible areas such as flatlands and rolling lands, valley bottoms, low saddles between drainages, level benches, and mesas. Where the range is mountainous, cattle congregate on the more level areas, particularly valley bottoms and riparian areas, leaving the steeper portions lightly utilized. Cattle tend to spend a disproportionate amount of their time congregating in riparian zones because they provide shade, cooler temperatures, water, and an abundance of forage. Impacts caused by livestock in riparian areas are primarily a function of the timing, frequency, and intensity of use. In the spring, cattle may avoid riparian zones because of cold temperatures, soil wetness, and forage immaturity (Clary and Booth 1993). Therefore, spring grazing encourages cattle to graze uplands where forage maturity and climate are more favorable compared to the riparian zone.

Cattle can traverse rough terrain, but they are often reluctant to do so. Therefore, bottoms are often heavily used. The range as a whole may have adequate forage, but the uneven terrain results in uneven utilization of the forage. This can result in adverse effects on the livestock and on the range. Cattle

appear to be more willing to utilize slopes in early spring and late fall than during the warmer summer months. Frequent herding is effective in improving distribution on mountain rangelands (Valentine 1990, pg. 66). Grazing associations and/or individual permittees on the Fishlake National Forest are required to either provide "cattle herders" or "cow riders" to tend the cattle. Their duties include salting, health care, dispersing bulls for adequate breeding service, and repairing fences and stockwatering facilities. They also have the responsibility of gathering cattle from pastures once allowable utilization levels are reached and locating them on lightly used or ungrazed areas. On allotments which do not employ a full-time herder, cattle are only occasionally influenced by herding activity and are usually left alone to seek their own level of distribution and use.

Research indicates that cattle preference for forage will shift as stubble heights drop below three inches. Cattle prefer to reach their tongues out the sides of their mouths and draw in the vegetation, tasting it as they do. Thus they limit themselves to those species that taste the best. But this preference begins to change as stubble heights are lowered to 3 inches because the vegetation is too short to be pulled in by the tongue. Because they have only lower incisors and comparatively thick lips, they ordinarily graze no closer than 1 to 2 inches from the ground. At these stubble heights, cattle must begin eating in bites (like a horse), which takes up to twice the effort and time. Yet their rumens continue to say "Fill me up." The result is a shift to more quickly-eaten and less-palatable forage (Hall and Bryant 1995).

Another critical element in palatability which causes shifts in cattle forage preference is the "greenness factor" (that is, crude protein and quality of forage). As greenness of the most palatable species diminishes and the species shows signs of drying and thereby indicating a change in forage quality and a consequent change in palatability, cattle will shift forage and use area preferences. As the grazing season advances, cattle preference will shift as species palatable in spring and early summer become dry, particularly Kentucky bluegrass and other introduced species. After mid-August grasses and forbs provide little protein for cattle diets and cattle will tend to shift diets from grass to shrubs because shrubs are very high in crude protein. Shrub use (willows) will intensify at stubble heights below 3 inches, or as the most palatable vegetation dries (Hall and Bryant 1995).

## **E. BACKGROUND**

The Beaver Ranger District contains 11 National Forest grazing allotments. During the period from 1995 through 1997, environmental assessments (EAs) were completed for three of these 11 allotments. However, the remaining eight allotments (North-Indian Creek, Circleville, South Beaver, Marysvale, Pine Creek/Sulphurdale, Cottonwood, Ten Mile, Junction) do not have current analyses and are the project area for this EIS. These eight allotments comprise 178,000 acres (two-thirds) of the 260,000-acre District. The analysis area is located within similar landscapes and the allotments frequently have similar physical and biological attributes.

Continuing livestock grazing through grazing permit renewal involves a new commitment of resources for a new 10-year term. The Forest Service has authority to change the conditions, timing, and location of future grazing, or to end grazing altogether. The proposed action is needed to address significant grazing issues, relate existing conditions to desired conditions, and to conduct analysis in accordance with Section 504 of Public Law 104-19 (Rescission Act, 7/27/95) which directed the Forest Service to complete NEPA analysis on all grazing allotments. The Forest Plan provides the overall guidance for management activities in the potentially affected area through its goals, objectives, standards and guidelines, and management area direction.

Cattle grazing on these eight allotments has traditionally been authorized based on historic use and resource data that indicated suitability and rangeland conditions were adequate for livestock grazing. Even though, since enactment of the 1969 National Environmental Policy Act (NEPA), compliance has been a requirement, the Forest Service assumed that livestock grazing was a continuation of an existing use for which environmental effects were already addressed in allotment management plans (AMPs) and range analyses, and therefore the intent of NEPA was being met. Although grazing on some allotments has since been authorized by site-specific NEPA, many Forest Service field managers also believed that Forest Land and Resource Management Plans (Forest Plans) adequately analyzed the effects of livestock grazing on the environment, while others thought that authorizing livestock grazing was an administrative action not requiring compliance with NEPA.

Subsequent court and legal interpretations have concluded that the decision to authorize grazing is a discretionary one to which NEPA applies, and therefore prior to authorizing grazing, the area where grazing is permitted must be adequately and specifically analyzed with respect to effects of livestock grazing on the environment. This must be done to ensure compliance with the requirements of various laws and regulations, such as NEPA, the Endangered Species Act (ESA), the National Forest Management Act (NFMA), the National Historic Preservation Act (NHPA), etc.

In February 1998, a Fishlake National Forest Interdisciplinary Team conducted an in-depth assessment of 36 cattle allotments (including the 8 allotments in this proposed action) and 6 sheep allotments in a Forest-wide multi-allotment level environmental assessment. A final decision was made, which was subsequently appealed, pursuant to 36 CFR 215.17, and Forest Supervisor Rob Mwroka withdrew the decision in June 2000.

Consequently, the Forest Supervisor decided to complete a Forest-wide environmental assessment that only addressed livestock forage utilization criteria, and to incorporate new grazing utilization criteria through an amendment to the Forest Plan. This EA was completed during 2001 and the Decision Notice was signed in February 2002 directing that the revised criteria be incorporated into Part 3 of the Term Grazing Permits. Accordingly, modifications to grazing permits have been made to comply with this guidance. Concurrently, rather than revising the Forest-wide EA, the Forest Supervisor decided to proceed with preparation of environmental impact statements (EISs), for each group of allotments on each of the Forest's four mountain ranges and respective ranger districts. Public comments received during the completion of the original multi-allotment Forest-wide EA referenced above will be incorporated into this EIS analysis process.

## F. RELATIONSHIP TO LAW AND REGULATIONS

**Forest Reserves Act.** For much of the 19<sup>th</sup> century, the federal government was primarily interested in using federal lands as an incentive to encourage development in the western United States. In 1891, however, Congress enacted the Forest Reserves Act (Act of March 3, 1891), evidencing a shift in federal land management policy. Under the Act, certain forest reserves were selected from the remaining federal lands and placed under the control of the Department of the Interior.

**Organic Act.** The Organic Act of 1897 (16 U.S.C. {551} gave the Secretary of the Department of the Interior the general power to regulate the forest reserves. Subsequent to the Transfer Act of 1905 (16 U.S.C. 472), the administration of grazing on the forest reserves was controlled by the Department of Agriculture's newly created Forest Service. Acting under the broad regulatory authority granted in the Organic Act, and in the Transfer Act, the Forest Service imposed fees for grazing permits on the forest reserves for the first time in 1906.

**Granger-Thye Act.** Pursuant to the Granger-Thye Act of 1950 (16 U.S.C. {5801), the Secretary of Agriculture was specifically authorized by Congress to issue grazing permits for up to 10 years in the course of regulating grazing on the national forests. The Secretary was mandated to identify NFS lands best suited for grazing and placed these lands in grazing allotments. Grazing allotments are established on lands suitable and available for livestock grazing in accordance with, and based upon the objectives of, approved Forest Plans. A grazing allotment is a designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands and associated lands administered by the Forest Service. An allotment generally consists of federal land but may include parcels of private or state-owned land.

**Federal Land Policy Management Act.** The Federal Land Policy Management Act, as amended by the Public Rangelands Improvement Act allows for Allotment Management Plans (AMPs) to be included in grazing permits at the discretion of the Secretary of Agriculture (43 U.S.C. {1752 (d), as amended by 92 Stat. 1803 (1978)). The Secretary has elected to exercise this discretion, and has delegated his authority to issue regulations in this area to the Chief of the Forest Service (36 C.F.R. {222.1 *et. seq.*). An Allotment Management Plan is defined in FLPMA as a document prepared in consultation with lessees or permittees applying to livestock operations on the public lands prescribing:

1. The manner in and extent to which livestock operations would be conducted in order to meet multiple use, sustained-yield economic and other needs and objectives
2. Range improvements to be installed and maintained
3. Such other provisions relating to livestock grazing and other objectives found by the Secretary to be consistent with the provisions of the FLPMA

The Allotment Management Plan (AMP) is the implementation plan for the actions analyzed in the environmental assessment and selected in the decision document. AMP's also contain more detailed direction deemed necessary by the authorized officer. Existing conditions or AMP objectives, action plans, and long-term monitoring elements form the framework for the Allotment Management Plan. The basic elements of an AMP are:

1. Management objectives in terms of the condition and trend of the rangeland resources and action plans designed to move existing conditions toward desired conditions
2. Required livestock management practices including maximum amount of use in terms of allowable use levels to achieve management objectives, and distribution methods including salting and herding
3. Structural or non-structural improvements that are necessary for implementation
4. A description of long-term monitoring to determine if management objectives are being met or if adaptive management alterations are needed for meeting or moving toward desired conditions.

AMP's should be developed or revised concurrently with the completion of the site-specific analysis and project level decision. When all management actions required to administer livestock grazing on an allotment are included in the terms and conditions of the term grazing permit, an AMP may not be necessary. If a current AMP and/or AOI is functioning and existing conditions are at or moving toward desired conditions there may be no need to revise the AMP and/or AOI. If an AMP and/or AOI is evaluated and found not to be functioning in this manner, the AMP and/or AOI would be revised to incorporate objectives and actions designed to move toward desired conditions. When an AMP exists, the annual operating instructions (AOI) are an appendage to it and specify those annual actions that are needed to implement the management direction set forth in the project-level NEPA decision.

**Grazing Regulations.** Objectives (FSM 2202.1) for the Range Management program for all the National Forests are to:

1. 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.
2. Integrate management of range vegetation with other resource programs to achieve multiple use objectives contained in Forest land and resource management plans.
3. Provide for livestock forage, wildlife food and habitat, outdoor recreation, and other resource values dependent on range vegetation.
4. Contribute to the economic and social well being of people by providing opportunities for economic diversity and by promoting stability for communities that depends on range resources for their livelihood.
5. Provide expertise on range ecology, botany, and management of grazing animals.

Basic national policies for range management on all National Forests include:

1. Rangeland resource planning must be consistent with and integrated with forest planning, be part of the long-term planning process, and must reflect anticipated program funding (FSM 2210.3).
2. Consistent with Forest Plans, make forage available to qualified livestock operators from lands that are suitable for livestock grazing (FSM 2203.1(6)).

**Endangered Species Act.** As part of the NEPA process for grazing authorizations, the biological assessment process is used to determine the potential effects on species that are federally listed as threatened, endangered, and proposed.

**National Historic Preservation Act.** The National Historic Preservation Act, as amended (16 U.S.C. 470) defines that “permits” are undertakings subject to the requirements of section 106 of the Act. In June 1996, as part of the NEPA process for grazing authorizations, a five-year term Memorandum of Understanding (MOU) was entered between the Utah State Historic Preservation Officer (USHPO) and the National Forests in Utah. This MOU stipulated livestock grazing administration in accordance with stipulations defined in the MOU to satisfy the responsibilities under Section 106 of the NHPA for all individual undertakings of the program. Although this MOU is no longer in effect, it succinctly identified specific measures to follow in order to mitigate the effects of livestock grazing on cultural resources. This MOU is included in the NFMA project analysis file and is incorporated here by reference. Impacts on cultural resources is greatest and most predictable where livestock use patterns place the greatest number of users in the smallest area, as in concentration points in corrals, near water sources, etc., and these concentration points can in many ways be controlled by means of placement and management of water troughs, salt blocks, and transport facilities. The MOU concludes: “While it is conceivable that livestock on an archeological site could impact site components, there is no evidence that livestock activities in Utah forests are causing systematic, adverse damage to sites such that it would be desirable to recommend cessation of all grazing within all allotments or within areas containing many archeological resources.” No sites, for which analyses need to be performed, were identified to occur within any allotments in the project area.

**Clean Water Act.** The Clean Water Act (CWA), as amended, places primary responsibility for protecting water quality with the States. Section 313 of the Act requires Federal agencies to comply with all substantive and procedural State water quality requirements to the same extent as any nongovernmental entity. Section 319 addresses non-point source pollution, which is an important concern in the management of livestock grazing. States are required to identify impaired waters in the State, categories of and particular non-point sources of pollutants, and best management practices (BMPs). The National Forests in Utah have a management agreement with the State of Utah that recognizes the Forest Service as the management agency for non-point sources on National Forest System lands. This

agreement explains the respective responsibilities of the Forest Service and the State, the State nonpoint source management requirements (BMPs) that are designed to minimize the impacts on identified users of water, monitoring to ensure that BMPs are implemented, monitoring to determine BMP effectiveness, mitigation to correct unforeseen problems, and adjustment of BMP design where appropriate. 303(d) water bodies are those that the State of Utah Division of Water Quality has identified as not meeting State standards for designated beneficial uses. Also listed under this resource is a listing of High Priority Watersheds that have been identified by the State of Utah for non-point source pollution control.

## G. RELATIONSHIP TO THE FOREST PLAN

As grazing permits are issued, they must be consistent with Forest Plan direction. Consistency is determined, in part, by comparing the grazing permit (including the AMP) with the Forest Plan direction stated in terms of Forest-wide and management area standards and guidelines.

In 1986 the Fishlake Forest Land and Resource Management Plan (Forest Plan) was approved. This Plan provides for multiple-use and sustained-yield of goods and services from the Forest. Forest Plans determine the suitability of the plan area for allocation of uses and establish programmatic direction including goals, objectives, standards, guidelines, and monitoring requirements.

**Range Suitability.** Beginning in 1945, range allotment analyses were used to describe allotment conditions. Range suitability was identified as one of the areas of analyses and was defined as "forage-producing land that can be grazed on a sustained yield basis under an attainable management system without damage to the basic soil resource of the area itself, or of adjacent areas." This task called for the classification of land by topography and slope, soil type, vegetation type, forage production, distance from water, and poisonous plants. In 1967 and 1968 these range analyses, including range suitability, were completed for the eight allotments in the Tushar Range project area. The 1986 Forest Plan listed the acreage of suitable rangelands on the Forest's allotments by simply incorporating the acres of suitable range that were derived from these initial Range Environmental Analyses.

As defined by the "suitability" criteria developed in the above-described range survey procedures, allotment-specific suitable rangelands inventoried prior to 1986 and within the 178,000-acre project are limited to approximately 51,000 acres.

In the process of determining suitability, lines are drawn on maps and acreages are tabulated. The suitable areas are delineated, and consequently, by default, the map also displays areas that are "unsuitable". Vegetation in these "unsuitable" areas is not included in calculations of grazing capacity. However, livestock are not prohibited from these "unsuitable" areas. For example, a forested area with insufficient forage to support livestock grazing may not be identified as suitable but the presence of livestock drifting from an adjacent suitable area would not be prevented or require removal if there are no conflicts that would necessitate exclusion of livestock. In this situation, it would not be necessary to physically prevent livestock access to the forested area, but there would be no forage allocation made (grazing capacity assigned). Typically, "unsuitable" rangelands have limited attractions that would concentrate livestock use. Some occasional, incidental use may occur as livestock drift across these lands in moving to more suitable range. As long as there is no conflict that would necessitate exclusion, livestock may incidentally graze areas classified as unsuitable. It should not be construed that livestock are to be removed or prevented from grazing on all unsuitable areas.

Grazing is currently being conducted, on areas suitable for grazing, under existing AMPs. Allotment- and pasture-specific grazing capacity data was derived from "Tentative Grazing Capacity" worksheets

completed during range allotment analyses conducted during the 1960's and 1970's. From these worksheets, stocking capacities were calculated for each vegetative type on suitable rangelands within each allotment. These capacities were then used to determine appropriate stocking and seasons of use. "Firming up" of these capacities, over the years, has been a matter of routine monitoring and adjustments.

**Revised Forage Use Criteria.** In February 2002, the Forest Supervisor issued a decision to amend the Forest Plan with revised forage utilization criteria. By incorporating the revised criteria into Part 3 of the Term Grazing Permits, the new criteria implemented a maximum allowable use on uplands of 40-60 percent, varying by grazing system. The new standards emphasize residual stubble height criteria on hydric species in riparian areas of utilization to a stubble height of 4 inches triggering the time to end seasonal grazing in that unit. Historic forage use levels allowed by the Forest Plan were 50%-60% of key forage species grazed under deferred-rotation systems and 70%-80% of key species grazed under rest-rotation systems.

**Forest Plan Livestock Grazing Direction.** Currently, the 1986 Forest Plan is being revised. This project's proposed action was designed to comply with the 1986 Forest Plan, as amended, and the livestock grazing standards and guidelines contained therein. Authorization to graze the specific area is needed through a project level NEPA decision. This analysis is tiered to (that is, made under the authority and direction contained in) the 1986 Final Environmental Impact Statement for the Fishlake Forest Plan and incorporates direction provided in that Plan.

Management goals for the Fishlake National Forest range function are listed on page IV-4 and pages IV-21 through IV-24 of the Forest Plan (See Table 2-2 for Comparison of Alternatives—Ability to Meet Purpose and Need). These goals are summarized below:

1. Provide livestock grazing consistent with range capacity and other uses to sustain wildlife populations and the local dependent livestock industry.
2. Maintain rangelands being used by livestock in at least fair condition with stable or upward trend through the use of proper management and restoration measures.
3. Encourage permittees to assume greater responsibility and latitude in managing permitted grazing use.
4. Manage livestock and wild herbivore forage use by implementing proper use guides.
5. Assure maintenance of range structural and non-structural improvements and promote permittee investment in new structural improvements.
6. Control noxious weed infestations.

## H. PURPOSE AND NEED FOR ACTION

The need for the proposed action is three-fold:

1. To comply with Public Law 104-19, Section 504(a) [the Rescission Act] to "...establish and adhere to a schedule for completion of NEPA of 1969 (43 U.S.C. 4321 et seq.) analysis and decision on all allotments within the National Forest System unit for which NEPA is needed"
2. To improve the range condition and trend and achieve desired management conditions on suitable rangelands within the project area through the use of livestock grazing
3. To incorporate grazing design criteria and adaptive management provisions to minimize adverse effects from grazing and provide range managers with future flexibility to implement and adjust management over time to achieve desired resource conditions.

## I. EXISTING CONDITION

Shortly after the pioneers entered the Utah valleys in the mid to late 1800's, conflicts over utilization of the resources of the mountain watersheds began to arise. These conflicts were greatest near the communities, but they also extended throughout the areas that were later to become the Fishlake National Forest. The Forest Service was created in 1905, and over time, livestock numbers were reduced, scientific studies were started at the Great Basin Experiment Station, contour trenching of watersheds was done, and degraded rangelands were reseeded.

After 50 years, improvement and secondary succession was evident on practically every area of high mountain range in the Intermountain region. Today, after an additional 50 years of slow progress, uplands are generally in fair conditions and holding their own. Although range conditions on every acre have not improved to the level that many would like, much progress has been made. Busby (1978) reported that management by the Forest Service between 1905 and 1935 resulted in 77 % of the National Forest lands being classified in an improving trend. Platts (1979, 1985) agreed with this interpretation, but pointed out that the improvement was based mainly on data collected from uplands and did not take into account the still deteriorated condition of riparian areas. Large numbers of sheep were converted to cattle in the 1950's and, with cattle using riparian areas more heavily than sheep, riparian areas are recovering at a slower rate.

The existing conditions identified in this analysis reflect decades of cattle grazing at the utilization standards that were in place prior to 2002. Although the Proposed Action may be depicted as "continuing current management implemented in 2002", the reader is cautioned to realize that the "existing" conditions were created prior to 2002 and are more appropriately attributed to different utilization standards and management practices. As illustrated in Chapter 3, data from long-term trend studies, range site analysis, big-game range trend studies, and repeat photography; cumulatively indicates that 70% or more of the vegetation is in fair or better condition with in excess of 75% ground cover.

The decrease in total numbers of permitted livestock grazing has been negligible (less than 1%) during the last 15 years. However, it is significant to note the conversion from sheep grazing to cattle grazing, and to understand the correlation between cattle behavior and resource conditions compared to the different behavior of domestic sheep. Stable to upward trends in uplands indicate that cattle stocking levels are fairly consistent with established capacities. However, because of the behavioral nature of cattle, some riparian areas are used to excessive levels. In most cases, this is a management problem rather than a capacity problem. Most often the excess use occurs because livestock enter an area too early because of poorly maintained fences, stay too long because permittees fail to make a complete gather, or return after being removed because of poorly maintained fences.

Livestock grazing on federal lands is not the only factor that affects rangeland vegetation. Increasing human activities and a growing demand for resources multiply impacts on the environment and create cumulative effects of the combined impacts of multiple activities such as timber harvest and road building, watershed and water quality, recreation activities, and grazing. Busby (1978) noted that livestock use on public lands is lower than it ever has been in this century and therefore concluded that resource managers must look more and more to range uses other than livestock as causes of range deterioration. He recommends considering the impacts of off-road vehicles, camping, hunting, fishing, boating, back-packing, improved roads and highways, improvised trails, and recreational housing. He emphasizes that the trends of each of these is exactly opposite that of livestock grazing--up and not down..."Each of these uses is at its highest level ever and is growing every year. And each of these uses has an impact on the environment."

**J. DESIRED CONDITION**

The 1986 Forest Plan does not specifically provide “desired condition” statements for National Forest resources—that is; a description, in ecological, physical, and social terms, of the potential landscape conditions that could be met in the foreseeable future to achieve a sustainable landscape. However, the Plan does identify goals, objectives, and management requirements designed to lead to desired conditions.

For each allotment in the Project Area, a thorough evaluation of existing and desired resource conditions was made during the NFMA assessment conducted prior to preparation of the withdrawn 2000 multi-allotment range assessment DNFONSI. This assessment identified important ecosystem elements which are considered to be most relevant to livestock grazing. Key indicators of livestock management in the project area that were identified include: rangeland community types, wildlife and fish, and socio-economic concerns. These indicators provide the focus for the desired conditions (DCs) and associated resource management objectives that frame grazing management direction into the future and provide a basis from which management can be assessed over time.

Ecosystem Element	Table 1-1 IDT Interpreted Desired Condition Statement (Goals, Direction, Requirements—Forest Plan page reference is parenthetically noted)
Riparian Areas	<ul style="list-style-type: none"> <li>• Livestock grazing is managed to assure maintenance of the vigor and regenerative capacity of riparian plant communities (IV-141)</li> <li>• Aquatic habitats are maintained or moved toward good to excellent conditions (IV-3).</li> <li>• Livestock grazing use assures maintenance of the vigor and regenerative capacity of the riparian plant communities as well as maintaining shade and bank stability for streams (IV-85, 141)</li> <li>• Healthy, self-perpetuating riparian plant communities are maintained; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained (IV-141)</li> <li>• Riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is controlling erosion, stabilizing streambanks, shading water areas to reduce water temperature, stabilizing shorelines, filtering sediment, aiding in floodplain development, dissipating energy, delaying flood water, and increasing recharge of groundwater appropriate to site potential (IV-33-35, 42-43).</li> </ul>
Uplands	<ul style="list-style-type: none"> <li>• Rangelands are maintained in at least fair condition with stable or upward trends. Grazed ecosystems are healthy and sustainable over the long term. No component of grazed ecosystems is degraded due to livestock management. (IV-4, 23)</li> <li>• Desired native grass species dominate the herbaceous vegetation communities (IV-13-14,23).</li> <li>• Rangelands seeded with mixtures including predominately non-native plants are functioning to maintain lifeform diversity, production, nutrient cycling, energy flow, and the hydrologic cycle.</li> </ul>
Wildlife Habitat	<ul style="list-style-type: none"> <li>• Habitat for viable populations of existing wildlife species is maintained (IV-18)</li> <li>• Riparian dependent resource values are maintained, including wildlife, fish, vegetation, watersheds, and recreation in a stable or upward trend; maintain ground cover of at least 70% within riparian areas (IV-33-34)</li> <li>• Structural improvements are designed to benefit or at least do not adversely affect wildlife (IV-24, 109)</li> <li>• Big game winter range areas are managed to favor wildlife (IV-103)</li> </ul>
Fish Habitat	<ul style="list-style-type: none"> <li>• Aquatic habitat condition for fish is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries is met; healthy, self-perpetuating riparian plant communities are maintained (IV-85)</li> <li>• Waters capable of supporting self-sustaining trout populations are managed to provide for those populations (IV-18)</li> <li>• Livestock grazing systems are achieving riparian objectives along streams capable of supporting self-sustaining fisheries (IV-34)</li> </ul>
Water Quality	<ul style="list-style-type: none"> <li>• Water quality is maintained to meet State levels (IV-4)</li> <li>• Municipal watersheds are managed to protect quality of water supplies (IV-4)</li> <li>• Livestock use does not degrade water quality or adversely impact the timing or amount of water leaving Fishlake NF watersheds. Water that is produced by grazed watersheds is clean, of appropriate temperature, and flows throughout the year where appropriate (IV-35).</li> </ul>
Soils	<ul style="list-style-type: none"> <li>• Livestock grazing is not reducing the amount of plant cover to less than that needed for watershed protection (IV-42)</li> <li>• Rangelands that are in less than good watershed condition are stabilized and/or restored (IV-152)</li> </ul>
Socio-Economics	<ul style="list-style-type: none"> <li>• Forage for livestock is provided within range capacity to sustain the local dependent livestock industry (IV-4, 21)</li> <li>• Opportunities for community stability and development are provided in harmony with forest resources and activities (IV-5)</li> </ul>

- Recreation
  - Livestock grazing is managed to enhance recreation opportunities in existing and proposed recreation sites (IV-54)
  - Livestock grazing is generally excluded from developed sites (IV-52)
  - Conflicts between grazing and recreation are eliminated or minimized.
- T&E
  - Habitat is provided and managed for recovery of endangered and threatened species (IV-19)
- Species

Long-term monitoring indicators are used to assess whether management objectives for resource conditions and values are being achieved. This data will be used over time to determine the effectiveness of annual grazing use indicators or standards in achieving the desired conditions. If the desired condition objective is not being achieved, there is a need to change management and/or modify either the type or value of annual grazing use indicator being used. If the desired condition objective is achieved, it may be possible to modify either the value or type of annual grazing use indicator and still maintain the desired condition. An example would be relaxing the numerical value (i.e., 4-inch versus 6-inch stubble height) or changing the type of annual grazing use indicator being used (i.e., change indicator from herbaceous utilization to woody utilization).

Desired conditions for each of these element features are refined in the allotment management plan (AMP) planning and implementation process. They may become AMP objectives if existing conditions significantly differ from desired conditions and management actions can effect a change toward desired conditions. The following tables display the relationship between specific existing conditions and desired conditions for each allotment.

<b>Beaver Ranger District</b>		<b>Circleville</b>	<b>359 cattle</b>	<b>Cow-calf Prs</b>	<b>6/1-10/15</b>	<b>Rest Rotation</b>
<b>ELEMENT FEATURE</b>	<b>EXISTING CONDITION</b>		<b>DESIRED CONDITION</b>			
Reseeded rangelands	Productivity in lower elevation treatments and high elevation flats has been reduced below potential but is still providing capacity to sustain livestock. PJ and sagebrush density is increasing at lower elevations.		Rangelands seeded with mixtures including predominately non-native plants are functioning to maintain lifeform diversity, production, nutrient cycling, energy flow, and the hydrologic cycle. Invasive shrub and woody species are maintained at proper functioning condition levels.			
Riparian function	Riparian areas are generally in good condition—mid-seral with a minor amount in late seral condition and are functioning to functioning at risk.		Improve to mid-late seral condition, proper functioning condition with a good age structure in cottonwoods.			
Water Quality and Quantity	Sevier River and tributaries from Circleville Irrigation Diversion upstream to Horse Valley Diversion, UT16030001-005 are listed in the 2004 305b report and 303d list (Utah DEQ 2004a and 2004b). This listing encompasses the south end of the allotment, including Birch Creek (east). A draft TMDL for the Upper Sevier River has been submitted to the EPA and approval is pending (Utah DEQ 2004c). The upper sections of this allotment, draining to the Beaver River are currently subject to the Beaver River Watershed TMDL approved in 2000 (Utah DEQ 2000).		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.			
Viability of TEPCS species	Bonneville Cutthroat trout inhabit Birch Creek East. Livestock grazing has reduced streamside vegetation along accessible, lower elevation areas. Stream has < 40% overhanging vegetation. Some TEPCS wildlife present. Some suitable Sensitive plant habitat		Habitat for recovery of Bonneville CT Trout is provided. Aquatic habitat condition is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries are met; healthy, self-perpetuating riparian plant communities are maintained. Habitat is managed for recovery of the species.			
Socio-economic impacts	Current permitted head months are 1616.		Provide opportunities for livestock grazing and community stability and development .			

Beaver RD	Pine Creek-Sulphur Beds	660 cattle	Cow-calf Prs	6/16-9/30	Rest Rotation
Key riparian	The larger riparian areas in Pine Creek Swamps, Pine Creek, Wildcat, and Indian Creek have deteriorated and are “Functioning at Risk” with introduced species (Kentucky bluegrass) and loss of desirable hydric species.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Water Quality and Quantity	Previously listed water bodies (Beaver River tribs.) have been removed from the State 303d list, and are now subject to the Beaver River Watershed TMDL.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	Bonneville Cutthroat Trout currently occupy Pine Creek. Livestock grazing has reduced streamside vegetation along accessible, lower elevation areas. Stream has less than 40% overhanging vegetation. No TEPCS wildlife present. Suitable Sensitive plant habitat present.		Habitat for recovery of Bonneville CT Trout is provided. Aquatic habitat condition is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries are met; healthy, self-perpetuating riparian plant communities are maintained. Habitat is managed for recovery of the species.		
Socio-economic impacts	Current permitted head months are 2100.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	South Beaver	520 cattle	Cow-calf Prs	6/1-10/15	Rest Rotation
Key riparian	Riparian areas are generally in good condition; the larger riparian areas in South Creek, Big Twist, South Fork Beaver, Iant, Three Creeks, Anderson Meadow, and areas associated with small lakes have deteriorated; some are “Functioning at Risk” and some have streambank damage. Good age structure in cottonwoods.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Water Quality and Quantity	Previously listed water bodies (Kent’s Lake, LaBaron Res., Beaver River tribs.) have been removed from the State 303d list, and are now subject to the Beaver River WS TMDL.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	Bonneville cutthroat trout present in Birch Creek.. Grazing has altered the stream profile, reducing pool depth, pool to ripple ratio, and ability of stream to carry high flows without damage. Utah prairie dog habitat in Rocky Basin. No suitable TEPCS plant habitat.		Habitat for recovery of Bonneville CT Trout is provided. Aquatic habitat condition is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries are met; healthy, self-perpetuating riparian plant communities are maintained. Habitat is managed for recovery of the species.		
Socio-economic impacts	Permitted head months are 2340.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	Marysvale	147 cattle	Cow-calf Prs	6/16-9/30	Rest Rotation
Key riparian	Concentrated, prolonged livestock grazing in Pine Creek has deteriorated riparian areas to a “Functioning at Risk” condition, dominated by Kentucky bluegrass.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Water Quality and Quantity	No water bodies currently listed on the 2004 State 303d list.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	No TEPCS fish present. Some TEPCS wildlife present. Some suitable Sensitive plant habitat		N/A		
Socio-economic impacts	Current permitted head months are 588. Chainings have increased available forage.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	Junction	35 cattle	Cow-calf Prs	11/1-2/15	Winter
Key riparian	Concentrated, prolonged livestock grazing in City Creek has deteriorated riparian areas. Some mechanical damage to streambanks has occurred. Large portions have been fenced to exclude cattle.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Key Uplands	Key upland sites are in poor condition; closed canopy cover has reduced forage production.		Rangelands are maintained in at least fair condition with stable or upward trends, and desired native grass species dominate the herbaceous vegetation communities. Grazed ecosystems are healthy and sustainable over the long term. No component of grazed ecosystems is degraded due to livestock management.		
Water Quality and Quantity	No water bodies currently listed on the 2004 State 303d list.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	No TEPS fish present. No TEPS wildlife present. No suitable TEPS plant habitat		N/A		
Socio-economic impacts	Current permitted head months are 123.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	Ten Mile	200 cattle	Cow-calf Prs	6/11-10/10	Rest Rotation
Key riparian	Lake Peak is in mid seral condition, functioning at risk. Has improved from non-functioning condition with a portion of the area excluded from livestock in circa 1963. The larger riparian areas in Ten Mile, City Creek, and from Price to Order Canyon have deteriorated and are either "Functioning at Risk" or "Not Functioning"		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Reseeded rangelands	Sagebrush has reinvaded the Upper and City Creek sagebrush treatment areas; increased crown cover has reduced production of seeded/native species.		Rangelands seeded with mixtures including predominately non-native plants are functioning to maintain lifeform diversity, production, nutrient cycling, energy flow, and the hydrologic cycle. Invasive shrub and woody species are maintained at PFC levels.		
Key Uplands	Key upland sites in the Price, Cougar, and Ten Mile Canyon areas were depleted by historic excessive grazing. Shrub and woody vegetation has increased.		Rangelands are maintained in at least fair condition with stable or upward trends. Grazed ecosystems are healthy and sustainable over the long term. No component of grazed ecosystems is degraded due to livestock management. Desired native grass species dominate the herbaceous vegetation communities.		
Viability of TEPCS species	Bonneville Cutthroat Trout currently occupy Ten Mile Creek. Grazing has reduced streamside vegetation along accessible, lower elevation areas. Stream has less than 40% overhanging vegetation. Some TEPCS wildlife present. Some suitable Sensitive plant habitat		Habitat for recovery of Bonneville CT Trout is provided. Aquatic habitat condition is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries are met; healthy, self-perpetuating riparian plant communities are maintained. Habitat is managed for recovery of the species.		
Water Quality and Quantity	No water bodies currently listed on the State 303d list. Upper portions (above Puffer Lake—tribs to Beaver River) are subject to the Beaver River Watershed TMDL.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Socio-economic impacts	Current permitted head months are 800. May need to shorten season since many areas need to be treated with fire or mechanical methods to maintain capacity.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	Cottonwood	30 cattle	Cow-calf Prs	6/1-7/31	Season-long
Key riparian	The larger riparian areas in Cottonwood Creek have deteriorated and are “Functioning at Risk”.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Key Uplands	Key upland sites are in poor condition; closed canopy cover has reduced forage production.		Rangelands are maintained in at least fair condition with stable or upward trends. Grazed ecosystems are healthy and sustainable over the long term. No component of grazed ecosystems is degraded due to livestock management. Desired native grass species dominate the herbaceous vegetation communities.		
Water Quality and Quantity	No water bodies currently listed on 2004 State 303d list.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	No TEPS fish present. No TEPS wildlife present. No suitable TEPS plant habitat		N/A		
Socio-economic impacts	Current permitted head months are 60.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

Beaver Ranger District	North Indian	640 cattle	Cow-calf Prs	7/21-9/30	Deferred Rotation
Riparian function	Riparian areas are in mid-seral condition, functioning at risk.		Healthy, self-perpetuating riparian plant communities are maintained; at least 70% ground cover is maintained annually; key hydric species composition dominates vegetation; State water quality standards are met; habitats for viable populations of wildlife and fish are provided; stable stream channels and still water body shorelines are maintained		
Water Quality and Quantity	Previously listed water bodies (Beaver River tribs.) have been removed from the State 303d list, and are now subject to the Beaver River Watershed TMDL.		State water quality standards and guidelines are met or exceeded. Compliance is maintained with applicable TMDL documents.		
Viability of TEPCS species	Bonneville cutthroat trout present in North Fork North Creek, Pole Creek, and Briggs Creek. Streamside cover exceeds 40% overhanging vegetation. Some TEPCS wildlife species are present. Some Sensitive plant habitat present.		Habitat for recovery of Bonneville CT Trout is provided. Aquatic habitat condition is improved or maintained at or above a good habitat condition rating; stable stream channels are maintained; water quality standards for cold water fisheries are met; healthy, self-perpetuating riparian plant communities are maintained. Habitat is managed for recovery of the species.		
Socio-economic impacts	Current permitted head months are 1714.		Current livestock operations are sustained and opportunities for community stability and development are provided in harmony with Forest resources and activities.		

**K. PROPOSED ACTION**

The proposed action is to continue to authorize cattle grazing through the issuance and administration of term grazing permits on eight allotments within the Beaver Mountain Tushar Range analysis area: North-Indian Creek, Circleville, South Beaver, Marysvale, Pine Creek/Sulphurdale, Cottonwood, Ten Mile, and Junction. These allotments cover approximately 178,000 acres (two-thirds) of the 260,000-acre District and are located within portions of Millard, Piute, Garfield, Beaver, or Iron Counties in west-central Utah (see maps on pages *i* and *ii*).

Grazing would be authorized in a manner that would continue to meet or satisfactorily move Forest resources toward desired condition and meet Forest Plan objectives. The proposal focuses on authorization of cattle grazing under prescribed utilization levels identified in the Forest Plan and implemented through an allotment management plan, which is incorporated under the terms and conditions of the grazing permit. Monitoring of forage utilization criteria would determine the need and frequency for administrative adjustments in permitted cattle numbers or season of use.

There is no known need for the proposed action to include any changes to the existing grazing management. Over the years, the grazing permit and annual operating instructions have incorporated

numerous incremental changes in management direction to improve livestock management and protect resources. Because the grazing management on these allotments has been continuously revised to reflect needed changes, there are no known problems necessitating specific management changes or additional range improvements. Proposed grazing authorizations for these allotments would incorporate existing grazing management direction included in current grazing permits and Annual Operating Instructions (AOI's), including: forage utilization criteria; grazing management practices, and design criteria. For all allotments, permitted livestock would graze each pasture until allowable use is reached. Then, livestock would be moved to the next pasture or off the National Forest, depending on the timing and season of use. If livestock graze all authorized pastures, reaching allowable use in each prior to the "off date", they would be moved off the National Forest early. However, if livestock graze through pastures and reach the end of the grazing season prior to reaching allowable use, they would be moved off the National Forest by the "off-date" unless special circumstances exist.

For a full description of the Proposed Action see Chapter 2. Following are the primary elements of the Proposed Action. For comparison purposes, each alternative is discussed in Chapter 2 relative to each of these components.

- a. **Stocking Capacity:** This alternative proposes would authorize the current stocking capacity, and would provide approximately 12,000 AUMs of grazing on National Forest System Lands (seasonal use by 2,531 cattle) within the eight-allotment project area. While current permitted numbers are illustrated here, the use of a prescriptive allowable use does not depend on numbers. The stocking rate is, in effect, determined by the attainment of the defined use level. Through annual forage use monitoring, permit compliance monitoring, and/or long-term trend monitoring it may be determined that grazing capacities need to be adjusted. Decisions regarding any necessary changes in permitted numbers or season of use would be administratively made.
- b. **Grazing Systems:** The grazing systems required to meet desired conditions is a permit administration decision and is not addressed in this EIS. Through the AMP process it may be determined that grazing systems may be modified or changed. Allotments within the analysis area have historically been managed using prescribed grazing systems (generally rest rotation or deferred) for the past few decades.
- c. **Range Suitability:** The Proposed Action is based on rangeland suitability as determined in the 1986 Forest Plan and reflects no changes in suitability classification. Based on the current Forest Plan "suitability" criteria, suitable rangelands within the 178,000-acre project area on the Tushar Range are limited to approximately 51,000 acres.
- d. **Allowable Forage Utilization:** The Proposed Action continues implementation of the allowable forage utilization criteria that was revised through a Forest Plan amendment in 2002. The allowable use for riparian areas is a uniform 4" stubble height. Allowable upland forage utilization ranges from 40-60 percent on grass/forb types. Livestock are moved to the next pasture or removed from the allotment when any utilization threshold (upland forage utilization, streambank alteration, riparian forage utilization, riparian vegetation stubble height, or riparian woody browse utilization) is reached.
- e. **Range Improvements:** None of the project allotments currently require new structural range improvements (fences or water developments) to properly manage, distribute, and/or control livestock. However, the Proposed Action does include provision for maintenance of both existing structural and non-structural range improvements.
- f. **Allotment Management Plans:** The Proposed Action focuses on the use of existing or revised AMP's to prescribe the manner by which livestock operations would be conducted. The current AMP's are old and, (even though changes to grazing strategies, boundaries, and permitted numbers have been refined over time through administrative procedures), revisions may be necessary to ensure proper use of the resource and to evaluate progress toward meeting desired conditions through

attainment of resource management objectives identified in AMPs. If a current AMP is functioning and existing conditions are at or moving toward desired conditions there may be no need to revise the AMP.

- g. **Monitoring:** A monitoring plan, specific to each particular allotment, would be incorporated into each AMP. Existing range conditions, management situations, and actions to move resources toward desired conditions would be evaluated on each range allotment and monitoring would be conducted as appropriate for each situation. Once it is determined which objectives and actions need to be monitored, then the specific monitoring activities would be identified in the AMP monitoring plan. Monitoring activities may include: various utilization measurement methods, photo plots, use pattern mapping, compliance inspections, long-term trend studies, etc.
- h. **Adaptive Management:** This proposed action is designed to use adaptive management to ensure that grazing management is progressively adjusted until resources are in healthy condition and grazing management is sustainable. Adaptive management involves implementation of plan or project direction with monitoring to determine if the results are as expected. Environmental thresholds or triggers are essential in adaptive management. These are points established in adaptive management where management activities are altered in response to monitoring to ensure that management action is implemented properly and that it is achieving its intended result. Thresholds are established to trigger an adaptive management response. Triggers generally define when livestock should be moved. They are most often indicators of allowable use, and are designed to maintain livestock effects to rangeland resources and vegetation at acceptable levels.
- i. **Design Features:** Design features are intended to reduce or prevent undesirable effects to rangeland resources by livestock grazing and/or provide for the progression of existing conditions toward desired conditions.

## L. SCOPE OF THE PROPOSAL

1. **Geographic Scope.** The scope of this proposal was limited to the specified allotments to provide for multi-allotment level assessment and to group allotments with similar actions, purpose and need, and desired outcomes. Multiple allotments within the same landscape are grouped together to reduce the number of NEPA analyses (FSH 2209.13) and multiple Biological Opinions requiring subsequent reviews and consultations with the U.S. Fish and Wildlife Service. The analysis area includes all National Forest System lands in the eight allotments listed in Table 1-1 and displayed on the allotment map at page *ii*. The broad objectives of this multi-allotment approach are to simplify analytical detail and rely as much as practicable on judgment of field professionals while complying with the procedural requirements of the NEPA.

2. **Scope of Analysis.** Every element of the ecosystem is not analyzed. The issues that drive the process focus on the analysis of the key elements of the landscape most relevant to livestock grazing, human values, or resource conditions. Issues are limited to those that are clearly irresolvable conflicts with livestock grazing. Issues must result from ecosystem elements that either influence, or are influenced by, livestock grazing and management or debates/disputes about the outcome of the Proposed Action. Legally sufficient EISs can be done with a limited range of alternatives. The focus on identifying the appropriate Purpose and Need will result in dropping issues that are outside the scope of the Purpose and Need, thus keeping alternatives analyzed to those that meet Purpose and Need. For this analysis, the current management is the proposed action (current management is NOT the “no action” alternative). This is appropriate when current management is determined to be consistent with the forest plan. This consistency was provided when revised grazing utilization criteria were incorporated into Part 3 of the Term Grazing Permits in 2002. Issues identify a need for, and drive the development of, alternatives. To

deal with these issues, two alternatives to the proposed action have been developed: the no action (no grazing) alternative and the sustainable multiple-use grazing (SMU-G) alternative.

3. **Temporal Scope.** Implementation of the activities specifically identified in the Record of Decision (ROD) would begin as soon as possible and without further NEPA documentation. The AMPs are expected to guide livestock grazing practices within the analysis area for at least the next 10 years.

4. **Administrative Scope.** The decisions about activities to be implemented on the eight livestock allotments within the analysis area are being considered together in this proposal. The decision will be made on these activities concurrently because they are cumulative actions that may have potential cumulative effects on the environmental components of the project area. This proposal is limited to the authorization of continued cattle grazing and the associated implementation documents necessary to administer livestock grazing on the National Forest.

## M. DECISION FRAMEWORK

Given the purpose and need, the deciding official (District Ranger) will review the proposed action and alternatives, and the environmental consequences in order to make the following decision:

**To authorize continued cattle grazing on the eight allotments within the Tushar Mountain Range on the Beaver Ranger District consistent with the 1995 Rescissions Act (P.L. 104-19) and Forest Service regulations.**

If the decision is to authorize continued cattle grazing, the following stipulations would apply:

1. Forest Plan standards and guidelines, and management prescriptions and monitoring requirements required to meet or move toward desired resource conditions would be implemented.
2. Where clarification to existing management direction or adjustments to management direction are warranted based on permit administration and monitoring, the existing term grazing permits would be modified to incorporate appropriate adjustments in management direction.
3. Existing grazing management direction included in current grazing permits and annual operating instructions (AOI's) (i.e.: forage utilization criteria, grazing management practices, range improvement maintenance responsibilities, and design features) would be retained.
4. Existing structural and non-structural range improvements would be evaluated to determine whether they are cost-effective and necessary for proper livestock distribution and control.
5. Allotment management plans (AMPs) would be reviewed to determine the need for updating or revising.
  - The management requirements necessary to continue livestock grazing while meeting or achieving site-specific resource management objectives would be prescribed in the AMP.
  - The appropriate monitoring requirements necessary to measure trend toward desired conditions would be determined and incorporated in the AMP.

## N. PUBLIC INVOLVEMENT

The Forest Service began the public scoping process early in 1998 with the development of the multi-allotment level environmental analyses for sheep and cattle grazing on the Forest. A scoping letter dated February 23, 1998, was mailed to nearly 200 interested publics; including permittees, special interest groups, other agencies, congressional offices, and interested citizens. The Scoping Notice included the eight cattle allotments in the Tushar Range analysis area. When the decision for this EA was withdrawn additional public involvement was incurred with the preparation and completion of the Forest-wide

Forage Use Amendment EA. In 2004 the analysis documentation for authorization of livestock grazing was resumed. In a letter dated February 27, 2004, the Forest again requested public input for comments on authorizing livestock grazing through the re-issuance of term grazing permits. Reasons for additional scoping included both the length of time since the initial scoping as well as the expected determination to document the analysis through an EIS.

The Legal Notice for this EIS was published in the Richfield Reaper on March 3, 2004 and concurrently the scoping document was mailed to 141 identified interested publics. The Notice of Intent (NOI) was published in the Federal Register on March 11, 2004. The NOI asked for public comment on the proposal through April 5, 2004. However, comments were accepted as they were received. A total of 11 responses were received from this second round of scoping. From the comments received during the 2004 scoping period, the ID Team determined that the issues formulated in 1998, and confirmed with the second round of scoping, still applied to the allotments in 2004.

## **O. ISSUES**

Scoping is used to identify any issues that may drive the formulation of additional alternatives to the proposed action. An “issue” is defined as a point of discussion, debate, or dispute about the environmental effects of the proposed action. It represents an “unresolved conflict” which may be retained as a significant issue by the ID team. Although public comments expressed concern about the impacts of livestock grazing, particularly with regard to differences between existing conditions and desired conditions, none of the concerns were of such conflict that they could not be resolved through design features or appropriate management as prescribed in the proposed action.

Identified resource issues were separated into two groups: 1) issues identified through public scoping which are directly associated with implementation of the proposed action, and 2) non-significant issues determined to be: a) outside the scope of the proposed action, b) already decided by law, regulation, Forest Plan, or other higher level decision; c) irrelevant to the decision to be made; or d) conjectural and not supported by scientific or factual evidence. Indicators for each issue, which are used to measure the effects of the proposed action and to compare alternatives, are displayed in Tables 2-13 through 2-17 in Chapter 2.

Each of the following identified issues can be tracked in Chapter 3 and Chapter 4 for each alternative and analyses of the consequences. These issues, along with the issue indicators, establish a baseline for existing condition information in Chapter 3 and provide the focus of environmental consequences discussion in chapter 4. A list of non-significant issues and reasons regarding their categorization as non-significant is included, following this identification of key resource issues.

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### **1. Issues Directly Related to Authorization of Cattle Grazing**

#### **a. Riparian Vegetation:**

- Heavy grazing along streambanks and within meadows, seeps, and springs has resulted in alteration of dominant vegetation types, conversion of species composition to less desirable plants, meadow compaction, loss of woody browse, and streambank damage.
- Riparian areas have great biological significance. The benefits contributed by livestock grazing to the long-term stability of riparian areas should be determined.

#### **b. Water Quality and Quantity:**

- The cumulative effects of past and future grazing in this area could substantially reduce water quality.
  - The project should analyze water quality issues in order to ensure that current management is not contributing to the degraded state of the watersheds and that continued grazing would not increase the damage or negate restoration efforts.
  - All riparian, wetland, and stream areas should be fully protected with appropriate recovery and restoration treatments.
- a. Viability of TEP&S Species:**
- An assessment should be made to determine if livestock grazing compliments or impedes wildlife and wildlife habitat recovery programs.
  - Sometimes some animals and plants are protected more than people and their rights are protected. These kinds of issues should be handled carefully and with conservation and good management.
  - Northern Goshawks use aspen communities and riparian areas for nesting and foraging. Livestock grazing can alter both the structure and species composition of grass, forb, and shrub layers, which also modifies Goshawk foraging habitat. There are only two confirmed goshawk nests located within the project area, on the Circleville and South Beaver Allotments. Further observations are recorded on the North Indian Creek and the Pine Creek-Sulphurbeds Allotments. There is, however, suitable goshawk nesting habitat on all of the eight allotments within the project area.
- b. Viability of MIS Wildlife**
- **Mule Deer.** Mule deer are declining in much of the West. Mule deer are especially reliant on shrubs for forage during the critical winter months. Fawn production is closely tied to the abundance of succulent, green forage during the spring and winter months. The 1995 comprehensive literature review of the effects of livestock grazing document titled “Effects of Livestock Grazing at Proper Use” (pg 107) determined that, proper use would maintain shrubs, grasses, and forbs used by deer. Critical summer range would maintain adequate forage and cover to meet Forest Plan standards and guidelines. Critical winter range would be maintained to provide various browse species, as described in the Forest Plan. Critical fawning areas that are in unsatisfactory condition would be expected to improve and those that are in satisfactory condition would be maintained or improved. Riparian areas, presently in unsatisfactory condition, would be expected to improve with proper use, thereby providing improved fawning habitat and mule deer habitat in general.
  - **Sage Grouse.** Greater sage grouse occur only in sagebrush ecosystems, and sage brush steppe habitats are essential for survival of sage grouse populations. Until recently, sage grouse were not known to be present in the analysis area. In 2005, sage grouse were observed along the perimeter of the project area. Maintenance of vegetation conversions (as described in the Proposed Action) can improve potentially suitable habitat in some cases and cause it to decline in others. Vegetation conversions from an original disclimax pinyon-juniper cover type to early seral grass and subsequent late seral sagebrush may create potential habitat for sage grouse. Areas close to the allotments have been found to be suffering from sagebrush die-off. The FEIS should address any potential impacts future grazing may have on sagebrush communities. The sagebrush die-off that occurred during 2003 occurred mostly off the Fishlake National Forest and outside the analysis area of these eight allotments, at lower elevations in primarily Wyoming Big Sage brush types. No die-off occurred on the project allotments.
- c. Social and Economic Consequences:**
- Livestock grazing is basic to the viability of ranch operations and community economics. It will continue to be important to maintain quality of life and a way of life local people have inherited and would like to pass on to future generations.
  - The immediate and long-term economic justifications for livestock grazing should be evaluated and communicated.
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**2. Non-Significant Issues.** The Council on Environmental Quality (CEQ) NEPA regulations, Sec 1501.7, requires the agency to "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec 1506.3)...." Non-significant issues (1) are outside the scope of the proposed action, (2) have already been decided by law, regulation, Forest Plan, or other higher-level decision; (3) are irrelevant to the decision to be made; or (4) are conjectural and not supported by scientific or factual evidence.

**a. Deterioration of upland range sites:**

- **Upland Range Sites.** Deterioration of upland sites is not supported by scientific or factual evidence. Most key upland range sites within the allotments in this analysis are reported to be in satisfactory condition with stable to upward trends.
- **Aspen Ecosystems.** Significant losses of aspen throughout the Intermountain West are broadly documented and acknowledged. Changes in fire frequencies and interruption of historic disturbance patterns have encouraged encroachment by conifers into aspen woodlands. Increased conifer densities have led to changes in vegetation density and composition. The indicators are that there are major ecological forces occurring on which livestock grazing may have little effect. Re-sampling of range site analyses in 2002 on the Fishlake NF determined that there has been no change in the Watershed Resource Value Rating in the aspen vegetation type since the original readings were made in the 1960-1970 period. Ground cover has remained stable as well.
- **Deterioration of Vegetation Treatment Sites:** Treatments to reduce reinvasion of pinyon-juniper and sagebrush in previously treated areas and to provide appropriate ecosystem management of vegetative types would be conducted through appropriate ecosystem and prescribed fire planning. Most big sagebrush stands are currently outside a balanced range of structural classes. Most of the type presently occurs as mature plants in sites with more than 15 percent sagebrush cover and greater than 20 percent bare mineral soil exposed. Treatment of sagebrush has historically been accomplished to reduce canopy cover to that of properly functioning sagebrush communities. On areas for which treatment by prescribed fire is proposed, a separate fire management plan would be prepared and effects of burning would be disclosed on a site-specific basis. The determination of suitable areas that would respond appropriately and productively to prescribed fire would be made based on ecosystem needs. Additional NEPA assessment would be required for any new vegetative treatment projects. Such actions are not a part of the current proposal. Thus, they are outside the scope of this document.

**b. Beaver**

- Beaver must have sufficient willow, cottonwood, aspen, and/or other appropriate riparian plant species for food and hydrologic engineering of recovery of damaged stream hydrology. Although Beaver are native to the Beaver River Watershed and have declined from previous populations, the Cottonwood Allotment has been closed to livestock for 10 years and the beaver have not come back. Livestock grazing may have contributed to a deterioration of beaver habitat, but it appears that there are more complex factors involved in recovery than simply removing livestock.

## Chapter 1 Definitions

**Adaptive Management:** Adaptive management is a structured process of “learning by doing”. The intent is to learn more from doing something and monitoring what we do than from collecting more generic data. The approach is like an experiment. Users analyze available information, decide, act, monitor their actions and, finally, evaluate the results. It provides the means to accommodate an imperfect knowledge of natural systems and changing conditions, through a dynamic, iterative process of planning, implementation, monitoring, and evaluation of outcomes, to adjust management strategies to meet ecosystem objectives.

**Allotment (Grazing):** A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands and associated lands administered by the Forest Service. An allotment generally consists of federal land but may include parcels of private or state-owned land.

**Allotment Management Plan (AMP):** A long-term operating plan for a grazing allotment document prepared in consultation with the permittees(s) involved that specifies the program of action for implementation of the forest plan as related to livestock grazing activities. Each allotment on National Forest System lands is required to have an Allotment Management Plan. Design Features. Actions intended to reduce or prevent undesirable effects to rangeland resources by livestock grazing and/or provide for the progression of existing conditions toward desired conditions.

**Allowable forage use:** The degree of forage utilization considered desirable and attainable on various parts of a ranch or allotment considering the present nature and condition of the resource, management objectives and level of management. The degree of use estimated to be proper until proper use is known.

**Alternative:** A mix of management prescriptions applied to specific land areas to achieve a set of goals and objectives. Each alternative represents a different way of achieving a set of similar management objectives.

**Analysis area:** One or more capability areas combined for the purpose of analysis in formulating alternatives and estimating various impacts and effects.

**Annual operating instructions (AOI):** A set of instructions developed by the US Forest Service and given to the Grazing Permittee on an annual basis, that explains the specific pastures to be used, and adjustments to the Allotment Management Plan for the current year.

**Biological Assessment:** An assessment or study required by the Endangered Species Act of 1973 to determine the potential effects of a proposed management action on threatened and endangered species or their habitats. The U.S. Fish and Wildlife Service review Biological Assessments and requests that all threatened, endangered, proposed threatened or endangered, and Category 1 “candidate species be addressed.

**Biological Opinion** - A document that is the product of formal consultation, stating the opinion of the U.S. Fish and Wildlife Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

**Carrying Capacity:** The average number of livestock and/or wildlife which may be sustained on a management unit compatible with management objectives for the unit without damaging vegetation or related resources. In addition to site characteristics, it is a function of management goals and management intensity. Carrying capacity may vary from year to year on the same area due to fluctuating forage production.

**Class of Livestock:** Description of age or sex group for a particular kind of livestock, such as cow, bull, calf, yearling, ewe, ram or lamb.

**Cumulative effect:** The impact on the environment resulting from the incremental impact of the action added to other past, present or future actions. They can also result from individually minor but collectively significant actions taking place over a period of time.

**Deferred-Rotation Grazing:** Moving grazing animals to various parts of a range in succeeding years or seasons to provide for seed production, plant vigor, and for seedling growth.

**Density:** The number of individuals per unit area. It is not a measure of cover.

**Design Features (criteria):** Mitigation measures are the specific requirements which will minimize, avoid, rectify, reduce, or eliminate, undesirable environmental effects to rangeland resources and/or provide for the progression of existing conditions toward desired conditions.

**Desired Condition:** The future condition of rangeland resources on a landscape scale that meet management objectives. Desired condition is based on ecological (such as desired plant community) social, and economic considerations during the land and resource management planning process. First and most important in reaching a desired future condition is to define what is achievable. Achievable means that the site can grow the desired vegetation. Desired condition is usually expressed as ecological status or management status of vegetation (species composition, habitat diversity, age and size classes of species) and desired soil qualities (conditions of soil cover, erosion, compaction, loss of soil productivity).

**Direct effect:** Effects on the environment that occur at the same time and place as the initial cause or action.

**Disclimax Community:** Shortened from “disturbance climax,” used to describe an ecosystem in which the climax community is held at a “lower” level due to repeated, unpredictable events (for example, maintenance of a prairie area by periodic fires which kill invading trees)

**Endangered species:** Any animal or plant species in danger of extinction throughout all or a significant portion of its range as designated by the U.S. Fish and Wildlife Service under provisions of the Endangered Species Act.

**Environmental Analysis:** An analysis of alternative actions and their predictable long and short-term environmental effects. Environmental analyses include physical, biological, economic, social, and environmental design factors and their interrelations.

**Environmental Assessment (EA):** A concise public document for which a federal agency is responsible. An EA serves (1) to briefly provide enough evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact; and to aid an agency’s compliance with the National Environmental Policy Act when no EIS is needed; and (3) to facilitate preparation of an EIS when one is needed.

**Environmental consequences:** A situation that naturally or logically follows as a result of an action. Commonly used in environmental impact statements for discussions about how the human environment, which includes the natural and physical environment and the relationship of people with that environment, is influenced by the government as actions.

**Environmental Impact Statement (EIS):** The documentation of environmental effects and action required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

**Federal land policy and management act of 1976 (flpma):** The act that (1) sets out for the Bureau of Land Management standards for managing the public lands, including land use planning, sales, withdrawals, acquisitions, and exchanges; (2) authorizes the setting up of local advisory councils representing major citizens groups interested in land use planning and management; (3) established criteria for review of proposed wilderness area; and (4) provides guidelines for other aspects of public land management such as grazing.

**Firming Up Grazing Capacity:** The process of applying a stocking rate, monitoring to confirm whether utilization remains within allowable use, evaluating trend data, and comparing results of management with objectives established in the AMP and Forest Plan.

**Floodplain:** The area adjacent to the active stream channel which is inundated during flows that exceed bankfull level. The floodplain acts as an energy dispersion zone during flood flows, and functions as an area of deposition.

**Forage:** Browse and herbage which is available to and may provide food for grazing animals or be harvested for feeding. Also, to search for or consume forage.

**Forage Production:** Weight of forage produced within a designated period of time on a given area.

**Forb:** Any broad- leafed, herbaceous plant other than those in the Poaceae (grass) Cyperaceae (sedge) and Juncaceae (rush) families.

**Frequency:** A quantitative expression of the presence or absence of individuals of a species in a sampling unit.

**Functioning – proper functioning condition:** Riparian-wetland areas are functioning properly when adequate vegetation, landforms, or large woody debris is present to (1) dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; (2) filter sediment, capture bedload, and aid floodplain development; (3) improve flood-water retention and ground-water recharge; (4) develop root masses that stabilize streambank against cutting action; (5) develop diverse ponding and channel characteristics to provide the habitat and water depth, duration and temperature necessary for fish production, waterfowl breeding, and other uses, and (6) support greater biodiversity (USDI Bureau of Land Management 1995).

**Functioning-at-risk:** Riparian-wetland areas that are in a functional condition but an existing soil, water, or vegetation attribute categorizes them with a reversible loss in capability and increased vulnerability to irreversible degradation based upon evaluation of current conditions and processes.

**Functioning Rangelands.** A condition where a rangeland has the capability across the landscape for renewal, for recovery from a wide range of disturbances, and for retention of its ecological resilience. They are also meeting a desired condition identified in long term specified management objectives, standards, and/or guidelines.

**Grasses:** Plants of the Gramineae family. Usually herbaceous plants with narrow, parallel-veined, two-ranked leaves.

**Grassland:** Lands on which the vegetation is dominated by grasses, grasslike plants, and/or forbs.

**Grasslike Plants:** Plants of the Cyperaceae and Juncaceae families. Usually herbaceous plants with slender, usually solid, round or three-angled stems and parallel-veined, often three-ranked leaves.

**Grazing:** Consumption of native forage from rangelands or pastures by livestock or wildlife.

**Grazing Allotment:** An area where one or more livestock operators graze their livestock. An allotment generally consists of federal land but may include parcels of private or state-owned land.

**Grazing Capacity:** Same as carrying capacity.

**Grazing Management:** The manipulation of grazing animals to accomplish desired results when considering of animal, plant, land, or economic responses.

**Grazing Permit:** Official written permission to graze a specific number, kind, and class of livestock for a specified time period on a defined rangeland.

**Grazing Season:** (1) On public land, an established period for which grazing permits is issued. (2) The time interval when animals are allowed to utilize a certain area.

**Grazing System:** A specialization of grazing management, which defines the periods of grazing and non-grazing. Grazing system should consist of at least the following: the number of pastures; number of herds; length of grazing period; length of non-grazing periods for any given unit in the system. Examples are Deferred Rotation and Rest Rotation.

**Herbaceous:** Vegetation growth with little or no woody components, such as graminoids and forbs.

**Herbage:** The above-ground material of any herbaceous plant.

**Herding:** A strategy for managing livestock where the manager maintains the animals in a “herd” and moves them from area to area as a group.

**Impacts:** The effect of one thing upon another. Impacts may be beneficial or adverse. See Environmental Consequences.

**Interdisciplinary team (IDT):** A group of resource professionals with different expertise that collaborate to develop and evaluate resource management actions.

**Interested public:** An individual, group or organization that has submitted a written request to the authorized officer to be provided an opportunity to be involved in the decision making process for the management of livestock grazing on specific grazing allotments or has submitted written comments to the authorized officer regarding the management of livestock grazing on a specific allotment.

**Issue:** An “issue” is defined as a point of discussion, debate, or dispute about the environmental effects of the proposed action. It represents an “unresolved conflict” which may be retained as a significant issue by the ID team.

**Kind of Livestock:** An animal species or species group such as sheep, cattle, goats, horses, or burros.

**Land Use Plan:** Any document developed to define the kinds of use, goals and objectives, management practices and activities that will be allowed to occur on an individual or group of parcels of land.

**Management Indicator Species (MIS):** Species that are selected because their populations changes are believed to indicate the effects of management activities. MIS strategies aim at the prevention of habitat degradation and further loss of biodiversity by monitoring selected species and maintaining, at the very least, a certain minimal population level.

**Monitoring:** (Grazing Activities) The practice of tracking the utilization rates and overall effects of grazing over time, through repeated collection of data. Food plants are examined and measured to determine what percentage has been eaten, trampled, or lost to other causes. Other plants in the area (e.g., willows and other woody species) are examined, and observations are recorded regarding trampling or other damage. Records are maintained of livestock stocking rates (number of cattle per unit of area per unit of time), and all changes are recorded. Significant climatological events are noted (e.g., hard freezes, heavy rains, floods, droughts, high temperatures).

**National Environmental Policy Act (NEPA):** The Act which declared a National policy to encourage productive and enjoyable harmony between humans and their environment, to promote efforts that will prevent or eliminate damage to the environment and biosphere, to stimulate the health and welfare of humans, to enrich our understanding of the ecological systems and natural resources important to our Nation; and to establish a Council on Environmental Quality.

**National Environmental Policy Act (NEPA) process:** An interdisciplinary process, mandated by the National Environmental Policy Act, which concentrates decision making around issues, concerns, and alternatives, and the effects of those alternatives on the environment.

**National Forest Management Act (NFMA):** A law passed in 1976 as amendments to the Forest and Rangeland Renewable Resources Planning Act, which requires the development of Regional and Forest plans and the preparation of regulations to guide that development.

**National Forest System:** All National Forest land reserved or withdrawn from the public domain of the United States; all National Forest lands acquired through purchase, exchange, donation, or other means; the National Grasslands and land utilization projects administered under Title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010-1012); and other lands, waters, or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system.

**Nonfunctioning:** Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, etc., as listed under properly functioning condition. The absence of certain physical attributes (where they should be located), such as floodplain, is an indicator of a nonfunctioning condition. A condition where a rangeland has lost the capability across the landscape for ecological resilience. Non-functioning rangeland health occurs when the desired condition is not being met and short-term objectives are not being achieved to move the rangeland toward the desired conditions.

**Noxious Weed:** A plant species that is undesirable because it conflicts, restricts, or otherwise causes problems under management objectives. Not to be confused with species declared noxious by laws concerned with plants that are weedy in cultivated crops and on range.

**Palatability:** The relish an animal shows for a particular plant as forage. This varies with succulence, fiber content, nutrient and chemical content, and morphological features such as spines or thorns. Palatability and preference are sometimes incorrectly used interchangeably.

**Perennial Plant:** One with a life cycle of three or more years.

**Permittee (Range Permittee):** an individual who has been granted a Federal permit to graze livestock for a specific period on a range allotment

**Permitted grazing:** Grazing on National Forest range allotments under the terms of a grazing permit.

**Preferred alternative:** The alternative that is disclosed by the selecting official as the alternative that is most likely to be selected for implementation, when a Draft Environmental Impact Statement is submitted to the public.

**Prescription:** Management practices selected to accomplish specific land and resource management objectives.

**Project area:** Area of analysis for this proposal on the Beaver Ranger District of the Fishlake National Forest.

**Project file:** An assemblage of documents that contain all the information developed or used during an environmental analysis, and is summarized in an Environmental Impact Statement. The file is part of the administrative record.

**Proper Stocking:** Placing a number of animals on a given area that will result in proper use at the end of the planned grazing period. Continued proper stocking will lead to proper grazing.

**Proper Use:** Degree and time of use of current year's growth which, if continued, will achieve management objectives and maintain or improve the long term productivity of the site. Proper use varies with time and systems of grazing. (synonym – proper utilization)

**Proper Use Guides.** The limiting factor or factors which will be measured on a particular site to determine if the site has been properly used. It could be residual forage, impact on other resources or uses, or any other measurable factor on a particular site.

**Proposed Action (PA):** In terms of the National Environmental Policy Act, the project, activity, or action that a Federal agency proposes to implement or undertake. The PA is sent to the public, and interested agencies for their review and comment. Comments are then used to develop alternatives to the proposed action.

**Public Involvement:** A Forest Service process designed to broaden the information base upon which agency decisions are made by 1) informing the public about Forest Service activities, plans and decisions, and 2) encouraging public understanding about and participation in the planning processes.

**Public Participation:** A procedure allowing citizens as individuals or interest groups to review proposed government procedures or information and offer suggestions, comments, and criticism, and help identify the issues and concerns associated with federal land management.

**Public Scoping:** The process used to determine, through public involvement, the range of issues that the planning process should address.

**Range Allotment/Environmental Analysis:** Systematic acquisition and evaluation of rangeland resource data needed for planning allotment management and overall land management. It consists of two basic parts: (1) an inventory of the resource, and (2) a narrative evaluation of the resource data, range management alternatives, and other information key to management of the grazing area.

**Range Management:** The science and art of planning and directing rangeland use in order to obtain maximum sustained economic livestock production consistent with the conservation and/or improvement of the related natural resources: soil, water, vegetation, wildlife and recreation. Scientific range management stands on the premise that the range resources can be improved and grazed perpetually by domestic stock and, at the same time, produce high-quality watershed, wildlife, recreation and, where suitable, forest products.

**Range Site:** Synonymous with ecological site when applied to rangeland.

**Record of Decision (ROD):** A concise public document separate from but associated with an environmental impact statement that publicly and officially discloses the responsible (decision making) official's decision (and rationale for the decision) about the alternatives assessed in the environmental impact statement, and the alternative chosen to implement.

**Responsible official:** The Forest Service employee who has been designated the authority to carry out a specific planning action.

**Rest-Rotation Grazing:** A system in which one part of the range is ungrazed for an entire grazing year or longer, while other parts are grazed for a portion, or perhaps all, of a growing season.

**Riparian area:** Area with distinctive soils and vegetation located between a stream or other body of water and the adjacent upland. It includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation. Riparian ecosystems are distinguished by the presence of free water within the common rooting depth of native perennial plants during at least a portion of the growing season. Riparian ecosystems are normally associated with seeps, springs, streams, marshes, ponds, or lakes. The potential vegetation of these areas commonly includes a mixture of water (aquatic) and land (phreatic) ecosystems.

**Riparian soils:** Soils that occur in land types and valley bottoms that have the potential to support wetland and riparian vegetation. These soils are flooded, ponded, or saturated with water for usually a week or more during the period when soil temperatures are above biologic zero (41° Fahrenheit).

**Riparian vegetation:** Plant communities dependent upon the presence of free water near the ground surface (high water table).

**Salting :** (1) Providing salt as a mineral supplement for animals. (2) Placing salt on the range in such a manner as to improve distribution of livestock grazing.

**Scoping:** The Council on Environmental Quality (CEQ) defines scoping as "...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40CFR 1501.7). Among other things, the scoping process is used to invite public participation, to help identify public issues, to obtain public comment at various stages of the analysis process, and to determine the range of actions, alternatives, and impacts to be addressed; identification of significant issues related to a proposed action; and the depth of environmental analysis needed.

**Season of Use:** Seasonal defoliation refers to the time of defoliation in respect to a plant's physiological activities. The two most critical times in a plant's growth cycle are: (1) the season when emergence from dormancy occurs; and (2) the season when it produces seed and enters dormancy. These critical periods are related to carbohydrate production and storage. When a

perennial plant enters dormancy the carbohydrates located in the leaves and stems are translocated to the roots and buds where they are placed in reserve to initiate the following year's growth. Excessive defoliation during this period reduces carbohydrate reserves which can adversely affect subsequent year's growth, and if this is repeated over a period of successive years, it will eventually result in plant death.

**Secondary Succession:** Secondary succession is the sequence of changes that takes place after an existing community of organisms is disrupted. It begins in an area where the natural community of organisms has been disturbed, removed, or destroyed but the soil or bottom sediment remains.

**Sensitive species:** All species that are under status review, have small or declining populations, or live in unique habitats. May also be any species needing special management. Sensitive species include threatened, endangered, and proposed species as classified by the Fish and Wildlife Service. In the Forest Service, sensitive species are designated by regional foresters.

**Significant:** Use in NEPA requires consideration of both context and intensity (40 CFR 1508.27): Context - significance of an action must be analyzed in its current and proposed short-and long-term effects on the whole of a given resource (e.g.- affected region). Intensity – Refers to the severity of the effect

**Stocking Rate/Capacity:** The relationship between the number of animals and the grazing management unit utilized over a specified time period (animal units over a described time period/area of land).

**Stubble Height:** Residual vegetation/stubble height is that measure of the herbaceous vegetation remaining at the end of the growing season just prior to winter dormancy. Stubble height is the average height measured from the soil surface to the height of actively growing leaves. A 4-inch stubble height is a direct measurement indicating that a forage plant is clipped off or broken at 4 inches above the ground. Stubble height can serve as an indirect indicator of trampling, soil compaction, streambank damage, and shrub browsing, as well as a direct measure of herbaceous plant defoliation.

**Succession:** Process of vegetational development whereby an area becomes successively occupied by different plant communities of higher ecological order.

**Successional stage:** A phase in the gradual supplanting (replacement) of one community of plants by another. Stages are described as early, mid, late in relation to the potential natural community that would occur over a long period of minimal grazing, fire, or mechanical disturbance.

**Suitable Range:** 1) Range accessible to a specific kind of animal and which can be grazed on a sustained yield basis without damage to the resource. 2) The limits of adaptability of plant or animal species. Land that is accessible or that can become accessible to livestock; that produces forage or has inherent forage producing capabilities; that can be grazed on a sustained yield basis under reasonable management goals. Suitable range includes both rangeland and forested lands with a grazable understory which are contained in grazing allotments.

**Summer range:** Range that is grazed during the summer months.

**Sustained Use (Production):** The continuation of livestock grazing at a uniform level while maintaining a healthy desired plant community.

**Sustained Yield:** The continuation of a healthy desired plant community.

**Tentative Grazing Capacity:** An estimated grazing capacity, based on actual dry weight forage production and proper use of key species, not verified under actual grazing conditions.

**Term Grazing Permit:** Official written permission to graze a specific number, kind, and class of livestock for a specified time period (usually for a ten-year term) on a defined rangeland.

**Threatened species:** Any plant or animal species likely to become endangered within the foreseeable future throughout all or a part of its range as designated by the U.S. Fish and Wildlife Service under the Endangered Species Act. See Endangered Species.

**Threatened and endangered species (TES):** Species identified by the Secretary of Interior in accordance with the 1973 Endangered Species Act, as amended.

**Trend:** The direction of change in a plant community or a measured attribute of that plant community as observed over time. The change in direction could be in vegetation, ground cover, or noxious plants, non-native invasive plant species features over time. Most of the time trend should be described as "meeting", "moving toward", or "not meeting" a desired plant community.

**Uplands:** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the foot slope zone of the hill slope continuum.

**Utilization Intensity (Degree of Use/Percent Utilization):** The proportion of current year's forage production that is consumed and/or destroyed by grazing animals. Overall utilization is comprised of both the portion eaten by livestock (harvest efficiency) and the portion lost to trampling, insects, or other causes. Research has shown that the proper degree of utilization for most species is around 50 to 60 percent, although some species can withstand heavier degrees of use and some are mortally injured at 50 to 60 percent. The general rule, however, has led the range management technicians to adopt the slogan "take half and leave half", meaning that about one-half of the current year's production can be consumed or destroyed by animals and that the remaining half should be left for the plants in order that they might feed and maintain themselves. With most grasses, 50% use of a plant's weight is not 50% use of its ungrazed height. Normally, two-thirds use of its height is 50% use of its weight.

**Utilization Frequency:** The number of times plants are defoliated during the growing season. Utilization frequency refers to the interval between defoliation intensities such as days, weeks, months or years. As a general rule, damage to the plant increases with increased frequency of defoliation. While excessive defoliation for several months is harmful, it is not necessarily destructive, especially if it is followed by a period of proper use and rest. The same is also true in respect to years. It is year after year of excessive defoliation that causes destruction to perennial vegetations.

**Winter Range:** Range that is grazed during the winter months.