Rangelands, Forage, and Grazing (GRZ)

Rangelands are grasslands, shrublands, forests and woodlands, wetlands, and deserts that can be grazed by domestic livestock or wild animals. Livestock grazing can be used to manage rangelands by harvesting available forage to produce livestock, managing plant composition, or reducing fuel loads. Sustainable and productive rangelands are one of the key ecosystem services on the Tonto National Forest. Rangelands contribute to a traditional western way of life and are essential for the survival of many small ranching operations and contribute to the economics of the surrounding communities. Rangelands and the associated range improvements (e.g., ponds, troughs, fences, corrals, windmills) provide scenery and recreational (e.g., hunting, wildlife viewing) opportunities to the public and provide habitat for numerous species.

Congress has designated grazing as an important use of National Forest System lands through various legislative acts (Multiple Use Sustained Yield Act of 1960, Wilderness Act of 1964, Forest and Rangeland Renewable Resources Planning Act of 1974, Federal Land Policy and Management Act of 1976, National Forest Management Act of 1976). Regulations include that "forage-producing National Forest System lands will be managed for livestock grazing and the allotment management plans will be prepared consistent with land management plans" (36 CFR 222.2) and "all grazing and livestock use on National Forest System lands …must be authorized by a grazing or livestock use permit" (36 CFR 222.3). Ranchers are issued permits to graze a specific number of livestock in designated areas.

Rangelands are divided into grazing units called allotments. Allotment boundaries often follow topographical features such as ridgelines or creeks and may or may not be fenced entirely. Allotments are further subdivided into pastures, and most allotments follow some kind of rotational grazing system where livestock are moved through different pastures as the year progresses. Allotment and pasture boundaries are changed administratively as needed.

Nearly the entire Tonto National Forest is divided into grazing allotments; however, a few allotments are considered vacant (no current permittee) or closed (no longer authorized for permitted livestock grazing). Status of allotments are dynamic, so a list of open, vacant, and closed allotments is subject to change. At the time of plan implementation, the goldfield allotment is closed. Over the last decade, the Tonto National Forest has worked with partners and permittees to reduce grazing pressure on sensitive environments (e.g., critical areas, riparian area). Currently, the Tonto National Forest manages the rangeland resources to balance livestock numbers with forage capacity.

The Tonto uses adaptive management to manage the rangeland resources. Allotment management plans have been prepared and are reviewed and revised as needed in conformance with National Environmental Policy Act (NEPA). In general, the Tonto manages grazing at conservative use levels. This grazing intensity (based on percent use of forage by weight at the end of the growing season) should provide for plant integrity, density, diversity, and sustainability and regeneration over time (Holechek and Galt 2000; Holechek et al 2011; Heady 1994). New or revised allotment management plans typically include new or modified fences, corrals, salt locations, and artificial water sources

designed to make progress towards the desired conditions in the plan to promote healthy soil, watershed and riparian conditions, and consider wildlife interactions, and wildlife movement.

Within the scope of the site-specific NEPA allotment grazing decisions, adjustments are made annually through the annual operating instructions to respond to changing conditions and move towards desired conditions. Authorized number of livestock, pasture season of use and timing, salt locations, and pasture rest periods may be adjusted as needed through the annual operating instructions. Information from monitoring such as frequency plots, canopy cover, pace frequency transects, photo points, and allotment inspections inform appropriate adjustments. Other factors such as weather patterns, likelihood of plant regrowth, and previous years' utilization levels, are also considered in annual operating instructions development.

If repeat monitoring indicates annual adjustments are not achieving the desired effects, further adjustments may be made to the allotment management plan or term grazing permit. Permitted number of livestock as well as grazing intensity may be adjusted up or down according to the grazing decision to move towards desired conditions.

Forage production by rangelands is one of the key ecosystem services provided by the Tonto National Forest. The plan components for Rangelands, Forage, and Grazing help provide this service for the future. See Chapter 1. Introduction for more information about key ecosystem services.

Refer to the Vegetation Ecological Response Units, Riparian Ecological Response Units, Watersheds and Water Resources, Riparian Areas, Seeps, Springs, Wetlands, and Riparian Management Zones, and Wildlife, Fish, and Plants sections in Chapter 2. Forestwide Plan Direction and the sections in Chapter 3. Management Areas Plan Direction for additional applicable plan direction.

Desired Conditions (GRZ-DC)

01 Sustainable livestock grazing contributes to the long-term socioeconomic diversity and stability of local communities.

02 Rangelands are resilient to disturbances, fluctuations, and extremes in the natural environment (e.g., fire, flooding, drought, climate variability).

03 Livestock grazing allows for healthy, diverse plant communities[26], satisfactory soil and water conditions, and sustains the quality and quantity of fish and wildlife habitat.

04 Livestock management and range improvements sustain or improve other resources.

Objectives (GRZ-O)

01 At least two water troughs or open storage tanks per ranger district will be fitted with wildlife escape ramps each year until all troughs and tanks have ramps.

[26] Desired conditions for plant communities can be found in the Vegetation and Ecological Response Units section.

02 At least one vacant allotment will be evaluated for one of the following options every two years, until there are no vacant allotments. If additional allotments become vacant (waived without preference) they will be evaluated for one or a combination of the following options within two years:

a. Convert to forage reserves to improve resource management flexibility;

b. Grant to current or new permitted livestock producer; or

c. Close to permitted grazing, in whole or in part.

Standards (GRZ-S)

01 Livestock use in and around riparian areas will be evaluated on an allotment-specific basis. Design elements (e.g., deferment, herding, and fencing) will be implemented where needed.

Guidelines (GRZ-G)

01 Range improvements should be maintained[27] to provide their intended function and extend the useful life of the improvement. Range improvements should be removed or decommissioned when no longer needed.

02 Salt or mineral supplements should not be placed near riparian, wetland, karst features, or other areas where livestock concentrations are undesired.

03 Drought preparedness should be emphasized in allotment management plans and may include flexible stocking rates/livestock classes, flexible rotation schedules, and other strategies for dealing with climate variability.

04 Livestock rotations should avoid grazing the same areas during the growing season at the same time, year after year.

05 Wildlife escape ramps should be installed in all livestock water troughs and open storage tanks.

06 Efforts (e.g., coordination with permittees, temporary fencing, increased herding, and herding dogs) should be made to prevent transfer of disease from domestic sheep and goats to bighorn sheep wherever bighorn sheep occur. Allotment conversions from cattle to domestic sheep or goats should not be allowed in areas adjacent to or inhabited by bighorn sheep.

07 Allotments and other areas closed to permitted livestock grazing should remain closed[28].

08 When unauthorized livestock[29] are found occupying National Forest lands, the owner should be promptly notified to remove them and prevent them from re-entering National Forest lands. If the owner is unknown or uncooperative, impoundment procedures should be initiated[30].

[27] Maintenance specifications for range improvements are defined in the grazing permit.

[28] Closed means an area or allotment will no longer be authorized for livestock grazing. Allotments are closed by project level decisions.

[29] Unauthorized livestock are livestock grazing the forest owned by someone not holding a grazing permit.

[30] More information on this process can be found at 36 CFR 222.50(h).

09 An adaptive management approach[31] incorporating best available scientific information should be used when evaluating stocking rates.

Management Approaches for Rangelands, Forage, and Grazing (GRZ-MA)

01 Coordinate permittees' grazing schedules with planned prescribed fire treatments to ensure there will be sufficient fuel to allow burn objectives to be met and forage available for permittee.

02 Forest managers continually work with permittees to adjust timing, intensity, and frequency of livestock grazing to respond to changing resource conditions (e.g., fire, flooding, drought, high fuel loading).

03 Consider allowing structural range improvements to be added or removed to meet desired conditions in conformance with applicable laws and regulations in the Allotment Management Plan.

04 Range managers use a cooperative approach working with permittees, local, county, State, and Federal government entities, and non-government organizations and develop partnerships to facilitate flexible and balanced permitted use.

05 Encourage the development of water sources in uplands (including wells) where possible to improve or restore riparian areas.

06 Work with partners (e.g., University of Arizona and Friends of the Tonto) to complete rangeland monitoring using currently accepted protocols (e.g., Reading the Range and riparian photo points).

07 Utilize post-fire resource assessments (e.g., burned area emergency response assessments) to determine timing for the restocking of livestock in the burned area post-fire. Consider the post-fire condition of ecological resources (e.g., vegetation, soil, riparian, and watershed conditions) and the functionality of range improvements before restocking.

08 Coordinate with partners, permittees, and other stakeholders to monitor and/or address unauthorized livestock use across all allotments, including closed and vacant.

09 Production, utilization, and other monitoring and assessment techniques are considered when developing stocking rates. Where current stocking rates are not available (e.g., vacant or rested allotments and pastures) production and other inventories may be used more broadly.

10 Work with agencies and partners to identify, maintain, and implement projects that increase water availability across the landscape for livestock and wildlife.

11 Consider targeted grazing to reduce high fuel loading.

[31] One example of an appropriate form of adaptive management is what is known as "stock and monitor". The stock and monitor approach involves measuring the effects of actual stocking levels over time (either short-term or long-term) on utilization and utilization patterns, composition of vegetation, vigor, soil cover, and other factors (including wildlife) to see if changes in stocking and/or management are needed (Smith *et al*. 2012).