United States Department of Agriculture

Forest Service

Peaks Ranger District

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File Code: 2230

Date: May 20, 2008

Jim Turrell
9000 Hutton Ranch Road
Flagstaff, AZ 86004

Dear Jim:

These are your 2008 Annual Operating Instructions (AOI) for the Angell Allotment. These Annual Instructions are a part of your term grazing permit as indicated in Part Two. In addition, this letter is to document actions that need to be taken this year to keep the Forest Service and this allotment in compliance with previous commitments from environmental assessments, allotment management plans and guidelines and recommendations for rare wildlife and plant species, including those that are threatened or endangered.

Allotment Area Description

The Angell Allotment consists of 59,574 acres east of Flagstaff, Arizona, and lies within the Peaks Ranger District of the Coconino National Forest, see Map 1. The allotment lies on the far eastern side of the City of Flagstaff and runs to the Forest boundary. The grazing system is a 12 pasture deferred rest rotation system.

The majority of the allotment is dominated by pinyon-juniper/transition blue grama grassland. San Francisco Wash and Youngs Canyon, both ephemeral drainages, run through the allotment. The northern portion of the allotment is made up of cinder hills like Maroon Crater, Cochrane Hill, and O'Neil Crater.

The allotment contains the following Land Management Plan Management Areas:

MA 7-Pinyon Juniper on less than 40% slope
MA 8-Pinyon Juniper on greater than 40% slope
MA 10-Transition Grassland
MA 13-Cinder Hills

The Angell Allotment occurs in four 5th code watersheds. The following table is a summary of number of total acres within each 5th code watershed and acres of the allotment that occur within each watershed on the Coconino National Forest.

5th Code Watershed (Acres)	Allotment (Acres)	% of Allotment within Watershed
Canyon Diablo (223,885)	50,200	22
Cedar-Deadman (237,822)	5,000	2
Lake Mary (97,203)	2,500	3
Flagstaff (145,396)	5,000	3

The following is a list of Best Management Practices (BMP's) developed for these Annual Operating Instructions.

- One of the main goals for livestock grazing practices on this allotment is to maintain or improve the quality of water.

- The location, timing, and intensity of livestock grazing activities should be controlled with objectives of achieving soil cover to prevent accelerated erosion and to protect water quality.

- Structural range improvements, such as fences, water developments, trails and corrals, should be planned, constructed and utilized in a manner to enhance or maintain water quality.

- Land treatments to manage vegetation or practices to reduce erosion should be planned, implemented and maintained to minimize adverse impacts on water quality.

- Livestock management activities, such as parasite control, feeding and salting, should be done in a manner to protect water quality.

- Monitor and enforce permittee compliance with terms and conditions of the grazing permit.

Authorized Grazing Information for 2008

Your term grazing permit information along with your 2008 grazing schedule is listed below:

Permittee Name	Permit Type	Season	Permitted No.
James Turrell	Term	5/15-10/31	425 cows/calves&bulls

Pasture Name	Use Dates	Total Number
Maroon/Cochrane	6/1 – 6/22	350
Cinder Hills	6/23 – 7/14	350
O'Neil/Crisp	7/15 – 7/31	350
Rio De Flag	8/1 – 9/10	350
Rattlesnake	9/11 – 10/20	350
Turkey Tank	10/21 - 10/31	350
Cinder Hills	11/1 – 11/7	350
Maroon/ Cochrane	11/8 – 11/14	350
Winona	6/7 – 10/31	68

Railroad	Yearlong Rest
South Angell	Yearlong Rest

The pasture move dates shown above are an estimate, and may need to be changed on the basis of actual range conditions. It is vital to monitor actual conditions closely, and notify the Forest Service promptly if it appears that livestock will need to be moved sooner or later than estimated above. Grazing dates will be adjusted for this year's soil and vegetation readiness. Field checks in key forage areas such as meadows and riparian areas will be made prior to scheduled entry dates. Dates may be adjusted only with prior approval of the Forest Officer.

To facilitate livestock moves, gates may be opened two days prior to the scheduled move date only when moving into an adjacent pasture. Gates must be closed and the grazed pasture entirely cleaned of livestock no later than five days following the scheduled move date. Grazed pastures must be kept clean of livestock following the pasture move.

Salt or mineral supplement locations should be rotated annually and avoid areas where cattle concentrations could cause excessive vegetation trampling, soil loss or disturbance to sensitive species or habitats. These areas would include Mexican spotted owl home ranges, northern goshawk home ranges, rare plants, riparian vegetation, meadows or locations closer than 1/4 mile from a water source. The enclosed map shows the general location of these areas that are not obvious on the ground. This map does not include all obvious sensitive areas like all meadows, riparian areas or water sources.

No prairie dog control (i.e., poisoning or shooting) is allowed in association with this permit.

Monitoring will be conducted in partnership with the permittee on a regular basis during the grazing season and will be used to develop next year’s Annual Operating Instructions that states when livestock are to be moved and how grazing patterns are to be changed during the grazing season. It is important for you to help us with monitoring of your grazing permit. With present and future downsizing in the Forest range program your assistance in monitoring will become increasingly more important. This monitoring generally includes compliance with your AOI’s, livestock utilization and overall range condition and trends.

The utilization guideline on herbaceous and woody vegetation is 35% on this allotment. This will ensure proper protection and management of resources on this allotment.

Range improvements on your allotment need to be maintained to proper Forest Service standards. A complete list of these improvements is listed in your grazing permit. No new improvements are planned this year. If improvments are needed during the year, before any of these improvements can be implemented, archeological and biological clearances will be completed.

No cattle exclosures exist on your allotment, therefore, maintenance and livestock use within these areas are not an issue.

AOI's are appealable and subject to review under 36 CFR 251.

If you have any questions, please call Gary Hase, Jr. at 527-8262 or Robert Garcia at 527-8263.

Sincerely,

_____
District Ranger

I have reviewed and agree with these Annual Operating Instructions.

_____
Jennifer Turrell/Stuart Anderson for James Turrell

Planned Monitoring

Permit Compliance: Throughout each grazing season Forest Service personnel would monitor to determine accomplishments of the permit terms and conditions, the AMP, and the AOI.

Allotment Inspections: Allotment inspections are a written summary completed each fall by Forest Service personnel to document compliance monitoring and to provide an overall history of that year's grazing. This document may include weather history, the year's success, problems, improvement suggestions for the future, and a monitoring summary.

Range Readiness: Each spring, Forest Service personnel and/or the grazing permittee would assess range readiness prior to cattle coming on the allotment to determine if vegetative conditions are ready for cattle grazing. The range is generally ready for grazing when cool season grasses are leafed out, forbs are in bloom, and brush and aspen are leafed out. These characteristics indicate the growing season has progressed far enough to replenish root reserves so that grazing will not seriously impact these forage plants.

Forage Production: Production surveys for this allotment would be done every 9 to 13 years. Methods used for these surveys would use the best available methods at that time. These values would be used as tools to manage this allotment, but will not be the sole measurement to establish carrying capacity. The most recent forage production surveys were done as part of this analysis in 2001. The next survey is scheduled to occur after 2011.

Rangeland Utilization: Long term condition and trend monitoring is the primary standard for monitoring of this cattle grazing management system. Utilization is used as a tool to understand and achieve the goals of long term management. Utilization guidelines are intended to indicate a level of use or desired stocking rates to be achieved over a period of years.

The definition of utilization and seasonal utilization come from standard protocols established by the Society of Rangeland Management and the new guidelines established by Region 3 Regional Forester (PRD 92). The following definitions and procedures for utilization were taken and adapted to fit this project.

Utilization is the proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). It is a comparison of the amount of herbage left compared with the amount of herbage produced during the year. Utilization is measured at the end of the growing season when the total annual production can be accounted for and the effects of grazing in the whole management unit can be assessed. Utilization guidelines are intended to indicate a level of use or desired stocking rate to be achieved over a period of years.

Utilization measurements will be taken in key areas which reflect grazing effects within an entire pasture. One key area would be established in the pasture, at existing long-term monitoring sites if possible, to represent overall pasture utilization. Utilization guidelines are not intended as inflexible limits. Utilization measurements can indicate the need for management changes prior to this need being identified through long term monitoring. Utilization data would not be used alone, but would be used along with climate and condition/trend data, to set stocking levels and pasture rotations for future years.

Cattle would move when seasonal utilization in a pasture approaches a "moderate" level. Moderate seasonal utilization would be approximately 21-50 percent. Moderate seasonal

utilization is an approximate value because it takes into account any additional growth which might occur later that year and considers season of use, wildlife use, weather conditions, availability of forage, and water in pastures. This moderate seasonal utilization level leaves residual cover for wildlife and soils and provides for long term health of the grazed plants.

If monitoring shows utilization rates exceed the utilization guideline in a given year, the grazing schedule and/or cattle numbers would be adjusted the following year so the utilization guidelines are not exceeded again. If utilization is exceeded after these adjustments are made, then the grazing management system would be changed to ensure this does not happen in the future.

Condition and Trend: Watershed and vegetative condition and trend monitoring will help determine the effectiveness of the allotment management plan, and long-term range and watershed trends.

Eighteen Parker Three-Step and paced transect monitoring points were established throughout this allotment in the 1950-60s. These transects are one of best historic records of range condition and trend. The photo points and vegetative ground cover data show how the site has changed over time. Canopy cover and frequency plots were placed with the Parker Three-Step transects in 2001 to add to this historic data.

Ocular plant canopy cover 0.10-acre plots were used to compare existing conditions with potential and desired vegetative community conditions. Over time, these plots will show how canopy cover changes. Canopy cover will provide an indication of how plants are growing, assuming that if they are getting bigger and occupying more space, then they are doing well and can be a relative gauge of vigor.

Frequency and ground cover data were collected using the widely accepted plant frequency method (University of Arizona, Extension Report 9043, 1997). These plots will monitor trends in plant species abundance, plant species distribution and ground cover. This will provide information on plant composition and additional information on regeneration.

These transects will be read at least every 10 years by Forest Service personnel. These plots will help determine the effectiveness of current management.

One key area plot will be established on the Angell Allotment and monitored annually:

- Management Area: Grassland
- Pasture: Winona
- Location: ¼ Mile West of Walking Cane Ranch
- Key Species: Blue grama

This plot will be established to monitor the long term condition and trends of soil map unit 41.

Precipitation: Precipitation is currently recorded at the Flagstaff National Weather Service Office at Bellemont. Precipitation data may be recorded within or near the allotments for more localized information. Precipitation data may be recorded throughout the year and summarized in the annual inspection. This data assists managers with forage utilization and production data collection.

Soil Condition: The Intergovernmental Agreement between the Forest Service and the State of Arizona that controls water quality and the Clean Water Act requires implementation and

effectiveness monitoring. The objectives of monitoring are to: (1) collect data sufficient to evaluate effects of management activities on soil and water resources; and (2) support changes in management activities to protect soil and water quality. Monitoring will help determine how successfully managers are implementing guidance practices and how effectively those practices are protecting soil and water quality. The current and proposed cattle grazing system incorporates Best Management Practices (BMP) and grazing practices (GP) and constitutes compliance with Arizona State and Federal Water Quality Standards. Arizona Department of Water Quality (ADEQ) will continue to monitor water quality in the area.

Watershed condition can be assessed using information from the monitoring schemes above. Monitoring of plant abundance, ground cover, species diversity and estimates of overall soil condition (using the methods described throughout this monitoring section) will indicate whether or not management practices are effectively meeting management goals. Trends toward improvements in species abundance and diversity should indicate that management practices are effectively improving soil condition and by inference, maintaining or improving downstream water quality and complying with water quality standards. Conversely, decreases in plant abundance and species diversity may indicate that management practices are not effective and need to be changed. Environmental factors, especially precipitation, will be considered when evaluating monitoring results.

Noxious Weeds: State-listed noxious weeds located in these allotments would be treated as necessary. The permittee and Forest Service would coordinate the weed inventory and treatment with responsibilities identified through the AOI. Noxious weed monitoring is carried out at the same time allotment inspections are conducted. As noxious weed populations are found they are mapped, monitored and in some areas, manually removed. Other treatment methods will follow guidelines established in the “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” (USDA 2005b).