United States Department of Agriculture | **Forest Service** | **Mormon Lake Ranger District**

4373 S. Lake Mary Road
Flagstaff, AZ 86001-9359
Phone: (928) 774-1147
Fax: (928) 214-2460

File Code: 2230

Date: April 1, 2005

Jim Shiew
P O Box 3732
Flagstaff, AZ 86003

Dear Jim:

These are your revised and updated 2005 Annual Operating Instructions (AOI) for the Deep Lake Allotment and a temporary permit for Youngs Canyon 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.

Deep Lake Allotment Area Description

The Deep Lake Allotment consists of 11,010 acres southeast of Flagstaff, Arizona. These acres lie within the northeast corner of the Mormon Lake Ranger District of the Coconino National Forest. The allotment lies below the rim of Anderson Mesa within the pinyon-juniper/transition grassland belt. The grazing system is a two pasture deferred rest rotation system.

The southern portion of the allotment extends to the top of Anderson Mesa, which is ponderosa pine, at an elevation of approximately 7100'. Going north the allotment descends the rim to and is dominated by pinyon-juniper and chaparral. The remainder of the allotment is denominated by pinyon-juniper/transition bluegrass grassland. Natural pothole lakes on the allotment are Deep and Horse Lake. These lakes have riparian values, however, in periods of extended drought the water and riparian vegetation dry up. Elk Springs is the only spring on the allotment and has some riparian vegetation.

The allotment contains the following Land Management Plan Management Areas:

MA 3-Ponderosa Pine and Mixed Conifer
MA 7-Pinyon Juniper on less than 40% slopes
MA 8-Pinyon Juniper on greater than 40% slopes
MA 10-Transition Grassland
MA 12-Riparian

The Deep Lake Allotment occurs in one 5th code watershed. The following table is a summary of number of total acres within each 5th code watershed and acres of the allotment, which occur within each watershed.

5th Code Watershed (Acres)	Allotment (Acres)	% of Allotment Within Watershed
Canyon Diablo (223,885)	11,010	5

The following is a list of Best Management Practices (BMP's) developed for these Deep Lake Allotment Annual Operation 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.

- Manage livestock grazing within (TES unit 55) meadows and riparian areas at an intensity that will improve vegetation ground cover (primarily the litter component) and improve species diversity of perennial grasses.

MA 12-Riparian
MA 13-Cinder Hills
MA 15-Developed Recreation Sites
MA 16-Inner Basin
MA 17-Research Natural Area
MA 18-Elden Environmental Study Area

<u>Youngs Canyon Allotment Area Description</u>

The Youngs Canyon Allotment consists of 10,365 acres southeast of Flagstaff, Arizona. These acres lie within Peaks Ranger District of the Coconino National Forest. The allotment is south of Interstate Highway 40 just south of Winona, Arizona. The grazing system is a four pasture deferred rest rotation system.

The majority of the allotment is a pinyon-juniper community at an elevation of approximately 6400'. Walnut Canyon runs through the northwestern portion of the allotment and contains some

riparian values. The southern portion of the allotment is transition grassland with sparse ponderosa pine and pinyon-juniper throughout.

The allotment contains the following Land Management Plan Management Areas:

MA 3-Ponderosa Pine and Mixed Conifer
MA 7-Pinyon Juniper on less than 40% slopes
MA 8-Pinyon Juniper on greater than 40% slopes
MA 10-Transition Grassland

The Young's Canyon Allotment occurs in two 5th code watersheds. The following table is a summary of number of total acres within each 5th code watershed and acres of the allotment, which occur within each watershed.

5^{th} Code Watershed (Acres)	Allotment (Acres)	% of Allotment Within Watershed
Canyon Diablo (223,885)	6,161	3
Lake Mary (97,203)	4,204	4

The following is a list of Best Management Practices (BMP's) developed in these Allotment Annual Operations Instructions for Youngs Canyon

- 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.

- Manage livestock grazing within (TES unit 41) meadow areas at intensity that will improve vegetation ground cover (primarily the litter component) and improve species diversity of perennial grasses.

Your term grazing permit information along with your 2005 grazing schedule is listed below:

Deep Lake

Permittee Name	Permit Type	Allotment	Season	Permitted No.
Jim Shiew	Term	Deep Lake	5/1-10/31	105 cows/calves & bulls

Youngs Canyon

Permittee Name	Permit Type	Season	Permitted No.
Jim Shiew	Temporary	5/15-10/31	63 cows/bulls

Pasture Name	Use Dates	Total Number
Walnut/Headquarters	6/1-7/15	150 cows
Deep Lake/Slate	7/16-9/16	150 cows
Antelope/Onyx	9/17-10/31	150 cows

Due to the current drought 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 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 habitats that support Mexican spotted owls, northern goshawks, 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 state when livestock are to be moved and how grazing patterns are to be changed during the grazing season. It is important this year 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, livestock utilization and overall range condition and trends.

Seasonal utilization monitoring will be conducted throughout the year in every livestock grazed pasture following the protocol set up in the attached worksheet. 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.

Adjustments in numbers, rotation schedule or season of use will be made if utilization standards are exceeded. The option to return livestock to a pasture that has received adequate plant regrowth will be considered if all resource objections can be met. To achieve the desired allowable use, it is important to have proper livestock distribution.

Refer to the attached map for the areas that are excluded from cattle grazing during the 2005 grazing season. All fences must be maintained to ensure cattle stay out of these areas. You must monitor these areas to ensure cattle do not enter them. If cattle enter these sites immediate action must be taken to remove them.

AOI's are appealable and subject to review under 36 CFR 251.
If you have any questions please call Katherine Sanchez Meador or Mike Hannemann at 526-0866.

Sincerely,

/s/ Gene Waldrip April 2, 2005
Gene Waldrip Date
District Ranger

I have reviewed and agree with these Annual Operating Instructions.

Jim and Duree Shiew
Jim and Duree Shiew

Planned Monitoring

Monitoring on this allotment over this year and up to the next 10 years will include: compliance, allotment inspections, range readiness, forage production, rangeland utilization, condition and trend, soil and riparian condition, and threatened and endangered species habitat.

Compliance: Throughout each grazing season, compliance monitoring will be done by Forest Service personnel to determine accomplishment of the terms and conditions of this permit, Allotment Management Plan, and Annual Operating Instructions.

Allotment Inspections: Allotment inspections are a written summary done 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 monitoring summary.

Range Readiness: Each spring, Forest Service personnel will assess range readiness prior livestock coming on the allotment to determine if vegetative conditions are ready for livestock 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 so grazing will not seriously impact these forage plants.

Forage Production: Forage production surveys for the allotment will be done every nine to 13 years. Methods used for these surveys will be done by the best available methods at that time. These values will be used as tools to manage this allotment, but will not be the sole measure to set carrying capacity.

Rangeland Utilization: Utilization monitoring is an estimate of the available forage by weight consumed or trampled through grazing and is expressed as a percent of the current year’s biomass removed. Utilization monitoring is designed to assess key forage utilization levels by livestock and elk during the year and from year to year.

Key forage species for this allotment include western wheatgrass, blue grama, squirreltail, Mountain muhly, and Arizona fescue. Utilization and seasonal utilization monitoring will be conducted by the permittee and spot checked by Forest Service personnel throughout the year in every grazed pasture. This monitoring will calculate an overall utilization value for a pasture 1) before livestock go into a pasture, 2) within five days after livestock leave a pasture, and 3) at the end of the growing season in the fall. Utilization will be averaged into the following five categories: no-use (0-10%), light (11-20%), moderate (21-50%), high (51-70%) and extreme (71%+). The goal for utilization will be 35% or less by livestock throughout the year with this intensive livestock grazing system.

In addition, key site and key species monitoring will be conducted in each of following habitat types: pine (oak), riparian, mountain meadow, and aspen, if these habitat types are

present on the allotment and are grazed by livestock. Utilization monitoring will also occur in selected pastures rested from livestock grazing by Forest Service personnel.

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 trend. In the past we have used Parker 3-step and paced transects to determine condition and trend. We now have better monitoring techniques such as canopy cover and frequency ground cover plots.

Parker 3-step and paced transect monitoring points were established throughout this allotment in the 1950-60's. 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. The new plots will be placed with the Parker 3-step transects in most locations to add to this historic data. The original photo points will be retaken.

Ocular plant canopy cover 0.10 acre plots will be 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 that can be a relative gauge of vigor.

Frequency and ground cover data will be 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. All this information will be statistically valid. 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 be used to help determine the effectiveness of the current management.

Precipitation: Precipitation is currently recorded within or near this allotment at Flagstaff National Weather Service Office at Bellemont, Flagstaff Airport, Sedona Airport and all the active fire lookout towers on the Forest. We suggest that additional rain gauges be established at your headquarters or other convenient location for a more accurate record of your local precipitation. This data could be recorded throughout the year and summarized in the annual inspection.

Soil and Riparian 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 assist line officers and resource managers in evaluating effects of management activities on soil and water resources; 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. Arizona Department of Water Quality (ADEQ) will continue to monitor water quality in the area.

Evaluating 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 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.

Rationale: This monitoring program gives this alternative the best data possible to monitor the effectiveness of your Allotment Management Plan while staying within the projected Forest Service budget.