

United States  
Department of  
Agriculture

Forest  
Service

Coconino  
National Forest

5075 N. Hwy 89  
Flagstaff, AZ 86004  
Mormon Lake District  
520/526-0866

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Reply to: 2230

Date: April 22, 2000

Bruce Porter  
P O Box 3705  
Flagstaff, AZ 86003

Dear Bruce:

This is the 2000 Annual Operating Plan (AOP) for the Lake Mary Allotment. This Annual Plan is 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.

The Lake Mary Allotment consists of 28,659 acres southeast of Flagstaff, Arizona. These acres lie within Mormon Lake and Peaks Ranger Districts of the Coconino National Forest, see Map 1. The allotment lies on the southeastern boundary of the City of Flagstaff, west to Flagstaff Airport and east just past Elk Park Meadows. The grazing system is a eight pasture deferred rest rotation system.

The majority of the allotment is a ponderosa pine community at an elevation of approximately 7000'. Within the ponderosa pine community lies scattered pockets of mountain meadows, aspen, and riparian community types. Springs on the allotment are: Hoxworth and Clark which have some riparian vegetation. The majority of Hoxworth Spring is excluded from this allotment.

The allotment contains the following Land Management Plan Management Areas:

- MA 3-Ponderosa Pine and Mixed Conifer
- MA 4-Ponderosa Pine on greater than 40%
- MA 5-Aspen
- MA 6-Unsuitable Timber Land
- MA 9-Mountain Grassland
- MA 12-Riparian

The Lake Mary Allotment occurs in three 5th code watersheds on the Coconino National Forest. 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 <sup>th</sup> Code Watershed (Acres)	Allotment (Acres)	% of Allotment Within Watershed
Oak Creek (298,114)	1,400	1
Lake Mary (97,203)	21,500	22
Flagstaff (145,396)	5,700	4

The following table is a summary of the water quality status of streamcourses affected by this allotment. This information is taken from the 1996 Arizona Water Quality Assessment published by the Arizona Department of Environmental Quality.

**Water Quality Status of Watersheds Affected by the Lake Mary Allotment.**

ADEQ = Arizona Department of Environmental Quality, AGFD = Arizona Game and Fish Department, A&Wc = Aquatic and Wildlife (cold water fish), A&Ww = Aquatic and Wildlife (warm water fish), FBC = Full Body Contact, FC = Fish Consumption, AgI = Agriculture Irrigation, AgL = Agriculture Livestock Watering, DWC = Domestic Water Source, A&Wedw = Aquatic and Wildlife (effluent dependent water), PBC = Partial Body Contact (non-swimming recreation) use.

The following is a list of Best Management Practices (BMP's) developed for this annual operating plan for this allotment.

- 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.

Your term grazing permit information along with your 2000 grazing schedule is listed below:

**Permittee Name**      **Permit Type**      **Season**      **Permitted No.**

B. & R. Land and Cattle Co.  
 Lake Mary Allot.            Term                    6/1-10/31                    520 cows/calves/&bulls

<u>Pasture Name</u>	<u>Use Dates</u>	<u>Total Days</u>	<u>Total Number</u>
Lake Mary	9/22-10/12	21	500
Schoolhouse holding	10/13-10/17	5	500
Fisher Point	yearlong rest		
Limestone	yearlong rest		
Airport	yearlong rest		
Schoolhouse	yearlong rest		
Elk Park	yearlong rest		
Rockhouse	yearlong rest		
Clark Springs	yearlong rest		

The pasture move dates shown above are an estimate, and may need to be changed on the basis of actual range conditions. Please 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 5 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.

Monitoring will be conducted in partnership with the permittee on a regular basis during the grazing season and will be used to develop next years Annual Operating Plan that states 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 annual operating, livestock utilization and overall range condition and trends.

Utilization monitoring will be conducted throughout the year in every livestock grazed pasture following the protocol set up in the attached worksheet. In addition, key site and key species

monitoring, to further conform with the Coconino Forest Plan, will be conducted at the following sites on the Allotment:

<u>Management Area</u>	<u>Pasture</u>	<u>Location</u>	<u>Key Species</u>
ponderosa pine	Fisher Pt.	.5 mi. NE of Hassel Tank	squirreltail, blue grama wheatgrass
mountain meadow	Schoolhouse	N. end of meadow at Schoolhouse Tank	spike muhley, wheatgrass blue grama
aspen	Lake Mary	Howard Draw	aspen, brome

The allowable level of utilization on herbaceous and woody vegetation is 35% on this allotment. Livestock utilization of woody vegetation in riparian areas may not exceed 20%. 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 allowable use 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.

Range improvements scheduled for this year will be: 1) replacing the electric fence in Newman pasture along Lake Mary (fence materials will be provided by the FS and the ranch will build the barbwire fence); 3) rebuild Schoolhouse Tank waterlot and move cattleguards (fence and cattle guards provided by FS and ranch will build the waterlot. Before any of these improvement can be put in place, archeological and biological clearances will be completed.

Both the original AOP and this letter is hereby made a part the term grazing permit.

Refer to the attached map for the areas that are excluded from cattle grazing during the 2000 grazing season. All fences must to 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.

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

If you have any questions, please call Buck Wickham or Mike Hannemann, at 526-0866 at the Peaks District Office. Also you can page Mike at (520) 556-6916, or Buck at (520) 556-7929.

Sincerely,

\_\_\_\_\_  
Bruce C. Greco  
District Ranger

\_\_\_\_\_  
Date

I have reviewed and agree with this Annual Operation Plan

\_\_\_\_\_  
Bruce Porter

### 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 before cattle move above on the allotment range readiness will be assessed by Forest Service personnel 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:** 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 tool to manage this allotment, but will not be the sole measure to set carrying capacity.

**Rangeland Utilization:** Utilization monitoring is a estimate of the available forage by weight consumed or trampled through grazing and is expressed as a percent of current years biomass removed. Utilization monitoring is designed to assess key forage utilization levels by cattle and elk during the year and from year to year. Key forage species for this allotment include western wheatgrass, blue grama, squirreltail, and Arizona fescue in the summer range and needlegrass, blue grama, black grama, sand dropseed, and sideoats grama in the winter range. 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 cattle go into a pasture, 2) within five days after cattle 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 cattle throughout the year with this intensive livestock grazing system. In addition, key site and key species monitoring will be conducted at a minimum of one per herd in each of following habitat types: pine (oak), riparian, mountain meadow, and aspen, if these habitat types are grazed by cattle. Utilization monitoring will also occur in selected pastures rested from cattle grazing by Forest Service and/or Arizona Game and Fish Department personnel.

## Monitoring

**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: canopy cover, 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 over the Parker 3-step transects in most locations to take over 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 us 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

**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.

## Monitoring

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.

Improving trends for riparian vegetation and stream channel conditions (if applicable on this allotment) should indicate that management practices are effectively benefiting water quality. Conversely, decreases in riparian vegetation or channel condition indicate that management practices are not effective and need to be changed. Environmental factors, especially flooding, will be considered when interpreting monitoring results. Several Fixed Station, Biocriteria Program, and other water quality monitoring sites maybe located within or near the allotment. These sites have and are being used to track long-term conditions and trends at critical points in a watershed and to develop biological criteria for stream segments. Information from these sites will be considered in evaluating the effectiveness of management practices, but may be of limited value considering the multitude of influences affecting each monitoring site.

**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.



