

GRAZING

A. GOALS

1. Utilize and manage the grazing resources that exist in the Moose Range on a sustained yield basis in a manner which is consistent with wildlife management goals and wildlife habitat enhancement efforts.
2. Preserve the integrity of the rangeland ecosystem.
3. Conduct research to determine whether grazing can be used as a moose habitat enhancement method to reduce bluejoint reedgrass competition.

B. MANAGEMENT STRATEGY

The management strategy for grazing in the Moose Range is to allow for utilization of rangelands in areas where grazing will not conflict with wildlife management objectives or where it can benefit wildlife habitat enhancement. The guidelines in the Chapter detail the grazing operation plans required for leases or permits. The details include incorporation of SCS stocking density recommendations, annual monitoring of forage utilization and range condition and the use of fencing for range management.

The majority of the known grazing resources is already under permit or lease within the Moose Creek drainage (see Map 10 on page 199). Currently, use of these sites is minimal. Common use of leased areas by several users is to be encouraged. The goals of common use are:

1. Increased utilization on the better grazing sites.
2. Sharing of costs for range improvements.
3. Reduced number of individual grazing areas.
4. Reduced fencing requirements.
5. Fewer administrative costs.
6. Better use of research projects.

New leases and permits will be non-exclusive use. Holders of existing leases will be encouraged to allow other users to share the leased area through private arrangements.

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Once active grazing commences, the intent is to use the existing lease/permit sites as research areas whenever possible. The research focus for the Moose Creek lease/permit sites is range trend condition studies and monitoring wildlife-livestock interaction for food preferences.

There are three proposed new grazing sites in the Range -- the southwestern corner, the area below Knob Hill and the Castle Mountain Mine Road area (see Map 10 on page 199). The intent for these new sites is to issue leases/permits according to the following guidelines to determine if grazing can occur without adversely affecting fish and wildlife resources.

C. GUIDELINES

1. RANGE MANAGEMENT PLAN. The grazing guidelines in this document constitute the "Range Management Plan" required in the Susitna Area Plan prior to extensive permitting or leasing.
2. AUTHORIZATION REQUIREMENTS
 - a. Permit or Lease Required. All grazing of domestic livestock shall be authorized by a permit or lease on all state lands not now under permit or lease. Permits would not be required for grazing use incidental to non-commercial recreational use of horses such as packing game or trail riding.
 - b. Term of Leases or Permits
 - (1) Policy for term of leases/permits
 - (a) Long term leases (6 to 10 years) and short term leases (1 to 5 years) will be issued where grazing is a designated use.
 - (b) Permits (1 to 5 years) may be issued wherever grazing is not prohibited as long as they do not adversely affect fish and wildlife.

- (2) Guidelines to be used to determine whether lease or permit is appropriate are listed in the following table. No guideline should be used exclusive of the other guidelines; rather, all the guidelines should be considered collectively.

GUIDELINES FOR DETERMINING IF A LEASE OR PERMIT IS APPROPRIATE

PERMIT	LEASE
(a) Small numbers of livestock, generally 50 or less.	(a) Larger number of livestock, 50 head or more.
(b) Non-commercial livestock.	(b) Commercial livestock.
(c) Specific area considerations.	(c) Specific area considerations.
* Small areas.	* Larger areas.
* Potentially high conflict area.	* Potential conflicts are better known and manageable.
* Shorter grazing period requirements.	* Better sites and longer seasons of use. ^o
* Less costly range improvements that will suffice.	* Higher cost range improvements needed to mitigate other resource conflicts.
* Site specific benefits, i.e., intensive grazing to reduce grass competition with other moose browse species.	

^oThe length for the season of use is specified by the guidelines in this chapter on page 113, 4.

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- (3) Guidelines to be used to determine whether a long or short term lease is appropriate are listed in the following table. No one guideline should be used exclusively from the others, rather they all should be considered.

GUIDELINES FOR DETERMINING SHORT OR LONG TERM LEASE

SHORT TERM LEASE (1-5 years)	LONG TERM LEASES (6-10 years)
(a) 25-50 head of livestock	(a) Greater than 50 head
(b) Less than \$10,000 investment in first 5 years	(b) Greater than \$10,000 investment in first 5 years
(c) Manageable but significant conflict	(c) No serious conflicts known
(d) Non-commercial operation	(d) Commercial operations
(e) Horses, sheep, cattle	(e) Horses, Cattle
(f) Lesser levels of vegetation and water monitoring needed due to better data, smaller areas and/or fewer animals	(f) Extensive amount of vegetation, and water monitoring desired
(g) Soil/vegetation and water conditions not well established	(g) Soil/vegetation/water conditions are well known
(h) Range condition and trend unknown	(h) Range condition and trend well established
(i) Potential conflict with moose browse enhancement.	(i) Minimal conflict with wildlife or moose browse enhancement.

- c. Leasing. Requirements prior to issuance of a lease, the following conditions must be met:

- (1) A range survey must be completed by the U.S. Soil Conservation Service (SCS), University of Alaska or other recognized range management specialist.

- (2) A grazing operating plan will be completed by the lessee with assistance from SCS, ADF&G, DOA, and DLWM. Note: SCS participates only if the lessee is a district cooperator and requests assistance. DNR and ADF&G must approve the grazing operating plan and lease agreement prior to issuance of lease.
 - (3) The grazing operating plan will be made a part of the grazing lease.
- d. Grazing Operating Plans. Grazing operating plans for leases will include the elements listed below which are common in Range Conservation Plans (RCP) prepared in cooperation with SCS. (Range Conservation Plans are soil and water conservation plans.) The RCP is a primary element in the grazing operating plan required for DNR leases. Grazing operating plans may be revised annually to allow changes in stocking rates, improvements, etc. as indicated by range conditions and trend information.
- (1) Updated range survey and soils data.
 - (2) Documentation of range condition and trend information.
 - (3) Range conservation practices, including but not limited to,
 - grazing system to be used,
 - proper grazing use guidelines,
 - stocking rates,
 - seasons of use,
 - key areas for range readiness and utilization studies.
 - (4) Range improvements and support facilities.
 - (5) Monitoring system.
 - (6) Special use areas and treatments.
 - (7) Location and legal description.
 - (8) Maps
 - range site map
 - soils map
 - range improvements
 - condition and trend maps
 - (9) Future considerations

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- (10) Special treatment areas where a restrictive grazing policy should be applied will be identified by ADF&G and DNR during the development of the grazing operation plan. See Map 10 for potential grazing areas.
 - (11) RCPs will provide non-technical range site descriptions and interpretations for grazing suitability.
 - (12) RCPs should be developed during a timeframe which allows SCS and the cooperator to examine the potential lease or permit area during the growing season (May through August) prior to approval of the permit or lease.
 - (13) SCS and ADF&G will work cooperatively to inventory the annual production (current annual growth) of moose browse.
- e. Common Use Areas. A grazing operations plan is required for common use areas. Common use areas are encouraged in order to fully utilize the range resource and to reduce fencing and facility requirements. future leases and permits will be structured so as to allow common use. Where existing leases are in place, lessee cooperation should be pursued to allow stocking of range areas that are underutilized.
- f. Grazing Permits. Individual permits may be issued with a simplified grazing operating plan. The grazing operating plans for permits should address the following subjects:
- (1) SCS range survey data or sufficient on-site range inspection by DNR, ADF&G, SCS and the applicant to verify existing range conditions.
 - (2) Range conservation practices, including but not limited to:
 - grazing system
 - use guidelines
 - stocking rates
 - seasons of use
 - (3) Range improvements to be required.
 - (4) Monitoring system to be used.
 - (5) Location and legal description
 - (6) Maps
 - range site map
 - range improvements

The grazing operating plans will be a part of the permit.

- g. Public Access. Public access to state lands is not to be restricted by a grazing permittee or lessee.
- h. Termination of Grazing Privileges. Failure to comply with lease or permit terms shall result in termination of all grazing privileges. Standard DNR appeal procedures will be followed.
- i. Conservation Agreement. If the permittee or lessee unilaterally cancels the "Conservation Agreement" with the DNR, Soil and Water Conservation District, the lease or permit will be subject to termination.
- j. Examination for Disease. Prior to placing stock on the permit or lease area, all livestock shall be examined by a state licensed large animal veterinarian for the diseases and parasites identified in Table 4 on page 111. All livestock shall be free of visible symptoms of any contagious/infectious disease and parasites prior to placing them on the Range. Livestock found to carry an infectious/contagious disease will be restricted from placement on the Range for a 60-day period to allow for treatment and re-testing by a licensed veterinarian.
- k. Parasite Treatment. All livestock shall be treated for and free of ectoparasites and endoparasites by using standard treatments and acceptable drugs prior to release on Moose Range lands.
- l. Notification. DNR shall be formally notified by the permittee/lessee a minimum of 48 hours prior to the release of livestock on state lands. The notification shall include:
 - (1) The number and type of livestock to be released;
 - (2) Doctor of Veterinary Medicine certification that the livestock have been inspected for infectious diseases that are a threat to wildlife and are found by visual examination to be free of infectious and contagious diseases, ecto- and endoparasites.

Note: Imported feeder cattle are exempt from the BRT test and are therefore by state law restricted to the owner's property. They cannot be put on public rangeland.

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- m. Overutilization of Moose Browse Species. Stock shall be removed from that portion of the Range where the annual production of moose forage species (willow, aspen, birch) has been determined by SCS and ADF&G to be overutilized. Fifteen percent (15%) utilization of the existing annual growth is considered over utilization.
- n. Renewals. Existing grazing leases or permits may be reissued to the lessee if the lessee has fulfilled the requirements of the lease/permit. Should the lessee forfeit the lease/permit, the grazing lands may be reissued to another party. The grazing operating plan should be reviewed by ADF&G, SCS and DNR prior to renewal to the new lessee to determine if changes are needed. A new Range Conservation Plan must be written for the new lessee.

Table 4: TREATMENT AND MANAGEMENT OF
LIVESTOCK DISEASES AND PARASITES

Disease/Parasite	Testing and Treatment Before Release on Public Rangeland	Required Action if Animal Tests Disease Positive
Brucella- Tuberculosis	BRT test at least 60 days prior to release.	Required Action if animal tests disease positive. Quarantine; remove from Range; Innoculation.
Blue Tongue	Visual examination by licensed veterinarian 60 days prior to release date.	Restrict from release on public rangeland for 60 day period to allow retesting/ recovery.
Anaplasmosis	"	"
Leptospirosis	"	"
Malignant Edema	"	"
Black Leg	"	"
Pasturella	"	"
Parainfluenza III	"	"
Respiratory Syncytial Virus	"	"
Infectious Bovine Rinstracheiti (IBR)	"	"
Contagious Ecthyma	"	"
Equine Infectious Anemia	"	"
Scabies	"	"
Ovine Viral Diarrhea	"	"
Ovine Progressive Pneumonia	"	"
Endoparasites	Administer by ingestion (Ivermectin) or other similar drug 60 days prior to release date.	"
Ectoparasites	" Dust/spray with appropriate Chemicals 60 days prior to release date.	"

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3. RANGE CONSERVATION PRACTICES

- a. Range Proper Use. Utilization of key species (Blue joint and fescues) shall be limited to no more than 30% of the annual forage production of those species.

Modification of this guideline can occur as a result of range condition and trend studies and utilization checks if those studies or checks prove a higher utilization will be beneficial for forage production without adverse effect on wildlife habitat. Modification can also be authorized if higher utilization is desired for wildlife habitat enhancement or recreation management reasons. ADF&G approval is necessary for modification of the 30% utilization guideline.

- b. Grazing Systems

- (1) Where season-long grazing occurs, utilization shall be no more than 40% of the estimated initial stocking rate during any given 30 day period.
- (2) Other systems may be developed as a result of research and utilized if approved by the ADF&G and DNR (Division of Agriculture).
- (3) A multiple pasture (rotational) grazing system is generally preferred for long-term lease areas.

- c. Stocking Rates. Initial stocking rates will be determined using the range survey data as a general guide. Modification to the stocking rates may occur as a result of changes identified from conducting annual utilization checks or identifying changes in condition and trend.

- d. Monitoring. The DNR or its qualified designee shall monitor grazing operations by conducting timely seasonal range condition and trend and utilization surveys to ensure that overgrazing and environmental degradation does not occur and that recommended stocking rates and densities are followed. Survey findings shall be reported to the permittee or lessee, Division of Agriculture (DOA), Division of Land and Water Management (DLWM) and ADF&G.

If environmental degradation is found to be caused by livestock activities, the grazing operating plan and livestock activities shall be modified to eliminate the undesirable action. Any restoration or rehabilitation needed as a result of overgrazing must be approved by DNR and ADF&G.

- e. Changes. Stocking rates, densities, length of season, and percent forage utilization levels may change as a result of research activities sanctioned by the DLWM, Division of Agriculture (DOA) and conducted in cooperation with the ADF&G.
- f. Riparian Zones. Riparian zones will be recognized as special treatment areas when developing the grazing operating plan.
- g. Waterbodies. The grazing operating plans will identify waterbodies to be given special consideration. These include but are not limited to all streams and lakes shown on the U.S.G.S. 1:63,360 topographic maps.
- h. Access to Certain Identified Waters. Cattle shall be prevented from having open access to certain streams and riparian habitat identified by DNR and ADF&G. Livestock may have access to these streams at predesignated fenced watering areas.
- i. Buffers. Buffers established to protect threatened riparian zones will be at least 100 feet wide on each side of the waterbody above the ordinary high water mark. There will be no grazing allowed in these areas. The grazing operating plan will identify those riparian zones to which this applies.
- j. Salting. Salting may be used to disperse concentrations of livestock use.

4. SEASON OF USE

- a. Range Readiness. Stocking the range shall not occur before Blue Joint (*Calamagrostis* spp.) grass reaches four to eight inches in height. A determination on range readiness shall be made by Alaska Department of Natural Resources (DNR). Key locations to determine range readiness shall be established where grass growth can be determined. The Soil Conservation Service (SCS) in cooperation with the DNR shall assist in making the determination on how and where these plots shall be established.
- b. Maximum Grazing Period. The maximum grazing period in any one grazing season is 75 days.
- c. Stock Removal Date. Generally, all stock shall be removed from the range prior to August 31.
- d. Flexibility of Removal Date. Stock removal dates will be specified in each lease or permit. Flexibility to modify the grazing period and stock removal date beyond August 31 depends on the individual grazing operating plans, current utilization checks and ADF&G approval.

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5. WILDLIFE CONFLICT

- a. Brown Bear. Livestock shall not be grazed in areas determined by ADF&G to have concentrations of brown bear.
- b. Moose. Livestock shall not be grazed in areas having high summertime concentrations of moose.
- c. Domestic Sheep. Domestic sheep shall not be grazed above 1,500 feet elevation or in the alpine transition zones in or near wild sheep range as determined jointly by ADF&G and DNR.
- d. Browse Species Conservation. Browse species will be conserved for primary use by wildlife through selection of areas and season of use guidelines.
- e. Livestock Predation. Grazing conducted in known or suspected predator range (wolf or bear) is done at the permittee's or lessee's own risk. The ADF&G will not conduct predator control activities for the purpose of reducing livestock losses due to predators. Permittees (or lessees) should be advised to comply with regulation 5 AAC 92.410, Taking Game in Defense of Life or Property.

6. RANGE IMPROVEMENTS

- a. Approval. All range improvements must be approved as a part of the grazing operating plan and lease agreement.
- b. Facilities. No permanent "headquarters" facilities capable of human habitation will be authorized as a part of a grazing permit or lease.

Support facilities such as holding pens, equipment storage buildings, loafing sheds and livestock treatment facilities shall be specified in the grazing operating plan and approved by DNR and ADF&G. Location of these facilities shall minimize impact on the area's moderate and/or high valued wildlife habitat, enhancement areas and scenic qualities according to the following criteria.

- (1) Screening. Facilities should be screened from view of the roads, heavily used trails or areas and public facilities to the extent feasible either by vegetation or natural contours.
- (2) Containment Facilities. Containment facilities will be sufficient to isolate diseased/contagious livestock temporarily should the need arise. Extended treatment for recovery purposes should occur off the public rangeland lease or permit area.

- (3) Grouping. Facilities will be grouped together.
- (4) Locating in Habitat. Facilities shall not be located in moderate or high rated wildlife habitat.
- c. Fencing. Fencing plans should be specified in the grazing operating plan after consultation with ADF&G and DNR during the grazing operating plan development or amendment process.
- d. Interim Fencing Guidelines. The details of a permanent fencing plan will be developed by ADF&G and DNR during the 1987 fiscal year.
 - (1) A fencing plan shall be submitted for approval as part of a grazing operating plan for permits and leases. The fencing plan will address the following subjects:
 - * Type of fencing.
 - * Construction specifications
 - * Purpose of fencing (e.g. confine livestock, exclude livestock, sub-divide grazing land).
 - * Location of fencing.
 - * Fence management.
 - Drop down areas/requirements
 - Intersections with recreation trails/roads
 - Maintenance
 - Permanent nature of fence
 - (2) Fences shall to the extent feasible and practical be located and constructed so as to permit passage by moose through an area while reducing to the minimum the potential injury to moose.
 - (3) To this end, ADF&G recommends that barbed wire will not be used for wire fences. The fence height and spacing of wires will be such that potential injury to moose is minimized and passage of adults and juveniles is maximized. (Specific guidelines for fence height and wire spacing will be developed.) One, two or three-wire electrified fencing may be acceptable.
 - (4) Fence construction should be designed so as to allow dropping the fence to the ground if necessary at the end of the grazing season in areas of intensive recreational use, established wildlife travel patterns, and/or areas of heavy snow accumulation.
 - (5) Fence construction will provide for easy passage of people where recreation trails and fences intersect. Foot traffic can be accommodated by pass-throughs or stile construction. Off-road vehicle or snow machine traffic on trail/fence intersections will be accommodated by cattle guards or similar devices to allow safe off-road vehicle passage.

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- (6) Fence lines should be cleared of any obstructions prior to construction so as to allow the fence to be clearly visible by animals and people. Such clearing will be maintained for the life of the fence.
 - (7) Fences should be constructed and maintained so the top wire is made highly visible by use of "poly tape" or other sight barrier material.
 - (8) An alternative permanent fencing method for known moose migration routes may be pole fencing. Sections of pole fencing across known moose trails should be tested as an alternative fencing method to wire fencing.
 - (9) All materials used in the construction of fences shall have a minimum life expectancy of 15 years or the length of the lease or permit.
- e. Removal at End of Lease/Permit. Facilities and fencing will be removed at the end of the grazing lease or permit period if not renewed. The permittee's rights of removal will be specified in the permit or lease.

7. FEDERAL LEASES

DNR will honor preference grazing rights from leases issued by the Federal Government where applicable.

8. RESEARCH NEEDS

The following areas of livestock-wildlife interactions need field observations and documentation.

Grazing permittees/lessees should be encouraged to participate in the process of documenting the effects of grazing in their permit/lease areas. Specific lease/permit areas should be assigned a specific set of observations and documentation requirements as a part of the lease or permit.

Knowledge of moose and livestock food habits and behavior are largely unknown in these areas although Alaska Department of Fish and Game (ADF&G) is learning more about moose habitat distribution. In order to intensively manage moose, livestock, and vegetation in these areas, research is needed on food habits, forage quantity and quality, plant tolerance to utilization, and habitat manipulations.

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- a. Food Habits and Behavior. Information is needed on the physical locations of moose year around and livestock grazing patterns in the summer. Observation of where livestock grazing is concentrated is needed to determine long-term trends in vegetation changes. Food habits must be identified to determine which species to consider in available forage calculations. Moose are assumed to browse in both winter and summer and may also graze to some extent in the summer. Livestock are primarily grazers, but are known to browse. No detailed food studies have been done in the area. Food items must be identified before one can determine how many animals a range will ultimately support.
- b. Forage Quantity and Quality. The initial stocking rate of a range is based on quantity of available forage and the nutritional value. At different times of the year, lower nutritional levels may be acceptable while at other times, such as prior to calving, higher levels are needed. Before any new grazing is allowed, DNR will establish control plots within the area to be grazed. Condition and trend plots must also be established to monitor range condition, species composition, and nutrient production.
- c. Tolerance to Utilization. Most plants that are grazed or browsed require utilization to maintain productivity. However, too much can be harmful, and this varies by species. Few long-term studies have been done in Alaska on this topic. Sometimes grazing and browsing may change the vegetation composition in an area. This could be either beneficial or detrimental depending on management objectives. For instance, overgrazing grass would be harmful to the grass, but this would reduce competition for the woody species. Hence, browse and forest products would increase. Species specific studies are needed to determine the effects of livestock grazing on the main forage species.
- d. Habitat Manipulations. The Department of Natural Resources, Division of Forestry, in cooperation with ADF&G, is managing the firewood and commercial cutting in the southwest corner of the Moose Range to improve moose browse, to research regeneration of species and to research cut area shape and size effects on moose. The major component of much of the understory is bluejoint reedgrass, a competitive grass with poor nutrient value at the end of the summer unless it has been grazed. Improvements following the cutting program could include revegetation with a less aggressive, more nutritional grass. Better range would be available and browse and wood products would be increased. An analysis is needed of the results of different cutting practices and regeneration techniques under a variety of physical conditions.