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Range Magement Guidelines

**Point Reyes
National Seashore**

April 1988

National Park Service--U.S Department of Interior

Range Management Guidelines

Point Reyes National Seashore

April 1988

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RANGE MANAGEMENT GUIDELINES
POINT REYES NATIONAL SEASHORE

TABLE OF CONTENTS

Preface	1
I. INTRODUCTION AND PURPOSE	3
II. RESOURCE GOALS	4
III. DESCRIPTION OF RANGE RESOURCES	6
IV. EFFECTS OF RANCHING OPERATIONS ON RESOURCES	9
V. RESOURCE PROTECTION MEASURES	13
VI. GRAZING STANDARDS	20
VII. CULTIVATION PLAN	24
VIII. LITERATURE CITED	26
APPENDIX A: Legislative History	28
APPENDIX B: Sample Permit	38
APPENDIX C: Animal Unit Equivalents	43
APPENDIX D: Consulted Professionals;	44
Comments and Responses	

Preface

As illustrated below, the National Park Service within Point Reyes National Seashore and Golden Gate National Recreation Area have been given an overall mandate to provide recreational opportunities, protect open space, preserve cultural and natural resources, and maintain agricultural activities in defined pastoral zones. It is the intent of the National Park Service to manage the pastoral zones of both Parks in a manner that will preserve park resources and provide recreational opportunities to the fullest extent, while honoring the legislative mandate or charge to also continue agricultural activities. Management must also be implemented in a manner which will comply with applicable public laws including the Clean Air Act, the Clean Water Act, the Endangered Species Act and the National Environmental Policy Act.

Point Reyes National Seashore was established on September 13, 1962 "...in order to save and preserve, for the purposes of public recreation, benefit and inspiration, a portion of the diminishing shoreline of the United States that remains undeveloped."

The General Management Plan and Statement for Management for Point Reyes National Seashore state that a pastoral zone "has been established within the park in which dairy and beef cattle are allowed to graze under permit or lease from the National Park Service." The authority for such an agricultural program stems from the legislation and legislative history as outlined and included in Appendix A. Perhaps the legislative intent was best expressed by Senator Bible with the unanimous consent of Congress on March 17, 1970, "that wherever feasible the ranchers at Point Reyes should be permitted to continue their exclusively agricultural operations as long as they wish, unless and until the Secretary finds that these operations are such as to be incompatible with the purposes for which the Seashore was established. Some Point Reyes ranchers may wish to continue ranching...after the National Park Service has purchased their land. It would be within the intent of this amendment for the Secretary to provide land in the pastoral zone area for grazing by permit or lease." Moreover, the establishing legislation and amendments received strong support from the Marin County Board of Supervisors, but this support was conditioned upon the continuation of traditional agricultural activities within the Seashore.

Golden Gate National Recreation Area was established October 27, 1972 "...in order to preserve for public use and enjoyment certain areas in Marin County...to provide for the maintenance of needed recreational open space..."

Additionally, the General Management Plan for Golden Gate National Recreation Area established a pastoral zone in the Northern District. The zone is defined as "including lands within which it has been determined that dairying and cattle ranching are desirable aspects of the scene...." Also, a November 10, 1978 amendment to the enabling legislation stated that the owner or tenant of agricultural land was entitled to continue agriculture operations by lease or permit or an owner as a condition of acquisition could continue agricultural operations for a definite period of up to 25 years or for a period of life tenure. The intent of Congress is well expressed in a recent

legal opinion which stated that "by enactment of the agricultural provisions in the 1978 amendments, it was the intent of Congress to preserve the pastoral scene by enabling former owners and leaseholders to continue their agricultural activities." Pertinent portions of the legislation for Point Reyes and Golden Gate are also included in Appendix A.

A final note which applies to both Point Reyes National Seashore and Golden Gate National Recreation Area are the following excerpts from the Management Policies of the National Park Service:

1. The National Park Service will manage the resources of the National Park System to maintain and perpetuate their inherent integrity.

2. The legislation establishing some parks that allows various resource uses such as grazing and resource management must seek to avoid unnecessary alteration of the natural scene or interference with natural processes.

3. Where grazing occurs and where the Service has direct control over its regulation, the Service will require that livestock numbers or use be kept at a level within the carrying capacity of the area being grazed.

To meet these requirements we have developed and prepared the following Range Management Guidelines.

RANGE MANAGEMENT GUIDELINES

POINT REYES NATIONAL SEASHORE

I. INTRODUCTION AND PURPOSE

Point Reyes National Seashore is relatively unusual among Park Service units in that ranching and dairying operations occur on one-third of the Seashore's land base (20,659 acres). These operations involve 18 ranchers and 15 resident ranch headquarters, including permittee and hired hand residences, outbuildings, roads, stock ponds and numerous fenced pastures. Grade "A" dairy operations occupy 43% (8,894 acres) of the ranchland. Beef cattle ranching, principally cow-calf operations, is conducted on the remainder. Combined, these ranches carry approximately 3,400 dairy cattle and 1,700 beef cattle and cultivate about 1,500 acres for hay and silage. Pasture fertilization, burning and brush control are practiced on many of the ranches.

Continued ranching use in designated "pastoral zones" was included in the enabling legislation in order to facilitate the authorization of the Seashore and subsequently the acquisition of lands needed to make the Seashore an integral meaningful unit, by allowing the original landowners and tenants to remain on the land and continue their traditional ways. About one-half of the pastoral zone is under reserved rights of occupancy and use ("Reservation of Possession") which were negotiated during the original land purchases. The other half is administered by the Park Service under "Special Use Permits" which contain terms and conditions relating to livestock numbers, maintenance of improvements and resource protection. The 13 Reservations of Possession cover 10,754 acres; the 16 Special Use Permits occupy 9,905 acres.

The Northern District of Golden Gate National Recreation Area is composed primarily of beef ranching operations. Of the 10,557 acres in ranching, 5,830 acres are grazeable. Ten resident ranchers, and 4 non-resident ranchers raise approximately 920 beef cows. Seven Special Use Permits cover 6,645 acres and six Reservations of Possession cover 3,896 acres. Ranching is authorized by legislation.

Administration of this special use presents a complex challenge. Protection of traditional park values and providing for public recreation must be balanced with maintaining the sustained consumptive resource use by rancher permittees. Consistent and equitable policies must be established in dealing with a variety of types and sizes of ranching operations.

These guidelines are intended to serve as an aid to efficient administration of ranching activities in both Point Reyes National Seashore and the Northern District of Golden Gate National Recreation Area. The specific purposes of the guidelines are:

1. To document park-level policies, guidelines and standards pertaining to range management.
2. To serve as a primary reference document with regard to

administration of agricultural use permits.

3. To promote an efficient organization of the Seashore management efforts, and to provide for program continuity.

II. RESOURCE GOALS

Introduction: The overall goal of the Range Management Guidelines is to administer the grazed rangelands in Point Reyes National Seashore and the Northern District of Golden Gate National Recreation Area in a manner that will provide environmental protection and restoration of those lands, make available public recreational opportunities, and maintain a visually aesthetic pastoral scene while simultaneously permitting ranchers to continue their traditional and viable agricultural operations.

In the administration of the permits or leases it is the intention of the National Park Service to allow for a reasonable amount of flexibility in administering ranching use to meet these goals. Consideration will be given, on a case-by-case basis, to the effects of weather factors and other natural variables, and the practical needs of ranching operations.

Goals: Specific resource goals are listed below. Since funding sources and amounts vary from year to year and the goals are not mutually exclusive they are not listed in priority order.

1. Protect threatened or rare species of plants and animals and their habitats.
2. Preserve archaeological sites in an undisturbed condition.
3. Identify and protect significant natural resources in the pastoral zones with special attention to streams, stream banks, wetlands, and riparian habitat.
4. Manage for the health and perpetuation of existing native plants and animals.
5. Protect Drakes and Limantour Esteros, Abbotts Lagoon, Bolinas Lagoon, Tomales Bay and surface waters from fecal and chemical contamination.
6. Minimize soil erosion associated with ranching activities to prevent soil loss and to protect surface water from increased sediment loads.
7. Maintain agricultural landscapes and improvements to acceptable visual standards which will not detract from a positive visitor experience.
8. Through range practices, and other activities, minimize spread of noxious non-native plant species.

9. Provide for the recovery of rangeland resources that are in deteriorated condition.

10. Implement an integrated approach to pest management and minimize pesticide use.

III. DESCRIPTION OF RANGE RESOURCES

A. Topography, Soils and Range Site

The pastoral zone at Point Reyes consists of gently rolling to hilly uplands whose basement rocks include the granitic spines of northern Inverness Ridge and Point Reyes proper and the broad sweep of marine sandstones and shales which lie between. Elevations range from the beaches at sea level to 600 feet on Inverness Ridge. Most of the rangeland lies between 100 and 200 feet. Slopes range from nearly level on the ridgetops and sandy flats to 50% on the steeper hillsides. Average hillslopes and drainage sides are about 40%.

The Bolinas Ridge zone occupies the eastern half of the Olema and Pine Creek watersheds, the Bolinas Mesa and part of the Lagunitas Creek watershed above Samuel P. Taylor State Park. Bolinas Ridge has a narrow top with numerous finger ridges sloping down to the creek bottoms. The ridge systems are underlain by Franciscan sandstones and shales. The toe slopes and bottomlands are in major fault zones with a mixture of rock types. Elevations range from sea level near the mouth of Olema Creek to 1300 feet on Bolinas Ridge. Slopes range from nearly level on Olema Creek bottoms and Bolinas Mesa to 60% on the upper ridge slopes. The average slopes of the finger ridgetops range from 5-15% with 40% on the sides.

Soils of the pastoral zones are described in detail in the Soil Survey of Marin County (Soil Conservation Service 1985). Generally, the rangeland soils are deep, productive, well-drained loams and sandy loams. However, many range soils are identified in the Survey as having such limitations as susceptibility to compaction and slippage, seasonal high water table, low available water capacity and a high erosion hazard. The loss of the soil surface layer results in a severe decrease in forage productivity. In steeper units, the slope restricts access by livestock and promotes overgrazing in the less sloping areas.

Erosion is reduced by maintaining an adequate plant cover and allowing sufficient residue to remain on the soil surface after grazing. Most range soils respond well to fertilizer, seeding, brush control, deferred grazing and proper use.

B. Range Vegetation

The pastoral zones of Point Reyes and Olema Valley occupy non-forested or partially forested lands, which originally supported a mosaic of coastal prairie and northern coastal scrub vegetation (Grams 1977). Most of the upland plateaus and ridgetops in Point Reyes were cleared of shrubs and patches of forest in the past in order to put the land into cultivation for various crops and hay, or for improved livestock pasture. Shrub species, principally coyotebrush (Baccharis pilularis), bush lupine (Lupinus arboreus) and associated forbs tend to reinvade the cleared uplands in the absence of cultivation or heavy grazing. The original aspect of the cleared ridgetops was probably an open grass and shrub mix with interspersed patches of prairie meadow on the more exposed or shallow soil sites. Pockets of dense shrubs would occur in deeper soils, drainages and concave slopes sheltered from the prevailing winds.

By contrast, the open finger ridges of Bolinas Ridge are probably more of a natural grassland which did not require extensive clearing in the past.

As a result of 150 years of man-caused disturbance and manipulation for agricultural uses, the current rangeland plant community is quite different in character from the pre-settlement type. The original pattern of prairie and coastal scrub is not evident on most of the level uplands. Much of the original prairie component species have been replaced by exotic species. Some of these exotics were intentionally seeded, such as Italian ryegrass (Lolium multiflorum) and perennial ryegrass (Lolium perenne), Hardinggrass (Phalaris tuberosa), tall fescue (Festuca arundinacea), various clovers (Trifolium spp.) and other legumes. Most of the existing exotic species are highly competitive invaders of disturbed sites. These include annual grasses such as ripgut brome (Bromus diandrus), farmers foxtail (Hordeum leporinum), annual fescue (Vulpia bromoides), soft chess (Bromus mollis), purple falsebrome (Brachypodium distachyon), silver hairgrass (Aira caryophylla), dogtail (Cynosurus echinatus), wild oats (Avena barbata), and one highly aggressive perennial, velvetgrass (Holcus lanatus). Common exotic forbs include the annual filarees (Erodium spp.), bur-clovers (Medicago spp.), cat's ear (Hypochoeris spp.), Italian thistle (Carduus pycnocephalus), milk thistle (Silybum maritimum) and bull thistle (Cirsium vulgare). The dominant exotic perennial forb is English plantain (Plantago lanceolata).

It is probably more appropriate to regard the rangelands of Point Reyes as "tame or improved pasture" rather than "native range," since their present character is a result of extensive artificial influences such as clearing, burning, cultivation and seeding with exotic pasture grasses. In ecological terms, most pastures are basically in a low seral stage, artificially maintained by heavy grazing. However, some pasture units are undergoing natural succession with native prairie and coastal scrub components returning. Persistent natural species on pasturelands include coyote brush, bush lupine, California oatgrass (Danthonia californica), coastal iris (Iris douglasiana), purple needlegrass (Stipa pulchra), tufted hairgrass (Deschampsia caespitosa var. holciformis), California brome (Bromus carinatus), and various early spring forbs. Other natives in minor, scattered occurrences include blue wildrye (Elymus glaucus), California fescue (Festuca californica), red fescue (Festuca rubra), bentgrass (Agrostis diegoensis), and coastal reedgrass (Calamagrostis nutkaensis).

The potential plant communities that would result on existing pastures if natural succession was allowed to proceed unhindered are difficult to predict. Range exclosures may be erected to quantify succession on selected pastures. However, there are many comparison areas on the Seashore which have been heavily grazed in the past and are currently undergoing succession without human interference. These areas occur mainly outside the pastoral zones, such as the Tomales Point elk range and the Glenbrook, Muddy Hollow and the Laguna and Lake Ranch uplands. Smaller comparison areas are also scattered within the pastoral zones. These areas may serve as indicators of the potential natural communities on existing pastures and cultivated fields.

C. Other Resources:

1. Aquatic Habitats:

The Point Reyes pastoral zone virtually surrounds Drakes and Limantour Esteros and Abbotts Lagoon. The "esteros" are among the last nearly pristine estuaries along the California coast and are considered to have high ecological importance as waterfowl habitat, as a nursery for numerous marine fish and invertebrate species and as a protected retreat for harbor seals. Abbotts Lagoon is ecologically important for migratory and resident waterfowl, shorebirds and other avian species.

Olema and Lagunitas Creeks, which are potentially important anadromous fisheries, lie within major drainages of the Bolinas Ridge pastoral zone. Numerous minor wetlands and riparian areas exist throughout both pastoral zones and are locally important for wildlife habitat. Many ranch units border on the ocean beaches and one extends to Tomales Bay.

2. Terrestrial Habitats:

The coastal duneland scrub community along Point Reyes Beach has been included by California Fish and Game on their "Research Natural Area" inventory. This designation acknowledges its unique natural value and is intended to provide enhanced protection. Many ranch units partially enclose this dune-scrub type.

Scattered throughout the Point Reyes pastoral zone are 23 species of rare plants which have been targeted for protection. None are in immediate danger, but populations are under a monitoring program to ensure that their preferred habitat is maintained (Clark, Fellers 1986).

Four wildlife species occurring in the Point Reyes pastoral zone are considered "rare" and require special management attention. These are the mountain beaver (Aplodontia rufa phaea), the snowy plover (Charadrius nivosus nivosus), the Point Reyes jumping mouse (Zapus trinotatus orarius), and the California Black Rail (Laterallus jamaicensie coturniculus).

3. Recreation/Aesthetic Values:

Recreational use in the pastoral zones occurs primarily on roads and trails. Sir Francis Drake Highway and the Pierce Point Road provide access through the Point Reyes pastoral zone to various beaches, trailheads, cultural features and vista points. Most of the Point Reyes rangelands are visible from the main roads. Scenic value of the landscape is critical to the purpose for which the Seashore was established.

A high quality "pastoral aspect" is also important for the Bolinas Ridge rangelands, which can be viewed from California Highway 1, Sir Francis Drake Highway and the Bolinas Ridge Trail.

IV. EFFECTS OF RANCHING OPERATIONS ON RESOURCES

A. Historic

According to historical documents, the original rangelands of Point Reyes and Olema Valley were dominated by lush, vigorous perennial bunch grasses (Davy 1902 and Mason 1970). The chief species were probably blue wild rye, Idaho fescue, tufted hair grass, coastal reed grass and California oat grass. Elk were the dominant grazing animal and existed in large herds. Blacktail deer, pronghorn antelope, grizzly bears, black bears and Miwok Indians were also integral parts of the ecosystem. Regular burning by the Miwoks and grazing by unconfined wild ungulates played a large role in the maintenance of the prairie community.

The first introduction of European livestock, particularly horses and cattle, occurred in the 1820's from the San Rafael mission herds (Mason 1970). Permanent settlement started in the 1830's near Bolinas, Olema and Drakes Estero. Cattle and horses multiplied and ran wild until the 1860's when dairy ranches were established. The elk, pronghorn, grizzly bear and Miwok Indians were displaced by this time. Extensive cultivation of various crops such as potatoes, peas, artichokes and hay began in the 1850's. The perennial bunch grass prairie was subjected to progressively greater livestock pressure through the second half of the 19th century, which weakened the native grasses. At the same time, many species of highly adapted Mediterranean annual grasses and forbs established a foothold in locally impacted areas and spread rapidly, displacing many of the native perennials. Cultivation on slopes resulted in removal of the original plant community and much loss of topsoil. Overgrazing resulted in significant soil loss in many areas.

Ranchers began experimenting with seeding various pasture grasses in the 1930's. Harding grass, meadow fescue, Italian rye grass and, particularly, perennial rye grass prospered and became widespread. Various Mediterranean grasses and forbs continued to invade. Some, such as thistles, poison hemlock and velvet grass become widespread troublesome weeds. As a result, the current rangeland vegetation community is very different from the original type. Exotic seeded species such as perennial ryegrass are the dominant cover in most pastures. Sub-dominant species include annual and perennial exotics and persistent native perennials. Species composition is highly variable.

Productivity is significantly reduced on most sites with a history of cultivation or heavy grazing due to topsoil loss, soil surface compaction, invasion of less productive vegetation, and reduced water table due to gullying (Soil Conservation Service 1985). However, in many places the topsoil layer is still very deep and fertile and apparently has been able to sustain some soil loss without much reduction in herbaceous productivity.

The widespread change in plant cover and impacts to soils may have significantly altered the hydrology of rangeland watersheds, according to local geologic studies (Haible 1978, Wahrhaftig and Wagner 1972). The combined effects of soil compaction, reduction of plant biomass (both above-ground and in the root zone), and conversion of forest and

brush land to annual grass/forb type appears to have thrown many watersheds out of equilibrium to varying degrees, due to increased runoff. Increased runoff results in accelerated rates of degradation (gully formation and stream bank destruction), aggradation (depositing of sediment in drainage bottoms) and stream meandering. Road building also tends to channel water and to promote more gullying than exists under natural conditions. The presence of many deep gullies and eroded roadbeds and the historic rapid siltation of estuaries in Point Reyes and the surrounding area are evidence that historic agricultural operations have impacted watersheds and resulted in significant deterioration of soil resources.

B. Current

1. Range Vegetation and Soils

a. Heavy Grazing

Constant close grazing, which results in less than 1000 lb/acre residual dry matter (RDM), favors low prostrate grasses such as perennial ryegrass and annual grasses and forbs such as silverhairgrass, farmer's foxtail, annual fescue, dogtail, soft chess, Mediterranean barley, filaree and subclover, and basal-leaved forbs such as English plantain and cat's ear. Most of these are good forage species, at least during the spring growing season. However, under extremely heavy use (500 lb/acre RDM), poor value annual species tend to take over, along with troublesome weeds such as cocklebur, Italian and milk thistle, and poison hemlock. Perennial grasses tend to be dwarfed under heavy grazing and their density decreases. Constant heavy grazing tends to reduce grass and forb species diversity.

Heavy grazing reduces nutrient cycling in the soil. This reduced nutrient cycling is caused by lower levels of mulch, a reduced humic layer, and the shorter diffuse root system of the lower value annual plants and dwarfed perennials. The biomass of soil microbes and other organisms are reduced in parallel. The cumulative effect is lowered productivity of the soil. Heavy grazing is like a continual disturbance, it keeps the range out of equilibrium, promotes soil degradation and the spread of undesirable weeds.

Heavy grazing also causes compaction of the surface soil and reduces the infiltration rate of precipitation. It thus reduces the total seasonal soil moisture and increases the amount of runoff. The increased runoff, in turn, may cause sheet, rill and gully erosion. The compaction also impacts soil fertility. Range dominated by low stature annuals is more subject to erosion because of the short, weak root systems associated with it. Root systems of lower stature annuals do not bind the soil as well as the long, dense, fibrous root system of vigorous perennial grass communities.

Heavy grazing can result in terracing on steep slopes. This terracing may increase the potential for mass soil slippage or slumping (Howard and Higgins 1987). Trails also tend to become more numerous and existing trails become entrenched, leading to gully formation. Based on a range utilization survey conducted in October of 1986, which was a subnormal rainfall year, approximately 5700 acres (27%) of the pastoral rangeland appeared to be grazed heavily, as judged by low estimated RDM levels (less than 1000 lb/acre). Though much of this range appears to be stable in terms of surface erosion, its productivity is probably significantly below potential at this level of use, and long term sustained productivity is uncertain. Areas which are in poor condition have little chance of recovery under heavy use. Another 330 acres or 1.5% is severely trampled to the point of total or partial denudation of vegetative cover. These "high impact" areas are chiefly located around dairy barns, corrals, water and feeding areas.

b. Moderate Grazing

Moderate grazing, defined as leaving a minimum of 1200 lbs/acre RDM on the average, appears to favor desirable perennial forage species, including native grasses such as California oatgrass, meadow barley, Pacific hairgrass, purple needle grass, California brome and many others. Diversity of plant species is enhanced, and more forbs and shrubs are usually present. Livestock forage production and quality is high. Soil nutrient cycling is enhanced. Sites in poor condition are allowed to gradually recover. About 35% of the rangeland appears to be grazed to moderate levels.

c. Light Grazing

Light grazing, greater than 1500lb/acre, results in coarse, high vegetative growth and buildup of litter. Plants undesirable for forage such as velvet grass and shrubs tend to increase. Existing patches of Italian thistle and poison hemlock tend to persist for an undetermined length of time. Livestock forage production may actually be less than under moderate grazing due to competition with shrubs and less palatable species. About 33% of the rangeland appears to be used lightly.

2. Terrestrial and Aquatic Wildlife

Heavily grazed areas have a low diversity of wildlife species due to the reduced total cover and homogeneous nature of the plant community. This type of grazing-induced habitat is preferred by gophers, burrowing owls, killdeer, horned larks, and other short grass community types. It is used seasonally by deer, and migrating flocks of starlings and blackbirds. Many other wildlife species will use this habitat if sufficient amounts of brush, marsh and forested habitats are located nearby. However, large continuous areas of heavy grazing receive little wildlife use. Large areas in cultivation for hay and silage also reduce the diversity of wildlife, but do provide seasonal feeding opportunities for deer and flocking birds. Brush conversion projects may destroy potential mountain beaver habitat.

The presence of cattle on the high water zone of beaches has been identified as a threat to breeding success of the snowy plover, which is listed as a Category 2 species with the United States Fish and Wildlife Service. Liquid dairy wastes which flow overland and spill into drainages can de-stabilize aquatic ecosystems in streams and ponds by over-fertilization and result in unnatural algal blooms. Decay of this excessive plant material may de-oxygenate the water in pond ecosystems, resulting in mass die-offs of organisms. Drainage from ranching areas can also spread pesticides, parasites and diseases into wildlife habitats. Under light or moderate grazing the natural diversity of the prairie plant community is allowed to develop. This diversity results in improved wildlife habitat.

3. Recreational and Aesthetic Resources

Ranching operations require additional management efforts to provide for visitor recreational use such as camping, picknicking, hiking, bird-watching, cycling, and horseback riding in the pastoral zones. However, passive viewing of scenic landscapes from paved roads is an additional "recreational" opportunity in the pastoral zones. The open pasture land and cultivated fields can be quite green and attractive during winter and spring. The presence of old ranch structures, grazing livestock and various ranching activities has educational and aesthetic value for many park visitors, especially those from nearby urban centers. The pastoral landscape is marred, however, in many areas by the presence of thistles and other rank weed infestations, and by eroded gullies, trails and hillsides. Sites where livestock concentrate can become bare and unsightly. Abandoned machinery, materials and trash which exist in some ranch headquarters areas and the plastic or tire-covered horizontal silos can also be visually distracting.

Natural appearing landscapes are limited to areas of light or moderate grazing, usually in peripheral areas away from ranch headquarters.

V. RESOURCE PROTECTION MEASURES

A. Accomplishment of Goals and Objectives

The goals and objectives stated in Chapter II reflect actions which if accomplished will result in the stated purposes. The objectives apply to all agricultural lands, but to facilitate accomplishment, they will be directly applied specifically to each ranch unit. The financing required to undertake accomplishment is obtained primarily from three sources: (1) National Park Service operations and project funds; (2) Soil Conservation Service operations and project funds; and (3) individual rancher funds. Other sources of financing stem from grants and donations and volunteer services.

Additionally, some objectives are accomplished by the individual rancher either as a condition of the permit or as agreed during annual or periodic discussion meetings. In most cases, these objectives are those subject to mutual agreement to ensure that ranching operations continue to be viable. Resource protection measures will be incorporated in Ranch Unit Plans prepared by a range professional based upon resource inventories, monitoring and type of ranch operation.

The following is an enumeration of the goals of the Range Management Guidelines with specific implementation measures for accomplishing each goal.

1. Protect threatened or rare species of plants and animals and their habitats.

Identify and protect sensitive resources such as freshwater streams and lakes, riparian habitats, rare, threatened, and endangered species. Monitor agricultural and visitor activities and modify existing management practices when appropriate and feasible.

Species and habitats will be identified in resource inventories of Ranch Unit Plans; actual or potential impacts are evaluated in the plans, and protection measures such as exclusionary fencing or limitation of livestock use are prescribed. Limitations of use may include reducing livestock numbers, allowing grazing only during specific non-critical periods, or relocating feeding, watering or other facilities.

Species will be monitored by NPS personnel and volunteers, and new information will be incorporated in Ranch Unit Plans.

2. Preserve archaeological sites in an undisturbed condition.

All known sites are mapped in park files. Proposals for new cultivation areas or other soil-disturbing projects require evaluation of the effects on archaeological sites.

3. Identify and protect significant natural resources in the pastoral zones with special attention to streams, stream banks, wetlands, and riparian habitat.

Riparian zones, wetlands, and other significant natural resources

will be identified in resource inventories of Ranch Unit Plans. Actual or potential impacts are evaluated in the plans, and protection measures such as exclusionary fencing or limitation of livestock use as described under Goal # 1 are prescribed.

Modify permit conditions when necessary as Ranch Unit Plans are developed to meet resource objectives.

4. Manage for the health and perpetuation of existing native plants and animals.

Proper grazing use standards should generally provide for the maintenance of existing native plant and animal population on pastures.

Relic plant communities dominated by native coastal prairie species will be identified in resource inventories, and grazing prescriptions will be developed in Ranch Unit Plans to maintain or enhance their condition.

The use of native plant species for revegetation of disturbed or degraded sites will be encouraged to the most practical extent possible.

5. **Protect Drakes and Limantour Esteros, Abbotts Lagoon, Bolinas Lagoon, Tomales Bay and surface waters from fecal and chemical contamination.**

Ranch Unit Plans will address livestock waste disposal in units which contain livestock concentration areas. State and County wastewater regulations for confined animal facilities will be enforced. Additional guidelines for high impact areas are included in this document.

Pesticide use will be limited through an Integrated Pest Management Plan (IPM).

6. **Minimize soil erosion associated with ranching activities to prevent soil loss and to protect surface water from increased sediment loads.**

Identify existing and potential erosion hazards and degraded soils and undertake corrective measures such as fencing, planting, seeding, structures, contouring, pasture rotation, and grazing limitations.

Proper grazing use standards should, as described in this document, provide for soil stability over broad areas of rangelands.

Soil descriptions, erosion hazard classifications, general guidelines and specific site prescriptions will be compiled in Ranch Unit Plans. Specific practices and projects for soil protection will be worked out in coordination with the rancher and the Soil Conservation Service (SCS) and will be included as a condition or amendment to the permit or lease.

When feasible, rehabilitate degraded soils and erosion areas through annual cooperative agreements with ranchers under the maintenance conditions of the permit.

When necessary obtain by contract or agreement the services of qualified Soils Engineers, Engineering Geologists or other professionals required by erosion control projects or other resource concerns.

Encourage ranchers to seek assistance for specific projects through the Soil Conservation Service and Resource Conservation District.

The Cultivation Plan contains guidelines for soil protection and sediment control for lands cultivated for silage.

7. **Maintain agricultural landscapes and improvements to acceptable visual standards which will not detract from a positive visitor experience.**

Proper grazing use standards should generally provide for acceptable visual quality.

Specific examples of degraded visual quality such as trash,

deteriorated improvements, ranching related erosion features and weed infestations can be systematically identified in Ranch Unit Plans and routine monitoring. Problems will be worked out with ranchers through permit or lease conditions and annual maintenance agreements.

8. Through range practices, minimize spread of noxious non-native plant species.

Noxious weeds are listed, mapped and prioritized for control in the Exotic Plant Control Plan, and in Ranch Unit Plans. Current agricultural and grazing practices are evaluated according to their effects on noxious weed spread.

Proper grazing use standards should generally provide for minimizing the spread of weeds which colonize bare soil. Other standards and management practices based on input from SCS and U.C. Extension will be included as necessary in Ranch Unit Plans.

9. Provide for the recovery of rangelands resources that are in deteriorated condition.

Criteria for degraded range are based upon evidence of severe erosion, inferior plant species composition and low plant productivity compared to site potential.

Deteriorated resources will be identified in erosion hazard classification surveys and in resource inventories for Ranch Unit Plans, and managed under specific prescriptions for recovery. Examples of management prescriptions include:

- a. Resting from grazing use for one to several years.
- b. Deferring grazing until after a critical or vulnerable period such as early growth season or periods of saturated soil conditions.
- c. Reducing livestock numbers.
- d. Changing the kind or age class of livestock.
- e. Relocating feeding, watering or other facilities.
- f. Fertilization or reseeding projects.
- g. Exclusion from grazing.

Recovery objectives are set in terms of plant cover, composition and productivity criteria.

Proper grazing use standards should provide for recovery of slightly degraded ranges.

Base permit or lease fees on local comparability studies.

Through close coordination with ranchers, provide for flexibility and alternatives in the development of specific permit or lease conditions and requirements for resource protection.

10. Implement an integrated approach to pest management and minimize pesticide use.

An Integrated Pest Management Plan is being developed. Currently all proposed pesticide use must be approved by the Washington Office of the National Park Service.

Additional implementation measures may be employed to achieve resource goals.

B. Financing

If volunteer services and grants or donations are unavailable, the objectives are applied to each ranch unit as Government financing and personnel are provided through the budget process. In some instances funds have been requested for studies to gather additional information. In other instances funding has been provided to undertake specific projects. Although some of these projects are not entirely in the pastoral zone, they are in areas that need attention due to past agricultural activities. A summary of these projects is listed below.

EROSION CONTROL PROJECTS

(Not necessarily in priority order, because financing is obtained from different fund sources.)

1. Classify and Prioritize Erosion Projects (Near-Term)	\$ 14,000
2. Erosion Control on Parklands	600,000
3. Erosion Control - Muddy Hollow Road	233,000
4. Erosion Control/Breaching Dams	270,000
5. Erosion Hazard Classification (Long-Term)	23,000
6. Coastal Prairie Vegetation Research	91,000
7. Regrade and Rehabilitate Borrow Pits	<u>82,000</u>
TOTAL	\$1,313,000

The following shows the financing allocated for erosion control projects by several organizations since 1982. These amounts do not include the funds for the routine operations of the organizations which are necessary to insure that the general program can continue.

1. National Park Service	\$247,000
2. Individual Ranchers	195,500
3. Soil Conservation Service (ASCS)	80,500
4. Resource Conservation District	<u>400,000</u>
TOTAL	\$923,000

C. Summary of the Process

In summary the Range Management Guidelines provide the general direction for management of agricultural lands. Utilizing this document and resource inventory data, the National Park Service will produce over time more specific Ranch Unit Plans for agricultural areas under Special Use Permits and Reservations of Possession. These Unit Plans will include specific resource inventory information, as available, a description of the current and historical agricultural use, and specific ranch unit management objectives, both long and short term. The Unit Plans will be generated utilizing the resource inventory data to maximize resource protection and consider ranch operations and economic viability. For example, a specific objective included in a plan could be the protective fencing of a particular endangered species site, a riparian habitat, an erosion hazard, or an archaeological sites.

For the development of unit plans and objectives, the following resource information will be considered: soil types, erosion features and hazard classification, vegetation types, threatened and endangered species, sensitive ecological communities (riparian, marshes and other important wildlife use areas), historic and archaeological sites, trails and recreational uses, and other critical data. A great deal of detailed information will be necessary in order to prepare the plans and objectives for each specific ranch. As the information is developed, Units Plans will be prepared by our professional staff and outside consultants as time and financing allow over the next few years. Included as outside consultants will be organization members and other citizens who are interested in contributing their expertise. The Superintendent through the Citizens Advisory Commission will advise the public of Ranch Unit Plans under preparation.

VI. GRAZING STANDARDS

A. Definitions:

1. Proper Use

Proper use is a range management term defined as "the degree of livestock utilization of the current year's range forage growth which, if continued, will achieve management objectives and maintain or improve the long term productivity of the site" (RISC Report 1983).

2. Residual Dry Matter

Residual dry matter (RDM), sometimes called mulch residue, refers to the amount of forage plant material left on the range in the fall following spring and summer grazing. RDM consists of litter or dried plant material (either standing or on the ground) from the current season's growth. It does not include unpalatable forbs or weeds, woody plants, new green growth or dung. Research on California rangelands has shown the importance of RDM in protecting the soil from erosion, improving soil fertility, structure and infiltration rate, and in providing beneficial surface conditions for plant growth.

3. Key Areas

A key area is a relatively small portion of a pasture approximately 2 acres in size. It is selected to represent the overall pasture conditions. Factors used in the selection of key grazing areas include:

- a. Kind and class of grazing animal
- b. Range site(s), representative slope, conditions and trend
- c. Grazing system used or planned
- d. Season of use
- e. Pasture size
- f. Location of fences and natural barriers, water supplies, salt and mineral blocks and feeding areas.

Key grazing areas have the following characteristics:

- a. They consist of a single "range site" (a classification of land based on specific soil characteristics and potential natural plant community).
- b. They provide a significant amount of available forage in the pasture.
- c. They represent the average amount of use for the pasture.

Key areas are not located where livestock congregate such as around water and feed supplement facilities and loafing areas, nor are they located in little-used portions of pasture.

When properly chosen, key areas will reflect the effects of current grazing management practices. Permittees will be invited to participate in selection of key areas. Once selected they will be identified on range maps and maps associated with Special Use Permits.

B. Monitoring Procedures:

Several procedures or techniques are needed to gather sufficient information to monitor both present range condition and range trend over the long term. The three indicators which will be used to evaluate range condition and trend on National Park Service lands are residual dry matter, species composition changes and forage productivity.

1. Residual Dry Matter Standards and Procedures

Proper use of the mixed perennial/annual ranges in the Point Reyes area is best evaluated by measuring the amount of residual dry matter (RDM) at the end of the summer grazing period just prior to the fall rain.

RDM is important in that it improves surface conditions for plant growth by providing more organic matter in the top soil and by sheltering seedlings from the desiccating effects of sun and wind. Thus it provides a favorable micro-environment for early seedling growth and extends the season in which forage is available. RDM is also important in that it provides soil protection against erosion. The RDM standard recommended by the Soil Conservation Service for Point Reyes and vicinity is 1200 pounds air dry weight per acre as an average for all grazed lands regardless of slope. Using 1200 pounds as an average will allow for areas of less than that amount, which will likely occur in very rocky or shallow soils and in areas where cattle tend to concentrate. In these areas 1000 pounds per acre is the minimum acceptable amount. Any pasture which has areas less than 1200 pounds per acre will need to have other areas with more than this amount in order to attain an overall RDM measurement of 1200 pounds per acre. High impact areas described in Section C are excluded from RDM requirements.

These standards will be used by the National Park Service. RDM will be measured by National Park Service personnel in key areas between September 1 and October 15, just prior to the fall rainy season. Point Reyes National Seashore will use the "Double Sampling Weight Estimation Method" for measuring RDM (Wilm et al 1944). This statistically based method has been extensively field tested and is a standard range management technique for RDM measurement. The double sampling method makes possible the monitoring of many range units during the few weeks of the year which are suitable for RDM measurement.

2. Plant Species Composition

Range condition refers to the "health" of vegetation and soil on a particular site in relation to its natural potential. It is evaluated

on the basis of the kinds, proportions and amounts of plants in a given area.

Line/point composition transects are one way of measuring the kinds and proportions of plants on a site. In this method surveying tapes are laid out in a key area and individual plant species are identified and tallied at 400 random points located in relation to the tape. The resulting data is summarized in terms of the proportion of plant species present. In range management terminology this is referred to as "composition." The total percentage of plant cover, bare ground and litter is also summarized.

Plant composition transects are sampled in spring after seed heads have developed and grasses are readily identifiable. Transects will initially be read each year to determine if the plant community is stable or changing. Changes in the proportion of desirable versus nondesirable forage species indicate whether the range condition is improving or declining in quality over a period of years. In range management terminology this is called monitoring range "trend".

3. Forage Productivity

Range condition and trend can also be evaluated by measuring forage productivity. Productivity can be defined as the weight, in pounds per acre, of palatable forage species. Productivity data supplements composition data by providing an index of plant vigor and an estimate of yield.

Productivity measurements are obtained by placing "cages" on the range in October at the beginning of the growing season. The cages prevent grazing by cattle and deer. Samples from within the cages are clipped and weighed in June at the end of the growing season. The clipping technique utilizes the 0.96 square foot ring and 0.5 inch clipping height similar to that used in RDM measurements. The resulting dry weight expressed in pounds per acre is an estimate of forage productivity for that year. Cages will be moved each year to ensure that current management practices are evaluated.

Forage productivity data will be used in two ways:

- a. By comparing forage productivity data between pastures with similar soil characteristics, an estimate of range conditions can be obtained.
- b. By comparing forage productivity data over many years (and adjusting for rainfall) a direction can be established indicating an improving or declining range trend.

C. High Impact Areas

The size and location of high impact areas allowed for each specific ranch unit shall be mutually agreed upon by the rancher and the NPS. Wherever possible, high impact areas will be restricted to level (less than 10% slope), well drained areas, 200 feet from perennial streams or other bodies of water. Areas near main roads and other high visitor use zones will also be avoided where possible.

It is recognized that a high degree of trampling and denudation of vegetation is unavoidable on these sites. Therefore the "proper use" standards described above will not apply.

Examples include corrals and feedlots where livestock are confined for management purposes and permanent feeding and watering facilities.

D. Management Practices

Recommendations will be developed and implemented for any pastures which fall below the minimum standard. For example, range conditions may reflect an unusually dry winter, and an average of range conditions over several years may be used to evaluate whether or not a reduction in animal units being grazed is necessary. Additionally, improvements in range condition may be made by changes in fencing or stock water facilities to obtain better distribution of animals. Other alternatives include changing the length of time or period of grazing, changing the type and class of livestock or transferring animals from pastures to impact areas and increasing the supplemental feed.

VII. CULTIVATION PLAN

Ranches in the Seashore and adjacent areas have historically cultivated portions of their fields for silage and hay to feed both beef and dairy cattle. The cultivated acreage has fluctuated yearly based on rainfall and the cost of feed. Some fields have also been cultivated for two to three years and then returned to permanent pasture. This rotational cultivation has been used to improve the permanent pasture's productivity and reduce brush invasion.

The legislation establishing the Seashore and the Statement for Management authorized traditional ranching activities which, of course, includes cultivation in the pastoral zone where the ranches are located. With support for the ranching activities from the majority of the visiting public, conservation organizations and Marin County Officials, it appears that ranching activities in the Seashore will continue indefinitely.

The objective of this plan is to establish management guidelines for cultivation in the Seashore and the Northern District of Golden Gate where agricultural use is authorized by legislation. These guidelines include zones where cultivation is not permitted, cultivation method guidelines, and guidelines on the types of use of crops grown. The plan is intended to be an component of the Range Management Guidelines and will be implemented by the Division of Resource Management and Visitor Protection for the Seashore, in cooperation with the ranchers and the Soil Conservation Service.

The zones where plowing is not permitted are as follows:

1. Slopes over 20%.
2. Any land within 200 feet of any natural bodies of water, marshes or sand dunes.
3. Significant wildlife and plant communities as delineated on the map in the Resource Management Office.
4. Endangered plant habitat areas, also shown on the map in the Resource Management Office.
5. High visitor use areas, as designated on the map in the Resource Management Office.
6. Archaeological sites.
7. Lands designated by the Soil Conservation Service as "highly erodible lands", unless a site-specific SCS approved conservation plan is developed and followed.

The guidelines on cultivation methods and crops are as follows:

1. All cultivation within Point Reyes National Seashore and the Northern District of Golden Gate will be conducted under the provisions of an approved Soil Conservation Service Cultivation Plan.
2. Cultivation will be done just before the first rains of the fall or by November 1, at the latest, so that the soil is left exposed for as short a period of time as possible. This will reduce wind erosion and also allow a cover crop to establish itself before the heavy rains of winter can cause soil erosion by runoff.
3. Minimum tillage with at least a 30% residue will be used on all fields, no-till will be used wherever possible with seeding by range drill over the unplowed stubble and plowing only every second or third year where conditions permit.
4. All biocide use on cultivated fields must be approved and reported as specified in the permit or reservation conditions.
5. Crops will be limited to silage and hay crops or permanent pasture re-establishment unless prior written approval is obtained from the Superintendent. The majority of the crops on each ranch must be used within the park. total acreage in cultivation in the Seashore will not exceed 1,500 acres.

The coordination and monitoring of this plan is the responsibility of the District Rangers for the ranches in their districts. The Resource Management Specialist will assist in coordinating with the Soil Conservation Service and visitor use area. The Superintendent will have the ultimate decision responsibility on specific fields.

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APPENDIX A

LEGISLATION RELATING TO RANCHING OPERATIONS IN POINT REYES NATIONAL SEASHORE AND GOLDEN GATE NATIONAL RECREATION AREA

The following are specific quotations from pertinent legislation and policies affecting the administration of ranching activities in Point Reyes National Seashore and the Northern District of Golden Gate National Recreation Area. Included are quotations from the enabling legislation and General Management Plans for both areas, along with other relevant congressional acts and excerpts from the Management Policies document of the National Park Service.

1. Point Reyes National Seashore

a. Enabling legislation (Public Law 87-657, 9/13/62):

1) Plain language:

Sec.1 "...to save and preserve, for the purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped..."

Sec.6 (As amended by Public Law 95-625, Sec. 318(b), 10/10/78 and Public Law 96-199, Sec. 101 (a2), 3/4/80):

"...Except for property which the Secretary specifically determines is needed for interpretive or resource management purposes of the seashore, the owner of improved property or agricultural property on the date of its acquisition...may, as a condition of such acquisition, retain for himself and his or her heirs and assigns a right of use and occupancy for a definite term of not more than 25 years, or, in lieu thereof, for a term ending at the death of his or her spouse, whichever is later. ...A right pursuant to this section shall be subject to termination by the Secretary upon his or her determination that it is being exercised in a manner inconsistent with the purposes of this Act... Where appropriate in the discretion of the Secretary, he or she may lease federally owned land (or any interest therein) which has been acquired... and which was agricultural land prior to its acquisition. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act."

Sec.6 (As amended by Public Law 94-544, Sec. 4(a), 10/18/76):

"...Except as otherwise provided in this Act, the property acquired by the Secretary under this act shall be administered by the Secretary without impairment of its natural values, in a manner which provides for such recreational, educational, historic preservation, interpretation, and scientific research opportunities as are consistent with, based upon, and supportive of the maximum protection, restoration and preservation of the natural environment within the area, subject to provisions of the

Act entitled "An Act to establish a National Park Service, and other purposes... and other laws... except that authority otherwise available to the Secretary for the conservation and management of natural resources may be utilized to the extent he finds such authority will further the purposes of this Act."

2) House Report No. 95-1165, 95th Congress, 2nd session:

"...the use of agricultural leasbacks is encouraged to maintain this compatible activity (dairying and ranching) and the Secretary is encouraged to utilize this authority to the fullest extent in ensuring perpetuation of this use.

3) Committee Report of 1970 amendment to legislation (Public Law 91-223, 4/3/70):

Purpose: "... to assure the acquisition of all remaining non Federal lands needed to make the Point Reyes National Seashore a meaningful unit of the National Park system."

Land and Water Conservation Fund: "...The House amendment is designed to assure the integrity of the Seashore."

Amendment to Repeal Section 4 Concerning Pastoral Zone: "...representatives of the Department have advised that they continue to believe that the purposes of the pastoral zone concept continue to be sound: that is, the Department still believes that ranching and dairying uses of the pastoral zone area can be consistent with the purpose for which the seashore was authorized. The Committee agrees. Although we recommend repeal of section 4, I wish to make clear the legislative intent that wherever feasible the ranchers at Point Reyes should be permitted to continue their traditional, exclusively agricultural operations as long as they wish, unless and until the Secretary finds that these operations are such as to be incompatible with the purposes for which the seashore was established... Some Point Reyes ranchers may wish to continue ranching by permit or lease arrangement with the National Park Service after the Park Service has purchased their land. It would be within the intent of this amendment for the Secretary to lease land in the pastoral zone area for grazing by permit or leasehold... We agree with the House that industrial or other commercial type business activity should not be allowed. However, we believe that agricultural pursuits such as are now being followed in the pastoral could still be permitted by the Secretary."

"...it is the firm intent of the committee that the amendment shall in no way operate to impair the integrity of the dairyman who wants to continue dairy farming."

2. Golden Gate National Recreation Area

Enabling Legislation (Public Law 92-589, 10/27/72):

Sec.1 "...In order to preserve for public use and enjoyment certain areas of Marin and San Francisco Counties, California,

possessing outstanding natural, historic, scenic, and recreational values, and in order to provide for the maintenance of recreational open space necessary to urban environment and planning, the Golden Gate National Recreation Area...is hereby established. In the management of the recreation area the Secretary of Interior...shall utilize the resources in a manner which will provide for recreational and planning opportunities consistent with sound principles of land use planning and management. In carrying out the provisions of this Act, the Secretary shall preserve the recreational area, as far as possible, in its natural setting, and protect it from development and uses which would destroy the scenic beauty and natural character of the area."

Sec.3(j) "...The owner of improved residential property or of agricultural property on the date of its acquisition by the Secretary under this Act may, as a condition of such acquisition, retain for himself and his or her heirs and assigns a right of use and occupancy for a definite term of not more than 25 years, or, in lieu thereof, for a term ending at the death of the owner or the death of his or her spouse, whichever is later... A right retained pursuant to this section shall be subject to termination by the Secretary upon his determination that it is being exercised in a manner inconsistent with the purpose of this Act... Where appropriate in the discretion of the Secretary, he or she may lease federally owned land (or any interest therein) which has been acquired by the Secretary under this Act, and which was agricultural land prior to its acquisition. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act..."

Sec.4(a) "... The Secretary shall administer the lands, waters and interests therein acquired for the recreation area in accordance with the provisions of the Act of August 25, 1916... as amended and supplemented, and the Secretary may utilize such statutory authority available to him for the conservation and management of wildlife and natural resources as he deem appropriate to carry out the purposes of this Act..."

3. Management Policies, National Park Service, 1975.

a. Resource Management

"The National Park Service will manage the resources of the National Park System to maintain and perpetuate their inherent integrity."

"...Policies valid for any particular zone or subzone shall be the same for any unit of the System except where legal requirements or valid existing rights require exceptions."

"Management of park lands possessing significant natural features and values, regardless of the management category, is concerned with ecological processes and impact of people upon these processes and resources."

"...legislation establishing some parks may permit various resource uses, such as grazing, (etc)...Even in such areas, resource management must seek to avoid unnecessary alteration of the natural scene or interference with natural processes."

"...Certain ecological processes altered by human activities may need to be abetted to maintain the closest approximation of the prescribed natural scene...The effects of use on the resources must be monitored and appropriately dealt with."

b. Resource Utilization:

"...Where consumptive uses are permitted by law, and where it can be demonstrated that they are detrimental to the purpose of a park, the Service will recommend their elimination, limitation, curtailment, or modification through the legislative process."

"Where grazing occurs, and where the Service has direct control over its regulation, the Service will require that livestock numbers or trail stock use be kept at a level, and distributed spatially and seasonally, to keep them within the carrying capacity of the area being grazed, giving due consideration to the needs of wildlife in the area."

c. Pollution Control and Abatement

"The Service and its agents will...maintain the quality of all waters...through...control of erosion induced by human activities...prevention of direct pollution by livestock through elimination of streamside or lakeside corrals or pastures, or direct watering sites on natural waters."

d. Landscape and Vegetation Manipulation - Special Use Zones

"Commensurate with specific provisions of law and authority available to the Secretary for the management of natural resources compatible with park purpose, special programs of landscape management may be carried out in special use zones to facilitate

the approved uses within such zones. These may include but not be limited to.. maintenance of certain plant associations for approved livestock or agricultural uses... retention or provision of open areas, meadows, vistas, (etc)...encouragement of certain species of plants for aesthetic or wildlife and vegetative management purposes."

"...the management of the national resources of these zones will be directed (to the maximum extent possible) toward achievement of the defined objectives of the park. Vegetative manipulation may be used to achieve these objectives."

4. The Marin County Board of Supervisors

The comments by the Honorable Gary Giacomini, Marin County Supervisor, to the Point Reyes Committee of the Citizens Advisory Commission on February 9, 1988 are included in this appendix. They provide information about the legislative history as it relates to agricultural activities.

Testimony of The Marin County Board of Supervisors
re: Legislative Mandate

February 9, 1988

Superintendent John Sansing and Members of
the GGNRA Citizens Advisory Committee
Point Reyes National Seashore
Point Reyes, CA 94956

Re: Testimony of the Marin County Board of Supervisors before the Point
Reyes Committee of the GGNRA Citizens Advisory Commission, February 10,
1988

Dear Superintendent Sansing and Members of the GGNRA Citizens Advisory
Commission:

Thank you for giving the Marin County Board of Supervisors an
opportunity to comment on the draft Range Management Guidelines for the
agricultural lands in the Seashore and the GGNRA.

We are pleased to note that Appendix A contains the legislative history
of both parks, but we feel that more emphasis should be placed in the
Preface on the "unique" agricultural legislative history of the
Seashore and GGNRA.

We feel that in this way, the public will better understand why the
Seashore is unique among all our National Parks in having seven
resident dairies protected by Congress from the very first bill passed
by Congress in 1962. We also feel that the public will better
understand that Congress further strengthened the agricultural mandate
in both parks in 1970 and again in 1978.

We would, therefore, appreciate it if the following history could be
included in the Preface to the Guidelines:

On March 20, 1961, the Marin County Board of Supervisors proposed that only 20,000 acres be included in the proposed 53,000 acre Point Reyes National Seashore because of the Board's strong concern that the dairy industry would be harmed if not destroyed by the lack of protection of agricultural lands in the 53,000 acre proposal.

Indeed, one of the local dairymen at the time of the March 24, 1961, Congressional Hearing said it far better than the Board could:

We have been out there and started the root to the tree and now we have it blossoming. We are going to stay dairymen. We are not good for anything else but dairying. We are only good there and intend to stay there...

Congress responded appropriately and, therefore, in 1962, when the legislation finally passed, the House Committee report stated:

...The Committee has provided for the designation of a pastoral zone of 26,000 acres which shall not be acquired by the Secretary without the consent of its owners as long as the land remains in its natural state or is used exclusively for ranching and dairying purposes.

Eight years later (1970), in order to give the federal government the power of condemnation to complete the Park, the Board of Supervisors, with the endorsement of the ranchers in question, supported an amendment which repealed the legislatively mandated pastoral zone with the clear understanding that agricultural was to REMAIN as a permanent part of the Seashore. Senator Alan Bible, Chairman of the Senate Subcommittee on Parks stated on the Senate Floor, (March 17, 1970):

At the time the initial authorizing legislation for Point Reyes National Seashore was enacted, the federal government in effect made a promise to the ranchers in the pastoral zone that as long as they

wanted to stay there, to make that use of it, they could do so. We must keep our word to these people.

Senator Bible's concerns were strongly echoed in the Committee Report to the 1970 amendment (Public Law 91-223, 4/3/70):

...it is the firm intent of the committee that the amendment shall in no way operate to impair the integrity of the dairyman who wants to continue dairy farming.

In 1977, at the request of Congressman John Burton, the Marin County Board of Supervisors held four lengthy public hearings on Park expansion. Thereafter, in our attached letter dated December 5, 1977, the Board of Supervisors (whose membership included then-Supervisor now-Congresswoman Barbara Boxer) unanimously supported the addition of many thousands of acres of agricultural lands to the GGNRA in Marin, only on the condition that the authorizing language strengthened the National Park Services' commitment to maintaining and perpetuating agricultural use of the lands in question. At that time, our Board of Supervisors stated:

Our major concern is that Congress should insure long term leasebacks to any lands having historical agricultural uses. In this connection, present agricultural leasebacks within the park have not been totally satisfactory. Therefore, we strongly recommend that any agricultural lands which might be encompassed in this expansion should have extended to them leasebacks that are modeled on the California Williamson Act. In this way, agricultural lands could be preserved in perpetuity with agricultural uses...Furthermore in this connection, we believe that opportunities for agricultural leasebacks should be offered to individuals engaged in the pursuit of agriculture in either Marin or Sonoma counties in the event that an original or present agricultural landowner decides not to continue operations. The preservation of viable agriculture in Marin County is too important to be terminated by the unilateral decision of any present landowner. We, therefore, recommend that any lands which possess historical agricultural uses be extended leasebacks modeled on the Williamson Act.

Superintendent John Sansing and Members of the GGNRA Citizens Advisory

Once again, Congress responded positively to the County. Section 318 of Public law 95-625 (1978) reflects the county's and Congress' position on sustaining agriculture in both parks. The Committee report states emphatically that:

...the use of agricultural leasebacks is encouraged to MAINTAIN this compatible activity [dairying and ranching] and the Secretary is encouraged to utilize this authority to the fullest extent in ensuring PERPETUATION OF THIS USE. (House Report No. 9S-1165, 95th Congress, 2nd session)

Obviously, this portion of the legislative history has great meaning for the Marin County Board of Supervisors and for the Marin agricultural community. We recognize that in establishing Range Management Guidelines, the Park Service is also acknowledging that these agricultural lands are in two National Parks, but in better clarifying the legislative history cited above, it will be clearer to all that these two parks do, indeed, have a double mandate: to protect the natural resource in perpetuity and to protect the agricultural resource, also in perpetuity.

To quote another one of those ranchers, who in 1961 was pleading for protection of his livelihood:

...We are the third generation of our family to pour into this land the sweat of our toil. We love this land for the life it has given us; and although we may be monetarily repaid should this bill pass, we can never be repaid for the years, months, days, and hours of work that have been put into the making of our home.

We are proud of the unique partnership in Marin between the agricultural and environmental communities and county government that has strongly supported the continuation of agriculture in our parks and elsewhere. We thank the GGNRA Citizens Advisory Committee for the

Superintendent John Sansing & Members of the GGNRA Citizens Advisory
Committee February 9, 1988
Page 5

work you have done and are doing; and we, at the Marin County Board of
Supervisors level, stand ready to help you in any way possible.

Respectfully submitted,

Gary Giacomini
Marin County Supervisor

GG:vjd

APPENDIX B

An example of Special Use Permit conditions for agricultural operations.

Although all permits are not identical, the conditions displayed on the following pages exemplify standard phrases used by Point Reyes National Seashore and the Northern District of Golden Gate National Recreation Area for agricultural permits.

UNITED STATES DEPARTMENT OF THE INTERIOR
National Park Service

Special Use Permit

Name of Use _____

Date Permit Reviewed 19 _____
Reviewed 19 _____
Reviewed 19 _____
Expires 19 _____

Long Term _____

Permit # - - - - -
Region Park Type No #

Short Term _____

Name of Area _____

_____ of _____
Name or Permittee Address Phone

is hereby authorized during the period from (Time _____ day _____ Month _____ 19 ____), through (Time _____ day _____ Month _____ 19 ____), to use the following described land or facilities in the above named area:

For the purpose(s) of:

Authorizing legislation or other authority (RE- NPS-53 Appendix 1):

NEPA Compliance: CATEGORICALLY EXCLUDED _____ EA/FONSI _____ EIS _____ OTHER APPROVED PLANS _____

PERFORMANCE BOND: Required _____ Not Required _____ Amount \$ _____

LIABILITY INSURANCE: Required _____ Not Required _____ Amount \$ _____

ISSUANCE of this permit is subject to the conditions on the reverse hereof and appended pages and when appropriate to the payment to the U.S. Dept. of the Interior, National Park Service of the sum of \$ _____.

The undersigned hereby accepts this permit subject to the terms, covenants, obligations, and reservations, expressed or implied herein.

PERMITTEE _____
Signature Date

Authorizing Official _____
Signature Superintendent Date

Additional Authorizing Official _____
(If Required) Signature Title Date

CONDITION OF THIS PERMIT

1. The Permittee shall exercise this privilege subject to the supervision of the Superintendent, and shall comply with all applicable laws and regulations of the area.
2. Damages - The Permittee shall pay the United States for any damage resulting from this use which would not reasonably be inherent in the use which the Lessee is authorized to make of the land described in this permit.
3. Benefit - Neither Members of, nor Delegates to Congress, or Resident Commissioners shall be admitted to any share or part of this permit or derive, either directly or indirectly, any pecuniary benefit to arise therefrom. Provided, however, that nothing herein contained shall be construed to extend to any incorporated company, if the permit be for the benefit of such corporation.
4. Assignment - This permit may not be transferred or assigned without the consent of the Superintendent, in writing.
5. Revocation - This permit may be terminated upon breach of any of the conditions.
6. The Permittee is prohibited from giving false information, to do so will be considered a breach of conditions and be grounds for revocation. (Re: 36 CFR 2.32(4)).
7. Permittee will comply with applicable public health and sanitation standards and codes.

8. The following provisions constitute Condition 4 in accordance with Executive Order No. 11246 of September 24, 1965, as amended by Executive Order No. 11375, of October 13, 1967.

NONDISCRIMINATION. If use of the resource covered by their lease will involve the employment by the Permittee of a person or persons, the Permittee agrees as follows:

(a) The Permittee will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Permittee will take affirmative action to ensure the applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment; upgrading; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Permittee agrees to post in conspicuous places, available to employees and applicants for employment notices to be provided by the Superintendent setting forth the provisions of this nondiscrimination clause.

(b) The Permittee will, in all solicitations or advertisements for employees placed by or on behalf of the Permittee, states that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(c) The Permittee will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Superintendent, advising the labor union or workers' representative of the Permittee's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, as amended, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Permittee will comply with all provisions of Executive Order No. 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Permittee will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, as amended, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Superintendent and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(f) In the event of the Permittee's noncompliance with the nondiscrimination clauses of this permit or with any of such rules, regulations or orders, this permit may be cancelled, terminated or suspended in whole or in part and the Permittee may be declared ineligible for further Government contracts or leases in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Permittee will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontract or purchase order as the Superintendent may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event the Permittee becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Superintendent, the Permittee may request the United States to enter into such litigation to protect the interests of the United States.

Grazing

CONDITIONS OF THIS PERMIT (Continuation)

9. **Rights of the Director.** - Use by the permittee of the land covered hereby is subject to the right of the Director, National Park Service, to establish trails, roads and other improvements and betterments over, upon, or through said premises, and further to the use by travelers and others of such roads and trails as well as of those already existing. If it is necessary to exercise such right, every effort will be made by the National Park Service to refrain from unduly interfering or preventing use of the land by the permittee for the purpose intended under this permit.

10. **Construction.** - No building or other structure shall be erected under this permit except upon prior approval of plans and specifications by the Director, National Park Service, and the premises and all appurtenances thereto shall be kept in a safe, sanitary, and sightly condition.

11. **Removal of structures and improvements.** - Upon the expiration of this permit by limitation of time or its termination for any reason prior to its expiration date, the permittee, if all charges due the Government hereunder have been paid, shall remove within such reasonable period as is determined by the Superintendent, but not to exceed 90 days unless otherwise stipulated in this permit, all structures and improvements placed on the premises by him, and shall restore the site to its former condition under the direction of the Superintendent. If the permittee fails to remove all such structures and improvements within the aforesaid period, they shall become the property of the United States, but that will not relieve the permittee of liability for the cost of their removal and the restoration of the site.

12. **Water rights.** - Water rights will be perfected, when necessary by the United States in its own name for water developed or used in connection with this permit. The permittee will furnish to the United States such information as is necessary for perfection, including statutory fees, and for management and protection of the resource.

13. **Disposal of refuse.** - The permittee shall dispose of brush and other refuse as required by the Superintendent. Manure accumulating around feed or watering stations will be removed and stored, so that it will not contribute to stream pollution, until spread as fertilizer or disposed of outside the Seashore boundary.

14. **Pesticide use.** - The proposed use of pesticides or chemicals must be submitted in writing to the Superintendent in advance of the time proposed for use so

that permission for such use can be obtained if possible from higher authority. Disposal of pesticides, chemicals, residues or containers must be made in accord with applicable regulations.

15. **Timber cutting.** - No timber may be cut or destroyed without first obtaining a permit therefor from the Director, National Park Service.

16. **Fire prevention and suppression.** - The permittee and his employees shall take all reasonable precautions to prevent forest, brush, grass and structural fires and also shall assist the Superintendent in extinguishing such fires in the vicinity of any tract which may be used hereunder.

17. **Soil erosion.** - The permittee shall take reasonable precautions to prevent soil erosion on the lands covered by this permit, and shall so utilize such lands as not to contribute to erosion on adjoining lands.

18. The grazing fee is based on a stocking level of _____ Animal Units per year or _____ Animal Unit Months (AUM's) at a rate of \$5.00 per AUM for a total annual grazing fee of _____.

It is recognized that the actual number of cattle on the land may vary slightly throughout the year. The maximum number of cattle allowed to graze at any one time, except for cattle confined in a defined feed lot or impact area, is _____ Animal Units. The raising of up to _____ Animal Units of livestock other than cattle for personal and non-commercial use is also authorized. Spot counts to determine actual number of Animal Units being grazed will be conducted periodically by Seashore personnel. If it is determined that average grazing pressure is in excess of _____ Animal Units, the permittee will be billed for this excess at the rate of \$5.00 per AUM.

"Key Areas" which have been established in cooperation with the permittee and are designated on the attached map will be used to monitor residual dry matter (RDM). If these measurements, which will be obtained in the fall months prior to winter rains, indicate less than 1200 pounds per acre, on the average, of RDM is present, adjustments in the number of animal units grazed will be required as outlined in the enclosed guidelines entitled "Grazing Standards and Monitoring Procedures" (attachment D). The determination of whether or not overgrazing is occurring shall be made by the Superintendent and his decision shall be final.

19. The permittee shall procure and maintain at his/her cost a standard personal liability insurance policy of not less than \$100,000 for each incident and provide the Superintendent with a copy or certificate of insurance.

Grazing

CONDITIONS OF THIS PERMIT
(Continuation)

20. The permittee shall pay the proper authority, when and as the same become due and payable, all taxes, assessments and similar charges which at any time during the term of this permit, may be taxed, assessed, or imposed upon the permittee's interest in permitted property.

21. The government makes no warranty as to the condition, serviceability or safety of the property or any facilities and assumes no responsibility or liability in connection with the use thereof.

22. The permittee is responsible for the maintenance of all fences, buildings, corrals and other improvements upon the property at his/her own expense. Fences must be in good repair to insure that cattle are confined at all times. Abandoned fences and other decrepit improvements shall be removed from the property or otherwise disposed of as directed by the Superintendent.

23. Diseased, injured, dying or dead animals shall be treated promptly, removed from the property or otherwise disposed of in a clean and sanitary manner.

24. Cultivation, reseeding, brush removal or other similar range management practices must have prior written approval of the Superintendent.

25. An annual review of permit conditions and rancher operating plans will be discussed at an annual meeting in _____ of each year.

26. At the election of the Superintendent, the permittee may be subject to a penalty fee of \$25.00 per day for failure to comply with the terms and conditions of this permit in lieu of revocation because of a breach of conditions. In the instance of correctable non-compliance, the permittee will be given in writing a reasonable grace period from one to thirty days to allow corrective action to prescribed by the Superintendent before the penalty fee will be assessed. The penalty fee will be assessed each day beginning with the date included in the written notice until the corrective action is completed. Payment of the penalty charge under this provision shall not relieve the permittee from taking the necessary corrective action. This permit condition will not include citation for violation of permit conditions covered by Title 36 of the Code of Federal Regulations when and if those violations occur.

27. This permit will be for the designated 5-year period with an option to renew for an additional 5-year period provided that the land is not needed for park purposes or the permit revoked for a breach of permit conditions.

APPENDIX C

ANIMAL UNIT EQUIVALENTS

A. Definitions

1. Animal Unit (AU)

One mature (1000 lb) cow or the equivalent based upon average daily forage consumption of 26 lbs. dry matter per day.

2. Animal Unit Month (AUM)

The tenure of one Animal Unit for a period of one month.

B. Animal Unit Equivalents

An Animal Unit is a useful common denomination for calculating relative grazing impact of different kinds and classes of domestic livestock. It is assumed that one mature cow represents one Animal Unit. Then, the comparative (to a mature cow) feed consumption of other age groups or classes of animals determines the proportion of an Animal Unit which they represent. This concept is referred to as Animal Unit Equivalents.

The following Animal Unit Equivalents will be used to calculate stocking levels and is one of the factors used in establishing permit fees.

Type of Livestock	Animal Units
Cattle	
Cow with or without unweaned calf at side or heifer 2 years old or older	1.0
Bull, 2 years old or older	1.3
Young cattle, 1 to 2 years old	0.8
Weaned calves to yearlings	0.6
Horses	
Horse, mature	1.3
Horse, yearling	1.0

APPENDIX D

Consulted Professionals Comments and Responses

The following pages contain comments on the Point Reyes National Seashore Range Management Guidelines submitted by professionals in the field of range management. Each set of comments includes a response from the Point Reyes National Seashore Range Conservationist.

UNIVERSITY OF CALIFORNIA, DAVIS

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DEPARTMENT OF AGRONOMY AND
RANGE SCIENCE
COLLEGE OF AGRICULTURAL AND
ENVIRONMENTAL SCIENCES
AGRICULTURAL EXPERIMENT STATION

DAVIS, CALIFORNIA 95616

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Mr. John L. Sansing
USDI-NPS Point Reyes National Seashore
Point Reyes, CA 94956

Dear John:

I finally got around to reviewing the document you sent me containing "Grazing Standards and Monitoring Procedures". I am impressed with the professional nature of the document and its thorough coverage of the subject. While I feel that RDM can be used as a tool to check abusive grazing practices it does not present the range manager with enough information about key species performances to allow him to set more specific objectives, like fostering increases in particular native flora. Given the unique situation at Point Reyes, I am not sure whether the NPS would want to set such goals as increasing the abundance of native species, but I suspect you should become prepared to react to such suggestions from the public. Your grazing standards include nothing on perennial grass responses to grazing intensities or seasons. If you set objectives to increase the abundance of some of the native bunch or sod-forming grasses you will have to use more complex monitoring and assessment procedures to detect responses of these species to grazing.

I don't bring these issues up to stir the pot, but I suspect some of your public comment will concern the improvement in botanical composition of the flora a Point Reyes, with an emphasis toward increasing the relative abundance of native plant species. I am giving this subject some emphasis in my letter probably because I am thinking about restoration of native prairie now more than in the past because we are beginning some sheep grazing and fire ecology research a Jepson Prairie this fall. The Nature Conservancy will fund our research at Jepson for at least two and one-half years to determine the role of wet vs dry season sheep grazing and late summer fire on restoration of Stipa pulchra grassland.

Give me a call if you would like to discuss any grazing management subject in subject in more detail.

Sincerely,

John W. Menke
Professor

Response to Dr. Menke's Comments of 10-30-87 on RMG:

Promoting the restoration and maintenance of native coastal prairie species on rangelands would be a worthy and appropriate NPS goal, though perhaps limited to pastures currently dominated by native species or with low amounts of seeded forage species. These pastures could be managed as "native range."

According to the 1985 Marin County Soil Survey (S.C.S.): "The major concern on most rangeland is the control of grazing so that the kinds and amounts of plants that make up the characteristic natural plant community are maintained or re-established. Existing vegetation provides only approximately 1/3 of the forage that originally was produced, because the natural vegetation in many parts of the areas has been greatly depleted by continued overgrazing. Much of the acreage that was once open grassland is now covered with brush, weeds and hardwood trees."

Early reports describe the original native prairies as providing lush year-round feed when dairies were first established in the 1850's and '60's. Even though 150 years of ranching and agriculture have drastically altered the composition and distribution of the coastal vegetation at Point Reyes, many significant and valuable native forage species remain, albeit subdued in many places by heavy grazing. Wood Elliot, in a forage use study on ungulates in Point Reyes in 1982, suggested that the climax community within much of the pastoral zone is a mosaic of coastal prairie and northern coastal scrub communities which include some highly adapted and possibly permanently established exotic plants. The results of 71 composition transects done by Mr. Elliott in typical Point Reyes pastures in 1978 show a total cover of 77.5% perennial plants vs. 26.5% annuals. Native species cover made up 13.5%. The results of plant composition transects done in Dr. Peter Gogan's study of the elk range in 1980-81 show the presence of 201 native and 92 exotic species.

In a vegetation cover study which established permanent range transects on Point Reyes and Bolinas Ridge in 1987 by Seth Phalen, NPS Range Conservationist, native plant cover averaged 21%, ranging from 0 to 76%, with lightly-grazed areas generally having more native species cover.

Rangelands could be categorized as "native rangeland," "tame pasture," and "cultivated" in the resource inventory for Ranch Unit Plans. Different objectives and condition criteria should apply as follows:

Response to Dr. Menke's Comments
Page 2 of 2

"Tame pasture" includes lands that receive periodic agronomic treatments such as cultivation, seeding, fertilization with liquid or solid manure, clearing of brush, etc. Seeded species such as perennial ryegrass are the key management species. It is assumed that management for optimum productivity of perennial ryegrass will favor certain native sodgrasses or bunchgrasses such as California oatgrass, meadow barley and purple needlegrass, which may persist, comprising 20% of the cover. Diversity of native forbs and shrubs will be low in tame pastures. Minimal mulch residue standards such as 1000 lb/acre may apply. Maintenance of forage productivity and condition is up to the rancher's discretion. "Tame pasture" management may be limited to topography and soils appropriate for agronomic treatments, such as S.C.S. Capability Classes I through IV.

"Native rangeland" is land managed chiefly by manipulations of grazing. Occasional treatments such as chemical fertilization, interseeding and brush control may be used to improve livestock forage. The objective for "native rangeland" will be to optimize production of key perennial forage species such as California oatgrass, purple needlegrass, California brome and meadow barley, although lower value exotic annuals may currently dominate if the range is in low condition. Higher value annuals such as soft chess and annual ryegrass will probably persist under management for perennials and contribute to the total forage productivity.

Management criteria include 1200 lb/acre or greater RDM standards, and perhaps deferred or seasonal use in certain areas to bring about range recovery or maintain good condition. Natural values such as wildlife habitat and native species diversity may assume importance, along with sustained livestock use.

In the event that a rancher discontinues operations on a particular unit, the alternative of managing that unit as "native range" under a new permit may be considered.

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HORSE RANCH
RESEARCH
CEO
proposed "Bang
CENTRAL FILES

What are the sources for the RDM standards? Research has generally shown that RDM is a good basis for monitoring range use for California annual grasslands in general (George et al 1982 CE Leaflet 21327) and has been proposed as workable for Point Reyes (Sugnet and Bartolome 1983), but I know of no research supporting the specific RDM recommendations in the Range Management Guidelines. I believe that the recommended level (1200 lbs/acre, if a 1/2" clipping height is assumed) is a good starting point to protect most key areas on rangeland, but the report should acknowledge that there is no one proven standard for RDM in

coastal grassland. The published research on this topic (Bartolome, Stroud, and Heady 1990) recommended that coastal grasslands needed more than 1000 lbs/acre RDM (the highest amount tested) to optimize productivity. How much more than 1000 lbs/acre is needed is unknown. RDM evaluations should incorporate permanent photo stations and photo guides into the process. RDM should also be used for monitoring tame pastures, but the level of 1200 lbs/acre may not apply and range condition criteria should not be applied.

It has not proved feasible to relate productivity to condition for California grasslands as implied on page 19. The fluctuations are too great from year to year due to variations in rainfall to show trends. Productivity measures may provide useful information to evaluate RDM standards, however, and should be part of the monitoring plan.

The management recommendations in D, page 19 are not well-developed. I suggest that the Seashore commit to development of management plans for each range unit, which will incorporate specific recommendations for grazing management, objectives, and improvement practices.

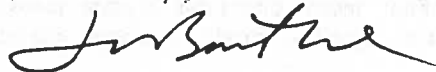
Leased grazing use can be regulated by applying RDM monitoring in a manner which adequately protects resources and gives the livestock owner flexibility in planning. This method, which could be written into the lease agreements, takes advantage of the resiliency of California grasslands and adapts to yearly variation in forage production. Key areas and RDM standards are established for a pasture and an initial stocking level is determined, usually based on past use. In the fall, after one year of use, RDM is measured. If RDM falls below the minimum standard, the lessee is notified that if RDM falls below the standard at any time in the following year, animals must be removed from the pasture on 15 days notice. If RDM is above the standard at the end of any year, the allowed stocking level is maintained for the next year. If the pasture is part of a seasonal grazing system, use is specified, otherwise the timing and intensity of use is left to the lessee so long as RDM standards and total AUM's allowed by the lease are not exceeded. This procedure encourages conservative use by the lessee. In the event of drought, the lessee is protected against loss of grazing if use has been conservative in prior years but the forage resource is protected against two consecutive years of overuse which would result in resource damage.

The section on high impact areas should be eliminated, with recommendations incorporated into an expanded section on proper management practices.

The Guidelines mention economic criteria for management practices. If economic criteria are really important, then much more information must be collected about ranching operations.

Overall, the guidelines are an adequate basis for implementation of improved leases, better management practices, and monitoring of range resources in grazed areas on the Seashore.

Sincerely,



James W. Bartolome
Associate Professor, Range Ecology

Response to Dr. Bartolome's Comments of 10-23-87 on RMG:

p.1, 1st para:

This section could be updated and better referenced by July of 1988 or later.

p.1, 2nd para:

Refer to Response to Dr. Menke's comments beginning with para. 5, "Rangelands could"

p.1, 3rd para:

The RMG can be amended to acknowledge that there is no scientifically proven standard for RDM in coastal grassland for optimizing productivity, but that the latest research on this topic suggests that more than 1000 lb/acre is necessary. The 1200 lb standard is adopted as a starting point, to be continually evaluated in succeeding years. This standard was recommended by the S.C.S. District Office in Petaluma as per a letter to the Superintendent, Point Reyes National Seashore, dated March 16, 1987.

p.2, 3rd para:

The Seashore has committed to the development of Ranch Unit Plans, as per an amendment to the RMG, incorporating specific objectives and recommendations.

p.2, 4th para:

RDM will be measured in the fall in key areas and estimated for all pastures. Timing and intensity of use, within upper AUM limits established on the permit, will be left to the permittee as long as RDM standards are not exceeded.

p.2, 5th para:

An expanded section on proper management practices will be considered for later updates of the RMG.

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October 16, 1987

John Sansing, Superintendent
Point Reyes National Seashore
Point Reyes, CA 94956

Dear John,

I am sorry it has taken me so long to reply on your Range Management Guidelines. I have read the guidelines and find them to be very complete. My only suggestion is that when you begin the RDM program, you first have an educational meeting with all ranchers to explain the monitoring system. It would also be helpful for them to participate in the sampling methods to get a better feel for proper RDM levels. I would be glad to help you develop this educational program.

Good luck with your new guidelines. If you need further assistance, please call.

Sincerely,

Stephanie Larson

Stephanie Larson
Livestock Farm Advisor

SL:cmp

1
USDA Soil Conservation Service
1350 N. Main St., Suite 130
Red Bluff, Calif. 96080

November 24, 1987

Denis Nickel

Subject: Pt. Reyes Mgmt. Draft

My apologies for taking so long to get this to you. Next time you'll probably want to give me a deadline so that I don't allow myself to be sidetracked!

The draft Pt. Reyes range management guide looked very good to me. My compliments to the author. Was this draft generated by the new Park Service range conservationist or through a consensus effort of several agencies? My only suggestions for consideration would be the following:

1. I would recommend developing a brief paragraph or two which describes what the people involved want the landscape to look like in the future. In reading the draft I wasn't clear about what the management goal is for the range sites involved. Do they want annual grasslands, mixed shrub/grasslands, perennial grasslands, perennial mixed shrub/grasslands, or a mosaic of some combination?

What would they like the riparian areas to look like? I feel this is important question to answer before managers can conclude if management plans are moving things in the desired direction. I interpret the draft to read that the grazing plans are geared to meet the needs of the annuals, but I'm wondering if this will stand up to public scrutiny. The evidence in the literature and field is pretty overwhelming that perennials will do quite well on these range sites when given a chance. Again, what is the goal? If it is annual grassland, is this defensible where managing for perennials is a viable option?

2. Monitoring plans appear to focus on evaluating what has happened as a result of implemented management plans. This would be like taking a construction crew with a set of blueprints and putting them to work, then coming back after they are done and seeing if what they have built is what you wanted. You can either monitor what they have done after they have finished or during the actual building process. Monitoring plans may want to stress what and when to monitor in the actual execution of the management plan. This could save considerable time and money. Some management schemes wait a year or more before deciding if the grazing plans are working. It is very valuable to have some monitoring in the short term that will pick up any deficiencies in the blueprints or deficiencies in executing the blueprints.

3. Averages are used as indicators of proper grazing levels. This means some plants or areas could conceivably be sacrificed if

grazing levels are light for other plants or areas. Sometimes the most fragile and difficult to restore places or areas can be seriously degraded because averages mask details. My thinking is that sacrifice areas can and should be restricted to livestock handling facilities.

Thanks for your interest and the opportunity to comment. I am more than embarrassed it has taken me so long to respond.

Richard J. King
Range Conservationist

cc: Petaluma F. O.

Response to Stephanie Larson's Comments of 10-16-87 on RMG:

- We will continue to meet with ranchers on an individual basis to explain the monitoring system.

Response to Richard King's Comments (via Denis Nickel) of 11-24-87 on RMG:

p.1, 1st para:

Scenic quality standards for pastoral landscapes may be developed in the future based on photoguides, RDM standards, erosion features and vegetation types.

Refer to "Response to Dr. Menke's comments."

p.1, 2nd para:

A detailed monitoring plan should be included in a later update of the RMG as an appendix.

p.1, 3rd para:

Annual fall utilization surveys will map out four categories of use; light, moderate, heavy and severe for each ranching unit as opposed to a single average use estimate. Specific degraded and critical areas will be inventoried in Ranch Unit Plans. Sacrifice areas will be restricted as much as possible.

