Appendices

APPENDIX A

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APPENDIX B

Standard Management Requirements Common to All Action Alternatives

The grazing methodologies described in this environmental assessment are also considered to be resource protection measures. When applied in conjunction with LRMP Goals and Objectives, Management Practices, Standards and Guidelines, and Best Management Practices, these methodologies are effective in reducing the impact of grazing use on the coastal rangelands within the Monterey Ranger District. The following resource protection measures and monitoring will be applied to all allotments under implementation of Alternative 1 or Alternative 3 (action alternatives).

Resource Protection Measures

1. Livestock grazing will continue to be authorized under management systems designed to meet the 1988 Los Padres National Forest Land and Resource Management Plan [LRMP] Goals and Objectives (pages 4-6 to 4-7), Management Practices (pages 6A-4 to 6A-5), Standards and Guidelines (pages 4-7 to 4-19), Management Area Direction (pages 4-20 to 4-174), Range Management Best Management Practices for water quality (Appendix D).

2. Livestock grazing will also be authorized under management systems designed to meet the 2005 revised Los Padres Forest Land Management Plan (Appendix C)

3. Follow Riparian Conservation Strategy standards and guidelines developed under the interagency 1995 interim Pacific Anadromous Strategy (PacFish) that apply to grazing. (See Appendix C)

4. Remove livestock from individual pastures and/or National Forest System lands when moderate utilization has been reached, as defined in the LRMP final EIS (1988). This will be interpreted as an average of 1,000 lbs/acre of residual dry matter (RDM) carried over to the new forage year.

5. All rangeland management activities will be in compliance with the 2003 grazing strategy for the Los Padres National Forest, as covered under the Region 5 MOU for Grazing and the (national) Programmatic Agreement between the California Historic Preservation Officer, Advisory Council on Historic Preservation, and the USDA Forest Service.

6. The Forest will instruct the permittees on which non-native invasive plants to be aware of and report annually of any new infestations on their allotments.

7. Salt and/or other supplements will be located greater than 0.25 mile from: all perennial water sources including ponds; vernal pools; TEPCS species and habitat; livestock and wildlife water developments; concentrated and developed recreation areas; and other sensitive areas such as heritage resources, unless approved by the responsible Forest officer.

8. Follow all management requirements listed in Biological Opinions or Biological Assessments/Evaluations set forth in this environmental assessment (Cooper, Peckham 2001, Foster 2003, Kwasny 2003, NOOA Fisheries 2001, USFWS 2003).

a) To protect the Smith's blue butterfly:

Livestock shall be removed from individual pastures and/or National Forest System lands within ten days of when the following utilization standards have been reached within selected monitoring sites adjacent to suitable Smith's blue butterfly habitat.

- Utilization for range dominated by annual forage will not exceed 55-60%.
- Utilization for range dominated by perennial bunchgrass will not exceed 45 -50% on perennial bunchgrasses.

Monitoring sites will be within 250 feet of suitable seacliff buckwheat stands (or close as possible given topographic restrictions). First preference for selected sites will be the allotment 'key livestock use areas'[5] where monitoring for Forest standards and guidelines takes place; if no seacliff buckwheat stands exist within 250 feet of key livestock use areas, then the following order of preference will be used: Within 250 feet of Primary range[6]; within 250 feet of Secondary range[7]. Pastures without primary or secondary range within 250 of seacliff buckwheat stands will not be monitored for utilization as described above.

Where possible, if supplemental salt or minerals are provided the locations will be placed a minimum of 0.25 mile from seacliff buckwheat stands to guide livestock away from these areas.

New water developments will be located a minimum of 0.25 mile from seacliff buckwheat stands to guide livestock away from these areas.

Existing water developments located more than 0.25 mile from seacliff buckwheat stands will be maintained in a usable state.

Permittees are required to maintain all improvements that are assigned by the permits that they hold. Maintenance shall be completed prior to cattle entering the allotment, or pasture if a multiple pasture system is in effect.

8. Proper Functioning Condition Assessments

[5] Key livestock use area is a portion of the rangeland selected because of its location, grazing value or use. It serves as a monitoring and evaluation point for range condition, trend, or degree of grazing use.

[6] Primary range is defined as that part of the allotment which livestock naturally prefer to use. Typically it includes the forage-producing areas that are readily accessible and have available water. Forage value and palatability is high in comparison to the rest of the allotment's vegetation. Ordinarily primary range will be grazed to allowable use levels before livestock graze other parts of the allotment to any great extent.

[7] Secondary range is where forage value and palatability of vegetation is lower than primary areas and terrain is steeper making it a less desirable area to livestock. Ordinarily secondary range is used very little or not at all under existing management.

Proper Functioning Condition (PFC) assessments will be conducted every five years on selected streams consistent with Forest Land Management Plan monitoring requirements.

If a "no" answer is given to any question in the proper functioning condition checklist, then a quantitative measurement of that riparian attribute will be made. If it is determined that the problem is being caused or contributed to by livestock, then management will be adjusted following adaptive management procedures.

An interdisciplinary team with relevant expertise will determine adjustments. Permittees will also be consulted regarding possible management adjustments. Adjustments will be designed to show rapid, substantial and measurable progress towards LRMP or EA standards and management objectives.

Adjustments will include but not limited to:

a) reductions in season of use in the affected area, OR
b) reductions in allowed utilization in the affected area, OR
c) a combination of changes in season of use and utilization.

If after two years of altered management, resource conditions still do not meet or move towards standards and objectives, and if there is evidence that the problem continues to be related to grazing impacts, then management will be further adjusted as above. If resource condition continues to be unsatisfactory after 4 years of adjustments (or 3 adaptive management attempts, whichever occurs first), the suitability of the area for livestock grazing will be re-evaluated.

Monitoring and Adaptive Management

Implementation monitoring:

- Check compliance with annual operating instructions. This will include spot-checking on/off and pasture move dates, evaluating allowable use, verifying permittee maintenance of range improvements, and observations of concentrated cattle use.
- Utilization within Key Areas will be estimated approximately midway through the prescribed season-of-use period. If utilization is projected to exceed RDM utilization standards, monitoring will occur once every 10 days until the prescribed use period ends or maximum allowed utilization is reached.
- On the Kozy Kove Ranch, monitor for livestock drift into the Silver Peak Wilderness. If monitoring indicates a drift problem, construct drift fencing. For location of drift fence, see Kozy Kove map (Appendix H-9)

Effectiveness Monitoring

- Check for signs of livestock presence within sites of Traditional Cultural Practices or identified high-risk cultural resource sites. Conduct and analyze permanent condition and trend transects at approximately 5-year intervals.
- Evaluate non-native invasive plants monitoring reports both from Forest

Service random sampling and from permittees (Standard Management Requirement).

- Complete range management BMP implementation and effectiveness evaluations (USDA Forest Service, 2002) at sites where monitoring has identified the need to evaluate the effectiveness of specific practices in meeting our objectives.
- Utilize water quality data provided by the Regional Water Quality Control Board, or Monterey Bay Sanctuary Citizen Watershed Monitoring Network, or other available data.
- Check for signs of livestock presence within areas occupied by threatened, endangered or sensitive species (TES).
- Within two weeks before or after the end of prescribed use period for allotments and/or individual pastures, determine utilization at designated key areas. On yearlong use allotments, Alder Creek and Salmon Creek, utilization will be measured during the months of August through September.

Validation Monitoring

If Threatened, Endangered, or Sensitive species are discovered in areas prone to impact from livestock, this new information will be considered, consulted on with FWS/NOAA Fisheries, and a determination made as to what avoidance or minimization measures should be incorporated into the allotment management plan and annual operating instructions.

Adaptive Management

If monitoring indicates that range conditions are not at or trending toward desired conditions within a five year timeframe; or if validation monitoring indicates that any Forest Service listed sensitive species is likely to trend toward federal listing or be threatened with the loss of viability; or threatened or endangered species population appear to be in decline due to livestock, an interdisciplinary team with relevant expertise will determine what adjustments in management are needed. Adjustments will choose from one or a combination of the following rangeland management practices:

- Fencing and other structural improvements
- Adjustments in season of use
- Adjustments in allowable use levels
- Adjustments in numbers of livestock
- Types of livestock
- Period of rest

Changes will be reflected in the annual operating instructions and term grazing permit.

APPENDIX C

Forest Plan Consistency

The Monterey Ranger District (MRD) shares in implementing the Forest Plan and bases its actions upon the site-specific information gathered at the allotment level. Grazing activities and/or projects are planned and implemented by the MRD to carry out direction established in the Forest Plan.

I. 1988 Los Padres Land and Resource Management Plan

All management activities undertaken on the Forest follow the Los Padres National Forest LRMP Standards and Guidelines. They provide FLRMP direction that facilitates a meaningful, quantitative integration of resource outputs that is consistent with multiple use, sustained yield principles (16 USC 528).

Introduction – Chapter 1

1.4 Forest Plan Amendments, Revisions, and Appeal Rights (reproduced in part)

The Forest Supervisor may amend the Forest Plan. The Forest Supervisor will be responsible for determining the extent and need for changes based on budget, changed conditions, and mitigation measures. A minor amendment is considered to be a change that does not significantly change the overall direction or intent of the Plan as to be acceptable change without major public involvement and review.

If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

Management Direction – Chapter 4 (reproduced in part)

4.2 Desired Future Condition

- The Forest Plan emphasizes services and commodities furnished in response to local and regional needs. The Plan will also slightly increase grazing opportunities.

4.2.6 Fish and Wildlife

- Competition for forage and the degree of riparian and aquatic impacts associated with grazing uses will become fully mitigated through application of Forest-wide standards and guidelines and the designation of areas where wildlife management or range management will predominate.

4.2.7 Range Management

- Existing range allotment plans will be reviewed and revised; new plans will be developed for any additional allotments. Range management will include maintenance and replacement of existing structural improvements and

development of additional improvements as additional range is created, primarily within existing allotments.

4.3.2 Forest-Wide Standards and Guidelines

4.3.2.5 Watershed

- Best Management Practices will be implemented to met water quality objectives and maintain and improve the quality of surface water on the Forest.
- 4.3.2.6 Vegetation
- Manage sensitive plant species to ensure their viability.
- Emphasize Sensitive and Special Emphasis plant species habitat protection and improvement in resource management.
- Prevent the destruction or adverse modification of habitat determined to be essential for Sensitive or Special Emphasis plant species.

4.3.2.7 Riparian/Wetland Areas

- Ensure habitat conditions necessary for maintenance of viable populations of riparian Management Indicator Species.
- Perennial and intermittent streams will be protected by limiting management activities within the Streamside Management Zone. Activities are to be limited to the extent that protective vegetation conditions in the zone can be returned to predisturbance conditions within one year.

4.3.2.10 Fish and Wildlife

- Existing water sources will be maintained in a usable state for wildlife needs. Minimize human/wildlife/livestock interactions which may be detrimental to wildlife populations.
- Perennial stream habitats will be managed to at least maintain fisheries habitat for viable populations of native fish species.
- Prevent the destruction or adverse modification of habitat determined to be critical for threatened or endangered species.

4.3.2.11 Range

- The standard for grass and forb utilization is the moderate level. This takes into account the combined forage and cover needs for wildlife populations and domestic grazing use.
- Range development projects will be limited to existing range allotments, unless forage improvement projects are of sufficient size to make a viable operating unit along with associated natural rangelands.

4.3.2.15 Cultural Resources

- Confidentiality of cultural resources sites locations will be maintained.
- All project impact areas will be inventoried prior to implementation to allow identification, protection, and mitigation of any significant cultural properties.

4.4 Management Area Prescriptions

- Management Area 42 allows the maintenance of existing grazing opportunities on natural rangelands and the retention of the balance between grazing lands and the natural/untreated lands within the area. Such practices as fencing, water developments, and riding are used to obtain more uniform distribution and plant use, and to maintain plant vigor.
- Management Area 48 allows grazing capacity to be maintained if it is not in conflict with other resources. Such practices as fencing, water developments, and riding are used to obtain more uniform distribution and plant use, and to maintain plant vigor.
- Management Area 64 consists of designated Wilderness Areas. The area is managed to preserve wilderness values and to provide for activities authorized in the Wilderness Act of 1964 and other enabling legislation; grazing opportunities will be maintained in areas where such use existed prior to establishment of the wilderness.

Riparian Conservation Strategy standards and guidelines for grazing

A. Identify areas where grazing practices may have impacts on threatened and endangered and sensitive species. Develop and implement measures to avoid or reduce the adverse impacts of grazing.

1. Update all existing grazing permits, Allotment Management Plans and Annual Operating Instructions to incorporate current Management direction (i.e. existing Forest Plan Standards and Guides, Riparian Conservation Strategy when adopted, Forest Plan amendments when completed, allotment specific analysis as they are completed, and any other legal requirements as they change).

2. Use a classification system to help prioritize grazing management practices.

3. Use standard range management practices (i.e. changes in kind and class of livestock, seasons of use, length of season, animal months, animal numbers, fencing, relocation of watering and salting sites, and riding) to adjust the management of allotments. Use habitat needs and objectives to identify areas of needed habitat improvement within allotments.

4. Use opportunities to inform and educate permittees, the public and cooperators. Keep permittees current on riparian habitat requirements and any listed species as related to the use and management of the allotment.

5. Develop and implement achievable TEP species specific and monitoring plans for all grazing allotments which encompass habitat for T&E species. If

monitoring indicates that adjusting practices have not been effective in meeting Riparian Management Objectives, the grazing activity should be eliminated in the areas of non-attainment.

B. All habitat exclusion measures implemented shall be monitored for effectiveness. When livestock are found within an enclosure, the Forest shall ensure that cattle are removed and take steps to prevent additional access from occurring.

1. Upon detection of adverse impact immediately verbally notify the FWS and the permittee of the problem at hand. Follow up on notification to the permittee within one working day after discovery. Written notification to the permittee shall be mailed using certified mail to ensure documentation of receipt of the notice by the permittee. The letter shall document the conversation including instructions and time frames required to correct problem(s).

2. The permittee shall be requested to take immediate action to remove livestock and take whatever actions needed to preclude further impacts upon the listed species. Correction of the problems are to be completed within 72 hours (FSH 2209.13). It is recognized that it may take several days to gather, herd and remove livestock from more remote sites, especially within Wilderness areas, and such cases may be allowed added time as agreed to by the Forest Officer administering the allotment.

3. If no action is taken by the permittee within three days (72 hours) of first verbal notice, the Forest will take action itself to remove the livestock from the affected area and ensure no further adverse effects occur. Follow up with a Cautionary letter to the permittee documenting the situation and request that they show cause why the permit should not be suspended or cancelled. If suspension is selected, suspend 25% or more of the permitted numbers for a minimum of two years (FSH 2209.13).

4. The Forest shall take appropriate administrative actions to ensure no further adverse effects occur to the listed species as a result of permitted grazing. This includes suspension or canceling the grazing permit, or other actions necessary to ensure protection of the listed species.

Additional Riparian Habitat Conservation Area (RHCA) Standard and Guidelines for Range Management are also found in PacFish and are as follows:

- Modify grazing practices that retard or prevent attainment of Riparian Management Objectives (RMOs) or are likely to adversely affect listed anadromous fish. Suspend grazing if adjusting practices are not effective in meeting Riparian Management Objectives and avoiding adverse effects on fish.

- Locate new livestock handling and/or management facilities outside of Riparian Habitat Conservation Areas (RHCAs). For existing livestock handling facilities inside the RHCAs, assure facilities do not prevent attainment of RMOs or adversely affect listed anadromous fish. Relocate or close facilities where these objectives cannot be met.

- Limit livestock trailing, bedding, watering, salting, loading and other handling efforts to those areas and times that will not retard or prevent attainment of RMOs or adversely affect listed anadromous fish.

Riparian Conservation Strategy Riparian Area Definitions:

1. 300 horizontal feet out from water's edge for all fish bearing perennial streams within anadromous fish (e.g. steelhead) watershed. Including those perennial, intermittent, and seasonal stream reaches which support steelhead at some time in a typical hydrological year as well as those reaches which may not presently sea-run steelhead, but have high potential for restoration of steelhead in the reasonable foreseeable future. (Note: for vegetation management, it is the 100-year floodplain, not the 300-foot zone).
2. 150 feet for perennial non-anadromous fish bearing streams as well for wetlands, ponds, and reservoirs (>1 acre in size) within anadromous watershed. Includes stream reaches which are perennial, seasonal, or intermittent and have potential to greatly influence downstream steelhead supporting reaches or those reaches which have high potential for restoration of steelhead in the reasonable foreseeable future.
3. 100 feet for smaller wetlands, ponds, reservoirs and ephemeral streams not defined above and are within anadromous watersheds. Riparian widths are to be extended to encompass 100-year floodplains, all riparian vegetation, and landslide prone areas.

II. 2005 Los Padres Land Management Plan

All new management direction in the 2005 revised Los Padres Land Management Plan will be incorporated into all permits issued under this assessment. The following parts are relevant to the authorization of livestock grazing on the Monterey Ranger District.

Part 1

Strategic Goals

(Government Performance and Results Act Priority National Goals (GPRA))

National Strategic Plan, Goal 2 – Reduce the impacts from invasive species

National Strategic Plan, Goal 5 – Improve watershed conditions

National Strategic Plan, Goal 6 – Mission related work in addition to that which supports the agency's goals

Forest Goals and Desired Conditions

Goal 2.1 – *Invasive Weeds* - Reverse the trend of increasing loss of natural resource values due to invasive species.

Desired Condition: The structure, function, and composition of plant communities and wildlife habitats are not impaired by the presence of invasive nonnative plants and animals.

Goal 3.2 – W*ilderness* - Retain a Natural Evolving Character within Wilderness.

Desired Condition: Ecological processes occur untrammeled. Human resources do not free play of natural forces in the ecosystem.

Goal 5.1 – *Watershed Function* - Improve watershed conditions through cooperative management.

Desired Condition: The desired condition is that national forest watersheds are healthy, dynamic and resilient, and are capable of responding to natural and human caused disturbances while maintaining the integrity of their biological and physical processes.

Goal 5.2 – *Riparian Condition* – Improve riparian conditions.

Desired Condition: The desired condition is that watercourses are functioning properly and support healthy populations of native and desired nonnative riparian dependent species. Riparian vegetation consists mainly of native species, with minimal or no presences of invasive nonnative plants. Nuisance nonnative aquatic animals are absent or rare in streams and lakes. Riparian and aquatic ecosystems (including vegetation, channel stability, water quality and habitat for aquatic and riparian dependent species) are resilient and able to recover after natural events, such as floods and wildland fires.

Goal 6.1 – *Rangeland Condition* – Move toward improved rangeland conditions as indicated by key range sites.

Desired Condition: The desired condition is that livestock grazing opportunities are maintained and are managed for sustainable, healthy rangelands that contribute to improving watershed conditions towards a fully functional and productive condition.

Goal 6.2 – *Biological Resource Condition* – Provide ecological conditions to sustain viable populations of native and desired nonnative species.

Desired Condition: The desired condition is that habitats for federally listed species are conserved, and listed species are recovered or are moving toward recovery. Habitats for sensitive species and other species of concern are managed to prevent downward trends in populations or habitat capability, and to prevent federal listing. Flow regimes in streams that provide habitat for threatened, endangered, proposed, candidate, and/or sensitive aquatic and riparian-dependent species are sufficient to allow species to persist and complete all phases of their life cycles.

Part 2

Suitable Uses by Land Use Zones: Livestock grazing is suitable in designated areas in all land use zones with the exception of the Critical Biological Land Use Zone.

Program Emphasis and Objectives: The livestock program emphasizes compliance with the Rescissions Act of 1995. Priority is given to reviewing allotments where there are known impacts on natural resources or recreation use.

Big Sur Place Desired Condition: The Big Sur Place is maintained for its internationally valued scenic beauty and biodiversity. It is a naturally evolving and natural appearing landscape that

functions as an international destination defined by spectacular land-ocean interface scenery. Visitor use is accommodated without compromising resource values. The valued attributes to be preserved over time are stands of redwoods within a mosaic of other vegetation, riparian vegetation appearing as prominent ribbons, grasslands that appear as openings across flat plateaus along the coast, and a rustic/rural built environment that reflects the eclectic character of the land and people.

Program Strategies and Tactics:

LG 1 – Livestock Grazing: Livestock grazing areas are maintained and remain sustainable and suitable over the long-term.

LG 2 – Rangeland Health: Rangelands are healthy and sustainable over the long term. Rangelands are meeting or moving toward forest plan, ecosystem, and site-specific desired conditions.

WAT 1 – Watershed Function: Protect, maintain and restore natural watershed functions including slope processes, surface water and groundwater flow and retention, and riparian area sustainability.

WAT 2 – Manage groundwater and surface water to maintain or improve water quality in ways to minimize adverse effects.

SD 1 – Wilderness: Protect and manage wilderness to improve the capability to sustain a desired range of benefits and values, and so that changes in ecosystems are primarily a consequence of natural forces.

SD 3 – Research Natural Areas: Protect and manage research natural areas to maintain unmodified conditions and natural processes. Identify a sufficient range of opportunities to meet research needs. Compatible uses and management activities are allowed.

HER 1 – Heritage Resource Protection: Protect heritage resources for cultural and scientific value and public benefit.

Part 3 - Standards and Guidance Applicable to Livestock Grazing

S11: When occupied or suitable habitat for a threatened, endangered, proposed, candidate or sensitive (TEPCS) species is present on an ongoing or proposed project site, consider species guidance documents (see Appendix H) to develop project-specific or activity-specific design criteria. This guidance is intended to provide a range of possible conservation measures that may be selectively applied during site-specific planning to avoid, minimize or mitigate negative long-term effects on threatened, endangered, proposed, candidate or sensitive species and habitat. Involve appropriate resource specialists in the identification of relevant design criteria. Include review of species guidance documents in fire suppression or other emergency actions when and to the extent practicable.

S12: When implementing new projects in areas that provide for threatened, endangered, proposed, and candidate species, use design criteria and conservation practices (see Appendix H) so that discretionary uses and facilities promote the conservation and recovery of these species and their habitats. Accept short-term impacts where long-term effects would provide a net benefit for the species and its habitat where needed to achieve multiple-use objectives.

S22: Except where it may adversely affect threatened and endangered species, linear structures such as fences, major highways, utility corridors, bridge upgrades or replacements, and canals will be designed and built to allow for fish and wildlife movement.

S24: Mitigate impacts of on-going uses and management activities on threatened, endangered, proposed, and candidate species.

S25: Conduct road and trail maintenance activities during the season of year that would have the least impact on threatened, endangered, and proposed wildlife species in occupied habitats, except as provided by site-specific consultation.

S32: When surveys for species presence/absence are done for threatened, endangered, and proposed species, use established survey protocols, where such protocols exist.

S46: Surface water diversions and groundwater extractions, including wells and spring developments will only be authorized when it is demonstrated by the user, and/or agreed to by the Forest Service, that the water extracted is excess to the current and reasonably foreseeable future needs of forest resources.

S47: When designing new projects in riparian areas, apply the Five-Step Project Screening Process for Riparian Conservation Areas as described in Appendix E - Five-Step Project Screening Process for Riparian Conservation Areas.

S51: Allotment specific review of rangeland capability and suitability guidelines (Appendix J - Livestock Capability and Suitability Guidelines) shall occur as part of a site-specific allotment or livestock grazing area level National Environmental Policy Act (NEPA) analysis. Permits will not be issued for livestock grazing areas determined to be not suitable or have insufficient grazing areas for sustaining a livestock operation.

S52: Soil Cover: Maintain an effective soil cover of 60 percent to provide for soil protection, water infiltration, and reduce the risk of accelerated soil erosion within designated livestock grazing areas. Soil cover includes: living vegetation (grasses, forbs, and prostrate plants); plant litter; and surface rock fragments greater than 3/4 inch.

S53: Salt and Mineral Locations: Salt and/or other supplements will be located greater than ¼ mile from all water sources including: ponds; riparian areas; meadows; springs; seeps; vernal pools; susceptible threatened, endangered, proposed, candidate and sensitive species and habitats; livestock and wildlife water developments; concentrated and developed recreation areas; and other sensitive areas including sensitive heritage resources, unless approved by the responsible Forest Official.

S54: Burned Areas: After a wildland fire, prior to initiating grazing, a site-specific analysis will be performed for designated livestock areas to determine the level and location(s) of livestock use, if any.

S56: Retain the following: average amounts of residual dry matter (RDM) until the onset of the rainy season; percent utilization; and percent streambank alteration on grazed rangelands. Precipitation is based on long-term averages. Streambank alteration is defined as alteration and displacement of rooted plants and physical soil structure by livestock per stream reach in wet montane meadows and Rosgen C3 channels. Percent woody browse is based on current year's growth of shrubs, unless required to meet other vegetation management objectives. Livestock will be moved from grazing units when thresholds are met as determined by established protocols (see table 3-2. Livestock Grazing Utilization Standards).

Table 3-2. Livestock Grazing Utilization Standards

Location*	Habitat Grouping	RDM (lbs/acre)	Woody Browse percent Allowable Use	Perennial Grass and Grass-like Plants percent Allowable Use	Streambank Alteration by Livestock percent Allowable
LBV/SWWF Occupied Habitat	Nesting Season	No Grazing During Occupancy			
	Suitable Habitat Non-Nesting Season/No Occupancy	N/A	35	35	≤ 10
Riparian Areas	N/A	N/A	40	35	≤ 20
Wet Montane Meadows	N/A	N/A	40	4" - 6" Stubble Height (based on condition)	≤ 20
Uplands	Annual grasslands and oak woodlands with > 10 inches annual precipitation	700	40 (20 - On advanced oak tree regeneration)	50	N/A
	Annual grasslands and oak woodlands with ≤ 10 inches annual precipitation	400			
	Annual grassland/pinyon	200-400	40	50	
	Mixed conifer forests	600			
	Chaparral/desert scrub	200-400			
WUI/Fuelbreaks	N/A	600	N/A	N/A	N/A

*Notes: LBV = least Bell's vireo; SWWF = southwest willow flycatcher; WUI = wildland/urban interface

Species Guidance Summary

When planning projects or managing ongoing activities in areas that contain habitat for species of concern (including threatened, endangered, proposed, candidate, and sensitive species and other species identified by biologists as being in danger of population decline or habitat loss) use the information found in various types of species guidance documents to develop project-specific design criteria.

Species guidance documents include (as of December 2004):

1. Recovery plans for threatened and endangered species, prepared by U.S. Fish and Wildlife Service

Animals: Conservancy fairy shrimp, longhorn fairy shrimp, vernal pool fairy shrimp; Smith's blue butterfly; tidewater goby; arroyo toad, California red-legged frog; California brown pelican, California condor, California least tern, least Bell's vireo, marbled murrelet, Pacific bald eagle, southwestern willow flycatcher; San Joaquin kit fox, southern sea otter;

2. Species conservation strategies, prepared by or for USDA Forest Service

California spotted owl; mountain yellow-legged frog

4. Species accounts prepared for this planning effort or subsequent to it (USDA Forest Service)

Species account – invertebrates:

Any listed above, plus: August checkerspot, bright blue copper, Clemence's silverspot, Dammer's blue, Duodoroff's elfin, Harbison's dun skipper, Hermes copper, Laguna Mountains skipper, Pratt's blue, San Emigdio blue, San Gabriel Mountains elfin, San Gabriel Mountains greenish-blue, Thorne's hairstreak; San Bernardino Mountains silk moth; bicolor rain beetle, Dorhn's elegant eucnemid beetle, greenest tiger beetle; desert monkey grasshopper; California diplectronan caddisfly.

Species account – fish:

Any listed above, plus: arroyo chub, Pacific lamprey, partially-armored three-spine stickleback, Santa Ana speckled dace, Santa Ana sucker, Shay Creek stickleback, southern steelhead.

Species account – amphibians:

Any listed above, plus: arboreal salamander, California tiger salamander, Coast Range newt, large-blotched ensatina salamander, Monterey ensatina salamander, Pacific giant salamander, San Gabriel Mountains slender salamander, Tehachapi slender salamander, yellow-blotched ensatina salamander; foothill yellow-legged frog; western spadefoot toad.

Species account – reptiles:

Any listed above, plus: Belding's orange-throated whiptail, California legless lizard, coast horned lizard, Coronado skink, northern sagebrush lizard, southern sagebrush lizard, small-scaled lizard; coast patch-nosed snake, coastal rosy boa, coast mountain kingsnake, San Bernardino mountain kingsnake, San Diego mountain kingsnake, mountain garter snake, south coast red-sided garter snake, two-striped garter snake, red-diamond rattlesnake, San Bernardino ringneck snake, San Diego ringneck snake; southern Pacific pond turtle.

Species account – birds:

Any listed above, plus: mountain plover, western snowy plover; American peregrine falcon, prairie falcon; Cooper's hawk, northern goshawk, sharp-shinned hawk, Swainson's hawk, zone-tailed hawk; turkey vulture; osprey, golden eagle; burrowing owl, flammulated owl, long-eared owl, northern pygmy owl, northern saw-whet owl, western screech owl; mountain quail, Mount Pinos blue grouse; common nighthawk; white-headed woodpecker, Williamson's sapsucker; calliope hummingbird; black swift, purple martin, tree swallow, Vaux's swift; yellow-breasted chat, yellow-billed cuckoo, American dipper, gray flycatcher, Lawrence's goldfinch, pinyon jay, yellow-billed magpie, American (water) pipit, loggerhead shrike, Bell's sage sparrow, Lincoln's sparrow, rufous-crowned sparrow, summer tanager, hepatic tanager, Bendire's thrasher, Le Conte's thrasher, hermit thrush, Swainson's thrush, gray vireo, Cassin's solitary vireo, plumbeus solitary vireo, warbling vireo, Macgillivray's warbler, Nashville warbler, Virginia's warbler, Wilson's warbler, yellow warbler, coastal cactus wren, common yellowthroat.

Species account – mammals:

Any listed above, plus: California leaf-nosed bat, pallid bat, spotted bat, Townsend's big-eared bat, western mastiff bat, western red bat, fringed myotis, long-eared myotis, long-legged myotis, western small-footed myotis, Yuma myotis; Los Angeles pocket mouse, San Diego pocket mouse, San Bernardino white-eared pocket mouse, Tehachapi pocket mouse, Monterey dusky-footed woodrat, San Diego desert woodrat, San Bernardino kangaroo rat; California chipmunk, lodgepole chipmunk, Mt Pinos lodgepole chipmunk, Coachella Valley round-tailed ground squirrel, golden-mantled ground squirrel, Mohave ground squirrel, San Joaquin antelope squirrel, San Bernardino flying squirrel; San Bernardino dusky shrew; San Diego black-tailed jackrabbit; western spotted skunk, American badger; porcupine, ringtail; mountain lion; Nelson's bighorn sheep; Stellar's sea lion.

Species account – plants:

Most listed above, plus: *Abies bracteata, Abronia nana ssp. covillei, Abronia villosa var. aurita, Agrostis hooveri, Allium hickmanii, Allium howellii var. clokeyi, Allium marvinii, Allium parishii, Antennaria marginata, Arabis breweri var. pecuniaria, Arabis johnstonii, Arabis shockleyi, Arctostaphylos cruzensis, Arctostaphylos edmundsii, Arctostaphylos hooveri, Arctostaphylos luciana, Arctostaphylos obispoensis, Arctostaphylos otayensis, Arctostaphylos peninsularis ssp. peninsularis, Arctostaphylos pilosula, Arctostaphylos rainbowensis, Arctostaphylos refugioensis, Arenaria languginosa ssp. saxosa, Arenaria macradenia var. kuschei, Artemisia palmeri, Aster greatae, Astragalus albens, Astragalus bicristatus, Astragalus deanei, Astragalus douglasii var. perstrictus, Astragalus lentiginosus var. antonius, Astragalus lentiginosus var. coachellae, Astragalus leucolobus, Astragalus oocarpus, Astragalus pachypus var. jaegeri, Astragalus tricarinatus, Atriplex parishii, Baccharis plummerae ssp. glabrata, Baccharis vanessae, Bloomeria humilis, Brodiaea filifolia, Brodiaea orcuttii, Calochortus clavatus var. gracilis, Calochortus dunnii, Calochortus obispoensis, Calochortus plummerae, Calochortus simulans, Calochortus weedii var. intermedius, Calochortus weedii var. vestus, Calycadenia villosa, Calyptridium pygmaeum, Calystegia peirsonii, Calystegia subacaulis ssp. episcipalis, Camissonia hardhamiae, Canbya candida, Carex obispoensis, Carlquistia [Raillardiopsis] muirri, Caulanthus amplexicaulis var. barbarae, Caulanthus coulteri var. lemmonii, Caulanthus simulans, Ceanothus cyaneus, Ceanothus ophiochilus, Centromadia [Hemizonia] pungens ssp.*

laevis, Chaenactis parishii, Chlorogalum pomeridianum var. minus, Chlorogalum purpureum var. reductum, Chorizanthe blakleyi, Chorizanthe breweri, Chorizanthe parryi var. parryi, Chorizanthe polygonoides var. longispina, Chorizanthe procumbens, Chorizanthe rectispina, Chorizanthe xanti var. leucotheca, Cirsium loncholepis, Clarkia delicata, Clarkia jolonensis, Cordylanthus eremicus ssp. eremicus, Cupressus sargentii, Deinadra [Hemizonia] floribunda, Deinadra [Hemizonia] mohavensis, Delphinium hutchinsonae, Delphinium inopinum, Delphinium parryi ssp. purpureum, Delphinium umbraculorum, Draba corrugata var. saxosa, Dudleya cymosa ssp. crebrifolia, Dudleya multicaulis, Dudleya viscida, Eriastrum densifolium ssp. sanctorum, Eriastrum hooveri, Eriastrum luteum, Ericameria cuneata var. macrocephala, Ericameria palmeri var. palmeri , Erigeron breweri var. jacinteus, Erigeron uncialis var. uncialis, Eriogonum butterworthianum, Eriogonum kennedyi var. alpigenum, Eriogonum microthecum var. corymbosoides, Eriogonum umbellatum var. minus, Eriophyllum lanatum var. hallii, Eriophyllum lanatum var. obovatum, Fritillaria falcata, Fritillaria liliacea, Fritillaria ojaiensis, Fritillaria viridea, Galium angustifolium ssp. gabrielense, Galium angustifolium ssp. jacinticum, Galium californicum ssp. primum, Galium californicum ssp. luciense, Galium clementis, Galium hardhamiae, Galium jepsonii, Galium johnstonii, Geraea viscida, Gilia leptantha ssp. leptantha, Githopsis diffusa ssp. filicaulis, Grindelia hirsutula var. hallii , Heuchera abramsii, Heuchera brevistaminea, Heuchera elegans, Heuchera hirsutissima, Heuchera parishii, Holocarpha virgata elongata, Horkelia cuneata ssp. puberula, Horkelia cuneata ssp. sericea, Horkelia truncata, Horkelia wilderae, Horkelia yadonii, Hulsea californica, Hulsea vestita ssp. callicarpha, Hulsea vestita ssp. gabrielensis, Hulsea vestita ssp. parryi, Hulsea vestita ssp. pygmaea, Ivesia callida, Juglans californica, Layia heterotricha, Layia jonesii, Layia ziegleri, Lepechinia cardiophylla, Lepechinia fragrans, Lepechinia ganderi, Lepidium flavum var. felipense , Lepidium virginicum var. robinsonii, Leptodactylon jaegeri, Lessingia glandulifera var. tomentosa, Limnanthes gracilis ssp. parishii, Linanthus concinnus, Linanthus floribundus ssp. hallii, Linanthus orcuttii, Lonicera subspicata var. subspicata, Lupinus excubitus var. johnstonii, Lupinus ludovicianus, Machaeranthera canescens var. ziegleri, Malacothamnus aboriginum, Malacothamnus davidsonii, Malacothamnus palmeri var. involucratus, Malacothamnus palmeri var. lucianus, Malacothamnus palmeri var. palmeri, Malacothrix saxatilis var. arachnoidea, Marina orcuttii var. orcuttii, Matelea parvifolia, Microseris douglasii var. platycharpha, Mimulus clevelandii, Mimulus diffusus, Monardella cinerea, Monardella hypoleuca ssp. lanata, Monardella linoides ssp. oblonga, Monardella macrantha ssp. hallii, Monardella nana ssp. leptosiphon, Monardella palmeri, Monardella viridis ssp. saxicola, Muilla coronata, Nolina cismontana, Nolina interrata, Oreonana vestita, Oxytheca caryphylloides, Oxytheca emarginata, Oxytheca parishii var. abramsii, Oxytheca parishii var. cienegensis, Oxytropis oreophila var. oreophila, Packera ganderi, Packera ionophylla, Parnassia cirrata, Pedicularis dudleyi, Penstemon californicus, Pentachaeta exilis ssp. aeolica , Perideridia gairdneri ssp. gairdneri, Phacelia suaveolens ssp. keckii, Phlox dolichantha, Pinus attenuata, Piperia leptopetala, Plagiobothrys uncinatus, Podistera nevadensis, Polygala cornuta var. fishiae, Populus tremuloides, Potentilla rimicola, Quercus dumosa, Quercus engelmannii, Quercus lobata, Ribes canthariforme, Romneya coulteri, Rupertia rigida, Sanicula maritima, Satureja chandleri, Sedum niveum, Sibaropsis hammittii, Sidalcea hickmanii ssp. anomala, Sidalcea hickmanii ssp. hickmanii, Sidalcea hickmanii ssp. parishii, Streptanthus albidus ssp. peramoenus,

Streptanthus bernardinus, Streptanthus campestris, Stylocline masonii, Swertia neglecta, Syntrichopappus lemmonii, Tetracoccus dioicus, Thermopsis californica var. semota, Thermopsis macrophylla, Triteleia ixioides ssp. cookii, Tropidocarpum capparideum, Viola aurea, Viola pinetorum ssp. grisea.

These guidance documents are not static but are subject to change as new information becomes available and circumstances are altered. The most current version of these recovery plans, species management guides and strategies, habitat management guides and strategies, and species accounts shall take precedence over pre-existing documents.

Livestock Capability and Suitability Guidelines

The determination of rangeland suitability is an interdisciplinary two-step process.

Step 1: The first step is the determination of those lands that are capable or have the potential of being grazed. Rangeland capability represents the biophysical determination of those areas of land that can sustain domestic livestock grazing. Capability depends on current and potential resource and site conditions. A unit of National Forest System land is generally capable where:

1. Slopes < 60 percent;

2. Ability to produce greater than 200-700 lbs/acre of residual dry matter based on site potential;

3. Accessible to livestock; and

4. Areas where livestock can be controlled or sustained within a designated area and management system.

On the four southern California national forests, capable rangeland requires approximately 1-11 acres, depending on vegetation type and physical factors such as slope and aspect, to produce 1 Animal Unit Month (AUM). One cow on range for a month represents 1 AUM, and a cow/calf represents approximately 1.32 AUM. Based on historical and current use, 1 AUM requires approximately 4 acres of capable land.

Livestock grazing is predominantly distributed among seven capable vegetation categories for the four southern California national forests. Using existing vegetation layers from the plan revision GIS database, the Calveg vegetation types for all designated grazing areas were grouped into seven broad vegetation categories based on estimated potential capability and forage production similarities: herbaceous; hardwoods; conifer; chaparral/coastal sage scrub; riparian; desert; and non-capable. The primary palatable forage for livestock is annual herbaceous vegetation, with a smaller amount of browse on woody species.

Step 2: The second step identifies which of those capable lands are suitable for grazing under various management scenarios or land use zones. Assessment of suitability is conducted by an interdisciplinary team to address whether livestock grazing is compatible with other land uses; ecological, social, and economic considerations; and the ability to meet or move towards forest plan desired conditions. Determine the suitability of capable lands by considering the following guidelines:

1. Capable lands are not suitable in:

Critical Biological Land Use Zones;

Specially designated National Forest System lands excluded from grazing by legislation. In wilderness areas, where livestock grazing was not established at the time of designation and where there is no recent history of grazing use prior to wilderness designation (Section 4(d)4(2) of the 1964 Wilderness Act);

Critical Habitat for coastal California gnatcatcher;

Peninsular bighorn sheep range; and

San Dimas Experimental Forest.

2. Capable lands may not be suitable in some areas depending on the overall evaluation of potential significant adverse effects and where efforts to mitigate adverse effects have been determined to be ineffective over the long-term based on site-specific information or analysis. Areas to be evaluated include but are not limited to:

a) Bighorn sheep habitat (see Standard 26).

b) Areas with significant social conflicts, developed recreation sites, special-use sites, heritage resource sites, Native American sites and traditional practices, mining, and other authorized uses.

c) Areas where livestock grazing is in conflict with the objectives for administrative sites and research facilities or study sites, except in areas where livestock grazing is for research purposes.

d) Areas where livestock grazing is impractical due to economic considerations, such as high agency administrative costs and where cooperative and collaborative contributions are absent. Livestock grazing may be impractical to support a small number of head or the inability to control or sustain livestock without a significant Forest Service investment to meet resource objectives and desired conditions.

e) Areas of important wildlife habitat where suitable habitat cannot be sustained or move towards desired conditions (e.g., threatened, endangered, proposed, candidate, and sensitive species).

Areas where ground cover (i.e., living vegetation, plant litter, and surface rock fragments greater than 3/4 inch) is insufficient to protect soil from erosion. The minimum percentage of effective soil cover is 60 percent unless local data are available for use in setting more specific ground cover requirements.

Areas where a noxious weed risk analysis has determined that livestock use is a key limiting factor in meeting or moving towards vegetation management objectives. Exceptions could be where livestock are used as a tool for noxious and invasive weed control.

Areas with unique habitats where suitable habitat cannot be maintained over the long term or move towards desired conditions (e.g., bogs, fens, vernal pools, and rare plant communities).

Areas where livestock grazing would be the key limiting factor in reaching or moving towards forest plan desired conditions.

Areas where existing condition or restoration needs require an extended (more than five years) rest from livestock grazing (e.g., watershed improvement projects). Exceptions could be where livestock grazing is needed to achieve desired vegetation management objectives (e.g., fuelbreak or WUI Defense or Threat Zones maintenance).

Areas where livestock grazing would be a key and significant contribution to landslide and/or soil erosion, stream incisement, or other unacceptable alteration of surface and subsurface conditions.

APPENDIX D

Range Management Best Management Practices

The following are the BMPs for the control of nonpoint source pollution associated with livestock grazing activities on National Forest System lands. Each BMP is based on administrative directives that guide and direct Forest Service planning and permitting of livestock grazing activities on NFS lands.

BMP 8.1 - Range Analysis and Planning.
Objective - To safeguard water quality potentially affected by livestock grazing activities.

Explanation: An analysis of existing range condition and other resource values will be conducted by an Interdisciplinary Team to evaluate the potential grazing capability on an allotment. Based on this environmental assessment and the LRMP, the responsible Forest Officer in coordination with the permittee prepares a written Allotment Management Plan (AMP).

AMPs include measures to protect other resource values, such as water quality, and to coordinate livestock grazing with other resource uses. Structural and non-structural range improvements will be specified in the plan when needed to improve the range resources or protect other resource values, such as water quality. Monitoring practices and locations are outlined in the plan to determine the effectiveness of LRMP standards and guidelines and trend toward desired conditions.

Annual operating instructions are issued to the permittee each year to implement the AMP and to account for current allotment conditions and trends. The amount of livestock use is determined primarily by annual monitoring of compliance with LRMP standards and guidelines and other requirements developed through the environmental assessment. Allowable use is considered to be the use, which maintains range productivity, and soil and watershed stability.

Implementation: The District Ranger is responsible for the analysis of range allotments, determining the need for environmental evaluation and documentation and the preparation of AMPs.

Annual operating instructions will be prepared, or revised annually to allow for current allotment conditions and trends, and to incorporate direction in AMP. The permittee carries out the plans under the immediate direction and supervision of the District Ranger, or District Range Officer. Enforcement action will be taken where a permittee does not comply with grazing permit requirements and conditions, and has not received approval to deviate from permit provisions.

BMP 8.2 – Gazing Permit System.
Objective: Safeguard water quality potentially affected by livestock grazing activities.

Explanation: A grazing permit is used to authorize livestock grazing on NFS lands. The LRMP standards and guidelines, allotment management plans and annual operating instructions are part of the permit terms and conditions. Routine field checks include:

1) Range readiness evaluations to assure that the soil is not too wet and that sufficient forage growth has occurred.

2) Stock checks to assure that only permitted livestock enter the allotment, the allotment is occupied only within the permitted time period and use occurs only within the approved areas within the allotment.

3) Monitoring of standards and guideline attainment which includes measuring forage utilization, riparian vegetation impacts, and condition of streambanks.

If during the coarse of monitoring and periodic assessments a problem is found in meeting the standards and guidelines on a consistent basis, a range of actions are available to solve the problem. Actions might include adjusting livestock numbers and/or season of use, installing fences and water developments, etc.

When there is intentional noncompliance with terms and conditions of the permit, enforcement is necessary and will be applied as outlined in our Forest Service Handbooks. Enforcement actions will be commensurate with the severity of violation. Actions can vary from a letter of warning, permit suspension or permit cancellation.

Implementation: Allotments will be administered by the District Ranger assuring that permit provisions are carried out by the grazing permittee as required.

The Forest Supervisor or District Ranger will approve grazing permits and allotment management plans. The Forest Service will make Field checks and measurements annually. The permit will be modified, cancelled or suspended in whole or in part as needed to ensure proper use of the range resource and protection of other resources, such as water quality.

BMP 8.3 – Range Improvements.
Objective: Safeguard water quality potentially affected by livestock grazing activities.

Explanation: Rangeland improvements are generally designed to improve on the use of the range vegetation by livestock or provide protection to sensitive areas. They may consist of simply providing protection to sensitive areas. They may consist of simply providing rest through rotation grazing, or fencing, or lighter grazing use by changing the season of sue, or by adjusting the kind, class, or number or permitted livestock.

Other measures may include stream channel stabilization efforts such as riprapping, gully plugging, and planting, or mechanical treatments such as pitting, chiseling, or furrowing. Reseeding and/or fertilization will be done alone, or in conjunction with any of these measures.

Water developments are often included in rangeland improvement projects. Improvement efforts will be designed to induce range resources to produce at or near optimum potential for sustained forage production for livestock and to provide protection to the other resources.

Implementation: The District Ranger will assure that the permittee is involved as a cooperator in rangeland improvements and as appropriate, completes the work under Forest Service direction. This work includes both construction and maintenance of improvements. Forest Service crews or contractors may also do implementation.

Range improvement needs will be recognized to the fullest extent possible in the range allotment planning process and will be scheduled for implementation in the allotment plan.

Results of watershed condition assessments developed by an IDT will be used in development of range improvement treatments and programs.

San Carpoforo Allotment – Example (Effectiveness Monitoring)

To further evaluate the effectiveness of the BMPs in meeting water quality objectives, the Interdisciplinary Team developed site-specific objectives and monitoring plan for the most sensitive reaches of Dutra and San Carpoforo streams near key use areas or travel corridors on the San Carpoforo allotment. This plan would be implemented as part of our adaptive management approach **only** if annual monitoring indicates streambank alteration attributable to livestock.

Defining site-specific management objectives, monitoring methods, and adaptive management will ensure that riparian grazing strategies balance riparian "needs" to safeguard streambank stability and in-stream flow processes.

Management Objectives for San Carpoforo Allotment:

- Streambank trampling by livestock will not exceed 10% of any reach on the allotment.
- Protect and enhance the habitat of fisheries and riparian dependent species.
- Maintain and restore riparian-wetland areas in proper functioning condition.
- Grazing does not degrade water quality.
- Range management is consistent with national and Forest management direction.
- Determine the role of range management in direction and rate of change in riparian and aquatic habitats over time.
- Monitor prescribed grazing for implementation and effectiveness in maintaining or restoring riparian habitats.

Monitoring Plan for San Carpoforo Allotment:

> Annual monitoring will be conducted to evaluate the effects of management actions on achieving management objectives. For the San Carpoforo Allotment, we will use the Representative Reach Method for measuring Streambank Alteration (USDA, 1997).
>
> Streambank condition is an important component of a stream and influences channel dynamics, aquatic habitat and aquatic populations. Physically altered streambanks are often a primary source of sediment in alluvial streams. The overriding concept behind measuring streambank alteration is to ensure streambank integrity and a healthy aquatic ecosystem.

Acceptable Streambank Alteration for San Carpoforo Allotment

- Streambank trampling by livestock will not exceed 10% of any transect.

  *Acceptable levels of alteration were determined using guidelines developed by Bengeyfield and Svoboda (1998), where potential stable streambank (based on inherent stability for vegetation type) and sensitivity level (based on fisheries, recreation, wildlife) were the definitive factors.

Sampling Procedure

Streambank alteration transects will be located on Dutra and San Carpoforo Creeks within ½ mile of primary range.

Measuring streambank alteration consists of walking the green line in a riparian area and determining the percentage of streambank altered by livestock during the current grazing season. Once the site is determined, a 100 ft transect is established. A 100' tape is stretched along the representative reach on each side of the stream. The observer walks along one side of the creek at a time, identifying the current years trampling, continually asking the questions: "Has this affected streambank integrity?" "Will this facilitate stream widening?" and "Is this preventing recovery?" If the answer to any of those questions is "Yes", then the length of that affected area is counted. The readings are then totaled and divided by 200 giving the % of streambank alteration.

Some indicators of streambank alteration are:

Bare soil is exposed to flowing water as a result of hoof action.
Streambanks collapsed.
Dislodged stones or logs along the bank/water interface.
Roots of bank stabilizing vegetation are exposed to air and water as a result of hoof shearing.
Pioneering vegetation is being trampled.
Sections of streambank have been "cut out" or "scalloped" by trampling, making it easier for water to erode behind them.
Tension cracks exist in conjunction with livestock tracks indicating bank has been weakened and is more easily eroded.
There has been an increase in bankfull width due to trampling.

The measurement of streambank alteration will be during the latter part of the grazing season or immediately after cattle have left. At that time it is easy to recognize hoof tracks from the current years' use.

*The above example would be subject to change based upon best available science and agency guidelines. At the national level, the Forest Service, in collaboration with other agencies and universities is evaluating for the most effective and sound quantifiable protocols that could be used.

APPENDIX E

Summary of animal unit months (AUMs) available for grazing at the Moderate Level, and AUMs proposed on Primary and Secondary Range.

Allotment Area/Unit	Gross Acres	Primary and Secondary Acres	AUMs Available (moderate level)	AUMs Proposed (% of total)
Gorda				
Mill Creek	4,132	1,265	877	230 (26%)
Prewitt	5,152	2,904	2,819	450 (16%)
Plaskett	5,955	2,173	2,021	316 (16%)
Pacific Valley	305	254	789	343 (43%)
Total Gorda	15,544	6,596	6,506	1,339
Alder Creek	2,525	553	313	115 (37%)
Salmon Creek Total	124 FS 116 pvt 240	66 FS 67 pvt 143	40 FS 40 pvt 80	65 (81%)
Kozy Kove	398	284	170	160 (94%)
San Carpoforo	3,546	1,891	1,778	
Sur Sur	1,915	1,295	751	
Sea Vista Total	211 5,672	146 3,332	52 2,581	975 (38%)
Coastal Rangelands Totals	24,379 acres	10,908 acres	9,650 AUMs	2,654 AUMs (27%)

APPENDIX F

Summary of Historical Management for Coastal Rangelands

Allotment/ Unit	Permitted #s	AUMs	Years Season	Management
San Carpoforo	118 yearling cattle	708	1988 –present 11/1 – 4/30	Season long
	115 yearling cattle	690	1973 – 1984 2/15 – 8/15	
Salmon Creek	2-4 mature cows and/or horses	40-65	1977 -present yearlong	Deferred rotation
Alder Creek	12 horses	163	1987 – 1998	Combination-yearlong/ seasonal
Gorda Mill Creek Unit	15 cow/calf pairs	238	1987 – 1998 yearlong	Two pastures used simultaneously
Gorda Prewitt Unit	73 cow/calf pairs	723	1987 - 1998 4/1 – 10/15	Season long
Gorda Plaskett Unit	50 cow/calf pairs	495	1987 – 1998 4/1 – 10/15	Season long
Gorda Pacific Valley Unit	50 cow/calf pairs	429	1998 –present 4/1 – 10/15	Season long
Twitchell	25 yearlings	213	1987 – 1998 3/1 – 10/15	Season long
	25 yearlings	300	1979 – 1987 yearlong	
Buckeye	15 cow/calf pairs	168	1979 – 1998 3/1 – 10/15	Season long
Torre Canyon	9 cow/calf pairs	143	1971 – 1987 yearlong	Combination with pvt. land
Gorda Allotment	128 cow/calf pairs	1,434	1979 – 1998 Combination-yearlong/ seasonal	All Units

APPENDIX G

Summary of Stream Access – By Steelhead and by Livestock

ALLOTMENT NAME	Stream Names	Anadro-mous reach length on allotment	Anadro-mous length accessibly by cattle	Perennial Stream Meters On allotment	Perennial Stream Meters accessible by cattle	Potential For *Direct Effects* (redd disturbance) from cattle access to occupied perennials	Potential For *Indirect* Effects (cattle access to headwaters)
Gorda (all)						-	-
Mill	Mill Creek	3430	very limited	5845	very limited	Yes – remote potential that cattle would access stream reach that supports steelhead	Yes – Sediment & fecal material into intermittent streams possible, yet low potential because of good cattle distribution throughout the allotment. Moderate utilization will maintain sufficient ground cover that buffers/filters overland flow.
Prewitt	Prewitt Creek	`3000	0	4600	Very limited	No – fenced	Y
Plaskett	Plaskett and Willow Creek	6700	0	11,800	Very limited	No - fenced	Y
Pacific Valley (all)		3000	0	3000	0	-	-
Pacific Valley (north)	Prewitt Creek	1000	0	1000	0	No - fenced	Y
Pacific Valley (central)	Prewitt Creek	1000	0	1000	0	No - fenced	Y
Pacific Valley (south)	Plaskett Creek	1000	0	1000	0	No - closed	N
Alder Creek	Alder Creek	118	0	6252	Very limited	No	Yes – Sediment and fecal material into intermittent streams possible, yet low potential due to the long distance between streams and primary grazing areas.
Buckeye	Redwood Gulch Creek	0	0	2000	Very limited	No	Yes – Sediment and fecal material into intermittent streams possible, yet very low potential due to rugged terrain between key grazing area and streams.
Salmon	Salmon Creek	0	0	0	0	No	Yes – Sediment and fecal material into intermittent streams possible, yet low potential due to steep terrain and inaccessibility. Note: majority of allotment is on private land inholdings.

Kozy Kove	Salmon Creek	0	0	0	0	No	No – very remote, limited to no access to tributaries.
San Carpoforo (all)		0	0	5500	5500	-	-
Sea Vista	Unnamed Face Drainages	0	0	0	0	0	No – steep face drainages only (draining Directly into the Pacific Ocean).
Sur Sur	Unnamed Face Drainages	0	0	0	0	No	No – steep face drainages only (draining directly into the Pacific Ocean).
San Carpoforo	San Carpoforo Creek Dutra Creek	0	0	5500	5500	No	Yes – Sediment and fecal material into intermittent and/or perennial streams possible. However, strong herding, season of use, and conservative stocking results in good distribution throughout the entire allotment.

APPENDIX H

Allotment Maps

1. Analysis Area Map of the Monterey Ranger District Allotments
2. Gorda Allotment – Mill Creek Unit
3. Gorda Allotment – Prewitt Unit
4. Gorda Allotment – Plaskett Creek Unit
5. Gorda Allotment – Pacific Valley Unit – North, Mid & South Pastures
6. Alder Creek Allotment
7. Buckeye Allotment
8. Salmon Creek Allotment – East & West Units
9. Kozy Kove Ranch
10. San Carpoforo Allotment – Sea Vista & Sur Sur Ranch
11. Torre Canyon Allotment
12. Twitchell Allotment