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Pacific
Southwest
Region

Response to Comments

*on the
Final Environmental
Impact Statement
and the
Land and Resource
Management Plan*

Lassen National Forest

LMP
FILE COPY

RESPONSE TO COMMENTS

***on the
Final Environmental Impact Statement
and
Land and Resource Management Plan***

1993

***Lassen National Forest
USDA - Forest Service.***

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A. Introduction

This document briefly summarizes the issues and concerns raised during the public comment period for the proposed final Land and Resource Management Plan (Plan) and final Environmental Impact Statement (FEIS), and modifies both the final Plan and FEIS. Because of the many changes made between the release of draft and final Plans, and the time period in between, issuance of the Record of Decision was delayed to allow for an additional 60 day comment period. This would provide the public with another opportunity to renew our management strategies and point out any critical information that we may have overlooked.

The FEIS and Plan were released for public review and comment on August 10, 1992. Approximately 400 copies were mailed or distributed to individuals, public officials, state and federal agencies, and public libraries. A notice of availability was published in the Federal Register on August 11, 1992. News releases and public service announcements were also sent to all local and regional newspapers, radio and television stations. Public meetings were held in Susanville, Chester, Clinco, and Burney. Several other presentations were made before interested groups.

The comment period concluded on October 9, 1992. A total of 1,722 responses were received (93 percent from individuals). These responses were extremely beneficial in amending portions of the Plan and FEIS, clarifying points of confusion, and incorporating new information as described in Sections E and F of this document. Copies of the public comment analysis may be obtained from the Forest Supervisor's Office in Susanville.

B. Overview

Several significant themes emerged from the responses on the proposed final Plan. They were:

1. Desire for more protection for what respondents regarded as "special areas" such as roadless areas, rivers with wild and scenic characteristics, riparian areas, and areas of old growth.

2. A need for greater protection for wild life and fisheries, particularly spring-run chinook salmon.

3. Concern that the level of the allowable sale quantity (ASQ) is either too high or too low.

4. The opinion that the process used to develop the Plan and the Plan itself is flawed.

Other themes were also expressed, but these four received the most attention. A summary of the public comments and the Forest's response follows below.

C. Themes

1. *Desire for More Protection for "Special Areas"!*

Virtually all the environmental and fishing groups voiced this theme, along with many individuals. Elements of this theme included recommendations for wilderness or semi-primitive non-motorized status (SPNM) for roadless and Further Planning Areas not proposed for wilderness; expanded Wild and Scenic River status for segments of streams not recommended or being recommended for a less restrictive status (e.g., recreational); greater protection for remaining old growth areas and old growth dependent wildlife species; and strengthened standards to protect riparian areas.

Specific areas were identified. For example, many commenters stated the Ishi B roadless area needed more protection. Wild and Scenic River status was urged for all of Mill, Deer, and Antelope Creeks.

Commenters asked for less or no logging, roadbuilding or grazing in riparian areas. It was often suggested the Forest adopt a 300 to 1,600 foot streamside management zone (SMZ) as recommended by an old growth/riparian area report done on the Tahoe National Forest. Respondents offered a variety of reasons for increased SMZ protection. Their concerns included (1) fisheries impacts, particularly on spring-run chinook salmon, (2) protection of cultural resources; (3) loss of the wilderness values these areas offered, (4) anticipated water quality and soil erosion.

impacts; (5) fragmentation and loss of old growth, and subsequent effects on wildlife and biodiversity, (6) loss of visual quality, and (7) a feeling that riparian areas were irreplaceable or were especially valuable to ecosystem functioning

About 25 residents from the community of Mineral wrote and expressed a related subtheme. They asked that the prescription for the Mineral Basin area be changed from partial retention to full retention, primarily for visual quality reasons.

Running counter to this theme were concerns expressed by several off-highway vehicle (OHV) organizations. They commented that limiting access meant limiting opportunity to favor a very small group of potential users at the expense of a much larger group. They stated OHV limitations and closures should be made on the basis of documented resource damage or unmanageability of an area, not "user conflicts." Again, Ishi B was a main area of concern. A smaller group of respondents protested closure of the Omon Springs Road.

Commenters supporting a higher ASQ stated too much land was withdrawn from timber production. Many commented that other alternatives could have been evaluated to allow timber management on withdrawn lands, while still maintaining suitable wildlife habitat, old growth, visual quality and other resource objectives. They stated the social and economic effects of removing land from production, and thereby lowering the ASQ, had not been fully assessed or mitigated.

Forest Response - Many respondents requested either further restrictions in special or sensitive areas, or less. We believe the Plan provides a reasonable balance between protecting "special areas" and managing for appropriate levels of multiple uses. The Plan proposes relatively large areas for wilderness, semi-primitive recreation, Wild and Scenic Rivers, wildlife habitat, and riparian vegetation.

The Plan provides Forest Standards and Guidelines, Management Area Standards and Guidelines, and management prescriptions to preserve special areas. Many prescriptions restrict forest practices on a variety of special areas, e.g., the F, G, L, N, S and W Prescriptions as described in Chapter 4. The Plan's guidelines are intended to be minimum requirements in many cases. Inter-

disciplinary (ID) project planning teams are free to develop more restrictive measures where appropriate to protect resource values such as water quality riparian habitat, or channel conditions. For example, the Riparian/Fish (F) Prescription emphasizes that all activities must be compatible with riparian-dependent resources. ID teams perform environmental analyses to develop suitable alternatives, mitigation measures, and standards for projects that are consistent with the Plan, while accounting for local conditions and resource values. Public involvement will be solicited during project planning. Riparian zones can be widened for individual stream reaches where additional protection is necessary. Thresholds of concern for cumulative watershed effects can also be lowered in watersheds containing anadromous fisheries.

To respond to the Mineral residents' concerns, most of the immediate area around Mineral is already designated a Retention visual quality objective (VQO). Effects on those areas within the basin that have other VQO's (mainly partial retention) will be determined and mitigated on a site-specific basis as projects are planned. Mineral residents will be invited to participate in the project planning process.

The main Omon Springs Road will remain open to OHV use. (Refer to the Recreation and Off-Highway Vehicle errata/addenda in the following pages.)

Protection of habitat for Threatened and Sensitive species, riparian area management, old growth retention, biodiversity, and ecosystem relationships were emerging issues as the Plan was finalized. Management direction for these issues is found in the Plan, which will be amended as new information becomes available. The Forest made every effort to mitigate the social/economic effects of resource protection on the ASQ by overlapping reserved lands where possible, and permitting limited timber management in other areas. (Also see the Forest Response to Theme #4.)

2. *Desire for More Fisheries and Wildlife Protection*

This theme was closely linked to the first. Commenters focused on the need for greater protection for spring-run chinook salmon and old growth dependent species. The California Department of Fish and Game emphasized the use of appropriate

silvicultural and prescribed burn methods to improve habitat for deer and other species that benefitted from early seral stage conditions

On the other hand, opinions were expressed that the Plan unduly favored Sensitive species and managed them as if they were classified as Threatened or Endangered without actual classification

Forest Response - The Plan provides for fisheries habitat protection under existing Standards and Guidelines, streamside management zone designations, and the Riparian/Fish Prescription at the project planning level. The Forest will further address this issue by developing basin-level management plans for the protection of anadromous fish. (Refer to the Fish errata/addenda in the following pages.)

Old growth related midlife species are protected in spotted owl habitat areas, habitat conservation areas, marten and fisher habitat management areas, and other old growth retention areas. In addition, old growth stand conditions on the Forest will also be found in riparian areas, wildernesses, Wild and Scenic River corridors, semi-primitive areas, Research Natural Areas, and Special Interest Areas. The Plan provides for viable populations of these species, based on the best information currently available of their habitat requirements.

Deer and other species that prefer early seral habitat will be provided for by maintaining at least five percent of each Management Area in the early seral stage, including use of the E Prescription. The Forest intends to continue cooperation with the California Department of Fish and Game to identify areas and implement a prescribed burn program to improve deer habitat.

The Regional Forester selects Sensitive species through an analysis process outlined in the Forest Service Manual. Selecting Sensitive species is not the same as federal listing of Threatened and Endangered species, nor does it have the same planning or management implications. The Forest has chosen management direction in the final Plan to provide habitat for many Sensitive species whose populations are at risk of becoming Threatened or Endangered. The selection of Sensitive Species is a proactive process to ensure that a species does not require federal listing under the Endangered Species Act.

3. Concern About the ASQ Level

Some commenters felt the ASQ was much too low and the reduction was unnecessary or resulted from misplaced priorities. Those who felt the priorities were misplaced wanted more weight given to social and economic needs of local communities. Concerns centered around the anticipated loss of timber industry jobs, along with a reduction of Federal Reserve Funds to county schools and roads, and the economic and social impacts that could result.

Some also saw the reductions as unnecessary and offered uneven-aged management as a way to increase timber production to meet local community needs, while at the same time maintaining biological diversity and providing other benefits (e.g., fire protection, recreation, visual quality). They stated the Forest was growing much more timber than it proposed to harvest and losing that growth did not represent sustained yield.

Skepticism was expressed by several commenters that the Forest could even reach the ASQ outlined in the Plan (96 MMBF). Another group of commenters said the ASQ level was a reflection of a needed downward trend. Some stated it should even be lower. Most of these comments were general in nature, and the reasons given were similar to those expressed under the special area protection theme. A few commenters were more specific. Several environmental groups pointed to the projected ASQ level identified in the CASPO (Verner) Report regarding the California spotted owl as where the Forest's production level should be (about 40 MMBF).

Forest Response - The ASQ was not changed in the Record of Decision (ROD). The Final Environmental Impact Statement and Forest Plan adequately address concerns about ASQ. Most comments received were in terms of "votes" which expressed either approval or disapproval of the level described in the Plan. Difficult trade-off decisions balancing amenity values of the Forest with commodity output levels were analyzed in the FEIS. No additional factual information was received during the 60 day comment period to support a strategy for less protection or that more timber yields could be obtained from lands already withdrawn from production.

The ASQ does not approach the growth levels on lands where only limited timber harvest will occur, growth exceeds harvest significantly. This is by design, as those lands carry resource objectives which have priority over timber management objectives. Forest health conditions on lands where harvesting is minimized will be monitored. If conifer mortality due to increased stocking threatens other resource values, adjustments to harvest levels can be made. This issue will be analyzed in specific areas during the project planning process. Where timber management is emphasized, growth and harvest are approximately equal.

Resource management policy and legislation is dynamic. Concerns expressed over the ability of the Forest to reach the ASQ in the future are valid. However, the Plan has to address the issues as they exist and avoid as much as possible any speculative estimates, based on legislation or policies of new political administrations, election initiatives, etc. If such actions significantly affect the ASQ, an amendment to the Plan will be necessary. This is expected to happen within the next two years.

4. Concern About the Planning Process

A smaller number of respondents voiced this theme. Environmental groups cited new information as reasons for re-doing the Plan, particularly the CASPO, and Tahoe National Forest old growth and riparian area reports. Some respondents also characterized data or procedures as inadequate in several areas (e.g., water quality, cumulative watershed effects analysis process).

Others, concerned that the ASQ was too low, offered a variety of reasons for re-doing the Plan. These were: (1) lack of proper consideration for social and economic effects, and inadequate mitigation for those effects, (2) inadequate public involvement when revisions were made to alternatives, (3) inadequate range of alternatives, and the ASQ in the final Plan is outside the range originally identified in the Draft Environmental Impact Statement; and (4) lack of proper coordination with local government officials.

It was also contended that the Plan violates a number of laws, including the National Forest Management Act (NFMA), NEPA, the Multiple-Use Sustained-Yield Act, and the Endangered Species Act.

A third group of commenters, primarily environmental groups, also noted some corrective actions were needed, but did not ask the Forest to start over. These actions included clarifying Management Area direction regarding permitted and emphasized activities (especially timber management), revising some Standards and Guidelines for clarity, adding protection measures for riparian areas and other resources, and preserving roadless area options so they may be considered for wilderness status in the next round of planning.

Forest Response - The broader riparian zones described in the Tahoe report have not been validated for use by other National Forests at this time. Many of that report's recommendations will likely be incorporated when the Plan is amended or during the next planning cycle. However, we believe the Plan as written provides protection measures, monitoring requirements, and project flexibility that will minimize adverse effects to (and often improve) riparian areas, while supporting other management objectives.

Some respondents believed that resource issues should have been analyzed differently or in more detail. Planning procedures were appropriate to the "state of the art" when the analyses were originally done, and were coordinated with local peer specialists and Regional Office staff. The Plan was developed with an appropriate level of rigor. Resource analysis was done to reasonably determine the differing effects of alternatives. For example, the Plan uses a land disturbance index to compare alternatives, rather than attempting detailed sediment modeling of effects that could not be directly tied to specific geographic locations because of the forestwide nature of FORPLAN modeling.

Numerous changes were made in response to public comments. For example, the Forest Standards and Guidelines for soils were rewritten to more clearly explain measures needed to assure continued productivity of the soil resource, and a new Guideline was added to Geology that will protect springs from potential adverse effects of well pumping. (Refer to the errata/addenda for Soils, and Geology and Groundwater in the following pages.)

Our range of alternatives incorporates all those we analyzed in the draft Plan, including alterna-

tives considered in detail, alternatives considered, but eliminated from detailed study, alternatives dropped from further consideration after public review, alternatives created through public input, and alternatives we amended and brought forward into the final Plan. This constitutes a very wide range of alternatives.

The major changes in the alternatives between the draft and final EIS's are due to several factors discussed in the Record of Decision. The most significant was the establishment of wildlife habitat areas to meet the requirements of the National Forest Management Act regarding maintenance of population viability. These changes are displayed in every alternative, except CUR, and resulted in considerably less land available for timber management. We cannot maintain suitable old growth habitat for late seral dependent species like the spotted owl, fisher, marten, and goshawk and still provide a high level of timber production. Trade-offs were made in response to legal mandates. We also chose to narrow the range of alternatives in the FEIS in response to public comment. Most alternatives were not meaningful to the public or were not responsive to emerging management issues.

Through the NEPA planning process, we are required to identify appropriate mitigation measures for proposed actions. However, NEPA recognizes we may not be able to completely mitigate every action. The values of people dependent upon the timber resource, and community stability, were important considerations in our development of the Plan. We did choose several mitigation measures to reduce the social/economic effects of a lower ASQ. Briefly, they include:

- a Overlapping areas with reduced timber management constraints, in order to keep outputs at the highest possible level. Approximately 72 percent of our wildlife habitat areas occur on lands with multiple constraints.
- b Concessions were made to allow limited timber harvest in riparian, goshawk and old growth management areas.
- c The Plan calls for an expansion of the Forest's recreation program to attract more tourism to our area.

d We will work with local governments and entities to assist with economic diversification under the new USDA - Rural Development Administration and the Forest Service's Rural Community Development program. These programs, and others, provide community planning assistance, grants, and loans to help diversify local economies, and build essential services and infrastructure for disadvantaged rural communities.

D. Other Themes

Although not as many comments were received on these themes, public interest in range management, fuel loading, and cultural resource protection were recognized as important concerns.

1. Concern About Range Management.

Some respondents expressed a desire to reduce or eliminate grazing on the Forest, especially in riparian areas. They saw grazing as a damaging use of National Forest land, needing more restrictions. One group expressed concern about the length of time the Forest allowed for the revision of allotment management plans.

Conversely, many other respondents were concerned about potential grazing reductions and effects on the ranching industry and local economy. Grazing permittees expressed similar concerns and were more specific in their comments. Among them: (1) that the blanket approach used in some Standards and Guidelines, notably those regarding stubble height and utilization standards, was **unfair**. The standards should be site-specific; (2) greater emphasis on cooperative planning with permittees was needed; (3) the residual dry matter standard should be revised, (4) Forest should do more to build and maintain fences for cattle exclusion. They saw the Forest as doing nothing about range improvements, which reflected a disregard for the livestock industry.

Forest Response - Although some respondents stated cattle grazing should be completely eliminated from the Forest, this alternative was not addressed as it is not within the authority of the Plan. The Forest did agree with respondents who

advocated better control of domestic livestock grazing in riparian areas, the need for better monitoring of grazing activities, and the need to shorten the allotment management plan revision schedule. These comments are addressed in the Record of Decision and in the errata/addenda sections of this document under Range.

The Forest responded to comments that the Standards and Guidelines were unfair and inflexible by clarifying information already contained in the Plan. In addition, the residual dry matter standard was revised to better reflect a more realistic approach to management. Comments advocating that the Forest should build and maintain fences to exclude livestock from sensitive areas did not result in any changes in the Plan.

2. Concern About Increasing Fire Danger

Some of those concerned about the decline of the ASQ pointed out that the Forest was growing far more timber than it proposed to harvest, which they felt would lead to increased fuel build-up problems and eventually to larger, more intense wildfires. At least one respondent was also concerned about the threat to private lands from wildfires starting on public lands. They suggested more uneven-aged management and thinning to reduce fuel loads.

Forest Response - The ASQ, as outlined in the Plan, does not harvest at a level which approaches growth levels on the Forest as a whole. However, conifer mortality will be salvaged on most lands in a manner that also leaves sufficient snags for wildlife objectives. This includes lands where timber is a scheduled activity and those areas where it is not. Scheduled timber harvesting is prohibited in some areas such as wilderness.

Regardless of the timber harvest intensity, Knutson-Vandenberg funds can be collected from timber sales to reduce fire hazards. Additional fuel reduction work adjacent to other ownerships will be analyzed on a site-specific project basis.

The Plan projects 4,000 acres of commercial thinning in overstocked stands each year. Over the course of a decade, this amounts to 40,000 acres of lands where the fuel loading and fire hazard have been significantly reduced. Clearcutting, group selection, and shelterwood cuts are also timber harvest techniques which significantly reduce fuel

hazards. These harvest techniques are estimated to occur on 3,000 acres of Forest land annually or 30,000 acres over the next decade.

The fuels management program will be reviewed to determine if resource objectives for the Forest are being met. The information above has been adequately described in the Plan and FEIS, therefore no changes were made. Mitigation measures to reduce fuel loads are described in the FEIS and Plan Standards and Guidelines.

3. Concern for Protection of Cultural Resources in the Ishi Area

Cultural resource values were a primary reason given by many respondents for greater protection of the former Ishi B roadless area. They were concerned that motorized access would contribute to vandalism and looting.

Forest Response - (Refer to the Cultural Resources addenda below.)

E. Specific Document Changes

The changes below are in response to comments received during the 60 day public comment period. They provide additional information in the documents, make corrections or clarify points of confusion.

Cultural Resources

Plan - Chapter 4

Addendum. Page 4-16, add the following sentence to "Cultural Resources" item a (3) "Effectively deter the looting and vandalism of cultural resources."

Addenda. Add to Management Areas 2, 5, 6, 7, 11, 12, 13, 14, 25, 34, 40, 41, 42, 47, and 48 Standards and Guidelines for cultural resources: "1) Determine if motorized access contributes to the deterioration and destruction of cultural resources" and "2) Mitigate the effect of motorized access on cultural resources where it significantly contributes to their deterioration and destruction."

Facilities

Plan - Chapter 3

Erratum Page 3-7 Amend the first sentence to read, "Of the 19 dams on the Forest, seven are inspected by the State. The remaining 12 dams."

Plan - Chapter 4

Erratum Page 4-148, Management Area 16, under Facilities: Change Standard and Guideline (1) to read "Maintain the Onion Springs Road for OHV use. Close all tributary roads."

FEIS - Chapter 3

Erratum Page 3-21. Amend the first sentence to read, "Of the 19 dams on the Forest, seven are inspected by the State. The remaining 12 dams."

Fish

Plan - Chapter 3

Erratum Page 3-10, under Anadromous Fish. Replace sentences #6, 7, 8 with "The estimated spring chinook salmon run, measured in total average adult spawning fish per year, was 4,100 (for 1970-1980). In recent years (1984-1990), however, the total average return for spring-run chinook was less than 1,000 fish. The steelhead population (for early 1960's) was estimated at 2,600; current population estimates are not available."

Addendum. Page 3-10, under Anadromous Fish, first paragraph. Add the following sentence prior to last sentence "In addition, Nehlson, et al, (1991) places the spring salmon run in the category "at moderate risk of extinction".

Addendum Page 3-11, under C Demand. Add after last sentence of last paragraph "This target cannot be reached until limiting factors downstream are addressed, as the majority of available anadromous habitat is already in good condition and currently under-utilized."

Plan - Chapter 4

Erratum Page 4-19, under Item 8, Fish, section a. Replace Standard and Guideline (6) with "Continue cooperation with California Department of Fish and Game to evaluate fish stocking in desired wilderness lakes and other lakes."

Addendum. Page 4-19, under Item 8, Fish, section a. Add new Standard and Guideline "(10) Develop fish habitat restoration projects based on coordinated resource inventories, including fish habitat assessments, completed at the watershed level. Coordinate and implement restoration projects that meet both upland and riparian needs."

Erratum Page 4-159, under A. Description, Management Change: "The lake is stocked with rainbow and brook trout and non-motorized boats are permitted."

Plan - Chapter 6, Appendices

Addendum. Appendix A, page A-I, under 2. Implementation Plans to be Prepared in Conformance with the Forest Plan. Add "Anadromous Fish Management Plan for Deer, Mill and Antelope Creek Watersheds"

Addendum. Appendix O, page O-21. Add to bottom of table "Important holding habitat requirements (including pool length, width, depth) will be addressed as research information becomes available."

Errata. Appendix R, page R-1, Footnote 2. Replace last sentence with "The Forest Hydrologist and Forest Fishery Biologist are responsible for specifying the correct SMZ distance for perennial streams in project areas."

FEIS - Chapter 2

Errata Page 2-40, Table 2-3. Correct values in Total WFUD's to Base Year 1982. 90,000 Decade 1: 93,260 Decade 2: 93,200 Decade 3: 93,130 Decade 4: 93,070 Decade 5: 93,090

Errata Page 2-47, Table 2-4 Correct values in Total WFUD's to Base Year 1982 90,000 Decade 1 91,620 Decade 2. 91,615 Decade 3: 91,610 Decade 4 91,605 Decade 5. 91,600

Errata. Page 2-54, Table 2-5 Correct values in Total WFUDs to Base year 1982 90,000 Decade 1 93,260 Decade 2: 93,200 Decade 3 93,130 Decade 4 93,070. Decade 5 93,090

Errata. Page 2-61, Table 2-6 Correct values in Total WFUD's to Base year 1982 90,000. Decade 1 93,260 Decade 2: 93,200 Decade 3. 93,130 Decade 4 93,070 Decade 5 93,090

Errata. Page 2-72, Table 2-7 Correct values in Total WFUDs to Base year 1982 90,000. Decade 1, PRF 93,260 Decade 5, PRF 93,090 Decade 1, CUR: 91,620. Decade 5, CUR: 91,600. Decade 1, EGP 93,260. Decade 5, EGP. 93,090 Decade 1, TGP: 93,260 Decade 5, TGP: 93,090

FEIS - Chapter 3

Addendum. Page 3-28, Table 3-8 Add "***" after the number 2,600 At bottom of table, above 'Source Forest Data', add "*** Estimated population for early 1960s"

Erratum Page 3-28 Replace last sentence in first paragraph with "Other fishery problems include sedimentation from land disturbances "

FEIS - Chapter 7, Appendices

Erratum Appendix E, page E-13, h Pit River Replace last sentence with "Substantial minimum instream flows below Lake Benton in recent years have resulted in the development of a popular trout fishery "

Erratum Appendix E, page E-21, Table E-7, under Pit River, Fish Replace text with "Average to good trout stream"

Addendum Appendix Z, page Z-2, Bibliography Add "Nehlsen, W, J E Williams, and J A. Lachatowich. 1991. Pacific Salmon at the Crossroads Stocks at Risk from California, Oregon, Idaho and Washington Fishenes, Vol 16, No 2, pgs 4-21."

Forest Health

Plan - Chapter 4

Addendum Page 4-20 under Item 9, Forest Health Add new Plan Standard and Guideline "(6) Use the full range of silvicultural techniques to manage vegetation on forest lands to effect forest vigor which is commensurate with the resource objectives of the Forest "

Plan - Chapter 5, Monitoring

Errata. Page 5-13 includes minor changes to monitoring plan elements for forest health. See revisions to Table 5-2 at the end of this document.

Geology and Groundwater

Plan - Chapter 4

Addenda. In the Management Area (MA) descriptions for MA's 34, 42 and 48, add under the **Description of the Physical Environment** "The management area includes localized outcroppings of fossil-bearing, Upper Cretaceous marine geological formations along Mill, Deer or Antelope Creeks "

Addenda. Add Geology to the list of Standards and Guidelines for Management Areas 34, 42, and 48 with the item "1) Avoid using Upper Cretaceous marine rock formations for construction, surfacing, or fill material "

Addenda Pages 4-4 and 4-20, under Item 10, Geology and Groundwater Add a new Forest Goal 10 b "Control groundwater pumping to prevent adverse effects on nearby springs."

Lands

Plan - Chapter 4

Addenda Pages 4-4 and 4-21, under Item 11, Lands. Add to the list of electronic sites in Forest Goal i "Table Mountam "

Erratum. Page 4-88 Bntton Management Area map should display all of section 34, T.37N., R.2E ,M D M. as National Forest land managed under the Late Successional (L) Prescription

Range

Plan - Chapter 3

Erratum Page 3-17, under Range, a Introduction Delete the last sentence in this section and substitute "Most allotments were inventoried for condition and trend in the 1960s and early 1970s Range resource conditions have been adversely affected by the current drought "

Plan - Chapter 4

Addendum: Page 4-22, under Item 14, Range. Modify Standard and Guideline a (2) to read "On perennial grass rangelands, base forage utilization standards on a site by site basis that consider existing ecologic condition, plant community sensitivity, desired future condition and grazing management system. Proper use standards will be developed, based on the best scientific information available and could, as new information becomes available, be modified to better achieve management objectives On annual grass rangelands, strive to leave a minimum of 700 pounds of herbaceous residue per acre at the time of germination precipitation (October of each year) to protect the soil and to maintain an adequate germination seedbed

In all situations, site or allotment conditions may recommend deviation from these set guidelines to accomplish a specific management objective Coordinating allotment planning efforts with the permittee, California Department of Fish and Game and other interested parties is expected to result in planning efforts that will consider these conditions and result in management activities designed to meet these objectives."

Addendum. Page 4-23, under Item 14, Range **Modify** Standard and Guideline b (1) to read "Coordinate allotment management planning and activities with other resources including water, soils, fish, wildlife, timber and riparian Encourage active participation of the affected grazing permittee in development of allotment management plans and annual operating plans. A list of the allotments on the Forest, ranked by current priority for revision, is found in Appendix V This list will be revised as resource conditions and/or management priorities change "

Addendum: Page 4-23, under Item 14, Range **Modify** Forest Goal c. to read "Establish Forest standards of vegetation utilization until site-specific utilization standards are in place. Site specific utilization standards will be identified in allotment management plans or annual operating plans for each allotment Implement these standards so they are in practice for all livestock grazing by the end of the first decade."

Plan - Chapter 5, Monitoring

Errata. Page 5-15 includes minor changes to monitoring plan elements for Range See revisions to Table 5-2 at the end of this document.

FEIS - Chapter 7, Appendices

Erratum Appendix V, Priorities for Revising
Grazing Allotment Management Plans
Amend to read

1993-1995

Lower Pine Creek	Champs Flat
Gooch	N Eagle Lake
Tehama	Harvey Valley
S Eagle Lake	Campbell Mountain
Cone Ward South	Hot Springs
Benner	Bridge Creek

1996-2000

Butte Meadows	Clover Valley
Grays Valley	Silver Lake
Susan River	Feather River
Hat Creek	Manzanita Lake
Martin-Digger	Morgan Springs
North Battle Creek	Poison Lake
Rice Creek	Robbers Creek
Antelope	Deer Creek
Homer Lake	Lyonsville
Soldier Meadows	South Hot Springs
Bear Valley	Cayton
West Humbug	Willow Springs
Blue Lake	Butt Creek
Coon Hollow	Murphy Hill
North Creek	North Butte

2001-2005

Soldier Mountain	Bainbridge
Bald Mountain	Butte Creek
Coyote Springs	Horse Valley
Murken Lake	Proctor Creek
Signal Butte	Six Mile
Chips Creek	Collins
Coyote	Diamond Mountain
Fredonyer	Mountain Meadows

Recreation and Off-Highway Vehicle (OHV)

Plan - Chapter 4

Comment Page 4-39 Prescription application
priority was not clear. One reader thought
that the maps mis-represent what the most

restrictive prescription will actually be, and
that it is not clear whether the maps display
the highest priority prescription

Clarification Maps display the most restrictive
management prescriptions where more than
one prescription applies. As an example,
although Wild and Scenic River designation is
recommended in the Ishi Wilderness, only the
most restrictive prescription, Wilderness (W)
is shown

Erratum Page 4-60 Delete "Restricted Off-
Highway Vehicle Use" under B Management
Practices Emphasized and insert the same
language under B Management Practices
Permitted

Addenda Add to Management Areas 27, and 36
Standards and Guidelines for Recreation "1)
Determine if OHV use is affecting natural and
cultural resources." and "2) Mitigate the effect
of OHV use on natural and cultural resources "

Erratum Page 4-146 Change Management
Area 16 map to continue motorized access
along the Onion Springs Road under the M
Prescription. The southeast portion retains
the N Prescription, and the F Prescription
follows Bailey Creek. Within the M Prescrip-
tion in this Management Area, the Off-High-
way Vehicle map is modified to Zone B. Tribu-
tary roads within the N Prescription will be
closed and remain with a Zone A Off-Highway
Use designation, which prohibits vehicles.
Management of the Blue Lake Canyon Road
has been modified to the F Prescription. The
Off-Highway Vehicle map will show Zone B in
this area

Addenda Page 4-148, Management Area 16,
under Recreation Add Standards and Guide-
lines "(3) Provide dispersed recreation along
the main portion of the Onion Springs Road
where it is within the M Prescription." and
"(4) Evaluate the Onion Springs and Blue
Canyon areas for possible integrated trail-
heads and trails which would be beneficial to
the adjacent Heart Lake Wilderness and Las-
sen Volcanic National Park "

Erratum Page 4-148, Management Area 16,
under section C Prescription Allocation.

Change acreage allocations for the N Prescription in the following manner

<u>Current</u>	<u>New</u>
N 2,800	N 1,170
	M 930
	F 160

Erratum Page 4-191, Management Area 27, under Facilities. Change Standard and Guideline (1) to read "After the proposed Mill Creek Wilderness area has been either designated or rejected by Congress, use site-specific information to analyze opening the old road to Big Bend "

Addendum Page 4-220, Management Area 34, under Recreation Add Standard and Guideline. "3. Manage the Pehgreen Jeep Trail for OHV use, to provide access to the M Prescription areas "

FEIS - Chapter 7, Appendices

Erratum. Appendix C, page C-34, Trail Lake B. Change paragraph under 2 Capability, Natural Integrity to read "Three hundred acres on the northeastern boundary are roaded and regularly used by firewood cutters. With the exception of these acres, the natural integrity ..

Erratum Appendix C, page C-35, under Timber. Correct 1,065 acres to 765 acres and change the percent to 69

Erratum Appendix C, page C-36, under Effects on Non-Wilderness Resources and Uses. Change 785 acres to 765 acres

Plan - Chapter 5, Monitoring

Comment. Page 5-17 states that "No more than 10 user conflicts .. would comprise a variation that would trigger further action. Commenters were concerned about using "user conflicts" as an excuse to eliminate OHV opportunities, and feel such language invites conflict and mis-use

Clarification. The Forest will attempt to reduce user conflicts without an elimination of OHV

opportunities, when such conflicts significantly affect the recreation experience

Plan Maps

Erratum Zone A (motorized vehicle travel prohibited) as depicted on the OHV map will be changed to Zone B (motorized vehicle travel permitted) for lands in the Z Prescription (Minimal Management). The Recreation Opportunity Spectrum (ROS) map of those lands will be changed from Semi-Primitive Non-Motorized (SPNM) to Semi-Primitive Motorized (SPM).

Comment Mapping is imprecise and commenters are concerned that SPNM boundaries on the ROS map are very close to OHV routes (especially in Ishi B). That may later cause us to close the routes if they actually fall outside of the mapped line

Clarification. Due to their scale, the maps are imprecise and area boundary lines will not be used to eliminate specific sites or routes from their intended use. In addition, motorized vehicle travel is permitted on the Pehgreen Jeep Trail (between Management Areas 34 and 48)

Soils

Plan - Chapter 4

Errata.: Page 4-27, Item 17, Soils, a. (1) Reword this section of the Forest Standards and Guidelines as follows:

17 Soils

a Prevent irreversible losses of soil productivity

(1) Assess impacts of proposed projects on the soil resource, and take appropriate mitigative actions

a. Keep the areal extent of detrimental soil disturbance (DSD - see Glossary) less than 15 percent of the area dedicated for growing vegetation

- b. Maintain soil cover of sufficient depth extent to prevent the rate of accelerated soil erosion from exceeding the rate of soil formation
- c. Changes in soil porosity or bulk density must not exceed 10 percent of pre-disturbance conditions (Plan for restoration where this standard is exceeded.)
- d. Retain sufficient organic matter on site to prevent significant short or long-term nutrient cycle deficits, to insure that
 - 1. Soil organic matter in the upper 12 inches of soil is at least 85 percent of the total soil organic matter found under undisturbed or natural conditions in nearby areas,
 - 2 Litter and duff occurs on at least 50 percent of the area, of sufficient depth to persist as cover through winter storms and summer oxidation, and
 - 3 Inforested areas, leave at least 5 logs per acre in contact with the soil surface. Logs are to be in various stages of decay, including dead and down material left to meet mldhfe standards. Logs left for soil nutrients should be 20 inches or **greater in diameter and at least 10 feet long.** (If only smaller sizes are available, leave enough additional logs to create an equivalent volume of organic matter)

Plan - Chapter 5, Monitoring

Errata Page 5-18 includes minor changes to monitoring plan elements for soils, to be consistent with above changes to Chapter 4. See revisions to Table 5-2 at the end of this document

FEIS - Chapter 8, Glossary

Addendum Page 8-9. Add new entry after "detection".

detrimental soil disturbance (DSD)

Adverse, long term effects on soil productivity caused by management activities. Usually used to describe effects to lands dedicated for growing vegetation, rather than for areas used for roads or permanent skid trails. DSD occurs when soil management standards are exceeded, resulting in an estimated 15 percent decrease in the lands productivity, as measured by changes in bulk density, porosity, erosion rates, or soil nutrient levels.

Addendum. Page 8-10 Add new entry after "ecosystem"

ecosystem management

The careful and skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity, diversity, and desired conditions, uses, products, values, and services over the long-term

Timber

Plan - Chapter 4

Erratum Page 4-29, under Item 19, Timber Modify Standard and Guideline (10) (f) to read "designing clearcut units to save advanced, natural regeneration and to reduce visual quality impacts by maintaining the appearance of continuous vegetative cover at the landscape/watershed level"

FEIS - Chapter 4

Addenda Page 4-84 Under (4) Silvicultural and Harvest Practices, (a) Cutting Practices Add the following reasons for selecting clearcutting as a harvest method

"7) To establish, enhance, or maintain habitat for Threatened, Endangered, or Sensitive species

8) To enhance wildlife habitat or to provide for recreation, scenic vistas, utility lines, road corridors, facility sites, reservoirs, or similar development

9) To rehabilitate lands adversely impacted by events such as fires, windstorms, or insect or disease infestations.

10) To meet research needs."

Vegetation and Diversity

Plan - Chapter 3

Addendum: Page 3-41, under Item 25, Wildlife, a. Introduction, third paragraph Modify to read "In an attempt to consider the habitat needs and insure viable populations of all native species on the Forest, 18 (add animal) Management Indicator Species (MIS) were identified by Forest biologists...."

Addendum: Page 3-41, at the end of the above paragraph add "The shrub bitterbrush was identified as a MIS for the eastside pine type, and willow, alder, cottonwood, and aspen have been identified as MIS for riparian areas See Appendix O."

Addendum. Page 3-45 Add after the Oaks and Aspens section "**Bitterbrush** Bitterbrush is an important forage species for deer and antelope in eastside pine stands. Bitterbrush has been added as a management indicator species for eastside pine. Bitterbrush stands can be improved by prescribed burning and livestock management to rejuvenate decadent stands, and by thinning the conifer overstory in some stands."

Addendum Page 3-46 Add at end of the Waterfowl and Riparian Species section "Willows, alders, cottonwoods, and aspen can be important components of riparian systems and function to provide streambank stability, stream shade, and wildlife cover and habitat. These species have been added as management indicator species for riparian areas Management activities can restore or maintain healthy stands of these plants by managing grazing and other activities to maintain desirable age class distributions and shrub forms Willows, alders, cottonwoods, and aspen should be man-

aged for where each species occurs naturally or historically The Forest does not intend to create new areas for these species, but to restore or maintain healthy stands of these plants where they occur along riparian areas."

Plan - Chapter 4

Addendum Page 4-30, under Item 19, Timber. Add a new Standard and Guideline for sugar pine: "(23) Harvest or precommercially thin apparently rust-free sugar pine only if essential to meet stand management objectives Protect apparently rust-resistant sugar pine during management activities (such as logging, road construction or maintenance)."

Addendum Page 4-31, under Item 20, Vegetation and Diversity. Add new Standards and Guidelines "(9) On a site-specific project basis, inventory the condition of late successional habitat areas and initiate management to enhance them where they are not fully suitable." and "(10) Maintain populations of Prunus species, Ceanothus species, bitterbrush and vine maple where such preferred browse species occur naturally " and "(11) For revegetation, use locally collected native plant species when possible."

Erratum. Page 4-38, under Item 25, Wildlife. Change Standard and Guideline f. (5) to include the following: "Maintain an average of 25 square feet basal area/acre of black oak, except in critical deer range (migration corridors, holding areas, and winter ranges, as delineated in conjunction with the California Department of Fish and Game) maintain 35 square feet basal area/acre of black oak. Maintain 40 percent (*10 percent) canopy cover in blue oak, live oak, and Brewer oak stands, calculated over 40 acre units."

Addendum. Page 4-38, under Item 25, Wildlife Add new Standard and Guideline. "f. (6) Maintain hardwood trees that are receiving obvious wildlife use "

Addendum Page 4-38, under Item 25, Wildlife. Add new Standard and Guideline "f (7) Maintain hardwood species compositions at original proportions "

Plan - Chapter 5, Monitoring

Addenda. Page 5-121 includes new monitoring plan elements for Vegetation and Diversity. See revisions to Table 5-2 at the end of this document.

FEIS - Summary

Erratum Page S-7, Wildlife paragraph, third sentence. "Including these species, a total of 18 wildlife (add 'and five plant') management indicator species were identified to represent the habitat needs of all species on the Forest."

FEIS - Chapter 3

Erratum. Page 3-96, second column, second paragraph. Eighteen wildlife and fish (add. "and five plant") species were selected as MIS on the Forest (add. "Wildlife") species and a

summary of their habitat and habitat elements are listed in Table 3-26. Appendix S describes their distribution, habitat and population sizes (Add "The shrub bitterbrush was identified as a MIS for the eastside pine type, and willow, alder, cottonwood and aspen have been identified as MIS for riparian areas.") No Sensitive plants

FEIS - Chapter 4

Errata Page 4-119. First paragraph, third sentence: "They are (omit 'vertebrate or invertebrate') species whose "

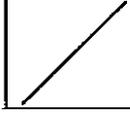
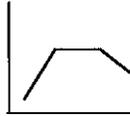
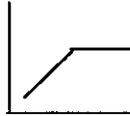
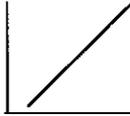
Third paragraph. Omit the "and in front of chinook salmon, and add at the end of the paragraph "bitterbrush (indicator for eastside pine), and willow, alder, cottonwood, and aspen (riparian species)"

Plan - Chapter 6, Appendices

Addenda: Appendix O The shrub bitterbrush is added as a MIS for the eastside pine type. Willow, alder, cottonwood, and aspen are added as MIS for riparian areas. These species are included in the Plan, Appendix O - Wildlife Habitat Capability models for MIS. See below.

BITTERBRUSH

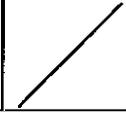
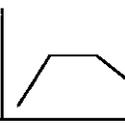
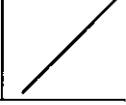
AREA Northeastern California

HABITAT CHARACTERISTICS			
HABITAT VARIABLE	DESIRABLE	ADEQUATE	UNDESIRABLE
Age Class Distribution of bitterbrush	No of Individuals  S Y M D*	No of Individuals  S Y M D*	No of Individuals  S Y M D*
	Relative Percent of Cover  S Y M D*	Relative Percent of Cover  S Y M D*	Relative Percent of Cover  S Y M D*
* S Y M D = Seedlings, Young, Mature, and Decadent			
Dominant Age Class	Young and mature	Mature	Decadent
Overstory Canopy Cover (Jeffrey Pine/Juniper)	Open to moderate	Moderate	High
Bitterbrush Cover	Moderate	High or Low	Absent or extremely high

Note: This model applies to eastside pine stands where bitterbrush naturally or historically occurs.

The age class distribution graphs refer to the relative number of individual bitterbrush shrubs and relative percent cover of bitterbrush for each age class.

HABITAT CHARACTERISTICS

HABITAT VARIABLE	DESIRABLE	ADEQUATE	UNDESIRABLE
Age Class Distribution	No of Individuals  S Y M D*	No of Individuals  S Y M D*	No of Individuals  S Y M D*
	Relative Percent of Cover  S Y M D*	Relative Percent of Cover  S Y M D*	Relative Percent of Cover  S Y M D*

* S Y M D = Seedlings or Sprouts, Young, Mature, and Decadent

Dominant Age Class	Young and mature **	Mature	Decadent
Utilization/Shrub Form	Unbrowsed to lightly browsed, lower branches well developed	Moderately browsed, lower branches present, growing	Heavily browsed, mushroom shape
Conifer Overstory (canopy cover) ***	Open to moderate	Moderate	High
Willow/Alder/Cottonwood or Aspen (canopy cover) ***	Moderate to high	Moderate	Low

Note Willow, alder, cottonwood, and aspen should be managed for where each species occurs naturally or historically. The goal is not to create new areas for these species, but to restore or maintain healthy stands or stringers of these plants where they occur.

This model applies to riparian area willow, alders, cottonwoods, and aspen stands wherever they occur.

** A decadent component of aspen and cottonwood is also desirable to provide habitat for snag dependent species.

*** The desirable proportion of conifer cover and willow/alder/cottonwood/aspen canopy cover in a specific area depends on the individual site potential and should be determined on a site by site basis. The long-term goal for riparian areas is to maintain or improve stream shade and bank stability. If conifer canopy reduction is deemed desirable to increase hardwoods, it should be done on a gradual basis to limit transient stream shade reductions and soil disturbance.

FEIS - Chapter 7, Appendices

Addenda Appendix S, page S-2 The shrub bitterbrush is added as a MIS for the eastside pme type, and willow, alder, cottonwood, and aspen are added as MIS for npanan areas Add at end of the existing chart the followmg:

Management Indicator Species	Population/ Relative Abundance	Distribution
Bitterbrush	Common across east side of Forest	In open eastside pme and juniper stands, also in open sagebrush areas
Willows	Several species. Common along streams	Throughout the Forest in riparian areas.
Alders	Locally abundant along some streams.	Mostly on the west side of the Forest, in nriarian areas.
Cottonwood	Small, localized populations along some larger streams	Throughout the Forest on mid to lower elevation larger streams
Aspen	Localized populations along some streams, spnnngs, and areas with subsurface water.	Throughout the Forest, especially on the east side

Water and Riparian Areas

Plan - Chapter 4

Addendum Page 4-31, Item 22, a (2) Add the followmg "Recognize existing, private water nghts on National Forest land by administering them in accordance with the terms of existmg easements and special use permits Authorize no changes in use, mamtenance procedures or structures that would create new, adverse environmental effects Water nghts holders should nntigate any unavoidable, adverse effectson National Forest lands "

Erratum. Page 4-32. Add a new Standard and Gudelme under Item 22. b (6), and change current item (6) to (7). "(6) Assess watersheds dunnng project planning, includmg determination of notable sediment sources and develop pnontized lists of watershed improvement needs Plan for appropriate improvement projects to reduce sedimentation ..

Addendum Page 4-171, Management Area 22, under Description of the Physical Environment Add the followmg "Canbou Lake's waters are claimed under a pnvate water nght, for downstreamirngation and domestic use at Clover Valley Ranch Public recreational access is allowed under terms of the lake's easement "

Addenda. Pages 4-171, 4-179 and 4-183. Add the followng to MA 22, MA 24, and MA 25 to each Descnption of the Physical Environment The Susan River is an adjudicated stream, and its waters are fully claimed by a number of instream and downstream water nghts. Any use of water from the Susan River must be negotiated with the appropriate water nghts holder(s) "

Plan - Chapter 6, Monitoring

Errata Page 5-24 mcludes minor changes plus an addition to the monitoring plan elements for

water and riparian areas. See revisions to Table 5-2 at the end of this document.

Plan - Chapter 6, Appendices

Erratum. Appendix B, page B-1, Item c., under Soils, Water, and Riparian Areas. Change to read, "Develop an improved riparian area condition rating system that considers Rosgen stream type, stream order, and local geographical and ecological conditions when determining riparian zone condition."

FEIS - Chapter 3

Addendum. Page 3-87, under (3) Demand, (a) Quantity. Modify paragraph 3 after the second sentence: "The Forest has adequate water to meet most of its Forest needs, except in drought years when dust abatement and fire control water sources are reduced on the Forest's east side. There are seven known water rights held by others on the National Forest, including Caribou Lake, McCoy Flat reservoir, and Hog Flat Reservoir. Those uses (and some associated transmission ditches and diversion structures) are administered under the terms of easements, grazing permits, and/or special use permits. The Forest intends to recognize and continue existing, private water rights, in accordance with the terms of the associated easements and permits. Generally such uses are allowed when they do not harm other Forest resources or uses."

Wild and Scenic Rivers

FEIS - Chapter 7, Appendices

Addendum. Appendix E, page E-1, under a Background. Add at the end of the section. "Since rivers evaluated for Wild and Scenic status extend beyond the Forest boundary, the Forest coordinates with other agencies and adjacent land owners and managers such as the Bureau of Land Management and National Park Service, to evaluate and manage Wild and Scenic Rivers."

Addendum. Appendix E, page E-3, under a Mill Creek. Add at end of the second to last paragraph. "Land exchanges are being pursued to acquire private land along Mill Creek to facilitate Wild and Scenic River management."

Wildlife

Plan - Chapter 4

Erratum. Page 4-36, under Item 25, Wildlife - Goshawks. In place of Standard and Guideline (8), substitute "In each goshawk territory, manage for a 50 acre primary zone of older mature forest surrounding the occupied or potential nest site. A secondary zone of 75 acres around the primary zone will have a limited operating period based on site-specific information. Occupied nest sites found within areas where management activities have already been authorized shall be protected as allowed by provisions of the contract."

Erratum. Page 4-36, under Item 25, Wildlife - Goshawks. Change Standard and Guideline (9): "In the primary zone, limited timber management may occur in goshawk territories. Apply the Standards and Guidelines for the G Prescription. In the secondary zone, timber management opportunities will be decided during site-specific analysis and will maintain at least Medium Habitat Capability as described in Appendix O."

Erratum. Page 4-37, under Item 25, Wildlife - Marten and Fisher. Replace Standard and Guideline (9) with "Establish the location of HMA's on a site-specific project basis after field review. At the same time, identify opportunities to enhance the habitat suitability."

Errata. Pages 4-37, 4-55, 4-57, 4-59, 4-62, 4-65 under Wildlife. Change the Standard and Guideline that states "Provide at least the following densities of down logs by vegetation type on lands composed of 50 to 200 acres" to "Provide at least the following densities of down logs by vegetation type, averaged over 50 to 200 acre areas."

Addendum Page 4-40, Non-Timber Wildlife Prescription under Fire and Fuels Add the following sentence to Standard and Guideline (3) "In cooperation with the California Department of Fish and Game, and concerned interest groups, identify key areas for using prescribed fire to maintain brushfields in young seral stages for wildlife forage"

Addendum. Page 4-103 Management Area 5, under Wildlife Habitat Allocations Add to other emphasis species: "Sandhill cranes"

FEIS - Chapter 7, Appendices

Addendum. Appendix R, page R-5 under 5 Reptiles Add Western Pond Turtle (*Clemmys marmorata*).

Addenda. Appendix Z, Bibliography Add the following references.

Freel, Maeton, USDA Forest Service, Pacific Southwest Region, A Literature Review for Management of the Marten and Fisher on National Forests in California, July 1991.

Thomas, J W ,et al, A Conservation Strategy for the Northern Spotted Owl Report of the Interagency Scientific Committee to Address the Conservation of the Northern Spotted Owl, 1990

"USDA Forest Service, Pacific Southwest Region, The California Spotted Owl A Technical Assessment of Its Current Status, May 1992"

USDA Forest Service, Pacific Southwest Region, Tahoe National Forest, Recommendations for Managing Late-Seral-Stage Forest and Riparian Habitats on the Tahoe National Forest, February 1992.

F. Plan, Table 5-2 Revisions

The following pages contain changes that were made to the Management Plan in Chapter 5 of the Land and Resource Management Plan. New information is displayed as dark text for the reader to more easily see where the changes occurred.

**TABLE 5-2:
MONITORING
PLAN BY
RESOURCE**

8. FOREST HEALTH	
A Forest Pest Conditions	
Objective	<p>Detect and evaluate pest-related problems and damage through the Forest pest detection reporting process</p> <p>Through observation, timber inventory, and project planning, evaluate to determine if conifer stocking levels are compromising Forest resource objectives.</p>
Source	NFMA
Techniques/data sources	Timber stand or area-wide examination by ground and aerial surveys in conjunction with pest detection reports
Precision/reliability	Moderate/Moderate
Minimum monitoring frequency	Ongoing.
Standard of comparison	Maintenance of pest damage at acceptable levels
Variation from standard	<p>Pest damage levels not inhibiting the Forest's ability to meet timber production objectives, and not increasing to dangerous levels following management activities</p> <p>Forest tree vigor allows resource objectives to be met.</p>
Responsible staff	Timber
Annual cost	\$1,000

11. RANGE

A. Range Utilization Studies

Review Ranger District programs to determine appropriate livestock grazing levels to maintain proper vegetative conditions

Forest Standards and Guidelines

Monitor Ranger District progress in
(1) Conducting utilization studies during and after **the** grazing season
(2) Establishing utilization plots to evaluate forage production
(3) Reviewing grazing reports to determine total animal months produced
(4) Establishing and maintaining range condition and trend monitoring programs

Moderate/Moderate

Renew two Allotment Management Plans per Ranger District per year. Annually review utilization and range resource conditions for each allotment. Identify the number of allotments meeting or not meeting Forest Plan standards.

Utilization, and range condition and trend meeting standards given in the Forest Service Handbook, Forest Standards and Guidelines, and range allotment strategies meeting Management Area Direction and allotment management plans

Resources

\$2,000

<p>TABLE 5-2: MONITORING PLAN BY RESOURCE</p>	<p>11. RANGE</p> <p>B. Rangeland Condition and Trend</p>
<p>Objective</p>	<p>Determine if all rangelands are maintaining productivity, are in satisfactory or better condition, and have a static or improving trend in range condition (This monitoring is in addition to Distnet range program monitoring of condition and trend on allotments)</p>
<p>Source</p>	<p>Forest Standards and Guidelines</p>
<p>Techniques/data sources</p>	<p>(1) Document range condition, based on review of Ranger District condition and trend surveys that apply current, approved range analysis methods (2) Review range condition assessments in Distnet environmental analyses of projects that manipulate vegetation</p>
<p>Precision/reliability</p>	<p>High/Moderate</p>
<p>Minimum monitoring frequency</p>	<p>Evaluate condition and trend on each transect every five years.</p>
<p>Standard of comparison</p>	<p>Non-declining productivity, condition, and trend as described in FSH 2209 11</p>
<p>Variation from standard</p>	<p>No measurable decline in range condition or any analysis that indicates declining trend</p>
<p>Responsible staff</p>	<p>Resources</p>
<p>Annual cost</p>	<p>\$2,000</p>

14. SOILS

A. Organic Matter and Ground Cover

Prevent irreversible loss of soil productivity by using erosion hazard information and by assessing the effects of management prescriptions and Forest projects on soil properties

NFMA

Assess key soil properties (i.e. puddling, erosion, mass movement, organic matter, and evidence of severe burning) to determine if any losses in soil productivity are likely to occur. Sample projects on each District to determine if erosion hazard ratings were made and considered in project design.

Moderate/Moderate

Annually sample one or more land-disturbing projects per Ranger District.

Maintain soil characteristics within natural ranges. Compare soils on disturbed sites with equivalent soils on undisturbed sites.

Retain sufficient organic matter on site to prevent short or long term nutrient cycle deficits.

Less than 15% of total organic matter in upper 12" is lost. Less than 50% of duff and litter cover is absent (<3") from treated areas. Maintain 10% of soil cover in riparian areas.

Resources

\$3,000

TABLE 5-2: MONITORING PLAN BY RESOURCE	14. SOILS B. Soil Compaction
Objective	Determine soil compaction from timber harvesting, biomass removal, site preparation, rangeland use, recreational activity, and other soil disturbing activities. Use findings to develop more stringent mitigation measures where needed and to suggest areas requiring special site preparation measures to remedy past compaction.
Source	Forest Standards and Guidelines
Techniques/data sources	Monitoring of changes in soil density will be conducted with the nuclear gauge, air permeameter, penetrometer, or other equipment. If possible, monitor selected sites before and after disturbance. Otherwise, compare the disturbed site to an undisturbed site with the same soil.
Precision/reliability	Moderate/Moderate
Minimum monitoring frequency	Monitor 3 or more land disturbing projects per Ranger District each year. Assign sample priorities to sites most likely to be compacted. The permanent road system is not considered as part of the annually disturbed acreage.
Standard of comparison	No significant increase in bulk density or reduction in total porosity on sites where more than 15% of the area dedicated for growing vegetation has been disturbed.
Variation from standard	Changes in soil porosity or bulk density must not exceed 10% of pre-disturbance conditions on more than 15% of a managed area. If these standards are exceeded, further activity would be restricted, until remedial actions are done.
Responsible staff	Resources
Annual cost	\$5,000

17. VEGETATION AND DIVERSITY

C. **Old Growth**
Management

D. Maintenance of **Old Growth** Component

Evaluate impacts of harvesting in goshawk and old growth areas within two years of harvest completion.

Evaluate impacts of current insect mortality and salvage harvesting in all designated habitat management areas within two years.

NFMA, Forest Standards and Guidelines.

NFMA, Forest Standards and Guidelines.

Inventory sites to compare stand characteristics with Habitat Capability Model for goshawks.

Inventory areas to compare stand characteristics with Habitat Capability Models, Standards and Guidelines.

Moderate/Moderate.

Moderate/Moderate.

Within two years of project completion.

Assess all management areas by 1995.

No loss of suitability when compared to Habitat Capability Model. Retention of resident goshawks.

Still meets required suitability when compared to Habitat Capability Model.

No losses in goshawk populations that are attributable to harvesting effects.

No losses in resident populations that are attributable to habitat degradation from harvesting.

Timber and Resources

Timber and Resources

\$1,000

\$5,000

<p>TABLE 5-2: MONITORING PLAN BY RESOURCE</p>	<p>19. WATER AND RIPARIAN AREAS </p> <p>E. Riparian Habitat</p> <p>1. Intensive Monitoring of Sampling Points</p>
<p>Objective</p>	<p>Assess riparian values and trend, including associated channel and streambank conditions.</p>
<p>Source</p>	<p>Forest Standards and Guidelines</p>
<p>Techniques/data sources</p>	<p>Quantify riparian values, condition, and trend by measuring riparian parameters on permanent riparian plots. Establish plots with an interdisciplinary team composed of soils, biology, hydrology, range, and other specialists. The technique will include at least periodic photo point documentations, channel condition ratings, and vegetation condition ratings on permanent plots.</p>
<p>Precision/reliability</p>	<p>High/High</p>
<p>Minimum monitoring frequency</p>	<p>Annually for 20% of the permanent riparian plots established on the Forest.</p>
<p>Standard of comparison</p>	<p>Maintain riparian area condition, and meet goals established for each riparian area. Establish goals based on evaluation of the initial data sets from the plots.</p>
<p>Variation from standard</p>	<p>At least 90% of established goals for each specified riparian area are achieved by decade one.</p>
<p>Responsible staff</p>	<p>Resources and Operations</p>
<p>Annual cost</p>	<p>\$5,000</p>

E. Riparian Habitat

2 Extensive Monitoring of Major Riparian Zone Types

Assess current, general condition of riparian zone resources.

Forest Standards and Guidelines

Use riparian assessments from range condition reports, including photos and professional narratives where available. Establish additional photo points as needed to determine the overall condition of key, indicator riparian zones not reviewed as part of the range management program. Persons taking the photos should prepare brief, accompanying narratives after consultation with Ranger District and Forest staff.

Moderate/High.

Annual, Forest-wide condition summary

Maintain riparian area condition, and meet goals established for riparian zones in Management Areas where grazing and other management activities affect riparian zones. Detect areas where riparian zones are damaged or in declining condition.

Compare annual condition summary to desired future condition of riparian zones in sampled Management Areas. Any detected declines in condition would require prompt remedial measures and consideration of needed changes in management practices.

Resources and Operations

\$15,000

