# Chapter 1 - Purpose and Need

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# Chapter 1 - Purpose and Need

## Background

The United States Department of Agriculture, Forest Service (Forest Service) was established in response to significant National concern for the protection and wise management of the Nation's forest resources. These resources were being overexploited before the turn of the century.

When the Forest Service was formed, it was given the responsibility for National leadership in forestry issues. The need for strong leadership in forest management is every bit as urgent today.

The Forest Service mission is to "provide a sustained flow of renewable resources - outdoor recreation, forage, wood, water, wilderness and fish - in a combination that best meets the needs of society now and in the future" (Forest Service Manual (FSM) 1030.4). No single resource value is to be emphasized over another.

Congress tried to keep pace with the changing demands of the public regarding forest management, passing legislation that set policy for the administration of National Forest System (NFS) lands.

The Organic Administration Act of 1897 states that "No National Forest shall be established, except to improve and protect the forest use and necessities of citizens of the United States...."

In 1960 the Multiple Use-Sustained Yield Act and later the National Forest Management Act (NFMA) of 1976 were passed to insure that NFS lands were managed for a variety of uses on a sustained yield basis. The forests were to provide a continued supply of goods and services for the American people now and in the future.

NFMA set up a process for deciding how the forests were to be managed. The Forest Service will manage for multiple use within the legal limits set by Congress. The public will be asked for input on the uses and services they would like to see. Data will be collected. The Forest Service will then apply its expertise in an interdisciplinary (ID) manner, using people who specialize in the affected resources. A plan for integrated management of all the forest's resources will be developed.

To carry out the intent of NFMA, Congress chose a highly technical analytical planning method. This approach is challenging. It requires the integration of resource information with political and social issues that are a very real part of decision-making.

Public land management is also complicated by the other existing laws and regulations governing resource management. These laws and regulations can conflict with each other. This makes forest planning difficult

and complex.

The success of the Klamath National Forest Land and Resource Management Plan (Forest Plan) is shaped by people's expectations of planning. People in the agency have found decisions that can be implemented require public vision and support.

### Purpose of and Need for a Forest Plan

A forest-wide plan will provide a long-term strategic approach to forest management. The Forest Plan provides a vision, overall guidance and policy. Under this umbrella, implementation of resource management decisions will be coordinated.

This plan shall provide for multiple use and sustained yield of goods and services from NFS lands in a way that maximizes long-term net public benefits in an environmentally sound manner.

## Planning Process

## Legislative Framework

The Forest and Rangeland Renewable Resource Planning Act (RPA) of 1974, as amended by NFMA, directs each forest in the NFS to develop and carry out a long-range forest plan. These plans will direct all land and resource management activities as well as set management standards and guidelines for each forest. These forest plans will describe the desired future condition of the forests.

The National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations require Federal agencies to consider environmental effects in their decision-making process. This Environmental Impact Statement (EIS) follows the format and process described in the regulations found in the Code of Federal Regulations (CFR) under 40 CFR 1502.

In particular, a great deal of energy was concentrated on achieving public involvement and interaction. The Forest has encouraged public participation in the development and in the review of the Draft EIS and Forest Plan.

The Forest has tried to make these documents readily understandable. Refer to the Glossary for definitions of the more technical terms.

The EIS and the Forest Plan are companion documents. The EIS presents alternative management strategies and discloses their environmental consequences (results). It also shows how each alternative responds to the issues. It provides the necessary information for informed public comment. The Forest Plan contains specific management direction based on the preferred alternative.

## Agency Planning Framework

Planning requires a continuous flow of information and management direction among the Forest, Regional and National levels of the Forest Service. This information and direction focuses on the analysis to determine which mix of programs maximize the net public benefit, based on locally derived information.

The Chief of the Forest Service shall begin the process by developing a Renewable Resources Planning Assessment and Program (RPA). The assessment shall include analysis of present and anticipated forest uses. Emphasis shall be placed on the pertinent supply, demand and price relationship trends. The RPA assessment shall be based on the future capabilities of forest and rangelands and shall include information generated during the Forest, Regional and other planning processes.

Each Regional Forester shall then develop a Regional guide. These guides will establish standards and guidelines, as required by 36 CFR 219.9(a), and reflect the goals and objectives of the RPA program.

The Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, signed April 14, 1994 after the Draft ElS and Forest Plan were completed, amends the Regional guide and provides management direction for the Final Forest Plan.

Lastly, the Forests develop a forest plan for administrative units of the NFS. The plans shall constitute the land and resource management plans as required under Sections 6 and 16 of the RPA. Based on the information generated in this plan, the Forest Supervisor shall recommend updates to the RPA.

## Forest Planning Steps

The Forest Supervisor is responsible for the preparation and implementation of the Forest Plan and the accompanying EIS. NFMA requires that an ID Team prepare the Forest Plan (16 USC 1604(f)(3)). NEPA requires the use of an ID approach to prepare an EIS (40 CFR 1502.6). The ID Team members were selected for their expertise in the Forest's primary resources.

The Forest planning process, using the steps specified in NFMA, is described below. Although described as steps, the planning process is repetitive and one step can lead to revisiting earlier steps in the process.

Identification of purpose and need.

The ID Team worked with the public to identify the significant issues related to the purpose of preparing a Forest Plan. Using mailings, community meetings and other methods of public contact throughout the process, the ID Team made sure that all significant issues were identified and addressed in the Draft EIS. (Refer to Appendix A for details of the issue identification and public involvement processes).

Selection of planning criteria to evaluate the alternatives.

The ID Team identified planning criteria, called key indicators, for each issue. Key indicators measure the effectiveness of the various alternatives in responding to the issues.

Collection of information and inventory data.

The ID Team used the best data available. Data collected included aerial photographs, Forest-wide inventories, district inventories, site-specific project information, literature reviews and individual knowledge of the Forest.

New data was incorporated whenever possible. Some new information was entered into the data base during the planning process. Other new information was discussed in a narrative in the body of the document or in an appendix. The analysis was revised to include this new data. Some new data will be incorporated between the draft and final documents. Any new information that arises after the final documents are prepared for publishing will be considered for an amendment or revision to the Forest Plan.

Analysis of the management situation.

The Analysis of the Management Situation (AMS) is a determination of the ability of the Forest to supply goods and services in response to society's demands. It provides a basis for developing a broad range of alternatives. An AMS document for each major resource was prepared by ID Team members. This AMS includes current direction, existing conflicts, the upper limits on the amount of an activity the Forest can produce, opportunities available, available data, current user demand and projected future demand.

Formulation of alternatives.

A broad range of alternatives was developed by individuals of the ID Team working with members of the public. Appendix A has a list of the public members. Each alternative is distinct in its approach to managing the Forest, its response to the major issues, its goals and the level of goods and services it would provide.

 Estimation of the effects of implementing each alternative.

The ID Team estimated the direct, indirect and cumulative effects of each alternative. These effects were estimated using the assumption that any mitigation measures (actions to avoid or reduce adverse impacts) will be implemented. Scientific models and methods as well

as professional judgement were used to estimate quantitative and qualitative values for the key indicators. Refer to Appendix B for an explanation of the models used and assumptions made. The trade-offs associated with emphasizing certain groups of resources over others for each alternative were identified. Also determined were any unavoidable, irretrievable and irreversible effects. The budget needed to produce the goods and services associated with each alternative was determined.

7. Evaluation of the alternatives.

The ID Team interpreted the values associated with the key indicators providing an evaluation of the physical, biological, economic and social effects of each alternative.

8. Recommendation of the preferred alternative.

All information included in the environmental analysis and received during the public review period was considered by the Forest Supervisor and her staff. The effects on the resources and on the local communities was included in this information. The Forest Supervisor recommended a preferred alternative to the Regional Forester.

Approval of the Forest Plan.

The Regional Forester will take all available information into consideration and choose the final management direction for the Forest.

 Monitoring and evaluation of Forest Plan implementation.

Forest employees will be responsible for monitoring the implementation of the Forest Plan at established intervals (refer to Chapter 5 of the Forest Plan). How well objectives have been met and how closely management standards and guidelines have been applied will be evaluated. The ID Team will recommend changes in management direction, revisions or amendments to the Forest Plan to the Forest Supervisor based on this evaluation.

The planning records contain the decisions and activities that resulted from developing the EIS and Forest Plan as required under 36 CFR 219.10 (h). They also contain background data used in the analysis process. These records are available for review at the Klamath National Forest, Forest Supervisor's Office, 1312 Fairlane Road, Yreka, CA 96097 (916-842-6131). The planning records are incorporated by this reference. Specific records are referenced throughout the EIS and Forest Plan as appropriate.

## The Forest Plan (Proposed Action)

The forest planning process, as specified in NFMA, uses an interdisciplinary and participatory approach. Its goal is a document that describes the future management of the Forest. The Forest Plan provides for multiple use and for a sustained yield of goods and services. The objective is to maximize long-term net public benefit through the mainenance of a healthy, functioning ecosystem. The proposed Forest Plan will:

- guide the management of the Forest for the next 10 to 15 years by setting Forest-wide multiple use goals, resource objectives and standards and guidelines;
- allocate NFS land to designated management areas and provide direction, including management area standards and guidelines, for those areas;
- make non-wilderness multiple use allocations for the roadless areas released by the 1984 California Wilderness Act;
- determine monitoring and evaluation requirements;
- determine which lands are suitable for timber production; and
- determine the appropriate level of outputs for various resources, including the ASQ.

Upon approval and implementation, the Forest Plan will:

- be revised at least every 15 years under NFMA (16 USC 1604(f)(5));
- be reviewed every 5 years to determine the need for more frequent revision in accordance with 36 CFR 219.10 (g); and
- be amended, as necessary, under 36 CFR 219.10 (f).

## Disposition of Other Planning Efforts

Programatic direction, found within the following plans, will be incorporated within the approved Forest Plan:

- Regional Health and Safety Plan for the Inventory and Investigation of Inactive/Abandoned Mine Sites.
- Species Management Guides for Calochortus persistens, Cypripedium spp. (3), Lilium wigginsii, Pedicularis howelii, Perideridia leptocarpa, Phacelia cookei, Phacelia dalesiana and Trillium ovatum ssp. oettingeri.
- Peregrine Falcon Recovery Plan.
- Bald Eagle Habitat Management Plan (September 1975).
- Three Sisters Bald Eagle Winter-Roost Management Plan (September 1978).

- The Long Range Plan for the Klamath River Basin Conservation Area Fishery Restoration Program.
- Recreation Program Management Strategy and Direction.
- The Pacific Southwest Region Vegetation Management for Reforestation Final EIS.

The following existing plans will be superseded by the approved Forest Plan:

- Multiple-Use Management Plans for the 6 ranger districts: Oak Knoll (May 1972); Happy Camp (May 1972); Salmon River (April 1972); Scott River (June 1972); Ukonom (April 1972) and Goosenest (June 1972).
- Timber Management Plan (August 1974, amended May 1985).
- Medicine Lake Planning Unit Plan (January 1979).
- 4. King Planning Unit Plan (April 1977).
- Marble Mountain Wilderness Management Plan (September 1976).
- Interim Management Plan for the Pacific Crest National Scenic Trail (June 1981).
- Osprey Habitat Management Plan (revised October 1977).

## EIS Organization

A description of the EIS follows:

Chapter 1: Purpose and Need for Action - Chapter 1 describes the purpose and need for the Forest Plan. This chapter presents a brief overview of the planning process and planning steps. It also describes the geographical area of consideration addressed by the EIS and Forest Plan. The significant issues related to management of the Forest are presented.

Chapter 2: Alternatives, Including the Proposed Action - Chapter 2 describes the alternative development process, including the limitations to the range of alternatives. It also describes the alternatives and summarizes the environmental consequences of the alternatives considered in detail. The desired future condition and the predicted outputs and activities associated with each alternative are described. The preferred alternative is identified.

Chapter 3: Affected Environment - Chapter 3 describes the current situation on the Forest by resource area. The issues related to each resource area are summarized. Expected demands are projected. Management opportunities are identified.

Chapter 4: Environmental Consequences - Chapter 4 summarizes the important interactions and the analysis method used for each resource. This chapter presents in detail the predicted environmental consequences that would be associated with implementing

each alternative.

Chapter 5: List of Preparers - This lists those instrumental in writing the documents.

Chapter 6: Agencies, Organizations and Individuals - This lists where the Forest mailed copies of the EIS and Forest Plan.

Glossary - Included is a list of abbreviations and acronyms used in this document. A glossary of terms provides definitions of technical and legal terms.

References - This section lists the references cited in the EIS.

Appendices - Appendices provide additional information and detail on subjects addressed in the EIS.

Appendix A discusses the issue identification process. It also provides information on the public involvement portion of the planning process. It outlines interactions with members of the public and with other State and Federal agencies.

Appendix B provides information on the methods used to predict effects, It includes an in-depth description of the "modeling tools" and describes the assumptions used.

Appendix C presents an analysis of how each released roadless area would be managed under each alternative.

Appendix D describes the concept of the economic efficiency analysis and where the pieces of that analysis occur in the EIS.

Appendix E presents an analysis of the designated Wild and Scenic Rivers, as well as those being considered for designation.

Appendix F describes the silvicultural systems considered in the analysis.

Appendix G describes watershed conditions on the Forest and cumulative watershed effects.

Appendix H describes the Regional timber supplydemand situation in California.

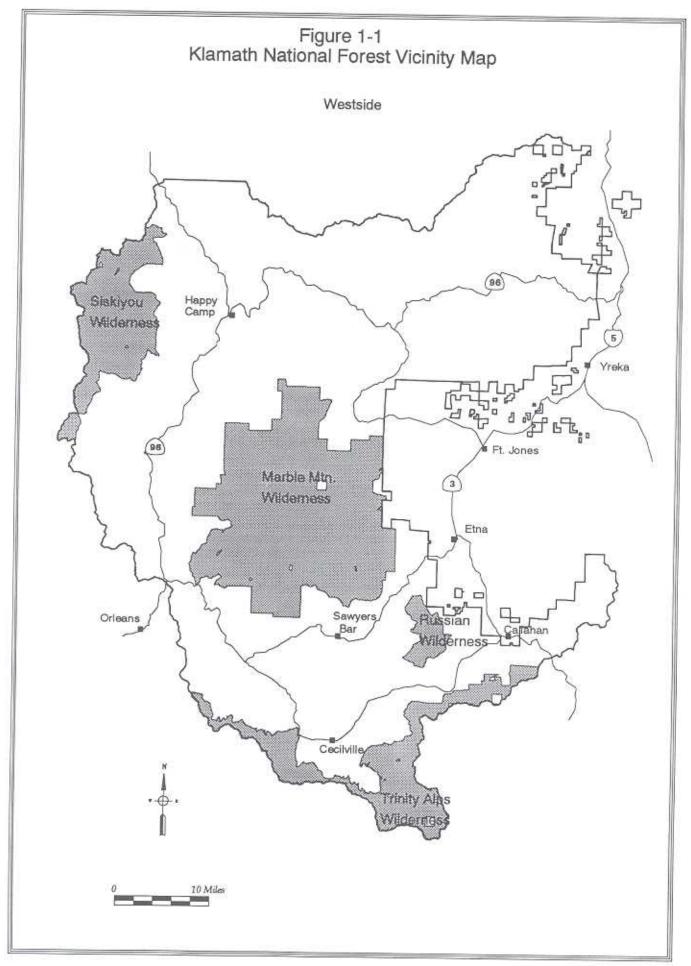
Appendix I describes the status of Threatened, Endangered and Sensitive (TE&S) fish and wildlife species. The requirements of the recovery plans for these species are discussed.

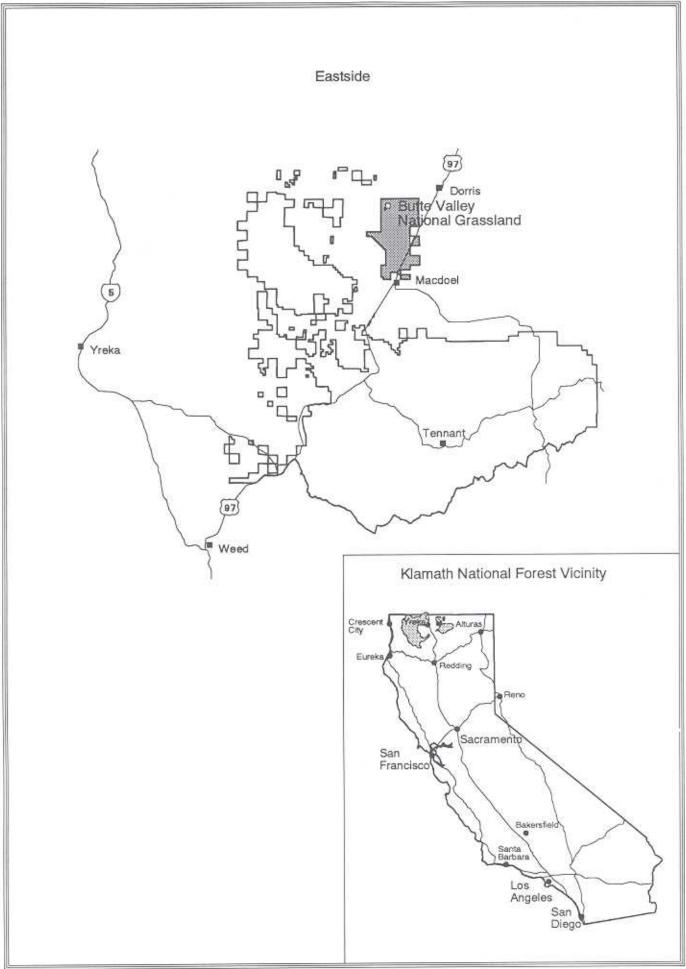
Appendix J describes the boundaries for designated Wild and Scenic Rivers (WSRs).

Appendix K presents the Forest response to public comments received on the Draft EIS and Forest Plan.

## The Klamath National Forest

The 1,680,000 acres of Federal land administered by the Forest are primarily within Siskiyou County, California. A small portion of the Forest lies within Jackson County, Oregon (refer to Figure 1-1). Interstate 5 runs





in a north/south direction through the eastern portion of the Forest. About 80% of the Forest, which includes 5 ranger districts, lies to the west of the Interstate. The sixth district, the Goosenest Ranger District, is located east of the Interstate.

## Forest Planning Issues

## **Scoping Process**

Scoping is the process used to identify issues and to determine the significant issues to be addressed. Issues are points of discussion, debate or dispute about the environmental effects (consequences). The importance, or significance, of each issue is based on its context and intensity.

In 1988, a letter listing all known issues was mailed to those who expressed an interest in the planning process earlier and who might be affected by the results. A request to confirm these issues and identify new ones was included. The information received in response to this mailing was analyzed to identify groups of issues. The significant issues were identified and are addressed in this EIS by the ID Team.

In August of 1989, a newsletter was sent to those on the mailing list. The newsletter requested any additional information on the issues identified earlier in the scoping process. New issues continue to be identified from letters, open houses, discussions with individual members of the public and current events. This scoping process will continue throughout the planning process. (See Appendix A for details).

## Issues Introduction

Our Nation continues to be dependent on our national forests for specific products and resource values. In the past, our society and the agencies managing public lands were largely oriented toward the products obtained from the land. Today, public groups have identified many differing needs which agencies such as the Forest Service must address. Society is clearly saying that not only do the products we get from the forest have worth, but the forests themselves and related resource values, such as wildlife and scenic quality, are important to our quality of life.

The above social perspective of our forests is echoed by a similar scientific perspective. Experience and research has shown that we must pay attention to ecological systems. Society and land managers must understand the interrelationships of the forest as well as the components necessary to maintain a healthy, stable ecosystem. Due to the nature of ecosystems, change is inevitable. The ability to respond to change is generally considered an indication of ecosystem health.

Within our society, individual values regarding the relative importance of each issue vary across the Nation, within a community and even inside a household!

In this document, the general term "issues" includes public issues, management concerns and resource opportunities. As all the public issues are also of concern to Forest Service Managers, they have not been separated by the above categories. The context and intensity of public feeling regarding each issue is identified below. The issues span local, Regional and National levels.

Each issue has associated planning questions that are addressed in this document. In some cases, the public had questions about the application of mitigation measures. These are included in the planning questions. However, in alternative development, mitigation measures were considered for all resources whether there was a planning question associated with them or not. Mitigation measures are discussed in Chapters 2 and 4.

Key indicators were developed for each significant issue. A key indicator measures the effectiveness of various alternatives in responding to each issue. The key indicators are presented in Chapter 4 under the appropriate resource area.

The issues are as complex and interrelated as the ecosystems themselves. Although these issues are organized by resource area in this chapter, many issues will be addressed under more than one resource area in later chapters.

The organization of the issues intends to reflect the interactions between the ecosystem and social system. The first group of issues relates to the non-living or physical environment. The second group of issues relates to the biological environment. The third group includes issues that relate to resource management programs, conditions imposed by humans on the natural environment. The last group of issues relates to the social and economic environment. This "ecological" presentation of issues is followed throughout the EIS.

## Physical Environment Issues

The composition and productivity of a forest is determined by the local physical factors of parent material, soil, rainfall, temperature, light and air quality.

#### Geology

Capable, Available and Suitable (CAS) Lands - Refer to the Timber Management section under Resource Management Program Issues.

Slope Stability - Some lands on the Forest are unstable and prone to landsliding. The risk of road construction and timber harvest activities generating landslides is of high concern to many public groups. Landslides can adversely affect watershed and visual resource values as well as increase road maintenance costs. This issue

is National in scope. Some groups believe that road construction and timber harvest should be eliminated in landslide-prone areas. Other groups want to lessen these activities in all areas.

- What level of emphasis should be placed on avoiding unstable areas?
- What degree does road construction and timber harvest activities relate to landslide occurrence?
- What types of lands are most prone to instability? What is their distribution and frequency?
- What management practices are appropriate on unstable lands?

Hazardous Materials - Asbestos and radon are naturally-occurring substances, identified Nationally as health risks. Similarly, abandoned mines and landfills are sites which may contain hazardous materials that can adversely affect health. The potential effects on health of these natural and man-made materials is an intense concern to some groups.

- What rock types contain asbestos and radon? How are they distributed?
- What management activities introduce asbestos and radon into the water or air? What mitigation measures are possible?
- What monitoring procedures are needed?
- What is the extent of the abandoned mines and landfills on the Forest?

Geologic Hazards - Seismic, volcanic, snow avalanche, land subsidence and collapse hazards exist on the Forest. This issue is of minor, local concern. Management activities cannot control the occurrence of these events, but may influence or be affected by them.

- How are these hazards distributed relative to Forest facilities and how can we respond to volcanic or earthquake activity?
- How do these hazards affect potential Forest uses?

Groundwater - The Forest is the recharge area for several groundwater basins. During dry years, there may be more demands for water than is available. This can impact agricultural uses and the maintenance of stream flow in anadromous streams, for example. This issue is National in scope and is of moderate, but increasing, local concern.

- Where are the groundwater basins located on the Forest?
- To what extent can management activities impact or enhance groundwater levels?
- What are the long-term effects of continued groundwater withdrawals?
- What monitoring procedures are needed?

#### Soils

Soil Resources - The maintenance of soil productivity, permeability and fertility is a National issue of high intensity. Some public input recommends specific management activities to reduce on- and off-site erosion. Other individuals want all logging stopped on highly erosive soils. Another facet of this issue is the invasion of non-desirable brush species and the impact of wildfires on soil productivity. Portions of the public believe that the soil should be treated as a non-renewable resource.

- How should soil productivity, permeability and fertility be maintained?
- How many acres are classified as having a high erosion hazard rating and where are these lands located?
- What are the risks of erosion associated with various management practices?
- How effective are the various mitigation measures for reducing surface runoff? Where will these measures be applied?
- Which soils are the most sensitive to wind and water erosion? At what levels of vegetative removal are they adversely affected?

Suitability - Deciding which lands are suitable for regulated and sustained yields of timber is an issue of great Regional concern. The criteria for physical suitability includes water-holding capacity, fertility, slope and aspect. Concern focuses on the following situations: sites prone to erosion, areas not reforested within five years after planting, areas occupied by noncommercial species and areas of low productivity. The Forest recognizes that more information is needed to link accurately site features of lands with marginal productivity to the site's potential regeneration success.

- What characteristics should identify physically unsuitable lands and how should these lands be managed?
- How should marginally productive lands be managed?
- Will any irreversible harm to soil productivity be done to a site if it is managed for a sustained timber harvest?
- What are the characteristics of sites with a low regeneration potential and where are they located?
- What are the risks associated with managing for timber production on unsuitable lands?

Coarse Woody Debris (CWD) - Treatment of CWD to reduce fuel loading and prepare the site for planting can be detrimental to long-term nutrient cycling and soil productivity. This issue is a Regional issue of high intensity.

 What are the management options for treatment of CWD? How would these options affect nutrient cycling and soil productivity?

– When is it appropriate to use CWD to control erosion?

#### Water

Cumulative Watershed Effects - The cumulative (combined) effects of management activities on public and private lands within watersheds on the Forest is an intense Regional and a moderate National concern. These cumulative effects can lead to adverse impacts to stream channels and domestic water use downstream from management activites.

- How should management activities that change sediment delivery, after stream temperature or after watershed hydrology be managed to maintain or improve watershed conditions?
- What will the cumulative effects of management activities be on stream channel stability?

Water Quality - Water quality protection and the effectiveness of Best Management Practices (BMPs) for control of erosion and sedimentation is of high concern Region-wide. Forest management practices can affect the quality of water that is valued by its many beneficial users.

- What level of emphasis should be placed on water quality management so the goals of the State of California's Klamath Basin Plan and the Clean Water Act can be met?
- What are the present water quality trends?
- What natural- and man-caused factors combine to affect the nature, location, size and duration of changes in the watershed?
- What monitoring would be appropriate to determine if BMPs are being used as designed and if they are effective?

Water Yield - There may be an opportunity to increase the amount of water produced by manipulating vegetation. This is a Regional concern of low intensity.

- Should watersheds be managed to increase water yield?
- What are the existing and future needs for Federal, State and private water users?
- What is the average water yield for each watershed?

Watershed Restoration - Watershed improvements provide an opportunity to enhance watershed and channel conditions. The Klamath River Fisheries Bill of 1986 provides direction and funding for fishery habitat improvements in the Klamath River. Watershed restoration is a Regional issue of high concern locally.

 What types of restoration are needed to make all watersheds capable of producing water with a quality at or above the objectives stated in the Klamath Basin Plan and the Clean Water Act?

- What level and intensity of improvement activities would maintain or improve water quality and beneficial uses?
- What improvements are possible under various management strategies? What are their associated costs?

#### Air

Air Quality/Smoke Management - Clean air, relatively free of chemical pollutants and particulate matter, is greatly valued by the Forest's rural communities. Air quality is diminished from smoke generated by prescribed fires and wildfires. This issue is Regional in scope and ranges from low to moderate in intensity.

- How aggressive should smoke management be to meet appropriate levels of air quality?
- How can prescribed fires be managed to meet requirements of the Marble Mountain Wilderness Class 1 area?
- How will the smoke management program interact with the State and Federal air quality regulations?
- How would the various alternatives affect the air quality during prescribed burning on approved burn days?

## Biological Environment Issues

Organisms (living things) adapt to their environment over time. Distinct groups of organisms living within a particular environment are considered to be an ecological community. A glimpse into these ecological communities reveals a complex web of interactions between those organisms. The inter-relationships between all communities in an area form an ecosystem. Over time, a balance between organisms develops and is maintained. Natural occurrences, such as wildfire as well as human activities, can alter these balances.

## **Biological Diversity**

Biological Diversity - Maintenance of a naturally functioning, healthy ecosystem with a variety of species and structural parts is an intense issue Nationwide. Ecologists believe that greater diversity allows for greater stability in the ecosystem.

- What are the working definitions of biological diversity and ecosystem integrity?
- What management options are available to provide for biological diversity?
- At what levels should biological diversity be protected or maintained?
- How should the Forest maintain or enhance wildlife dispersal routes between habitat areas

for TE&S and Management Indicator Species (MIS)? Is establishing corridors the best way?

 What benefits would be realized by setting up landscape linkages between wilderness areas?

"Old Growth" - Intense controversy exists Nation-wide over the continued viability of "old growth" forests. The amount and distribution of "old growth" being maintained is at issue. Inconsistent definitions of "candidate old growth" create confusion.

- How much "candidate old growth" should be retained? Where will it be located to meet the needs of "old growth" habitat-dependent wildlife species?
- How should "old growth" forest ecosystems be managed to maintain and protect "old growth" characteristics?
- How does management for biological diversity affect "old growth?"
- What is a workable definition of "old growth" for Forest-level planning?
- Is the inventory of "old growth" adequate?
- What effects would a moratorium on the harvest of "old growth" have?

Vegetative Diversity - NFMA and Region 5 require each Forest to provide for vegetative diversity. Controversy exists over how much land in each seral stage is adequate. This is a National issue of high intensity. The introduction of non-native plant species as a part of management activities is also of high concern to a segment of the public and is State-wide in scope.

- How should less frequent vegetative types of special interest and importance, such as riparian areas, hardwoods, chaparral and native grasslands, be managed?
- Will maintaining 5% of the area in each seral stage be adequate to maintain Forest-wide biological diversity?
- To what unit of area (for example, district or compartment) should seral state minimums be applied?
- How do silvicultural systems affect the genetic diversity of all vegetative types?
- What guidelines are appropriate for the use of native plant species when re-vegetating areas?

#### Riparian

Riparian Management - Management activities near streams may have an adverse effect on riparian vegetation, channel stability, stream sediment levels and fish habitat conditions. The management of riparian areas to maintain and enhance water quality is an intense issue Nation-wide.

 What types of management are needed to restore, maintain or enhance riparian resources?

### Sensitive Plant Species

Sensitive Plant Species - A National concern exists for the maintenance of healthy populations of Sensitive plant species. Locally, portions of the public want protection and monitoring of Sensitive species. These precautions may prevent these plants from becoming listed as Threatened and Endangered (T&E) in the future.

- What management options are available to maintain population health and prevent Sensitive and candidate species from becoming listed as T&E?
- What techniques are available to restore the habitats of Sensitive species?

#### Wildlife

Threatened and Endangered Species - Recovery goals are set by the United States Fish and Wildlife Service (USFWS) for T&E species under the Endangered Species Act. Management of the habitat to meet or exceed these recovery goals and the tradeoffs involved for management of other resources are of intense concern Nation-wide.

 How should essential habitat of T&E species be managed to meet their recovery goals?

Sensitive Animal Species - Protecting and managing the habitat of Sensitive animal species to be sure they are well-distributed and have viable populations is an intense concern Nation-wide. The need for monitoring and managing candidate populations to prevent them from becoming Federally listed as T&E is also an intense National issue.

- What habitat management options are available to maintain population health and prevent Sensitive and candidate species from becoming Federally listed as T&E?
- Is enough information available to determine viable population sizes for wildlife species?
- What habitat requirements does current research recommend for the Sensitive species found on the Forest?

Management Indicator Species (MIS) - NFMA requires the National Forests to select MIS of the potential impacts to a larger group of species. Managing for the needs of representative species or for an assemblage of species, representative of a given habitat situation allows for the management of all species using the same habitat. The selection of MIS also considers the special habitat requirements of T&E and Sensitive species. Some groups are concerned that the current MIS are not sensitive as indicators. This is a National issue of high intensity.

Which MIS should be selected to best represent the various habitat types?

Management Direction - Current management direction for wildlife habitats such as riparian areas, snags, dead and down materials and hardwoods may not be adequate to maintain existing wildlife populations. The cumulative effects on wildlife populations should be analyzed using the most current research data. This issue is of moderate concern and Regional in nature.

- How should MIS habitat be managed under various alternatives?
- Are the existing inventories for snags, hardwoods and dead and down materials adequate?

Species Introduction - NFMA directs National Forests to coordinate with State agencies when re-introducing species such as elk and large predators. The only large predators eliminated from this geographic area are the grizzly bear and timber wolf. Species introduction is a National issue of moderate concern.

- What goals for managing Roosevelt elk should be set in cooperation with the California Department of Fish and Game (CDFG)?
- What should Forest policy be on the introduction of large predators?

#### Fisheries

Management Effects on Fisheries - The short- and long-term effects of Forest management activities on anadromous and resident fish resources are of intense concern to the public. This issue is National in scope.

- How do fish outputs change with various management strategies? What indicators should be used to describe these biological outputs? What species should be tracked to determine the outputs?
- How do fish habitat conditions change with various management strategies?
- How much emphasis should be placed on management of anadromous fish?

Habitat Restoration - Opportunities exist for improving anadromous and resident instream and riparian habitat. This issue is National in scope and of high concern.

- How much habitat restoration should be done?
- What is the habitat potential?
- What biological outputs will result from habitat restoration?
- What costs are associated with habitat restorations?

### Resource Management Program Issues

In 1897, Congress set aside land known as Forest Reserves. In 1905, the Forest Service was created and given the responsibility for improving and protecting the National Forests (previously the Forest Reserves). Improvement implies management; resource management programs evolved to meet society's demands for use of the public land. Forest management has become more complex over the last 20 years. As resources become more limited, public values change and new issues about forest management arise. Management activities that benefit certain resources are likely to be detrimental to other resources. Almost every action has associated trade-offs.

## Visual Resource Management

Natural Landscape Conservation - The public's recreational use of National Forests has increased over the years. With an increased recreational use comes an associated concern for the preservation of natural-appearing landscapes. The preservation of landscapes is a National issue of significant Regional and local concern.

- What viewsheds should be retained in a naturalappearing condition to satisfy public needs?
- How should the Forest identify and manage visual quality within viewsheds that are important to the public?
- How will the Forest deal with managing visual quality while managing other resources such as timber?

Overall Visual Quality - The amount, location and quality of scenic resources is important to the public, whether they frequent the Forest or not. The public's perception of how well the Forest's scenic resources are managed is an indicator of how they will view the overall management of the Forest.

 How should the Forest identify and manage for the level of viewshed quality that will meet public expectations?

## Recreation Management

Recreational Experiences - The public's demand for a variety of high quality recreational experiences has increased in recent years. Many people believe the Forest has the potential to provide a broad spectrum of both developed and primitive recreational opportunities. Certain management practices have the potential to influence recreational opportunities. This issue is National in scope and ranges from moderate to high in intensity.

- What type and amount of recreational opportunities should be emphasized? Where should these recreational opportunities be provided?
- How can the quality of new and existing facilities be optimized?
- What is the supply and demand for new recreational opportunities such as ski areas and mountain bike trails?

- What type of resource developments conflict with recreational opportunities?
- Where are the conflicts between recreation and other resource activities occurring?
- How will land allocation and management affect the recreational experience?
- How should recreational enhancement opportunities be used to optimize the quality and variety of recreational experiences?
- What is the feasibility and cost of improving and maintaining certain Forest roads as Scenic Byways?

Trail Management - Before motorized travel, local transportation primarily used trails designed for pack stock and humans. Recreationists use many of these historical trails for access to wilderness. The public wants the Forest to improve the quality of this recreational experience. By re-evaluating the trail system and determining which segments could be abandoned, re-routed or otherwise improved, the quality of this recreational experience could be enhanced.

- How should conflicts between off-highway vehicle (OHV) use and hikers be managed?
- Should area closures for vehicular travel be designated?
- Which trail segments should be abandoned or re-routed?
- Which historic trails should be maintained or reconstructed? What are the costs associated with this work?

#### Wildemess Management

Wilderness Management - Some management activities, such as fuel treatment, provide opportunities for meeting wilderness management objectives. Others activities, such as grazing, may conflict with these objectives. Determining the appropriate level of coordination is a local issue of moderate concern.

 What opportunities exist to coordinate wilderness management with other management programs that can meet their respective objectives and can reduce potential resource conflicts?

### Released Roadless Area Management

Roadless Areas - Determining the appropriate land use for each area released for multiple use management by the California Wilderness Act of 1984 is a National issue of high to intense concern. These determinations need to consider biological, physical, social and economic factors.

- What is the appropriate management strategy for each released roadless area on the Forest?
- To what extent are these areas capable, avail-

able or suitable for timber production? What values exist within each area?

## Wild and Scenic Rivers Management

River Management - In 1981, certain rivers were designated as part of the National Wild and Scenic Rivers (WSRs) System. They include segments of the Klamath, Scott and Salmon Rivers, including Wooley Creek. Direction set in the Forest Plan will guide the development of a River Management Plan for these designated segments. The River Management Plan will define corridor boundaries and outline strategies for managing resources, use and development within the river corridors. This management direction is of high National concern.

– How should river corridors for the various segment designations be delineated and managed under the impending River Management Plan?

Additional Designation - Public groups believe that other portions of the Forest drainage system have exceptional values and should be protected. The public believes these values may allow certain segments of rivers to qualify for inclusion in the WSR System. Additional designations to the WSR System is a National issue of high concern.

– Which river or stream segments should be recommended for designation and at what levels of classification?

## Specially Designated Area Management

Research Natural Areas (RNAs) - An RNA is a protected study area set aside for non-manipulative research of natural communities in their pristine condition. They are not designated for recreational use. Target elements for vegetative communities in Region 5 were determined by the Regional RNA committee, although other elements for RNA establishment may be evaluated. Several RNA candidates are now in various stages in the establishment process. Setting up RNAs to represent a wide variety of elements is of high concern Nation-wide.

- Should RNAs be established to study fish, animal, vegetation, geologic and aquatic values? Should they be established to study fire recovery processes?
- How should the Forest manage the resources in or near an RNA? What "protection" practices are necessary?
- Have we met the Region 5 targets for the Klamath Province elements with our current RNA candidates?
- What advantages or values would RNA designation provide for TE&S Species?
- What opportunities exist to locate RNAs within wilderness areas?

– What are the costs, benefits and resource values associated with each designation?

Special Interest Areas (SIAs) - An SIA is a recreational designation that protects unique natural features of an area. SIAs also have appropriate access and interpretation for public appreciation and enjoyment. Evaluating and establishing SIAs are a Regional issue of moderate intensity.

- At what intensity should we manage for unique botanical, geological or other special resource elements?
- What are the costs, benefits and resource values associated with establishing each area?

National Natural Landmarks (NNLs) - The Forest planning process provides an opportunity to evaluate NFS lands for National significance. Appropriate areas can be recommended to the National Park Service for nomination to the National Registry of Natural Landmarks. NNL status places no restrictions on Forest Service multiple use management of the site provided the significant ecological or geological features are protected. This National issue is of minor concern.

- What areas should be managed to promote NNL status?
- What are the costs and benefits associated with NNL status?

## Butte Valley National Grassland

The Butte Valley National Grassland (BVNG), designated on February 28, 1991, is 18,425 acres of land originally purchased under the authority of the Bankhead-Jones Farm Tenant Act of 1937. The BVNG is administered by the Goosenest Ranger District. How the BVNG will be administered is a moderate concern at the local level.

## Lands Program Management

Innocent Encroachment - Due to faulty or nonexistent land lines, landowners have unknowingly placed improvements on public land. Resolving innocent encroachments is a significant concern for the Forest and the affected public.

 How can innocent encroachment be resolved to the mutual benefit of all parties involved?

Community Expansion - Certain communities within the Forest surrounded by NFS land would like to expand. This is an issue of moderate concern at the local level.

 To what degree should community expansion be facilitated? What options are available?

Utility Corridors - The need to plan for utility corridors that are compatible with land use allocations was identified. Utility corridors are linear strips of land that

can contain one or more utility or transportation facilities. This is an issue of moderate concern at the local and Regional level.

- Where should these corridors be located?

#### Law Enforcement

Vandalism of Cultural Sites - Preventing the destruction of prehistoric, historic and contemporary use cultural sites is an important National issue mandated by law.

 How can the Forest reduce or prevent vandalism of cultural sites?

Unauthorized Use - Unauthorized use of public land and resources is a significant issue at the local and Regional and National level. Occupancy trespass, forest products trespass, production of illegal drugs and illegal disposal of hazardous wastes are the predominant Forest law enforcement concerns. Unauthorized improvements and residency occur mainly on mining claims and can conflict with recreational use by the public.

- What options should be considered to resolve occupancy trespass?
- How can the Forest reduce or prevent forest products trespass?
- What options are available for resolving drug-related law enforcement concerns?

## Minerals Management

Mineral and Energy Development - The development of mineral and energy resources on NFS land is a National issue of moderate concern. Locatable minerals (such as gold and chromium), leasable energy resources (such as oil, gas and geothermal energy) and mineral materials (such as rock, cinder and gravel) provide opportunities for developing mineral and energy resources on the Forest.

- How should mineral exploration and development be facilitated?
- Does allocating land to various management areas affect mineral development?
- How should the energy program on the Forest contribute to achieving the National goal of selfsufficiency?
- Where do the opportunities to develop mineral and energy resources occur on the Forest?
- What constraints or restrictions apply to oil and gas leases?

Surface-Use-Related Activities - The regulation and reclamation of mining activities and related surface-use is a National issue of intense concern.

 What surface-uses are in conflict and how can these be resolved?  What are the regulations governing surface-use and reclamation?

## Transportation and Facilities Management

Road Management - Forest roads are designed to varying specifications, depending on the planned use and amount of traffic expected. Historically, most roads on the Forest were constructed to standards that support timber access. As the use of other Forest resources increases, the composition of the traffic mix changes. This creates conflicts among road users. These conflicts fall into 2 groups. First, conflicts generated by the amount and mix of traffic. Second, road use causing resource damage, even with a small amount of traffic. This is an issue of high concern at the local level.

- Should some roads (for example, Callahan-Somes, Etna Summit and Grayback) be managed for higher levels of mixed traffic? What improvements are needed to serve current and alternative uses adequately?
- What should Forest road density and total system miles be for each alternative considered?
- Should OHV use of closed Forest roads be encouraged where it doesn't conflict with other resource or protection needs?
- How much of the road system should be open to essentially unrestricted public use?
- Is the current level of road maintenance adequate for resource protection and user safety? What level of maintenance will be required in the future?
- Do Forest roads conform to the standards required by the Federal Highway Safety Act?
- What is the current road density and the number of miles of roads in the Forest road network?

Other Facilities - Many Forest-owned administrative facilities are old and need repair or replacement. The Facilities Master Plan, completed in 1989, set priorities for repairing or replacing these facilities. Future revisions to this plan will be guided by direction in the Forest Plan. The future priorities and direction for the management of these facilities is a local concern of moderate intensity.

 How should administrative facilities be managed on the Forest? What will be the cost?

### **Timber Management**

Capable, Available and Suitable Lands - Lands classified as CAS are suitable for sustained timber production. The type, location and amount of CAS lands is a National issue. Some public groups believe that unstable lands should not be managed for timber production. These groups want these potentially unsuitable

lands re-evaluated and removed from the CAS lands. A concern also exists for the validity of the current criteria used for CAS determination: timber typing, geologic stability, the land's ability to regenerate and administrative constraints. A re-evaluation of CAS criteria was recommended by some groups.

- How much land should be managed for woodfiber production and at what intensity levels?
- What physical attributes make lands unsuitable for sustained yields of timber? How should these unsuitable lands be managed?
- What is the frequency and distribution of unstable lands on the Forest?

Silvicultural Systems - Controversy exists over current silvicultural practices. The type of silvicultural systems, practices and policies implemented concerns many segments of the public. The issue is National in scale. Clearcutting, the removal of all merchantable trees, has been a prevalent method of even-aged management on the Forest. The age at which stands are cut, the reforestation success, the species and genetic diversity, the long-term soil productivity and the methods of vegetation control is an intense concern to various public groups.

- What is an appropriate level of clearcutting for the Forest?
- What types of uneven-aged management will be used on the Forest? Where and how much of the Forest will be put in this type of management?
- At what age should timber stands be harvested?
- How many snags and what amount of CWD should be retained on a given site?
- What are the current silvicultural practices, policies and logging systems?
- What conditions influence the choice of silvicultural practices?
- What is the Forest's success rate with reforestation efforts?
- How do various silvicultural systems affect vegetative diversity and species selection?
- How can stand structure be manipulated to produce "old growth" attributes?

Allowable Sale Quantity (ASQ) - Public opinion is sharply divided about what the ASQ should be for the Forest. Controversy exists over how much should be harvested. Some groups want more land intensively harvested for timber and for the economic returns, including additional employment opportunities. Other groups would like to see the amenities emphasized and harvests reduced. Some members of the public have specific concerns about the validity of the timber inventory, stocking assumptions used, sustained-yield calculations and the rate at which older stands are being harvested. The amount of timber harvested from

private lands has been declining. So, there has been an increased demand for timber supplies from the National Forests. This issue is Regional in scale and of an intense nature.

- How much wood fiber should be produced annually?
- How are yield tables developed and what assumptions are used?
- What is sustained yield and how is it applied?
- What is the rate of cutting mature and overmature stands versus young stands?
- How adequate is the Forest timber inventory?
- What unit of measure will be used for Forest inventory volumes?
- Should timber outputs be tracked by volume or by acres harvested?

Fire Effects - The wildfires of 1987 burned about 258,000 acres of identified CAS timberland on the Forest. Forest efforts to salvage fire-damaged timber were prolonged by the many appeals from special interest groups. These appeals questioned the effectiveness of proposed silvicultural treatments as well as the suitability of timberland included for harvest. The issues related to timber salvage after wildfires and natural disturbances are significant on both local and Regional levels.

- What standards and guidelines should be followed in the future during recovery efforts from catastrophic fires and natural disturbances?
- Will fire and other salvage volume be chargeable to the ASQ?
- What would be the effect of fire on the Forest inventory and sustained yield?
- What is the risk of plantations not surviving to rotation age due to fires? What is the chance of a particular plantation burning?

Pest Management - The controversy over pesticide use on National Forests is a significant Regional and National issue. The public is divided over how competing vegetation and damaging insects should be managed. Some public groups oppose all pesticide use. They question the cost effectiveness of pesticide use, the success and failure ratio and the applied chemicals' interaction with the environment.

- What Forest conditions determine appropriate use of pesticides?
- Where and when are pesticides essential for reforestation?
- Are all pest management methods available being used?
- Is Port-Orford-cedar and sugar pine being adequately managed and protected?
- What is the relationship between silvicultural systems and pest management practices?

Other Products - Great amounts of woody material are

left on the ground after a timber harvest. This woody material is suitable for use as fuelwood for both heat and power generation. None of the Forest's dead or down woody material is now used to generate local electricity. However, future wood-fueled power plants are expected to become very dependent on these materials. Some members of the public wish to increase the use of dead and down materials and public firewood opportunities. Others are concerned over the potential reduction of woody material and snags in the Forest. Such opposing views have created a significant issue at local and Regional levels.

The management of existing hardwood stands for commercial products is an issue over which the public has conflicting views. Some members of the public encourage this commercial use and see it as a means to benefit conifer establishment and growth. Another public interest group discourages intensive management of hardwoods because of the possible negative effect on wildlife habitat. Local Native Americans use hardwood stands for products such as tanoak acorns.

- What markets are now using hardwood and other forest products?
- What opportunities exist for Forest biomass use? Is there a demand for hardwoods, wood chips, acorns, bitterbrush, beargrass, etc.?
- What is the Forest's firewood policy and should it be changed?
- What level of availability of products for Native American cultural uses is appropriate?
- How will Pacific yew be protected and used?

## Fire Management

Air Quality/Smoke Management - Refer to the Air section under Physical Environment Issues.

Fire Suppression - The fire suppression program should be compatible with resource management objectives while being cost-effective. Analyzing cost efficiency should consider State, local and private firefighting resources as well as Forest resources. The resources involved are essentially local in nature and concerns are low to moderate in intensity. The fire suppression budget is Regional in scale and of high concern.

 Are the initial attack strategies and fire suppression organization the most cost-efficient to meet resource objectives?

Prescribed Fire - The use of prescribed fire to control fuel loading from forest management activities is a Regional concern of high intensity.

- Should prescribed fire by planned ignitions continue to be used to reduce resource damage?
- What role should fire play in the management of wilderness areas?

– How should timber management residues and natural fuel buildups outside of wilderness areas be managed?

Fire Risk and Plantation Survival - Forest management practices must consider not only the effects of past fires but the potential for future wildland fires as well. Forest managers and the public alike are concerned about the effects and relationship between forest management and wildland fire. This issue is Regional is scope.

- How should management-generated fuels be manipulated to reduce wildland fire risk to plantations?
- What intensity of wildland fire is predicted in a given area, based on past management activities?
- What is the chance that a fire will occur in each analysis area under the various management strategies?
- When a wildland fire occurs, how could it affect vegetation and other natural resources?

Effects on Future Fires - Preventing wildland fires in the future is of great concern to the local communities. These wildland fires are often detrimental in the short-term, although they may be beneficial in the long-term. This is a National issue of moderate intensity.

- How do the historic fire patterns affect Forest management options in the future?
- How have past land management activities affected the size and intensity of present fires? What will be the impact of future management actions?

## Range Management

Resource Management - Conflict within the public exists over livestock and other range resource uses. This local issue has the potential of extending to a Regional level as interactions between environmental and social concerns increase.

- What are the existing conflicts and where do they exist?
- How will forage for livestock be allocated?
- How should riparian zones be managed to reduce potential conflicts with wildlife and water quality?
- What opportunities should be pursued for utilizing and improving livestock management?
- What is transitory range and what opportunities exist for its utilization?
- What is the current and desired condition and trend of range vegetation?
- What areas could benefit from intensive livestock management?
- How can livestock be managed to reduce con-

- flicts with recreational values?
- How can livestock be managed in wilderness areas to reduce conflicts with wilderness values?

### Wild Horse Management

Wild horses - Two wild horse herds are now maintained on the Goosenest District. The competition for grazing between these herds and herds of livestock and wildlife are local public issues and Forest concerns. Although the present level of concern appears low, the issue could expand in scope.

- How should wild horse herds and their territories be managed in relation to domestic range and wildlife?
- Do the existing horse herds qualify as "wild horses" as described in the 1971 Wild Horse and Burro Act?

## Cultural Resources Management

Program Management - Some public groups feel the Heritage Resource Program (previously the Cultural Resource Management Program) should be an independent program rather than project-linked. Public Law (PL) 100-588 of 1988 directs the Forest Service to develop plans to survey all NFS land for cultural values. This gives the independent program National significance. The project-linked program is of local importance. Some public groups are highly concerned over this issue.

- Should the Forest Heritage Resource Program be expanded beyond the project level?
- What level of funding should be associated with the Heritage Resource Program under various alternatives?
- Will project-level inventories be adequate to meet Forest Service program direction over time?

Site Management - The protection and inventory of cultural sites is a moderate concern on both local and National levels.

- What level of cultural and historical resource inventory should be associated with a given management strategy?
- Is the Forest being adequately inventoried to detect cultural and historic resource values before project work?
- Is avoidance of archeological sites an appropriate way to "manage" them? What will the desired future condition of these avoided areas become over time?
- Which laws dealing with cultural values apply to Forest projects?

Karuk Territory - The Karuk Tribe of California have

identified 3 specific traditional territorial and ceremonial areas to be recognized in the Forest Plan. This local issue is of great significance to the Karuk Tribe.

- What are these culturally important areas and how should they be managed?
- What adjustments or provisions should be made in managing these areas?
- Are traditional territories and ceremonial areas adequately being considered in the Forest Plan?

### Social and Economic Environment Issues

Rural forest communities are in the midst of a timber/forestry crisis that has repercussions Nation-wide. Forest management policies and the ability to be sure of a sustainable, healthy forest are issues at both Federal and State levels. As greater protection for the environment is identified as an important value Nationally, forest-dependent communities fear the loss of their lifestyle.

#### Social

Quality of Life - Many local residents live in this area because they value the way of life found here. Changes to that lifestyle are of intense concern to them.

- How will these communities be affected by the various alternatives?
- What options will be available to workers dis-

placed as a result of the various alternatives?

#### Economic

Economic Opportunities - Some public groups believe the local economy needs to be more diversified and less dependent on timber to increase job opportunities and wages. Others believe that county receipts from timber should be maintained in a non-declining flow. While Forest resources are consumed in Regional and National markets, local economic issues are of major significance.

- How dependent is Siskiyou County's economy on Forest resources such as recreation, forage and timber?
- How can the Forest stimulate revenue generation in its area of economic influence?
- How can the Forest work with other public agencies and the private sector to enhance economic opportunities?
- How can untapped Forest resources, such as elk re-introduction and unused recreational capacity, be marketed?
- How will a non-declining flow of receipts affect the outputs on the Forest?
- What are the outputs that significantly affect receipts?
- What level of sensitivity does the local economy display to the Forest's management practices?

