II. General Responses

General Response 1: General Support or Lack of Support for Proposed Management Plan

Summary of Comments
Comments address a difference of or shared opinion with the proposed management methods in the Jackson Demonstration State Draft Forest Management Plan (DFMP), Alternative G, or the Administrative Draft Final Forest Management Plan (ADFFMP) and do not directly apply to the impacts analysis conducted in the DEIR. A wide variety of comments are addressed by the response to this general comment. Comments ranged from a general approval or disapproval of timber harvest of any sort on JDSF to recommendations for increased recreation opportunities. All comments of general support or general lack of support for the proposed DFMP are referred to this general response.

Response to Comment
The purpose of an EIR is to analyze the potential environmental impacts of a project. The EIR comment process is designed to help identify potential environmental effects associated with the proposed project and the alternatives, that may have been overlooked or inadequately addressed in the EIR. Absent the presentation of substantial evidence in the record that a proposed management activity will cause a significant environmental effect or that the EIR fails to adequately address a specific environmental impact, a reasoned response to the comment is not required. Comments lacking supporting evidence, as well as those regarding content of the Management Plan or an alternative, rather than the environmental analysis, were noted or briefly addressed. However, several of the most commonly expressed concerns are addressed in the General Responses presented below.

While CEQA does not require that a response be made to every comment received, all public comments were considered.

General Response 2: The Purpose of the State Forest System and the Goal of the Forest Management Plan

Summary of Comments
It is clear from many of the comments that certain misconceptions exist as to the historical context of the State Forest and the goals of the Draft Forest Management Plan (DFMP), Alternative G, or the Administrative Draft Final Forest Management Plan (ADFFMP). Comments ranged from concern that Jackson Demonstration State Forest is a federally owned forest that might be sold, to a perception that the proposed updated management plan was a conversion from a protected forest preserve or State Park to an industrial forest managed purely for timber sales, without regard for other resource values. Some comments recognized the current status of the forest, but suggested that it be entirely converted to a State Park or preserve.

Response to Comments
The following summary of the management plan has been largely excerpted from the Executive Summary of the ADFFMP. It is provided here to clarify the historical context, guiding legislation and policy, and direction of the Forest Management Plan.

Executive Summary

The Forest, Its Purpose and Direction

Forests provide immense and diverse values to the citizens of California. They supply many outputs that we use and enjoy, including clean water, fish and wildlife, and forest products. They are also increasing in importance as a destination for recreational activity.

Public and private working landscapes are both key elements in strategies to protect and restore what are now rare components of the ecosystems and to support sustainable forest, grazing, and agricultural operations. The majority of public wildlands in the North Coast region of California are set aside as reserves and parks to preserve rare ecosystems and wild areas. Demonstration State Forests, by contrast, are public lands that by legislative mandate have a unique and distinctly different purpose from parks and wilderness areas. Demonstration State Forests are mandated to conduct research, demonstration, and education on sustainable forestry practices using active forest management, including periodic timber harvests. Management of the Demonstration State forests is required to address values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment.

While still the number three timber-producing state in the nation, California is also home to a very large population with strong interests in environmental protection. Given the often controversial role of logging and timber production in California, the Demonstration State Forests fill a unique niche to advance research, demonstration, and education on sustainable forestry practices. The State Forests fill an important role in helping maintain California's leading role as an innovator in solutions to difficult resource management challenges.

The California Department of Forestry and Fire Protection (Department or CAL FIRE) manages approximately 71,000 acres of Demonstration State Forests, on behalf of the public. Jackson Demonstration State Forest (JDSF), a 48,652-acre redwood/Douglas-fir forest located in Mendocino County between Fort Bragg and Willits, is the largest (Map Figure 1).

JDSF is a unique forest research site on the West Coast. It is able to accommodate multiple demonstration objectives including sustainable forestry, maintaining multiple long-term research installations, conducting large scale studies with a landscape level focus, as well as studies on smaller scales, providing large areas for threatened and endangered species protection, and maintaining a broad diversity of different forest successional stages in order to remain relevant as a research site. Research forests are often limited in the kind of experiments they can undertake by virtue of their modest size. New priorities in forestry research, exemplified by climate change and carbon sequestration, increasingly focus on a landscape level, where the breadth and complexity of ecosystem functions can be more fully understood. Accommodating large scale studies, which sometimes require several treatments and control units, can require thousands of acres. JDSF is the only public forest property in the State with the size and legislative mandate to meet all of these objectives. Large-scale or landscape-level studies do not necessarily treat large areas, but are always concerned with studying how treating a given area will affect the larger landscape (such as a watershed) or ecosystem processes within which the treatment is embedded..

JDSF's management direction derives directly from statutes, regulations, and policies set by the State Board of Forestry and Fire Protection (see Appendix I for details). Board policy describes Jackson and three of the other Demonstration State Forests as "commercial timberland areas managed by professional foresters who conduct programs in timber management, recreation, demonstration, and investigation in conformance with detailed management plans," (Board Policy 0351.1). More specifically, Board policy states that the primary purpose of JDSF is to conduct innovative demonstrations, experiments, and education in forest management; that timber production will be the primary land use on JDSF, and that recreation is recognized as a secondary but compatible land use on JDSF (Board Policy 0351.2). Further noteworthy policy directions that guide JDSF management include:

- Research and demonstration projects shall include silviculture, mensuration, logging methods, economics, hydrology, protection, and recreation. Research and demonstration projects shall be directed to the needs of the general public, small forest landowners, timber operators, and the timber industry.

- Conduct periodic field tours to exhibit State forest activities and accomplishments to forest industry, small forest landowners, relevant public agencies and the general public,, and disseminate information to these audiences.

- Consult with and solicit the cooperation of the State universities and colleges, the USDA Forest Service, and other public and private agencies in conducting studies requiring special knowledge.

- Cooperate with the Department of Parks and Recreation in establishing on JDSF, adjacent to the Mendocino Woodlands Outdoor Center, forest management demonstration areas that are compatible with recreation for educational purposes.

In 1947, JDSF was established predicated upon declining volumes of old-growth timber and the fact that a large acreage of potentially productive timberland in California was not producing a satisfactory growth of young timber. At that time, there was no requirement to restock the land after removing the timber. Early management within JDSF was conducted with the intent of demonstrating forest management methods that would achieve satisfactory regeneration, demonstrate a high level of productivity, and be financially viable for landowners with differing levels of skilled labor and investment capital. JDSF was purchased from the Caspar Lumber Company in 1947, after nearly 90 years of management for timber production. At the time of purchase by the State, the Forest contained both young and old trees and stands. The Forest has continued to build inventory over the past decades, and forest growth continues to exceed planned harvest by a considerable margin.

In the decades that have followed the establishment of JDSF, many changes have taken place that have increased the complexity of forest management and have threatened to substantially reduce the land base available for active forest management in California. In addition, concerns over the habitat needs of fish and wildlife have increased dramatically as development pressures and habitat impacts have caused the populations of many species to decline substantially. Pressures to devote forest land to other, potentially more financially attractive options, such as subdivision and development, continue to build. The CAL FIRE Fire and Resource Assessment Program estimates that 20,000 acres of forest per year in California make a transition from un-fragmented forests to areas with enough interspersed homes to alter wildlife habitats and natural hydrologic regimes, and to introduce new fire risks. Recent bonds passed by California voters as well as endangered habitat driven mitigation fees may begin to offer new opportunities for long term forestland owners to financially benefit from the ecosystem services that their lands can provide in addition to a sustainable supply of timber.

California now imports over 70 percent of its forest products from other states and regions of the world, where environmental protection levels on forest lands are often below those of the State. Demonstrating economically and environmentally sustainable forestry in California fosters the social benefits of employment and business opportunities associated with timber management in California. Maintaining relatively high wage natural resource and manufacturing jobs in areas far removed from the major metropolitan areas can make important contributions to local economic prosperity.

Given these current circumstances, there is a need to demonstrate forest management approaches that support economically and environmentally viable and sustainable forests and sustain the important benefits of maintaining forest land in terms of watersheds, habitat values, and forest

products. Thus, JDSF has potential to serve an important role in research and demonstration of the practice and viability of sustainable forest management for California's timberland owners.

The Mendocino County economy has been, and will continue to be, heavily influenced by the logging and forest products industries. As the level of local logging has steadily decreased in Mendocino County, the relative economic contribution potential of JDSF has increased, in terms of both direct and indirect employment, tax revenues, and other related economic effects. The 2005 DEIR estimates that each 10 million board foot increment in harvest from JDSF would generate 160 jobs, $4.3 million in local wages, and $184,000 in local tax revenue.

Significant gaps remain in our knowledge of forest ecosystem functions as well as the interactions between management activities and ecosystem functions. JDSF can provide important opportunities for pure and applied research in these and other areas. Important applied research areas include testing potential regulatory measures for protecting forest ecosystem functions, or testing potential restoration approaches. These projects will be conducted on a multi-agency basis (e.g., Department of Fish and Game, North Coast Regional Water Quality Control Board, National Marine Fisheries Service, USDA Forest Service Pacific-Southwest Experiment Station). Multi-agency grant funding will be sought for these projects.

There is great potential to create a living forest laboratory, available for research and demonstration, by developing and maintaining a broad range of conditions within the Forest. Under this management plan, designated parts of the State Forest will be managed to produce a high level of forest growth and timber production while maintaining and restoring natural ecological processes, providing opportunities to conduct research and demonstration on the relationship of these goals. The scientific community recognizes that landscape-level patterns are extremely important. Thus, it is critical for the Forest to represent a broad spectrum of conditions, including older forest structure, healthy connected stream systems and associated riparian zones, and a range of habitat and structure conditions in order to meet research and demonstration needs and maintain ecosystem health.

As one means of demonstrating resource sustainability practices, JDSF will seek certification of its forest management under the programs of the Forest Stewardship Council and the Sustainable Forestry Initiative.

The Management Plan and its Implementation

This Management Plan accomplishes the goals of synthesizing the knowledge of current resource conditions on JDSF[1], articulating the desired future structure of the Forest, defining a path to that future condition, and establishing abundant opportunities for future research and demonstration activities. It will guide forest management in a number of key areas, including research and demonstration, sustainable forestry operations, monitoring and research, road management, recreational opportunities, and protection and restoration of wildlife habitat. Chapter 3 provides the details on desired future conditions and planned management for JDSF. Chapter 4 focuses specifically on the research and demonstration program. Chapter 5 addresses monitoring and adaptive management.

Recognizing ongoing concerns regarding timber management on JDSF, the Management Plan provides for an initial implementation period during which provides the Board and the Department with an opportunity to obtain detailed input on the plan, and allows for consensus recommendations on potentially controversial management issues. Thus, during the initial implementation period, standards will be in place to limit harvest intensity by setting targets for basal area retention and average stem size. Post-harvest conifer stocking (basal area) levels will be approximately 70 percent

[1] See also the Draft Environmental Impact Report for the Draft Jackson Demonstration State Forest Management Plan (California State Board of Forestry and Fire Protection, December 2005) and the Recirculated Draft Environmental Impact Report for Alternative G (California State Board of Forestry and Fire Protection, May 2005).

or more of pre-harvest levels, and average tree size as determined by quadratic mean stem diameter will be approximately equal to or greater than pre-harvest levels. This equates to a relatively light stand thinning or selection harvest. Also, efforts will be made to limit the extent of harvest in areas that have had little or no harvest entry since 1925 (or that currently have at least 10 trees/acre greater than 30" in diameter (see Map Figure 8), particularly where those areas have not already had work done to prepare timber harvesting plans.

During the initial implementation period, JDSF advisory bodies will review and potentially recommend changes to certain elements of this Plan, including the forest structure conditions, usage of silvicultural systems, and spatial allocations of the Forest to various forest structure goals.

Chapters 3 and 4 provide details on how harvesting operations will proceed during this initial implementation period and on advisory body processes. The initial implementation period will sunset within three years, during which time the advisory process is expected to complete a review of the described Plan elements and the Department completes and the Board approves any Plan revisions made in response to the advisory process recommendations. Advisory processes will involve the re-establishment of the Board of Forestry and Fire Protection's Committee on Forest Research, the establishment of a new JDSF-specific advisory body, and the Department's existing Demonstration State Forest Advisory Group.

Research and Demonstration

The Department intends to manage JDSF, as well as the rest of the Demonstration State Forest system, as a demonstration of sustainable forest management, as directed by statute and Board policy, which includes production of forest products and protection of values related to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic values. This approach will create and maintain a diverse forest laboratory available for research and demonstration on a vast array of subjects. Informational needs associated with forest management are very large and changing. Clients for research results and demonstration efforts are expanding beyond the traditional clientele group of small and industrial forestland owners to include nonprofit and governmental entities interested in restoration of a wide range of forest resources. Research on JDSF should include applied research on a variety of topics (see discussion below), as well as basic research in such areas ecological and biological forest processes.

A number of special management needs exist for a research and demonstration forest such as JDSF. These needs, which are particularly important for implementing a long-term research plan, include:

- Increasing quantification of the forest (e.g., a wide range of biological information).
- Paying close attention to experimental design and the detailed documentation and quantification of changes due to treatments.
- Development and strengthening of cooperative relationships with university, governmental, and nongovernmental research institutions.
- Pursuing opportunities to secure research funding from a wide range of grant and other sources.
- Creation of a varied landscape, consistent with approved management plans, to support a broad range of research and demonstration.
- Utilization of the Internet to make large quantities of data and research results available to the research community, forest landowners, and other interested parties.

- Continued and increasing monitoring of various aspects of the forest environment to enable assessment of trends and conditions. Efforts will be made to move away from qualitative assessments to scientifically defensible quantitative tests of individual practice effectiveness. This adaptive management feedback loop will provide a mechanism to alter existing and proposed management practices where necessary.

Increasing resource allocation to each of these activities over time will be key to the ultimate effectiveness of the state forest system. CAL FIRE's intent is to accomplish this through internal funding, grants, and cooperative arrangements with various partners.

Forest staff has identified a number of research and demonstration priorities for the planning period that will be considered together with priorities identified by other sources, including advisory bodies. These priorities include:

- Quantitative assessment of the effectiveness of the delineated upland and riparian corridors in providing habitat and expanding the forest occupancy for identified species of concern.
- Carbon sequestration as a management option, including the economic and social benefits in mitigating the greenhouse effect.
- Research on forest ecology, forest biological processes, and measurement of ecological health.
- Social science research on the structures, functions, processes, success, and failures of advisory entities associated with the management of JDSF.
- Develop partnerships and fund research giving priority to information gaps such as below-ground carbon cycles, fog drip utilization by tree and understory plants, methods to hasten development of older forest structure, and climatic tolerances of species and genotypes.
- Research on the short-term and long-term costs and effectiveness of various forest resource protection measures.
- Fisheries studies that include channel habitat, population dynamics, and off site conditions.
- Young stand management that includes stocking level and precommercial thinning studies.
- Riparian zone wildlife habitat relationship studies that include topics such as stream buffer enhancement and maintenance, and relationships between forest cover, wildlife connectivity corridors, and wildlife population trends.
- Watershed management that includes sediment yield, stream discharge, sediment sources, road abandonment, watershed rehabilitation, and harvest reentry studies.
- Upland zone wildlife and plant relationships that include habitat relationships, forest fragmentation, edge effects, connectivity, and forest corridors.
- Investigation of optimal amount and spatial configurations of structural elements retained during timber harvesting activities.
- Approaches to speeding up development of older forest or late seral forest characteristics in second-growth stands.
- Public education on forest resources, technologies, and issues.

- Forest growth model development that includes gathering data and improving existing models (CRYPTOS).
- Forest data systems development for creating, improving and maintaining a data bank on existing and new data that include both database and GIS data layers.

With potentially conflicting demands for research and demonstration existing, an ongoing process for identification of needs, prioritization, and allocation of funding is necessary. For advice on these matters, the Department will look to the Board of Forestry and Fire Protection's Committee on Forest Research, the Demonstration State Forest Advisory Group, and the new JDSF advisory body. See further discussion of advisory structures and processes, below.

Key Planned Management Areas

Desired Future Conditions

The JDSF Management Plan establishes Desired Future Conditions or targets for management. The central goal is not a particular level of timber harvest or a preferred method of harvesting but a set of forest structures that represent the breadth of forest conditions appropriate to direction from statue, Board policy, and Management Plan goals and direction.

Given the current low level of older forest in the redwood region, a significant portion of the structural goals are oriented towards accelerating the development of older forest structures. The plan specifies healthy, functional ecosystems, emulation of natural processes, and broad diversity of forest structures and habitats, while recognizing that humans are an integral part of the ecosystem. Utilizing a diverse set of silvicultural systems (including reserves with little or no management) is just one of the management tools that may be used to help achieve these Desired Future Conditions. The Plan emphasizes that restoration and maintenance of functioning systems is of high priority. A range of watershed management measures is required to reduce negative inputs to streams (such as fine sediment) and improve positive inputs (such as large woody debris). The Plan includes an aggressive road management plan and includes provisions to develop substantial areas of older forest structure and to recruit large woody debris, snags, and other characteristics of healthy, natural forest ecosystems.

This Management Plan presents a workable approach to create and maintain multiple seral stages, along with important structural habitat elements. It preserves all existing old-growth groves, augmenting most of them to provide large, contiguous areas of older forest habitat. It provides for recruitment of late seral habitat in the Mendocino Woodlands Special Treatment Area, upper Russian Gulch, and lower Big River, as well as along all Class I and II streams. It also provides for a broad corridor of forest with the structural characteristics of older forest that extends from the west to the east and the north to the south. The Plan protects individual large old-growth trees and smaller residual old-growth trees with unique habitat attributes. And it sets goals for increased retention of structural habitat elements such as snags, downed logs, and large green trees and their associated biodiversity values.

Planned harvest actions are set to achieve desired forest structural conditions, not simply to cut current growth or generate revenues. Careful application of silvicultural systems over space and time will achieve these conditions while also ensuring high growth rates and accumulation of high volumes of timber. Under this Plan, standing timber volumes (or "inventory") will continue to build over time, while providing a significant contribution to the local economy through the harvest and processing of timber. The average annual harvest levels during the next decade are estimated to be about 20-25 million board feet per year, and shall not exceed 35 MMBF per year. This level of harvest represents

less than half the total annual growth increment, or about one percent of inventory on an annual basis.

The Plan sets realistic monitoring goals and establishes an adaptive management framework (see Chapter 5). “Adaptive management” refers to a strategy where management outcomes are monitored and compared to established management goals. Where outcomes are found to not meet the goals, management actions will be changed to better achieve the goals.

The analysis used to develop the Management Plan was driven by simultaneous consideration of the multiple goals and objectives identified for JDSF (see Chapter 3). Areas of special concern that contain unique resource values were first identified (Appendix II) and protective management regimes were tailored to the resource values of each (Chapter 3). Special concern areas contain unique resource values, including rare habitats (such as pygmy forest), habitat for species of concern (such as Marbled Murrelet), riparian areas, older forest structure zone, late seral development areas, recreational areas, areas near residences and State Parks, research areas, water supplies, and sensitive slopes (see Map Figure 5).

With the special concern areas identified, a plan was formulated to maintain or enhance ecological functions in all areas, to create diverse forest types, to produce high levels of sustainable timber growth, and to create the diverse range of forest structures, from early to late successional, required to realize a high quality research and demonstration program. The forest was divided into management areas roughly corresponding to watershed boundaries (see Map Figure 5). Each watershed area not covered by special concern areas was designated to receive a range of potential management regimes designed to accomplish the goals identified in the Management Plan. Some watershed areas will be selectively harvested, while others will incorporate a component (in limited cases, a significant component) of even-aged management dispersed in time and space to maintain a variety of forested habitats. Still other watershed areas may be left unmanaged for short or long periods to act as controls for experiments.

Forest Structure Goals

The tables below summarize planned forest structure conditions that the Plan sets out to develop on JDSF over time and the silvicultural systems that will be applied to attain these conditions.

The Management Plan provides long-term goals for the establishment of particular forest structure over time, as presented below in Table 1. The major purpose of the forest structure condition goals is to provide forest stand conditions and management histories in the Forest suitable to a wide range of research investigations and demonstration opportunities, as well as a broad range of valuable habitats. One-third of the forest is designated for older or late seral forest conditions. The illustrations below provide an indicator of what the different structure conditions will look like.

Silvicultural Methods and Restrictions

Table 2 presents the allocation of silvicultural methods to be implemented. These allocations are indicated spatially in Map Figure 5. The silvicultural methods identified in Table 2 will be used, in part, to attain the long-term forest structure goals identified in Table 1. Special restrictions are imposed on the use of even-aged management and clearcutting in particular, as discussed in the next section.

Further restrictions on the rate of cut and area devoted to forms of even-aged management

Even-aged management will be used as necessary to achieve the forest structure conditions needed over space and time to accommodate an adequate range of research investigations (see Table 1). Within this context, even-age management also may be used to address forest health and problematic regeneration conditions, as well as immediate research and demonstration purposes. Of the desired conditions shown in Table 1, mature and large trees (5-15 percent of Forest acres) and

regeneration and pole-size younger trees (10-20 percent of Forest acres) typically arise from even aged management.

Table 1. Desired Future Forest Structure Conditions.

Forest Structure Condition	Acres	Percent of Forest Area
Late seral or old-growth	7,300-12,200	15-25
Older forest structure	4,900-9,800	10-20
Mature and large trees	2,400-7,300	5-15
Mixed age and size	14,600-19,500	30-40
Regeneration and pole-size younger trees	4,900-9,800	10-20
No specific structure assigned	0-4,900	0-10

Table 2. Planned Distribution of Silvicultural Methods.

Silvicultural Method	Acres	Percent of Forest Area
No harvest (old-growth groves, pygmy forest, cypress groups, Conservation Camps)	1,350	3
Late seral development and older forest structure prescriptions	15,801	33
Uneven-aged; single tree or cluster selection	8,933	18
Uneven-aged; group selection or single tree/cluster selection	7,325	15
Uneven-aged or even-aged; single tree/cluster selection, group selection, variable retention, two-aged or one-aged	12,788	26
Unclassified [research areas (variable silvicultural treatments) and power line right-of-way]	2,455	5
Total	**48,652**	**100**

Strict limits are in place on the rate at which even-aged management may be utilized. The total area receiving any form of even-aged silvicultural treatments shall not exceed 2,700 acres per decade (or 5.5% of Forest area). Clearcutting is to be conducted only where strictly necessary for purposes of research, demonstration, addressing forest health, or addressing problematic conditions for regeneration. Clearcutting for these four purposes is limited to a cumulative maximum of 100 acres (or 0.2 % of Forest area) per decade. Up to an additional 400 acres (or 0.8 % of Forest area) may be clearcut per decade, but only for specific research purposes that cannot be reasonably met through any other method.

In addition, consistent with the research-driven focus of the Management Plan, the extent of the use of even-aged management, at both the project and Forest-wide level, (a) will be tied to the Forest condition it is intended to produce and (b) will be necessary and appropriate to accommodate research investigations either immediately or at a later time. The foregoing constraints do not apply to even-aged management where necessary to address forest health or problematic regeneration conditions. All proposed even-aged management, with the exception of research-related harvesting in

the South Fork of Caspar Creek, will be presented to the appropriate advisory committee(s) for review and recommendation prior to implementation.

In general, use of even-aged management is to be restricted to purposes of research, demonstration, addressing forest health, addressing problematic conditions for regeneration, or achieving the long-term forest structure condition goals identified in Table 1.

The broad range of forest conditions or habitat types discussed above is essential for providing the necessary range of conditions for research and demonstration activities. Within each management regime, there is wide latitude for variation in timing and type of silvicultural practices applied during on-the-ground implementation.

Use of Herbicides

Chapter 3 describes in detail the substantial measures that the Management Plan requires to restrict the use of herbicides. There are four management situations where herbicides have been used in the past at JDSF. The Management Plan explicitly limits two past management uses of herbicides (road maintenance related treatment of native vegetation and reforestation treatments that target native shrubs, (see Chapter 3) and significantly limits use for the remaining two management purposes (control of hardwoods to adjust conifer/hardwood stocking rations and control of invasive weed species as part of an Integrated Weed Management program). A total ban on herbicide use would compromise the research and demonstration value of the Forest and could result in adverse environmental consequences, such as expansion of the area, on and off of the Forest, occupied by invasive species. Herbicides and other vegetation control methods may be used in individual research and demonstrations that are scientifically designed.

In an operational context, herbicides will be used only when no other effective and feasible control methods are found after consideration of the scope of the problem, opportunities to effectively manage the situation, and available alternatives and their potential effectiveness, costs, and risks. JDSF staff will seek opportunities to reduce risk by selecting appropriate herbicide formulations and application techniques, as well as taking additional precautions.

Road System Management

A very important element of the Plan to protect and enhance the resources of the Forest will be the effective management of the road system (Appendix IV), which can be a significant source of sediment for the Forest's watercourses. The road system serves as the main point of public contact with the forest and also serves as the conduit for management activities including the transportation of staff, researchers, equipment, and forest products. Important elements of the road management plan include a road inventory, priority setting for improvements, maintenance provisions, construction standards, and a decommissioning schedule for roads in poor locations that result in ecological damage.

Recreation

Recreational opportunities are recognized as an important and compatible use within the Forest. JDSF has achieved a significant expansion of recreational facilities over the past 15 years, and this Plan (Chapter 3) proposes to maintain a rustic outdoor recreational experience, with expansion of the trail system to create more hiking, mountain biking, and horse-riding opportunities, including a long main trail through the Older Forest Structure Zone. Additional and improved signage will help direct visitors to the campgrounds and day-use facilities while maintaining a rustic outdoor experience. Production and distribution of enhanced Forest road and trail maps and information brochures will increase public awareness of and access to recreational opportunities.

The Plan also proposes the completion of a user-needs study to guide the creation of a recreation plan for future recreational development that is compatible with research activities and the

demonstration of forest management. Also, the Plan calls for Forest staff to meet and consult with local recreational users and user groups on a periodic basis to obtain advice and collaboration on the management of recreational resources. It encourages the direct involvement of Forest users in trail design and maintenance.

Forest Learning Center

The research and demonstration program may be augmented by the expansion of the recently-built Forest Learning Center, a place where the public can come to learn more about forest ecology and management. The Learning Center is expected to attract greater numbers of scientists to do important research work on the Forest. In addition to on-site facilities, the Center also will use the internet to allow for remote access to an increasing range of digital and video information. Research priorities will be set through consultation with CAL FIRE staff, the Board of Forestry and Fire Protection, designated advisory entities, various colleges, universities, research institutions, forestry extension specialists; forest landowners; resource professionals; local parties, and the general public.

Monitoring and Adaptive Management

One of the most important elements of the Plan is the provision for a monitoring and adaptive management feedback system (Chapter 5). Knowledge gained will be continually re-evaluated, and management actions will be modified as necessary in response to the results that are observed. This approach will help to keep the Plan implementation in step with new science and management techniques. Elements to be monitored include streams, habitats, botanical resources, forest growth, selected fish and wildlife species, recreational uses, timber production, and roads.

Protection and Restoration of the Environment

As described in part above, the Management Plan contains numerous elements to protect and restore environmental conditions on JDSF. Key Plan elements to these ends include:

- Creation of a contiguous 6,803-acre corridor, extending across JDSF from west to east and north to south, composed of an Older Forest Structure Zone, Old-growth Reserves, and Late Seral Development Areas.
- Management of riparian zones on Class I and II streams for the development of late successional habitat and the recruitment and placement of large woody debris.
- Conduct of an Accelerated Road Management Plan to survey road conditions, identify steps needed to improve or decommission, set priorities for improvements and decommissioning, and then implement these changes in priority order.
- Marbled Murrelets and their habitat will be addressed in part through recruitment of late successional habitat along Class I and Class II streams, designation of Upper Russian Gulch (Murrelets have been detected in Lower Russian Gulch on State Park property) as a Late Seral Development Area, and a proposed multi-agency assessment process to further assess the best approach to recruiting and protecting potential Murrelet habitat on JDSF.
- Restriction of clearcutting to a cumulative maximum of 100 acres (or 0.2 % of Forest area) per decade and only for purposes of research, demonstration, addressing forest health or addressing problematic conditions for regeneration. Up to an additional 400 acres (or 0.8 % of Forest area) may be clearcut per decade, but only for specific research purposes that cannot be reasonably met through any other method.
- Total area receiving even-aged silvicultural treatments may not exceed 2,700 acres per decade (or 5.5% of Forest area). In general, use of even-aged management is

to be restricted to purposes of research, demonstration, addressing forest health, addressing problematic conditions for regeneration, or achieving long-term forest structure condition goals identified in Table 1.

- Designation of one-third of the forest for maintenance or development of a range of older forest conditions. All old-growth groves and aggregations will be protected.
- During the first decade of Plan implementation, expected annual harvest levels represent less than half the total annual growth increment, or about one percent of inventory on an annual basis.
- Specific measures for the protection of species of concern, including salmonids, Northern Spotted Owl, Marbled Murrelet, Osprey, Northern Goshawk, and Sonoma red tree vole.
- Measures for the recruitment and protection of snags and down wood to provide wildlife habitat benefits.
- Assessment of slope stability, restrictions on operations on steep and/or unstable slopes, and utilization of a Certified Engineering Geologist.
- Expanding staff to include professionals in disciplines such as wildlife biology, botany, fisheries biology, geology, and hydrology, pending necessary budget authority, which the Department has committed to seeking.
- Planned discussions with neighboring conservation-oriented landowners (The California Department of Parks and Recreation and the Conservation Fund) about how to manage the collectively-owned 70,000-acre landscape for protection and restoration of environmental conditions

Consistent with the California Environmental Quality Act (CEQA). The environmental conditions and functions of the Forest have been described and discussed in detail in the Draft Environmental Impact Report for the Draft Jackson Demonstration State Forest Management Plan (California State Board of Forestry and Fire Protection, December 2005), the Recirculated Draft Environmental Impact Report for the Draft Jackson Demonstration State Forest Management Plan Alternative G (California State Board of Forestry and Fire Protection, May 30, 2007), and the Final Environmental Impact Report for the Jackson Demonstration State Forest Management Plan (California State Board of Forestry and Fire Protection, January, 2008). These programmatic documents also evaluate the potential environmental impacts from implementation of this Plan. Impact mitigations and additional management measures identified in these CEQA documents have been directly included in this Plan or are incorporated by reference. The Final EIR concluded that implementation of this Plan would not result in significant adverse environmental impacts and identified a number of beneficial effects that would result from implementation.

The FEIR cited above is a programmatic EIR, thus, it is important to note that many of the activities conducted under this Plan will be subject to further CEQA evaluation at the project level. The project level CEQA documents typically will “tier” to the Final EIR.

Key Differences between the ADFFMP and the DFMP (Alternative C1)

The above summary was based on the Executive Summary of the ADFFMP, which is based on Alternative G. The following are the key changes that ADFFMP makes to the DFMP:

- Establishes specific forest structure goals with an emphasis on older forest conditions.
- Establishes a 6,803-acre older forest structure zone;

- Designates an additional 1,549 acres for the development of late seral forest conditions to provide potential habitat for the marbled murrelet;
- Reduces the area of the Forest available for evenaged management and increases the area limited to uneven-aged management;
- Establishes significant limits on the rate of cut and area treated with forms of evenaged management, including clearcuts in particular;
- Places further limits on the use of herbicides;
- Increases the road or trail area that will be buffered by a road and trail corridor;
- Establishes two silvicultural demonstration areas;
- Establishes three riparian restoration demonstration areas;
- Establishes harvest limitations during an initial implementation period;
- Reduces the expected annual average timber harvest level from 31 million board feet per year (MMBF) to 20-25;
- Provides direction for the establishment of a JDSF advisory body;
- Creates a large-tree overlay to guide future consideration of old forest development.

General Response 3: Insufficient Analysis of Potential Impacts

Summary of Comments
Comments generally claim that that the DEIR fails to meet its legal obligation to provide the information and/or analysis needed to make informed judgments on the environmental impacts of the DFMP relative to the alternatives.

Response to Comments
The DEIR and RDEIR provide a comprehensive environmental analysis completed by professionals in their fields. The DEIR and RDEIR were completed in good faith and represent full disclosure of environmental impacts using the best available scientific information. The documents cannot and are not required to use every known method of analysis or analyze every imaginable alternative (CEQA Guidelines §§ 15088, 15204).

The standards for determining the adequacy of an EIR are stated in the CEQA Guidelines (CCR §15151):

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

In addition, the Guidelines §15003(i) states:

> CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. A court does not pass upon the correctness of an EIR's environmental conclusions, but only determines if the EIR is sufficient as an informational document.

The level of detail and analysis is appropriate for a programmatic EIR. Planning documents, such as the DFMP or ADFFMP, generally contain a lesser level of detail than would be found at the individual project level. Planning documents are less determinate, subject to many variables over time (e.g., levels of funding, policy and administration changes, environmental factors, etc.), whereas a site-specific project can be described with a greater degree of certainty. The DFMP and ADFFMP are a blending of both general planning elements (policy direction and goals) and proposed specific projects (future management activities), and therefore the DEIR and RDEIR focus on the impacts that may arise given the general direction of the proposed Plans or alternatives, as well as the types of projects that may reasonably be expected to occur.

The DFMP, ADFFMP, and the EIR alternatives, establish management goals and direction for the future activities of JDSF (see Section VI of the DEIR or Section II of the RDEIR for a discussion of the alternatives). Future activities carried out under the management plan may be both numerous and varied. The DEIR and RDEIR analyze the potential impacts that may occur as a result of implementing the Plans, or one of the alternatives, but does not purport to fully analyze all future site-specific projects that may occur. Site specific analysis will be implemented at the project level where appropriate. The level of specificity of the analysis in an EIR is dependent upon the level of specificity found in the project description (CCR §15146).

A discussion of the alternatives, including policy direction and management goals, can be found in Section VI of the DEIR and Section II of the RDEIR. DEIR Table VI.1 and RDEIR Table II.4 present the alternatives in a detailed, comparative format. Resource Specific Analysis of the potential impacts of the proposed project and the alternatives can be found in Sections VII and VIII of the DEIR and Sections III and IV of the RDEIR. The Board contends that the potential environmental impacts of the proposed Plan, and the alternatives, have been adequately addressed in the DEIR, RDEIR, and FEIR.

Subsequent actions in the Forest will be examined in the light of this EIR to determine whether:

- other laws require further analysis [i.e., Forest Practice Rules (FPRs) for Timber Harvest Plans (THPs)],
- the action will be consistent with the final Plan and the program EIR,
- the action requires mitigation measures identified in the EIR,
- new significant environmental effects might be involved,
- new mitigation measure might be necessary, and
- an additional environmental document must be prepared.

Some projects, where the specific activities proposed are within the scope of the final EIR, may proceed without any further environmental analysis. Projects that include activities that were not covered, were only partially covered, or were covered at a programmatic level of specificity in this EIR will require further CEQA analysis. For example, the Forest Practice Rules require that Timber Harvest Plans provide a functional equivalent CEQA analysis, which will be tiered to the programmatic EIR analyzed here.

General Response 4: The Range and Feasibility of Alternatives Analyzed

Summary of Comments

Comments generally claim that the range of alternatives analyzed is insufficient or that none of the alternatives has the correct combination of elements. Some comments express the opinion that ruling out certain alternatives as infeasible is disingenuous and circumvents the EIR process.

Response to Comments
As discussed in Section VI of the DEIR, CEQA Guidelines (15126.6) states that a lead agency need not consider every conceivable alternative or infeasible alternatives, nor must it "consider an alternative whose effect cannot be reasonably ascertained or whose implementation is remote and speculative." In addition, the lead agency need not consider alternatives that fail to mitigate one or more of the projects potentially significant effects. A "rule of reason" is employed in determining the range of alternatives considered in an EIR with the intent of stimulating "meaningful public participation and informed decision making." The lead agency may eliminate alternatives that: fail to meet most of the basic project objectives; are infeasible; or don't avoid environmental impacts.

The selection of a reasonable range of alternatives began with an evaluation of a broader range of possible alternatives as developed by the Board in consultation with other agencies and based on extensive public scoping comments. From this broader range several suggested alternatives were eliminated from further consideration because they were determined to: be infeasible; be redundant – in part or in their entirety with the other alternatives; failed to meet most of the basic project objectives (see DEIR section III.2); and/or not mitigate the project's potentially significant effects. The alternatives considered, but dismissed from further consideration are discussed in Section VI.2 of the DEIR.

The eight alternatives (A, B, C1, C2, D, E, F, and G), including the proposed project, selected for further impact analysis were designed to span a wide range of possible management objectives and activities. Each alternative incorporates various levels of commodity management, forest management demonstration and research, wildlife habitat protection and management, and recreational use. A detailed impact analysis revealed that elements of several of the final alternatives under consideration (A, D, E, and F) may be infeasible in part (see DEIR Table VI.1 or RDEIR section II.5 and Table II.4) due to the fact that they may not be consistent with the Public Resources Code, regulations, or Board policies. A clear discussion of the statutory framework from which the state forests are managed is contained in Section II (Introduction) of the DEIR and a detailed compilation of relevant statutes, regulations, and Board policies is provided in DEIR Appendix 5. Altering the legislative mandate and Board policy is beyond the scope of the DEIR and RDEIR. Therefore, absent a change in legislation or Board policy, some of the alternatives may not be able to be adopted in their entirety, but elements from those alternatives can still be incorporated into the final management plan at the discretion of the Board.

The Board has subsequently developed a management plan derived from components of the proposed project and several of the alternatives (see Section II of the RDEIR and the Administrative Draft Final Forest Management Plan). The Administrative Draft Final Forest Management Plan is designed to balance demonstration and research, production of timber products, and public concerns, while improving the overall health and ecosystem function of the forest. The Board believes that the Administrative Draft Final Forest Management Plan and FEIR have sufficiently addressed the potential environmental impacts and, in addition, allowed the flexibility needed in a management plan to monitor and adjust management activities as needed.

General Response 5: The Size of the DEIR Document and Length of the Public Comment Period

Summary of Comments
Comments generally expressed frustration with the size and/or the cost of the document. This was seen by some individuals as an impediment to public participation. Some comments suggest that the comment period was insufficient.

Response to Comments
The DEIR and RDEIR are intended as a public disclosure and decision making tool to be used by the Board to analyze the significant potential effects arising from implementing the draft JDSF Draft

Forest Management Plan (DFMP) and the Administrative Draft Final Forest Management Plan (ADFFMP), to identify alternatives, and to disclose feasible measures to reduce or avoid significant impacts. The lead agency, in this case the Board, is obligated to produce a comprehensive document that addresses the full range of potential significant environmental impacts in sufficient detail that a determination of significance can be made with regard to the proposed project and the alternatives. The size of the document is largely determined by the complexity of the potential effects of the proposed project, plus the alternatives, and the requirement of CEQA that the EIR adequately address those potential effects. This is in no way designed to discourage public participation, but rather to provide a comprehensive assessment of the potential effects.

Public participation has been encouraged throughout the development of the DFMP, Alternative G, the ADFFMP, and the overall CEQA process. This process included the Board and Department's receipt of substantial, detailed comments from the Mendocino Working Group, which resulted in a number of that group's recommendations being included in Alternative G and the ADFFMP. A detailed history of the opportunities for public comment can be found in Section II, page 19-20 of the DEIR, Section I of the RDEIR, and Section I of the FEIR.

As lead agency, the Board was required to approve the administrative draft prior to its distribution for public comment. The Board provided another opportunity for public comment at the time of that consideration. Following the Board's consideration of the administrative draft DEIR, the Board released the DEIR for public comment and agency review. There is a minimum 45-day public and agency comment period required on this draft EIR (PRC § 21091). The Board chose to use a 60 day comment period and subsequently extended the period for an additional 15 days for a total of 75 days. Comments received during the comment period have been responded to in writing by the Board (PRC 21092.5; CCR §15088) and incorporated into the final EIR (CCR §15132).

In an effort to include the public in the comment process for the DEIR, two public hearings were held where comments could be presented orally or in writing. The DEIR document was made available for public viewing free of charge at an extensive list of public libraries locally, statewide and in Washington, D.C. Electronic copies were also made available free of charge through the Board of Forestry and CAL FIRE Websites. In addition, copies of the DEIR on compact disc (CD) could be obtained free of charge, including postage, by contacting the Board. Finally, paper copies were made available for purchase at three local print shops.

A similar process was utilized for the RDEIR. The RDEIR, which relied substantially on the analysis contained in the DEIR, was a much shorter document. A 45-day public review and comment period was held for the RDEIR, and included two public hearings convened by the Board.

General Response 6: Thresholds of Significance

Summary of Comments

Comments generally debate the significance of environmental impacts related to the project. Most comments of this nature claim that a significant impact to a certain resource will result from an action proposed in the DFMP, in another alternative, or in the Administrative Draft Final Forest Management Plan (ADFFMP), but generally lack supporting evidence for the claim. Some comments suggest that the consideration of other methods of impact analysis or existing resource studies may change the impact analysis in the DEIR.

Response to Comments

CEQA provides the Lead Agency, the BOF in this case, the authority to determine "threshold of significance" for impacts on environmental resources based upon qualitative or quantitative standards. Compliance with existing regulatory standards generally results in less than significant impacts to resources. CEQA Guidelines, Section 15064.7, Subdivision (h) guides the Lead Agency to "rely on the vast body of regulatory standards" that have already undergone rigorous public agency

review in determining thresholds and significant impacts. Subdivision (h), however, also establishes flexibility for the Lead Agency to establish whether existing regulatory standards are sufficient to protect an environmental resource from any significant impact that may result from the proposed project. The basis for the Lead Agency's determination of whether a standard applies in a particular case must be based on "substantial evidence in the record that [the] standard is inappropriate to determine the significance of an effect." The Lead Agency is not required to base their determination of applicable standards on information presented by project opponents that a standard is or is not appropriate or effective to protect a resource. A detailed description of significance criteria and thresholds of significance for specific resources can be found in Sections VII and VIII of the DEIR and Sections III and IV of the RDEIR.

It is important to note that the general goal of the JDSF Management Plan is to achieve net improvements of environmental conditions over time, in comparison to existing conditions. This has been a long-term goal, having been implemented since the property was acquired by the State in the 1940s and 1950s. The site was acquired in a degraded condition, but over time, has notably improved in most of the resource categories. Clearly, the relative significance of each resource and the management priority associated with improving that resource is highly subjective. The ADFFMP represents a good faith effort to guide the integrated use and protection of the Forest's resources, to meet the requirements of legislation and Board policy, and to address local, regional, and statewide issues.

The ADFFMP meets or exceeds all applicable standards. In addition, a monitoring and adaptive management program has been incorporated within the management plan as a mechanism to modify management direction as new information becomes available. Subsequent projects, such as Timber Harvest Plans, will be tiered to the Forest Management Plan Environmental Impact Report, and will undergo additional environmental analysis during the THP preparation and review process. This process will allow further input from the public and review agencies.

General Response 7: Herbicides

Summary of Comments
Comments generally suggest the discontinuation of the use of herbicides as a management tool due to a concern that their use will result in a significant environmental impacts. All comments relating to the elimination of herbicide use that do not provide any specific evidence of a potentially significant adverse environmental impact are referred to this general response.

Response to Comments
Partially due to public concern, the use of herbicides on JDSF has declined substantially in recent years, and proposed future management of invasive plant species will rely on an integrated pest management program [see Chapter 3 of the DFMP or the Administrative Draft Final Forest Management Plan (ADFFMP); Section VII.8.2.2 and Appendix 13 in the DEIR; and Section II.2 in the RDEIR for details on proposed use]. This prevention oriented, ecologically based program will utilize a combination of control methods and the use of herbicides will be minimized by using them primarily where cost and effectiveness precludes the use of non-chemical control approaches. One component of the forest management plan will be to conduct research and demonstration projects on an integrated approach and alternatives to herbicide use, including an evaluation of the costs and effectiveness of various methods.

There are several management situations where herbicides have been used in the past at JDSF. The ADFFMP would eliminate two historic uses of herbicides (treatment of native species for road maintenance purposes, and reforestation treatments that target native shrubs (see ADFFMP Chapter 3). Other uses will be limited, including the control of hardwoods to adjust conifer/hardwood stocking rations, and control of invasive weed species as part of an Integrated Weed Management program. A total ban on herbicide use would compromise the research and demonstration value of the Forest and

could result in adverse environmental consequences, such as expansion of the area of the Forest occupied by invasive species. Herbicides may be used on individual research and demonstration installations that are scientifically designed. In an operational context, JDSF staff will seek opportunities to reduce risk by selecting appropriate herbicide formulations and application techniques, as well as taking additional precautions.

Adjusting the conifer/hardwood stocking ratio by utilizing herbicides will be limited to specific reforestation situations on the east side of the Forest. On the east side of the forest where tanoak has a negative effect on native conifer establishment and growth, treatments may be undertaken using a range of techniques, to achieve both short and long term objectives. Hardwood species will be maintained as a component of these stands, comprising an estimated 15% of total stand basal area consisting of hardwoods in a range of sizes. Herbicides will be used for this purpose only when other options are prohibitively expensive, overly damaging to conifer regeneration, or not likely to be successful.

Integrated Weed Management would consider herbicide use as a possible treatment only under limited conditions. No herbicide will be used unless it is integral into long-term ecological based management. This program will utilize a combination of control methods evaluated for environmental safety and effectiveness. Environmental and public safety as well as aesthetics will be part of the decision process for selecting specific treatments.

The Board and CAL FIRE believe that there are important benefits to be found in the limited herbicide use as part of an integrated pest management program, and that when properly utilized, herbicides do not present a threat to the environment or to human health. Limited use of herbicides on the forest can serve as a demonstration of the proper and appropriate use of chemical treatments in combination with non-herbicide methods for controlling invasive plants, an important regional problem in natural resource management. Herbicide use remains significantly less expensive and more effective than many other means for accomplishing these objectives and is expected to remain an important management tool on private lands. Research and demonstration projects have the potential to contribute to a reduction in herbicide use through application of improved silvicultural techniques, non-chemical control methods, and integrated pest management.

The U.S. Environmental Protection Agency regulates pesticide use nationwide and has exclusive authority over pesticide labeling. The California Department of Pesticide Regulation (DPR) regulates pesticides within the State of California and has legal authority to adopt restrictions on pesticide use going beyond the regulations of the U.S. Environmental Protection Agency (7 U.S.C.A. §136v). Under California law, pesticide products must be registered by DPR in order to be sold and used in California. DPR operates a statewide program of regulating pesticides and is the lead agency for regulating herbicide use under CEQA. DPR's program for regulating pesticides was certified by the Secretary of the Resources Agency as a functional equivalent program under Public Resources Code (PRC) § 21080.5.

In evaluating a substance before it is registered the first time as a pesticide, DPR examines all data required for registration regarding the chemical including its health and environmental effects. The department looks to see if the pesticide can be used safely and effectively and to determine whether limitations or use restriction would be necessary to protect health and environmental resources. By the terms of its certification, the program is prevented from approving the registration as requested if there are feasible alternatives or mitigation measures available that could lessen any significant adverse effects on the environment [PRC § 21080.5(d)(2)(A)]. Because the program is certified, DPR does not prepare environmental impact reports (EIRs) but prepares other documents in the place of EIRs [PRC § 21080.5(d)(3)].

The DEIR (VII.8-15) includes direction that would be applied at project level that will ensure risks are minimized. "Where herbicide use is proposed for use under the DFMP CDF will review the herbicide's intended use and its possible environmental effects. …CDF will also check for significant new information showing changes in circumstances or available information that would require new

environmental analysis. … CDF will look for simple and practical ways to avoid or mitigate potential new significant effects on the environment. Cumulative impacts are unlikely because herbicide uses related to different control projects are separated in time and distance so that their individual effects do not reinforce or interact with each other. Herbicide use under the DFMP is neither widespread nor frequent." Thus any herbicide use will utilize materials that had been reviewed at federal and state levels, comply with state and county direction and the requirements in the ADFFMP.

Under the California Environmental Quality Act, the determination of a significant effect must be based on substantial evidence in the record (PRC § 21082.2). Controversy or intensely held opinions not based on substantial evidence will not justify deciding that an effect is significant. Due to the absence of substantial evidence that pesticides, when properly used in accordance with the direction provided in Alternative G or the ADFFMP, present a threat to the environment or human health, this EIR has concluded that pesticide use on JDSF is not a potentially significant effect on the environment under Alternative G or the ADFFMP (see DEIR section VII.8.3 and Table VII.8.6 for impact analysis, and section VIII.5 for cumulative effects analysis; see RDEIR section III.8, Table III.12, and section IV.4).

General Response 8: Old Growth Concerns

Summary of Comments
In general, there is support for old growth protection measures included in the Draft Forest Management Plan (DFMP), Alternative G, and the Administrative Draft Final Forest Management Plan (ADFFMP), but concerns were expressed that they did not go far enough. Specifically, the comments indicated the DEIR should have identified that the cutting of any old growth tree would result in a significant environmental impact.

Response to Comments
The Board recognizes the importance of old growth trees, late seral forest conditions, and older forest conditions for ecosystem function, wildlife habitat, recreation, and aesthetic enjoyment. As a result, the management plan protects all old growth groves. There will be no harvesting in the old growth groves. The management direction will be to develop an extensive contiguous area of older forest structure, late seral, and old growth forest that will connect most of the existing old growth groves across watersheds (see RDEIR page II-7 and Map Figure 1). The wildlife habitat, recreation, and aesthetic values of the old growth groves will be enhanced through the management of these contiguous stands.

A related forest wide objective is to retain individual old growth trees, and small aggregations of old growth trees within larger young growth stands, to maintain and enhance the ecological value of these stands.

The following summary of planned management relating to old growth as described in the ADFFMP is provided:

> **Old Growth Forest:**
>
> Existing old growth groves will be retained, as will aggregations of old growth trees. Individual old growth trees found outside of stands or aggregations and exhibiting specified characteristics will be retained, with limited exceptions, such as where the tree presents a public safety issue or retention would result in the potential for greater long-term environmental damage. Old growth retention and recruitment measures are presented below. In addition, refer to DEIR section VII.6.3 Timber Resources for a discussion of the old growth protection measures.

Old Growth Management Objectives and Definitions

The management objectives for old-growth stands and trees are to:

- Protect existing old-growth groves and improve their value as wildlife habitat, and manage selected second-growth forest stands for old growth and late seral attributes.
- Retain small aggregations within larger young-growth stands to maintain and enhance the ecological value of these stands for native species.
- Retain individual trees not found in groves or aggregations that are identifiable as old-growth trees based on specified characteristics.

An old-growth conifer tree is any live conifer, regardless of size or species that was present in the original stand before the first historic logging on JDSF (1860), based upon the professional judgment of JDSF staff. Characteristics often found in old growth trees that can help identify them are:

The bark is more deeply furrowed and more weathered on old growth trees than on young growth trees, often having a plated appearance. Bark scorching may be heavier on old growth trees, indicating that they were present during fires that occurred before the first logging in the Forest. A tree size that is larger than would be expected for the stand age, management history, and site quality may indicate an old growth tree. Limbs often significantly larger in diameter than expected for the stand age, site quality, and canopy closure may indicate an old growth tree. Limbs often extend from the trunk at more of a downward angle than is common in younger trees.

Old-growth conifers that also have one or more of the following structural characteristics will be retained unless specified otherwise in the Plan:

a) DBH greater than 48 inches.

b) Goose-pen (an opening one foot or more in diameter inside and above the top of the trunk opening).

c) Platform branches greater than 8 inches in diameter.

d) Exfoliating flanged bark slabs.

e) Chimney top (hollowed upper stem)

f) Dead top at least 16 inches in diameter and 16 feet long.

Guidelines for Protecting Old Growth Trees and Reserves

Old growth conifers with any of the attributes described in a. through f. above will be retained in any prescription unless the tree presents a public safety issue or retention would result in the potential for greater long-term environmental damage, including but not limited to issues related to road and landing sites, soil instability, damage to aquatic resources, or cable yarding requirements.

Since it is often difficult to visually distinguish between young growth and old growth hardwoods, size will serve as a surrogate for age. All hardwoods 36"

DBH + will be considered for retention, as will other hardwoods that appear to be old growth and possess characteristics similar to those in a. through f. above. Where forest stands appear to have greater hardwood site occupancy than in the past, hardwoods of any age may be removed to restore former species balance, favoring old growth hardwoods for retention whenever appropriate.

In addition to these measures, areas designated for late seral or older forest structure conditions will be managed on an uneven-aged basis specifically designed to provide for the recruitment of older forest or forest with structural characteristics of older forest (for a more detailed description of these management objectives, see RDEIR, page II-7 and the Late Seral response below).

While old trees with specific characteristics will be retained, it is not reasonable to include a mitigation measure that would require every old growth tree be retained regardless of all other considerations. For example, removal of individual trees may be considered in order to prevent significant impacts associated with public safety and resources such as water quality and slope stability. In addition, many smaller trees, though they may be old in years, are essentially indistinguishable from young trees, and possess no unique structural characteristics of value to wildlife.

The creation of an Older Forest Structure Zone, which connects many of the old growth groves and augmentation areas, and the designation of additional late seral habitat specified in Alternative G and the ADFFMP will provide additional protection and enhancement of this resource. Based on the analysis in the DEIR and RDEIR, no significant adverse environmental impacts are expected.

General Response 9: Late Seral and Mature Young Growth Concerns

Summary of Comments
A general concern expressed in many comments is that the late seral management measures included in the DFMP fail to prevent significant environmental effects to late seral habitat. A related issue is the commonly expressed opinion that the existing mature young growth on JDSF is a significant resource independent of any late seral habitat that it may provide, and that harvesting mature young growth would result in a significant environmental impact. Some comments suggested that JDSF should be managed primarily or entirely for late seral conditions and that failure to do so would result in a significant environmental impact.

In relation to the RDEIR and ADFFMP, many comments suggested that the changes in management measures designed to enhance late seral conditions fail to adequately address the need for late seral conditions and connectivity.

Response to Comments
The ADFFMP addresses late seral forests at several levels. Goals and Objectives of the management plan have been modified. Goal #2 (Forest Restoration) now reads: “Work towards active restoration by managing the forest to promote and enhance forest health and productivity.” The objectives include:

- Increase the amount of older forest structure and late seral forest available for terrestrial wildlife, including areas adjacent to aquatic habitats.
- Improve habitat connectivity and reduce forest fragmentation, including the concept of corridors and contiguous habitat

Specific areas in the Forest are identified and mapped as Special Concern Areas (SCA) (see Map Figure 1 in the RDEIR) that will be managed for the development of late seral forest. This includes a large contiguous block in the Mendocino Woodlands STA, areas adjacent to three of the old growth

groves and along the class I and II watercourses. Alternative G designates an additional 1,549 acres in the area of upper Russian Gulch and lower Big River for late seral development prescriptions specifically intended to recruit habitat for the marbled murrelet (see RDEIR Map Figure 1). Late seral habitat will be developed over time through light thinning, selective management, no harvest, or other management activities designed to promote late seral characteristics. There will be an emphasis on the retention and recruitment of snags and downed wood.

The late seral development areas associated with Class I and II watercourses will provide connectivity between habitats and bordering upslope timber stands, most of which will be managed on an uneven-aged basis.

The analysis found that the late seral management and development practices would result in an increase in these habitat values due to recruitment of a substantial area of this form of forested habitat. The establishment of control stands has the potential to enhance the evaluation of late seral habitat development strategies.

The ADFFMP also addresses connectivity by designating a contiguous 6,803-acre area extending across much of the forest from west to east and north to south, as an Older Forest Structure Zone (see RDEIR Map Figure 1). The objective of this form of management is to produce structural characteristics of older forest which includes large trees, snags, down logs and a high level of structural diversity, across a large contiguous area that also includes existing old growth groves and several late seral development areas (see ADFFMP Chapter 3; Desired Future Forest Structure Conditions). The Older Forest Structure Zone will also be managed for timber production and serve as a demonstration of structure development coincident to periodic timber harvest.

The ADFFMP allocates approximately one-third of JDSF to some form of older forest structure development. The Plan indicates that general forest areas managed on uneven-aged basis will eventually develop some elements of structure associated with late seral forests. The ADFFMP specifies retention standards for snags and down logs, which are important characteristics of late seral habitat.

The Executive Summary of the ADFFMP states:

> This Management Plan presents a workable approach to create and maintain multiple seral stages, along with important structural habitat elements. It preserves all existing old-growth groves, augmenting most of them to provide large, contiguous areas of older forest habitat. It provides for recruitment of late seral habitat in the Mendocino Woodlands Special Treatment Area, upper Russian Gulch, and lower Big River, as well as along all Class I and II streams. It also provides for a broad corridor of forest with the structural characteristics of older forest that extends from the west to the east and the north to the south. The Plan protects individual large old-growth trees and smaller residual old-growth trees with unique habitat attributes. And it sets goals for increased retention of structural habitat elements such as snags, downed logs, and large green trees and their associated biodiversity values.

Timber harvest levels will continue to be set well below growth, resulting in an ever increasing forest inventory, including a significant component of larger and older trees.

As previously stated, the DEIR and RDEIR found that the DFMP and ADFFMP provisions to manage for late seral habitat would prevent an adverse impact and would actually provide a beneficial impact on late seral habitat—this would be both direct impacts and cumulative impacts. The general concept put forward in some comments is that that JDSF should not harvest young-growth that has been characterized as “mature” or greater than a specific age, because other landowners in the region have harvested substantial areas of this young forest. This concept is based on the assumption that

harvesting this young-growth on JDSF would result in a significant cumulative impact. This is primarily an issue of potential impacts to wildlife and wildlife habitat. The analysis in the DEIR and RDEIR indicated that the proposed management on JDSF (i.e., the DFMP or ADFFMP) would not result in a significant environmental impact with respect to wildlife and wildlife habitat. The management direction provided in the DFMP and ADFFMP will ensure that JDSF will, at a minimum, provide young-growth forest over a range of age and classes, and increasing amounts of older forest, late seral forest, and old growth forest over time .

General Response 10: Clearcutting and Even-Aged Management

Summary of Comments
The comments generally express disagreement with the even-aged management and clearcutting proposed in the Draft Forest Management Plan (DFMP), Alternative G, or the Administrative Draft Final Forest Management Plan (ADFFMP). Some comments go on to fault the DEIR or RDEIR for not concluding that clearcutting would result in significant adverse environmental effects. Many comments indicate that there are large areas already clearcut that should be used for research, rather than cutting more areas. Others indicate that there are no benefits to be gained from additional clearcutting for research and demonstration. Several comments indicate a perception that areas designated to allow the use of even-aged management would be entirely clearcut.

Response to Comments
One of the goals of JDSF is to maintain a diverse range of timber and habitat conditions, including the creation of young recently regenerated stand conditions and stands of various ages and densities, to promote a diverse research program. Many species of wildlife prefer conditions that are created by even-aged management, since it can produce conditions similar to natural disturbances such as fire and windthrow. The Administrative Draft Final Forest Management Plan (ADFFMP) designates up to 26% of the Forest as being available for even-aged. During an interim period of up to three years, the use of even-aged management will be minimal, and the Jackson Demonstration State Forest Advisory Committee is expected to participate in a review of plan implementation and policy. Following the interim period, clearcutting will be restricted to a cumulative maximum of 100 acres per decade and only for purposes of research, demonstration, or addressing problematic conditions for regeneration. Up to an additional 400 acres may be clearcut per decade, but only for research purposes that cannot be met through any other method. The total area receiving even-aged silvicultural treatments shall not exceed 2,700 acres per decade. In addition, even-aged management will be tied to:

1. the Forest condition it is intended to produce
2. necessity and appropriateness for accommodating research investigations either immediately or at a later time.

These two constraints do not apply to even-aged management necessary for addressing forest health or problematic regeneration conditions.

The management plan does not preclude the use of even-aged management in areas designated for even-aged management. In areas designated for the use of even-age management, stands may be managed with a variety of even-aged treatment prescriptions, including variable retention and a limited amount of clearcutting. In addition, where even-aged prescriptions are applied, there will be a goal to retain important habitat elements such as large woody debris (LWD), snags, and individual trees with structural characteristics that provide habitat value, such as broken tops. Approval of the ADFFMP will not result in the immediate removal of the standing timber from 26% of the land base. The application of even-aged management will occur incrementally, in order to create and maintain

even-aged forest stands at various stages of development, and varying in age from newly established regeneration to stands over 100 years of age.

Much of the dense second growth forest present on JDSF is the product of historic clearcutting on a broad scale, as described in the DEIR. In recent years, the use of clearcutting has declined within JDSF. Table VII.6.3.2 of the DEIR indicates that 1,913 acres have been clearcut on JDSF since 1980, with less than 300 acres of this total occurring after 1990.

The ADFFMP provides a description of the desired future condition of the even-age management areas (see Table 1). The long-term target structure is expected to include 10-20 percent of the Forest in stands of regeneration and pole-sized trees, and approximately 5-15 percent of the Forest in even-aged stands of mature and large trees. Even-aged management, as practiced on the Jackson Demonstration State Forest will generally produce two-storied stands, consisting of a main canopy layer of trees grown to the designated rotation age, and an overstory of a few to several trees per acre retained from the previous stand to provide a legacy of wildlife habitat elements.

Even-aged management has specific economic and silviculture advantages that make it an important silvicultural method in the redwood region. One of these advantages is that harvesting is concentrated in both space and time, resulting in a reduced area affected by harvest operations, which has both economic and ecological advantages. This silvicultural method will continue to be widely used by both small and large landowners. Developing alternative even-age silvicultural practices that maintain the economic and silvicultural advantages, while minimizing the potential adverse environmental impacts, would be a significant achievement. JDSF is the largest forest in the redwood region dedicated to the development of this sort of information.

Comments suggesting that the use of clearcutting and other forms of even-aged management on JDSF are based solely on the desire to maximize economic returns are unsupported. The allocation of even-aged silvicultural prescriptions under the ADFFMP is based primarily on providing a varied landscape with a set of forest structures designed to support a viable research and demonstration program (refer to RDEIR Table II.1 or ADFFMP Table 1). Even-aged management can also be utilized when necessary for addressing specific forest health issues or problematic regeneration conditions.

Some comments pointed out that nearby industrial timberlands are “demonstrating” clearcutting, so there is no need for JDSF to demonstrate this method. However, the industrial lands are not demonstrating, they are utilizing the method. Industrial owners are unlikely to commit tracts of land to long-term research as is required to demonstrate a silvicultural method, nor are they likely to make these stands available for public access and examination. Industrial landowners’ focus typically is on maximizing the economic and silvicultural benefits of management method, rather than utilizing these areas for research or developing alternative even-aged methods. University researchers have reported to the Board the loss of long-term research projects on industrial forestlands when the owners have made a change in management direction.

The demonstration of various rotation ages and structure tree retention levels as proposed in the ADFFMP will be beneficial for many landowners in the redwood region. Examples of what could be learned from the continued use of the even-aged silvicultural system as proposed in the ADFFMP include:

- What is the most advantageous arrangement or orientation of retained structure trees?
- What wildlife species use clumped trees verses single widely spaced trees?
- What is the best size clump of trees to leave?
- How does slope and aspect affect wildlife use of retained structure?
- How does retained structure affect tree growth and stand development?
- What are the long-term effects or watershed scale effects of even-age management with structure tree retention verses uneven-aged management?

- Can retention of structure trees mitigate visual impacts of clearcutting?
- What post harvest silvicultural prescriptions, such as thinning, will accelerate the development of late seral stand characteristics?
- How will various silvicultural treatments affect the production of timber?
- What management practices will most effectively mitigate possible environmental impacts of even-age harvest systems?

These sorts of questions can only be answered if even-aged management areas are included in the management of JDSF.

In addition to the more direct timber management oriented research and demonstration questions listed above, the relatively simple stand structures created through the use of even-aged management also can facilitate certain types of ecological research. Gaining an understanding of ecological systems and the processes which drive them is inherently difficult due to the complexity of these systems and the myriad of confounding factors. Therefore ecological research is often an iterative process based on incremental steps that build on knowledge and understanding. Creating a more simplified stand structure allows researchers to reduce the complexity of the system, thereby facilitating isolation and quantification of the component parts. This knowledge can then be applied to achieve a greater understanding of more complicated ecological systems.

Research on trees and forest ecosystems presents special difficulties. Many types of biological research can utilize organisms that have a relatively short life cycle, thus enabling the development of a detailed research plan and the ability to modify the design on a relatively short-term basis. This is often not true of forest research. Due to the extended life span of trees and forest systems it is often not possible to simply follow the process over extended periods (perhaps decades or longer) as trees and stands develop. The complete response to a management input, such as thinning, may take decades. The researcher is often forced to rely on finding existing stands that best meet the desired characteristics. If a researcher is interested in the effect of growing space on tree growth and structure as a tree develops, the researcher must locate stands at various ages and grown at various densities to try to gain insight into the effect of growing space on the development process. The key with regard to current management strategy is to provide a varied landscape that facilitates this type of future research effort. This approach is necessary for both the large long lived organisms - trees as well as smaller organisms that live among them.

A laboratory setting allows for a great deal of environmental control, thereby eliminating or reducing the confounding effects of many variables to gain insight into the effects of a single or limited number of variables. For instance, temperature, light levels, soil type, moisture regimes and genetic stock can be controlled to allow a scientist to better isolate the effect of each variable. Forest research does not allow this level of control. In order to understand the effect of slope and aspect for example, the researcher must find stands with similar characteristics (e.g., stand age, density, soil type, and management history) except for the variables of interest, in this case slope and aspect. Forest research often relies on the natural variation of topography, soils, and climatic influences that are found on a landscape scale to control for a particular variable or set of variables.

Replication is a fundamental tenant of nearly all research. There is a need to provide a landscape that allows for replication in the study design. The required sample size for a given level of confidence is based on the variability of the sample. This is often unknown prior to establishment of the research project. There is also inherent “noise”, such as variability in annual rainfall, in ecological systems. Sample size needs to be sufficient to tease out the effect of the variable(s) of interest from this background noise.

The allocation of an adequate percentage of the land base to allow various forms of even-age management is also needed to allow landscape level sampling techniques and assess the effects of even-aged management approaches at the landscape level. Significant gaps remain in our knowledge of forest ecosystem functions as well as the interactions between management activities

and ecosystem functions. By developing and maintaining a broad range of conditions at the landscape level JDSF can provide important opportunities for pure and applied research, including testing potential regulatory measures for protecting forest ecosystem functions, or testing potential restoration approaches.

Numerous wildlife species, including many species of special concern, use clearcuts and other forest openings to fulfill one or more of their biological requirements. These species will likely benefit from the landscape level habitat diversity created by utilizing evenage management as proposed in the ADFFMP. While extensive clearcuts have proven detrimental to many species due to removal of extensive blocks of habitat and key habitat elements, clearcuts and other forms of evenage management in today's environment can be of value as long as other forms of forested habitat remains or is developed in the vicinity. For example, the primary prey of the northern spotted owl in coastal California is the dusky-footed woodrat, a species that is found in abundance within young stands similar to those produced within a few years after clearcutting. Spotted owls still require large dense patches of forest for nesting and roosting, but they also benefit from stand conditions produced by evenaged management techniques. The purple martin, a California Species of Special Concern, prefers to nest in large snags located within forest openings. Although few sensitive species nest in clearcuts, many prey items and hunting opportunities occur in and along the edges of clearcuts. At the landscape level, maintenance of diverse habitats while retaining key habitat elements, such as snags and old growth, is beneficial to most species.

The impacts of the proposed evenaged management, including clearcutting, were assessed in the DEIR and RDEIR. The DEIR and RDEIR found that, as proposed in the DFMP and Alternative G, respectively, and as mitigated, even-aged management would not have a significant adverse impact on the environment. Mitigations were developed to address the visual impacts of clearcutting.

Although many members of the public may have an unfavorable opinion of clearcutting, the DEIR and RDEIR analysis indicated that when appropriately designed and mitigated, the use of clearcutting and other forms of even-aged management is not expected to have a significant effect on the environment.

General Response 11: Aquatic Resources and Water Quality

Summary of Comments
The comments received express both support and opposition to, the Draft Forest Management Plan (DFMP), Alternative G, or the Administrative Draft Final Forest Management Plan (ADFFMP) in regards to protection of aquatic resources. Comments that oppose the proposed project generally claim that the proposed management plan fails to adequately protect watercourses, water quality, or aquatic habitat.

Response to Comments
Historic land management practices, such as dam construction, unregulated logging activities in or next to streams, agricultural development, urban and rural development, road and railroad construction, in combination with an absence of erosion control, has created a legacy of significant aquatic habitat impairments that persist today and may be in various stages of recovery. The Board recognizes that proposed land management activities, such as those proposed in the DFMP and ADFFMP, need to be considered in the context of existing conditions, recovery processes, and planned management activities. A detailed discussion of aquatic resources, including habitat elements, current conditions, proposed habitat protection and restoration measures, and an impact analysis can be found in Section VII.6.1 of the DEIR and Sections III.6.2, III.120, and IV.3 in the RDEIR. Additional discussion of issues relating to water quality and aquatic resources can be found in other sections of the DEIR: VII.7 Geology and Soils, VII.10 Hydrology and Water Quality, and VIII Cumulative Impacts, as well as Appendices 10-12.

The goal of the JDSF riparian and stream management program is to maintain or restore "properly functioning" riparian and stream ecosystems, i.e., systems that provide essential ecological function. JDSF's management strategy will go beyond simply preventing significant detrimental effects to aquatic and riparian habitats. The goal is to ensure that the aquatic and terrestrial resources and the ecological functions of riparian areas are protected and improved or restored. JDSF will manage forested stands in stream protection zones to promote their ecological succession to late-successional forest conditions. JDSF will retain and enhance the vertical structural diversity of these stands, and protect riparian zone special habitat elements such as snags and large woody debris (LWD) to improve habitat values.

Individual project stream and riparian protection and management measures will be determined on a site-specific basis and be designed to attain or maintain properly functioning condition as described above. A variety of conservation measures are available to avoid degradation and improve aquatic and riparian habitat. For example, LWD may be recruited to the stream by recruitment from adjacent stream buffers and upslope areas. In order to develop an integrated conservation approach, it is necessary to identify stream and riparian conditions that may already be degraded and could be affected by planned operations. As these areas are identified, measures will be developed that are intended to improve conditions, especially in regard to shade canopy, recruitment of large woody debris, bank stability, and sediment supply. As part of the research and demonstration mandate, the LWD placement trials implemented on stretches of Parlin Creek, Lower Casper Creek, and Hare Creek in cooperation with DFG will continue to be monitored to assess the effectiveness of this restoration approach.

The DFMP incorporates watercourse protection measures, including several practices that supplement the Forest Practice Rules. The specified watercourse protections will significantly minimize equipment work near stream channels. Vegetation requirements for watercourse protection zones will also minimize sediment delivery to the watercourses. In keeping with the research and demonstration mandate, there will be varying levels of buffers and management constraints employed across JDSF to allow for the study of the effectiveness of various watercourse protection strategies. Except as modified to support research conducted under appropriate authorities, watercourse protection measures will comply with applicable rules and will incorporate the following standards:

- Class I–150 foot WLPZ; class II–50 to 100 foot WLPZ. Zone widths are to be expanded where appropriate (e.g., unstable areas, etc.).
- Timber operations within channel migration zones will not occur (except as allowed in the Forest Practice Rules).
- Class I inner band–0 to 25 feet from the watercourse transition line: No-cut (except for harvest of cable corridor trees where needed) or limited entry to improve salmonid habitat through use of selection or commercial thinning silvicultural methods. At least 85 percent overstory canopy (where it exists prior to harvest) is to be retained within 75 feet of the channel.
- Class I outer band–remainder of WLPZ: High basal area and canopy retention zone. Basal area retention will remain high through the use of the all-age large tree and single tree selection silvicultural systems. Vertical overstory canopy (measured with sighting tube) at least 70 percent (where it exists prior to harvest) is to be retained in the outer band.
- Within Class I and Class II WLPZ, retain a minimum of 240 sq. ft. conifer basal area following completion of timber operations.
- Reentry–No more frequently than every 20 years for Class I WLPZs.
- Class I/II: Ten largest conifers per 330 feet of stream channel retained within 50 feet of the watercourse transition line.

- Class II inner band–0 to 25 feet from the watercourse transition line: No-cut (except for harvest of cable corridor trees where needed) or limited entry to improve salmonid habitat through use of selection or commercial thinning silvicultural methods. At least 85 percent overstory canopy (where it exists prior to harvest) is to be retained within 25 feet of the channel.
- Class II outer band–remainder of WLPZ: High basal area and canopy retention zone. Basal area retention will remain high through the use of all-age large tree and single tree selection silvicultural systems. Overstory canopy will be retained to prevent water temperature increases and allow for adequate canopy recovery where required.
- Class III–ELZs will be at least 25 feet on side slopes less than 30 percent, and 50 feet on slopes greater than 30 percent. These zones will be expanded where site-specific investigations reveal that additional protection is merited for preventing sediment movement into Class III channels.
- Class III–Burning will be conducted so that the majority of large woody debris is left within the ELZ. Fuels are not to be ignited within 50 feet of Class III channels.

The recruitment of LWD to the stream environment over time and consequent influence on the formation of pool habitats is also achieved through a variety of other habitat conservation strategies. The following strategies will be applied where they overlap with stream environments:

- Retain native hardwoods in the WLPZ except where species imbalance has occurred.
- Old-growth groves and residuals are protected per the JDSF old-growth conservation strategy.
- Salvage of dead or dying trees will not occur within the WLPZ, old-growth augmentation area, species-specific management area described in a Habitat Conservation Strategy, or other area specifically identified. Exceptions may exist in response to large-scale occurrence of fire, insect attack, windthrow, or threat to infrastructure.

Other habitat protection measures include:

- Natural springs and seeps that may provide habitat for non-fish aquatic species are provided the same protections as Class II streams
- LWD within the WLPZ will be retained and recruited to the stream system unless it presents an imminent risk to drainage structures.
- Selected roads within the WLPZ will be abandoned and decommissioned as described in the Road Management Plan. Construction and abandonment will be consistent with the standards described in the Road Management Plan.
- Road construction and harvesting proposed in inner gorge areas may be approved only after conferring with a Certified Engineering Geologist.

Forest roads are recognized a major potential contributor of management-related stream sediment. The DFMP includes a program to inventory and improve the road system. The ADFMP accelerates the timeline for implementing the Road Management Plan (see General Response 13).

Hillslope management is another element of the overall aquatic resource and water quality protection program. As stated in the DFMP, “forest management activities with the potential to destabilize

slopes and/or damage aquatic habitat will be mitigated to help maintain stability of hillslope areas and control sedimentation. Special attention will be given to areas where mass wasting tends to occur. Site-specific measures will be developed and applied in THP design and implementation for potential high hazard areas. The goal is to limit management related input of sediment into stream channels that could affect aquatic habitat and water quality."

As with other resources, the protection of water quality and aquatic habitat is based on goals, monitoring and adaptive management. A description of the Monitoring and Adaptive Management goals are presented as Chapter 5 of the DFMP or the ADFFMP. Under the heading "Watershed Resources," five goals are presented that are aimed at hillslope management, reduction of sedimentation impacts, channel form and function, water temperatures, and aquatic species populations. Monitoring is described as "the process used to evaluate progress toward the stated goals in the management plan for JDSF." Adaptive management describes the "management strategies that will be implemented if analyses of monitoring results indicate that resource conditions begin to deviate from the desired trajectory."

Significant impacts to aquatic resources are not expected to occur. The implementation of the DFMP or Alternative G was found to have beneficial impacts related to several of the associated elements including: water temperature, LWD, potential barriers to migratory fish and wildlife populations, instream habitat and streambank stability, fish and amphibian populations, and the number and ranges of rare or endangered aquatic species.

General Response 12: Wildlife and Wildlife Habitat

Summary of Comments
Comments generally call for increased emphasis on protection of wildlife and wildlife habitat.

Response to Comments
The maintenance and development of species populations and habitats is an important component of the management plan.

In addition to the provisions of the management plan, management activities on the forest are guided and directed through a variety of programs and policies to protect and manage California's wildlife resources. These include:

- California Environmental Quality Act (CEQA)
- California Forest Practice Rules
- California Fish and Game Code
- California State Endangered Species Act (CESA)
- Federal Endangered Species Act (FESA)

Wildlife and wildlife habitat management policies on JDSF will integrate and comply with these regulatory programs (refer to section VII.6.6.2 for a complete discussion of the regulatory framework for the protection of wildlife).

The DFMP and Administrative Draft Final Forest Management Plan (ADFFMP) include specific measures intended to provide for maintenance or development of valuable habitats and habitat elements. These include the following:

- Riparian Areas: Refer to General Response 11.

- Old Growth and Late Seral Forest: Refer to General Responses 8 and 9.

- Hardwoods: JDSF will maintain the naturally occurring hardwood components in

riparian stands (WLPZs) and other special concern areas when consistent with the objectives of that area. Maintaining and recruiting hardwoods on JDSF, including larger size classes, will enhance not only wildlife species diversity but also forest structural diversity.

- Snags: A goal for the entire forest is to attain one snag per acre (on a 160-acre sub-watershed scale) that is at least 30 inches DBH. The desired future condition for snags in all wildlife special concern areas is to have three snags per acre, of which two are at least 20 inches DBH and one is at least 30 inches DBH, averaged over a 160-acre sub-watershed area. Periodic sampling will be utilized to monitor snag density, as part of the CFI inventory system. Snags will be unevenly distributed across the forested landscape in both riparian and hillslope areas. The distribution pattern of snags will include grouped and scattered single trees. JDSF also will recruit snags through indirect measures, such as retention of larger conifers (at least 30 inches DBH) in select areas to provide wildlife habitat.

- Large Woody Debris (LWD): JDSF will manage for a minimum of two downed logs per acre that are at least 20 feet in length with a diameter of 16 inches on the large end and one log per acre at least 24 inches in diameter on the large end and at least 20 feet long. Log densities are averaged over a 160-acre subwatershed area. WLPZs and special concern areas will contribute a greater proportion of downed logs. To provide LWD to streams, the ADFFMP includes a management measure for the survey, recruitment and placement of LWD.

- Species of Concern: The DFMP includes general riparian protection measures for the Yellow Warbler and Olive-sided Flycatcher. The ADFFMP includes specific protection measures for the Northern Spotted Owl, Osprey, Snag and Cavity Dependent Species of Concern, Marbled Murrelet, Northern Goshawk, Cooper's Hawk, Vaux's Swift, Purple Martin, and Sonoma red tree vole. For other species, JDSF will evaluate the potential for individual land management actions to have a significant impact on listed (rare, threatened, or endangered) species. In those cases where that impact may be significant, appropriate survey and mitigation measures will be implemented. Although individual project circumstances will dictate the procedures to be used to determine degree of project associated impacts, in general, a scoping process followed by surveys and mitigation development will occur. An assessment area that extends beyond the boundaries of the planned activity also may be required for some species. For unlisted species identified as sensitive, evaluation and mitigation practices are likely to vary according to identified need, the current state of species knowledge, and through consideration of input provided by CDFG.

Management of wildlife resources often requires balancing conflicting habitat needs. Management activities designed to enhance habitat values for one species may reduce habitat values for another. Individual species may have different habitat requirements for foraging, cover and nesting. In other words, habitat that is well suited for nesting may be less favorable for foraging. Adding to the complexity is the effect of patch size and distribution. Fragmented forests with small patch size have a high ratio of forest edge to interior forest conditions when compared to forests with large patch size and a high level of connectivity. The relative proportion of edge to interior forest conditions may be favorably correlated with some species and negatively correlated to others. The JDSF approach is to provide a diverse mosaic of habitat conditions with varying habitat patch size and connectivity characteristics. This includes the provision for a contiguous 6,803-acre area, extending across JDSF from west to east and north to south, composed of a Older Forest Structure Zone, Old Growth Groves, and Late Seral Development Area.

Structural diversity can be viewed at various scales. Retention and recruitment of structural habitat elements, such as snags, within a particular habitat type can be utilized to increase the structural diversity. The ADFFMP includes a measure to retain all snags within all timber harvest areas until snag targets are met, with the exception of snags that pose a fire or safety hazard, or are within the alignment of roads proposed for construction. The largest snags, including residual old-growth snags, should have priority for protection until the snag retention goals are met. The ADFFMP designates approximately two thirds of the Forest to late seral, older forest structure, and other uneven-aged management strategies.

The DFMP and ADFMP have been developed to minimize the potential for adverse impacts to sensitive wildlife species. Species at risk often rely on habitats or key elements that are uncommon in young forests. The DFMP and ADFMP seek to protect, recruit, or enhance habitats and habitat elements of value to species of concern.

The analysis concluded that Alternative G, as mitigated and proposed in the ADFFMP, are not expected to result in significant adverse impacts to wildlife and wildlife habitat.

General Response 13: Roads

Summary of Comments
The comments generally express concern that the environmental degradation caused by the current road system is not being adequately addressed or that the Road Management Plan lacks adequate funding.

Response to Comments
The Board and CAL FIRE recognize the need to inventory and improve the JDSF road system to reduce the sediment production associated with management activities. As noted in the Draft Forest Management Plan (DFMP) and DEIR, numerous studies have shown that forest roads are a major source of management related stream sediment. Much of this sediment originates from points at which or near where streams are crossed by roads, from inside ditches, and from large fill failures. The DFMP, Alternative G, and the Administrative Draft Final Forest Management Plan (ADFFMP) include programs to inventory and improve the JDSF road system.

The current transportation system relies, in part, on a road network that reflects a history of various transportation technologies and forest practices. Beginning in the 1870s, railroads were used to transport logs in some watersheds; many railroad grades were located along or adjacent to streams. The current road system still utilizes several segments of these old railroad grades. Most of the roads on JDSF were constructed from the 1950s to the 1970s. Roads of this period often included inboard ditches and cross drains. Concentrated runoff from these types of roads has been shown to be a major source of fine sediment, because inboard ditches are often connected directly to channels that can carry the sediment to fish-bearing streams.

The intent of the Road Management Plan is to provide a systematic program to ensure that the design, construction, use, maintenance, surfacing and abandonment of the Forest's roads, landings and road crossings will be conducted to avoid, minimize, or mitigate significant adverse impacts to aquatic habitats that support anadromous fish, amphibians, and other aquatic organisms, as well as significant adverse impacts to water quality beneficial uses. The focus of JDSF's road management program will be to minimize the volume of sediment that enters watercourses, rather than to maximize the number of miles of road treated per year. The plan includes a comprehensive road inventory to assist managers in identifying problems and roads that require proper abandonment, assigning maintenance and mitigation priorities, and identifying the most effective designs for roads, landings, and stream crossings.

Although the Board does not directly control the operating budget of JDSF, the Board and Department are aware of the need for funding to appropriately manage the Forest. A Budget Change Proposal approved for the 2006/07 fiscal year increased the funding level authorized for JDSF management activities such as the Road Management Plan; these funds are generated through timber harvesting on the Demonstration State Forests, particularly JDSF.

The Road Management Plan includes the following six major components (note: although the numbered items below quoted from the DFMP specify a 5-year inventory of the road system, this period has been reduced to 3 years by the Board, as reflected in ADFMP Appendix IX):

1. Inventory. The inventory of roads and stream crossings will provide the basis for upgrading and mitigating the road system at JDSF. It will allow the Forest staff to: a) identify problems that can be corrected through routine maintenance activities; b) assign maintenance and mitigation priorities to planning watersheds, road segments, and crossings; c) identify the most effective designs for roads, landings, and culvert problem sites; and d) identify roads to be properly abandoned. During the first five years, all existing roads will be inventoried (approximately 100 miles per year). Following a reconnaissance level screening for problem sites, staff and other consulted experts will develop site specific mitigation measures for identified significant potential or existing problems.

2. Design and Construction. Road, landing, and crossing design will follow the current state of the practice, such as is currently described in the Handbook for Forest and Ranch Roads (Weaver and Hagans 1994), or as suggested by JDSF RPFs and CEGs where a THP has been submitted. Existing and new roads needed to accommodate cable yarding on slopes steeper than 40 percent will generally be located on or near ridge lines (although mid-slope roads will remain). The goal for the final transportation network is to establish roads in low risk locations that will accommodate appropriate yarding and silvicultural systems. A specific target road density, however, will not be used. Roads in unstable areas will be avoided whenever possible and are only to be built if a CEG finds it unlikely that mass wasting will deliver sediment to a watercourse.

    a. Use Restrictions. Wet weather operations on JDSF will be minimized. Specific measures include:
    b. no truck hauling when greater than 0.25 inch of precipitation has fallen during the preceding 24 hour period (applies to the entire year);
    c. no hauling/vehicle access when road rutting is occurring at a rate greater than that found during normal road watering,
    d. resumption of hauling only after rain has ceased for 24 hours and no turbid water produced from road surface runoff is observed in ditches along the roads where hauling may occur, and
    e. seasonal closure or surfacing for roads located in WLPZs if they are subject to moderate to heavy log truck traffic during the winter period.

3. Inspection and Maintenance. Proper maintenance is a key to reducing the long-term contribution of road related sediment. Permanent and seasonal roads will be inspected at least once annually to ensure that drainage facilities and structures are functioning properly. Two types of inspections will be used: 1) formal inspections, and 2) rapid ad hoc inspections. During formal inspections, all crossings and roads will be carefully observed every two years, and problem sites will be recorded on road/crossing inventory forms. To cover the period between detailed inspections, a rapid ad hoc inspection will be made by JDSF

Foresters and other staff during normal activities. "Storm patrol inspections" of known or anticipated problem facilities will be triggered by large winter storm events. Abandoned roads will be inspected at least twice following the completion of the decommissioning process.

4. Abandonment. Information for identifying and prioritizing road segments requiring abandonment will come from the road inventory, which will be completed over the first five years of the Road Management Program. The actual number of miles that will be proactively abandoned will depend on the results of the inventory, but it is estimated to be between 50 and 100 miles. Some of the criteria that will be used to identify candidate roads to proactively abandon include: 1) unstable areas, 2) roads in close proximity to a watercourse (particularly Class I watercourses with anadromous fish habitat), 3) roads not needed for management purposes, and 4) roads with excessive amounts of perched fill on steep slopes or in close proximity to watercourses.

5. Schedule. The locations of critical habitat for coho salmon and steelhead will be used to prioritize the sequence of the road inventory work. Secondary factors will include existing rates of sediment delivery to sensitive watercourse channels, based on gradient and degree of confinement, and likely hazards such as high density of riparian roads or stream crossings.

A detailed discussion of the Road Management Plan can be found in Appendix VI of the DFMP. Additional discussion of the subject can be found in the DEIR (Sections: VII.6.1, VII.10.6, VII.10.7, VIII.3, VIII.4, VIII.7 and Appendix 8 and 11).

The DFMP proposed a 5 year timeline to complete the inventory and evaluation of all roads on the Forest. The ADFFMP proposes to accelerate the implementation of the Road Management Plan to the extent feasible. The major components of the accelerated plan include: completion of the road inventory and evaluation in 3 years rather than 5; until completion of the road inventory, survey and evaluate all appurtenant roads as part of each Timber Harvesting Plan (THP), and complete the identified needed road upgrades as part of the THP. The feasibility will be determined by availability of JDSF staff and contractors, availability of funding, and by the ability to include road upgrade work as part of timber sale contracts.

Implementation of the road management plan is expected to result in a reduction of management related stream sediment and an improvement of water quality and aquatic habitat over time. Additional measures to address sedimentation, including hillslope management and minimizing the use of tractors in and near WLPZs, should further reduce sediment inputs. Therefore, the impact analysis in the DEIR and RDEIR found that the DFMP and Alternative G, respectively, with regard to these resources, would have a less than significant adverse impact.

Additional protection measures relating to mass wasting, surface erosion, road management, and riparian vegetation can be found in Chapter 3 of the DFMP or ADFFMP, and also are discussed in various sections of the DEIR (VII.6.6 Wildlife and Wildlife Habitat, VII.7 Geology and Soils, VII.10 Hydrology and Water Quality, and VIII Cumulative Effects) and RDEIR.

General Response 14: Recreation

Summary of Comments

Comments generally suggest increased emphasis on recreational values. Some suggest that JDSF should be managed primarily for recreation. Related to this issue is the suggestion that the recreation and tourism industry will provide a more sustainable economic base and should therefore replace the timber industry. Some of the comments are concerned with the proposed management methods in

the Jackson Demonstration State Draft Forest Management Plan (DFMP) and do not directly apply to the impacts analysis conducted in DEIR.

Response to Comments
Regulations governing the management of state forests must conform with forest management practices which are designed to meet "maximum sustained production of high-quality forest products while giving consideration to values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment (PRC section 4651). Board policy emphasizes that the primary purpose of the State Forests is to conduct demonstrations, investigations, and education in forest management (Board Policy 0351.3). Additionally, Board policy recognizes recreation as a secondary, but compatible use of the forest (Board Policy 0351.5). Alternative G and the ADFFMP identify Research and Demonstration as Goal #1 for JDSF and Recreation and Aesthetic Enjoyment as Goal #5 (see Appendix 1 in the RDEIR).

The ADFFMP provides greater emphasis on the protection and restoration of public trust resources when compared to previous management plans. The management plan sets harvest levels well below growth, protects old growth trees and stands, and provides for the development of late seral habitat and older forest structure. JDSF will manage forested stands in WLPZs to promote their ecological succession to late-successional forest conditions (see General Response 11). Commenters have identified older forest conditions as having high recreational and aesthetic values. The plan also calls for a reduction in the overall use of evenage management and incorporates mitigation measures to reduce the possible impacts to aesthetic and recreation resources (see General Response 10). Further, Alternative G and the ADFFMP call for a substantial increase in the miles of road and trail subject to the aesthetic and recreational protection of a Road and Trail buffer. These management strategies are expected to enhance the recreational resource value of JDSF.

The recreation program at JDSF will continue to make camping and day-use facilities available free of charge. JDSF complements the more protective and restrictive state parks by allowing free access and a wider range of activities, including horseback riding, hunting, and mountain biking. A purpose of the recreation program is to demonstrate that recreational use and timber management are compatible land uses. A recreation survey to assess current use and future needs is planned. Upon completion of the survey, recreation corridors will be defined explicitly where possible for integrating the recreation program with resource protection, timber management, demonstration, education, and the neighboring community. An emphasis will be to increase opportunities for recreation by adding to the existing trail system. Another objective will be to increase the involvement of interested local persons and groups in the location, design, construction and maintenance of the new recreational trails. The Department will form and consult with a local recreational user-group. Maintenance and expansion of the recreation facilities will be limited by the availability of funds and will not exceed the carrying capacity as determined in the management plan.

An analysis of the economic effects of attempting to replace the timber industry with recreation and tourism can be found in Section III of the DEIR. The results of that analysis indicate that, at the regional level, a continued decline in the timber-based economy will not be offset by growth in economic activity associated with redwood parks or in other segments of the tourism industry. There are several factors that are relevant. The 2003 Occupational Employment Statistics survey for the North Coast region, which includes Del Norte, Humboldt, Lake and Mendocino counties, found that based on samples of representative jobs, each tourism type job pays only 62%($19,700 vs. $31,721) of the annual wages of a timber industry job. Tourism also tends to be concentrated on the coast and is highly seasonal. Del Norte County, which has some of the most impressive redwood parks, is illustrative of the difficulties associated with transition from a timber-based economy to a recreation economy. The work force there has declined since 1997, and it still has the highest unemployment of the region.

The impact analysis in the DEIR and RDEIR found that the DFMP and Alternative G, respectively would have a less than significant adverse impact on recreation.

General Response 15: Sustainability and Future Generations

Summary of Comments
A number of comments indicated a concern that the management plan as proposed does not adequately protect this public resource so that future generations can enjoy it. These comments range from those who believe that the proposed management plan is an assault on the protected status of a "pristine wilderness" to those who feel that the forest is currently in a degraded condition and that updated management plan will not adequately address a legacy of ongoing resource degradation.

Response to Comments
JDSF is not a park or wilderness area. The management of the Demonstration State Forests differs from that of the more preservation oriented management of state parks and wilderness areas. The legislative mandate that led to the creation of the state forest system included a provision to purchase one area in each of the forest practice districts for the "purpose of demonstrating economical forest management" (Public Resources Code § 4531). The main portion of JDSF was purchased by the State over a period of years between 1947 to 1951. At that time, most of the lands were in a cut-over condition. Additional lands were added to the Forest in 1968, while specific areas of the Forest were sold or traded to private timber companies to help finance the purchase of lands for the state park system. The resulting 48,652-acre forest is managed by CAL FIRE under the policy oversight of the Board.

About 460 acres of old growth remain in isolated stands on the forest (see General Response 8 in regard to old growth protection measures). Through management and reforestation efforts, the remainder of JDSF has developed into a healthy young growth forest ecosystem consisting primarily of redwood, Douglas-fir, and hardwood tree species. CAL FIRE has invested in an extensive inventory system, and the most recent round of forest inventory data collection occurred in 2005. The Department has consistently harvested well below the level of growth of the forest, resulting in an increasing forest inventory and an increase in carbon storage. By providing research opportunities and demonstrating responsible and innovative forest management techniques, JDSF influences management practices well beyond its boundaries. A summary of the history, purpose, guiding legislation and management direction of JDSF can be found in General Response 2.

The Administrative Draft Final Forest Management Plan (ADFFMP) represents significant advancement in the management practices aimed at protection and restoration of environmental resources when compared to previous management plans. One of the primary goals of the JDSF Management Plan is to achieve net improvements in environmental conditions over time. Management goals stated in the ADFFMP include Research and Demonstration, Forest Restoration, and Watershed and Ecosystem Process (see Appendix I in the RDEIR).

The DFMP, Alternative G, and the ADFFMP all incorporate monitoring and adaptive management feedback systems (see DFMP or AFFMP Chapter 5). Goals are set for desired future conditions and monitoring is utilized to provide feedback regarding the effectiveness of management strategies in achieving those goals. Subsequent management actions will be modified as necessary in response to the results that are observed. This approach will help to keep the Plan implementation in step with new science and management techniques. Elements to be monitored include streams, habitats, botanical resources, forest growth, selected fish and wildlife species, recreational uses, timber production, and roads.

As discussed in detail in General Response 8, the management plan protects all old growth groves. The plan provides for the development of a large contiguous area of older forest structure, late seral, and old growth forest, which will connect most of the existing old growth groves across watersheds (see RDEIR page II-7 and General Response 9). Late seral development areas will augment several

old growth groves. The wildlife habitat and aesthetic value of the groves will be enhanced through the use of these adjacent stands.

Requests to manage the entirety of JDSF for a single purpose, such as development of late seral and old growth stand conditions, while important, would severely limit the research and demonstration potential of the forest, and would be in conflict with the legislative direction for the forest. The diverse habitats created by a broad spectrum of management practices have allowed, and will continue to allow, for flexibility and opportunity for research as the issues and concerns involved in forest management have evolved over the past 60 years.

The Board and CAL FIRE are committed to sustainable management practices. This includes protection and improvement of non-timber resources. As one means of demonstrating resource sustainability practices, JDSF will seek certification of its forest management under the programs of the Forest Stewardship Council and the Sustainable Forestry Initiative.

The analysis contained in the DEIR and RDEIR found that the adoption of the ADFFMP would not result in significant adverse environmental impacts and would have beneficial effects on many resource categories. In addition, the research and demonstration mandate can lead to improved management practices and a reduction in land use conversion beyond its borders. See also General Responses 8, 9, 11, 12 and 14 for resource specific responses relating to old growth, late seral and older young growth, aquatic resources, wildlife habitat, and recreation.

General Response 16: Timber Harvesting

Summary of Comments
The Board has received a broad range of comments relating to planned harvest levels, ranging from those who feel that the harvest level should match current growth to those who feel that no harvesting should occur on state owned forests. Some comments have indicated that timber harvesting on JDSF equates to exploitation and destruction of a public resource for short-term financial gain.

Response to Comments
The legislative mandate that led to the creation of JDSF was to purchase one area in each of the forest practice districts for the “purpose of demonstrating economical forest management” [Public Resources Code (PRC) § 4531].

The legislated intent for Jackson Demonstration State Forest foreshadowed the importance of managing young growth forests, long before the harvest of young growth trees surpassed that of old growth during the 1980s. Public Resources Code section 4631 states:

> It is hereby declared to be in the interest of the welfare of the people of this state and their industries and other activities involving the use of wood, lumber, poles, piling, and other forest products, that desirable cutover forestlands, including those having young and old timber growth, be made fully productive and that the holding and reforestation of such lands is a necessary measure predicated on waning supplies of original old growth timber.

In managing states forests, the California State Legislature stated: “It is further declared to be in the interest of the welfare of the people of this state, that the state do all of the following: retain the existing land base of state forests and timber production for research and demonstration purposes.” (PRC § 4631.5)

Board policy, Chapter 0350, identifies the value of the state forest system to the public:

> To attain proper management of private timberlands in California, there is a need to investigate, develop, and demonstrate new and improved forest management methods to timberland owners and the public. The State forests serve this purpose while contributing to the economic stability of local communities by providing high yields of forest products, which sustain local employment and tax bases. Outdoor recreation is an important benefit of state forests.
>
> The significance of the State forest program in demonstrating improved practices will increase as the demand for forest products increases and as public interest in forest management practices intensifies. Demonstrations of the compatibility and conflicts involved in multiple use of forest land are essential as population and development pressures increase on California's forest lands.

Board policy 0351.2, Program Purpose and Land Use Priorities, states:

> The primary purpose of the State forest program is to conduct innovative demonstrations, experiments, and education in forest management. All State forests land uses should serve this purpose in some way. In addition:
>
> A. Timber production will be the primary land use on Jackson, Latour, and Boggs Mountain State Forests. Timber production will be subordinate to recreation on Mountain Home State Forest;
>
> B. Recreation is recognized as a secondary but compatible land use on Jackson, Latour, and Boggs Mountain State Forests. Recreation is a primary use on Mountain Home State Forest as prescribed by Section 4658, Public Resources Code:
>
> C. State forest lands may be used for Department administrative sites when such use will benefit State forest programs or protection;
>
> D. Special uses primarily benefiting non-forestry and/or private interests will have low priority. Such uses that conflict with State forest objectives are discouraged

PRC § 4651 states:

> The management of state forests and the cutting and sale of timber and other forest products from state forests shall conform to regulations prepared by the director and approved by the board. These regulations shall be in conformity with forest management practices designed to achieve maximum sustained production of high-quality forest products while giving consideration to values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment. The sale of timber and other forest products is limited to raw materials only.

As described in the California Forest Practice Rules, maximum sustainable production (MSP) is achieved in part by balancing growth and harvest over time (14 CCR § 913.11).

The Board developed of the Administrative Draft Forest Management Plan (ADFFMP) to balance public concerns while remaining consistent with the legislative mandate and Board policy for the Demonstration State Forest system (see General Response 2). The timber harvest level and allocation of silvicultural prescriptions under the Alternative G and the ADFFMP are based on providing a varied landscape with a diverse set of forest structures designed to support a world-class forest research and demonstration program, rather than to achieve a particular level of timber

production. The research conducted on JDSF will help to improve our understanding of forest ecosystems and to guide the development of improved management practices and future forest practice rules. A summary of the history, purpose, guiding legislation and management direction of JDSF can be found in General Response 2.

As detailed above, the legislative intent for the state forests includes sustainable harvesting of timber. As part of the process to ensure that proposed timber harvests are sustainable, JDSF is required to collect high-quality forest inventory data and to conduct a detailed analysis to demonstrate maximum sustained production of high-quality timber products over a 100-year planning horizon (California Forest Practice Rules requirements for "maximum sustained production of high quality timber products," 14 California Code of Regulations § 913.11). The estimated long-term sustained yield of JDSF under Alternative G or the ADFFMP is 56 million board feet annually (RDEIR Table II.4 pg 28-29). The expected average annual harvest level during the next 10 to 15 year is estimated to be 20 to 25 million board feet (MMBF), although the ADFFMP would authorize an allowable cut of up to 35 MMBF/year. It is expected that the growth produced by forest management will provide for an increase in the current level of production over time, subject to constraints produced by other forest values..

Timber sales are the primary source of funding for management of the State Forests, including, road maintenance and improvement, stream restoration, timber stand improvement, research, recreation, and staffing. Income from the sale of timber, tax payments, and both direct and indirect timber related employment, are expected to have a positive economic effect on the county and the region. Rather than providing only a "short term financial gain," sustainable management of JDSF under the ADFFMP is expected to be a long-term sustainable source of both economic and natural resource benefits.

The concept that all timber harvesting inherently causes a significant impact to, or "destruction" of, other resource values is not supported (see General Response 6). For example, the Board recognizes that timber operations can lead to temporary impacts to aesthetic values, so the plan includes mitigation and project planning will include a site-specific assessment of these potential effects, in order to avoid significant impacts. The resource-specific analysis performed for the DEIR found that application of several mitigation measures would reduce the potential negative impacts associated with various management practices to a level less than significant (see Administrative Draft Final Forest Management Plan, Appendix IX for a summary of mitigation measures). Timber harvesting as proposed in the management plan, will meet or exceeds all regulatory standards. Future forest management projects, including timber harvest plans, are subject to further analysis on a site-specific basis.

In addition to providing detailed direction for timber management, Alternative G and the ADFFMP emphasize that restoration and maintenance of functioning ecological systems are of high priority. The commitment to monitoring and adaptive management will ensure that other timber related resource conditions are on the correct trajectory to meet the stated management goals.

The analysis provided in the DEIR and RDEIR indicate that significant adverse environmental impacts related to timber harvesting are not expected to occur under Alternative G or the ADFFMP.

General Response 17: Timber Industry

Summary of Comments

Comments indicated a concern that the harvesting of timber is a subsidy to the timber industry at the expense of the public or that the timber industry exerts undue influence over the management direction of JDSF.

Response to Comments
The EIR and management planning process provides an opportunity for public input regardless of affiliation or management preference. The management planning process is not influenced by any industry, though members of any industry may comment upon the management plan. The management direction for JDSF is taken from legislative statute, regulation, and Board of Forestry and Fire Protection policies. A discussion of the legislative mandate for the state forest system can be found in Section II of the DEIR. See also General Response 2.

The comments generally provide no supporting documentation of the claim that harvesting on JDSF provides a subsidy for the timber industry. Available timber is sold on a competitive basis, representing fair market value. The minimum bid is set by the Department according to the calculated appraisal value. This does not constitute a subsidy. The sale of timber results in both direct and indirect timber-related employment, but that does not equate to a subsidy. Public tax dollars do not subsidize harvest operations. In fact, timber sales are the primary source of funding utilized for management purposes on the State Forests, including road maintenance and improvement, stream restoration, timber stand improvement, research, and recreation.

General Response 18: Provisions for a JDSF Advisory Body

Summary of Comments
Comments indicated a concern that an advisory body is needed for JDSF to ensure that there is adequate opportunity for ongoing public input regarding the management of the Forest, particularly from local interests. Some also expressed an interest in advisory body input from researchers and technical experts. A range of views was expressed on whether a JDSG advisory group should be appointed by the CAL FIRE director, the Board of Forestry and Fire Protection, or some hybrid thereof.

Response to Comments
There is an existing statewide Demonstration State Forest Advisory Group, appointed by the CAL FIRE director. Membership is composed of elected local government officials, including Mendocino County, an environmental organization representative, university-affiliated scientists and an extension specialist, a hydrologist, fisheries and wildlife biologists, a Registered Professional Forester who works with small landowners, a high-level staff member for an industrial forest landowner, and a Board of Forestry liaison.

The Board of Forestry and Fire Protection has indicated that it will be re-establishing its Committee on Research, which has been dormant for some time. The latter entity has broad responsibilities with respect to review of ongoing research programs; advising the Board on research needs, priorities, and policy; playing a leading role in improving the coordination and cooperation of the various public and private entities engaged in forest research; and recommending a system of collection, maintenance, dissemination of forestry research project information.

The Draft Forest Management Plan (DFMP) was silent on the subject of advisory bodies for JDSF, while Alternatives D, F, and G contained varying provisions for the establishment of one of more advisory bodies (see, e.g., Table II.4 in the RDEIR. Following the Board's direction, the Administrative Draft Final Forest Management Plan (ADFFMP) builds on Alternative G's direction for a JDSF advisory group and provides for the following:

- The charter and membership composition of the advisory body is to be proposed by the CAL FIRE director and approved by the Board;
- The membership is to include persons with knowledge of forest resource issues; be drawn from a variety of interests, including local and beyond, environmental,

timber management, and recreational; have expertise in relevant scientific disciplines, e.g., forestry, botany, ecology, fish biology.

- Members do not "represent" particular interests – they are chosen for knowledge and are to represent the public interest.
- The director will appoint the members of the advisory body, and these appointments will be subject to the Board's approval;
- The advisory body will advise the director/department and the Board on possible changes to the new management plan, matters of management plan implementation, and policy;
- During an initial implementation period, the advisory body will review the new management plan an make recommendations to the director and the Board with respect to any changes the advisory body believes should be made to the plan, particularly with respect to issues of:
    - long-term research goals and actions under the management plan;
    - proposed significant management activities;
    - forest structure goals and utilization of various silvicultural systems;
    - reviewing and making recommendations regarding the new management plan during the initial implementation period, which will last up to three years

Board staff and the Department are to assure consistency/coordination among three committees described above.

The existence of an advisory body has no per se effect on the potential environmental impacts of the DFMP or ADFFMP. However, it may have an influence on the manner in which the management plan is implemented or in changes made to the management plan over time.