ALTERNATIVES

1. INTRODUCTION

The 2005 DEIR[1] contains a detailed discussion of:

- A lead agency's responsibilities to select a range of feasible alternatives that mitigate project effects;
- The "No Project" Alternative;
- The "Proposed Project" Alternative;
- Five other alternatives that received full analysis, and
- Other alternatives considered but dismissed from further consideration.

This recirculated DEIR (RDEIR) will focus on and describe the potential environmental impacts of Alternative G, and will provide information found in the 2005 DEIR that assists with readability and comprehension of the discussion and analysis provided here. Where further clarification or greater depth of information is required the reader is encouraged to review the 2005 document.
The Board will consider each alternative and, based on the analysis provided in this RDEIR, the 2005 DEIR, and public and agency comments, may select a management strategy different than Alternative C1, the Proposed Project presented in the May 2002. The Board's final selected management strategy could be one of the eight alternatives in whole, or a composition of various elements from among the alternatives. The alternative ultimately selected by the Board and any applicable mitigation measures identified in the final EIR will be incorporated into the JDSF Management Plan for final Board approval.
Table II.4 at the end of this section provides a summary and comparison of the project characteristics among the alternatives selected by the Board for full analysis.

2. GENERAL OVERVIEW DESCRIPTION OF ALTERNATIVES

The following provides a brief overview of the Alternatives described in the 2005 DEIR, as well as a more thorough description of Alternative G. To more completely understand these alternatives, the reader is encouraged to review the 2005 DEIR and examine Table II.4, at the end of this chapter, which presents a detailed matrix that clearly shows the differences and similarities among the alternatives.

[1] Available online at http://www.fire.ca.gov/rsrc-mgt_jackson_deir_2005.php; see section I for additional information on availability.

Alternative "A" (No Project--Minimal Management Activity)

Alternative "A" describes the effects of only minimal maintenance and protection of JDSF lands. There would be no harvest of timber. Road maintenance would be limited to that necessary to maintain public access. Stand structure would change more slowly than in an active management strategy. The demonstration value of this alternative is limited due to its passive nature; management of this kind can be observed on many parklands and private holdings. The primary land uses on JDSF would be public recreation and monitoring or study of natural environmental processes.

This alternative is not required for analysis since it does not meet the project goals and objectives. Further, it would likely require changes in legislation and Board policy. It is not intended as an alternative that could feasibly be adopted; rather, it is intended as a baseline for purposes of comparing the project setting (and the absence of any management plan activities) to several different management strategies represented by Alternatives B through G.

Alternative B (No Project--Management Consistent with 1983 Management Plan)

Alternative B describes JDSF maintaining the level of forest management demonstration, timber production, recreational development, and environmental protection consistent with the 1983 Management Plan. It includes an annual timber harvest set close to growth [harvest previously estimated at about 29 million board feet (MMBF) per year; now estimated at close to 36 MMBF per year for this alternative] and conservative harvesting practices that meet or exceed the requirements of the FPRs. This alternative includes protection of listed species and recruitment of recovery habitat for listed species as opportunities arise. A demonstration program is included that explores basic forest processes. It also includes the maintenance of existing recreational facilities. This alternative accommodates changes in laws and regulations that affect management activities, particularly changes in the FPRs and the Endangered Species Act. This alternative entails a moderate level of timber production (harvest during the first decade of the plan would be equal to 82% of growth and 1.7% of inventory), a moderate level of wildlife protection emphasis, with a low level of recreation facility development.

By examining the potential effects of the implementation of the previous JDSF management plan, this alternative provides an additional kind of baseline to compare the potential effects of the other alternatives considered in the EIR.

Alternative C1 (Management Consistent with the May 2002 Draft Management Plan; Proposed Project in the 2005 DEIR)

Alternative C1 describes a timber management program based on determining and working towards a long-term desired future habitat, watershed, and growing stock

condition. This alternative includes an average annual harvest level of 31 MMBF (based on a 10-year average) for the first decade. Harvest during this 10-year period would be equal to 70% of growth and 1.4% of inventory. With limited exception, clearcutting is permitted only for research purposes. Old growth stands and trees would be protected. This alternative has a conservation-oriented approach to management of wildlife and aquatic resources on a watershed basis. Use of watershed information and evaluation techniques is applied in the development and management of projects. A road management plan is incorporated to reduce sedimentation. Demonstration capabilities will be enhanced.

The desired future condition is developed in terms of maintaining a high level of timber production while actively maintaining and recruiting additional habitat needed for listed species and other species of concern. Class I and II riparian zones would be managed to establish late successional habitat. The alternative includes a similar type of recreational use as Alternative B; in addition it proposes a survey of recreations users, planning for a potential increase in recreation facilities, and recreational corridors adjacent to primary recreational sites. Management within the recreational corridors will emphasize demonstration values and aesthetics. A range of Special Concern Areas that will receive specified protections is designated (see Map Figure D in the 2005 DEIR).

As the “proposed project” alternative in the 2005 DEIR, C1 represents the management plan that the Department proposed to the Board for adoption at that time.

Alternative C2 (Management Consistent with the November 2002 Management Plan)

This alternative is similar to C1, with the addition of (1) greater emphasis on the development of late seral forest, including the designation of habitat for marbled murrelet primarily in the vicinity of upper Russian Gulch, lower Big River, and upper Thompson Gulch; (2) additional protection for snags, large woody debris retention, and large woody debris recruitment; (3) increased level of review, analysis, and mitigation provided in planning for individual timber harvest activities and even-aged timber harvest proposals. Harvest during the first decade would be equal to 70% of growth and 1.4% of inventory.

The November 2002 Management Plan was approved by the Board in November of 2002. However, that approval was later rescinded by the Board on October 9, 2003 as a result of a July 30, 2003 order of the Mendocino County Superior Court. See the Notice of Preparation for this EIR in Appendix 4 of the 2005 DEIR for further details.

Alternative D (Citizen Advisory Committee)

This alternative is developed from recommendations of a seventeen-member JDSF Citizen Advisory Committee (CAC) appointed by former CDF Director Richard Wilson. The primary goal for management of JDSF would be conversion of the entire forest into an all-aged forest. There would be no harvest of old-growth trees. There would be no clearcutting, and other even-age regeneration methods would be used only for limited demonstration purposes. No herbicides would be used. Riparian zones for all watercourse classes would be protected by using harvest limitations similar to the methods described in the *Report of the Forest Ecosystem Management Assessment Team* (FEMAT 1993). Riparian zones would be managed to establish late successional habitat. Recreation would be emphasized, including increasing the number of hiking trails and campsites. Timber harvesting would be compatible with the recreation uses. Harvest during the first decade would be equal to 55% of growth and 1.1% of inventory. Demonstration and research would emphasize management alternatives for single-tree selection and other all-aged silvicultural methods for small landowners. Hardwood management and use would be another demonstration emphasis.

This alternative represents a low to moderate level of timber production with specific management constraints, a high level of watershed protection, and a moderate to high level of recreational development.

Alternative E (Late Seral Emphasis)

This alternative includes a number of the public concerns expressed during scoping, with an emphasis on development of late seral forests across the landscape. Restoration of the natural forest ecosystem and the protection of water quality, fish, and wildlife habitats at JDSF would be the primary management goals. There would be no even-aged management or harvest of old-growth trees. Timber harvesting, when it occurred, would be designed to advance timber stand development to late seral characteristics. Harvest during the first decade would be equal to 18% of growth and 0.4% of inventory. Low impact recreational opportunities such as trails and hike-in campsites would be expanded where they did not pose significant risk to fish and wildlife resources. Research would no longer address questions on intensive forest management, but would shift to studying the existing vegetation types, development of old forest conditions, and watercourse conditions and how they change over time. A research, demonstration, and monitoring program would be implemented to gain and distribute knowledge on the restoration of old-growth and late-seral forests, natural watersheds, and associated resources.

Alternative E is based on management direction that may not be consistent with the current Public Resources Code or Board policy. Thus, absent changes to those legal mandates, it is not, taken as a whole, a feasible alternative. However,

[2] SB 1648 continued to evolve during the legislative session. It was passed by the legislature on August 27, 2004, and submitted to the Governor, who vetoed the bill on September 16, 2004.

elements of this alternative are useful for how they offer potential ways to mitigate forest management impacts.

Alternative F (Older Forest Emphasis)

This alternative was developed in response to a bill considered in the state legislature during the 2003-2004 session (SB 1648, Chesbro) and to detailed comments submitted by the Sierra Club. Alternative F was based on the version of SB 1648 available in early July 2004.[2] This version was used because that was the time when specific EIR analysis work was begun. The Sierra Club recommendations also were incorporated into this alternative because they were largely compatible with the SB 1648 elements and provided additional detail to the alternative, and because the Sierra Club was a major proponent of SB 1648. Alternative F would change the basic management goal of JDSF from maximizing sustained timber productivity while giving consideration to values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment to balancing sustained production of high quality timber products while maintaining and restoring high quality habitat for flora and fauna native to the coast redwood ecosystem. This alternative would utilize primarily uneven-aged management, including prescriptions designed to develop a core of late-seral forest condition s and habitat components. Even-aged management is minimized and limited to research. Watercourse protection would be based on the National Marine Fisheries Service's short-term habitat conservation plan guidelines.

Alternative F would provide greater areas of late seral forest than most of the other alternatives. It would create a 3,498-acre Marbled Murrelet Recovery Demonstration Area, consisting of two sections at the headwaters of Jughandle Creek and Russian Gulch. A Recovery Research and Recreation Area is designed to maintain connections A Recovery Research and Recreation Area is designed to maintain connections between older forest habitat, generally linking the existing old growth groves and some of the older second-growth along watercourses and including other key features of demonstrated public interest. Multiple modes of management are encouraged in this Area, including timber harvest, research and demonstration, and recreation. The purpose of this Area is to direct management toward maintaining and developing a core of older forest stands and maintaining old forest habitat components where timber harvest does occur Thompson Gulch would be designated for late seral development.

Any tree alive since 1850 or earlier would be protected from harvest unless it posed a hazard. Harvest during the first decade would be equal to 42% of growth and 0.9% of inventory. Preharvest and postharvest monitoring and publication of results would be required as an integral component of any experiments involving even aged management. A new advisory committee, appointed by the Board of

Forestry and Fire Protection, would be formed to oversee JDSF management. An interagency technical committee also would be formed.
The Sierra Club developed a map detailing the spatial extent of a number of the management features contained in their scoping comments (see Map Figure AA in the December 2005 DEIR).
Some aspects of Alternative F management direction may not be consistent with the current Public Resources Code or Board policy. Thus, absent changes to those legal mandates, it may not be, as a whole, a feasible alternative. However, elements of this alternative are useful for how they offer potential ways to mitigate forest management impacts. Through the use of shading, Table II.4 indicates which elements of Alternative F may be inconsistent with current law or Board policies.

Alternative G (Management with a Research-Driven Mission)

Alternative G represents modification of Alternative C1 (the May 2002 DFMP) primarily through the melding of various provisions from Alternatives C1, C2, D, E, and F. Alternative G also reflects changes to the management Goals and Objectives for the management of JDSF (see section I.2, above or Appendix 1, Goals and Objectives for Alternative G). Each modification of the former preferred alternative (C1) reflects either the application of a higher level of environmental protection or an increase in the ability to research and demonstrate various aspects of forest management. Where the analysis in the 2005 DEIR indicated that Alternative C1 required mitigation to avoid significant adverse impacts, those mitigations, where appropriate, were adopted as standard management measures under Alternative G. The Board's JDSF Committee has reported to the Board that the Committee believes Alternative G and its modifications of Alternative C1 merit consideration as management direction for the Forest.
The substantial changes that Alternative G makes to Alternative C1 are itemized and described below. Also identified (in parentheses after the name of each item) are the other alternatives that many of these changes are drawn from.

<u>Establishment of Forest Structure Goals with an Emphasis on Older Forest Conditions (Alternatives D, E, & F)</u>

Alternative G provides long-term goals for the establishment of particular forest structure over time, as presented below in Table II.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.

Table II.1 Alternative G 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 Zone	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

Establishment of an Older Forest Structure Zone (OFSZ) (D, E & F)

A 6,803 acre area of the Forest, ranging across the Forest from west to east and north to south, is designated to be managed as an Older Forest Structure Zone (see Map Figure 1). The objective of this form of management is to produce structural characteristics of older forest, which include 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 areas designated for the development of late seral forest characteristics. The portions of this Zone available for timber management would be managed on an uneven-aged basis to recruit these structural conditions and wildlife habitat elements, to coincidentally grow and produce timber through careful thinnings and periodic replacement of large trees and to provide recreational opportunities.

The area designated for this form of management lies along the northern and eastern portions of the State Forest (Map Figure 1), running from the South Fork Noyo River, northerly to the North Fork of the South Fork Noyo River, easterly into the Chamberlain Creek watershed, then into the James Creek watershed and the North Fork of Big River. The OFSZ connects several of the old-growth groves (369 acres) and late-seral development areas (695 acres) that adjoin the groves. In addition, approximately 5,719 acres of area will be designated for creation of older forest structure. With the designation of the OFSZ, there will be a reduction in area available for forms of even-aged management of approximately 1,790 acres, as compared to Alternative C1.

The Older Forest Structure Zone will have high value for research concerning topics such as restoration of older forests and the ecological processes associated with older forests. It also will improve the long-term conditions for wildlife, particularly species that prefer older forest. It provides a continuous corridor of

forest that links most of the Forest's old-growth groves, and also provides habitat linking adjacent industrial timberland with the forests of JDSF. It is also anticipated that recreational values will be enhanced by the replacement of even-aged management and group selection with older forest structure, which will contain large trees and continuous canopy, as viewed from a distance or from within. A reduction in potential impacts to watershed resources and aquatic habitats is anticipated, due to a relative reduction in the level of soil and vegetative disturbance associated with development of older forest structure conditions when compared to the anticipated level of disturbance associated with more intensive timber management (e.g., even-aged).

This element of Alternative G represents an increase in environmental protection for this area, which was designated in the former preferred alternative (C1) as an active timber management area available for a range of even-aged and uneven-aged harvest prescriptions. The establishment of the Older Forest Structure Zone shares elements of Alternatives D, E, and F, which all provide for a greater allocation of the Forest to older forest stands and uneven-aged stand conditions than does Alternative C1.

<u>Designation of additional area devoted to development of habitat for the marbled murrelet (C2, D, E, & F)</u>

The area devoted to development of late-seral forest habitat has been increased by 1,549 acres under Alternative G, as compared to Alternative C1. Specifically, the area of upper Russian Gulch and lower Big River adjacent to two State Parks has been changed from forms of uneven-aged management to late-seral development, specifically intended to recruit habitat for the marbled murrelet (see map Figure 1). This element of Alternative G represents a significant increase in the level of environmental protection and habitat enhancement for threatened and endangered species commonly associated with older redwood forest, relative to Alternative C1. This element will also enhance recreational opportunities in the area by reducing the level of impact associated with timber operations while also growing a forest of large older trees, which is often preferred by recreationists.

Since the release of the 2005 DEIR, the US Fish and Wildlife Service has proposed in the Federal Register the designation of critical habitat for the marbled murrelet on portions of the Forest [FR 71(176):53838-53886, September 12, 2006]. This designation affects portions of the southwest area of JDSF adjacent to Russian Gulch State Park, including portions of Caspar Creek, Jughandle Creek, and Russian Gulch watersheds, or a total area of 5,605 acres of JDSF. This designation, if finalized at a future date, may affect management of this area where a nexus with federal permitting or funding exists, in order to prevent destruction or adverse modification of the critical habitat. At this point in time, the potential effects upon future management in the area are speculative. The area currently designated by the Fish and Wildlife Service as critical habitat partially overlaps (by approximately 1,000 acres) the areas that Alternative G designates for future

murrelet habitat or late seral forest development identified, as well as three areas identified as potential harvests in the next three to 10 years.

A reduction in the area of the Forest available for forms of even-aged management and an increase in the area available for forms of uneven-aged management (D & F)

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

Table II.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**

Further restrictions on the rate of cut and area devoted to forms of even-aged management (D, E & F)

Even-aged management will be used as necessary to achieve the forest structure conditions needed to accommodate an adequate range of research investigations (see Table II.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 II.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.

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 Alternative G, 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 will be presented to the appropriate advisory committee(s) for review and recommendation prior to implementation.

While Alternative C1 proposed to allocate up to 29 percent of the land base of JDSF to forms of even-aged management, Alternative G reduces the potential extent of even-aged management to less than 26%, as well as restricting the rate at which even-aged management may be conducted. This change is likely to represent a small to modest increase in environmental protection, due to the fact that even-aged management may produce a greater impact upon both watershed resources and forest vegetation than uneven-aged management. An increase in forms of uneven-aged management also will tend to provide greater connectivity between forested habitats, and a general increase in aesthetic and recreational values.

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 II.1.

<u>Further limitations on the use of herbicides to control competing native vegetation in harvest units (D, E & F)</u>

Alternative G would eliminate one of the management uses of herbicides permitted under Alternative C1 (treatment of native species for road maintenance purposes, unless needed for a specific fire prevention project) and impose further restrictions on the use of herbicides control of hardwoods to adjust conifer/hardwood stocking rations and control of invasive weed species as part of an Integrated Weed Management program.

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.

Alternative G incorporates Alternative C1's provisions for an effective integrated pest management program. Adjusting imbalance in conifer/hardwood stocking levels by utilizing herbicides will be limited to specific reforestation situations on the east side of the Forest. In specific areas toward the east end of the forest, high tanoak stocking levels are capable of preventing native conifer establishment and growth. Herbicides may be used to decrease native hardwood stocking levels only when other options: are prohibitively expensive, dramatically increase fuel loading, are overly damaging to conifer regeneration, or are not likely to be successful.

Integrated Weed Management would consider herbicides as a possible treatment for invasive plant species only under limited conditions. No application would be undertaken unless it is part of a long-term ecologically-based management approach. 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-making process for selecting specific treatments. Though herbicide use is likely to be reduced under Alternative G, significant effects related in invasive species are not expected to occur. .

<u>Increase in road or trail area that will be buffered by a road and trail corridor (D, E & F)</u>

Approximately 28 additional miles of road and trail will be visually protected by Alternative G, through provision for a buffer, which will reduce aesthetic impacts associated with adjacent timber operations (Map Figure 1). This represents an increase in environmental protection when compared to Alternative C1.

<u>Establishment of two silvicultural demonstration areas</u>

Alternative G makes provision for two silvicultural demonstration and research areas within the Forest (see Map Figure 1). Within these areas, a range of silvicultural systems will be demonstrated at a relatively small geographical scale for the benefit of the visiting public. The intention is to demonstrate a range of stand management methods in close proximity, so the visiting public can view them from an automobile or foot trail and learn about forest management. This is not expected to result in a significant change in the level of environmental protection within these areas, as compared to Alternative C1.

<u>Establishment of riparian restoration demonstration areas</u>

Alternative G provides for the establishment of three riparian restoration demonstration areas (see Map Figure 5). These areas will be available for experimentation of restoration and management techniques, as well as the potential testing of regulatory proposals. While the potential effects associated with practices in these areas cannot be determined at this time, the primary intent of the demonstrations will be restoration of proper ecological function and protective regulatory standards.

Establishment of harvest limitations during an initial implementation period and short-term harvest schedule

Interim harvest limitations have been established, and are expected to remain in place for an initial implementation period of up to three years, while advisory entities consider JDSF management and make recommendations to the Department and the Board for possible modifications of the management plan. The interim harvest standards generally maintain or reduce the level and intensity of proposed harvest, when compared to (a) the general harvest prescriptions that were designated under Alternative C1, (b) the short-term harvest schedule provided in Alternative C1, or (c) the general harvest prescriptions contained in Alternative G. The intent of the interim standards is to avoid significant changes within individual harvest areas that would preclude future management options. Table II.3 provides the short-term harvest schedule for Alternative G and reflects the initial implementation period harvest limitations. This table identifies the harvests most likely to proceed during the first five to ten years of the implementation of Alternative G. For various reasons, some of these harvests may be altered (e.g., in size of silviculture) from descriptions, or may not occur. Other harvests not on the list could be developed and implemented. Table II.3 is the current best available information of likely short-term harvests under Alternative G.

The interim standards 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 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 greater than 10 trees/acre greater than 30” in diameter, particularly where those areas have not already had work done to prepare timber harvesting plans.

The short-term harvest schedule presented in Table II.3 contains a number of changes from the short-term harvest scheduled included in the 2005 DEIR. In a number of cases, harvest prescriptions have been shifted to less intensive silvicultural methods or have otherwise been refined. Where prescriptions have been changed, the previous prescription is indicated in parentheses. One new harvest, a research-based harvest on the South Fork of Caspar Creek, has been added to the table.

Table II.3 Short-Term Harvest Schedule for Alternative G.

Sale Area Name	Planned Silviculture	Harvest Acres[1] (approx.)	Planning Watershed
1. Potential Harvest Areas Intended for Operation during Initial Implementation Period (these harvests will meet initial implementation			

period harvest retention criteria, therefore are not subject to prior review by advisory entities)			
Northfork Spur	selection/cluster selection	452	Brandon Gulch
West Chamberlain	commercial thin/old forest structure development (commercial thin in 2005 DEIR)	515	Chamberlain Creek
14 Gulch North	selection/cluster selection (group selection in 2005 DEIR)	400	Berry Gulch
S Whiskey Springs	light and moderate commercial thin/selection/cluster selection/selection with road and trail corridor (commercial thin in 2005 DEIR)	300	Berry Gulch
Dunlap North	light and moderate commercial thin/selection with road and trail corridor/cluster selection (commercial thin in 2005 DEIR)	300	Chamberlain Creek
Dunlap South	selection/cluster selection (group selection in 2005 DEIR)	350	Chamberlain Creek/ Lower North Fork Big River/Two Log Creek
Hare Creek GHIJK	selection/cluster selection, clusters with matrix thinning, clusters with no matrix thinning/variable WLPZ demonstration	250	Hare Creek
2. Potential Harvest Areas during or following Initial Implementation Period (advisory entities will have the opportunity to review and comment if to be implemented during the initial implementation period)			
Berry Flat	commercial thinning/selection/cluster selection/with road and trail buffer (even-aged regeneration in 2005 DEIR)	50	Berry Gulch
Helms	selection/group selection/combined selection and group selection/with control stands	250	Mouth of Big River/Berry Gulch
Mitchell	selection/cluster selection (selection/group selection in 2005 DEIR)	635	Mitchell Creek
Orchard	selection /cluster selection/group selection with small groups, with and without matrix thinning (selection/groups selection in 2005 DEIR)	500	Caspar Creek
Park Gulch	group selection/silvicultural demonstration area with selection; cluster selection; group selection with small, medium, and large groups, with and without matrix thinning	300	Chamberlain Creek

Pleiades #4	selection/cluster selection (4th selective cut)	50	Kass Creek
Riley Ridge	old forest structure development using light and moderate thinning with variable density hardwood retention (group selection in 2005 DEIR)	600	Brandon Gulch
South Fork Caspar Creek[2]	uneven-aged management; prescription specifics to be determined; represents the “next phase” treatment of a research area, designed to study the effects of forest management upon watershed resources.	1,040	South Fork Caspar Creek
Thompson Gulch	late seral development using light and moderate variable density thinning and selection	250	Berry Gulch
Upper Hare Creek	selection/cluster selection/variable WLPZ treatment demonstration	100	Hare Creek

 Table II.3 Short-Term Harvest Schedule for Alternative G. Sale Area Name Planned Silviculture Harvest Acres[1] (approx.) Planning Watershed

Volcano #2	group selection with small, medium, and large groups; with and without matrix thinning/selection with road and trail corridor	500	Brandon Gulch
Water Gulch #1	commercial thinning with light and moderate thinning	300	Chamberlain Creek
Water Gulch #2	light and moderate commercial thin/silvicultural demonstration area with selection; cluster selection; group selection with small, medium, and large groups, with and without matrix thinning/two-aged stand (even-aged regeneration in 2005 DEIR)	450	Chamberlain Creek
West Berry Gulch	light and moderate commercial thin/silvicultural demonstration area with selection; cluster selection; group selection with small, medium, and large groups, with and without matrix thinning/two-aged stand (commercial thin in 2005 DEIR)	400	Berry Gulch
3. Potential Even-aged Management Areas following Initial Implementation Period[3]			
Frolic #2	two-aged stand/variable retention/alternative prescription using combination of scattered and clumped retention/with control stands/variable WLPZ treatment demonstration (even-aged regeneration in 2005 DEIR)	200	Parlin Creek
Road 80	two-aged stand/alternative prescription similar to seed tree, with clustered structure retention/clearcut (max. 20 acres total clearcut area) (even-aged regeneration in 2005 DEIR)	200	Parlin Creek
Scissors #2	selection with road and trail corridor/cluster selection/variable retention/alternative prescription similar to seed tree with clumped structure retention (even-aged regeneration in 2005 DEIR)	100	Parlin Creek
Waldo	two-aged stand/variable retention/ alternative prescription similar to seed tree with clustered structure retention/clearcut (max. 20 acres total clearcut area)/variable WLPZ treatment demonstration (even-aged regeneration in 2005 DEIR)	150	Parlin Creek
Walton Gulch #2	two-aged stand/variable retention/alternative prescription similar to seed tree with scattered and clumped structure retention/variable WLPZ treatment demonstration (even-aged regeneration in 2005 DEIR)	100	Hare Creek
Parlin	commercial thin/alternative prescription with scattered, grouped, and combination scattered and grouped structure retention	251	Parlin Creek

Tunnel	alternative prescription similar to seed tree, with structure retention /selection (even-aged regeneration/selection in 2005 DEIR)	54	Hare Creek
4. Enjoined Harvests Subject to Legal and Contract Resolution			
Brandon[4]	selection, cluster selection	540	Brandon Gulch
Camp 3[4]	selection, cluster selection	366	Brandon Gulch
1. For group selection units, the number in this column represents the total area of the unit. Typically, about 20 percent of the area is in group openings; the remaining area is sometimes thinned during the group selection harvest entry.			

 Table II.3 Short-Term Harvest Schedule for Alternative G. Sale Area Name Planned Silviculture Harvest Acres[1] (approx.) Planning Watershed

2. This harvest was not included in the 2005 DEIR.
3. Even aged management will continue to be an integral part of the suite of management tools available for application on JDSF. Areas that include even-aged management will be deferred until the conclusion of the initial implementation period. These areas may be harvested during the initial implementation period if the silvicultural prescription is modified to eliminate even-aged management and group selection; such harvests are subject to prior review by advisory entities.
4. The Camp 3 and Brandon THPs are currently enjoined from operation and subject to a stipulated agreement under First District Court of Appeal Case No. 102911 and Mendocino County Superior Court Action No. SCUK CVPT 0289022. It is anticipated that the manner in which these THPs are operated will be determined through negotiations among signatories to the stipulated agreement and the timber sale contract holders.
The potential harvests identified in this table represent the department's current best expectations for short-term harvesting activity in the context of the programmatic nature of Alternative G. The actual implementation of individual harvests identified here may not occur or may be modified in terms of scale, silvicultural prescriptions, timing, or other factors. Additionally, other harvests not identified herein may be developed and carried out, so long as they are within the scope of Alternative G and are subjected to necessary reviews and permitting.

Reduced average annual timber harvest

The management of JDSF according to the provisions set out in Alternative G is expected to reduce average annual harvest from 31 million board feet per year (under Alternative C1) to approximately 20 million board feet per year during the term of the management plan. Harvest levels are anticipated to be reduced further during the initial implementation period. Although a reduction in annual harvest does not necessarily correlate directly with a reduction in environmental impact, a reduction of the magnitude of harvest is expected to result in a lower level of soil and vegetative disturbance, and a lower level of habitat modification. Also, a reduction in annual timber harvest will coincidentally produce a somewhat higher level of annual forest growth and carbon sequestration during the period. A reduction in annual harvest is also expected to result in a modest reduction in forest products, jobs, taxes, and revenue.

Provision for utilization of advisory entities (D & F))

The Department has initiated steps to establish a new body, to be appointed by the Director, to advise the Department on the management of JDSF, including the implementation of management plans. The Department also has an existing Demonstration State Forest Advisory Group, which advises on State Forest Programs throughout the state. 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. This 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.

Under Alternative G, the Department would utilize these advisory bodies to provide input on the management of JDSF, including management plan implementation. These advisory committees would assist and provide recommendations in regard to the long-term research goals and actions under the management plan, as well in regard to proposed significant management activities. They also would be involved in reviewing and making recommendations regarding the new management plan during the initial implementation period, which will last up to three years.

No direct environmental effects are expected due to this provision of Alternative G; however, the input of the advisory bodies could identify previously unrecognized environmental impact potentials that could then be addressed or could recommend additional restoration actions that would improve existing environmental conditions.

Creation of a large tree overlay to guide future consideration of old forest development

The Department has produced a map (Map Figure 2) that depicts the average density of large trees across the Forest, based on inventory estimates. This map will be made available to the Board, the Department, and the advisory bodies as they consider future management of the Forest. This information may help to inform these entities of the relative potential for various stands across the Forest to be recruited as late-seral forest in the future. No direct environmental effects are expected due to the creation of this map, though the map may serve to indirectly increase the level of protection for some species in the future.

3. ENVIRONMENTALLY SUPERIOR ALTERNATIVE AND PREFERRED ALTERNATIVE

CEQA Guidelines §15126.6(e)(2) requires a lead agency in an EIR to identify an Environmentally Superior Alternative, and where the Environmentally Superior Alternative is the No Project Alternative, to identify an Environmentally Superior Alternative from among the other alternatives. This requires the lead agency to develop a feasible alternative that mitigates one or more of the project's impacts thereby providing a choice to the decision makers other than merely "project" vs. "no-project".

Alternative E, with its habitat emphasis, remains the environmentally superior alternative and would result in the least severe impacts, particularly to wildlife resources.

In the 2005 DEIR the preferred alternative was Alternative C1, Management Consistent with the May 2002 Management Plan. The Board's JDSF Committee has reported to the Board that the Committee believes Alternative G and its modifications of Alternative C1 merit consideration as management direction for the Forest.

4. RELATIVE COMPARISON OF IMPACTS BY RESOURCE

Tables are provided on the conclusion of each resource analysis section (refer to section III) and the conclusion of the cumulative effects section (refer to section IV) summarizing the level of impact identified for each alternative and whether such impacts can be mitigated to less than significant levels.

5. COMPARISON OF MANAGEMENT APPROACH AND ELEMENTS AMONG PROPOSED ALTERNATIVES

Table II.4, found at the end of this section, presents the eight alternatives in a detailed, comparative format. In general, the comparison is geared toward key management elements. This table provides a much more complete basis for the comparison of the alternatives than does the description above.

Text formatting in Table II.4—plain text, italics, and shading—is indicative of several things. Under Alternative F, the plain text is based on Senate Bill 1648 and the italicized text is based on comments received from and discussions with representatives of the Sierra Club.

The shaded text found under Alternatives A, D, E, and F in Table II.4 denotes components of alternatives that are potentially inconsistent with the current Public Resources Code, regulations, or Board policies. Specific elements that are potentially inconsistent are shown in shaded text and a parenthetical reference number that refers to the pertinent elements of legislation and policy as follows:

(1) PRC 4631. 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 forest lands, 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. It is further declared to be the policy of the state to acquire by purchase, exchange, lease, or grant all of the following: . . .

> (d) One area, not to exceed approximately 40,000 acres, in each of the following districts, Coast Range Pine and Fir District, North Sierra Pine District and the South Sierra Pine District, for the purpose of demonstration of economical forest management. These areas shall not include virgin timber except that which is incidental to areas previously harvested.

PRC 4631.5 (a). Retain the existing land base of state forests in timber production for research and demonstration purposes.

(2) PRC 4639. “Management” means the handling of forest crop and forest soil so as 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.

(3) PRC 740. The board shall represent the state’s interest in the acquisition and management of state forests as provided by law and in federal land matters pertaining to forestry, and the protection of the state’s interests in forest resources on private lands, and shall determine, establish, and maintain an adequate forest

policy. General policies for guidance of the department shall be determined by the board.
PRC 4645. The department, in accordance with plans approved by the board, may engage in the management, protection, and reforestation of state forests.
PRC 4646. The director, acting in accordance with policies adopted by the board, shall administer this chapter. He may exercise all powers necessary to accomplish its purposes and intent.
(4) BOF Policy 351.2. The primary purpose of the State Forest program is to conduct innovative demonstrations, experiments and education forest management.
BOF Policy 351.2. A. Timber production will be the primary land use on Jackson, LaTour and Boggs Mountain State Forests.
(5) BOF Policy 351.4. G. Economically and ecologically justifiable intensified forest management practices to increase total fiber production and timber quality will be pursued on the State forests. These practices will be designed and carried out for maximum applicability (or demonstration values) to private lands.
BOF Policy 334.3. In order to maintain timber growing land in California as a permanent source of current and future timber supply, the Board has found that it is in the public interest: . . .

> B. To manage all prime timberland on State forests to investigate and demonstrate management for optimum long-run timber production.

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RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT FOR PROPOSED JDSF MANAGEMENT PLAN ALTERNATIVE G

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Demonstration of economical forest management, [from PRC § 4631(d)]. [T]he handling of forest crop and forest soil so as 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 (from PRC § 4639).	Same as Alternative A.	Same as Alternative A. Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Demonstrations and scientifically designed studies regarding forest resource management; timber production; maintenance and restoration of forestland resources; education; recreation; and public enjoyment	Management shall demonstrate how to balance sustained production of high quality timber products with maintaining and restoring high quality habitat for flora and fauna native to the coast redwood ecosystem in a way that provides ample opportunities for Same as Alternative A	

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

	Research-Driven Mission
OVERALL STATUTORY MANAGEMENT DIRECTION (Note: Significant management direction also comes from regulations and Board policies. See Appendix 5, Statutes, Regulations, and Polices Governing State Forests, in the 2005 DEIR.)	

research, recreation, education, and public enjoyment.					
Provide only minimal maintenance and protection of forest resources (1).	Maintain the current level of forest management demonstration, timber production, recreational development, and environmental protection consistent with the 1983 Management Plan. Provide a moderate level of timber production, a moderate level of wildlife protection emphasis, with a low level of recreation facility development. Elevates wildlife, watersheds, and ecosystem processes to a level of	Similar to C1, with greater provision for development of late seral forest habitat. Emphasize uneven-aged management. No use of clearcutting; other even-aged management prescriptions restricted to limited demonstration purposes. Demonstrations to emphasize all-aged management. Increased emphasis on hardwoods management. Provide strengthened protections for riparian zones, including development of	Emphasize development of late seral forests (5), restoration of the natural forest ecosystem, and the protection of water quality, fish, and wildlife habitats. No even-aged management (2, 5) or harvest of old-growth trees. Low impact recreational opportunities would be expanded where they do not pose significant risk to fish and wildlife resources. Research would shift to	All forest resources to receive equal protection (1, 2). *Restoration and fish and wildlife habitat oriented management restrictions will apply to approximately 80% of the Forest (2, 5).*	A new advisory committee with a majority of members not appointed by the BOF as well as having no financial interests in timber products shall be actively involved in annually setting and reviewing management plans. An interagency technical committee Create and maintain a diverse set of forest habitats and conditions available for research.

	importance equivalent to the timber management and the research, demonstration and education programs. Places approximately 30% of the Forest into Special Concern Areas where special consideration is given to specific resources or values during the planning and implementation of management activities. Special concern areas may involve protection of	late seral forest characteristics. Create a citizen's	studying the existing vegetation types and watercourse conditions and how		Develop late-seral forest conditions in the WLPZ, the Mendocino Woodlands STA, and in areas near designated old-growth groves. Develop a large contiguous habitat corridor, managed to create older forest structure, extending across the forest. Develop a broad set of sustainable forest management treatments for the benefit of forest landowners, the

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

OVERALL ALTERNATIVE MANAGEMENT DIRECTION	Research-Driven Mission

listed species, protection of watercourses and aquatic habitat, or protection of scenic values, recreational resources, or adjacent state parks. Applies a conservation-oriented approach to management of wildlife and aquatic resources on a watershed basis.	Maintains a high level of timber production while actively maintaining and recruiting additional habitat needed for listed species and other species of concern.	committee to ensure citizens' input, approval of forest management, and oversight of management practices.	Appointment a citizen advisory committee to seek an updated and revised legislative mandate for the Forest. they change over time.	shall also be appointed to advise the board, department, and advisory committee (3). timber industry, scientists, and the general public. Recruit structural elements of value to wildlife. Inventory and manage the road system to help improve and restore stream and watershed conditions. Manage forest stands to develop high levels of growth and yield. Utilize advisory committees to the department to make recommendations regarding the management of JDSF, including providing a review of the final management plan during an initial implementation period.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
None.	None.	None.	None	None.	None.	None.	

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

INITIAL IMPLEMENTATION PERIOD

During an initial implementation period of not more than three years, the JDSF advisory body will review the final forest management plan and make recommendations to the department and Board as to changes it believes may be appropriate. Initial implement-tation period ends after the advisory body makes its recommendations and the department or Board complete their response to those recommend-dations. During the initial implement-tation period, additional harvest restrictions are applied.

Special Concern Areas (SCAs) and Woodlands Special Treatment Area (STA)						
No Inner gorge or landslide SCAs, all others similar to C1 related to roads for recreational access.	Protect specific species and sites as necessary to comply with applicable laws, rules, and regulations. Most special concern areas driven by regulation (e.g. stream protection zones, protection of listed species, constrained silviculture in special treatment areas adjacent to state parks, etc.).No Inner gorge or landslide SCAs, no late seral habitat development. Protect specific species and sites as necessary to comply with	Provides 23 types of special concern areas with public trust resources values are identified and have management constraints applied. SCAs include watercourse protection zones (7,440 acres); old-growth groves (459 acres) and old-growth augmentation (late seral development) areas (780 acres); nest areas for bird species of concern; buffers for specified high-use roads, trails, and campgrounds; and buffer for neighboring rural residential properties and state	Similar to C1.	Similar to C1 with greatly expanded riparian zones and habitat development areas. Manage Woodlands STA for conversion to a preserve (2, 4, 5), except for the Helms and Caspar Creek project areas. Also, transfer Woodlands STA to the Department of Parks and Recreation (1).	Inner gorge, landslide, WLPZ, Non-timberland neighbors, and Woodlands SCAs are all no harvest (2, 4, 5), all others similar to C1 with most of Forest off limits to harvest (2, 4, 5). Approximately 12,000 acres that have not been entered in the past 80 years shall be managed to address the regional scarcity of that age class (5). Eleven old growth groves totaling 459 acres will be protected. *Adds approximately 328 acres at the head of*	Create older forest structure zone, a contiguous habitat corridor of 6,803 acres, extending across the Forest. Manage this area to produce large trees, multiple canopy layers, structural habitat elements, and a high degree of diversity. Manage the Woodlands STA, Upper Russian Gulch, and the lower Big River area to recruit late-seral habitat conditions. Preserve all designated old-growth groves and all large old-growth

	applicable laws, rules, and regulations.				*Thompson Gulch to the Woodlands Special Treatment Area, to be managed for old growth development.* The Woodlands Special Treatment Area shall be used for the purposes specified in the act	trees, and smaller old-growth trees with designated structural

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

FOREST MANAGEMENT

parks. In most cases, only selective harvesting that retains a significant component of large trees and a high stand density is allowed in SCAs.		In the Woodlands Special Treatment Area, silvicultural activities are focused on promoting late-successional forest conditions, maintaining aesthetic qualities, and limiting impacts on the operation of Mendocino Woodlands.	of Congress of June 6, 1942 [56 Stats, 236: 16 U.S.C. 459t] that authorized the transfer. *In high visitor use areas associated with Roads 408, 409 and 500 near Mendocino and Caspar, the current full canopy stand appearance must be maintained post-harvest. Impacts to mycological resources will be mitigated.*		*See below for 3,498-acre Marbled Murrelet Recovery Demonstration Area.* characteristics of value to wildlife. Recruit late-seral habitat conditions in designated areas adjacent to selected old-growth groves.
No harvest, no site prep, no thinning, no planting (1, 2, 5) Similar to C1, except that neither even-aged nor uneven-aged management is emphasized. No	Demonstrate a wide range of silvicultural systems across the landscape, available for future research and demonstration.	Similar to C1, with greater emphasis upon development of late-seral forest: approx. 70% of area available for	No clearcutting; other even-aged management prescriptions restricted to limited demonstration	Utilize uneven-aged prescriptions to accelerate the development of late-seral forest within the limited area of Utilize primarily uneven-aged management, including selection and prescriptions designed to develop	Demonstrate a wide range of silvicultural systems across the landscape. Develop a wide range of forest and habitat

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Other SCAs similar to Alternative C1, with 28 additional miles of road and trail buffers.

Silviculture (Also refer to Growth and Yield, below)

silvicultural allocation plan.	Establish a structural condition allocation plan with approximately 75% of Forest area available for moderate to intensive timber management, with approximately 64% dedicated to forms of uneven-aged management (including 20% for late—seral forest development and old growth), and 29% to forms of even-aged management.	moderate to intensive timber management (64% uneven-aged and 29% even-aged), 23% for late-seral prescriptions, and 7% other prescriptions.	purposes. Apply large-scale demonstrations of all-aged management using small group and single-tree selection. Demonstrate how to convert an even-aged forest into an all-aged forest, and experiment in the development of old forest components within a young forest. Develop high quality hardwoods.	the Forest where timber harvest would be allowed. a late-seral forest condition. The use of even-aged management is minimized and limited to experiments designed and implemented for a specific research purpose (2, 4, 5).	conditions available for future demonstration and research. Establish an area allocation plan that limits management options near the OFSZ, adjacent rural residential neighborhoods, state parks, and the Mendocino Woodlands. Establishes two demonstration, experiment, and education areas where a diverse set of silvicultural practices can be demonstrated and made available to landowners and the public, within a relatively close proximity.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

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Page II-27 RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT FOR PROPOSED JDSF MANAGEMENT PLAN ALTERNATIVE G

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
No annual harvest volume (2, 4, 5). Long-term sustained yield (LTSY) of 64.2 million board feet (MMBF) per year.	As interpreted by CDF and approved by the Board in the 1983 management plan; in compliance with Forest Practice Regulations associated with Maximum Sustained Production requirements. Annual allowable harvest nearly equal to estimated annual growth, which was estimated at 29 million board feet (MMBF) per year in 1983.	Compliance with Board Policy and Forest Practice Regulations associated with Maximum Sustained Production. DFMP constrains harvest to an average of approximately 31 MMBF per year and would continue to build inventory over time; LTSY approximately 45.2 MMBF per year.	Similar to C1, with a small reduction in long-term productive potential associated with increase in area dedicated to late-seral development. Plan constrains harvest to an average of approximately 31 MMBF per year; LTSY of 45.5 MMBF per year.	After increased allocation of timberland base to restoration of late-seral forest in expanded riparian areas (limited cutting allowed within the riparian zone to accelerate development of late-seral conditions, no further harvest after these conditions achieved), manage remainder of land base for compliance with Forest Practice	After allocation of the majority of the timberland base to restoration of late-seral forest conditions (no timber harvesting utilized), manage remainder of land base through limited harvest to promote development of late-seral forest. Harvest an average of about 8.1 MMBF per year (2, 4, 5) during the first 10-year period. LTSY	*Separate the SCAs and other areas where protection is paramount from the rest of the Forest and calculate separate long-term sustained yields for each area. Determine appropriate harvests based on habitat goals in these special areas.* Majority of forest not harvested since 1925 is treated as a special biological resource, which limits harvest

	First period harvest now estimated at an average of 35.6 MMBF per year. Long-term sustained yield (LTSY) estimated at to exceed 50.5 MMBF per year).			Regulations associated with Maximum Sustained Production; no clearcutting; other even-aged management very limited. Harvest an average of about 24.9 MMBF per year during the	approximately 62.1 MMBF per year.	potential. *Expanded riparian buffer zones with limited harvest intended to promote development of late-seral conditions. Large area established to*

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Growth and Yield

Establishes the OFSZ, late-seral development areas, and the WLPZ as areas where habitat development and restoration, and watershed processes are of highest importance. Manage the general forest to develop and maintain maximum sustained production of high quality forest products. Accounting for harvest reductions associated with special concern areas, annual allowable cut produced by forest structure goals will be within a range of 20 to 25 million board feet per year. Long-term sustained yield

first 10-year period; LTSY of 53.2 MMBF per year.	*promote develop-ment of habitat for the marbled murrelet and late-seral or old forest conditions.*	Harvest an average of about 19.3 MMBF per year. LTSY approximately 55.4 MMBF per year.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

estimated to be 56 million board feet per year at the end of the 100-year planning period.

No timber sales (2, 4, 5).	Similar to C1 but with a somewhat higher annual average harvest level.	Estimated 3- 5 timber sales per year with 2-15 MMBF per sale.	Same as C1.	Estimated 1 to 3 timber sales per year with 2-11 MMBF per sale, also some very small sales designed for local small mill owners.	Estimated 1 to 3 sales per year with 2-10MMBF per sale (2, 4, 5). *Each timber plan shall be approved by the advisory committee (3).*	*Estimated 1 to 3 timber sales per year with 2-8 MMBF per sale*
No active management for species diversity.	Intent of management is to promote maximum sustained production of high quality timber products, concentrated upon growth and yield of valuable redwood	Manage to promote natural mix of native species and proper ecological balance. Reduce hardwood site occupancy and occupancy by other minor forest species where they exist beyond natural	Similar to C1 with increase in area dedicated to development of late-seral forest conditions.	Uneven-aged harvest and natural regeneration with minimal species control.	Similar to D with attempt to imitate old-growth forest species mix and structural balance.	*Promote native species mix similar to original species mix in most areas within the constraints of the allowed silvicultural practices.*

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

TIMBER SALE PROGRAM—10-YEAR FIRST PERIOD.
Establishes a short-term harvest schedule that includes demonstration of a broad range of silvicultural systems, aimed at creation of a wide set of forest and habitat conditions available for future demonstration and research. Estimated 3 to 6 timber sales per year with 1 to 5 million board feet per sale.
Conifer Species Diversity
Create and maintain species diversity typical of unmanaged redwood, Douglas-fir forest. Strive for natural levels of hardwood while promoting high growth and yield of

and Douglas-fir. Minor species have limited recognition for habitat values.				historic levels, and restore with native conifers.		
No active management.	Hardwoods are recognized for their habitat value on a limited basis, but an aggressive campaign to reduce hardwoods and replace them with native conifers would be implemented over time. Actively manage stands to maintain or reduce hardwood stocking to levels similar to expected natural levels. West end managed to maintain current hardwood levels of about 10% of stand basal area; east end managed to reduce hardwood occupancy to about 15% of stand and	shift back towards native conifers.	Same as C1.	Manage hardwoods as a significant stand component to demonstrate development of high quality hardwood trees, habitat and product values. Allow hardwoods to achieve larger sizes. Hardwood management may be subsidized by the overall timber program.	Manage hardwoods to maintain a species mix and structure similar to old-growth forest.	*In areas available for forest management, manage hardwoods to the extent necessary to achieve levels associated with old forest within the constraints of the allowed silvicultural practices.*

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

conifers, especially redwood. Reduce hardwood site occupancy where tanoak has achieved unusually high levels due to past management activity.

Hardwood Management

Actively manage stands to maintain or reduce hardwood stocking to levels similar to expected natural levels. Recruit hardwoods into larger size classes, and with structural habitat elements of value to wildlife.

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Little or no review needed since no timber management would occur.	Review projects as required by the Forest Practice Rules and as otherwise required by project-level CEQA review.	Review THPs as per Forest Practice Rules and involve a Certified Engineering Geologist in review of activities on potentially unstable slopes or within the inner gorge.	Same as C1.	No operations within inner gorge, review THPs as per Forest Practice Rules and Certified Engineering Geologist review of activities on potentially unstable areas.	Same as D.	*Review as per FPRs; apply NMFS short-term HCP guidance for delineating, mapping, and marking on ground any unstable areas before preharvest inspection. For each unstable area, determine probability of failure using best available science and participation of a geomorpholgical or geotechincal expert.* Maintain or improve slope stability by obtaining pre-review of proposed management projects by a certified engineering geologist. Review geologic hazard maps produced by CGS, as well as aerial photographs. Conduct detailed field evaluation of proposed projects.	
No yarding of	Similar to	Ground based	Same	Same as C1.	Same	Same as C1.	

timber (2, 4, 5).	C1, but with potential for routine utilization of tractors for yarding timber on slopes to the limits specified in the Forest Practice Rules.	yarding mostly limited to slopes <40%, cable on steeper slopes, and limited helicopter where road construction not possible or not desirable.	as C1.		as C1.	Same as C1

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Geologic Review Of Timber Management Areas
Yarding

Compliance with FPR limitations.						
Comply with FPRs and sediment TMDLs where applicable. No significant road construction or reconstruction; minor maintenance and major repairs limited to imminent failures (2).	Comply with FPRs and sediment TMDLs where applicable. No road management plan, maintain current road system and construct new road as necessary to facilitate forest management activity.	Comply with FPRs and sediment TMDLs where applicable. Roads and landings constructed and reconstructed as needed to support harvest operations. Road Management Plan includes inventory, construction, maintenance, and decommissioning standards. Decommission unnecessary and environmentally damaging roads.	Same as C1.	Similar to C1. No new road construction in Riparian Management Zones. Culvert replacements to accommodate 150-year flood event and should not be used where bridging is more applicable.	Similar to D plus aggressive road decommissioning in most of Forest.	Same as D. Implement aggressive road management plan, including inventory of roads and crossings, accompanied by maintenance plan and selected road decommissioning to remove roads in sensitive areas with potential to produce negative effects on slope stability and aquatic habitat. Strive to plan and construct new roads with minimal effect upon slope stability and largely disconnected from the stream network. Comply with FPRs and TMDL implementation plans where applicable.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

	Research-Driven Mission
Transportation (see also Road Management Plan)	

Fire suppression only; no active planning or management to reduce fire risks other than keeping roads open and maintaining existing facilities (2). Continued interaction with Unit Fire Protection Program. On going fire protection and prevention as part of on-going interaction with Unit Fire Protection Program, concentration upon water tanks, fuel breaks, road maintenance, staff training, and roadside slash reduction.	In addition to aspects of B and active fire suppression program, development and implementation of a comprehensive Fire Protection and Prevention Plan that includes vegetation management, consideration of fuels reduction through burning, shaded fuel breaks for fire defense. Potential for use of understory burning to enhance late-seral habitat development.	Same as C1. On going fire protection and prevention similar to B.	Similar to B with additional consideration of understory burning to imitate natural conditions associated with late-seral forests.	Same as C1. Same as C1

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Fire Protection

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Limited use for road maintenance.	Use as necessary in compliance with legal restrictions and label to treat roadside vegetation, control invasive species, and control hardwoods and brush in harvest units.	Use as part of an integrated pest management pro-gram to control invasive plant species, for hard-wood control in cut-ting units, and use for road maintenance. Herbicides repre-sent a tool that can be used in an inte-grated fashion with other mechanical and cultural treat-ments to achieve the desired man-agement objectives.	Same as C1.	Stop the use of chemicals in vege-tation control and site preparation. Provide a three-year moratorium on chemical use for control of invasive species. Explore and develop alter-natives to using chemicals for vegetation control.	No herbicide use. *Demonstrate alter-natives to herbicide use. Use herbicides only if other approaches fail.*	Effectiveness and feasibility analysis required for operational use of herbicides. Limited herbicide use as part of an integrated pest management program. Strive for effective manage-ment and control of invasive species to protect and maintain rare native plants and a natural mix of native species and plant communities. Limited herbicide use considered with a mix of mechanical and other vegetative treatments to promote natural levels of native hardwoods.	

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Herbicide Application

Comply with FPRs and sediment and temperature TMDLs; however, there will be little or no application due to minimal management activity.	Comply with stream buffer specifications, equipment use restrictions, and other limitations near watercourses as established in the FPRs and sediment and temperature TMDLs.	Comply with FPRs and sediment and temperature TMDLs. Augment FPR minimum standards to retain 10 largest conifers within 50 feet of stream per 330 feet of stream length, 25-foot inner band w/no cut or limited entry for habitat improvement with minimum 85% canopy; retain minimum 240 sq ft. conifer basal area, only one harvest per 20 years; 125-foot outer band with 70 to 85% canopy retention, or as needed to comply with FPR; no fire ignition in WLPZ; no	Same as C1.	Comply with FPRs and sediment and temperature TMDLs. Riparian Management Zone (RMZ) typically to extend to width equivalent to height of two site potential trees (at 200 years of age), which may be 400 feet or more on either side of the watercourse. No cut in inner half or limited cut to promote recovery and protection; once late-seral conditions achieved, harvest only as necessary to maintain late-seral. In outer half of RMZ, single-tree selection harvest allowed, with	Most Class I watercourses and adjacent area would not be managed for timber production, but some limited management could occur to facilitate development of late-seral forest within the riparian management zone. Comply with FPRs and sediment and temperature TMDLs plus NMFS short-term HCP guidelines, which require: designation of an Aquatic Protection Zone (APZ) that is equal to the greater of one site-potential tree height or	Develop late-seral forest conditions within the WLPZ. Maintain high levels of shade on the ground and water surface to keep water temperatures in favorable range for salmonids. Grow large trees and develop snags and large logs to maintain and promote natural ecological watershed processes. Test alternative management methods in designated sub-watersheds. Test proposed regulatory standards. Conduct such tests in consultation with partners such as

		salvage in WLPZ; retain all native hardwoods,		maximum basal area removal of 30% and maximum	180-feet; APZ may be further widened depending upon inner gorge, unstable area, or slopes >50%; most management activities excluded in APZ, including harvest. APZ to be managed to establish late successional habitat.	the

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

SPECIES PROTECTION
Aquatic Species
---Class I Watercourse

recruit late seral elements and characteristics.		length rotation; manage to achieve and maintain late seral conditions. Full suspension of logs within RMZ whenever possible.			Department of Fish and Game, and the Regional Water Quality Control Board.	
Comply with FPRs and sediment and temperature TMDLs; however, there will be little or no application due to minimal management activity.	Comply with FPRs and sediment and temperature TMDLs.	Comply with FPRs and sediment and temperature TMDLs. Augment FPR minimum standards to retain 10 largest conifers within 50 feet of stream per 330 feet of stream length, 25-foot inner band w/no cut or limited entry for habitat improvement with minimum 85% canopy; retain minimum 240 sq ft. conifer basal area, 75-foot outer band with high basal area and canopy retention. No fire ignition in WLPZ; no salvage in WLPZ;	Same as C1.	Comply with FPRs and sediment and temperature TMDLs. RMZ typically to extend to width equivalent to height of 1.5 site potential trees (at 200 years of age), which may be 300 feet or more on either side of the watercourse. No cut in inner half or limited cut to promote recovery and protection; once late-seral conditions achieved, harvest only as necessary to maintain late-seral. In outer half of RMZ, single-tree selection	Same as D in the managed area of the Forest. Comply with FPRs and sediment and temperature TMDLs plus NMFS short-term HCP guidelines, which require: designation of an Aquatic Protection Zone (APZ) that is equal to the greater of one site-potential tree height or 180-feet; APZ may be further widened depending upon inner gorge, unstable area, or slopes >50%; most management activities	Similar to Class I watercourses.

				harvest	excluded in APZ, including harvest. APZ to be managed to establish late	

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

---Class II Watercourse:

retain all native hardwoods, recruit late seral elements and characteristics.		allowed, with maximum basal area removal of 30% and maximum length rotation; manage to achieve and maintain late seral conditions. Full suspension of logs within RMZ whenever possible.			successional habitat.	
Comply with FPRs and sediment and temperature TMDLs; however, there will be little or no application due to minimal management activity.	Comply with FPRs and sediment and temperature TMDLs.	Comply with FPRs and sediment and temperature TMDLs, plus 25-foot ELZ for slopes <30% and 50 feet for slopes >30%. May be expanded for site-specific conditions; no fires ignited within 50 feet of channel; majority of LWD shall remain following burning in ELZ.	Same as C1.	Comply with FPRs and sediment and temperature TMDLs. RMZ with 100-foot width; no cut in inner half or limited cut to promote recovery and protection; once late-seral conditions achieved, harvest only as necessary to maintain late-seral. In outer half of RMZ, single-tree selection harvest allowed, with maximum basal area removal of	Same as D in the managed area of the Forest.	Comply with FPRs and sediment and temperature TMDLs plus NMFS short-term HCP guidelines, which require: designation of an Aquatic Management Zone (AMZ) that is 100-feet or wider depending upon unstable area or slopes >50%; most management activities excluded in first 30 feet or more where unstable areas are

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

---Class III Watercourse
Similar to C1.

30% and maximum length rotation; manage to achieve and maintain late seral conditions. Full suspension of logs within RMZ whenever possible.	present; in outer part of AMZ, conifer basal area may not be reduced to less than 50% of a fully stocked stand per empirical yield tables and may be harvested only if adjacent harvest units are commercial thinning or single-tree selection as a part of the same THP. AMZ to be managed to establish late successional habitat.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Protect to avoid "take".	Similar to A; survey potential habitat within or near project areas; protect active sites as necessary or as specified after consultation with USFWS.	Protect to avoid "take". Objective to maintain or increase number and productivity of nesting pairs. FPR protection and consultation as needed with USFWS on a THP/project basis; silvicultural allocation plan and silvicultural practice retains and creates habitat available for NSO. As budget allows,	Same as C1.	Similar to C1 with emphasis on expanded late-seral habitat recruitment in the riparian management zone. Experimentation with structural attributes similar to old-growth forest for wildlife enhance-ment. Expand staff expertise to include biologist.	Similar to D. Potential habitat created over time by increasing area dedicated to development of late-seral forest and vastly reducing area dedicated to timber production (2, 4, 5).		Similar to D, though more area dedicated to late-seral habitat. Same as C1

		expand more staffing to include greater biological expertise.				
Protect to avoid “take” per Fish and Game Code. Protect existing active nest sites.	Similar to A; comply with FPR requirements for individual projects.	Objective to maintain or increase the number and productivity of nesting osprey; management	Same as C1.	Similar to C1. Opportunities for snag development increased by expanding area dedicated to	Similar to D, but with vastly expanded opportunity for snag development through increase in	Same as C1. Same as C1. Additional large trees and large snags increased in OFSZ and late-seral development area in

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Terrestrial Wildlife
--Northern Spotted Owl (NSO)
--Osprey

practices enhance nesting opportunity; retain existing snags; snag retention targets established; restrict log hauling within 300 feet of active nest; FPR protection and consult with CDFG as needed on a THP/project basis.		development of late-seral forest within the expanded riparian management zone and through experimentation with development of old-growth structural elements.	area dedicated to late-seral forest development.		Upper Russian Gulch and lower Big River areas.
Avoid “take” as necessary. Survey potential habitat if management activity has potential for “take”; consult with CDFG/USFWS for occupied habitat, No specific MAMU habitat recruitment.	Similar to A; Consult with CDFG/USFWS for occupied habitat, No specific MAMU habitat recruitment,. Survey potential habitat in and near THPs and other projects with potential for “take”.	Protect all identified old-growth groves (459 acres); recruit late-seral forest within 492-acre buffer around Road 334 grove, 38-acre buffer around Upper James Creek Grove, 250 acre buffer around waterfall grove complex; additional silvicultural restrictions adjacent to habitat buffer; protocol surveys in potential habitat;	Similar to C1 with increase in area dedicated to development of late-seral forest conditions, primarily in the vicinity of upper Russian Gulch, lower Big River, and upper Thompson Gulch.	In addition to provisions of C1, no harvest in Woodlands STA (approx. 2,500 acres), except for some thinning from below to enhance marbled murrelet habitat where biologists think that it is good science, and substantial increase in recruitment of late-seral forest in the broad RMZ.	Similar to C1, plus additional late seral habitat development across the entire Forest Creates a 3,498-acre Marbled Murrelet Recovery Demonstration Area (MAMU Area), consisting of two sections at the headwaters of Jughandle Creek and Russian Gulch. These areas would be managed to maintain and develop a closed canopy, avoid conditions favorable to corvids, avoid

					firearm use, and

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

--Marbled Murrelet (MAMU)

In addition to C1, provides a 1,549-acre marbled murrelet habitat development area in the Russian Gulch and lower Big River areas to be managed for development of late seral forest conditions. Creation of 6,803-acre OFSZ also will provide additional potential murrelet habitat over time.

seasonal buffers for occupied habitat; disturbance buffers for occupied habitat; USFWS and CDFG consultation for activities adjacent to potential habitat; 2,224 acres of Mendocino Woodland STA managed to recruit potential MAMU habitat, protocol surveys for THPs/projects .	apply tested nest limb development techniques.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Avoid "take" per Fish and Game Code.	Similar to A, plus FPR protection in THPs.	Surveys in potential habitat on a project basis; 100 acre nest site and 300 acre post fledging area protection zones for occupied NOGO nest sites; CDFG consultation for occupied Cooper's nest site if found; seasonal and disturbance buffers as per FPRs and on a consultation basis with CDFG.	Same as C1.	Same as C1.	Same as C1.	Same as C1.
No specific protection.	No specific protection.	Retain trees with suitable cavities; in even aged areas retain all snags; retain large firs in WLPZ as snag recruitment; no salvage in WLPZ, MAMU buffers; retain large fir trees in or near even-aged areas in suitable habitat locations; snag	Same as C1.	Similar to C1, with potential for expanded habitat area associated with broad riparian management zones.	Similar to C1, with potential for expanded habitat area associated with extensive area managed to promote late-seral forest development.	Same as C1. Same as C1. Additional large trees and large snags increased in OFSZ and late-seral development area in Upper Russian Gulch and lower Big River areas.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

--Northern Goshawk (NOGO) and Cooper's Hawk

Same as C1, plus additional large trees and large snags increased in OFSZ and late-seral development area in Upper Russian Gulch and lower Big River areas
--Vaux’s Swift and Purple Martin

recruitment targets for fish and wildlife SCAs and general forest.						
No specific protection.	No specific protection.	Manage to maintain significant potential habitat of Douglas-fir trees in a connected state.	Same as C1.	Similar to C1, plus retain all identified RTV nests. To the extent that the species prefers late-seral forest habitat, provides for expanded riparian management zone intended to develop into late-seral forest.	Similar to C1 plus retain all identified RTV nests. To the extent that the species prefers late-seral forest habitat, provides for expansive area of late-seral forest habitat development.	Same as C1. Same as C1
No specific protection.	Compliance with FPR; Protect known populations and incidental discoveries of populations of rare, threatened, and endangered species, project surveys only as required by THP review process and CEQA compliance.	Surveys in potential habitat on a THP or project basis; design projects to prevent significant negative effects to rare plant populations; provide survey results to CDFG; maintain and promote habitat conditions suitable to meet species habitat requisites.	Modify C1 adding a current list of species considered as recommended by DFG and more formalized scoping, survey, consultation, and recording process.	Same as C1.	Same as C1.	Similar to C1, plus phase in Forest-wide floristic survey as funding permits. Same as C1

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

--Red Tree Vole (RTV)
--Rare Plants

Use integrated pest management to control invasive species with potential to impact rare plant habitats.					
Forest open to the public with no active development of recreation facilities, minimally maintain existing facilities (2).	Maintain existing facilities, continued recreation use at levels similar to current use; conduct user survey; plan for potential increase in facilities; demonstrate compatibility between forest management and recreation; use recreation program to educate the public about forest management.	Similar to B; Maintain and improve existing facilities, develop recreation corridor at two main camping areas; establish aesthetic buffer with restricted silviculture adjacent to campsites, roads, trails, and neighboring rural residential homes; survey users for adaptive management purposes; surface roads heavily used for recreation; collaborate with Department of Parks and Recreation and	Similar to C1 with provision to increase signage associated with timber operations and other closures and restrictions. Similar to C1, with increased emphasis on recreation with development of new and improved trails, mitigate timber harvest specifically to address recreation. Hire staff with recreational background or education; rock high-use recreational roads; improve trail system; work with State Parks on joint trail systems; the priority of recreation should be increased when planning timber harvests; include	Develop low impact recreation opportunities where they do not present a significant risk to fish or wildlife.	Similar to C1, plus make visitor use a primary consideration in older forest areas. In Road 408, 409, 500, Caspar and Mendocino Woodlands areas, emphasize *management consistent with visitor use including visual mitigation, slash minimization, and consideration for mycological resource.* Similar to C1. Create recreational user group and utilize JDSF advisory committee to advise CDF on recreational needs and management of recreational resources.

			resource scientists on the		

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

OTHER MANAGEMENT AREAS
Recreation

Mendocino Woodlands Association.				recreation staff.		
No provisions for consideration of aesthetics.	No specific constraints; compliance with FPR which requires consideration of cumulative effects in THPs.	Aesthetics consideration in development of silvicultural allocation plan; establishment of aesthetic buffers adjacent to campgrounds, trails, selected roads, and adjacent to designated rural residential neighborhoods.	Similar to C1, with increased level of review, analysis, and mitigation provided in planning for individual timber harvest activities and even-aged timber harvest proposals.	Similar to C1 but with greater emphasis upon aesthetic values; timber operations must be compatible with recreational use. Expanded riparian management zone expected to provide increase in aesthetic values.	Reduction in forest management activity expected to provide increase in aesthetic values.	Similar to C1, plus maintain and enhance appearance of ridgeline forest stands. Similar to C1, plus additional late seral forest development area in Russian Gulch/lower Big River plus OFSZ will provide substantial additional areas with larger trees and light touch management that will provide and maintain high aesthetic values.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Aesthetics

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Limited research and demonstration of non-managed forest development (2, 4, 5).	Conduct forest management demonstrations as opportunities arise; no formalized demonstration plan; maintain the Caspar Creek Watershed research project.	Development of a Research and Demonstration plan element of the Forest Management Plan, plan for and implement a wide range of research and demonstration projects; form partnerships with other entities, construct a Forest Learning Center; manage the forest to create a variety of forest conditions available for future research and	Similar to C1 with increased level of detail and planning associated with the research and demonstration plan. Research and demonstration focused on converting even-aged stands to uneven-aged condition and development of late-seral forest; Increased emphasis on importance of hardwoods as habitat and product potential. Demonstrate the effects of	Research and demonstration focused on the study of vegetation and watershed and how they change over time with management intended to develop old-growth structure (2, 4, 5).	Research related to intensive forest management and its effects (including even-aged management) likely reduced due to reduction or elimination in scope of intensive forest management. Research and demonstration shall address all aspects of forest resource management, including timberland productivity, and habitat develop-ment and	Creates research-driven mission, while incorporating most of Alts C1, D, and F. Develop and maintain a wide range of forest conditions, age classes, and seral stages available for future research and demonstration. Demonstration of a broad range of management practices and forest manage-ment methods, from preservation to intensive forest

		demonstration. Continued ongoing research and demonstration, including economical forest management.	single-tree selection and other all age silvicultural systems to wildlife and streams. Determine how many older trees and other forest components are needed in an area for enhancement of wildlife and how		restoration, and shall promote the revitalization of the region's environ-ment, economy, and timber production capacity (from revisions proposed to PRC§ 4639 and 4665 in SB 1648). Require preharvest and postharvest monitoring and publication of results as an integral component of any experiments	management, including even-aged and un-even-aged methods. Establishes two demonstration, experiment, and education areas where multiple

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Research & Demonstration

Aggressively explore and develop alterna-tives to chemical methods of vegetation control.	*Research impacts of Class III stream buffers.*

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Managers and users of parks and wilderness areas (2, 4, 5).	Researchers and educational institutions, landowners managing timberlands for moderate levels of timber production and wildlife protection, and low level of recreational use.	Researchers and educational institutions, landowners, general public, agencies, and elected officials interested in comparisons across a broad range of forest management approaches with the goal of elevating wildlife, watershed, and ecosystem protections within a management system primarily financed by timber production.	Same as C1.	The nonindustrial forestland owner is to be the primary client base. Researchers and educational Institutions, landowners, general public, agencies, and elected officials interested in uneven-aged forest management with increased emphasis on using strong riparian and late seral protection measures.	Researchers and educational institutions, landowners, general public, agencies, and elected officials interested primarily in the development of late seral forests.	Researchers and educational institutions, managers and users of parks and wilderness areas. Managers and landowners with a primary interest in developing forests dominated by older trees and in significant stream restoration and road improvement projects. Same as C1.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Primary Demonstration Clientele

None.	None.	Includes a detailed monitoring and adaptive management plan, including definition of monitoring goals, parameters and data collection, and analysis and adaptive management.	Same as C1.	A Forest-wide fully funded, scientific monitoring program to assess biological and physical aspects of aquatic resources. Standardized to include: monitoring salmonid populations and habitat.	A monitoring program would be implemented to gain and distribute knowledge on the restoration of old-growth and late-seral forests, natural watersheds, and associated resources.	Same as C1.
No road management planning; maintain roads as needed to avoid loss of facilities or violation of rules and regulations (2).	No specific road management plan, construct and maintain roads as needed to support operations; occasional decommissioning of unnecessary roads in conjunction with timber operations.	Implement Road Management plan as outlined in DFMP; plan includes standards for 5-year inventory, construction, maintenance, decommissioning; establishes plan to schedule repair and decommis-sioning work.	Same as C1.	Similar to C1. Culvert replacements accommodate 150-year flood event and should not be used for bridging is more applicable.	Similar to C1, but aggressive road decommissioning will occur in most of forest.	The road inventory proposed in C1 should be completed as soon as possible and maintenance and repair projects undertaken in an expedited fashion. These expenditures will take priority over other forest management expenditures.

						Same as C1, except with accelerated 3-year road inventory and greater emphasis on funding and implementing road repair and decommissioning.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Monitoring and Adaptive Management Program
Same as C1.
Road Management Plan

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
Same as C1 with limited access due to road closures.	Relatively unrestricted public access by permit for collection of salvage sawlogs, dead and down firewood, greenery, mushrooms, split products.	Restricted public access by permit for the following products available to the public: salvage saw logs, poles, split products, greenery, mushrooms and firewood; area and other restrictions included on permits intended to protect riparian areas, structural habitat elements, and down old-growth material.	Same as C1.	Similar to C1 with additional restrictions; provide greater access to local citizens for collection of some minor forest products.	Similar to C1 although restricted to remaining Forest area available for limited management, additional restrictions to limit effects on old-growth development.	Same as C1. Same as C1.	
Limited use of existing pits for road maintenance while remaining in compliance with all applicable rules and regulations.	Unrestricted use and development of rock pits subject to all applicable rules and regulations.	Most road rock is brought in from off site rock pits with very limited use of existing pits for Forest road work; possible development of	Same as C1.	Same as C1.	Decreased level of activity at existing pits and no new development.	Same as C1. Same as C1.	

		new pit(s) in compliance with all existing rules and				

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Minor Forest Products
Rock Pits/Quarries

regulations; recognition of ecological value of potential new pit development areas.						
Minimal; only as necessary to maintain open roads (2).	Treat invasive species on a case-by-case basis; not subject to planning or thorough consideration.	Integrated pest management approach with emphasis upon prevention; provision for suppression of invasive species; eight planned actions in the DFMP. Cultural, mechanical, and other alternative control methods considered in addition to, or in combination with herbicide use. Continued research and demonstration of a variety of control methods.	Same as C1.	Use of herbicides prohibited for at least a 3-year period. Demonstration of a non–herbicide control methods during moratorium.	Similar to C1, but without the use of herbicides.	Use herbicides as a last resort to protect forest resources. Conduct research and demon-strations on alternative eradication strategies. Same as C1, though with more restrictions on herbicide use.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Invasive Species Control

Retain existing old growth with no late seral development; natural stand development over time.	Per informal local policy, retain existing old growth groves, limited harvest of residual old growth trees, with no late seral development.	Retain existing old growth groves, retention of large residual old growth trees and old trees with structure, late seral development in selected SCAs and riparian protection zones; retention of structure in many even-aged prescriptions. Approximately 20% of the Forest dedicated to development of late-seral forest.	Similar to C1 with increase in area dedicated to development of late-seral forest conditions.	Retain existing old growth groves and old growth trees; late seral development in Woodlands STA and wide riparian management zones.	Retain all old growth groves and residual trees; main emphasis of management is to develop old growth forest characteristics across the Forest (2, 4, 5). Timber harvest shall not occur in stands of old growth. Any tree alive since 1850 or earlier shall not be subject to any timber harvest unless posing a health or safety hazard to person or property.	Late seral development will be promoted in MAMU Area, riparian zones, and, to some extent, in areas unentered in past 80+ years. Preserve old-growth groves. Retain large old growth trees and old growth trees with designated structural elements of value to wildlife. Develop late seral habitat within the WLPZ, within designated areas adjacent to old-growth groves, within most of the Mendocino Woodlands STA, and in

						the Upper Russian Gulch and lower Big River areas. Establish an older forest structure zone corridor across the forest. In total, 33% of the Forest dedicated to maintenance or development of older forest

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

HABITAT MANAGEMENT

Old Growth Forest, Late Seral Forest, and Old Trees

habitats in an uneven-aged condition. Maintain some large tree structure in most even-aged prescriptions. Recruit large snags and large logs throughout the Forest.					
Not applicable since no management activity. Forest Practices Rules. See details above under Aquatic Species Protection.	Zone widths as determined by Forest Practice Rule provisions, augmented by increased retention. See details above under Aquatic Species Protection.	Similar to C1 with additional restriction on timber removal when channel LWD is considered deficient. See details above under Aquatic Species Protection.	Ensure that silvicultural man-agement within the riparian manage-ment zones pro-vides for the rapid return to the natural (historical) ecological functions of riparian vegetation and en-tire riparian eco-systems (where past practices or natural events have diminished the diversity and functioning of	See description above under Aquatic Species Protection.	See description above under Aquatic Species Protection. Similar to C1. See description above under Aquatic Species Protection. Also, test variation of protection, enhancement, and management provisions for cost and effectiveness. Conduct demon-strations or tests of proposed regulatory standards in consultation with potential

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Riparian Zone (See also Aquatic Species Protection described above)

riparian plant communities or entire riparian eco-systems). See details above under Aquatic Species Protection.			cooperators such as DFG and Water Quality.			
No management.	Forest Practices Rules.	Forest Practices Rules with protection of wetland site integrity and hydrologic function.	Same as C1.	FEMAT.	FEMAT.	Forest Practice Rules and NMFS short-term HCP guidelines. Same as C1.
No management.	Forest Practices Rules; no specific targets.	Terrestrial: Retain at least 2 down logs per acre 20 ft. long by 16 inches large end diameter with at least 1 log per acre 20 ft. long by 24 inches large end diameter. Instream: no salvage within the channel zone or riparian zone.	Similar to C1 with additional restriction upon timber removal in the riparian zone when channel LWD levels are considered deficient.	Similar to C1, but with increased potential for recruitment from the broad riparian management zone.	Similar to C1 with increased potential for recruitment from emphasis on late seral development.	Similar to C1 plus NMFS short-term HCP restrictions on salvage and sanitation logging in APZ and AMZ. Set targets in consultation with CDFG. Coordinate with salvage program to avoid conflicting management. Same as C1. Established minimum targets for snags and down logs throughout the general forest and in habitat SCAs. No salvage of snags or logs within the WLPZ.

						LWD survey, recruitment, and placement

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Wetlands
LWD

management measure provided.						
No management.	Forest Practices Rules; no specific targets.	In wildlife special concern areas retain 3 snags per acre >20” dbh with at least 1 > 30” dbh, in general forest retain at least 1 per acre >30” dbh, uneven distribution to provide best snags in the best locations, indirect recruitment; salvage highly restricted.	Similar to C1 with provision to retain all snags in timber harvests with the exception of those that pose a fire or safety hazard, or are within the alignment of roads proposed for construction.	Similar to C1.	Similar to C1 with increased emphasis on late seral development. Similar to C1. In older forest areas, enhance recruitment of snags and down wood via maintenance of high stocking levels.	Retain all snags in timber harvest areas with the exception of snags that pose a fire or safety hazard, or are within the alignment of roads proposed for construction. Same as C1. Established minimum targets for snags and down logs throughout the general forest and in habitat SCAs. No salvage of snags or logs within the WLPZ.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Snags

Hardwoods (See Hardwood Management, above.)

A Minimal Management	(No Project) B Continue 1983 Plan	(No Project)	C1 May 2002 DFMP (proposed project in 2005 DEIR)	C2 CDF Nov. 2002 Plan	D CAC Proposal	E Late Seral Forests	F Older Forest Emphasis G
No consideration or change in existing conditions other than natural forest development.	No specific direction to develop habitat connectivity, riparian zone standards per FPR with some site-specific augmentation; provide limited development.	Management to provide late seral characteristics in managed stands, riparian zones and SCAs with late seral emphasis.	Same as C1.	Similar to C1 with larger riparian zones and additional no or minimal harvest SCAs.	Specific emphasis on old growth development (2, 4, 5) will tend to promote habitat connectivity across the Forest.	Build contiguous older forest habitat, linking the existing old growth groves and some of the old second-growth. Ensure that at a minimum there is a watercourse-based core that links all the key areas with linkages over the divide into key areas in adjacent watersheds. Less stringent protection would be required outside of the	

						defined linkage corridors.

Table II.4. Comparison of Management Approach and Elements Among Proposed Alternatives. (See section II.5 for an explanation of text formatting for Alts. A, D, E, and F.)

Research-Driven Mission

Habitat Connectivity

Connectivity provided by recruitment of late seral habitat in the Class I and Class II WLPZ, combined with late seral habitat development in the Woodlands STA, Upper Russian Gulch, and lower Big River areas adjacent to existing state parks. Link designated old-growth groves to the WLPZ and other forest habitats through creation of the OFSZ, a linked forest habitat corri-dor extending across the forest. Diverse forested habitat created or retained in majority of the Forest

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