

Each Section color coded for review:

**Yellow = To Review**

**Redline = changes since Draft 8**

**Aqua = place-holding**

## Landscape Section Table of Contents

### I. Introduction

### II. Matrix Forestry

- A. The Matrix Lands
- B. The Development of Matrix Forestry
- C. Silviculture Goals and Guidelines for Harvests in Matrix Lands not Associated with Approved Research and Demonstration
- D. Silviculture in a Research and Demonstration Context within the Matrix

### III. Older Forest Structure Zone

- A. Definition of OFSZ
- B. Research and Demonstration within the OFSZ
- C. Recommendation re OFSZ
- D. Rationale for Augmenting the Old Forest Structure Zone

### IV. Components of the OFSZ and Recommendations

- A. Older Forest Development Area
  - Goal
  - Guidelines for Timber Harvest
- B. Late Seral Development
  - Definition
  - Silviculture
- C. Old Growth Groves
  - Definition

No Silviculture

D. OFSZ Reserves

Camp 3

Caspar Controls

E. Specific OFSZ Recommendations

**V. OTHER Reserves**

Where Reserves were added and Why

Indian Springs Fire Study

Bob's Woods

Jughandle

Hardwood

**VI. Census Votes on Allocations**

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**VI. Woodlands**

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Recommendations

**VIII. Other Landscape Management Recommendations**

A. Campground Buffers

B. Buffers for Old Growth Trees Outside Reserves

C. Even-aged Management

D. Presenting THPs to JAG for Review

**IX. Maps**

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Map Figure A: Location of Designations Modified by JAG

Map Figure B: Proposed Landscape Allocations Integrated with Existing

**Appendix 1. Excerpt of JAG Charter Regarding Landscape and Allocation,  
Identifying Recommendations JAG Is Making In Response**

### **Appendix 2. Matrix/ OFD/ LSD Compared**

Chart comparing Matrix/ OFD/ LSD Silviculture

Definitions of Matrix, OFSZ, OFD, LSD, collected

### **Appendix 3. Allocation Changes**

Table 2: Allocation Changes, Approximate Acreages, Rationale, and MP Goal  
[Attached as a separate file]

### **Appendix 4. Context for Silviculture and Allocation Recommendations**

### **Appendix 5. Degree of JAG member support**

Are we making this an Appendix to the whole report as I suggested?

## **I. Introduction**

The Charter of the Jackson Demonstration State Forest Advisory Group (JAG) provides broad direction for JAG to review the 2008 Management Plan and make recommendations regarding landscape allocations and management activities. Among other charges, JAG was specifically asked to review goals for future forest structure, silviculture to attain those goals, and the extent

and location of areas to be dedicated to late seral development and older forest structure. (See Appendix I, Charter Excerpt)

Early in the JAG process, members volunteered for and were appointed to committees, including the Landscape Committee, which did extensive preliminary work. The committees met regularly, often once a month between regular JAG meetings, and JAG Chair Dr. John Helms often participated. Periodically, the committees brought recommendations to the full JAG for discussion and feedback. Each recommendation of a committee was reviewed, discussed, often modified, and then adopted by the full JAG. *The recommendations in this Report are those of the full JAG.* The process leading to these recommendations is described below.

JAG has asked staff to project potential changes in timber harvest attributable to JAG's allocation and silviculture recommendations compared to timber harvest proposed by the 2008 Management Plan. When the projections are available, JAG will review them to determine whether modifications to its recommendations are warranted.

## **Background**

For a number of months, meetings revolved around a general discussion of desired future conditions as they related to the many Management Goals for JDSF that are articulated in the 2008 Management Plan. Discussions also often revolved around how management might be modified to better satisfy stakeholders.

A number of themes and principles developed:

- Assuring harvest levels to sustain the operations of the forest
- Providing a wide variety of Research and Demonstration opportunities
- Satisfying key concerns of stakeholders
- The extent to which it is possible and desirable to mimic natural processes given the many mandates under which the forest operates
- The place of even-aged management outside the Research and Demonstration context
- How to best fulfill the Goals and Guidelines articulated in the Management Plan
- Other specific issues identified over time or within the Charter

The JAG spent a great deal of time considering whether and how to develop a default silviculture that could be used to guide timber harvest throughout the areas of the forest not designated for special treatment and when no particular research or demonstration project was proposed. JAG recognized it was particularly important that any broadly applied silviculture at JDSF must assure harvest volumes sufficient to support the operations of the forest. With these considerations in mind, JAG created the Matrix Forestry provisions as described in Section II of

this report. The rationales and development process are more thoroughly discussed in that section, and the regional context for those decisions is described in Appendix 4.

The JAG identified locations where it believed that a reallocation toward more Older Forest Structure (OFSZ) was desirable to fulfill the Goals and Guidelines of the Management Plan. These recommendations were generally made to provide more substantial buffering for old growth groves; to recognize the negotiated litigation settlement regarding two Timber Harvest Plans; to provide strengthened contiguity for the Older Forest Structure Zone; and particularly to create a more robust north/south Older Forest Structure corridor. The Goals and Guidelines for OFSZ silvicultures and specific allocation recommendations are articulated in Sections III and IV.

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The JAG also identified a number of areas where there were opportunities to recognize and study special landscape attributes, forest stand types, or particular stand histories and to assure that management would be consistent with maintaining those special attributes for research and demonstration. These areas are identified in Section V.

The JAG identified a set of hardwood-dominated areas with replicates in each major region of the forest to establish a land base from which to study the appropriate management of hardwoods in the landscape. These areas and the rationale for designating them are also discussed in Section V.

Management of the Woodlands Special Treatment Area (WSTA) presents a particular set of challenges because of the unique history of its transfer by the federal government, legal constraints, and the high-visitor-use state park that the WSTA surrounds. Section VII provides a set of recommendations designed to augment the management measures provided in the 2008 Management Plan for the WSTA.

Section VIII provides recommendations regarding a number of specific management issues identified either by the JAG or the Charter for review. These are:

- Campground Buffers
- Buffers for Old Growth Trees Outside Reserves
- Even-aged Management
- Presenting THPs to JAG for Review

Section IX contains maps identifying the landscape-allocation-related recommendations of JAG.

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Appendices 1-5 provide more detailed information and background material related to the recommendations in the Report.

Each recommendation was taken up and discussed in detail by the full JAG. In many instances, initial proposals were modified. The recommendations in these sections represent the landscape- and allocation-related recommendations of the full JAG. After each specific recommendation, a chart will indicate the degree of support. The votes on the landscape allocations are collected in

| Section VI. In the few instances where consensus was not achieved, the specific concerns leading to the disagreement are noted. A detailed tabulation of each JAG member's vote on each recommendation is included as Appendix 5. Or will it be an Appendix to the whole Report ??

The Landscape Recommendations work together with the other sections of the Report and the 2008 Management Plan to fulfill the charge given to JAG by the Charter.

## II. Matrix Forestry

### A. Matrix Lands Defined

JDSF "*Matrix Lands*" are those lands not allocated to *Older Forest Structure Zones* (Older Forest Development, Late Seral Development, Old Growth, and Reserves), or other Special Concern Areas defined in the Management Plan and are shown in Map Figure B. Matrix lands will be the primary areas allocated to research and demonstration where projects require treatments not compatible with the goals of the OFSZs, Reserves, and Special Concern Areas.

### B. The Development of Matrix Forestry

During the early months of the JAG, and subsequently in the committee meetings, there were a series of discussions about how the forest resources of JDSF could be managed to fulfill the legal mandates and goals of the forest while meeting the needs of the widest possible set of stakeholders. Keeping in mind the discussions in the full JAG, committee members explored to what degree it would be possible to mimic natural processes while conducting timber harvest sufficient to meet financial requirements and ensuring the broad set of stand conditions necessary to facilitate research and demonstration. This discussion included a review of the size and frequency of naturally occurring forest openings in the redwood region.

By September 2009 the JAG had created a draft set of silviculture Goals and Objectives intended to be applied to timber harvest not associated with research and demonstration in areas of the forest that were not allocated for Older Forest Structure or as Special Concern Areas. The method under consideration had as its goal the sustainable harvest of large, high value trees while creating multiple aged stands and complex structures similar to that found in older uneven-aged forests within the range of the coast redwood/Douglas-fir forest type.

To get feedback from redwood region foresters who were known as practitioners of this type of silviculture, JAG organized a field day where a group of invited foresters visited four sites chosen by JDSF staff. The purpose was to better understand the range of possibilities, benefits, limitations, advantages and disadvantages of such a designation for JDSF. The primary emphasis was to compare different approaches to this goal and the types of growth and yield projections that could be applied. JAG also solicited from this group information about research and demonstration projects that they had found helpful, those they would have liked to have seen

in the past, and the sort of research and demonstration they thought would be beneficial going forward. Extensive stand history was provided for the field sites.

The all-day field trip was held on October 24, 2009, with JAG member Linwood Gill (RPF # 2491) hosting the field day and providing the introduction and background on behalf of JAG.<sup>1</sup>

Four sites were introduced:

- Site 1: a second growth, hardwood challenged stand
- Site 2: a 65 year old unmanaged stand
- Site 3: a 120 year old unmanaged stand and
- Site 4: a 120 year old stand with two entries

Participants were asked to consider each of the stands and reflect on the maximum tree size, the number of age classes, growth and yield projections, wildlife considerations, species diversity and numerical targets for snags and logs. By the end of the day, the foresters had concluded that the silviculture they practiced, which was being proposed for general application at JDSF, could be productively applied to each of the stands presented in the field. **See Appendix XX for additional discussion of the field day. NO Time.** JAG members were energized by the field visit, and continued to develop and refine what came to be known as Matrix Forestry.

**Research and Demonstration in the Matrix:** To ensure that the needs of the Research and Demonstration program for varied stand conditions would be met, JAG adopted the principle that R&D needs would take priority over the application of Matrix Forestry as necessary to implement approved R&D projects.

**Forty-year Planning Horizon:** In the course of the refinement process, a divergence of views developed within JAG over whether or not to designate some trees within Matrix acres to be indefinitely retained. In part to resolve this issue, the JAG has chosen to restrict its management recommendations to a 40-year planning horizon. The 40-year time horizon, in effect, defers the decision on allowing some trees to grow to their natural ages to a later generation. The Matrix Silviculture recommendations of the JAG ensure that an ample number of larger trees will be available in 40 years to grow to old ages. Adopting the 40-year planning horizon permitted those with differing views on old-tree retention to agree on Matrix silviculture recommendations.

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<sup>1</sup> Attending were: Greg Blomstrom, Mike Jani (JAG), Bill Libby, Fred Euphrat, Forest Tilley (JAG), Mark Andre, Jere Melo (JAG), Marc Jameson (staff), Linwood Gill (JAG), Steve Butler, Pam Linstedt (staff), Nick Kent, Pascal Berrill, Mike Faye, Mike Liquori (JAG), Steve Zuieback (JAG facilitator), Mike Anderson (JAG), Steve Staub, Russ Henly (staff), Lynn Webb (staff), Greg Giusti, Craig Blencowe, Bill Hesler, Linda Perkins (JAG), Kathy Bailey (JAG), Richard Wilson, Ed Tunheim, Chris Browning, Henry Leibetz, Wally Stall, Lindsey Holm, Dan Porter (JAG), Vince Taylor (JAG), and Gerry Garvey.

**Modeling:** JAG has asked staff to project potential changes in timber harvest attributable to its recommendations compared to timber harvest proposed by the 2008 Management Plan. When the projections are available, JAG will review them to determine whether modifications to its recommendations are warranted.

The following sections outline the details of Matrix Forestry as JAG recommends it be applied both within the context of research and demonstration and when no particular research and demonstration project is proposed.

### **C. Silviculture Goals and Guidelines for Harvests in Matrix Lands not Associated with Approved Research and Demonstration**

**Goals** (to be implemented together as a whole)

- Allow and encourage research and demonstration projects throughout the Matrix.
- Manage the forestland at JDSF that is not included in Special Concern Areas, research and demonstration projects, or otherwise designated for a special status to develop a stand component of large, old trees that will be used for harvesting valuable timber and maintaining habitat as well as to provide a landscape that the community can feel good about.
- Use a variety of silviculture techniques and document stand responses to treatment.
- Maintain or increase timber harvest revenue over time, assuming reasonably normal economic conditions.
- Recognize and plan for aesthetic values.

#### **Guidelines**

Harvest on matrix lands will utilize single-tree selection, pre-commercial thinning, commercial thinning, and group selection as defined in the Forest Practice Rules with the following provisions and conditions applied. These conditions are to be addressed simultaneously and as a whole.

- Manage for stand components of larger diameter harvest trees
- Favor redwood where appropriate

- While protecting other forest resources, grow a component of trees in each stand toward the maximum size that can feasibly be harvested and milled without undue environmental impact to the site. \*
- Promote the growth of the larger and better phenotypes of conifers and hardwoods while maintaining and enhancing structural diversity for wildlife needs at the stand and landscape level.
- Retain old growth trees as defined in the JDSF Management Plan.
- Where no old growth trees are present, retain a component of dominant conifers, hardwoods, or both within each THP area outside the WLPZ for development of old forest structure across the landscape for at least the next 40 years.
- Depending on the planned reentry period, the percentage of basal area removal should range from 25-40%.
- Promote forest health and adequate regeneration that is free to grow for future harvest.
- Where stand conditions are such that adequate regeneration cannot be achieved by single-tree selection, small group openings should be used. Openings should be kept as small as possible, typically not greater than one and a half times dominant tree height in any direction, but not to exceed 2 acres. As the size of the openings increases, individual and/or small clusters of trees should be retained within the openings to provide desired structural characteristics.
- In stands historically dominated by conifers, and where previous management or fire occurrence has resulted in hardwood-dominated stands, exceptions may be made to the standard Matrix Silviculture Guidelines. Exceptions must be approved by the JAG upon recommendation of the Forest Manager.

\* Factors affecting feasibility include, but are not limited to site slope, yarding method, equipment access, mill utilization, and others. In 2010, depending on specific conditions, this may be approximately 48-72 inches DBH, but this is only an estimate and is likely to change over time. The JAG recognizes that as trees get bigger, the public may resist harvesting them, but it is JAG's intent that in the matrix area these trees will be available for harvest.

<b>Disagreement</b>	<b>Support</b>
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Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified
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Need Gill, Melo, Perkins Votes

**D. Silviculture in a Research and Demonstration Context within the Matrix**

Silviculture other than that described in Section C, including even-aged management, is expected to be a continuing component of operations in the Matrix lands of JDSF within the context of a

professionally designed research and demonstration program. Initially, an evaluation of these proposed harvests will be made by JAG until alternative review processes are developed.

In the period prior to the development of the full Strategic Research Plan and Structure, harvests in the Matrix implementing other than Matrix Silviculture will only be conducted in the purple-blue areas of Management Plan Map 5, and only for research projects that meet the Guidelines for Silviculture in a Research and Demonstration Context within the Matrix. These Guidelines are located in the Research and Demonstration Section of this Report.

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## **B. Research and Demonstration within the OFSZ**

Research and Demonstration within the OFSZ is to be conducted consistent with the management goals and guidelines recommended for each component of the OFSZ.

## **C. Recommendation**

JAG is recommending an expansion of acreage to be designated Older Forest Structure Zone, primarily via an increase of acreage designated Older Forest Development, which is a subset. (see [Map Figures A and B](#))

## **D. Rationale for Augmenting the Older Forest Structure Zone (OFSZ)**

The JAG Charter requests recommendations regarding the Older Forest Structure Zone and the extent and location of Late Seral Development Areas and Older Forest Development Areas. In this context, JAG reviewed the relevant goals in the Management Plan.

Goal #2 of the 2008 Management Plan is “Forest Restoration.” Within that Goal, the first two Objectives are:

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

Additionally, Page 70 of the Plan states: “A contiguous 6,803-acre corridor will be managed as an Older Forest Structure Zone, extending across JDSF from west to east and north to south.... The [OFSZ] will have high value for research concerning topics such as restoration of older forests and the ecological processes associated with older forests. It will also improve the long-term conditions for wildlife, particularly species that prefer older forests....”

The JAG reviewed the OFSZ allocations in the Management Plan in relation to the Goals and Objectives and the purpose of the OFSZ as stated on Page 70 and elsewhere in the Plan and concluded there is justification to recommend augmenting the OFSZ. Particularly, the north/south corridor appeared to be significantly less robust than the east/west gradient, and the desired contiguity was absent in a number of instances. Additionally, the JAG concluded that the older forest attributes in some of the forest’s oldest second growth stands could be leveraged to create a more functionally effective OFSZ.

In its deliberations, JAG was mindful that increasing the OFSZ would, over time, affect the potential volume available for timber harvest. This effect would mainly come through the designations of Late Seral Development and Reserve. By contrast, the Older Forest Development designation provides a high level of flexibility for timber harvest so the OFD allocations may not have a negative effect on harvest outcomes during a 40-year planning horizon. In this period, even the Late Seral designation is likely to provide significant timber

yield. JAG focused primarily on a 40-year planning horizon because, among other reasons, anticipating outcomes over that period seemed relatively reliable compared to trying to predict results over a longer term.

To achieve a higher degree of consensus for the Late Seral allocations, JAG is recommending that research be conducted to determine whether the Late Seral designation provides significantly more benefits as habitat than does the Older Forest Development designation, where more timber harvest is permitted.

Overall, JAG kept a sharp focus on maintaining the availability of timber harvest volume adequate to sustain the operations of the forest and to implement the Management Plan. JAG has asked staff to project potential changes in timber harvest volume from its recommendations. When this information becomes available, JAG will consider whether modification of its recommendations is warranted.

**Determining OFSZ Allocations:** Using stand maps and other tools provided by staff, the JAG considered a variety of options. Early on, the principle was established that boundaries of allocations would be made based on natural features of the landscape, including streams, ridges, existing stand boundaries, and roads (where appropriate). This principle guided how allocation boundaries were crafted.

JAG or members working in subcommittee visited the areas proposed for inclusion and refined recommendations. Proposals were carefully considered and in many cases were revised. Some proposals were dropped and the boundaries of others were changed.

After many votes, modifications, and in some cases reconsideration to raise the level of consensus, the full JAG adopted the recommendations presented in this report. These are outlined in detail in the following sections.

## IV. Components of the Older Forest Structure Zone

### A. Older Forest Development

#### 1. Goal

The goal of Older Forest Development is to manage for structural characteristics of an older coast redwood forest, which include large old trees, snags, down logs, multiple canopy layers, and a high level of structural diversity while allowing for timber harvest of trees of all ages and sizes.

These areas will provide opportunities for research and demonstration that will benefit forest ownerships with an interest in wildlife habitat, aesthetics, and long-term sustainable production of forest products.

## 2. Guidelines for Timber Harvest in Older Forest Development Areas

Harvest shall utilize single-tree and group selection, and commercial thinning as defined in the California Forest Practice Rules with the following provisions and conditions applied. Site-based silvicultural prescriptions should be made based on stand condition at the time of harvest. The guidance below should not limit innovative forest management as new information becomes available on older forests.

- Manage stands under an uneven-aged silvicultural system to recruit and retain older forest structural conditions and wildlife habitat elements identified in the Goal, and at the same time, to grow and produce timber through careful thinning and periodic replacement of large trees.
- Short-term, emphasis should be on favoring development of the redwood component of the stand over the Douglas fir component, if appropriate, and reducing competition between co-dominant crown classes. Longer term, retention trees, should be determined based on unique structural characteristics and their contribution to horizontal and vertical diversity as well as potential future timber production.
- Depending on the planned re-entry period and site specific conditions, the percentage of basal area removal should range from 25-40%. It is anticipated stand management entries would be approximately 15-25 years apart.
- Where stand conditions are such that adequate regeneration cannot be achieved by single tree selection, group selection should be used. Openings should be kept as small as possible, typically not greater than one and a half times co-dominant tree height in any direction, but not to exceed 2 acres.
- As the size of the openings increases beyond one-half acre, individual and/or small clusters of trees should be retained within the openings to provide desired structural characteristics.
- Any timber operation should take care to maintain standing snags and large woody debris on the forest floor and to promote development of these features across the forest.

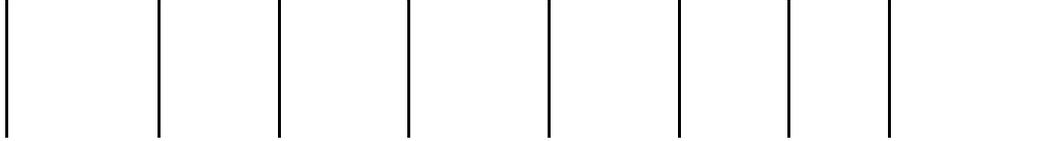
### Constraints

- Retain old growth trees as defined in the JDSF Management Plan.
- While giving consideration to the capacity of the site, 10-20% of the post-harvest conifer basal area will be comprised of trees over 40" diameter at breast height (DBH). Where this condition cannot be met: 1- no trees over 40" should be removed, unless under special circumstances; and 2- no more than 50% of the stems over 30" DBH should be removed. Special circumstances may include, but not be limited to,

such things as individual sprout clumps that have 2 or more trees 40" or greater, larger diameter trees that are in the intermediate crown class, or where removal of such tree would have less impact on the residual stand or reduce breakage.

- There should be no upper limit of tree diameter that may, or may not, be harvested.

<b>Disagreement</b>				<b>Support</b>			
<b>Fundamental</b>	<b>Strong</b>	<b>General</b>	<b>Qualified</b>	<b>Qualified</b>	<b>General</b>	<b>Strong</b>	<b>Unqualified</b>



## B. Late Seral Development

### 1. Goal

The goal for areas designated for Late Seral Development is to manage for structural characteristics of older, mature forest, which include large old trees (greater than 150 years), large snags, large down logs, deformed trees, multiple canopy layers, and a high level of within-stand variability and both vertical and horizontal structural diversity.

These areas will provide ~~research sites to explore creation of late seral redwood forest via~~ passive and active management.

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### 2. Guidelines for Timber Harvest in Late Seral Development Areas

The portions of this zone available for timber management are to be managed on an uneven-aged basis to recruit the structural conditions and wildlife habitat elements identified in the Goal. The form and amount of structural manipulation applied in these stands will vary according to the objectives for the given area. Active management may include light to moderate stand thinning, often of a variable nature, and other forms of stand management intended to achieve the desired conditions.

Harvest on Late Seral Development Areas will predominantly use single-tree selection as defined in the Forest Practice Rules with the following provisions and conditions applied. Precise silvicultural prescriptions should be made based on site specific conditions. The guidance below should not limit innovation as new information becomes available on late seral redwood forests.

- Prescription emphasis will focus on: 1) accelerating the growth of dominant and co-dominant trees into larger size classes, 2) retaining and developing other basic elements of late seral conditions such as deformity and decadence, 3) retaining trees of various vigor to maintain an on-going process of dead-wood elements recruitment, 4) Minimizing regeneration so that it is similar to natural levels in late seral stands, 5) developing a complex canopy structure.
- It is anticipated stand management entries would be approximately 20 to 30 years apart.

- When thinning groupings or clumps of redwood, thin to variable levels to promote random stem distribution and variable growth responses. Generally avoid thinning single stem redwoods.

### Constraints

- Retain old growth trees as defined in the JDSF Management Plan.
- While giving consideration to the capacity of the site, at least 10-20% of the post-harvest conifer basal area will be comprised of trees over 40" diameter at breast height (DBH). Where this condition cannot be met: 1- no trees over 40" should be removed, unless under special circumstances; and 2- no more than 50% of the stems over 30" DBH should be removed. Special circumstances may include, but not be limited to, such things as individual sprout clumps that have 2 or more trees 40" or greater, larger diameter trees that are in the intermediate crown class, or where removal of such tree would have less impact on the residual stand or reduce breakage.
- About 10 percent of the clumps should remain un-thinned to promote slow tree growth, high quality trees, and enhance heterogeneity in stand structure. About 10 percent of the clumps should be heavily thinned to create patchy diversity.
- Removal of entire clumps should be used sparingly to mimic natural disturbance events.
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Disagreement	Support

Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified
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### C. Reserved Old Growth Groves

There are 459 acres in **ten** Reserved Old Growth Groves as identified in the 2008 Management Plan on Page 196 and mapped in Map Figure 5, Special Concern Areas. These areas will not be harvested.

JAG proposes no change. Old Growth Groves are included here because they are a component of the Older Forest Structure Zone.

### D. OFSZ Reserves

Two Reserves are proposed as components of the Older Forest Structure Zone: Camp Three and Caspar Creek. Camp Three and Caspar Creek are no-harvest areas.

### E. Specific OFSZ Recommendations

The JAG is recommending augmentation of the Older Forest Structure Zone for the reasons outlined in Section III E. Allocation recommendations are specifically described in this section and are arranged more or less by their geographical location, beginning from the east. The numbers refer to the identifying numbers in Map **Figures A and B** of this report. Also, see Table **2** in Appendix 3.

#### 1. Highway 20 East                      Old Forest Development (OFD)                      230 acres

Areas adjacent to the old growth grove located along Highway 20 just before it turns sharply west after traveling steeply downhill from the east. Contiguous with a strip of already designated OFD along the highway that extends into the forest to the north to connect with #2, below. Buffers the old growth grove.

#### 2. Dresser Grove, N. James Cr.      Late Seral Development (LSD)                      86 acres

Extends already designated Late Seral adjacent to Dresser Grove to further develop old forest characteristics and buffer the existing old growth. Contiguous with already designated OFD extending west along the northern boundary of the forest.

#### 3. Void

#### 4. Road 1000 Old Growth complex                      LSD                      12 acres

Small extension of existing LSD to better conform to topography.

#### 5. West of Waterfall OG Grove                      LSD                      47 acres



**15-16. Void****21. Void****17. Noyo to Big River Link                      OFD                      841 acres**

Crosses Highway 20 to create north/south linkage between OFD in Noyo watershed and the watersheds south of the highway, including Hare Creek, Caspar Creek, and the already designated LSD area in the Big River watershed/Woodlands area, which in turn is adjacent to the designated Russian Gulch LSD/marbled murrelet area. Implements 2008 Management Plan vision of contiguous OFD across JDSF landscape.

**18. North Fork Caspar Controls                      Reserve                      195 acres**

Three areas that are already being used as controls in the long-running Caspar Creek cutting trials. Some of the oldest second growth redwoods on the forest. Continues to provide research opportunities to compare areas that have not been harvested since at least 1926 with areas more recently harvested.

**19. See Section V, Other Reserves****20. See Section V, Other Reserves****21. See 13/14****22. See 10/11/12****V. Other Reserves**

Four Reserves are proposed independent of the Older Forest Structure Zone. These are identified by number on Map [Figures A and B](#).

**7. Indian Springs Fire Study                      Potential Reserve                      213 acres**

Area in West Chamberlain drainage affected by 2008 fire event with good internal replicate areas that have each been subject to different burn intensities. *To be reviewed by Research Planning Team to determine utility for research.* Area is also overlapped by one of the Hardwood Study Reserves (see #20).

**8. Bob's Woods Meadow                      Reserve                      8 acres**

Rarely occurring woodland meadow.

**19. Jughandle Pine/Cypress Staircase Complex Study Reserve \_\_\_\_\_ 1156 acres**

Mostly pine and cypress forest adjacent to the Pygmy Forest managed by JDSF. Completes often studied Ecological Staircase that begins on the Coast at Jughandle State Park, and then proceeds inland through numerous terraces and geological conditions until eventually reaching soils that will support redwood forest. Provides unique research opportunities in an area that is also heavily used for recreation.

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See Below

**Deleted:** Jughandle is, in general, a no-harvest area except where limited understory thinning would improve fire resilience.

**20. Hardwood Study Reserves                      Temporary Reserve                      578 acres**

See Below

**Jughandle Pine/Cypress Staircase Complex**

Adjacent to Pygmy Forest stands, and the “Ecological Staircase,” a rare display of the geology of coastal terraces and the plant communities associated with them, the Complex is generally a mix of Bishop pine and cypress with varying amounts of redwood, Douglas fir, other conifers, and hardwoods inter-mixed. As one moves inland, the stand composition trends away from the pine/cypress community.

The Goals for the Reserve are:

1. To provide research and demonstration opportunities to study the pine/cypress plant community, particularly in relationship to reintroducing fire to facilitate regeneration
2. Demonstration of the ecological staircase to its culmination

Management:

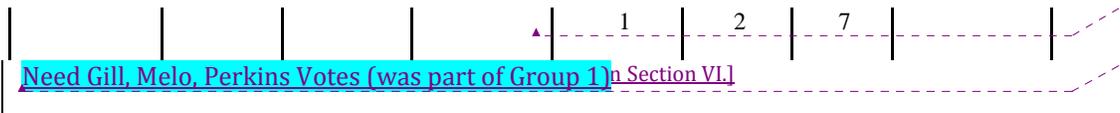
Fire exclusion has led to unusual conditions in the fire-dependent closed cone pine/cypress. Management is to include consideration of ultimately reintroducing fire to allow for natural regeneration. For the safety of the public and the pine/cypress forest itself, vegetation management (understory thinning) may be necessary prior to reintroduction of fire.

Management activities in the Reserve are to be conducted consistent with the Goals of the Reserve and within a research and demonstration context, except that Older Forest Development Silviculture may be applied in areas dominated by redwood/Douglas fir east of the termination of Road 530 in order to help underwrite research and demonstration in the Reserve and to support associated staff activities.

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Disagreement				Support			
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### Hardwood Dominated Stand Retention

The JAG recommends retaining specific hardwood-dominated early/mid-seral stands as identified in Map **Figures A and B**. Doing so will explicitly provide for this distinct seral stage / habitat. Important non-exclusive goals supported by this action include:

- Ecological: allow for both biotic and abiotic natural successional processes to lead to coniferous forest seral conditions;
- Wildlife: provide for hardwood and hardwood stand associated species;
- Research: provide examples of this stage in the forest’s successional trajectory for research purposes, including use as ‘controls’ for evaluating costs and benefits of nearby rehab efforts;
- Educational: exemplify a segment of the forest’s response to severe disturbance;
- Recreational: provide mushroom diversity and mushrooming opportunities.

Using the information from Map Figure 7 of the 2008 Management Plan to identify specific stands for retention, the following guidelines were applied:

- a. for research opportunities (replicates, east-west gradient), distribute across the forest with 3 stands identified in each of the east-west 1/3 segments of the JDSF;
- b. minimize area influence of size and shape - relatively large and circular to attain “internal” conditions and minimize edge effects;
- c. range of stands’ tree size-age (there was an attempt to provide for some diversity, but there are few in size classes less than 4 that meet guidelines a & b.)

These stands range in size from 17 to 106 acres, and are all classified as Mixed Hardwood Conifer (Table 1). These areas are intended to be fixed, and they will not be rotated to replacement stands as they grow out of an early-mid seral hardwood dominated condition.

The **Management Guideline** for these stands is to conduct no timber operations or hardwood control in them until after conifer basal area exceeds 2/3 of the stand’s total basal area, as confirmed by a field inspection. Road building, tail holds, etc. are acceptable within these stands. Stand manipulation is not permitted.

Table 1. Characteristics of hardwood stands identified for retention (data provided by JDSF).

T0 Map Label	Acres	JDSF	Description
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		Type details	
--	--	-----------------	--

W1	17	MHC4D	Scattered conifers over RW, fir and tanoak mix
----	----	-------	--

C2	92	MCH3D	Scattered conifers over Tanoak and Madrone
----	----	-------	--

Disagreement				Support			
Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified

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1	3	3	5
<b>NEED PORTER VOTEMENT OF REASON</b>			

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## VI. Census Votes on Allocations

The allocation recommendations identified in Sections IV and V, above, were broken into three groups for the purpose of voting on them. The groupings and votes are reported below indicating the name of the allocation and its map # (if any.) The vote is noted below each grouping.

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### Group 1:

2 Dresser Old Growth Grove

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4 Road 1000 Old Growth Complex

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5 West of Waterfall Old Growth

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8 Bob's Woods Meadow

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9 North of NFSF Noyo

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13 Camp 3 THP LSD

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14 Camp 3 THP Reserve

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17 Noyo to Big River Link

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18 North Caspar Controls

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19 Jughandle Pine/Cypress Staircase Complex

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Disagreement	Support

Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified

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**Need Gill, Melo, Perkins Votes**

**Group 2:**

1 Hwy 20 East

6 South of Waterfall Grove

12 Brandon Gulch THP

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Disagreement	Support

Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified

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Need Porter vote

Linda Perkins was in Fundamental Disagreement with this vote because it did not designate the Highway 20 East allocation as LSD. *"need quote"*

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Kathy Bailey was in Strong Disagreement with this vote because it did not designate the Highway 20 East allocation as LSD. *"There is very little old growth redwood reserved in this region of California, even less than in other areas. An LSD allocation would have provided a stronger buffer to the old growth here in this steep, unstable area right next to Highway 20."*

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**Group 3:**

7. Indian Springs Fire Study Tentative Reserve

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10. Volcano E Thumb

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11. Brandon Gulch Headwaters

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22. Volcano tributaries

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Disagreement	Support

Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified

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Need Porter vote

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## VII. Mendocino Woodlands

JAG makes the following recommendations regarding the Woodlands Special Treatment Area:

- 1. Mendocino Woodlands State Park is a unit of the Parks Department that is bordered on three sides by the JDSF Woodlands Special Treatment Area (WSTA). The Park has been operated by the Mendocino Woodlands Camp Association, a concessionaire, since 1949. Interactions regarding management of the Woodlands Special Treatment Area should initially be directed to the State Parks Department, which is responsible for notifying the Camp Association and designating personnel to represent the State Park's interests.
- 2. Maintain the 2008 Management Plan STA designation as LSD and LSD/marbled murrelet.
- 3. Include State Parks at earliest discussion of any potential management planning activity or research and/or demonstration proposal.
- 4. Develop a watershed context and overall management objectives prior to any potentially significant new management activities or potential environmental impacts in the WSTA.
- 5. As part of item #4, above, consider establishing some areas for long-term deferral of activities (50 years or more) or reserve areas within the STA, including determination of an appropriate buffer zone in which management activities will reflect State Park goals.<sup>3</sup>

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<sup>3</sup> For the purpose of their current growth and yield modeling of the JAG recommendations, CAL FIRE staff should assume a 200-foot buffer per the Forest Practice Rules buffer requirements for state parklands.

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Priority for such protection should be in areas with hiking trails and high recreation use. In making these determinations, consider any available findings of the cultural landscape report commissioned by the Mendocino Woodlands Camp Association.

6. All management activities should place a high priority on maintaining values important to camper experience, overall Woodlands sustainability, and marbled murrelet considerations.

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7. Prior to any potential timber harvest in the STA, a similar cut should be implemented elsewhere (preferably on JDSF) as a demonstration.

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8. Use opportunities at the Woodlands as part of implementing the JDSF education mandate.

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9. Where feasible, research and demonstration, including education, should be incorporated into any timber harvest.

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10. The Railroad Gulch Demonstration Area will continue to be designated as a Research Area, with future research utilization to be considered by the Research Planning Team.

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Disagreement	Support

Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified
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## VII. Other Landscape Management Recommendations

### A. Campground Buffers

The JAG Charter requests input regarding ongoing implementation of the Management Plan. JAG makes the following recommendation:

The primary goal for management of the 300-foot buffers around campgrounds shall be enhancing the camper experience of the woodland environment, including safety. Timber harvest may be conducted to the extent necessary to implement this goal.

Enhancements of the camper experience may include, but are not limited to: Sunlight, fire safety, brush reduction, access, privacy, trails, quiet, poison oak control.

<b>Disagreement</b>				<b>Support</b>			
Fundamental	Strong	General	Qualified	Qualified			

					General	Strong	Unqualified
				1	2	7	

This recommendation was part of the Group 1 vote reported in Section VI.

Need Gill, Melo, Perkins votes

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## B. Buffers for Individual Old Growth Trees Outside Reserves

The JAG Charter requests input on The Management Plan’s approach to protecting residual old growth. JAG makes the following recommendation.

**Management Measures:** The intent of this section is to maintain and enhance biological values of old growth trees outside of reserves. This measure is intended to build on the old growth protection measures provided in the 2008 Management Plan. Any exceptions to the following will need approval by, at least, the Forest Manager and RPF, and will require a field visit. Exceptions may include the need for removal of buffer trees for safety.

In areas proposed for harvest, using the professional judgment of JDSF Staff, identify all old growth trees designated for retention as defined on Page 104-105 of the 2008 Management Plan. Once the old growth trees are identified, as applicable, utilize the following guidance:

- Maintain screen trees if doing so would benefit the old growth tree as a whole (e.g., wind-firmness, fire resilience) or its significant attributes (e.g., microclimate maintenance, visual cover). Primary trees to select as screen trees are those that appear to have intermingling limbs, or will grow to have intermingling limbs with the old growth tree.
- Determine whether the ecological values of the old growth tree’s attributes (including those described in the 2008 Management Plan) could benefit from additional buffering. If additional buffering trees are needed, select those that best enhance or protect the attributes.
- Other criteria for selecting buffer trees include health, fire resilience, and wind firmness subsequent to the harvest.
- For old growth trees that have immediate, same-aged side-sprouts originating from the same root crown, leave all same-aged/similar-aged side sprouts.
- Where feasible, avoid and/or minimize compaction of the root zone with an equipment limitation zone delineated by an evaluation of the site conditions around the tree.

<b>Disagreement</b>	<b>Support</b>
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Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified
				2	3	5	1

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### C. Evenaged Management

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The JAG Charter asks JAG to review and comment on proposed even-aged harvesting. JAG recommends that the following changes be made to the language on page 255 of the Management Plan:

“The total area of the Matrix receiving even-aged silvicultural treatments shall be the minimum required for the scientific validity of the research and the achievement of the associated

demonstration objectives. This constraint does not apply to even-aged management necessary for addressing forest health or problematic regeneration conditions.”

Disagreement				Support			
Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified

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				5	4	2	
Need Tilley Vote							Formatted: Highlight

## D. Recommendations for Presenting Proposed Timber Harvests for JAG Review and Providing Post Harvest Results

The JAG Charter requests input regarding ongoing implementation of the Management Plan. JAG makes the following recommendation:

A summary of proposed timber harvests for JAG Review prepared by JDSF staff should consist of an approximately two-page statement, plus maps, tables or graphs, commenting on the following elements:

### 1. Goals

- Clear statement of management objectives
- How plans for individual harvest areas relate to plans for neighboring areas and conform to overarching management goals

### 2. Research and demonstration activities and opportunities

### 3. Current Stand Conditions

- Broad quantitative and qualitative description, including maps, of existing variability and health of vegetation (conifers and hardwoods, diameter and volume distributions) within proposed harvest area
- Description of current wildlife habitat
- Description of understory, ground cover plants, and other important floral features

- Aerial photos showing pre-harvest conditions and location of sample mark.

**4. Desired Future Stand Conditions**

- Broad quantitative and qualitative description and rationale of desired outcome of harvesting, including desired species mix and projected post-harvest size class distribution data
- Description of desired wildlife, understory, and other flora/fauna conditions

**5. Proposed Prescription**

- Include comments on the proportion of existing volume or basal area to be removed, anticipated timing of the next entry, and the extent to which methods are chosen to stimulate regeneration.

**6. Ecological Constraints or Opportunities**

- Presence of legacy elements, and problematic soil, topographic or geomorphological features

**7. Logging Methods**

- Anticipated use of cable and tractor systems
- Slash disposal

**8. Aesthetic Considerations**

- Special considerations given to aesthetic and recreational values and constraints, including existing or potential trails and views

**9. Anticipated Timber Yields**

- By species and size class

**10. Economic Analysis**

**11. Post-harvest Outcomes**

- A general description of post-harvest outcomes relative to items 1-10, above, to be reported back to the JAG after the completion of the THP

<b>Disagreement</b>	<b>Support</b>
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Fundamental	Strong	General	Qualified	Qualified	General	Strong	Unqualified
				1	1	7	3

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## IX. Maps

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Map I: Location of Designations Modified by JAG

Map II: Proposed Landscape Allocations Integrated with Existing

## **Appendix 1. Excerpt of JAG Charter Regarding Landscape and Allocation, Identifying Recommendations JAG Is Making In Response**

*(See large italic type below for location of JAG's responses to specific Charter requests for input regarding Landscape and Allocation issues.)*

### ***Excerpt of Charter Jackson Demonstration State Forest Advisory Group Relevant to Landscape Report***

#### **Mission and Duties**

**Mission** The Mission of the Jackson Demonstration State Forest (JDSF) Advisory Group (Advisory Group) is to provide advice/recommendations to:

- The Board of Forestry and Fire Protection (Board) and Director/Department of Forestry and Fire Protection (CAL FIRE) regarding issues relevant to review of the JDSF Management Plan for possible changes during the initial implementation period.
- Director/CAL FIRE and the Board regarding ongoing implementation issues.
- Board and Director/CAL FIRE on policy matters relevant to JDSF.

**Duties** The JDSF Advisory Group will conduct its activities in accordance with its Mission and in support of the goals of the Management Plan for JDSF. These goals are **Research and Demonstration; Forest Restoration; Watershed and Ecological Processes; Timber Management; Recreation and Aesthetic Enjoyment; Information, Planning, and Staffing; Protection; Minor Forest Products; and Property Configuration.**

A. During the initial implementation period (not to exceed three years) the Advisory Group shall provide input on the following:

1. Desired future forest structure condition goals for the Forest and the forms, amounts, and spatial designation of silvicultural treatments to be applied to attain those goals.
2. Long-term goals for a wide range of forest structures, including but not limited to:
  - a. The extent and general location of areas to be dedicated to Late Seral Development and older forest structure, where timber production will be secondary to habitat development.
  - b. The extent and general location of areas to be dedicated to old forest structure zones (OFSZs). The OFSZs will maintain or develop key old forest features. The OFSZs will be available for timber harvest.

***Landscape Sections II- Matrix Forestry, III- Older Forest Structure Zone, IV- Components of the OFSZ and Recommendations, and Section V- Other***

***Reserves provide JAG's input regarding the forest structure and allocation questions posed to JAG.***

3. The Management Plan's approach to (a) protecting residual old growth and (b) restricting the extent and conditions under which herbicides may be utilized to control native hardwoods.

***Landscape Section VII B provides JAG's input regarding residual old growth. The Herbicide issue is dealt with in a separate section.***

(A. 4-5 not relevant to Landscape Section)

B. On an ongoing basis:

1. Review of ongoing implementation of the Management Plan and overall Forest management.

***Section VI – Woodlands, Section VII A – Campground Buffers, and Section VII D - Presenting THPs to JAG for Review provide a component of JAG's input on the above implementation and management issues posed to JAG. Other aspects are covered in separate sections of the Report.***

2. When requested by the Director or Board, provide periodic recommendations on forest management policies and the Management Plan.
3. Review and comment on proposed even-aged harvesting.

***Section VII C – Even-aged Management responds to the above question.***

C. JDSF Advisory Group responsibilities defined in the JDSF Forest Management Plan are hereby incorporated by reference.

**Appendix 2 A. Comparison of Matrix, Older Forest Development Areas and Late Seral Development Guidelines**

	Matrix	OFDA	LSD
Goals	<p>Develop a stand component of large, old trees that will be used for harvesting valuable timber.            Maintain and increase timber revenues over time.            Recognize and plan for aesthetic values.</p>	<p>Manage for structural characteristics of older forest, including large diameter trees, snags, down wood, multiple canopy layers, and high level of horizontal and vertical structural diversity.</p>	<p>Manage for structural characteristics of older, mature forest, which include large old trees (greater than 150 years), large snags, large down logs, deformed trees, multiple canopy layers, and a high level of within-stand variability including both horizontal and vertical structural diversity.</p>

Research and Demonstration	throughout Matrix area.	Research and demonstration that follows goals of OFDA.	Research and demonstration that follows goals of LSD.
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Silviculture	All methods encouraged under research and demonstration. Outside of research and demonstration, single tree and group selection, commercial thinning.	Single tree and group selection, commercial thinning.	Single Tree Selection.
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Old-Growth	Retain old-growth trees as defined in the JDSF Management Plan.	Retain old-growth trees as defined in the JDSF Management Plan.	Retain old-growth trees as defined in the JDSF Management Plan.
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## Appendix 2 B. Definitions of Matrix, Older Forest Structure Zone, Older Forest Development, and Late Seral Development

### *The Matrix Lands*

JDSF Matrix lands are those lands not allocated to Older Forest Structure Zones, or other Special Concern Areas defined in the Management Plan and shown in Map Figure B. Matrix lands will be the primary areas allocated to research and demonstration where projects require treatments not compatible with the goals of the OFSZs, Reserves, and Special Concern Areas.

**Deleted:** These Matrix lands will be the primary areas allocated to manipulative research and demonstration and to develop projects associated with the Centers of Excellence where projects require treatments not compatible with the goals of the OFSZs.

### *Older Forest Structure Zone*

The OFSZ is a generally contiguous area that includes Old Growth and other Reserves, Late Seral Development Areas (LSDAs), and Older Forest Development Areas (OFDAs). Harvesting is permitted within LSDAs and OFDAs to the extent that is consistent with their designated goals (see: Definitions).

The purpose of OFSZ is to produce structural characteristics of older forest, which include large trees, snags, down logs, multiple canopy layers, and a high level of structural diversity. A key feature is the connectivity of the OFSZ across the Forest.

### **Components of the Older Forest Structure Zone**

#### **Older Forest Development (OFD)**

The goal of Older Forest Development is to manage for structural characteristics of an older coast redwood forest, which include large old trees, snags, down logs, multiple canopy layers, and a high level of structural diversity while allowing for timber harvest of trees of all ages and sizes.

### **Late Seral Development (LSD)**

The goal for areas designated for Late Seral Development is to manage for structural characteristics of older, mature forest, which include large old trees (greater than 150 years), large snags, large down logs, deformed trees, multiple canopy layers, and a high level of within-stand variability and both vertical and horizontal structural diversity.

### **Old Growth Groves**

### **Reserves**

## **Appendix 3. Allocation Changes**

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Table: Allocation Changes, Approximate Acreages, Rationale, and MP Goal

[Attached as separate file]

## **Appendix 4. Context for Silviculture and Allocation Recommendations**

The Charter of the Jackson Advisory Group (JAG) charged JAG with reviewing the 2008 Management Plan and providing input regarding a number of key silviculture and landscape allocation issues, which are covered in this section of the Report. These include:

- Desired future forest structure condition goals for the Forest and the forms, amounts, and spatial designation of silvicultural treatments to be applied to attain those goals;
- Long-term goals for a wide range of forest structures, including but not limited to: The extent and general location of areas to be dedicated to Late Seral Development and older forest structure, where timber production will be secondary to habitat development; The extent and general location of areas to be dedicated to old forest structure zones [to] ...maintain or develop key old forest features [as well as]...be available for timber harvest; Protecting residual old growth; and Even-aged harvesting.

During nearly three years of intensive meetings, JAG reviewed a wide variety of data provided by staff, considered a broad array of other information, and consulted with experts and practitioners. As a result, JAG is proposing an integrated set of forest allocations along with goals and guidelines for the silviculture to be applied in them. Additionally the Landscape section of the Report provides other recommendations regarding topics on which the Charter requested input. The recommendations are made in relation to a 40-year planning horizon.

The following is a brief summary outlining why JAG supports adoption of these recommendations as a package. JAG believes these recommendations will allow JDSF to fulfill its mission and implement the Goals and Objectives identified in the 2008 Management Plan.

**The landscape allocations accommodate a full range of research and demonstration to address management questions relevant to all forestland owners from the largest to the smallest.** Management Plan Goal # 1 is Research and Demonstration, and the JAG

recommendations provide the flexibility to implement that goal. Details are provided in the Research and Demonstration Section.

**The recommended allocations and silviculture will provide opportunities for a broad range of research and demonstration that will be useful for non-industrial timberland owners.**

This is responsive to Management Plan Goal # 1, Research and Demonstration. According to a 2003 Report to the Legislature by the California Department of Forestry and Fire Protection, on the North Coast approximately 49% of privately owned forestland is held by non-industrial timberland owners. These owners represent the segment of forestland owners who have the greatest need for practical, low-cost information on how to manage their forests.

While the JAG recommendations allow for research and demonstration using even-aged management, the main management focus is on uneven-aged management. Because most small forestland owners manage their lands for a variety of purposes, most utilize uneven-aged management. Doing so is a requirement for approval of a Non-industrial Timber Management Plan (NTMP), which is one of the more flexible and potentially cost-effective permitting alternatives available to a small timberland owner. JAG's recommendation to broadly apply uneven-aged management by utilizing Matrix Forestry will provide research and demonstration opportunities across a wide variety of forest stands similar to those on regional non-industrial ownerships. Documentation of the results of this production-oriented approach, which is also likely to provide positive aesthetic qualities, is likely to be of interest to a significant segment of smaller landowners.

JAG's recommendation to expand acreage in the Old Forest Structure Zone, with a focus on documenting a variety of methods to maintain or create the horizontal and vertical diversity typical of older forests in the redwood region, will also benefit non-industrial landowners. According to a number of panelists at JAG's two-day input session of regional science professionals, small landowners are very interested in maintaining or restoring structural features of older forests. For those landowners primarily interested in enhancing the fish, wildlife, and recreational aspects of their property, the JAG recommendations will provide opportunities for research and demonstration on managing for Late Seral Development starting from a variety of stand conditions typical of the redwood region. For those landowners who wish to periodically harvest timber while enhancing older forest attributes on their land, the Older Forest Development allocations, which also include a broad variety of starting conditions, will provide the opportunity for practical guidance.

JDSF's educational mission for non-industrial land managers will also be enhanced by JAG's recommendation regarding the information JDSF will provide regarding future JDSF timber harvests. These include an economic analysis of the proposed harvest and post-harvest outcomes. This sort of information will help landowners to understand the trade-offs among a variety of possible forest management options and make decisions that best reflect their needs.

The JAG recommendations will help JDSF to fulfill its educational mission in relation to the non-industrial timberland owner. In turn, this will help sustain regional timber production, milling capacity, and employment over the short- and long- term.

**The managers of the expanding acreage of conservation and community-based forestland will also benefit from educational opportunities provided by JAG's allocation and silviculture recommendations.** These managers currently include [The](#) Conservation Fund, the Redwood Forest Foundation, Pacific Forest Trust, and Save-the-Redwoods League.

- Since 2004, the [The](#) Conservation Fund has purchased approximately 40,000 acres at Garcia River, Big River, and Salmon Creek. Most of this land will be used for sustainable timber harvesting.
- In 2007, the Redwood Forest Foundation (RFFI) purchased the 50,635-acre Usal Forest north of Ft. Bragg from the Hawthorne Timber Company. With the exception of the likely transfer of beach property and other non-timber, management is anticipated to be sustainable timber production.
- In July 2010, approximately 800 acres along the Sonoma County coast was purchased by Save-the-Redwoods League for eventual transfer to Pacific Forest Trust and other entities. A yet-to-be determined portion of these acres will be reserved, while the overwhelming majority will be used as a working forest with conservation goals.

**Along with managing [some](#) forests for sustainable timber production, these same conservation-oriented timberland owners, [as well as](#) the California State Parks Department, manage *additional* forestland for maintaining and restoring older forest conditions:**

- In 2002, Save-the-Redwoods League purchased the 25,000-acre Mill Creek property, which is now part of Del Norte Coast Redwoods State Park. According to the League's website, their major long-term goal is to restore these logged lands to resemble old growth forests. The League has undertaken extensive forest thinning and other habitat restoration activities. Some of these activities are already benefiting from research being conducted on behalf of the League at JDSF.
- In 2002, California State Parks was able to acquire approximately 7300 acres of mostly second and third growth redwood forest for addition to the state park system at Big River, adjacent to JDSF near Mendocino. Research and demonstration on late seral designated allocations at JDSF can help guide the Big River effort.

[The JAG recommendations will help JDSF to fulfill its educational mission in relation to conservation and community-based owners as well as public forestland owners. This will help sustain regional timber production, milling capacity, and employment over the short- and long-term. Additionally, it will assist these owners in maintaining and restoring the regional forestland environment.](#)

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Deleted: The JAG-recommended Late Seral Development allocations will provide the flexibility not generally available on State Park lands to conduct research and provide demonstrations on a variety of ways to help public land managers and others meet their goals.

**Another important constituency that is well served by the JAG recommendations is the general public who use the forest for recreation.** A review of Map Figure 2 in the 2008 Management Plan reveals that the amount of publically owned redwood forestland available for recreation in the area between San Francisco Bay and the south Humboldt County line is relatively small compared to what is available further north. This has always created a dynamic tension for JDSF managers who, by default, must accommodate much of the regional interest in redwood forest recreation. This includes the full gamut of forest-related recreation including hiking, biking, camping, horseback riding, mushroom hunting, deer hunting (in season), and general rest and relaxation.

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JAG believes that its recommendations regarding Matrix Forestry and expansion of the Older Forest Structure Zone will provide for a satisfying visitor experience. This will implement Goal #5 of the 2008 Management Plan, Recreation and Aesthetic Enjoyment. JAG considered the historic recreation use patterns at JDSF and designated some areas for LSD and OFSD where there was a strong history of public use. Existing stand conditions were another factor driving determinations.

**The same sorts of landscapes that most visitors find appealing also provide important habitats for forest-associated species of plants and wildlife, including threatened and endangered species.** JAG's recommendations are meant to assure that JDSF continues to function as a leader in maintaining and restoring regionally scarce older forest resources. Fulfilling the 2008 Management Plan's Goal #2, Restoration and #3, Watershed and Ecological Processes, is important as demonstrated in the book, *The Redwood Forest*, edited by Reed F. Noss and published by Island Press in conjunction with Save-the-Redwoods League (SRL) in 2000. This is the most current comprehensive work on the History, Ecology, and Conservation of the Coast Redwoods. The map on page 42 shows how the range of the coast redwoods has been divided for the purpose of its analysis. Jackson Demonstration State Forest (JDSF) is located in the area characterized as the "central section" of the coast redwood range. This area includes the area north of San Francisco Bay to the northern boundary of Mendocino County.

This delineation is important. Statistics found on the SRL website in July 2010 indicate that fewer than 106,000 acres (5%) of ancient coast redwoods remain in the original approximately 2 million acre range. However, as *The Redwood Forest* notes on Page 265:

"The redwood forest is, in fact, an assortment of many different plant associations responding to a plethora of site conditions. Several tree species, such as Douglas-fir and tanoak, often share dominance with redwood. These different associations have different species composition and ecological relationships. Protection of redwoods in parks and other reserves has not sampled the various associations equally. Some types of redwood forest are unrepresented. For example, 10.75 percent of the redwood forests in the southern section is in the highest category of protected areas, compared to 5.76 percent in the northern section and only 1.36 percent in the central section."

Since the book's publication there have been a number of public acquisitions in the central region, some of which will result in an increase in the acreage of redwood in the highest category of protected areas. However, even taking into consideration these new park and conservation acreages, *JDSF is located in the section where redwood forests have the lowest percentage of reserve protection compared to their original range.* Older forest characteristics are regionally in short supply. Management by the State Forest staff has resulted in some forest stands at Jackson that are older, with larger trees than are generally available on private ownerships in the region, providing a unique opportunity to build old forest structure sooner at Jackson than will be possible elsewhere. Because Jackson is by far the largest public redwood forest in the region, the JAG recommendations to expand the Older Forest Structure Zone will make a significant contribution to maintaining and increasing the regional stock of older forest attributes.

Within the context of regional circumstances, JAG is recommending enhanced buffers around special concern areas and old growth groves and more Late Seral Development and a few new Reserves. Buffering old growth trees located outside reserves is another regionally appropriate recommendation. Additionally, areas have been recommended for designation as Older Forest Development to strengthen corridors and provide better contiguity of older forest structure, particularly in the north/south gradient. Even so, the JAG recognizes that while these designations will immediately enhance corridors and contiguity, the areas designated for Late Seral Development are not likely to achieve true late seral conditions for centuries.

**Equally with the preceding reasons, JAG's recommendations provide for Management Plan Goal #4, Timber Management.** JAG was careful to always consider what effects its recommendations might have on overall timber production and the value of the timber that will be produced over the short- and long-term. JAG has asked staff to provide its best estimates of potential differences between timber production under the 2008 Management Plan and using JAG's recommendations. While it is impossible to predict output with certainty, even if JAG's recommendations collectively result in less timber production than the maximum that is allowable under the 2008 Management Plan, there is no question that much timber production is allowed. When staff's analysis becomes available, JAG will consider whether changes to its recommendations are warranted. One long-term timber production emphasis is on developing older, larger, high value trees for ultimate harvest. Current market conditions provide dramatic evidence that older, larger redwood, in particular, holds its value and marketability in a way that some other timber resources have not. Growing these larger, older trees for harvest will, in the future, help sustain the value of timber harvested from JDSF even in less-than-ideal market conditions. In turn, this timber will contribute to maintaining regional milling capacity. Additionally, without a doubt, timber inventory will grow, providing a wide variety of options for future decision-makers.

**Perhaps the single most important contribution to timber production made by the JAG silviculture and allocation recommendations is the high likelihood that the controversies that caused the absolute cessation of timber production over much of the last ten years will**

**not reoccur.** The recommendations are carefully drawn to meet the needs of the widest possible number of stakeholders while fulfilling the legal mandates under which the forest operates. The JAG believes its recommendations will allow JDSF to produce a sustainable, reliable harvest of timber that will make a significant contribution to the local and regional economy.

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**Taken together the JAG silviculture and allocation recommendations implement the JDSF mission in relation to, at a minimum, large timberland owners, non-industrial timberland owners; conservation and community-based land managers; state parks; the general public; recreationists; forest-associated plant and animal species, including threatened and endangered species; mill owners; and the local and regional economy.**