

Landscape Allocation
Committee Report
April 3, 2009

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Purpose: Review and develop recommendations on landscape allocations (Management Plan Map Figure 5 and related Plan elements such as found in Chapter 3) and desired mix of forest conditions over time.

Definitions:

Allocation: The process and results of apportioning the amounts (e.g., percent) and distribution (e.g., topographic, longitudinal, latitudinal, shape) of seral stages and structure classes to a landscape. Allocation influences silviculture.

Seral stages: Artificial construct used to discuss segments of the successional continuum. Scale is important -- while successional processes occur on many scales, the term is best used in reference to a stand large enough to express the processes and results little affected by adjacent stands (e.g., minimal edge effects) and on an on-going basis (e.g., mortality of a small number of organisms do not change the stand average conditions). Seral stages follow a somewhat predictable progression.

Late-seral: A range of conditions in which slow growth, decline, decline, and decadence is a common and persistent feature of the dominant vegetation. This definition retains latitude for timber management. It differs from, and is broader than the definition in the JDSF Management Plan that largely equates late-seral to old-growth, and thus severely constrains or eliminates timber management.

Structure class: Within a successional stage, a stand can vary based on localized disturbance, site constraints, and baseline conditions (e.g., early seral initiated by intense fire may be dominated by *Ceanothus*, while early seral initiated without fire input may be dominated by other shrubs; hardwoods (e.g., tanoaks) dominance in early to mid-seral stages reflects site conditions and intensity / frequency of the disturbance dynamics.

Disturbance: An event that 1) interrupts the successional progression, and/or 2) modifies the structure of a stand. Disturbance can be either artificial (timber harvest), natural (fire, windthrow, landslide, pest-kill), or the interactive effects.

Areas to address: Specific areas for JAG via the Landscape Committee to address were brainstormed as part of a visioning exercise held by JAG at the meeting of October & 4, 2008. Below, these are posed as questions. Some principles in deriving solutions have been added [but still need to be expanded / justified /

explained].

- ❖ What input variables inform landscape scale allocations?
 - Species Needs: [expand]
 - Ecological Principles: [expand]
 - Core areas, dispersal, connectivity, etc. [Expand]
 - Range of Natural Variation (Succession & Disturbance): [expand]:
 - compare and contrast seral stages with structure classes
 - amount, distribution, slope positions
 - Research and Demonstration Needs: [expand]
 - Management Plan Specifications & Goals: [expand]
 - Existing Conditions: [expand]
 - Forest Product output: [expand]
 - Economics
 - Inherent limitations (edaphic, topographic, biologic {TES}): [expand]
 - Other goals (educational, recreational, etc)
 - Certainty/Risk
 - Climate Change

- ❖ What are appropriate landscape accounting units?
 - Stands: Arranged as the basic unit of management in a hierarchy, stands seem to be the basic accounting unit.
 - Watersheds (Planning or other): At a high level of a hierarchy, this seems to be a good scale for setting and monitoring the achievement of long-term goals.
 - Compartments: To the extent that compartments match meaningful ecological units (e.g., watersheds), compartments may be appropriate also for setting long term goals. Cross-compartment evaluations can balance short-term deficiencies. To the extent “compartments” do not match meaningful ecological expressions; they may not be useful for long-term goals.
 - Ownership: JDSF is the logical maximal land-base to which the accounting units can be expanded to evaluate achieving goals and applying cross-watershed balancing.
 - Larger scales (Redwood zone in Mendocino Co., Redwood region): Although JDSF has no management control on lands outside its boundaries, placing its seral-stage management into context with the broader region can be instructive from multiple perspectives.

- ❖ How do we allocate lands now for future landscape goals?
 - Existing Conditions
 - Current management goals, retain pieces.
 - “Buffers” for mistakes or successional lag-times.

- Plan for catastrophes and unexpected changes (e.g., fire)
- ❖ How much do we need for a dynamic mix of forest or stand types?
 - Ease/risk
 - Early-seral is easy to create, although
 - Very early-seral (i.e., grass/forb/shrub stages) can be truncated by vegetation management to meet timber production goals.
 - Early to mid-seral (i.e., hardwood-dominated timberlands), although perhaps regionally over-abundant should be retained at a reasonable level for its representative ecological processes and functions.
 - Mid-seral forests tend to have low diversity due to dense canopies of actively growing conifers.
 - Late-seral takes a long time to create, and the equivalence of processes and functions between created vs. naturally regenerated late-seral stands is unknown. Long development requirements of late-seral make retention a prudent goal.
- ❖ Allocation of proportion of land to various silvicultural approaches and management objectives
 - (needs input from Research Committee [subsumed under first item above])
- ❖ What kinds of age class structures meet the needs of the 1100 small forest landowners (need input from the Research Committee and stakeholders)?
 - ?
- ❖ Should hardwood densities "typical of mature conifer forests" be defined?
 - Yes, best is empirical information [Expand, if possible].
- ❖ Are there actions we can take to make a significant difference to the viability of regionally diminished flora and fauna (also applies at site-specific level)?
 - Yes, at least for some. Need to list regionally diminished flora and fauna, identify and limit negative impacts from forest management, identify habitat needs responsive to land management either as a byproduct or add-on to operations or an add-on, produce those conditions, and monitor for effectiveness / adaptively manage [Expand?].
- ❖ Is the calculation of Option "a" or SYP adequate for the 100-year long-term schedule?
 - [not sure the intent of the question]
- ❖ OFSZ versus Late-seral
 - [Expand after discussion]

- ❖ What is the difference between LSF and OFSZ?
 - [Expand after discussion]

- ❖ Is there a standard approach to OFSZ/LSF stands for the next 40 years-what distinguishes management and development of these two stand types over this period?
 - [Expand after discussion]

John Helms' suggestions for committee considerations/final product:

- JDSF's current state of knowledge and current forest (and landscape) conditions on JDSF
- Review and outline priority landscape topics (using the Management Plan as a base document)
- Identify related gaps in the existing Management Plan that need to be considered
- Identify possible implementation issues
- Identify possible policy matters
- Identify possible external sources who could provide needed base information

Results/Conclusions: [work in progress]

As described throughout this document, there are many parameters that influence decisions relating to allocating seral stages and structure classes across any landscape. JAG recognizes that the outcome of the diversity of decision points means that there could be many reasonable solutions, and that each might be better or worse than other solutions when judged on different parameter, or if the parameters are weighed in different ways. JAG has opted to propose an allocation scheme strongly based on the ecological principles surrounding succession and disturbance dynamics. Using our best understanding knowledge of pre-timber management template, timber harvest attempting to emulate these dynamics in space and time will result in amounts and distribution of seral stages across the Forest that approximate that existing before timber management. The allocation and stand conditions will likely deviate from the pre-timber era to the extent that harvest may not fully emulate natural processes across the entire forest.

Where information is lacking on the applicable natural processes to be emulated, JAG should develop explicit statements to reflect our best professional judgment. Further JAG should be explicit about processes and rates for which empirical and theoretical information are lacking or weak. These can be come focal points of research either on JDSF, for JDSF to promote and lead regional research. This research can attempt to develop information about the natural range of variation for forest types on JDSF, and/or evaluate the consequences of several alternatives.

Tables

Natural Process	Variation	Consequence on the ground	Silviculture prescriptions / Timber management techniques

Maps & Figures [Insert figures]

Timeline

- May 2008: First JAG meeting.
- October 16, 2008: Subcommittees appointed by Helms, Liquori, & Henly.
- November 14, 15 2008: **First Meeting**, breakouts at full JAG, Fort Bragg.
- December 2, 2008: Subcommittee meeting, JDSF, Fort Bragg
- January 13, 2009: Breakouts at full JAG meeting.
- March 13, 2009: Subcommittee meeting, CDF, Santa Rosa
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- Expert input [?]
- Stakeholders Meeting & Feedback [?]
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- Draft Report to full JAG [goal September 2010]
- Final Report to CDF/BOF [goal December 2010, deadline May 2011]