

Conservation of Old Forests in a Dynamic Landscape

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Objectives

- **Reserve-Matrix Concept**
- **Short and Long-term Concerns**
- **Discuss Alternatives**

Land Use Allocations

PHYSIOGRAPHIC PROVINCES

1. Washington Olympic Peninsula
2. Washington Western Lowlands
3. Washington Western Cascades
4. Washington Eastern Cascades
5. Oregon Western Cascades
6. Oregon Eastern Cascades
7. Oregon Coast Range
8. Oregon Willamette Valley
9. Oregon Klamath
10. California Klamath
11. California Coast Range
12. California Cascades



* Includes LSRs associated with marbled murrelet or known owl activity centers. Also includes lands with overlapping LSR and AMA designations.



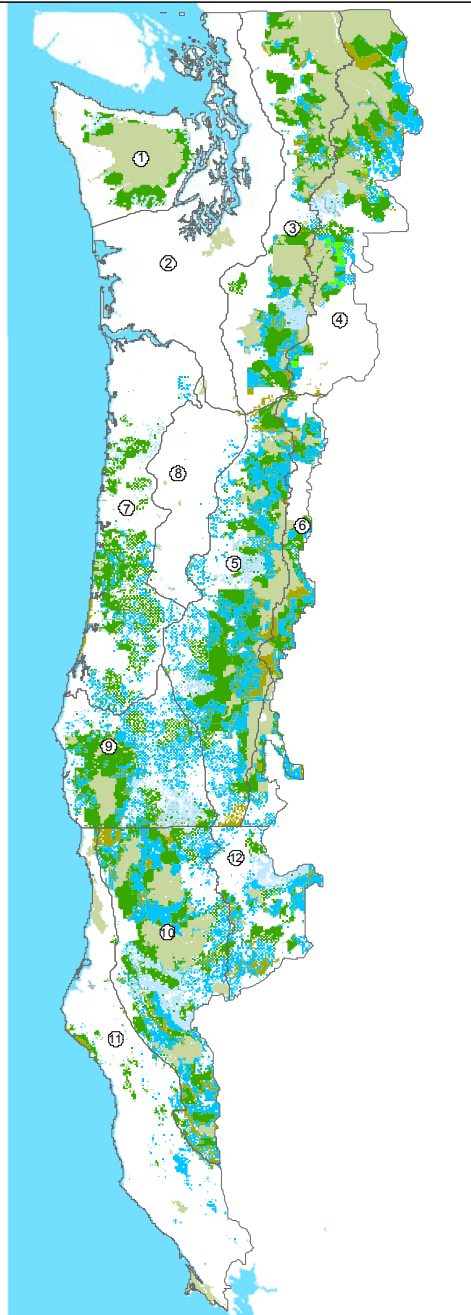
0 25 50 100 150 200 Miles



0 40 80 160 240 320 Kilometers



Mapped by the Pacific Northwest Interagency
Regional Monitoring Program
March 11, 2005



A Variety of Land Allocations With Several Kinds of Reserves

47% of area in reserves that allow active management



How Have Old Forests Fared Under the Plan?

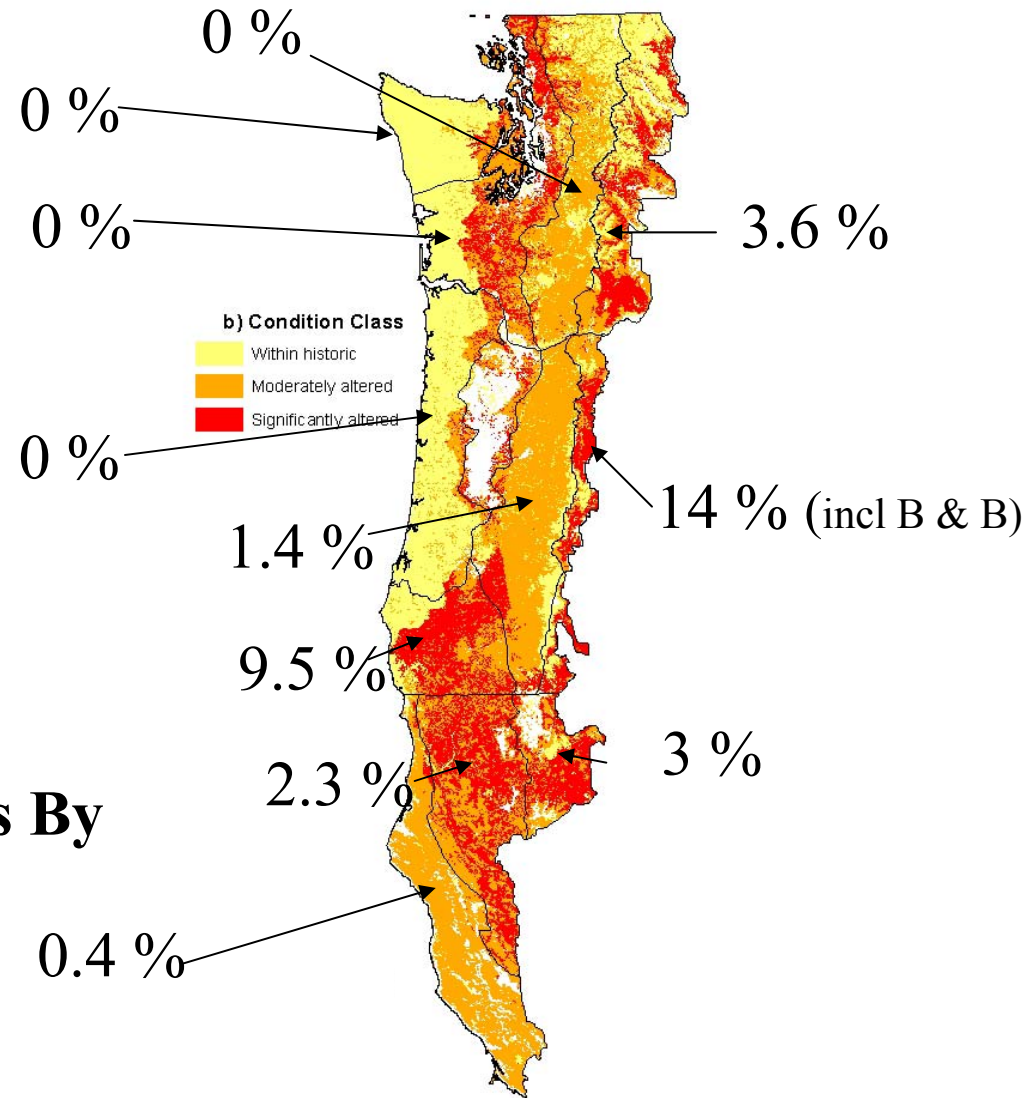
- So far, so good:
- Losses from logging are less than expected
- Losses from wildfire less than expected
- Net increase in older forest greater than what was expected



Concerns

- Risk of loss of older forest and owl habitat to high severity fire
- Contradictory ecological goals in dry provinces
- Declines in diverse early successional stages, hardwoods, in wet provinces
- Climate change effects--probably most significant in dry provinces

Fire Conditions Differ by Province



Percent Loss of Older Forest on a Decadal Basis By Province

Fuel Reduction in Fire-prone Vegetation Types

- 131,000 acres treated with mechanical or prescribed fire 2003—data is incomplete
- Distribution and effectiveness?
- Pre Euro-American settlement
 - Mean fire return intervals 3 ~ 50 years for low to moderate severity fire
 - Minority of landscape in dense old-growth forest types

Two Major Types of Old Growth in Fire-Prone Provinces

With Fire Exclusion



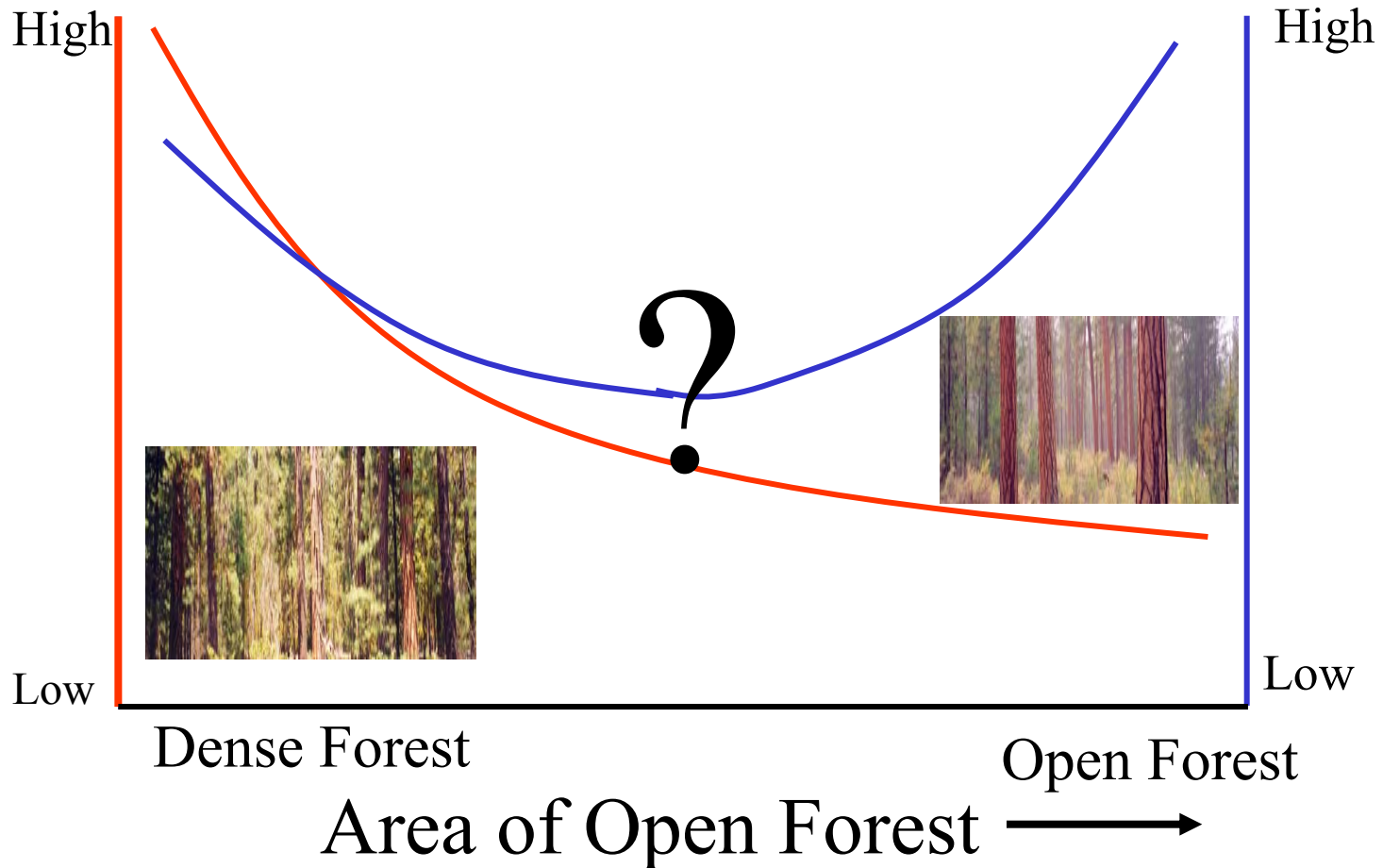
With frequent low-severity fire



Hypothesized Risks of High Severity Fire and Risks to Population Viability of in Relation to Area of Dense Older Forest

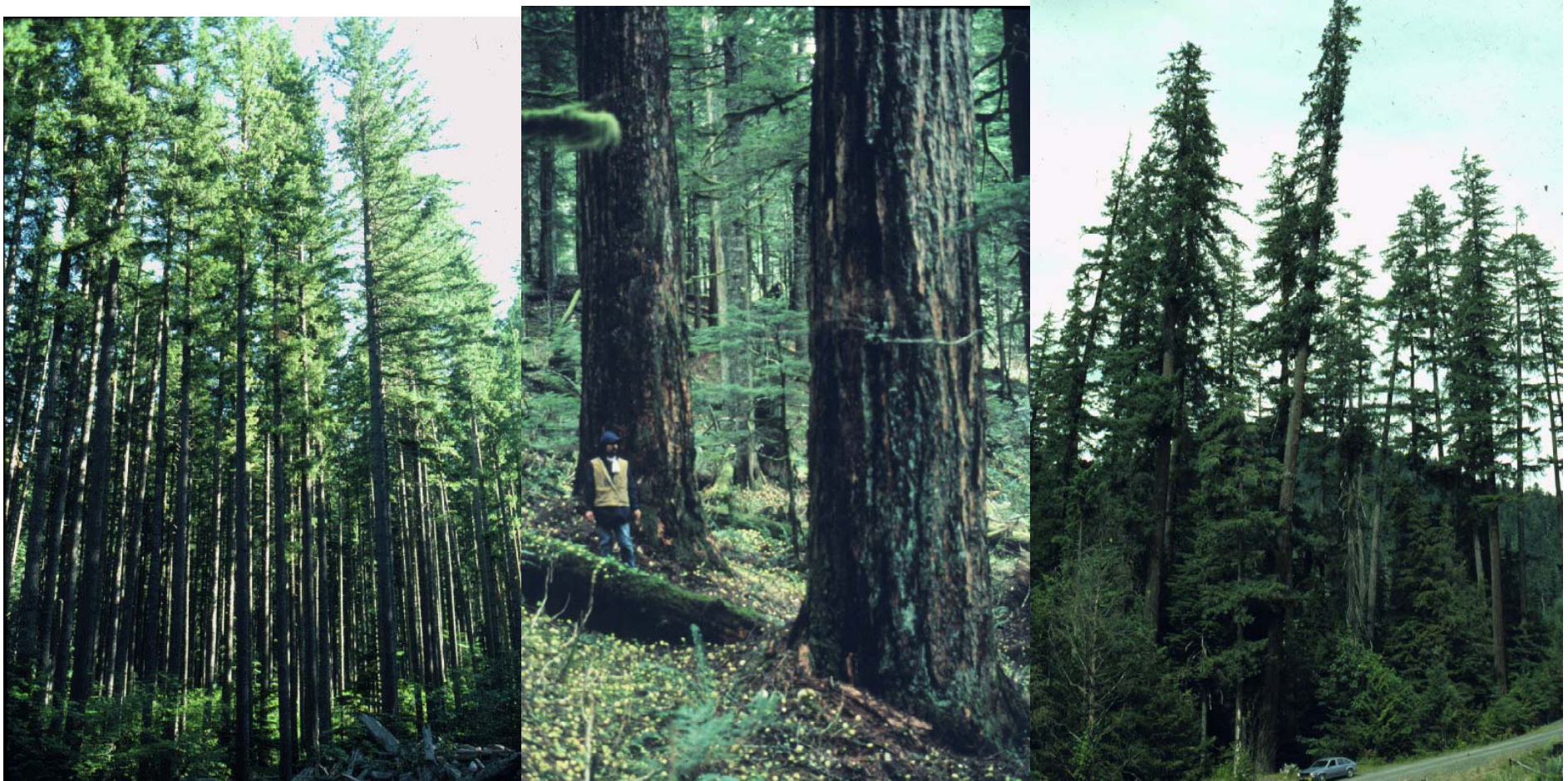
Risk of Loss to High Severity Fire

Risk to loss of Owl Populations



Wet Provinces

Mature and Old Growth in High Severity and Mixed Severity Fire Regimes



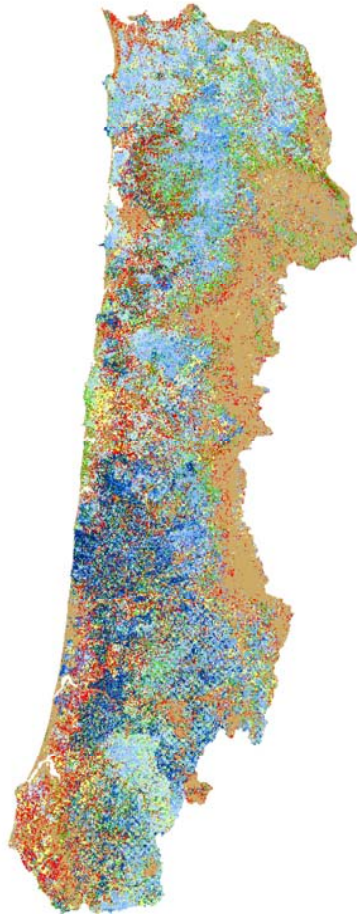


Landscape Patterns in High Severity and Mixed Severity Regimes

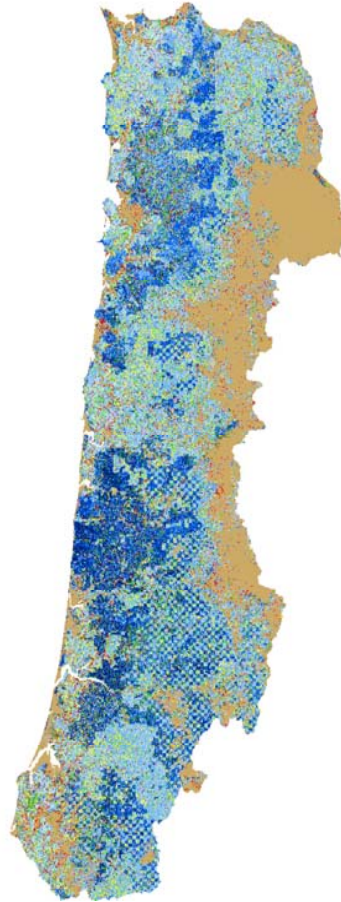


Simulated Changes in Vegetation in Oregon Coast Range

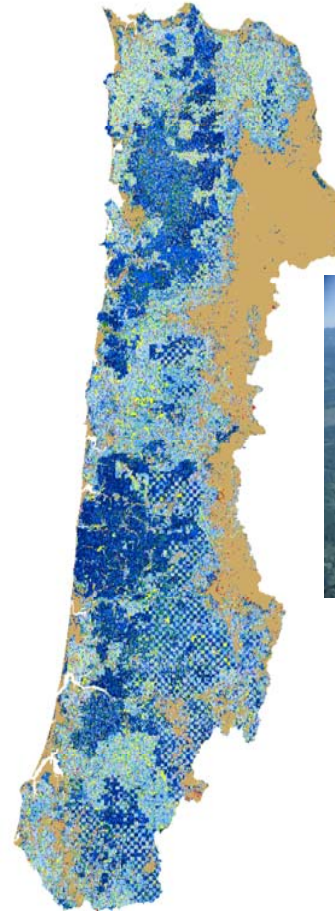
1996



2046



2096

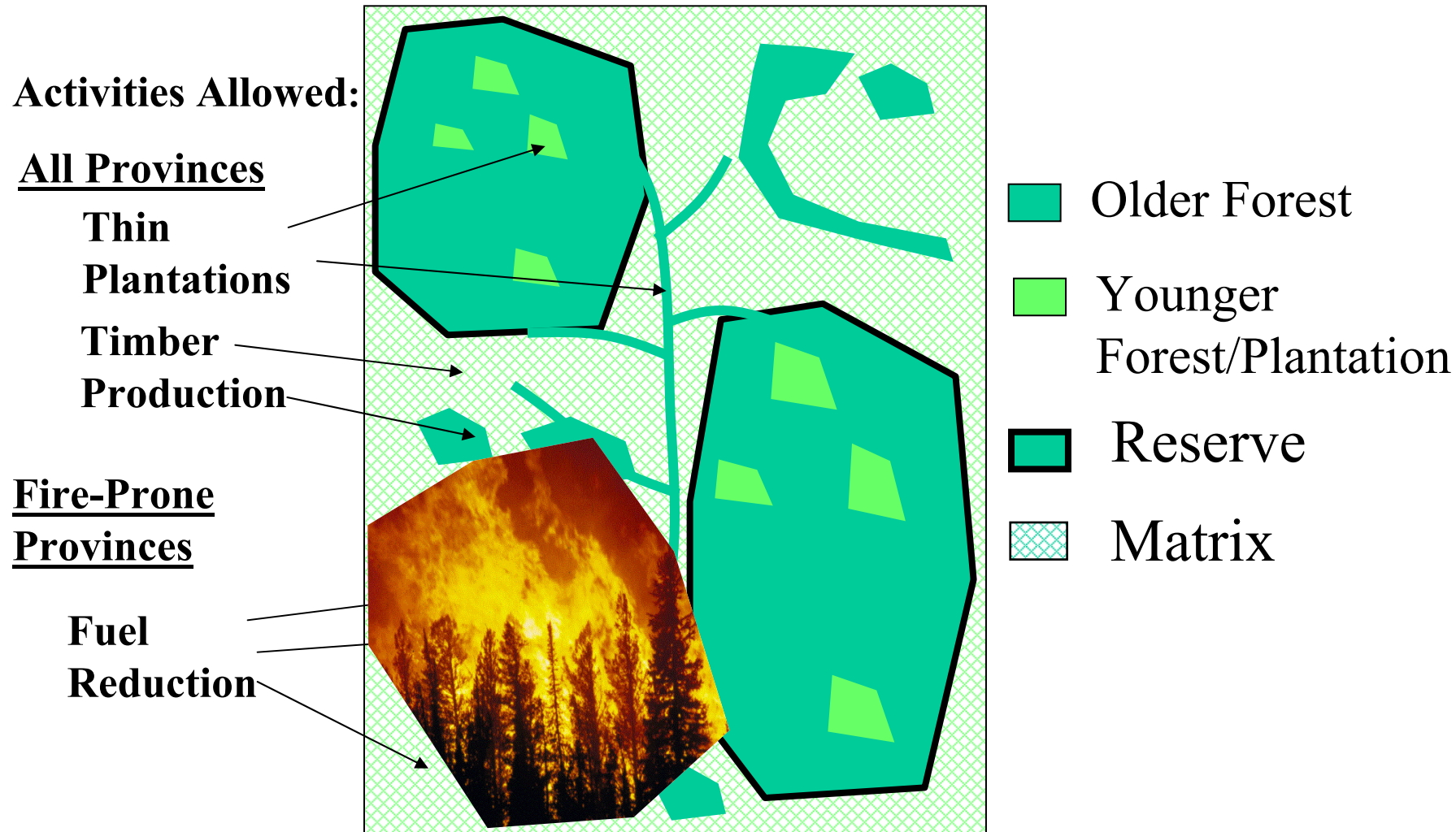


Declining Forest Types

Dark blue = Older Conifer
Light blue = younger conifer

Yellow = young, open forest
Red = Hardwood forests

Current Late Successional Reserve-Matrix Concept



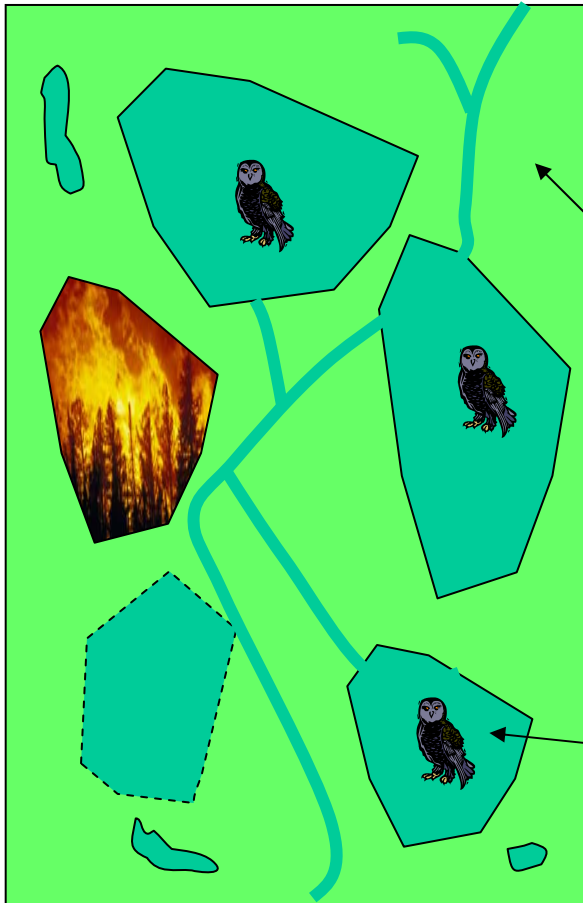
Alternatives on Federal Lands to Current Reserve Strategy

- Active management based on disturbance regimes and desired mix of seral stages
- Mix of disturbance based mgt and regime and reserves
- Reserve all remaining old growth

Alternative Landscape Designs for Maintaining Owl Habitat and Old-growth Diversity in Fire Prone Forests

Dense Forest Islands

Matrix = Treated forest/Open OG



Forests

Fuel Treatment
Open Old Growth

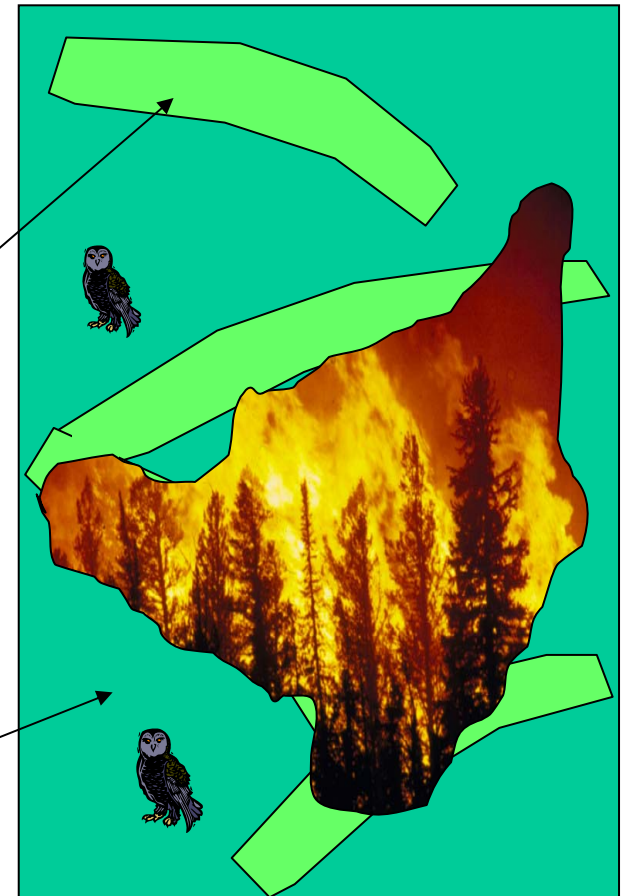


Limited or
no fuel Treatment
Dense Old Growth



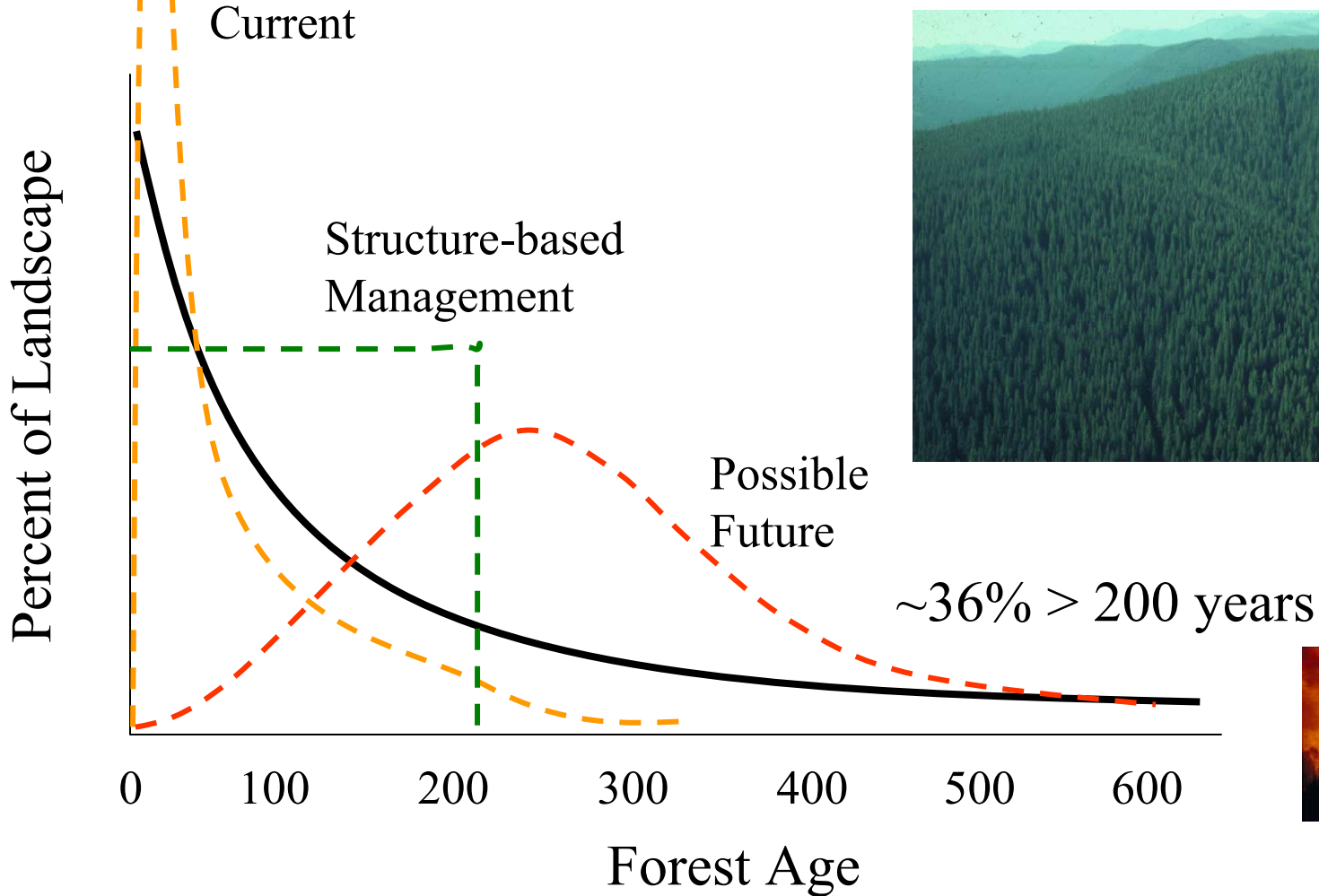
Fuel Breaks

Matrix = Owl habitat/Dense OG



Wet Provinces

Expected Distribution of Age Classes for Forests With Infrequent Stand-Replacement Fire (200 Years)



Mix of disturbance-based management and reserves

- Active management produces desired seral stage diversity and landscape patterns
- E.g. Blue River Landscape Study in AMA
- Advantages
 - More control over the pattern and diversity of seral stages
 - More flexibility
- Disadvantages
 - Timber production may be lower than in Plan
 - Still allows some cutting of older forest

Reserve all remaining old growth

- No cutting of old-growth stands (wet provinces) and/or trees over a certain size (dry provinces)
- Elements of option 1 in FEMAT

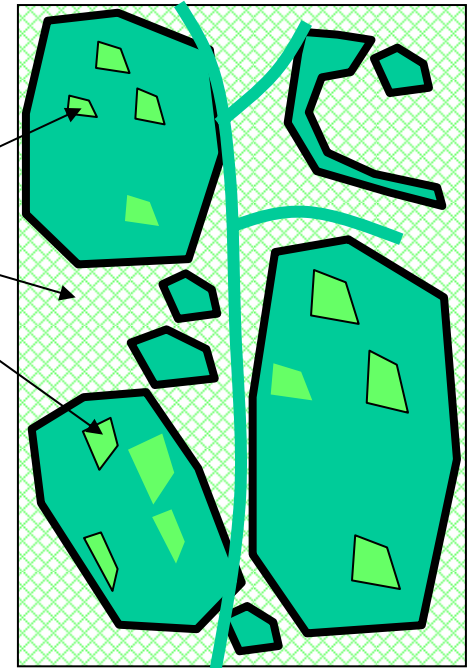
- Advantages

- Lowest risk to old-growth forest species
- Cutting in plantations to produce wood and create early successional habitat

- Disadvantages

- Less timber production
- Defined by current patterns
- Road systems?

 OG Reserve



Summary

- **Reserves are not all passive management areas**
- **So far so good—but short and long-term concerns remain**
- **Landscape-level alternatives for dry provinces may be more effective at meeting Plan goals**
- **Some alternatives for wet provinces could improve seral stage diversity—but not as urgent**