

Simulating the Future Forested Landscapes of the Oregon Coast

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Topics

1. Types of disturbances and actions considered.
2. Future forested landscapes and their characteristics under current policy.
3. Future forested landscapes under alternative policies.

Types of Disturbance & Actions Modeled

1. Small gap (wind, disease, other)
2. Private land development
3. Forest management, especially commercial thinning and clearcutting

Small Gap Disturbance

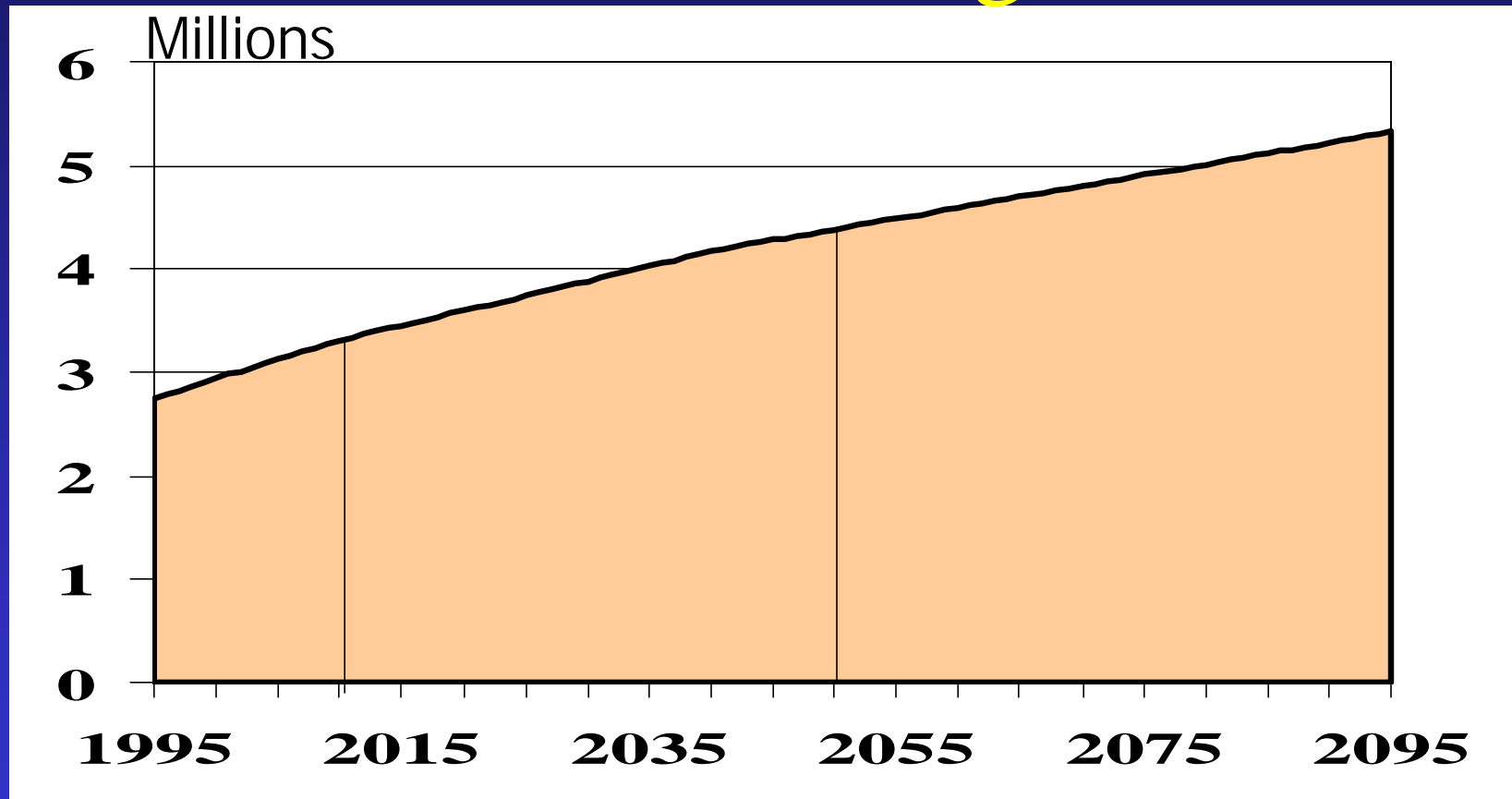
Disturbance Rate Per Decade

- Riparian 0.2%
- Upland 0.1%

Average patch size: 1/2 acre

Land Development

Projected Population in Western Oregon



Source: Center for Population and Research (1995 to 2010), Resources Planning Act (RPA) Assessment database (2010-2050), and by extrapolation (2050 to 2095).

Land Development

Present

2096



PUBLIC & TRIBAL LANDS

PRIVATE LANDS



Urban Forest



Urban Non-Forest



Low-Density
Residential Forest



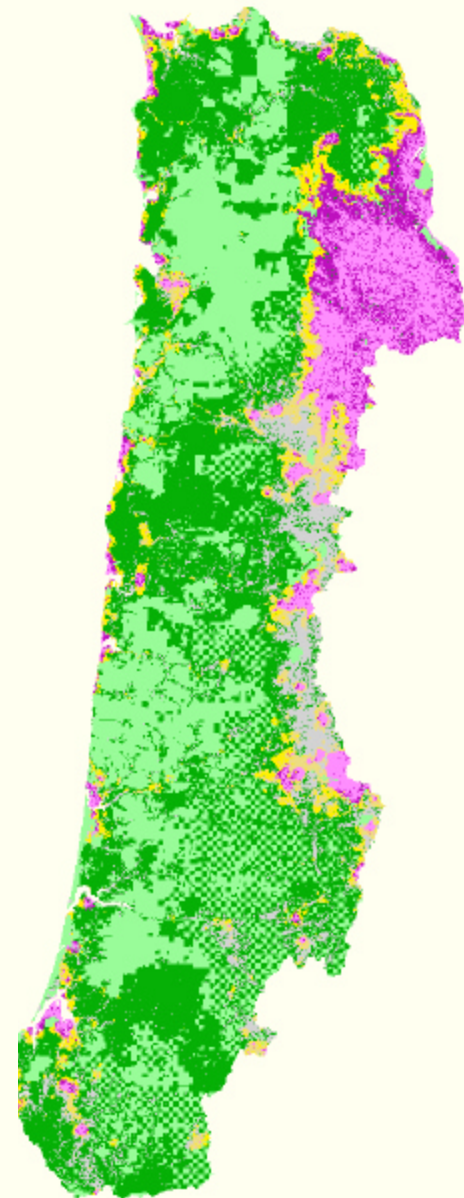
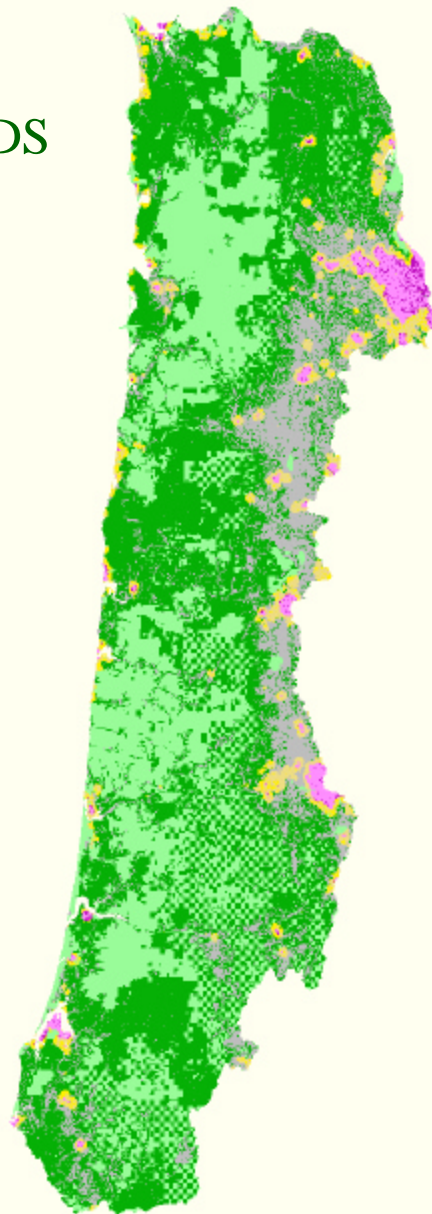
Low-Density
Residential Non-Forest



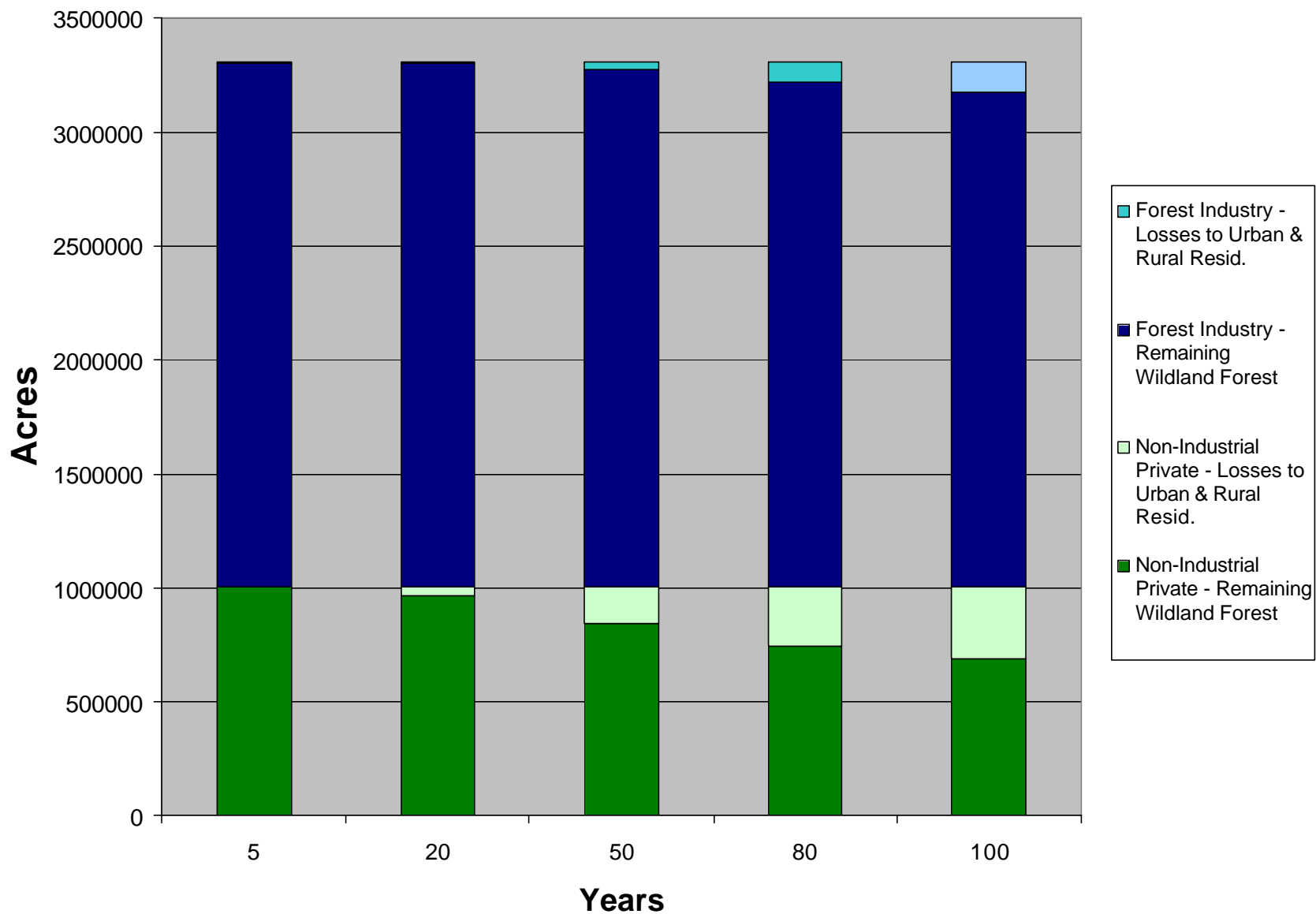
Wildland forest



Non-Forest



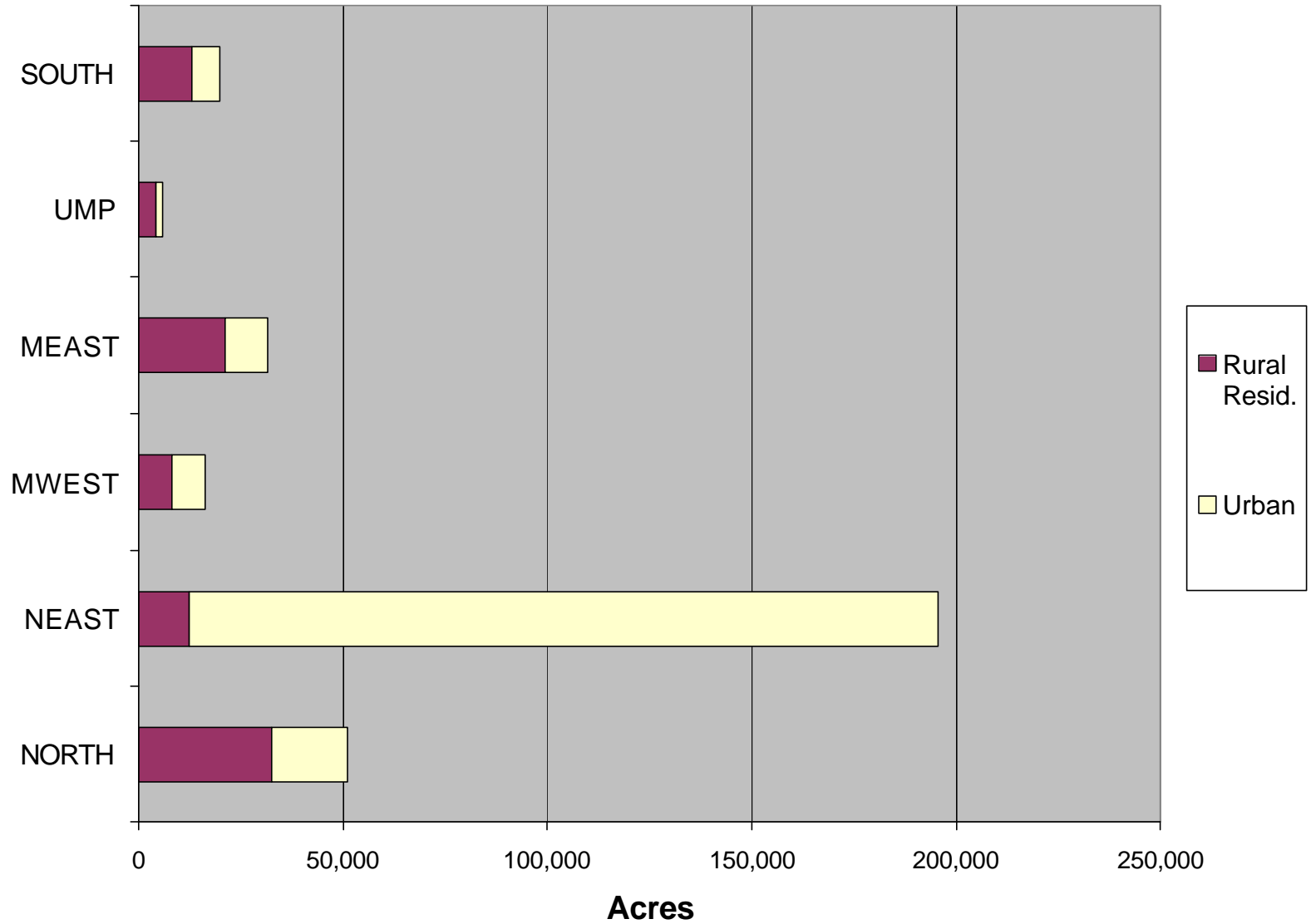
Simulated Land Use on Private Wildland Forest Over the Next 100 Years



Megasheds



Loss of Wildland Forest on Non-Industrial Private Land Over the Next 100 Years



Land Development

Development of Oregon's Coast Range over the next 100 years should leave intact a large majority of coastal forests. Still, significant losses are projected for private lands around Portland and in Coastal valleys.

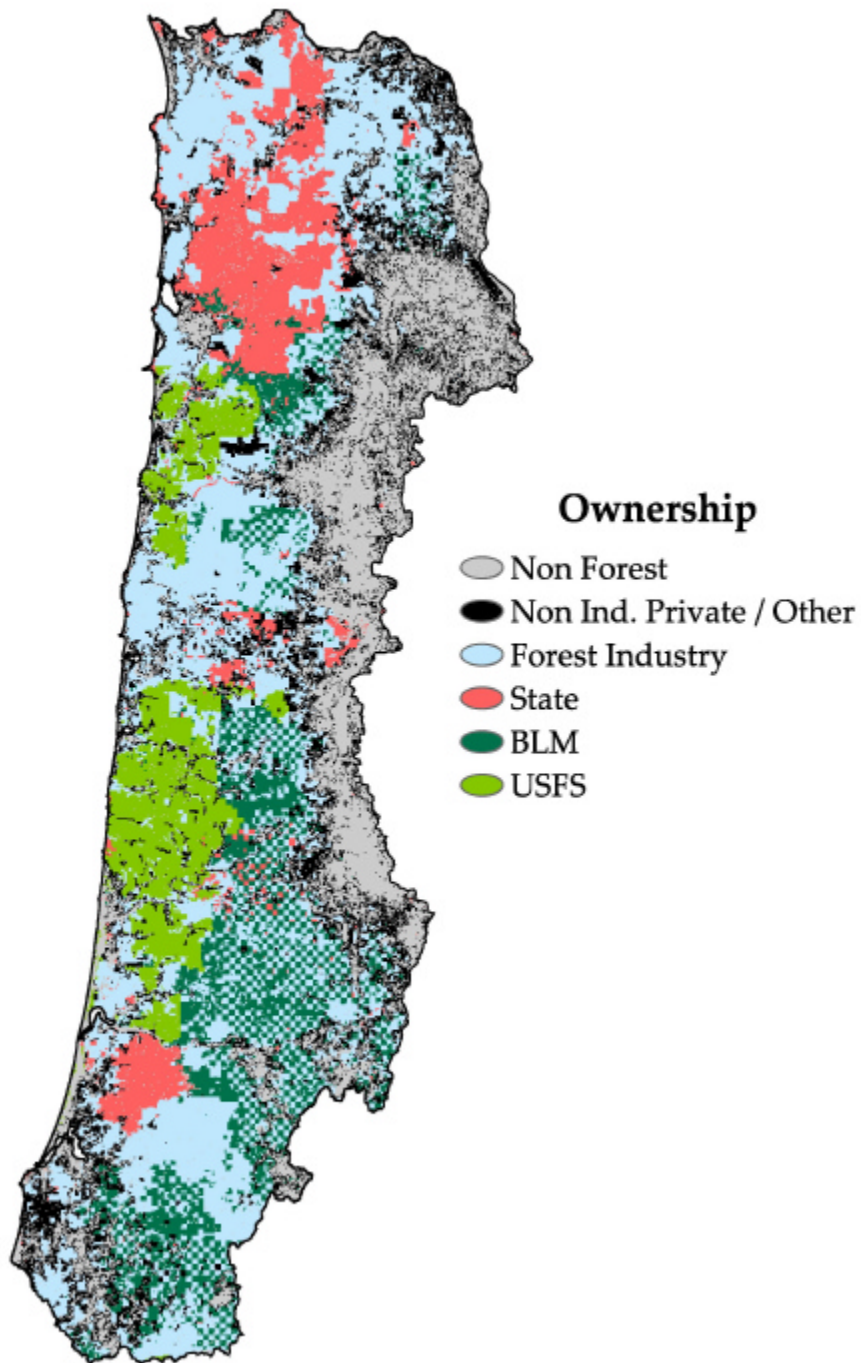
Land Development

Greatest unknown: potential “speckling” of homes through remaining wildland forest, and how that will affect commercial forestry

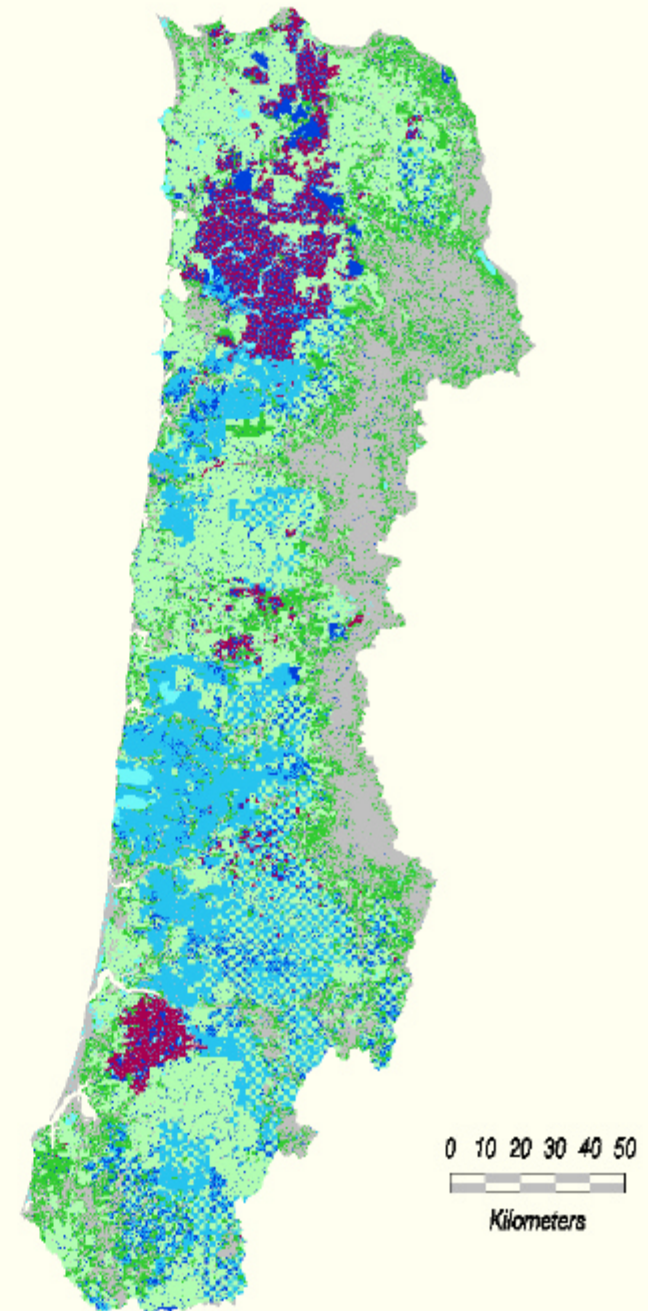
Forest Management

- Management emphases considered:
 - Northwest Plan
 - State plan
 - Tribal and county plans
 - Forest Practice Rules - riparian areas and wildlife leave trees

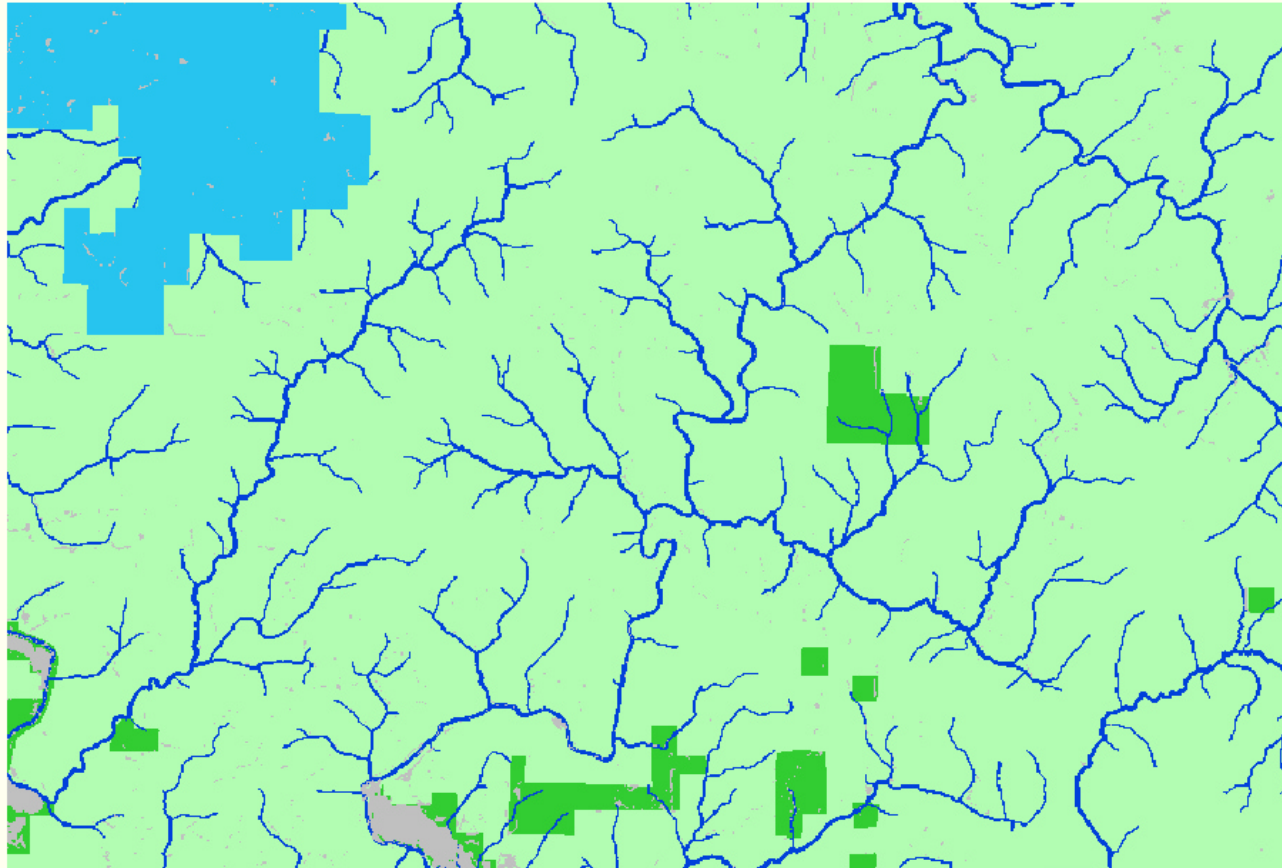
Ownership Types 1996



Management Emphasis 2001



Riparian Management Areas on Private Land



0 1 2 3
Kilometers

Forest Industry Management

Regenerated Stand Management Intensities

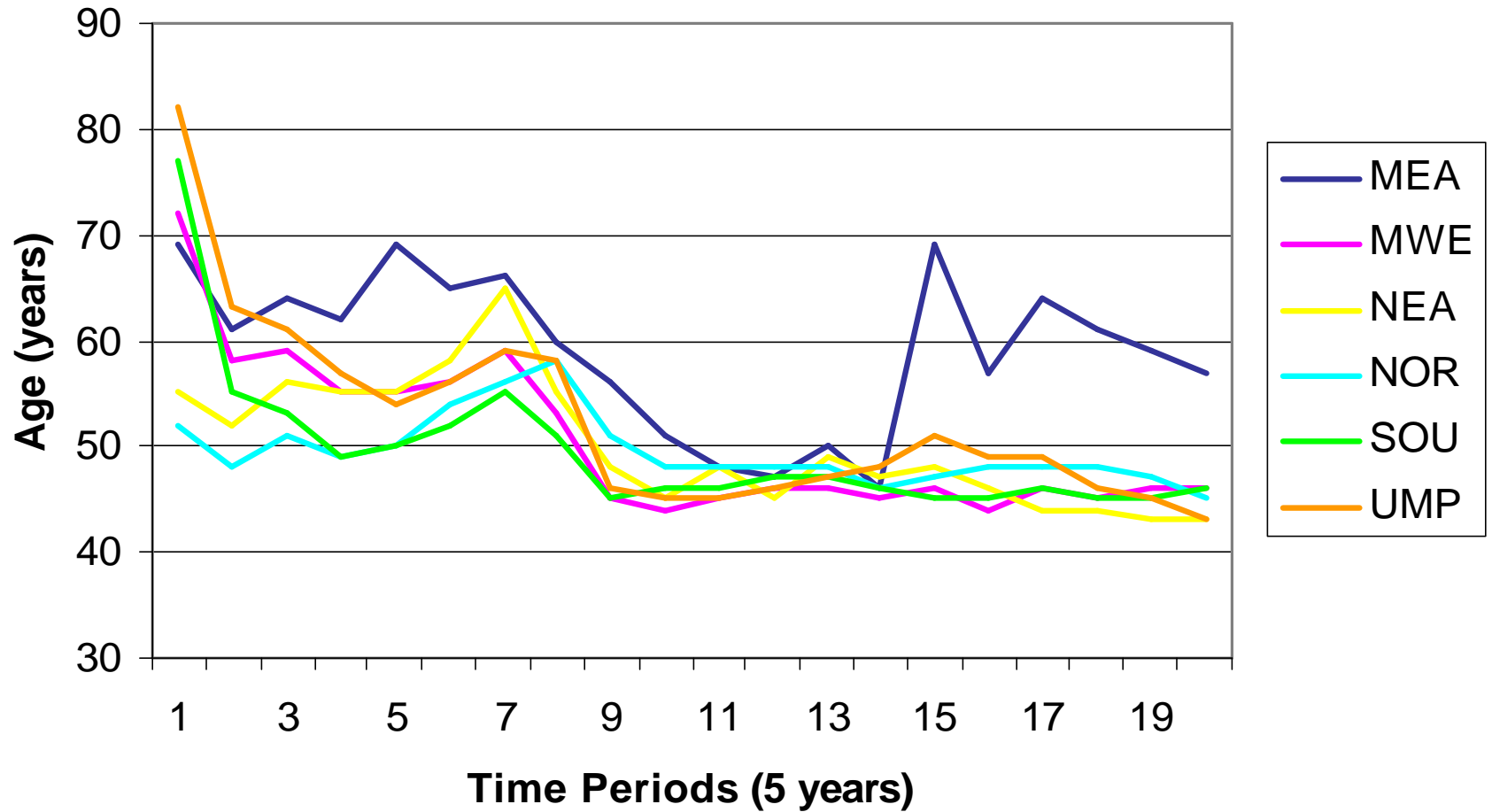
Intensity		Actions	%
High	1	Plant, PCT, fert	15
	2	Plant, PCT	55
	3	Plant	28
	4	Natural regen, thin	1
↓			
Low	5	Natural regen	1

Forest Industry Management

Goal of simulation:

Find a sustainable harvest level while moving to a 45-50 year rotation.

Industry Average Harvest Ages Base Policy

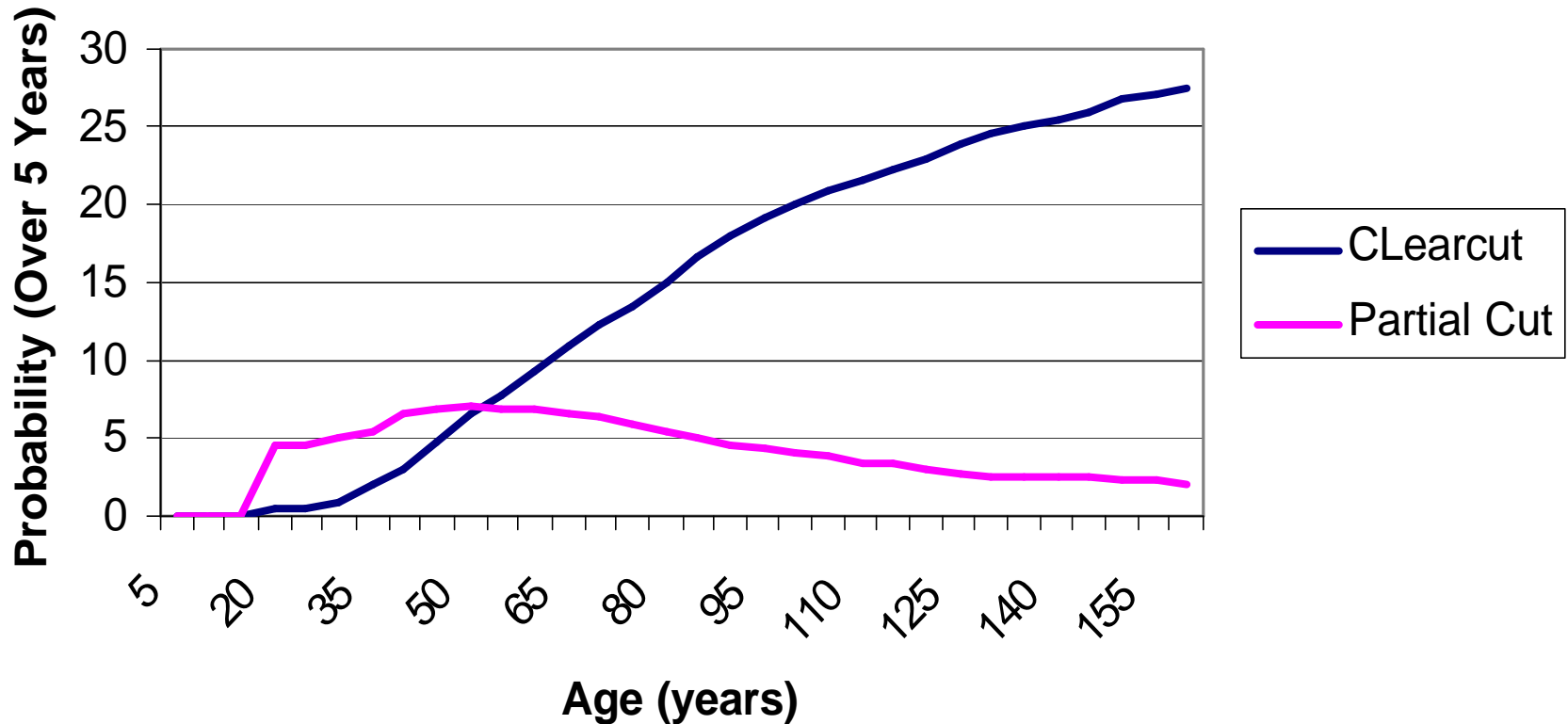


NIPF Management

Regenerated Stand Management Intensities

Intensity		Actions	%
High	1	Plant, PCT, fert	100
	2	Plant, PCT	
	3	Plant	
	4	Natural regen, thin	
↓			
Low	5	Natural regen	

Harvest Probabilities for NIPF Lands



Source: Lettman and Cambell (1997)

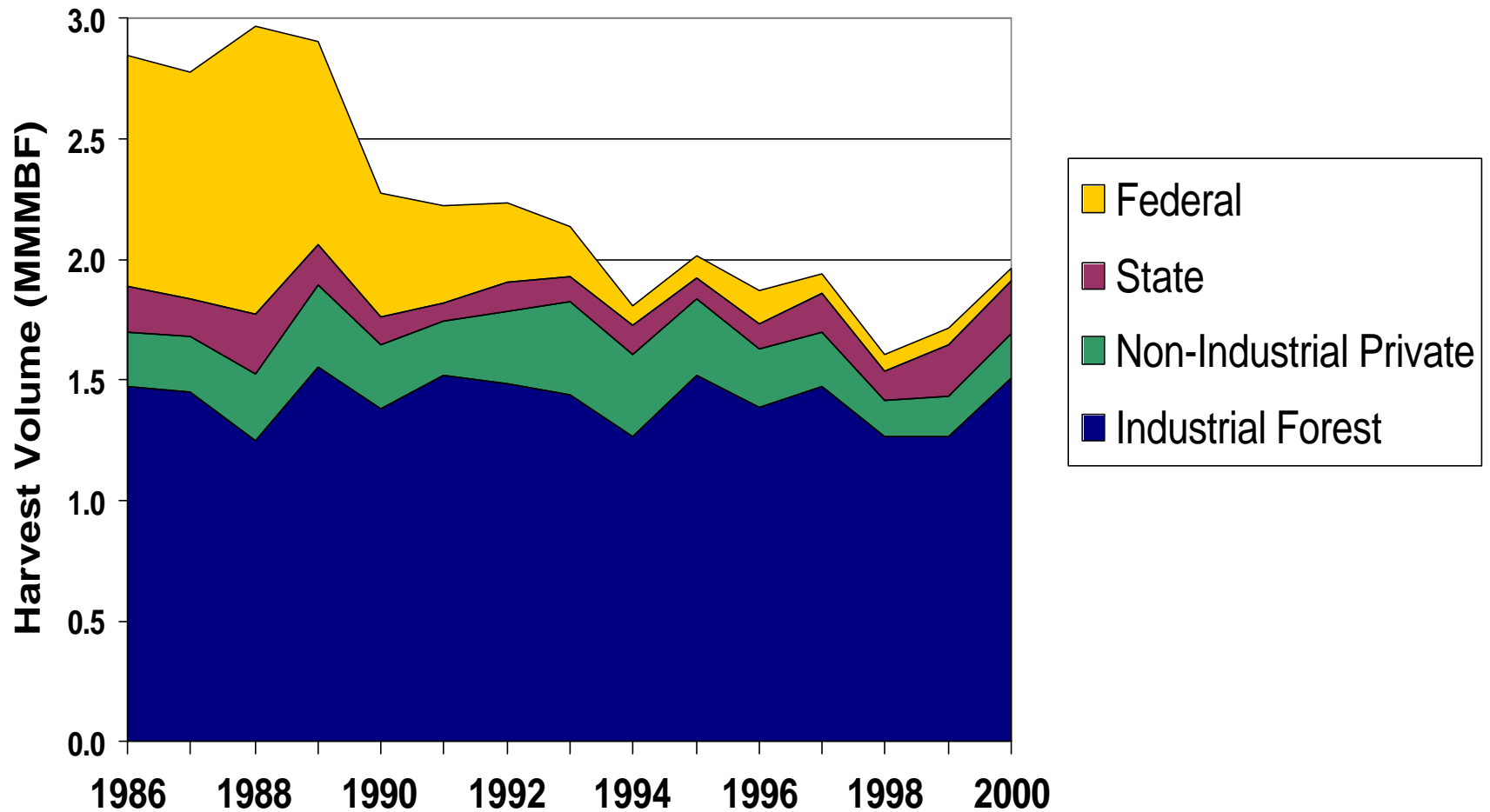
State Management

- Maximize non-declining yield subject to:
 - Structural stand constraints
 - Regeneration type: 10%
 - Closed canopy type: 15%
 - Understory type: 25%
 - Layered type: 25%
 - Older forest type: 25%
 - Interior habitat patches

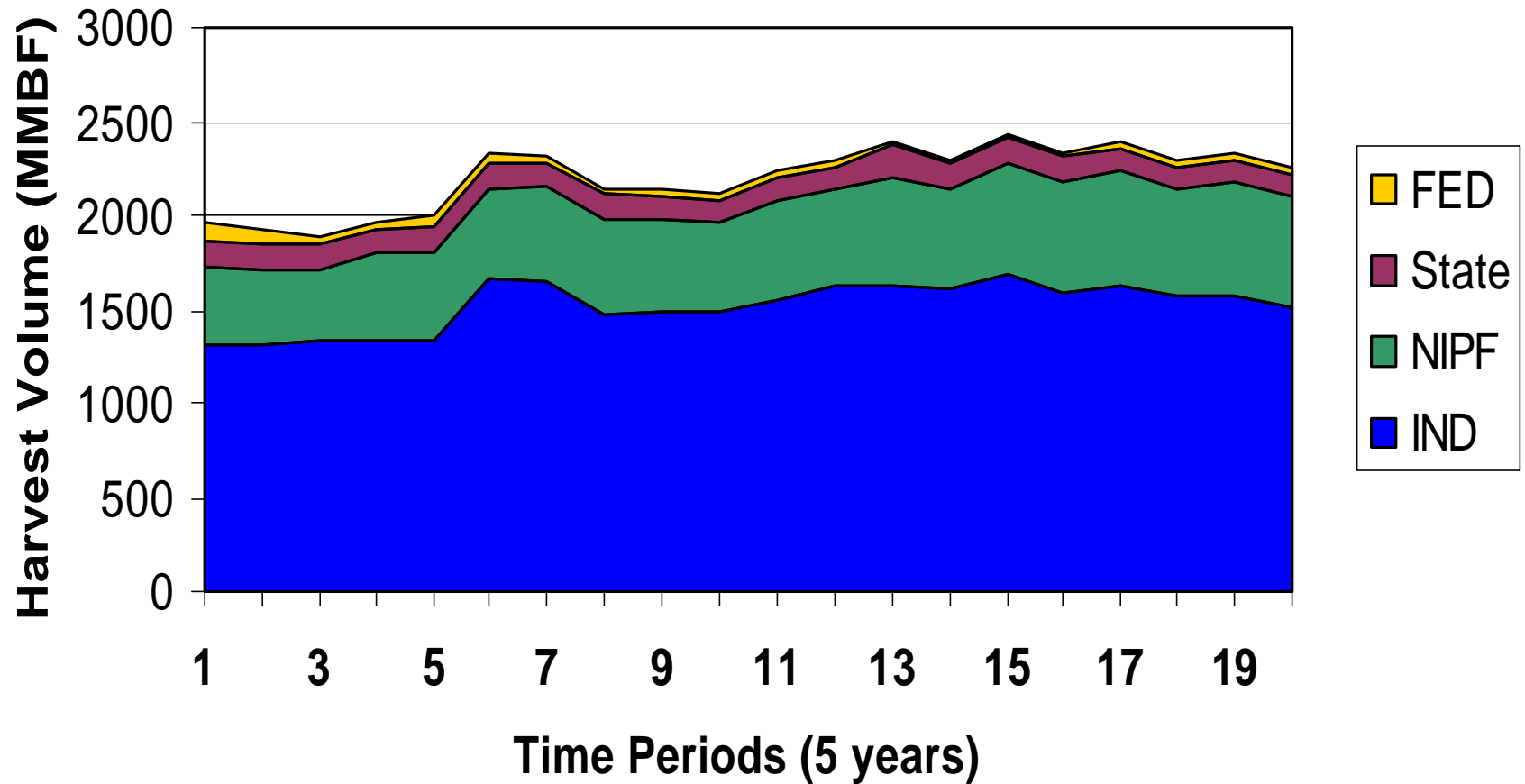
Federal Management

- Matrix volume targets
- LSR thinning to reduce density in conifer plantations

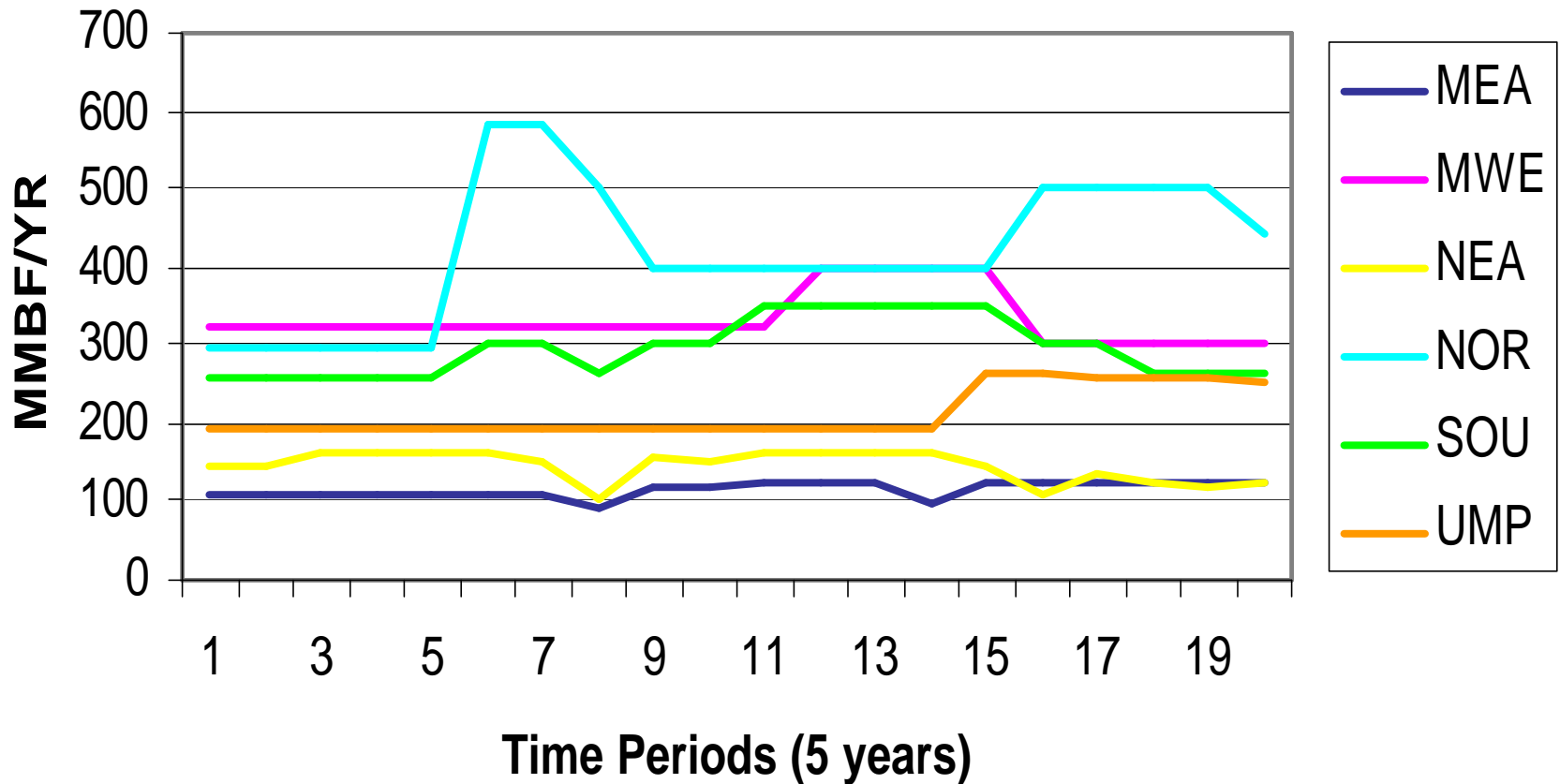
Annual Harvest Volume for Oregon Coast Range by Owner, 1986-2000



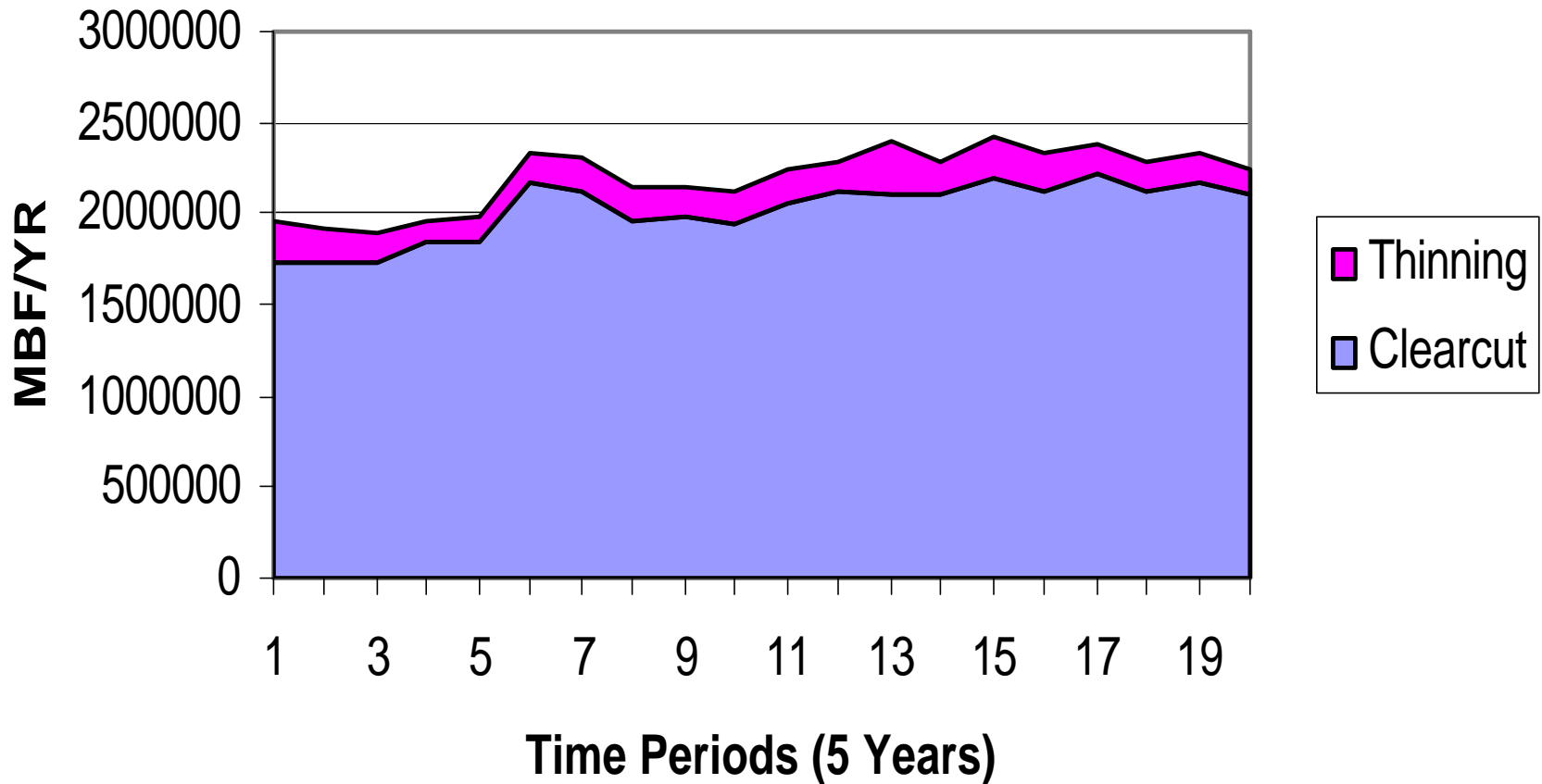
Annual Harvest Volume by Owner Base Policy



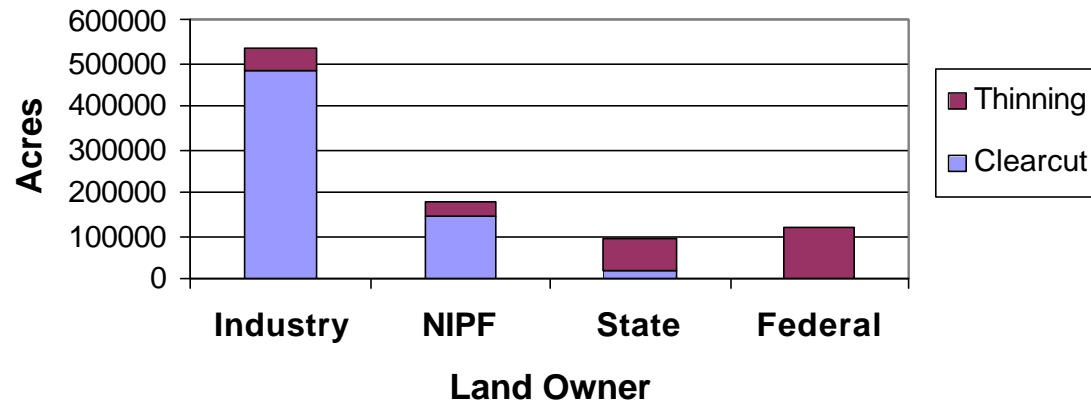
Annual Industry Harvest Volume by Megashed Base Policy



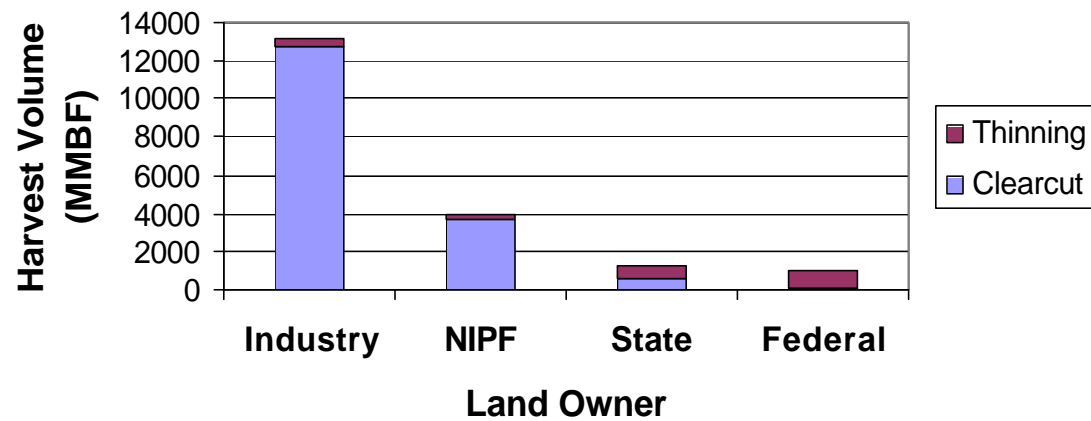
Annual Harvest Volume (All Owners) Base Policy



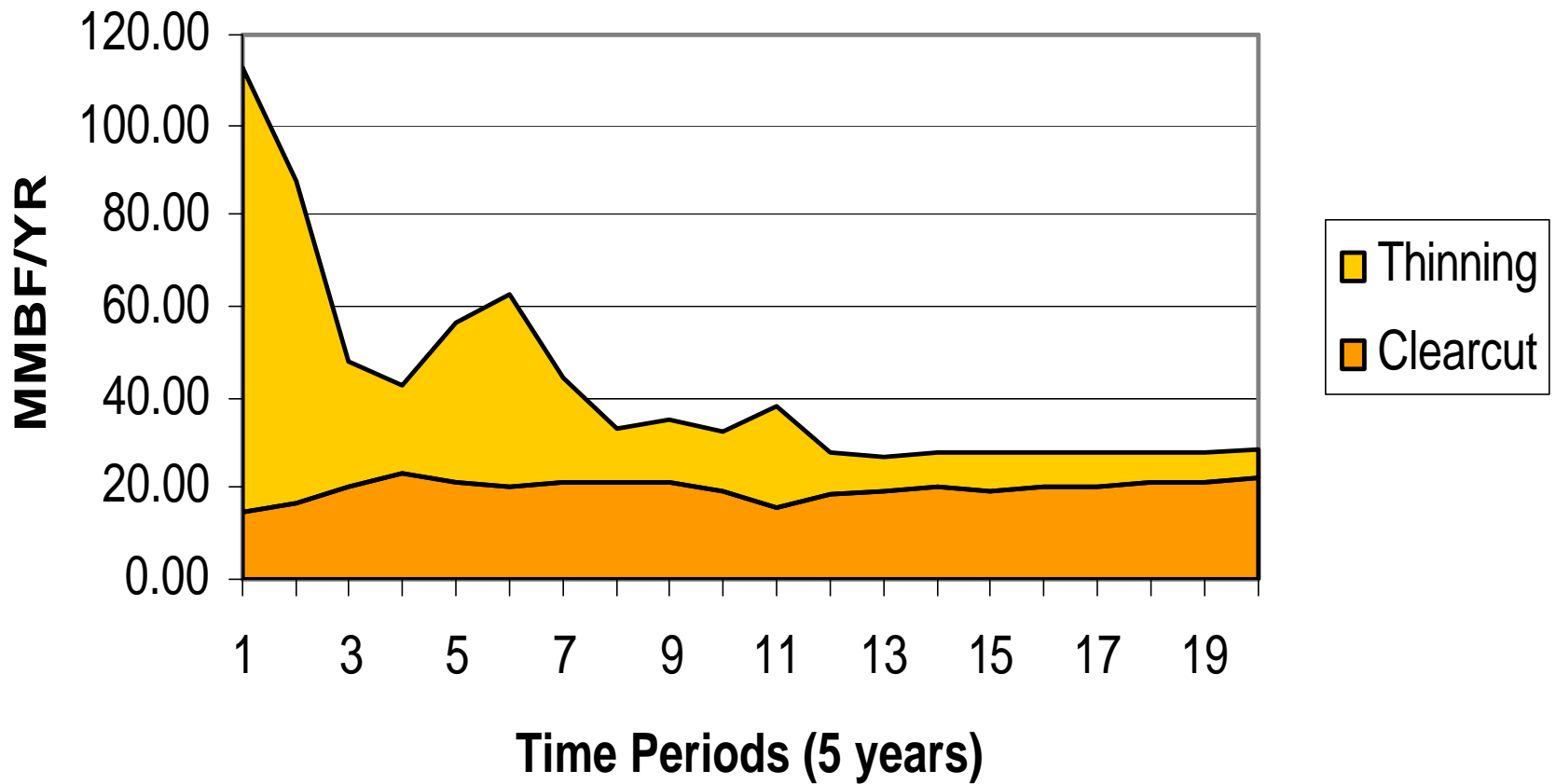
First Decade Harvest Acres Base Policy



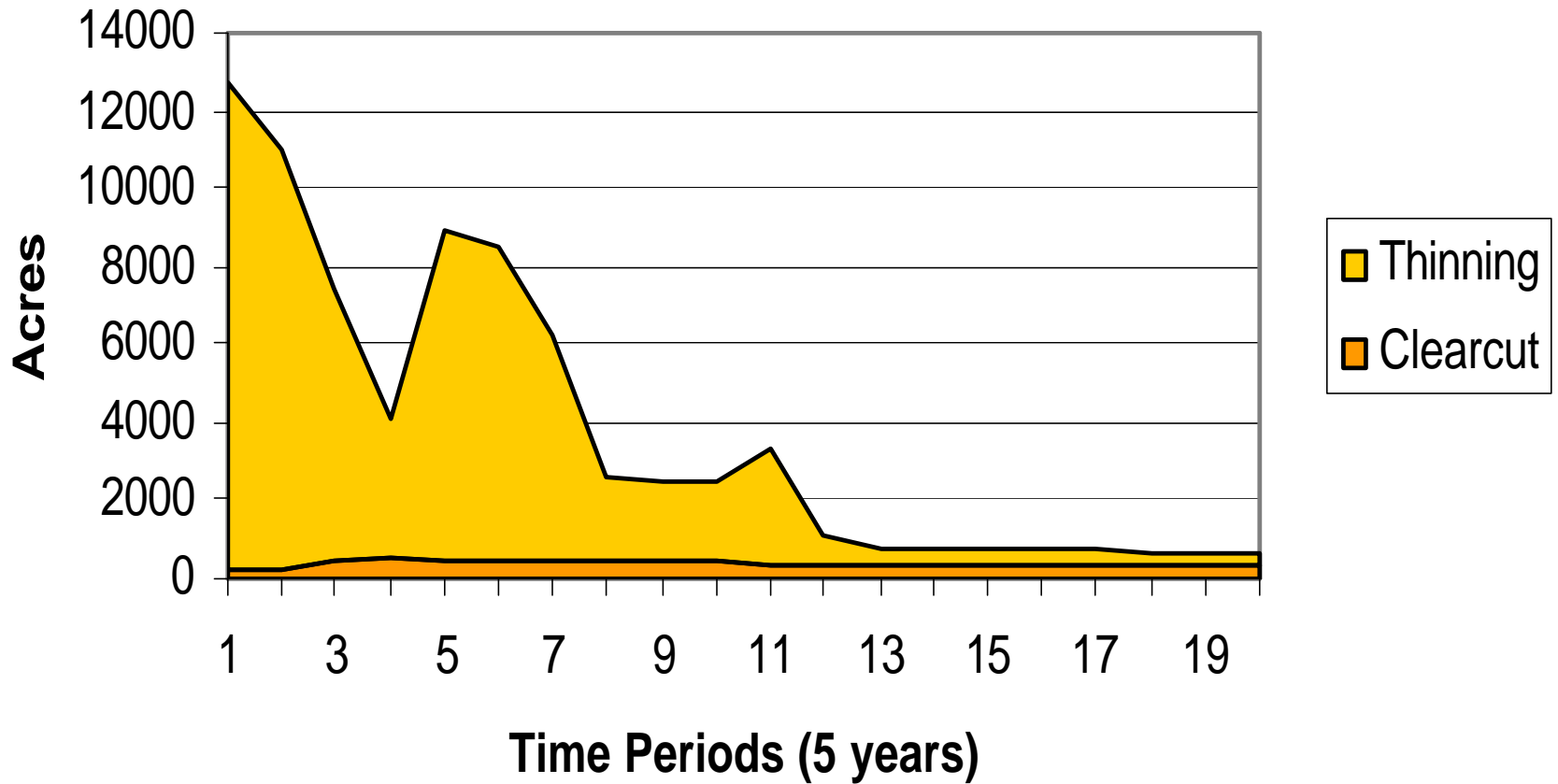
First Decade Harvest Volume Base Policy



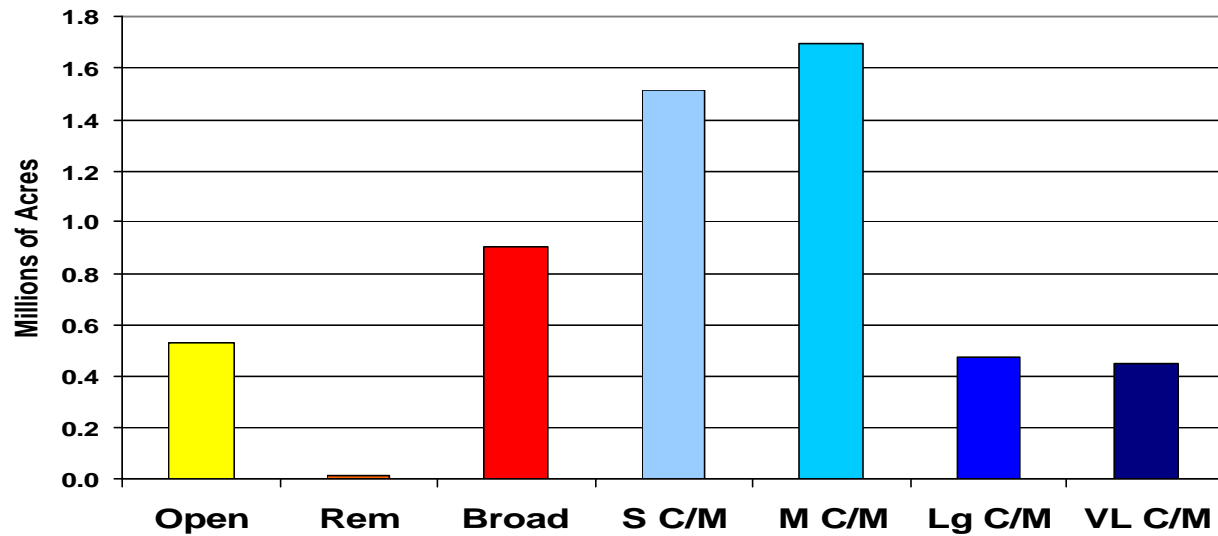
Annual Federal Harvest Volume Base Policy



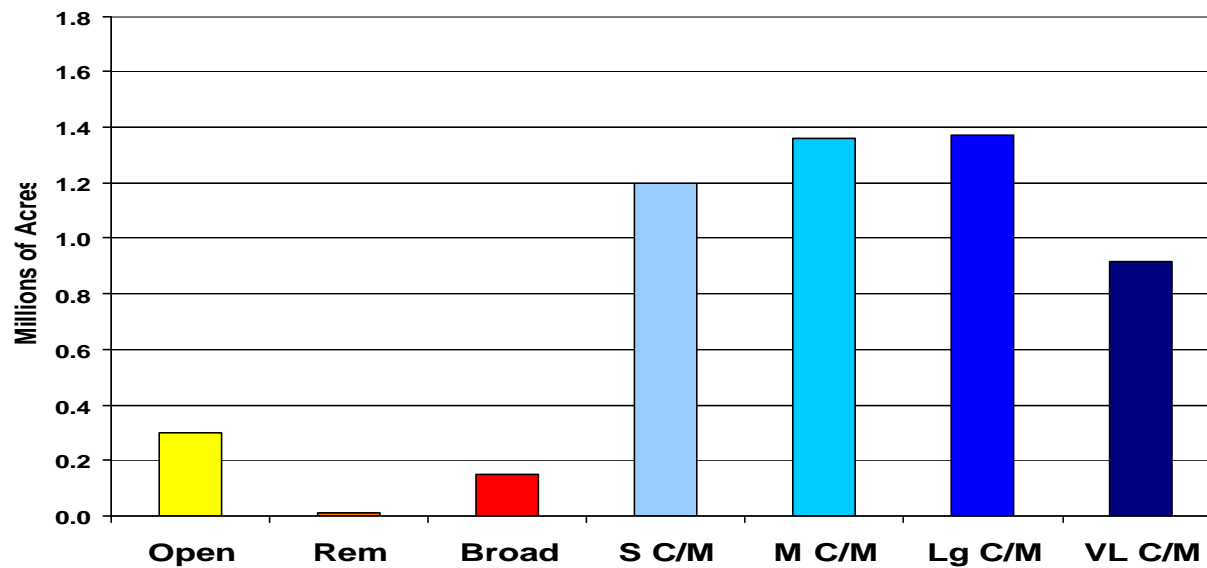
Annual Federal Harvest Acres Base Policy



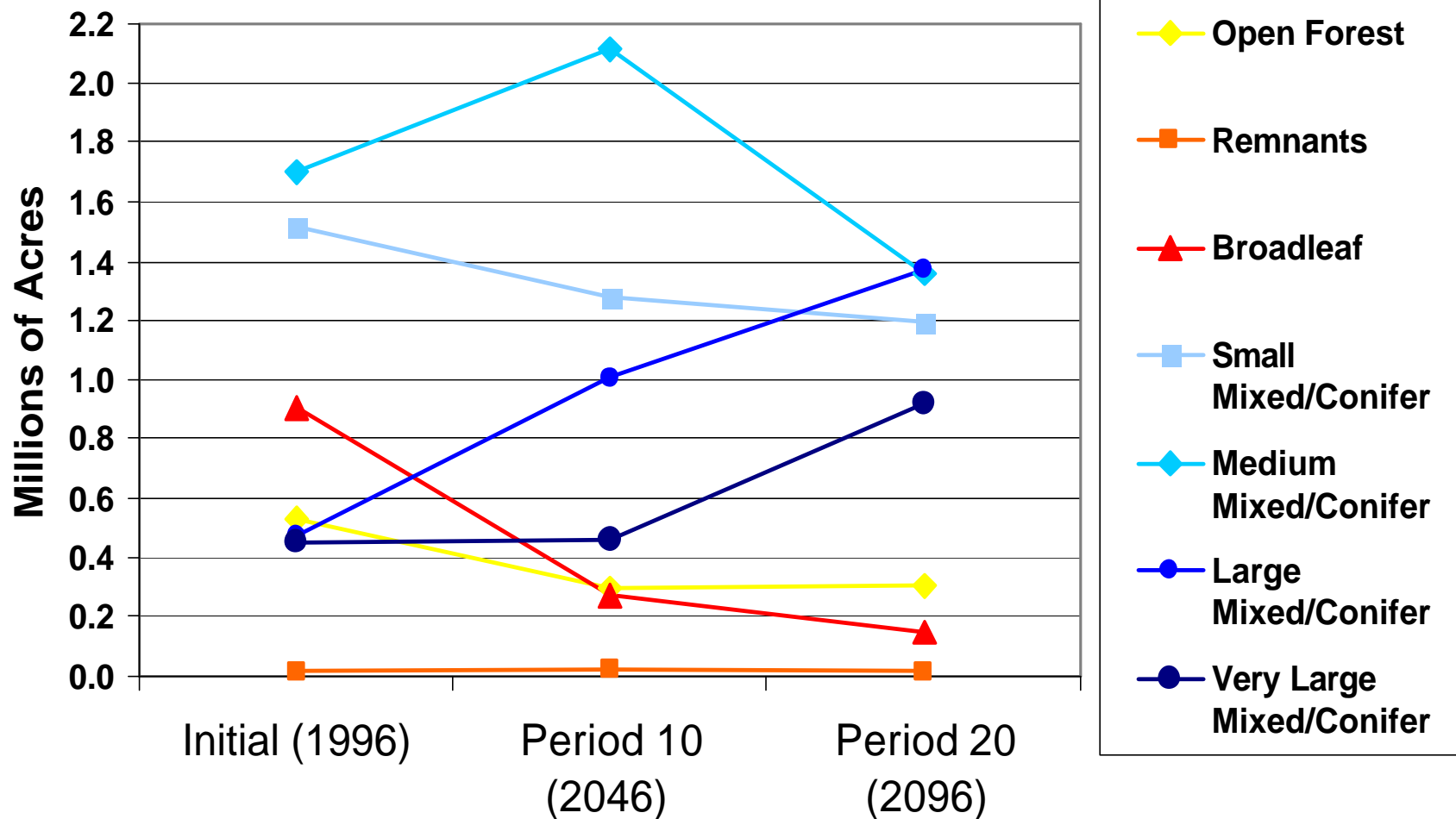
**Vegetation on Forested Lands
Initial (1996)**



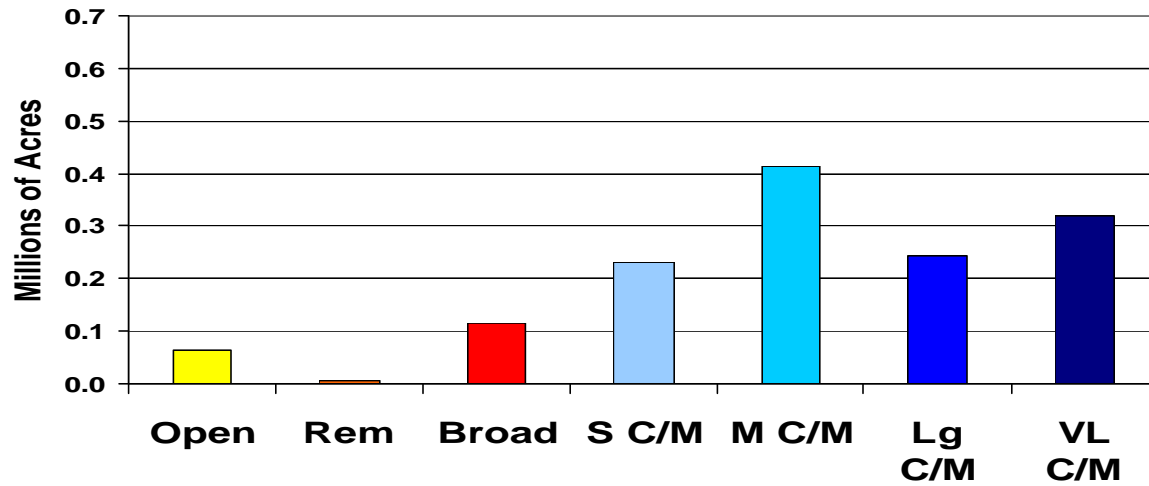
Period 20 (2096)



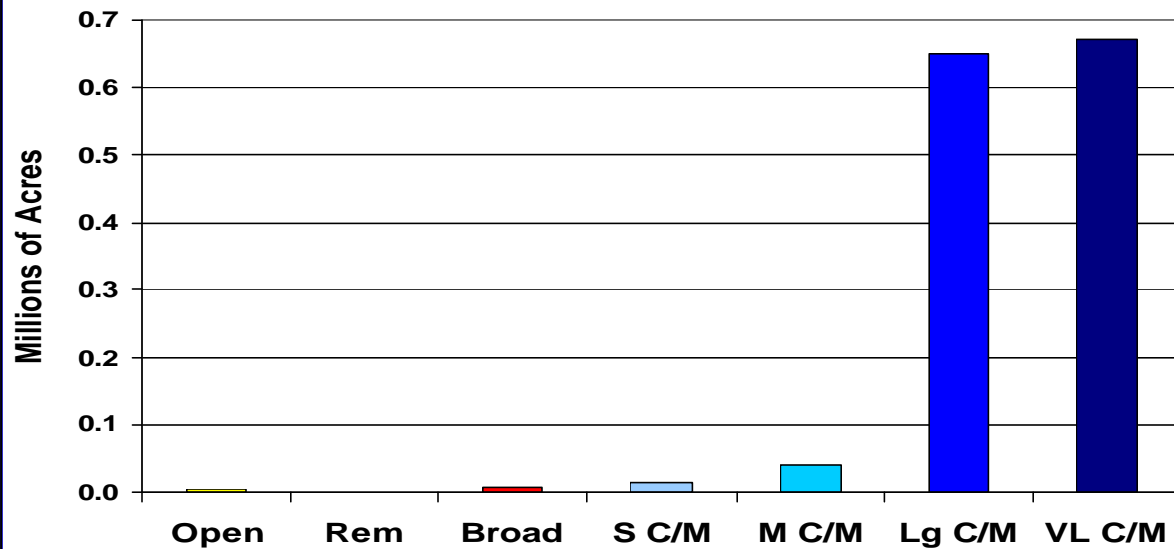
Projected Change in Vegetation on Forested Lands Under Current (Base) Policy, Oregon Coast Range



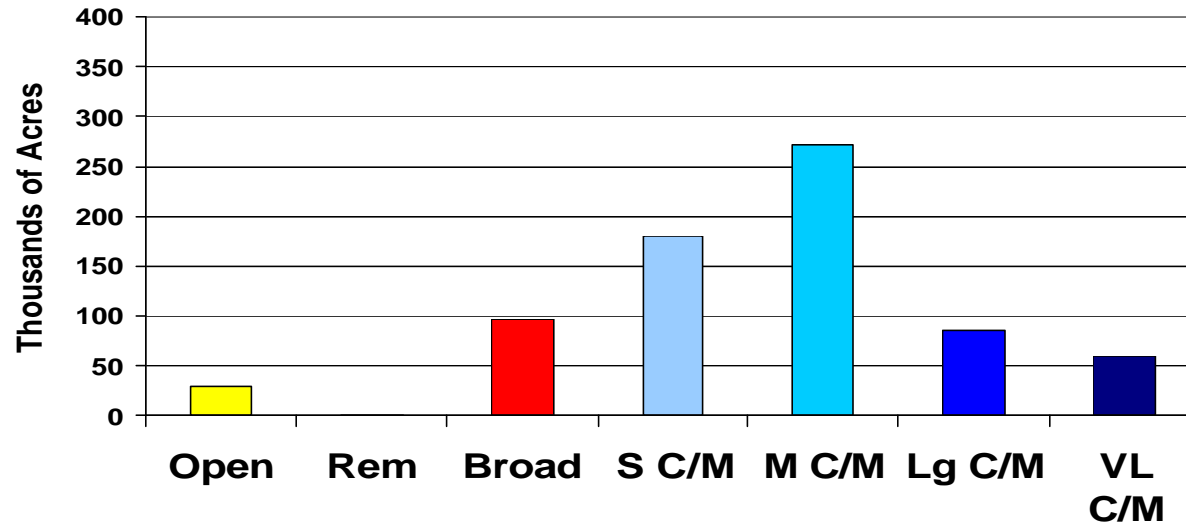
Vegetation on Federal Forested Lands Initial (1996)



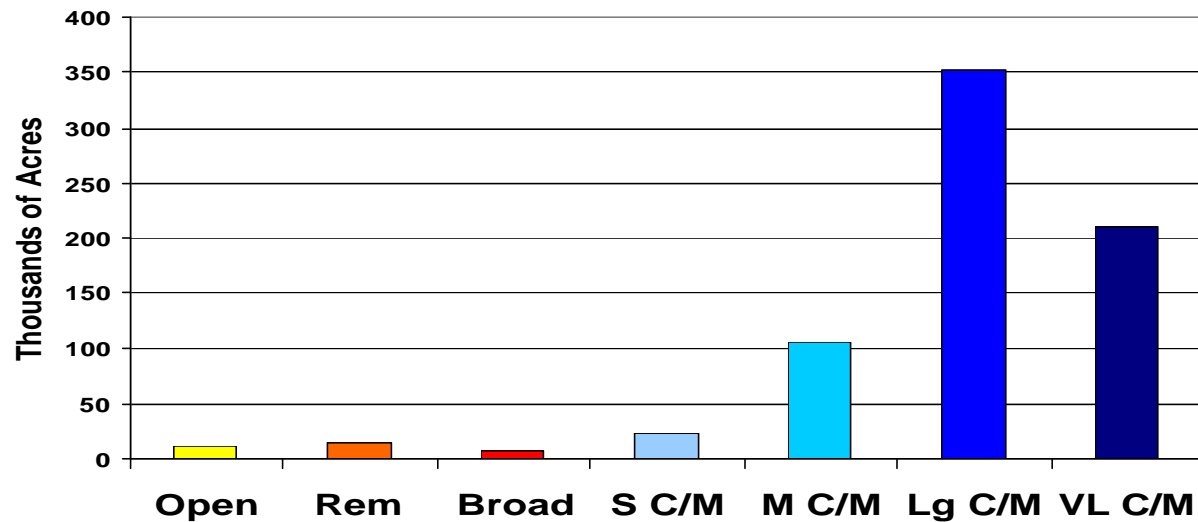
Period 20 (2096)



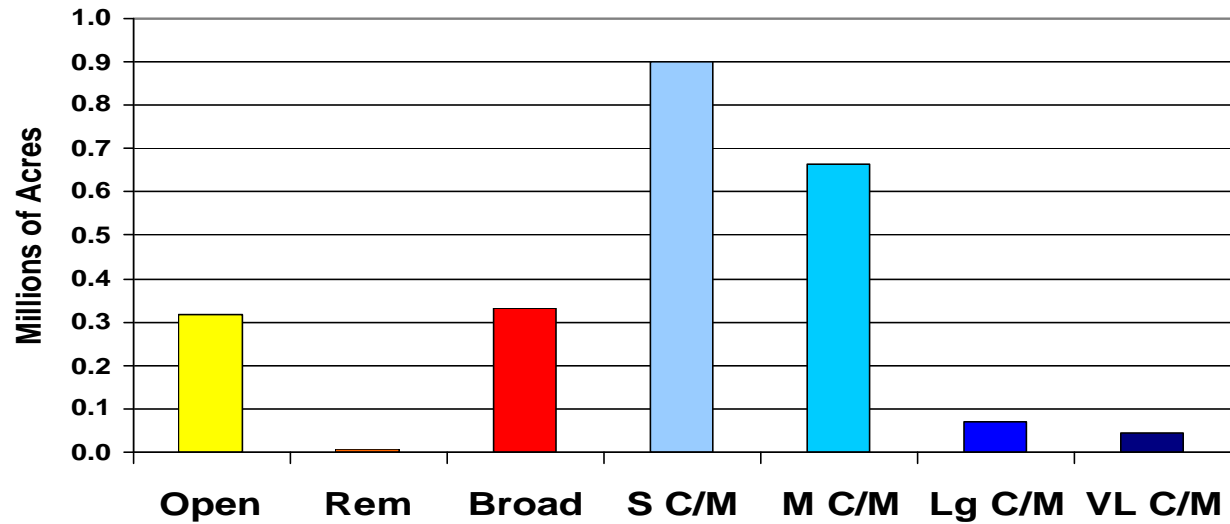
Vegetation on State Forested Lands Initial (1996)



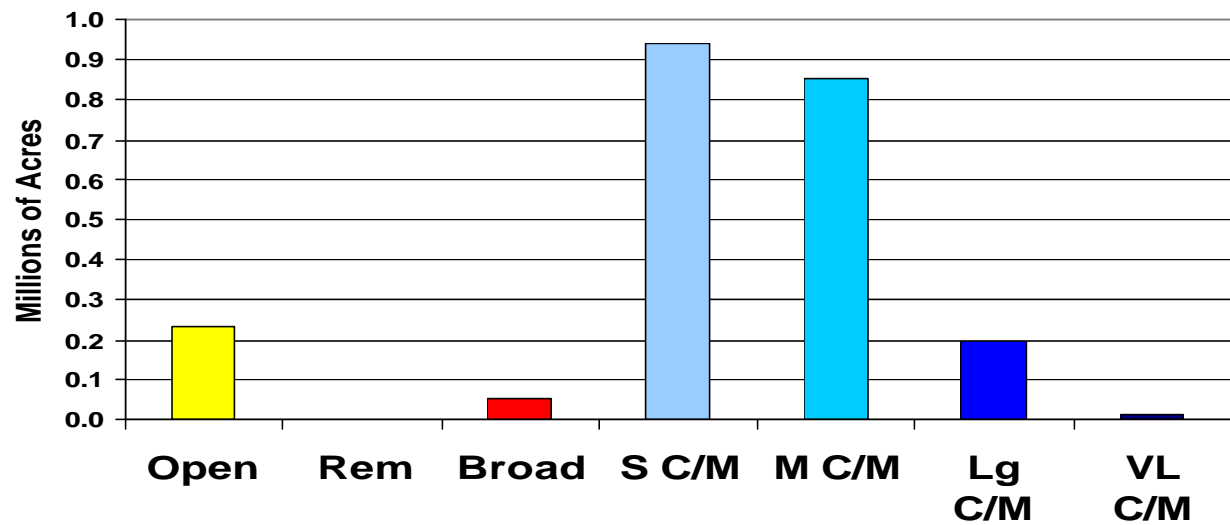
Period 20 (2096)



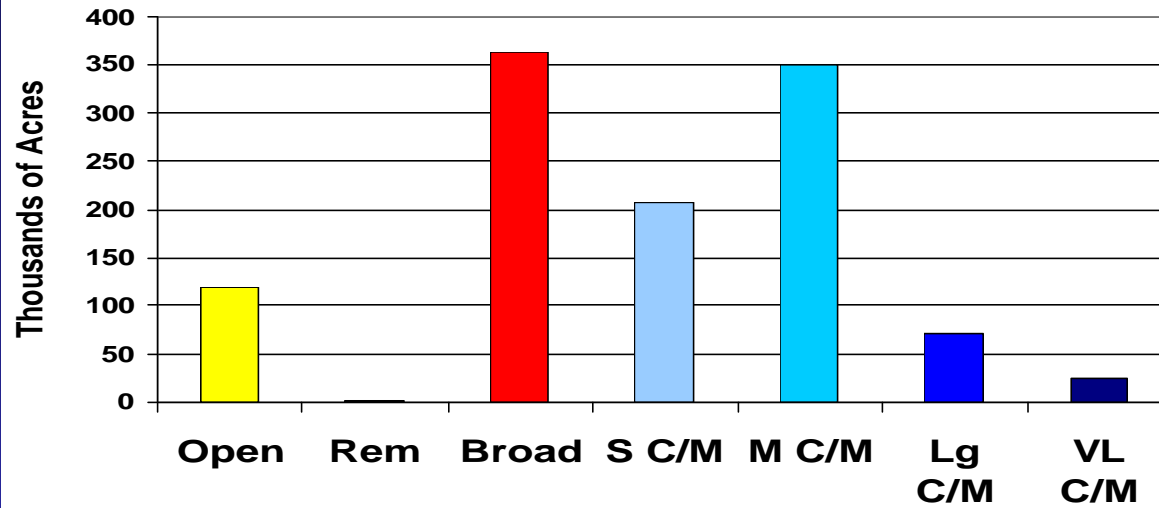
Vegetation on Industrial Forested Lands Initial (1996)



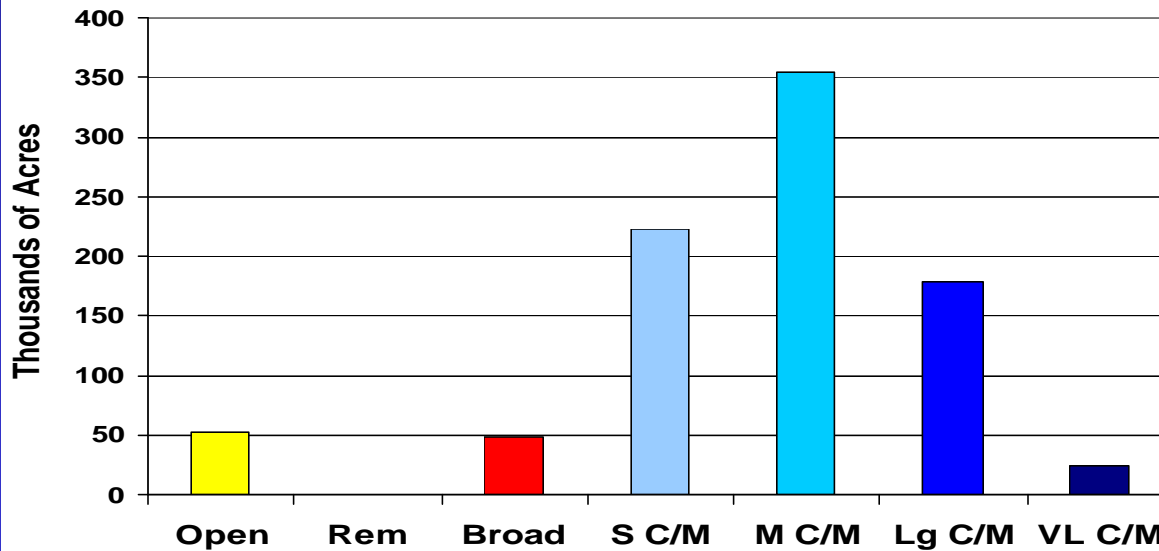
Period 20 (2096)



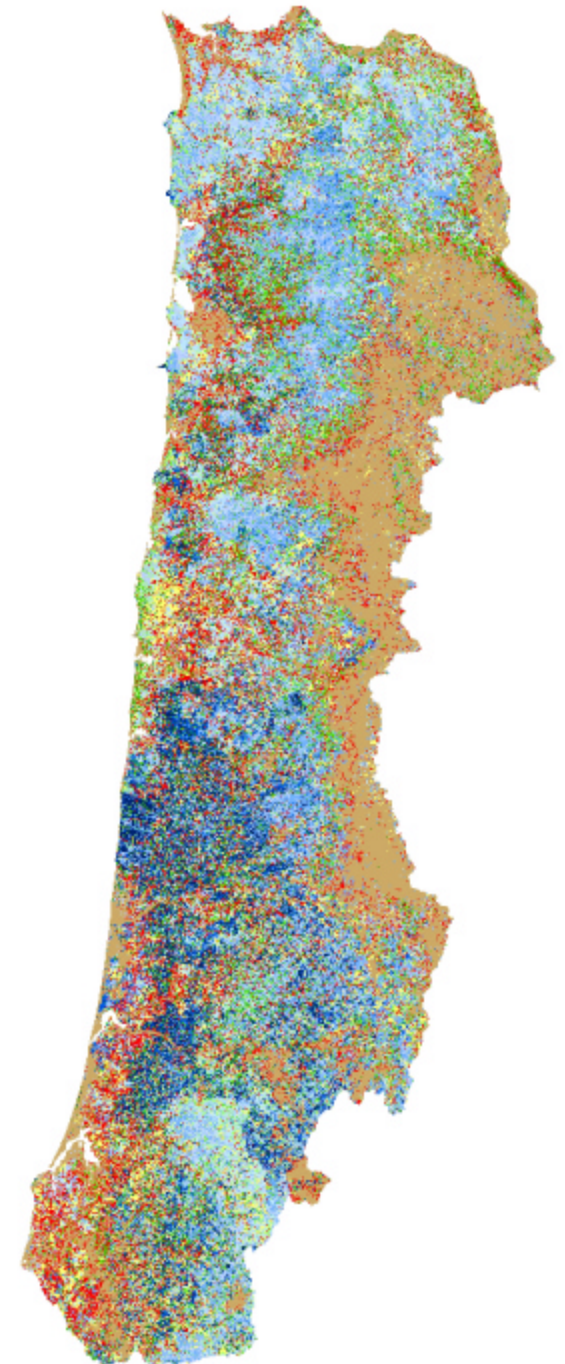
Vegetation on NIPF Forested Lands Initial (1996)



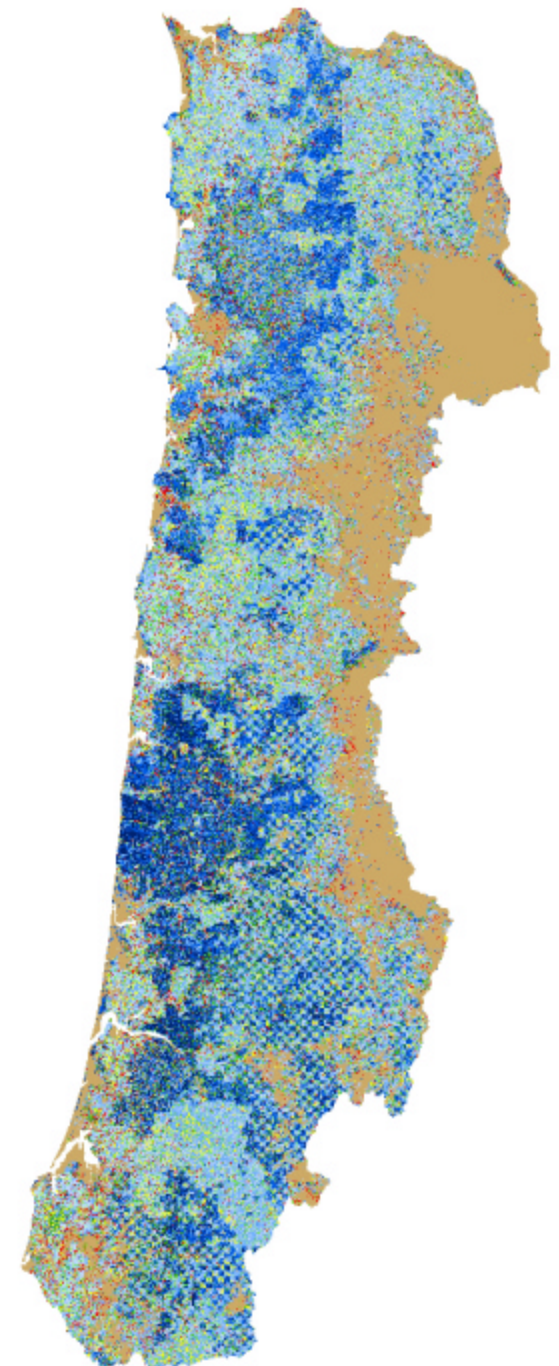
Period 20 (2096)



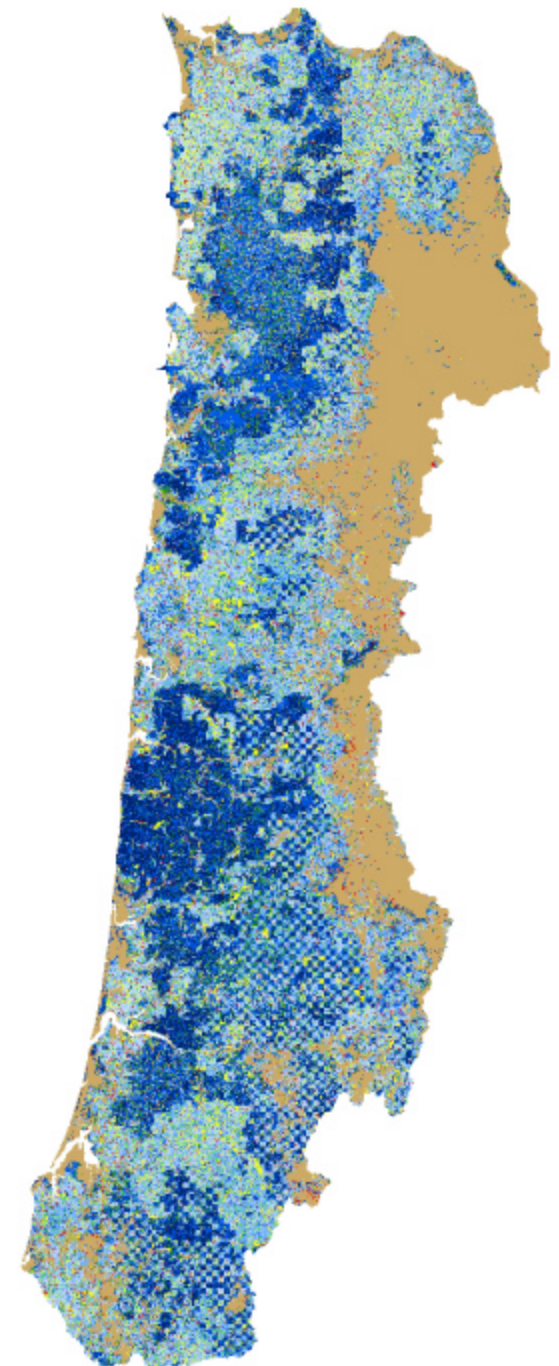
Vegetation Classes 1996 – Initial Period Base Policy



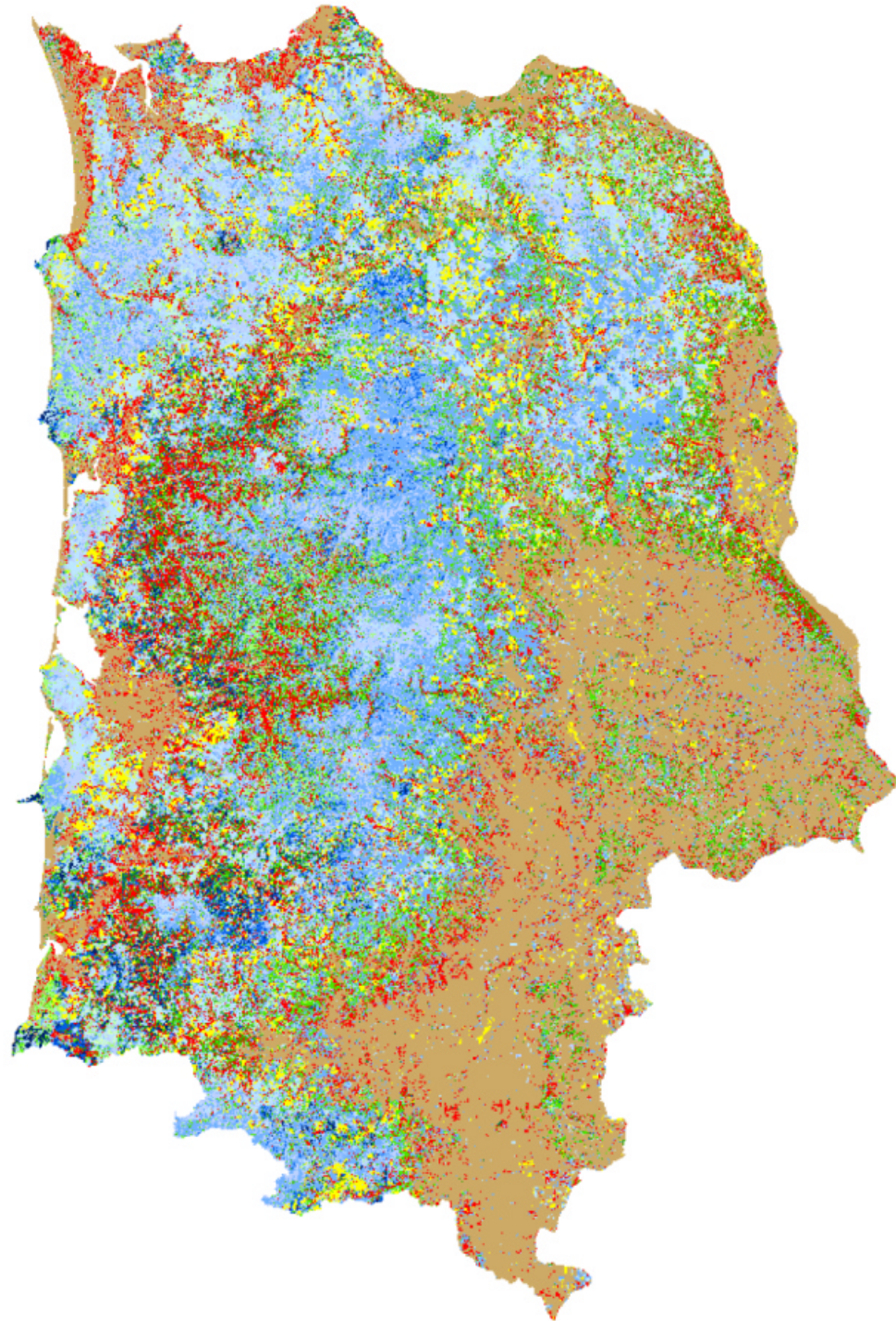
Vegetation Classes 2046 – Projected Base Policy



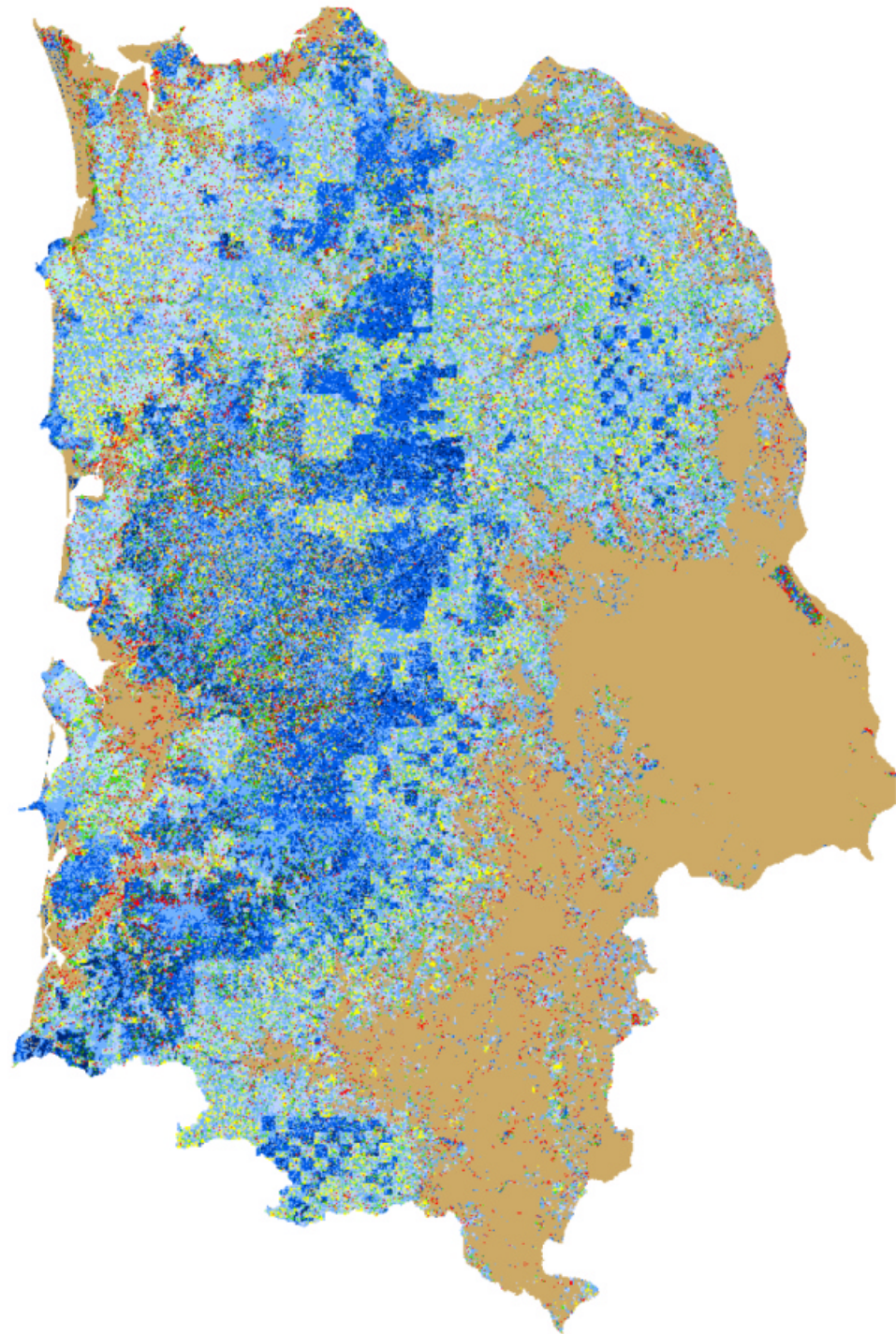
Vegetation Classes 2096 – Projected Base Policy



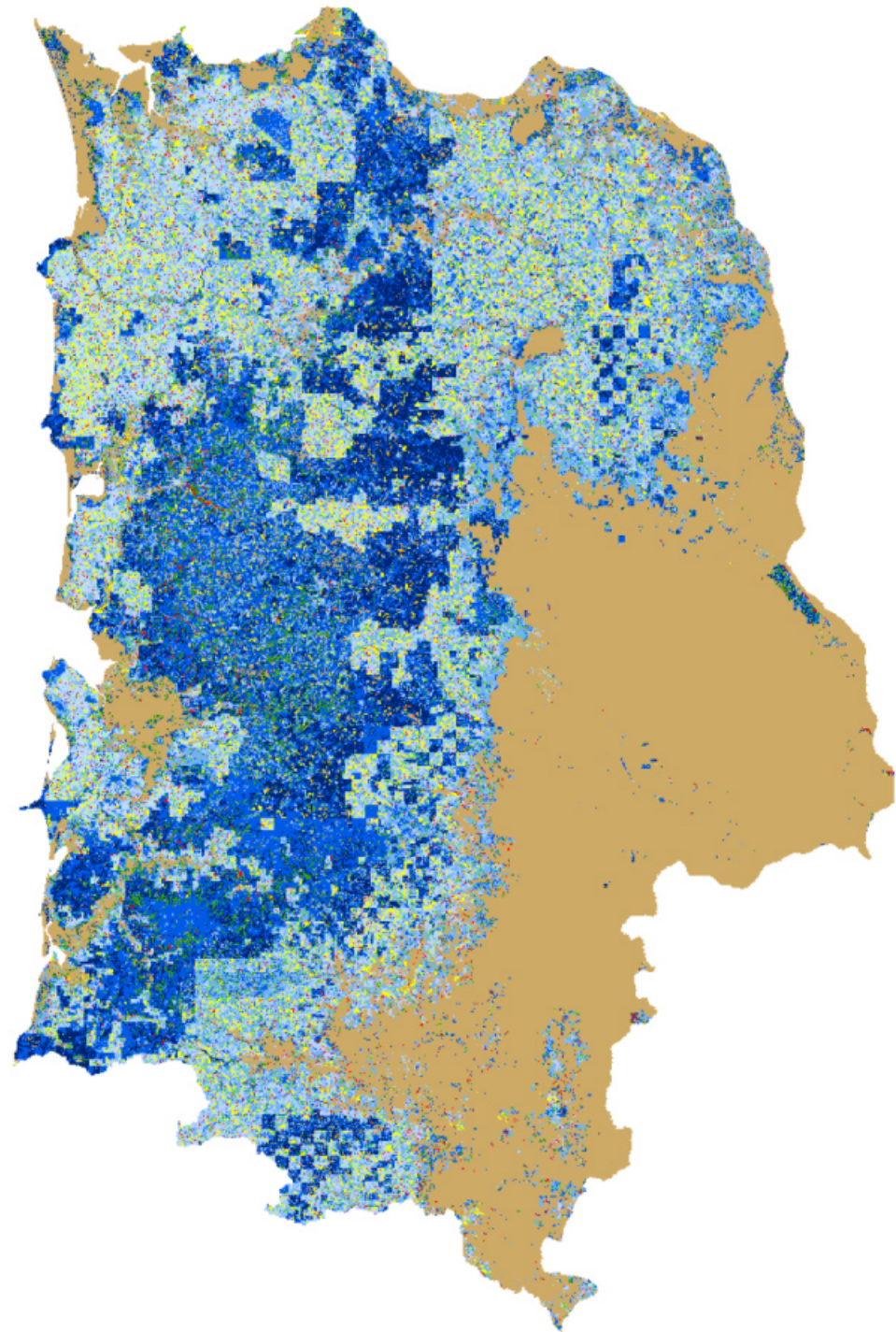
Vegetation Classes 1996 – Initial Period Base Policy



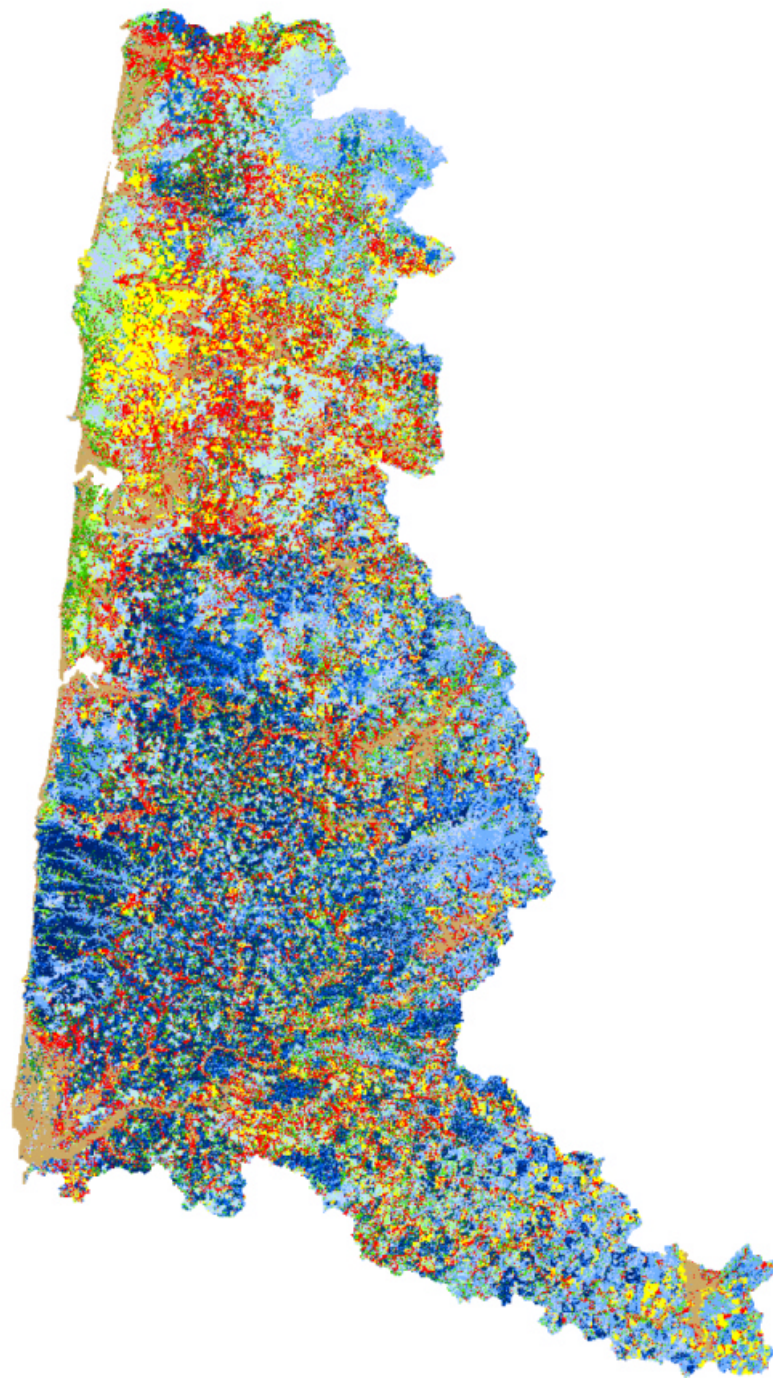
Vegetation Classes 2046 – Projected Base Policy



Vegetation Classes 2096 – Projected Base Policy



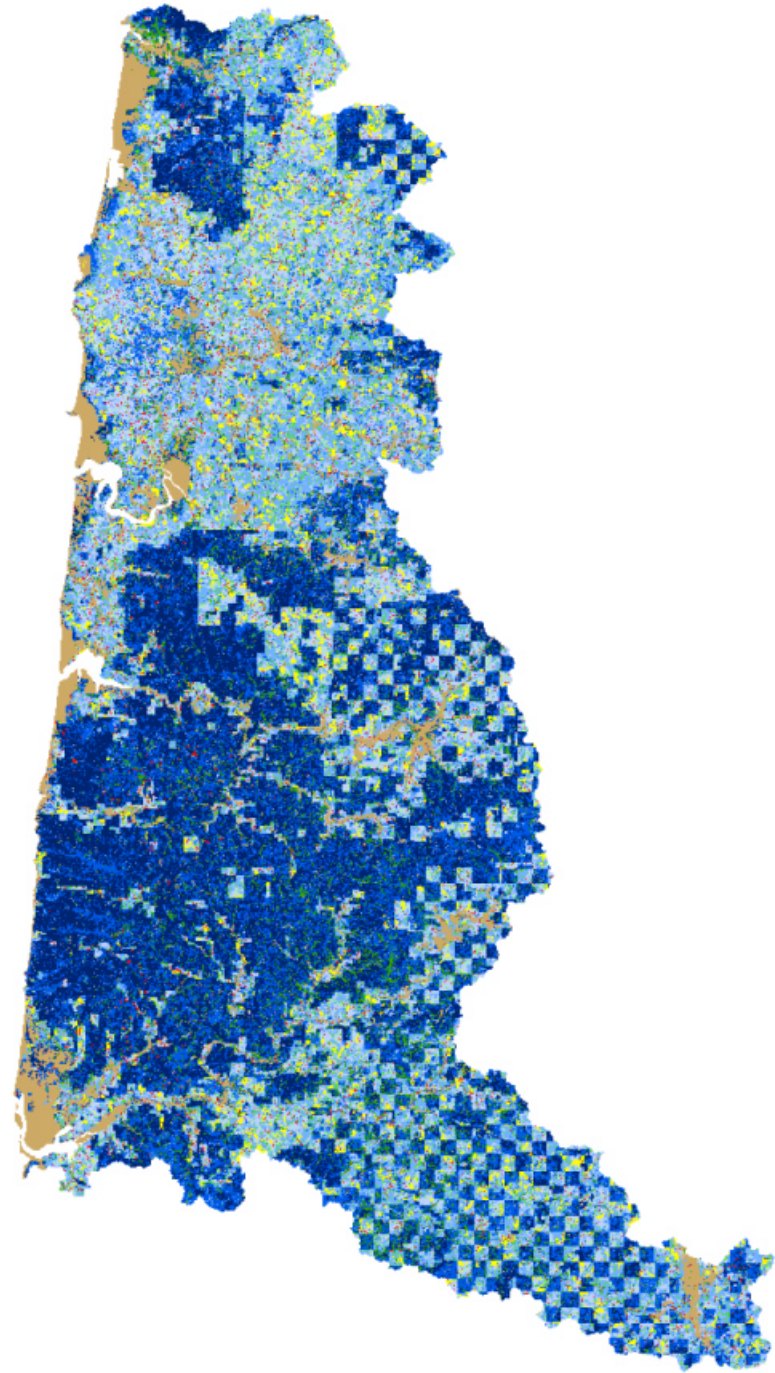
Vegetation Classes 1996 – Initial Period Base Policy



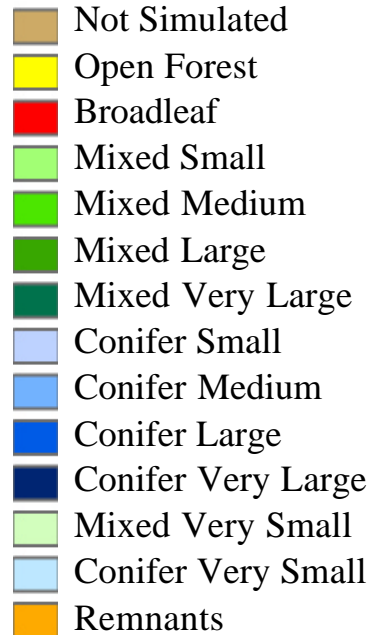
Vegetation Classes 2046 – Projected Base Policy



Vegetation Classes 2096 – Projected Base Policy



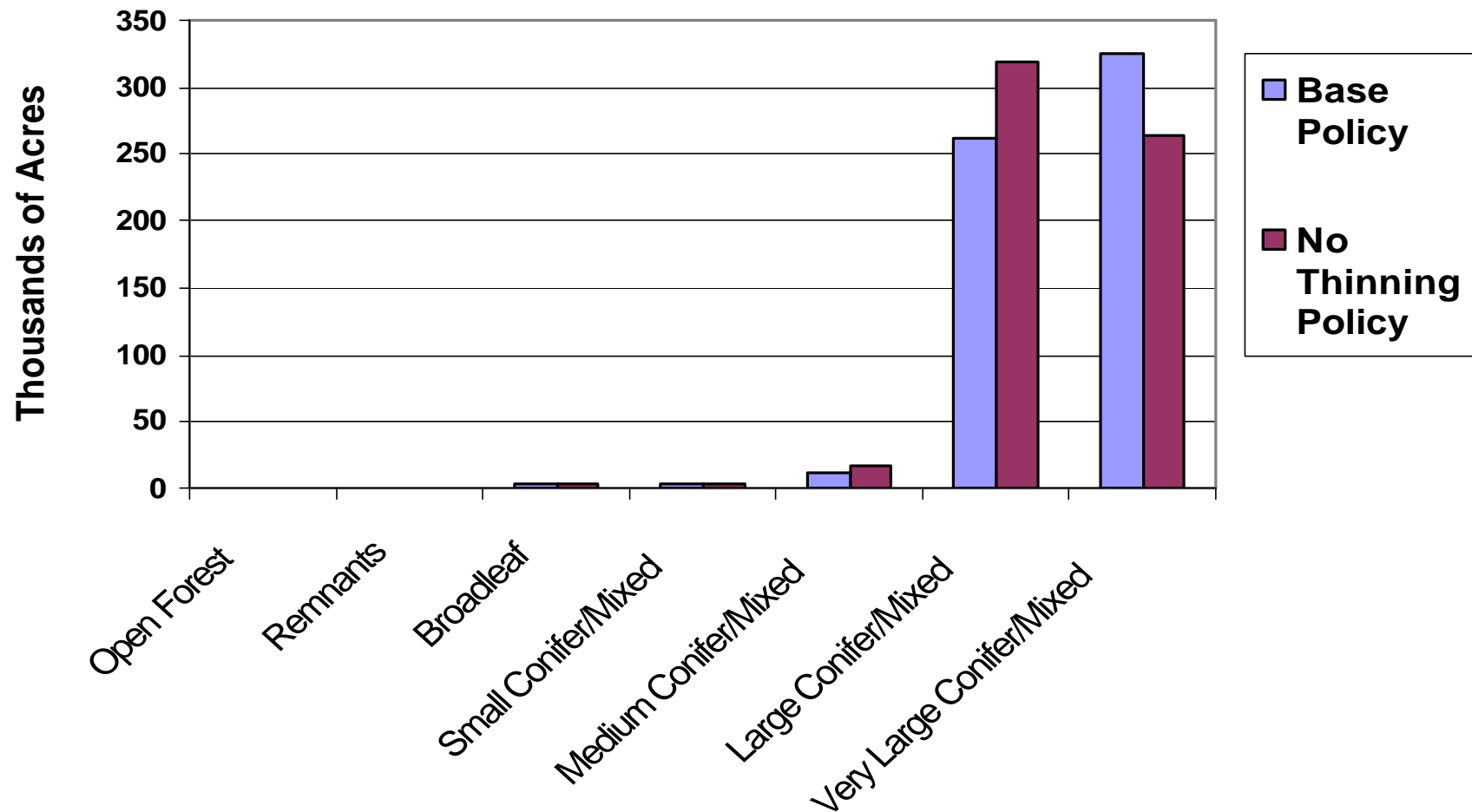
Vegetation Classes 2096 – Projected



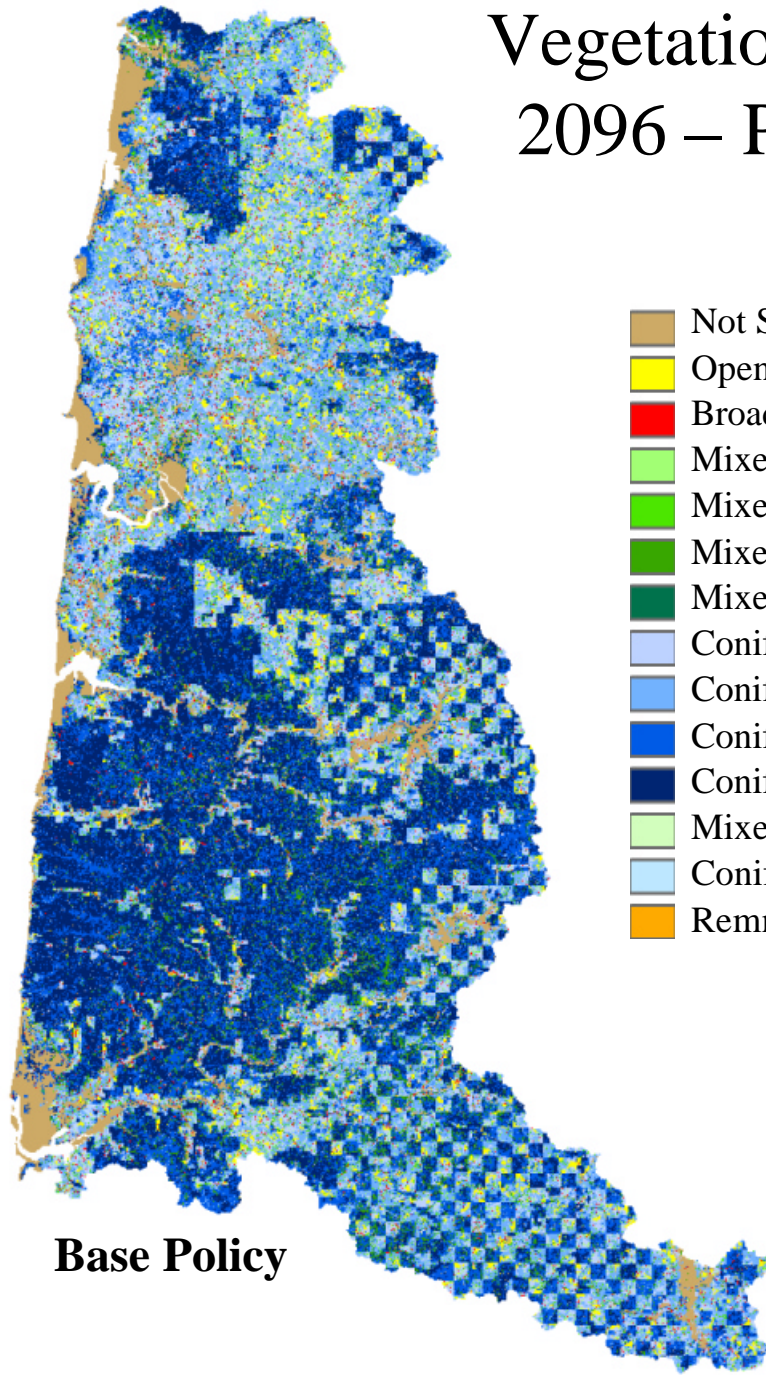
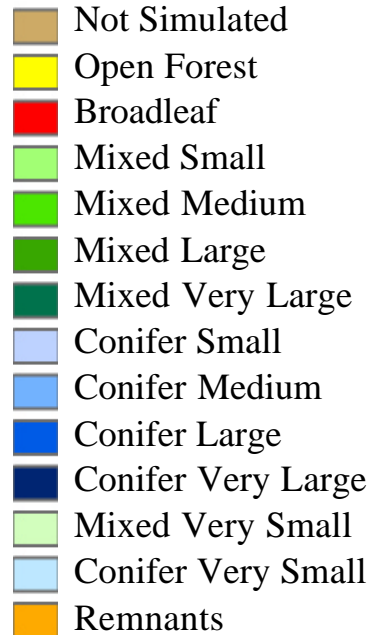
**Base
Policy**

**No Federal
Thinning**

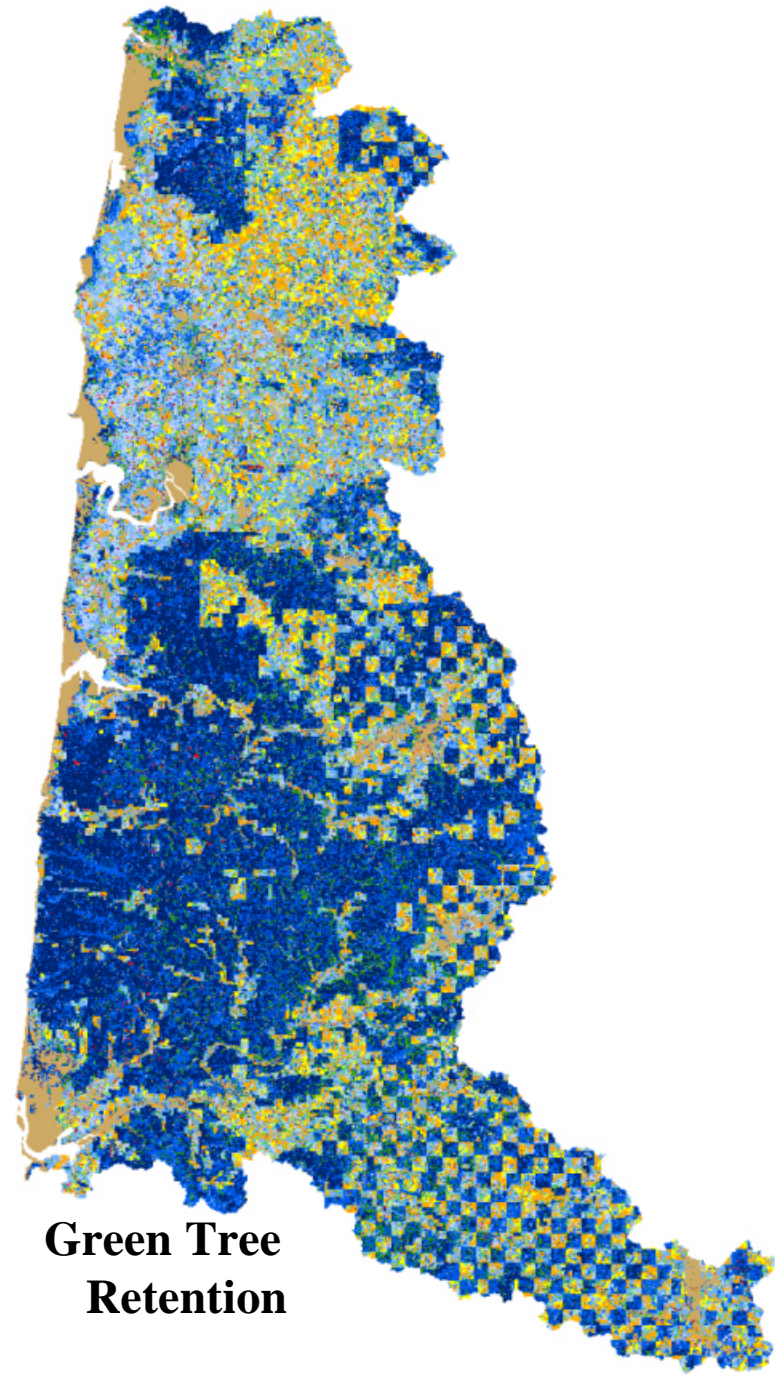
Comparison of Projected Vegetation on Federal Forested Lands Under Two Alternatives Period 20 (2096), Mid-Coast



Vegetation Classes 2096 – Projected



Base Policy



**Green Tree
Retention**

Vegetation Classes 2096 – Projected



Base Policy

**Big
Clearcuts**