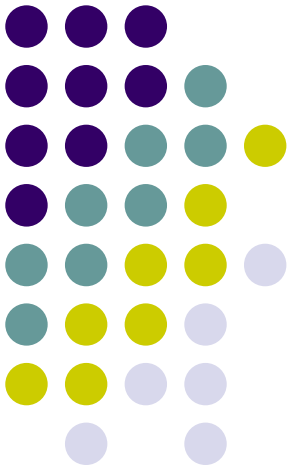
FFAC Situation Assessment

Conditions, Trends and Concerns

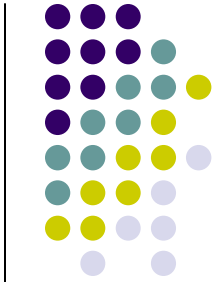
FFAC Planning Team

Areas to concentrate in 10-page summary?

Additional information needed for vision and goals or to select top-ten issues?

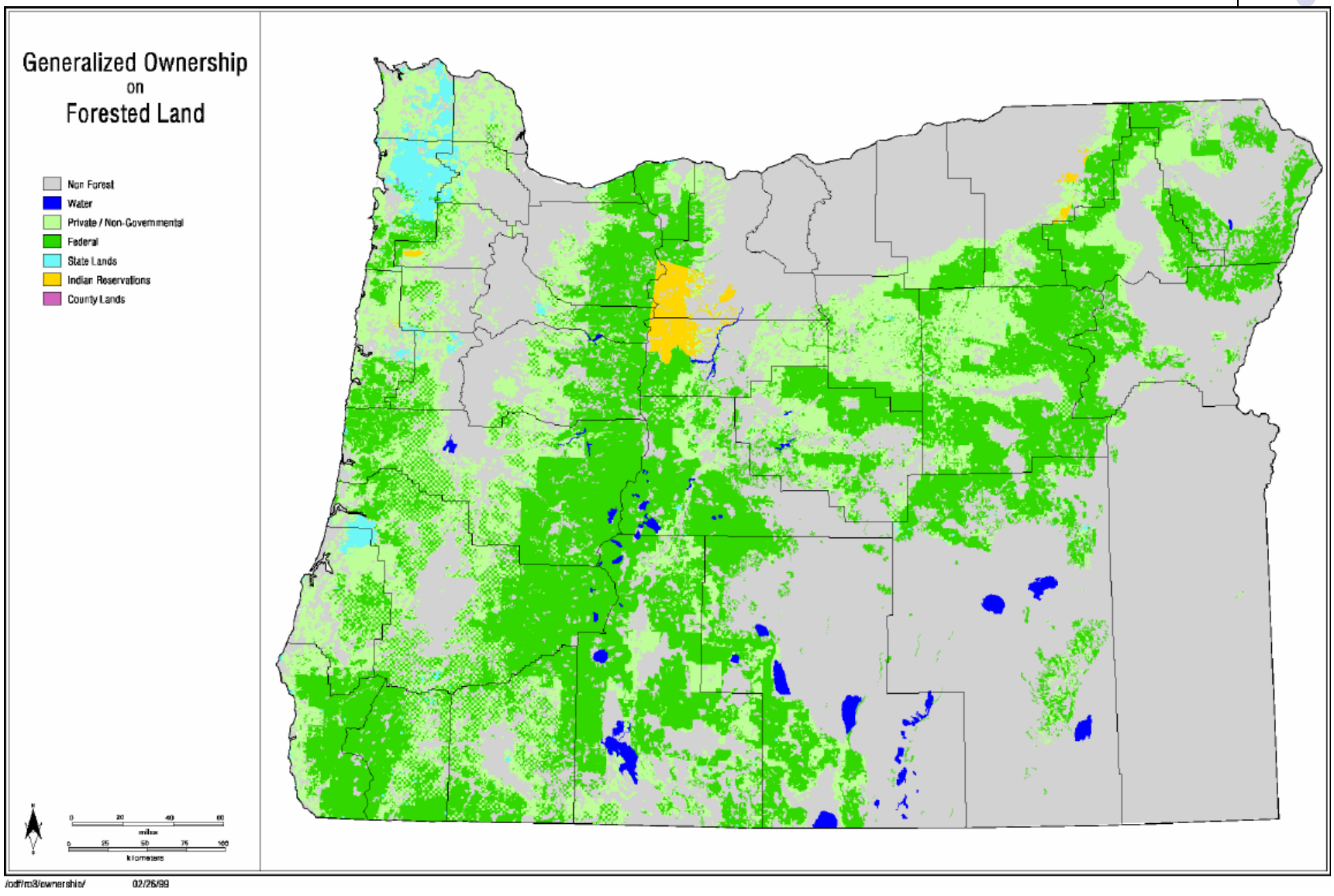


What we'll cover

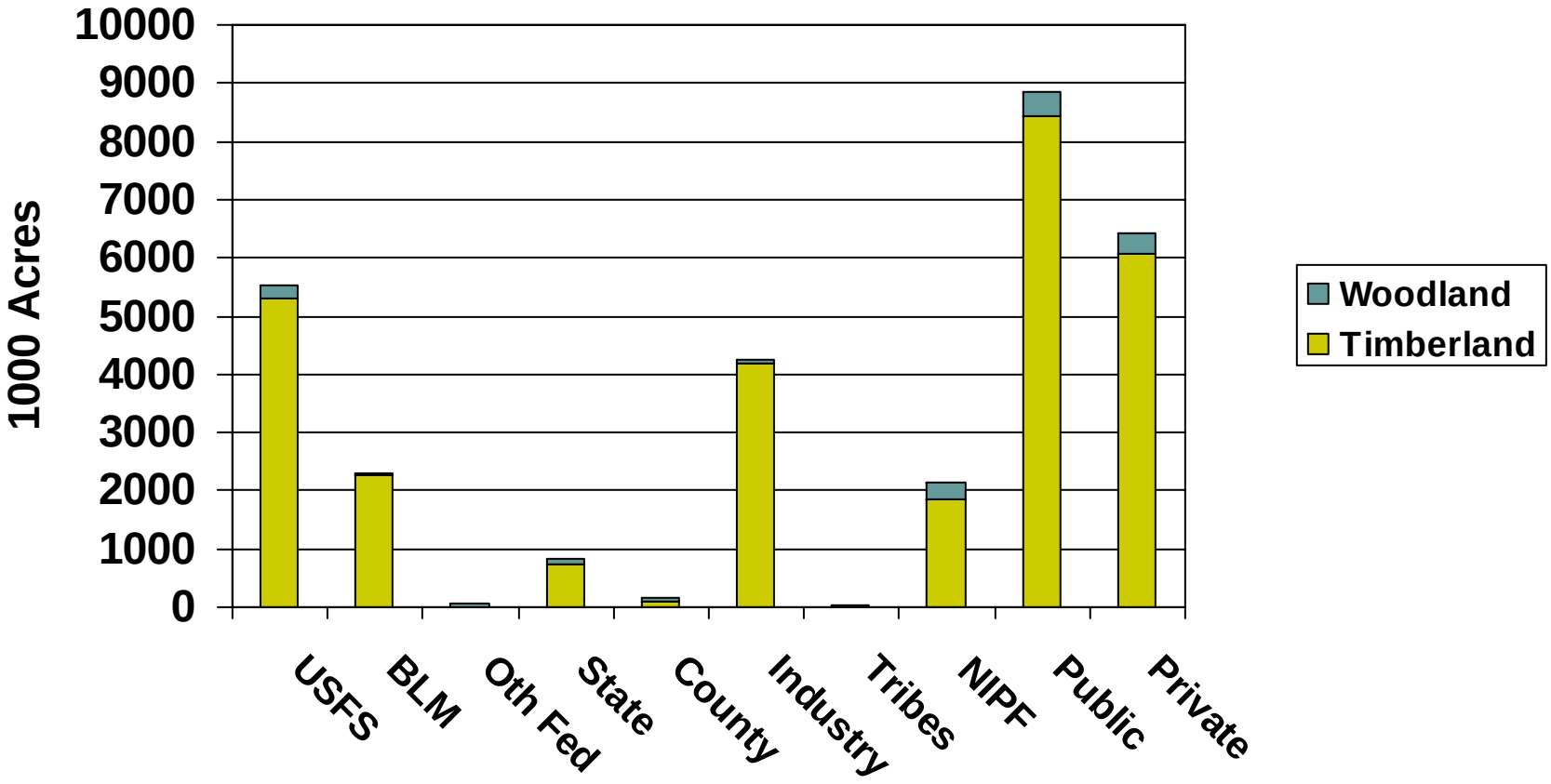


- Background
  - Ownership
  - Land Allocation
- Sustainability
  - Fish and wildlife
  - Productive capacity
  - Forest health
  - Soil, air, water quality
  - Carbon
  - Socio-economic
- Summary

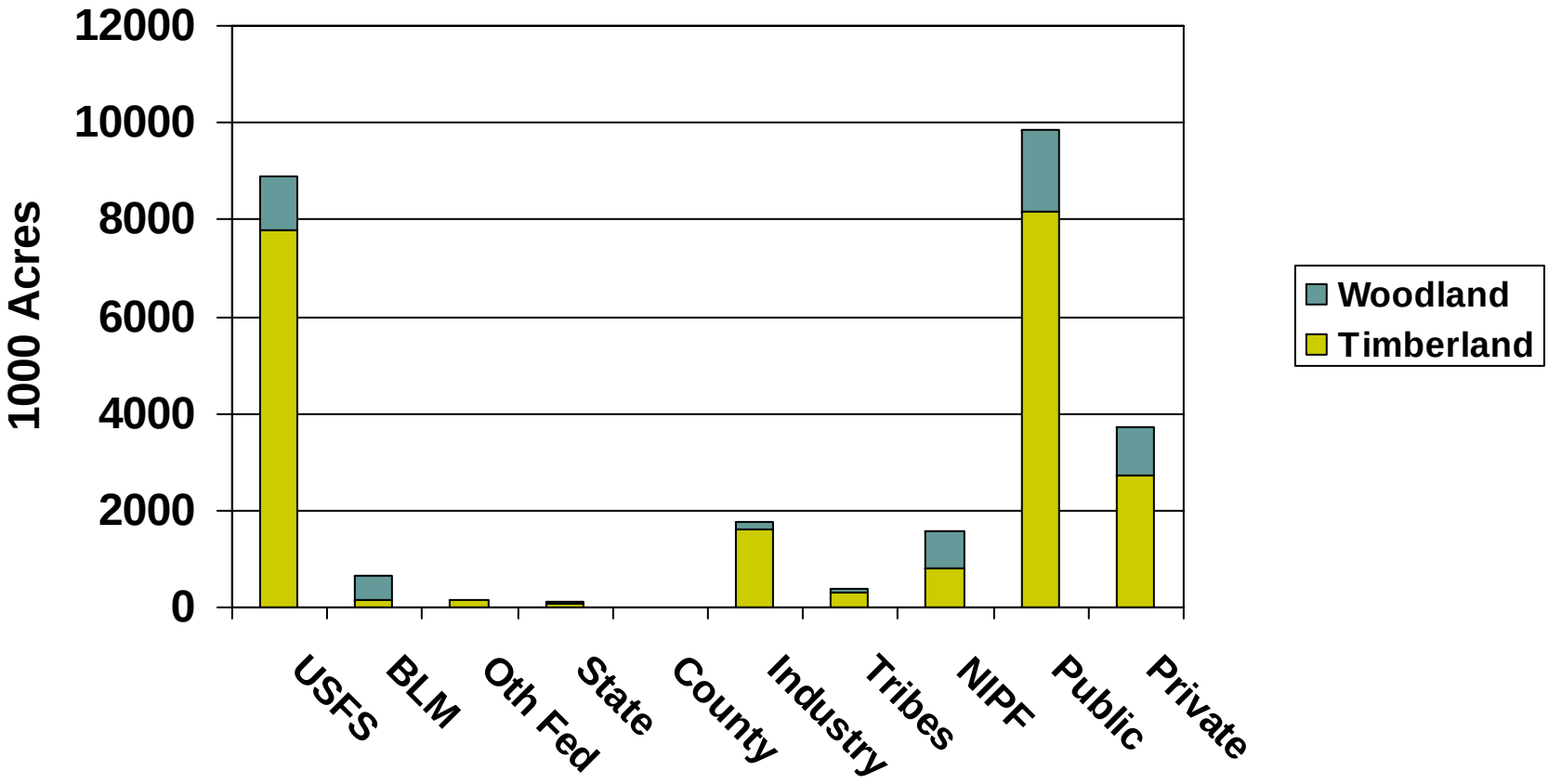
Forestland Ownership



Forestland Ownership
Western Oregon



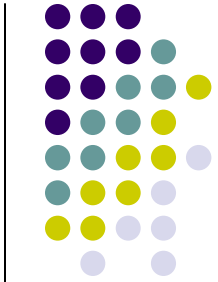
Forestland Ownership
Eastern Oregon



Land Allocation
Simple 3 Category System
Each Providing a Blend of Environmental, Social, and Economic Outputs

- Reserves
  - No scheduled timber harvest - harvest only to benefit nontimber values
- Multi-resource
  - Laws or plans significantly reduce harvest to provide for other values
- Wood production
  - Scheduled timber harvest occurs and sustainable supplies of timber are anticipated

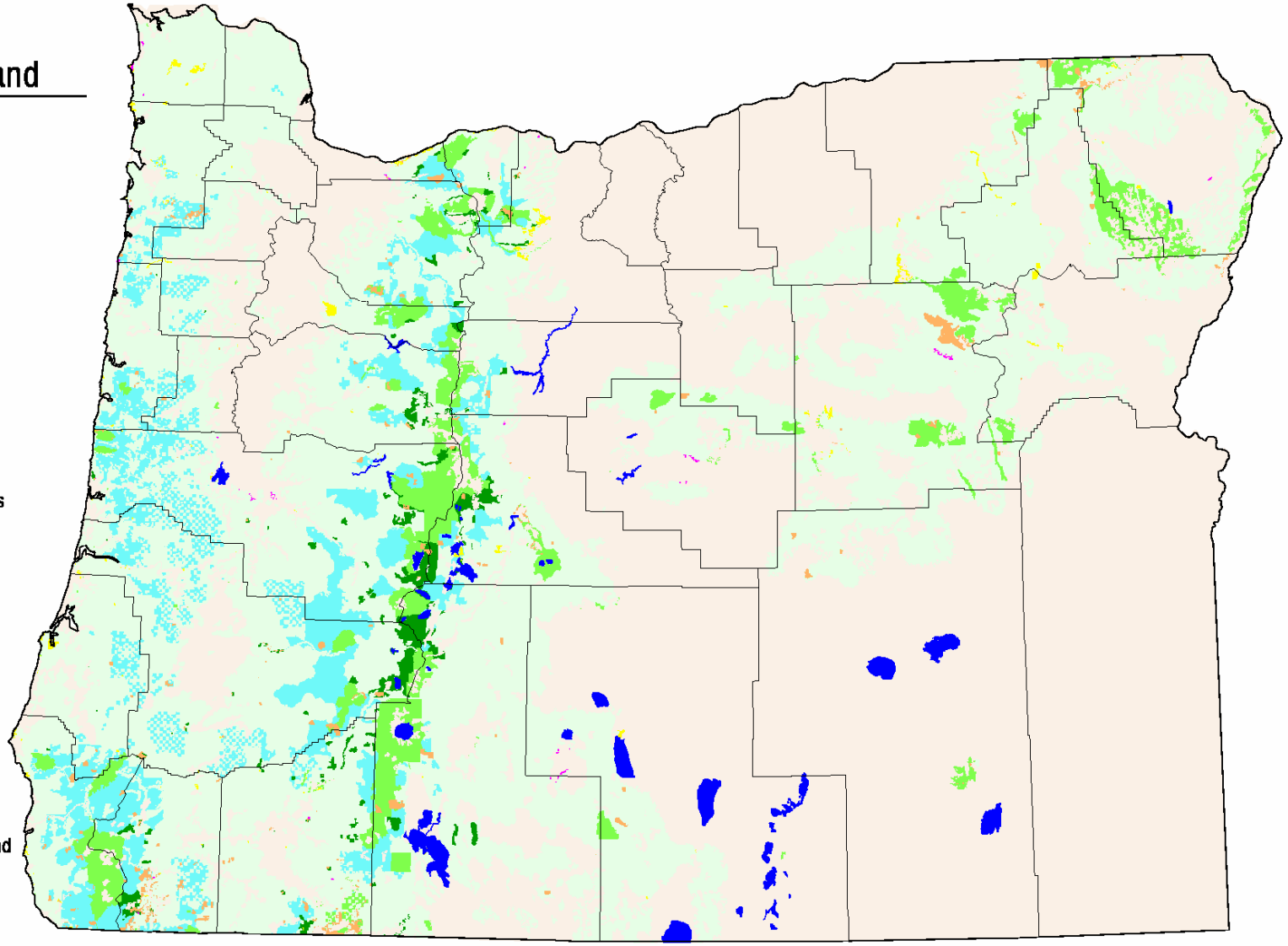
Different Forests, Different Roles



- Reserve forests – parks, wilderness, roadless areas
  - Water + ecosystem services
  - Biodiversity -- in part
  - Recreation, tourism, guiding
  - Hunting, fishing – except national parks, nature reserves
  - Revenues only partially cover costs
  - Manage risks to land health, property and life
  - R&D, demonstration, education on reserved forests
  - Resource extraction minor use

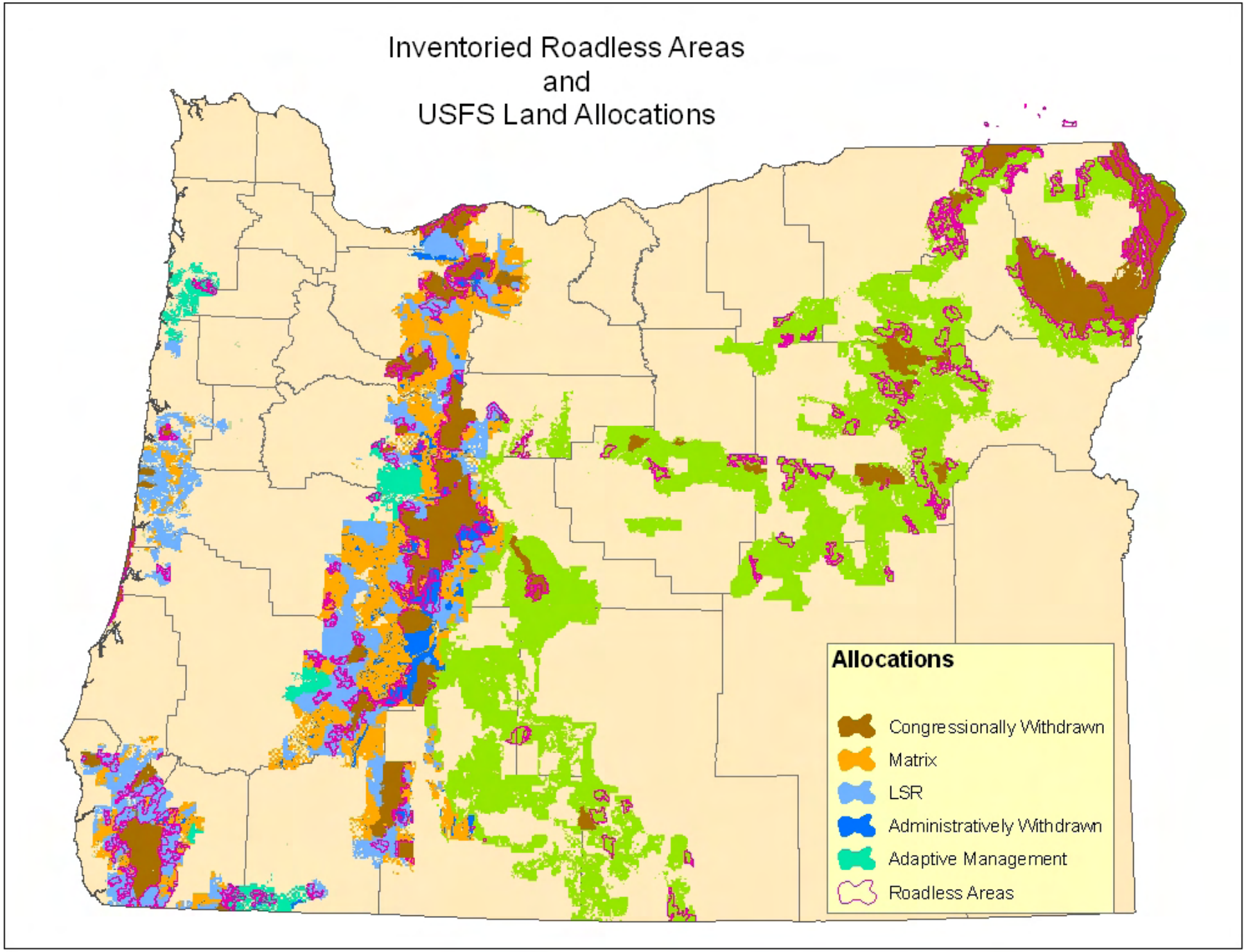
➡*Mostly federal lands, some state, tribal and private*

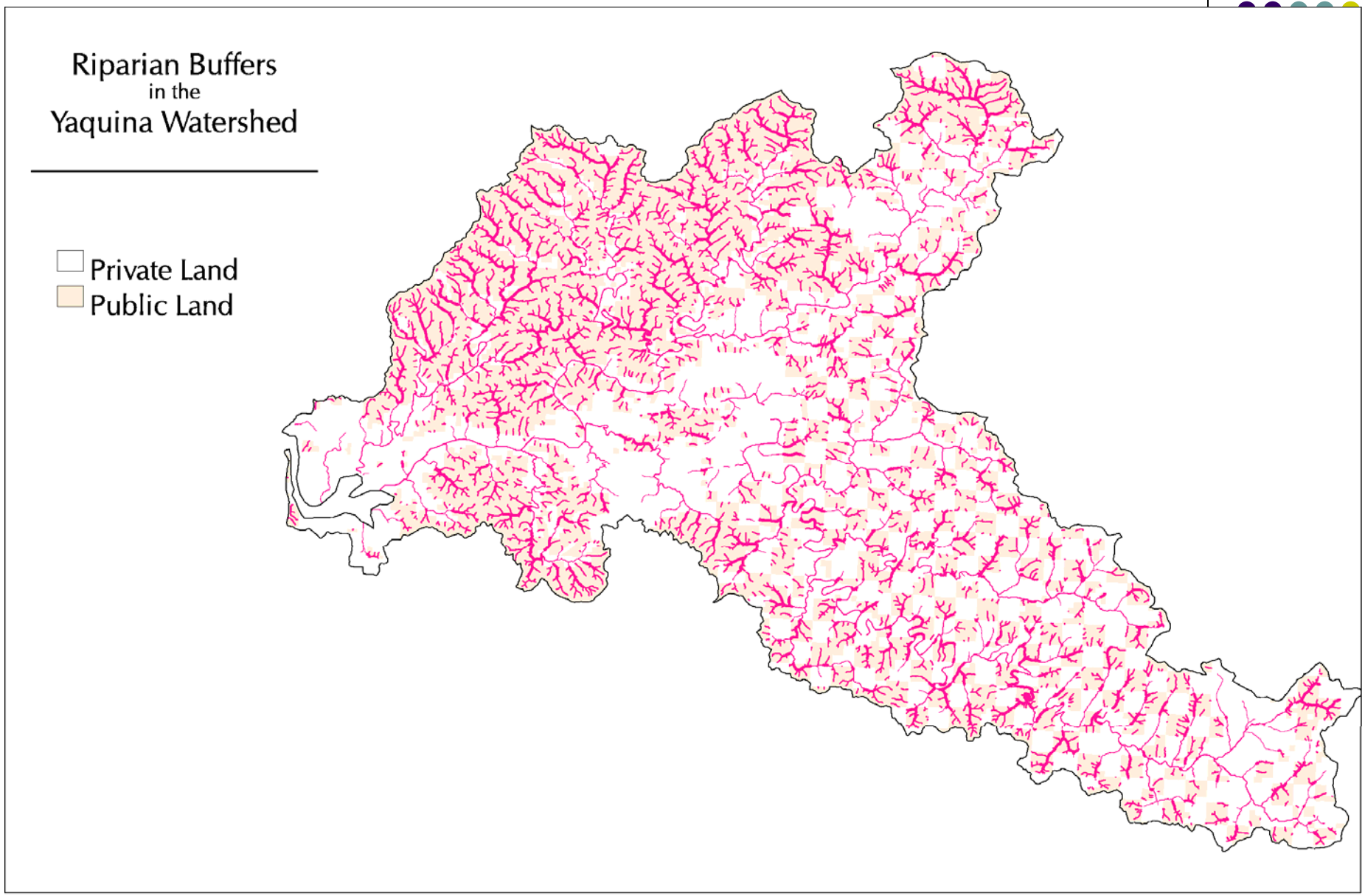
Reserved Forestland



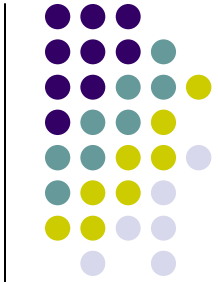
- Non-Forest
- Administratively Withdrawn
- Congressionally Reserved
  - National Monuments
  - National Park
  - National Wildlife Refuges
  - Steens Mountain Cooperative Management and Protection Area
  - Wild and Scenic Areas
  - Wild and Scenic Rivers
  - Wilderness Areas
- Late-Successional Reserves
- Special Areas
  - Areas of Critical Environmental Concern
  - Botanical Areas
  - Ecological Emphasis Areas
  - Research Natural Areas
- State Park Land
  State Waysides
  State Wildlife Areas
- County Parks
  The Nature Conservancy
- Multi-Resource or Wood-Production Forestland

/odf/rp5/herstrom/forest_management_class/ 05/29/03


Inventoried Roadless Areas
and
USFS Land Allocations
Allocations
Congressionally Withdrawn
Matrix
LSR
Administratively Withdrawn
Adaptive Management
Roadless Areas


Riparian Buffers
in the
Yaquina Watershed
Private Land
Public Land

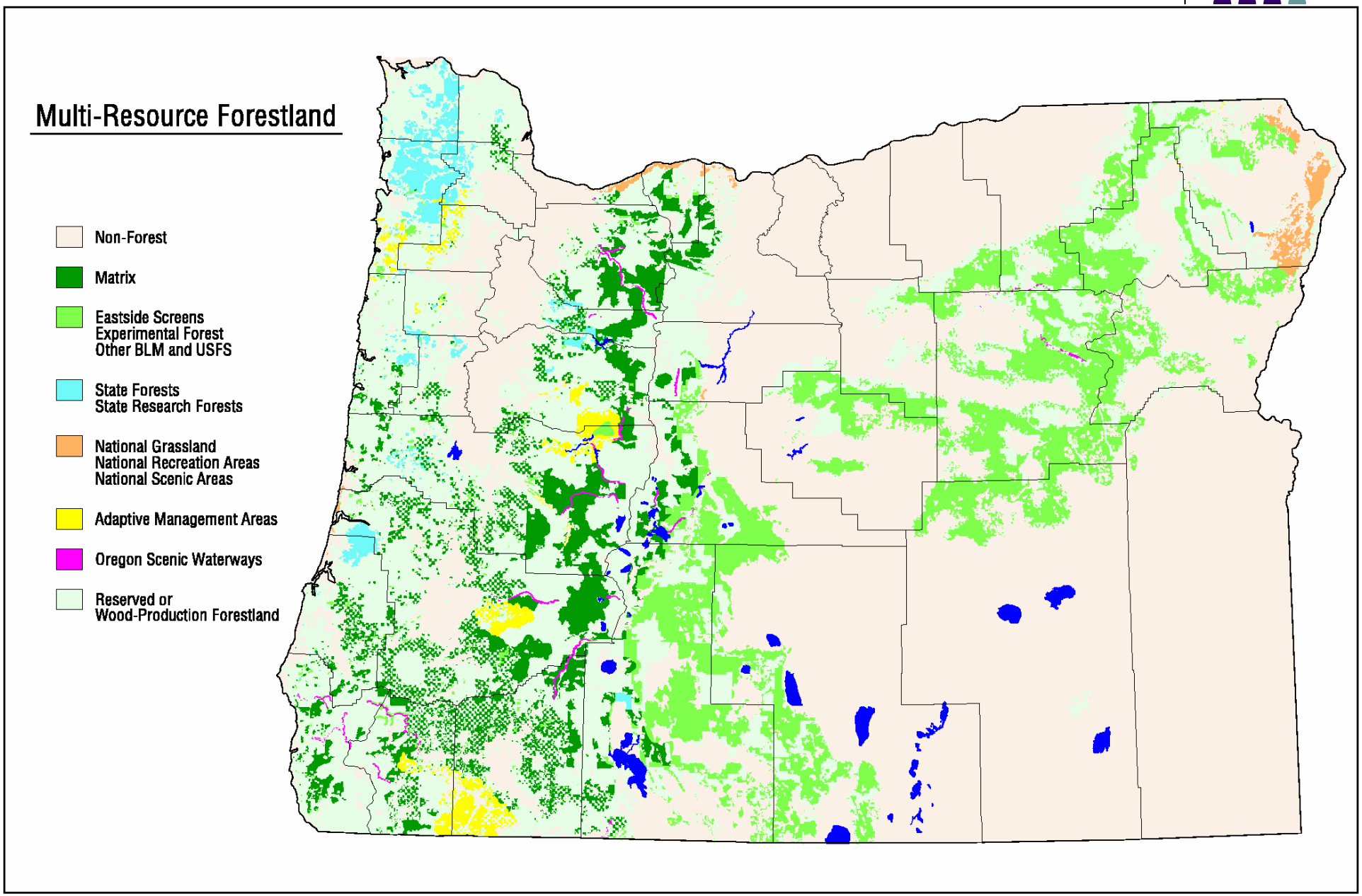
Different Forests, Different Roles



- Multi-resource forests
  - Water + ecosystem services
  - Biodiversity – in part
  - Revenues important – wood, other resource uses
  - Hunting, fishing
  - Recreation, tourism, guiding
  - R&D, demonstration, education on managed forests
  - Other uses, values vary by owner

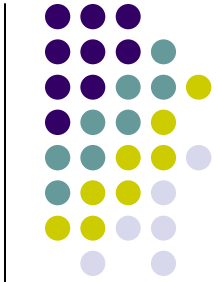
➡ *Mostly federal, state, tribal, some NIPF, some forest industry*

Multi-Resource Forestland



/odf/rp5/herstrom/forest_management_class/ 05/20/03

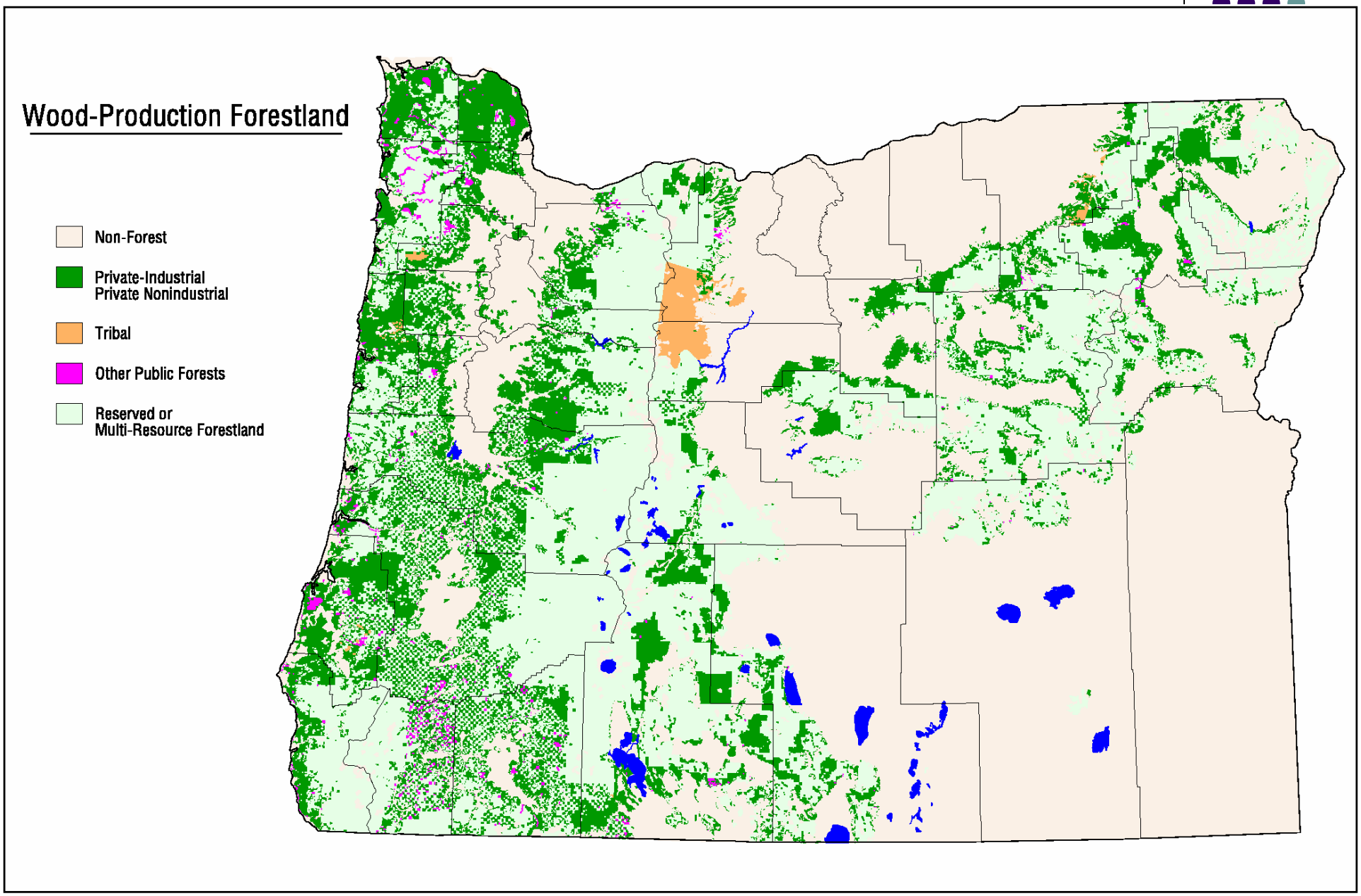
Different Forests, Different Roles



- Wood Production forests
  - Water + ecosystem services
  - Biodiversity – in part
  - Wood, other forest products main focus
  - Profit essential to sustainability
  - R&D, demonstration, education on production forests
  - Other uses, values vary by owner

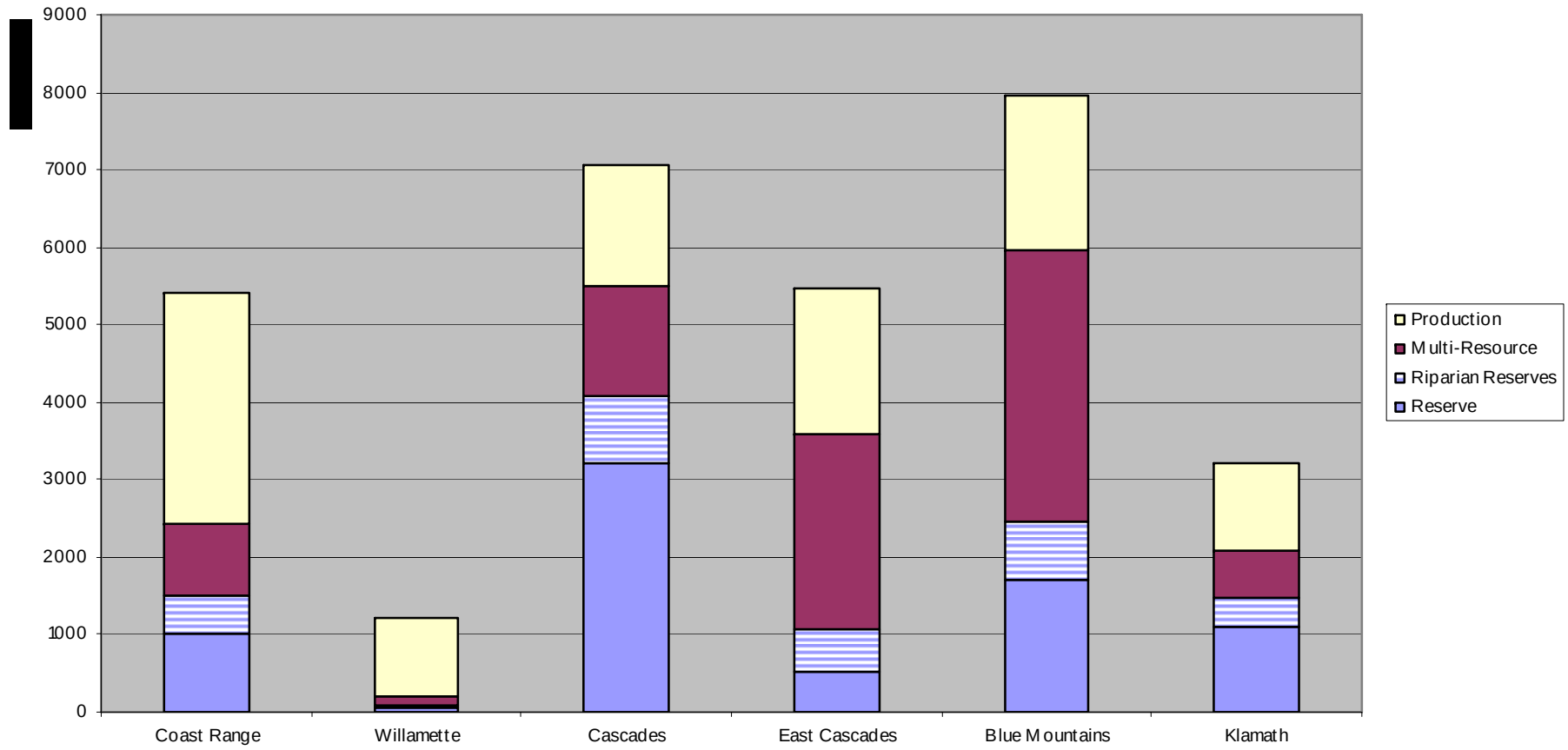
➡ *Mostly forest industry, some state, tribal, NIPF*

Wood-Production Forestland

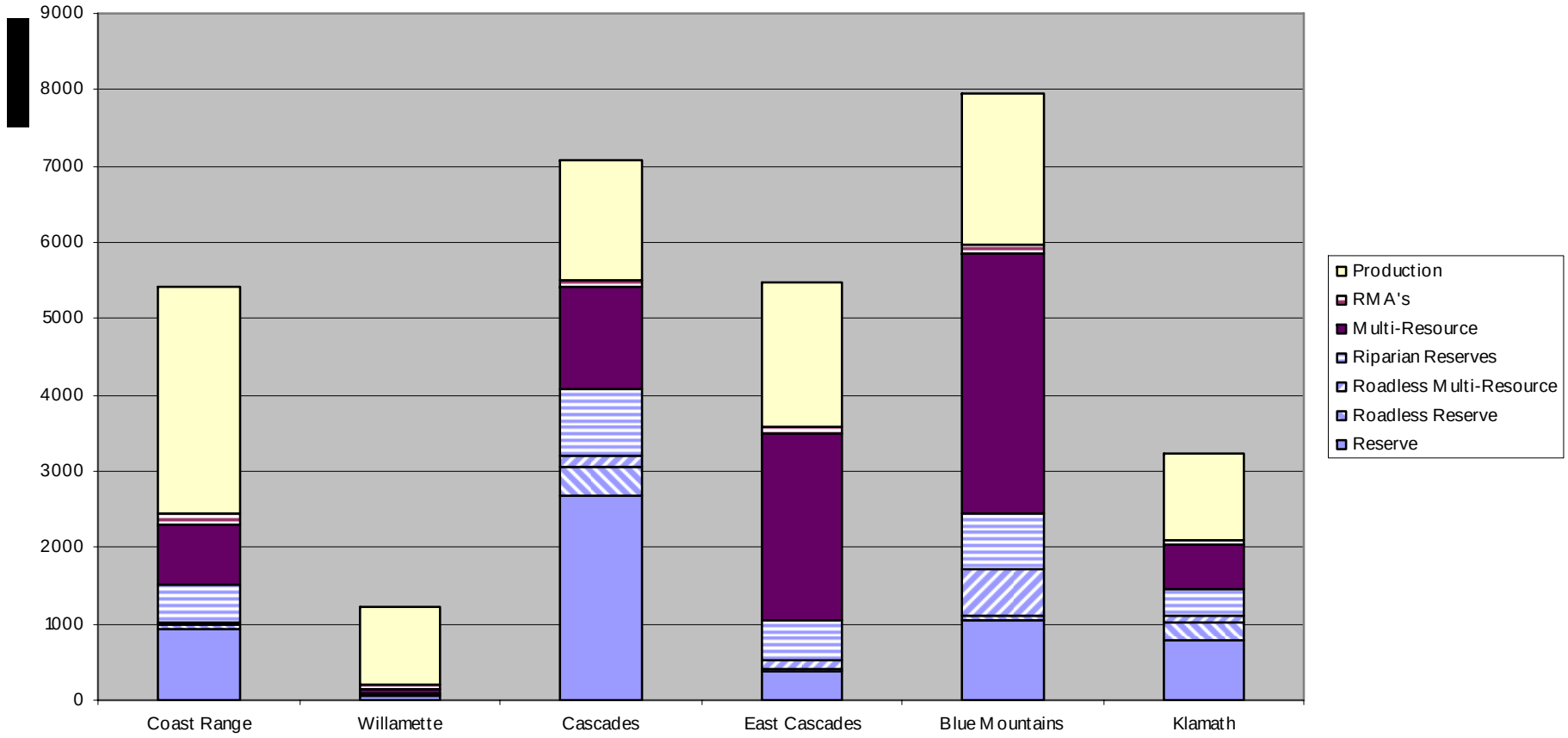


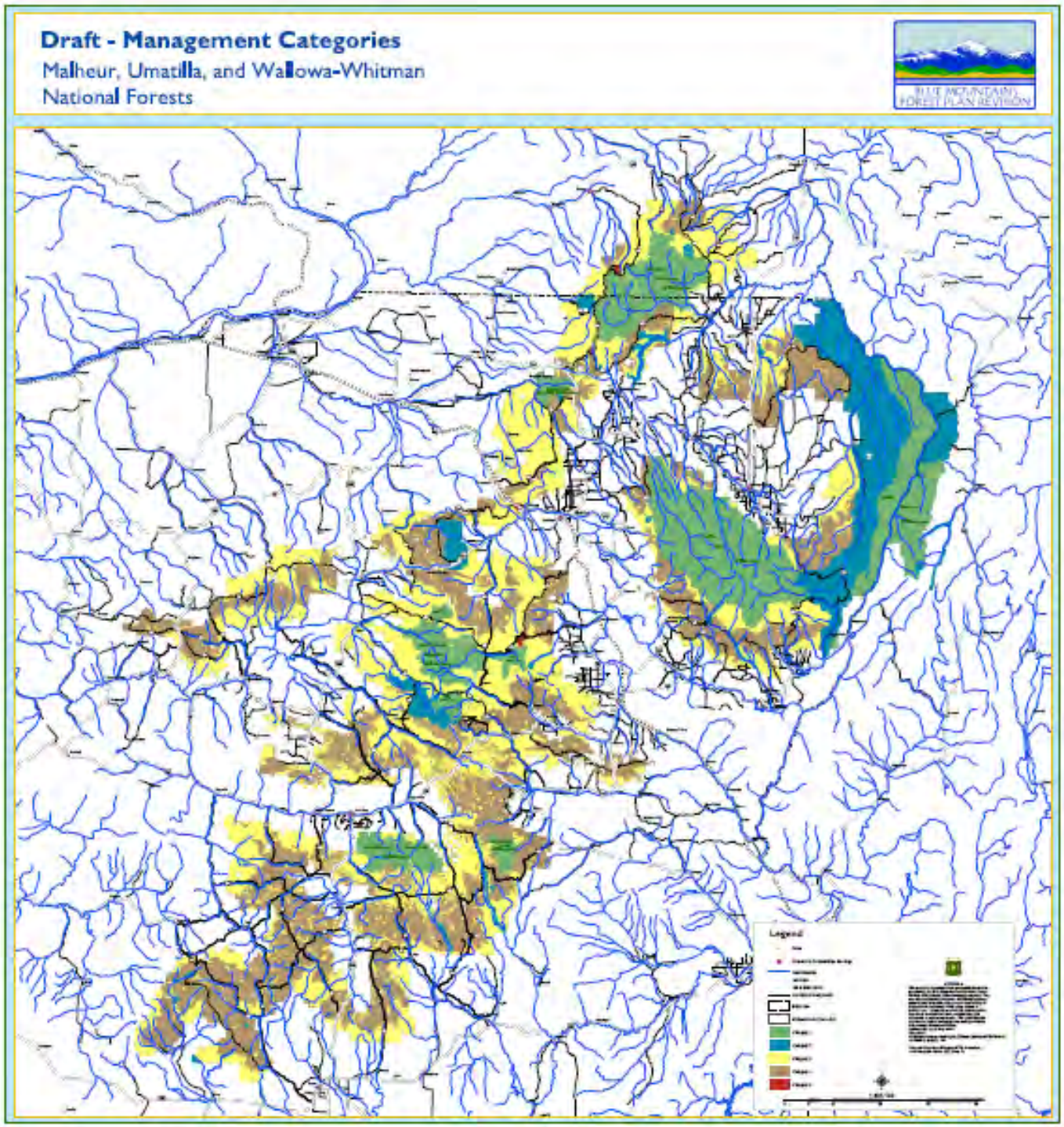
/odf/rp5/herstrom/forest_management_class/ 05/22/03

General Land Use Allocation by Ecoregion

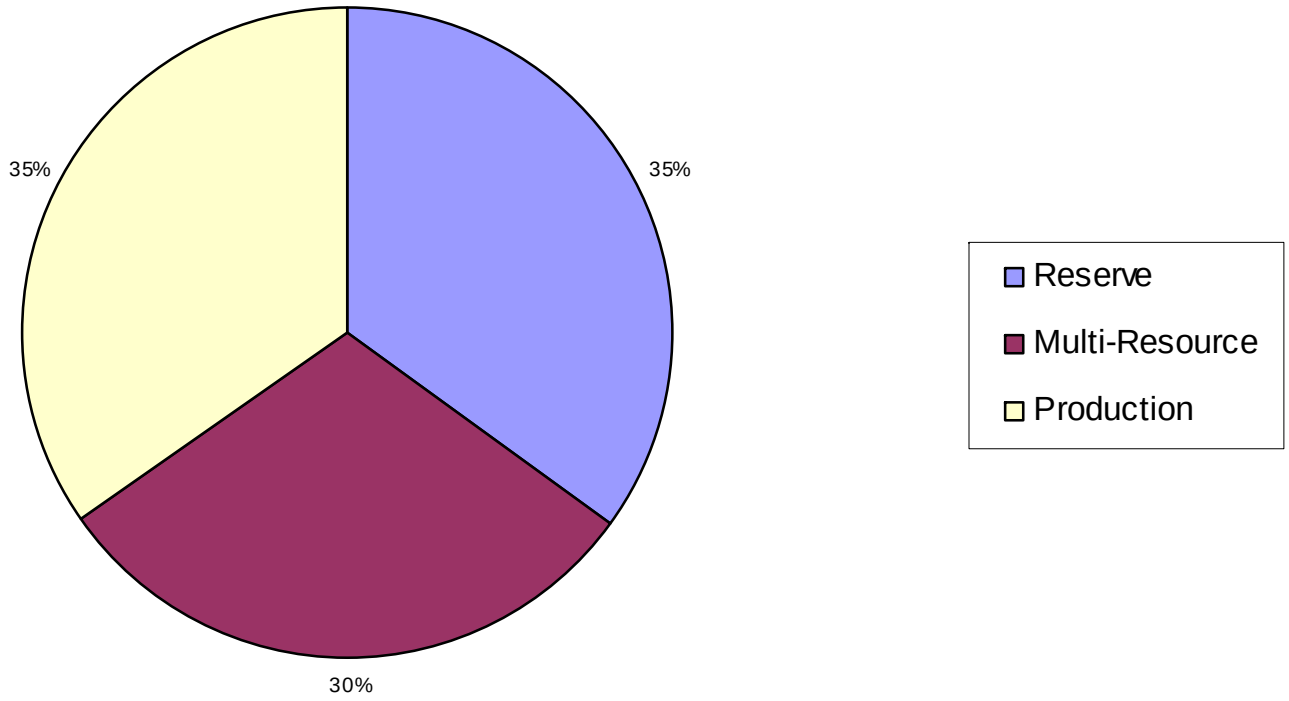


General Land Use Allocation by Ecoregion (w/ Roadless detail)

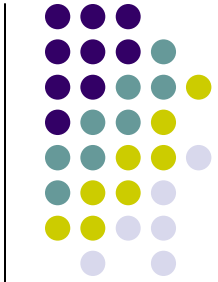



Draft - Management Categories
Malheur, Umatilla, and Wallowa-Whitman
National Forests
BLUE MOUNTAINS
FOREST PLAN REVISION

General Land Use Allocation Statewide



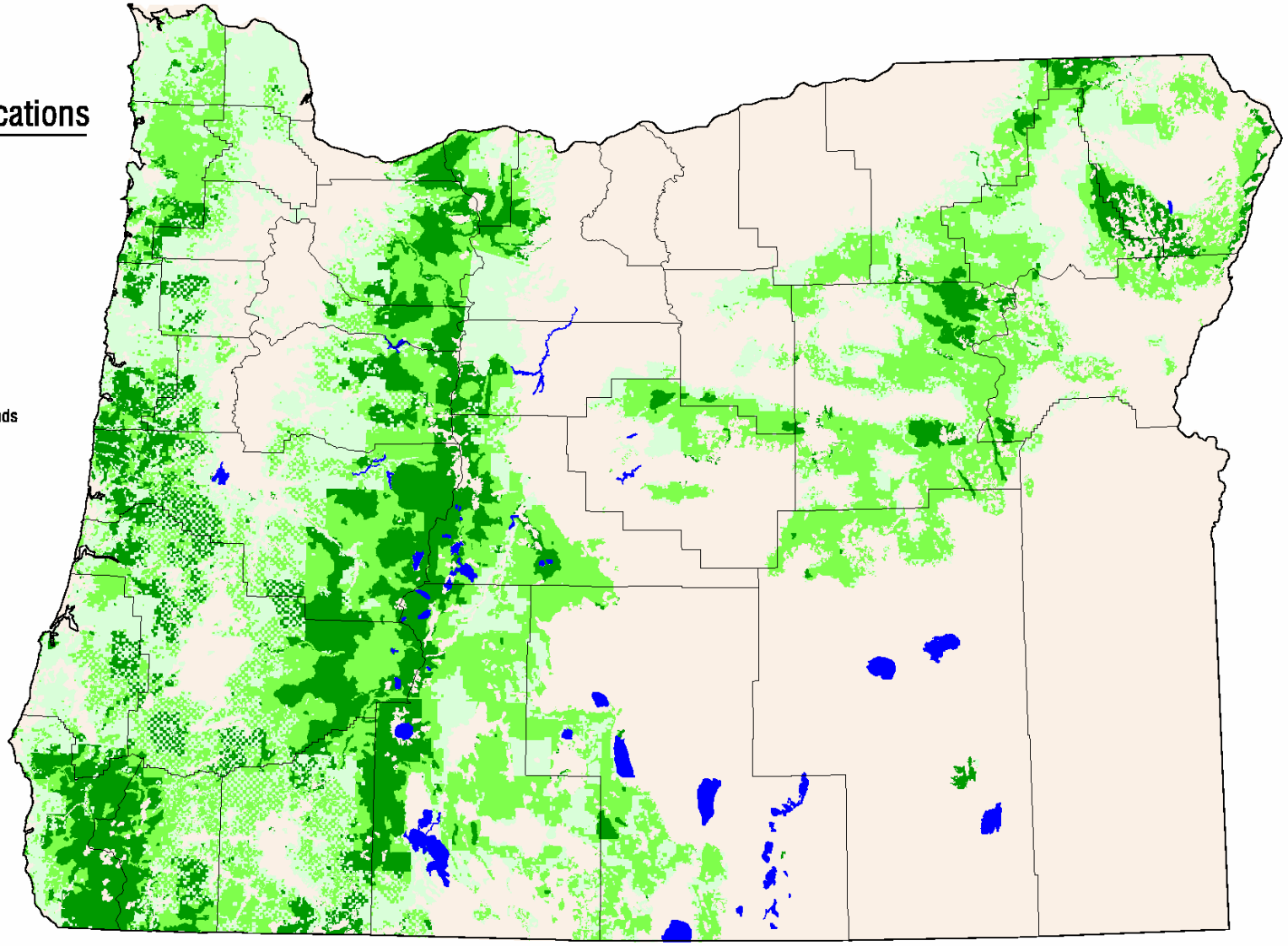
The Challenge



Our choices are about what kinds of roles to assign to different forests in different places at watershed and landscape scales …

Our obligation is to then establish conditions for each kind of forest to perform its roles efficiently and effectively.

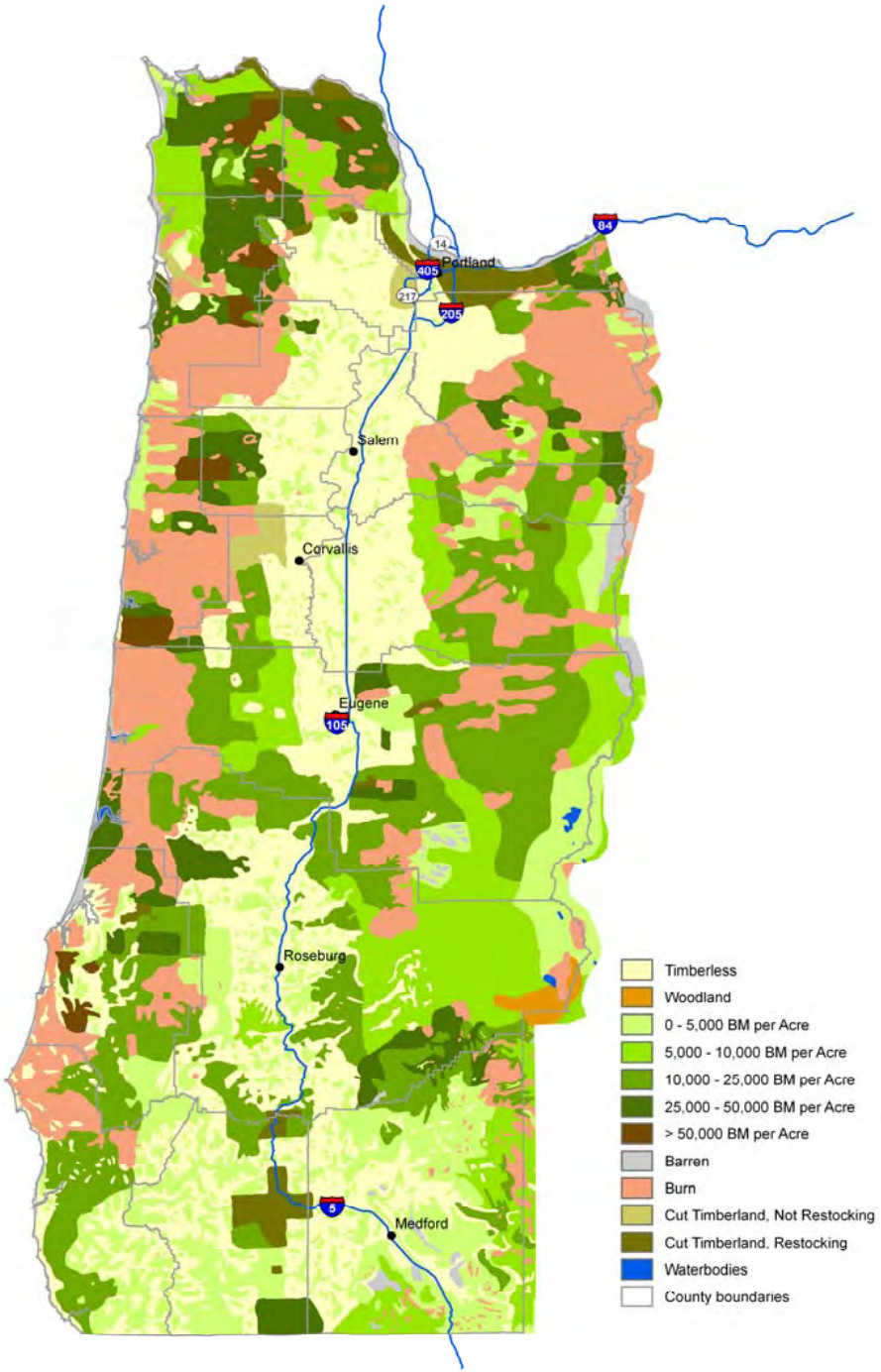
Forest Land Management Classifications



- Non-Forest
- Reserved Forest
  - Administratively Withdrawn
  - Congressionally Reserved
  - Late-Successional Reserves
  - Special Areas
  - Wildlife Areas
  - State and County Parks
  - The Nature Conservancy Lands
- Multi Resource Forest
  - Adaptive Management Areas
  - Experimental Forests
  - Eastside Screens
  - Matrix Land
  - National Grassland
  - National Recreation Areas
  - National Scenic Areas
  - Oregon Scenic Waterways
  - State Forests
- Wood Production Forest
  - Other Public Lands
  - Private Industrial Land
  - Private Non-Industrial Land
  - Tribal Lands

/odf/rp6/herstrom/forest_management_class2b/ 05/29/03

Historic Timber Volume
1900



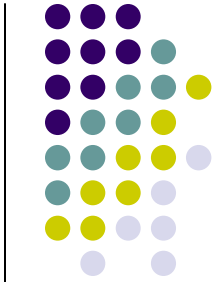
Sustainability is a Unifying Theme that resonates with the public

- “Sustainability” is defined as:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs”

(Brundtland Commission Report)

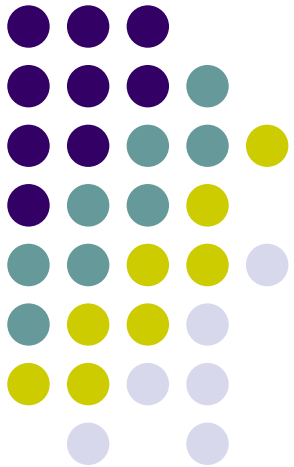
Montreal Process Criteria Provide a Framework to understand SFM



- Biological diversity
- Productive capacity
- Ecosystem health
- Soil and water resources
- Contribution to global carbon cycles
- Socioeconomic benefits
- Legal and institutional framework

MONTREAL PROCESS CRITERIA AND EXAMPLE INDICATORS FOR SUSTAINABLE FOREST MANAGEMENT

Maintain Plant and Animal Populations (Biodiversity)



the Oregon Conservation Strategy -

healthy habitats for wildlife and people

OREGON
Fish & Wildlife

Federal Forestland Advisory Committee

Situational Analysis

February 5, 2007

Oregon Conservation Strategy

- Introduction and overview of the Strategy
- How the Strategy can be a tool for forestland planning




Why State Strategies?

- Reduce the risk of additional threatened and endangered species listings
  - Proactive conservation is more effective
  - Habitat approach benefits many species
- Engage citizens in conservation
  - Everyone has a role
  - Increase awareness of issues

- Make the best use of limited conservation dollars
  - Identify and prioritize actions
  - Increase coordination, cooperation and communication
  - Be adaptive (monitor, learn, improve)

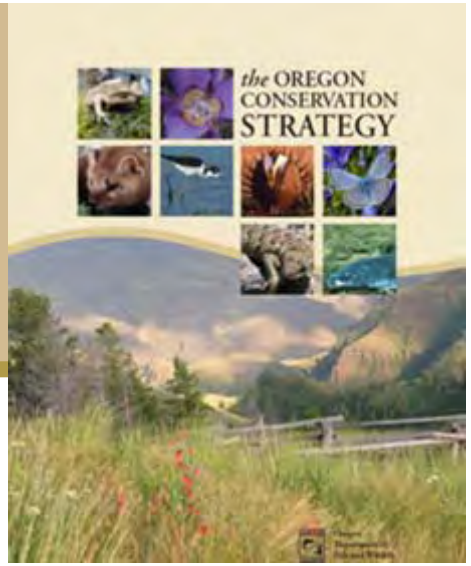
Conservation Strategy Goal and Scope

- Maintain healthy fish and wildlife populations by:
  - Maintaining and restoring functioning habitats
  - Preventing declines of at-risk species
  - Reversing any declines where possible
- Addresses terrestrial and aquatic wildlife, fish, invertebrates, plants and their habitats
- Collaborative development; collaborative implementation

Oregon Conservation Strategy: What it is Not

- **Not a substitute for existing planning or conservation efforts**
- **Not regulatory**
- **Not an ODFW management plan**

A Tour of the Strategy



Section A – summary of entire document

- Identifies goals and approaches, sets the tone

Section B – main section – biological, social, technical

- 4 scales – statewide, ecoregional, habitat & species
- 6 Key Conservation Issues
- Monitoring and data gaps

Section C - Appendices on methods, references, global warming and existing planning, regulatory and voluntary programs

Six Key Conservation Issues

Land use changes

- Invasive species
- Changes in fire, flood regimes
- Water quality and quantity
- Barriers to fish and wildlife movement
- Institutional barriers

Ecoregions

For each ecoregion (8):

- Characteristics (ecology & economy)
- Strategy Species and Habitats
- Conservation issues and actions
- Conservation success stories
- Conservation Opportunity Areas maps and profiles

Strategy Habitats

11 Strategy Habitats

Statewide: aquatic, riparian, wetland

Ecoregions: aspen, coastal dunes, estuaries, sagebrush, grasslands, LS conifer, oak, ponderosa pine

Clusters of habitat captured in COA's

Strategy Species

286 Strategy Species

Some are statewide, others in one or more ecoregion

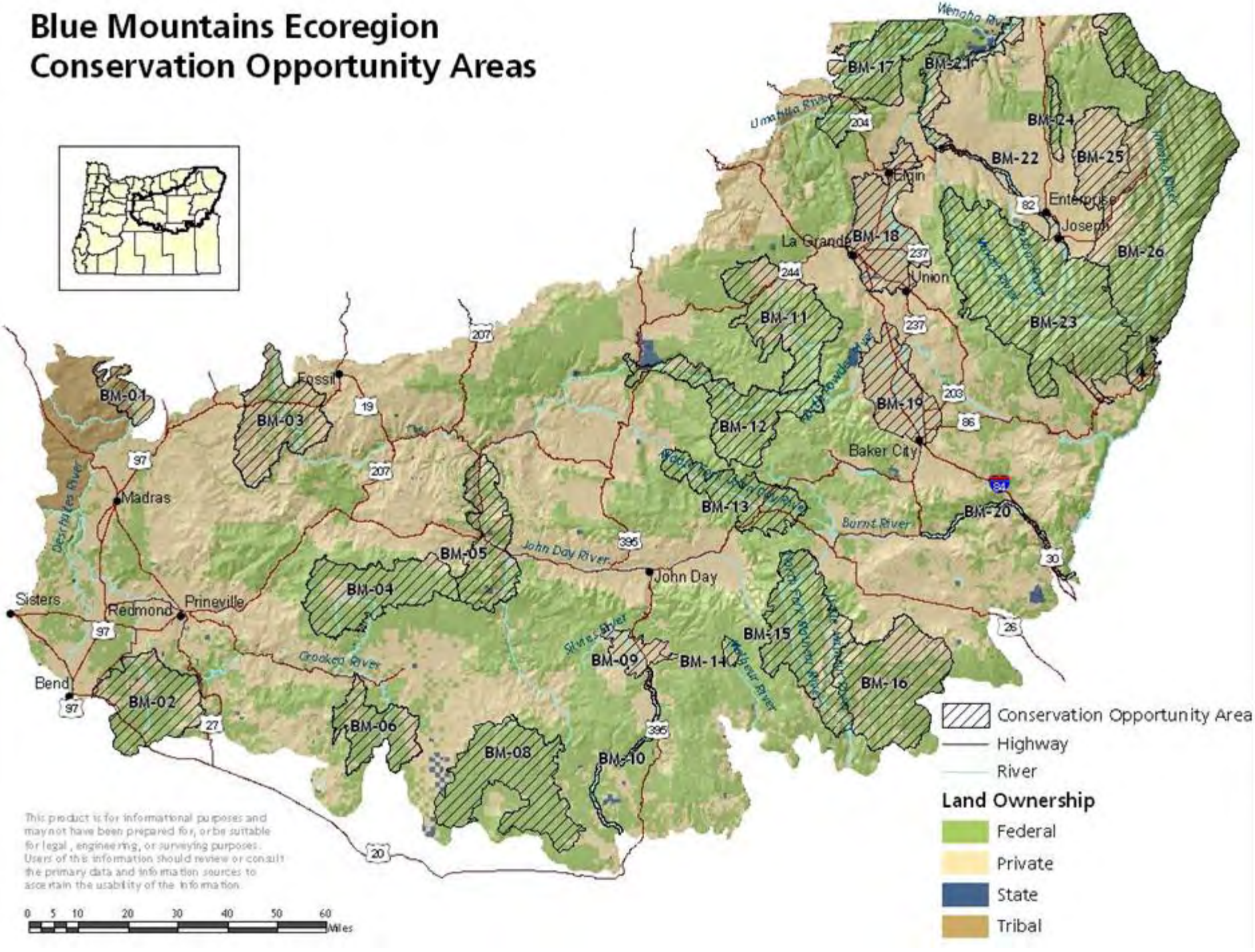
Vertebrates, invertebrates, plants

Limiting factors, special needs, data gaps and recommended actions listed for each species

Conservation Opportunity Areas

- Recognize that all landowners and land managers can help maintain and restore habitats
- Prioritize landscapes where broad fish and wildlife conservation goals can best be achieved
  - focus investments on priority landscapes
  - increase likelihood of long-term success over larger areas
  - improve funding efficiency
  - promote cooperation across land ownership boundaries
- Profiles describe each area

Blue Mountains Ecoregion
Conservation Opportunity Areas



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

0 5 10 20 30 40 50 60 Miles

Conservation Opportunity Area Profile: Bear Valley

BM-09. Bear Valley

Located south of John Day, along the Silvies River. The area encompasses the wetlands and riparian habitat in the valley.

Special Features:

- *Ecosystem management is already being employed here by some private land owners [Oregon Biodiversity Project website].*
- *Large wetland complex is keystone of Silvies River headwaters system, with major influence on downstream flows and water quality.*
- *This area provides significant percentage of the ecoregion's habitat for the upland sandpiper and bobolink.*
- *Area contains 26% of the ecoregion's wetlands and wet meadows habitat and a large percentage of its riparian habitat*
- *There were 23 recorded nesting pairs of sandhill cranes here in 1999-2000.*

Key Habitats:

- Riparian
- Wetlands And Wet Meadows

Key Species:

- Columbia Spotted Frog
- Bobolink
- Sandhill Crane
- Upland Sandpiper
- Inland Columbia Basin Redband Trout
- Malheur Mottled Sculpin
- Oregon Great Basin Redband Trout

Identified in other planning efforts:

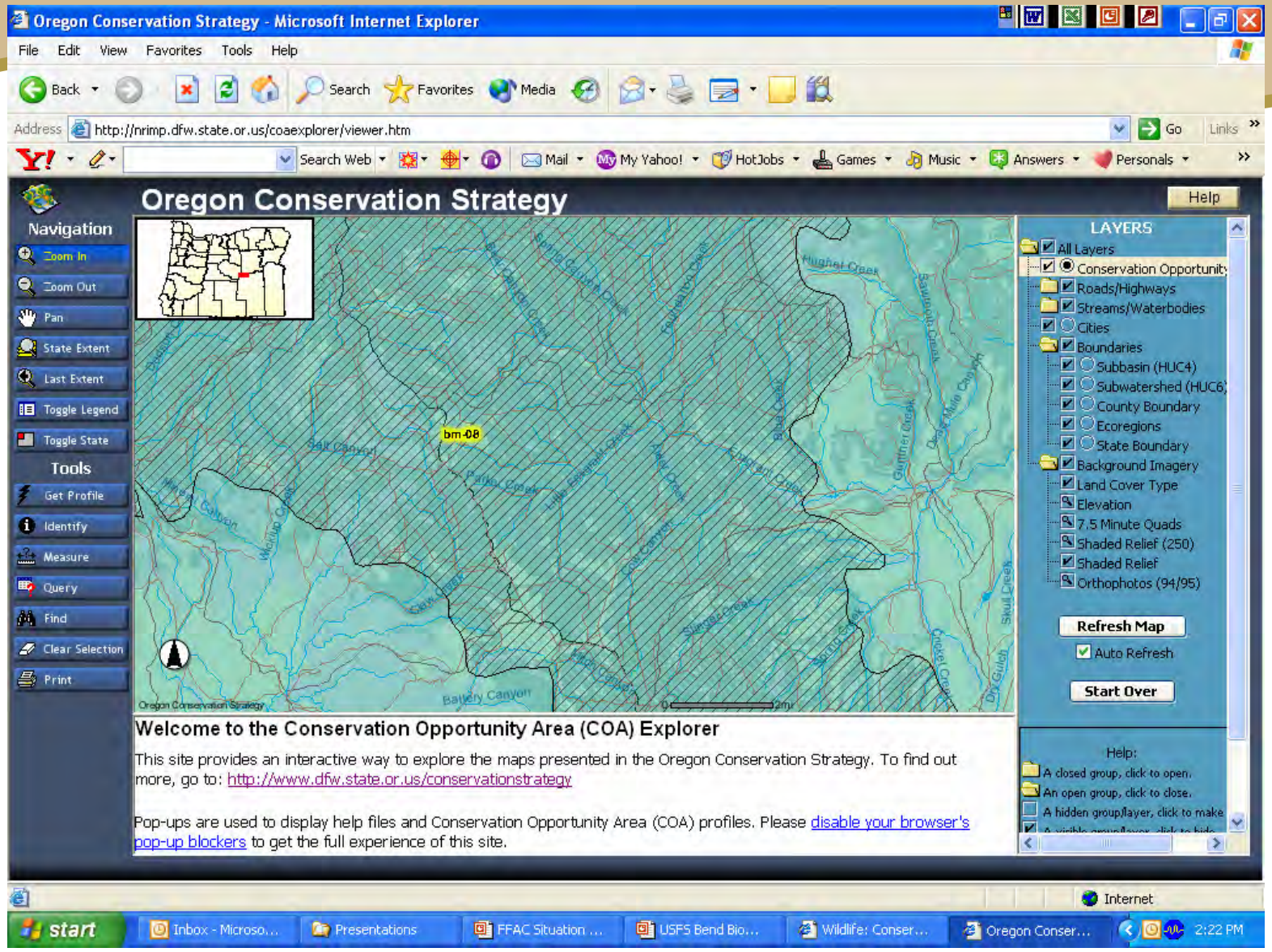
- Eastern Oregon Bird Conservation Plan
- Oregon Biodiversity Project Conservation Opportunity Areas

Recommended Conservation Actions:

- Initiate or continue wet meadow conservation and restoration efforts
- Maintain or restore riparian habitat and ecological function; ensure sufficient habitat complexity for wildlife

Conservation Opportunity Area Explorer

http://nrimp.dfw.state.or.us/coaexplorer/viewer.htm



How ODFW is implementing the Conservation Strategy

- Integrating priorities into ODFW grants and plans
- Habitat restoration projects
- Building partnerships
- Publications and outreach
- Some initiatives
  - Fish and Wildlife Monitoring Team
  - Registry of Conservation Actions
  - Wildlife Movement Strategy
  - Small grants program (coming soon)

Federal Forests are Natural Partners

- Plans often address priority species, habitats, conservation issues
- Federal Forests are referenced in the Strategy; for example:
  - Monitoring efforts (effectiveness, species status)
  - Sidebars (e.g., Blue Mtn Habitat Restoration Project; spotted frog conservation; Big Marsh restoration; white oak research; Lakeview Biomass)
  - Issues (OHV research and planning; severe wildfire)
  - COA profiles
  - Existing Planning and Regulatory Framework (Appendix II)

How FFAC Can Use the Strategy

- *As a reference:*
  - 4 scales for planning
  - background information on Oregon's habitats and species

- *For priorities:*
  - lists conservation issues and some actions that will help fish and wildlife
  - identifies important landscapes (COA's) and habitats to focus investments
  - Identifies species of conservation need
  - priority invasive species lists

How FFAC Can Use the Strategy

- *For data sharing:* data layers on COA's, species distribution, habitats, cost factors

- *To build partnerships:* identify broad approaches across ownership boundaries

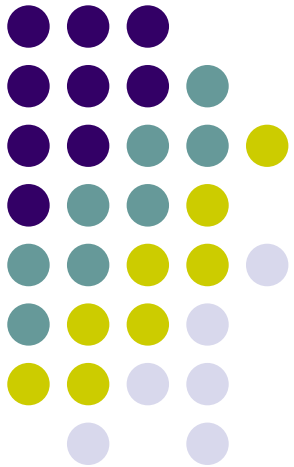
- *To measure success:* through collaborative initiatives (Fish and Wildlife Monitoring Team, Registry of Conservation Actions)

Questions, ideas or other thoughts?

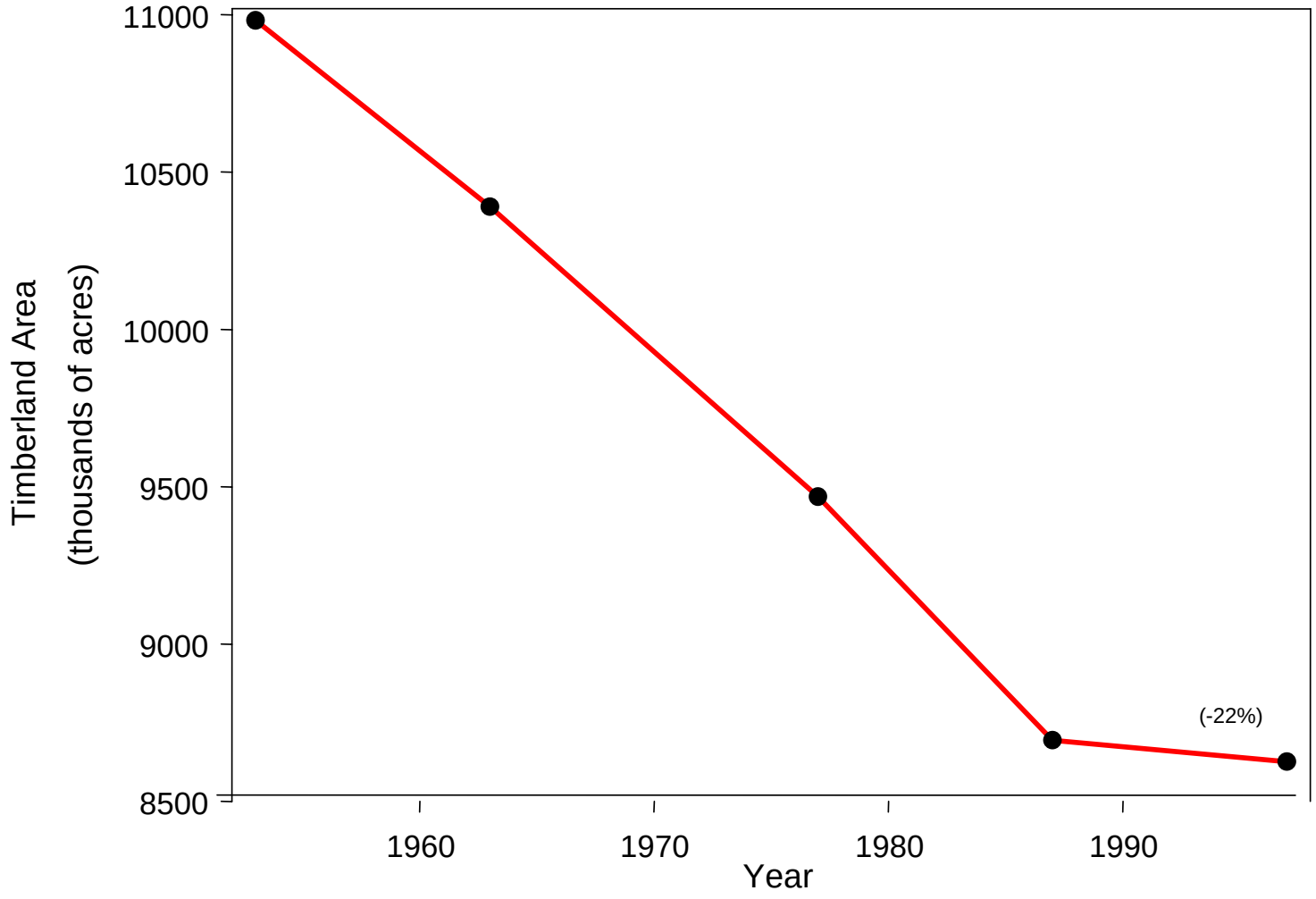
Our thanks to the photographers:

- Stephen Anderson
- Jason Blazar
- Dave Budeau
- Bruce Campbell
- Claire Fiegener
- Brome McCreary
- Bruce Newhouse
- Bruce Taylor
- Jennifer Thompson
- USFWS

Maintain Productive Capacity (Economic well-being)



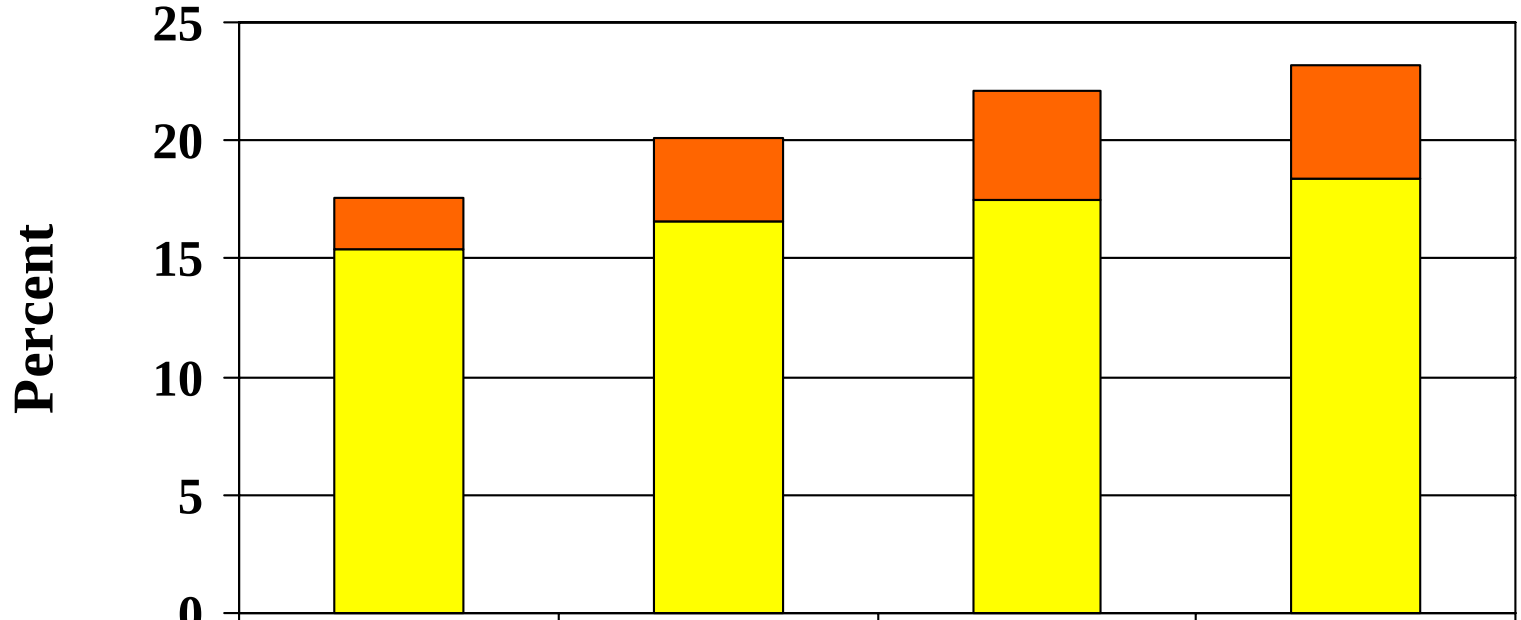
Change in Private Timberland Area in Oregon, 1953-1997



Source: Donnegan, 2001. Assessing temporal trends in Forest Inventory and Analysis data: Applications to Criteria and Indicators. Wood Compatibility Workshop, Dec. 5-7, 2001. Base dataset: Resource Planning Act, 2000.

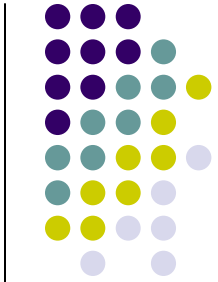
Growth in Low-density Residential Use on Private Land Zoned for Forest Use by Density Class

(Transition = 20-70 psm, High Density >70 psm)



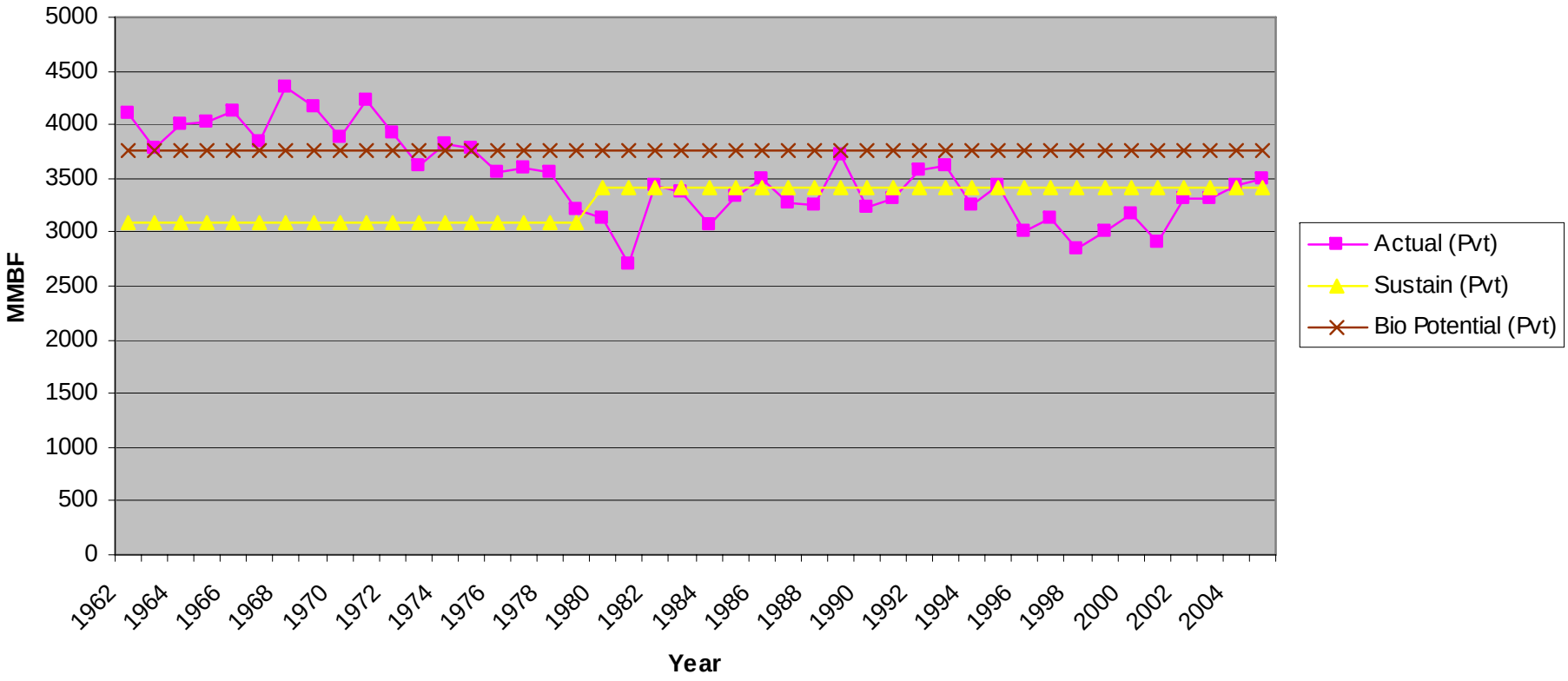
	1973	1982	1994	2000
High Den.	2.2	3.5	4.6	4.8
Transition	15.4	16.6	17.5	18.4

Forest Industry Selling Land in E. OR to Landowners with Little Background in Forest Management

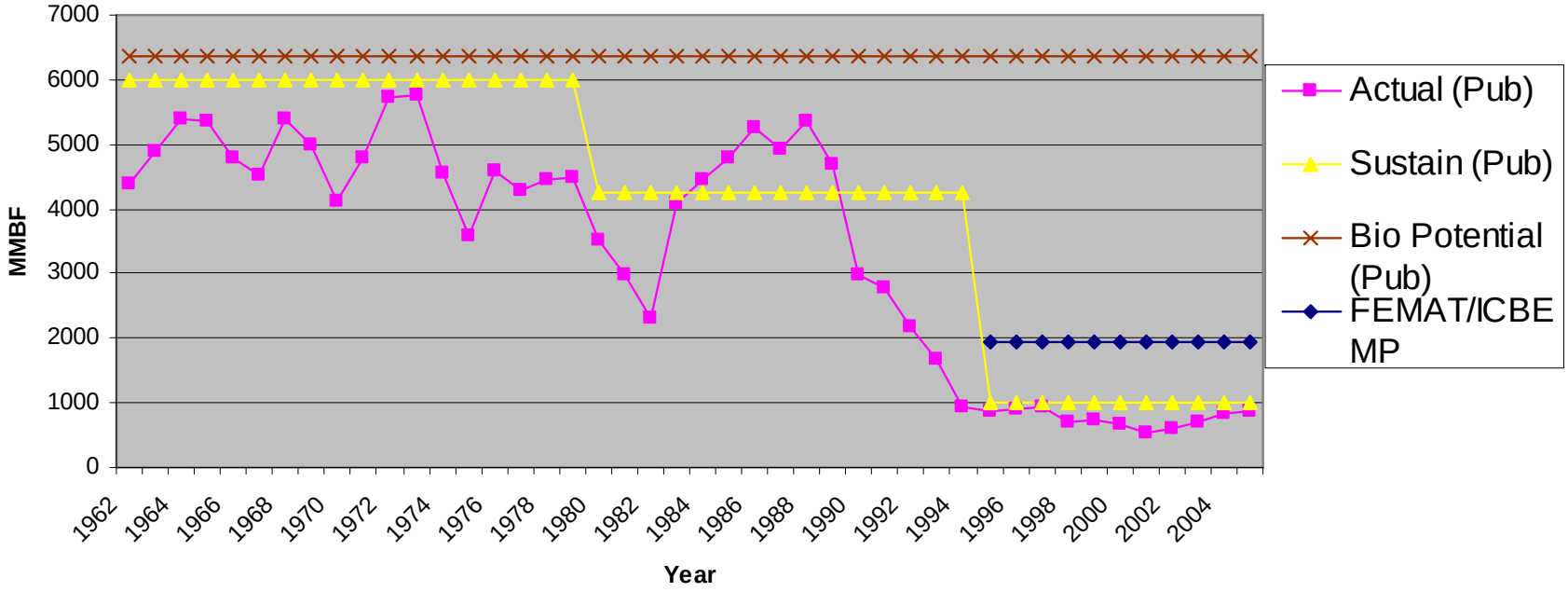


- 60% of Forest Industry Land in Deschutes and Jefferson Co.’s sold since 1990
- Land is being divided into large lots and sold for home sites
- Additional 4,000 acres industry land optioned to developers
- Former Kinzua lands sold to Flagstar Bankcorp
- 27,750 acres sold by Weyerhaeuser to Holiday Retirement Corp.

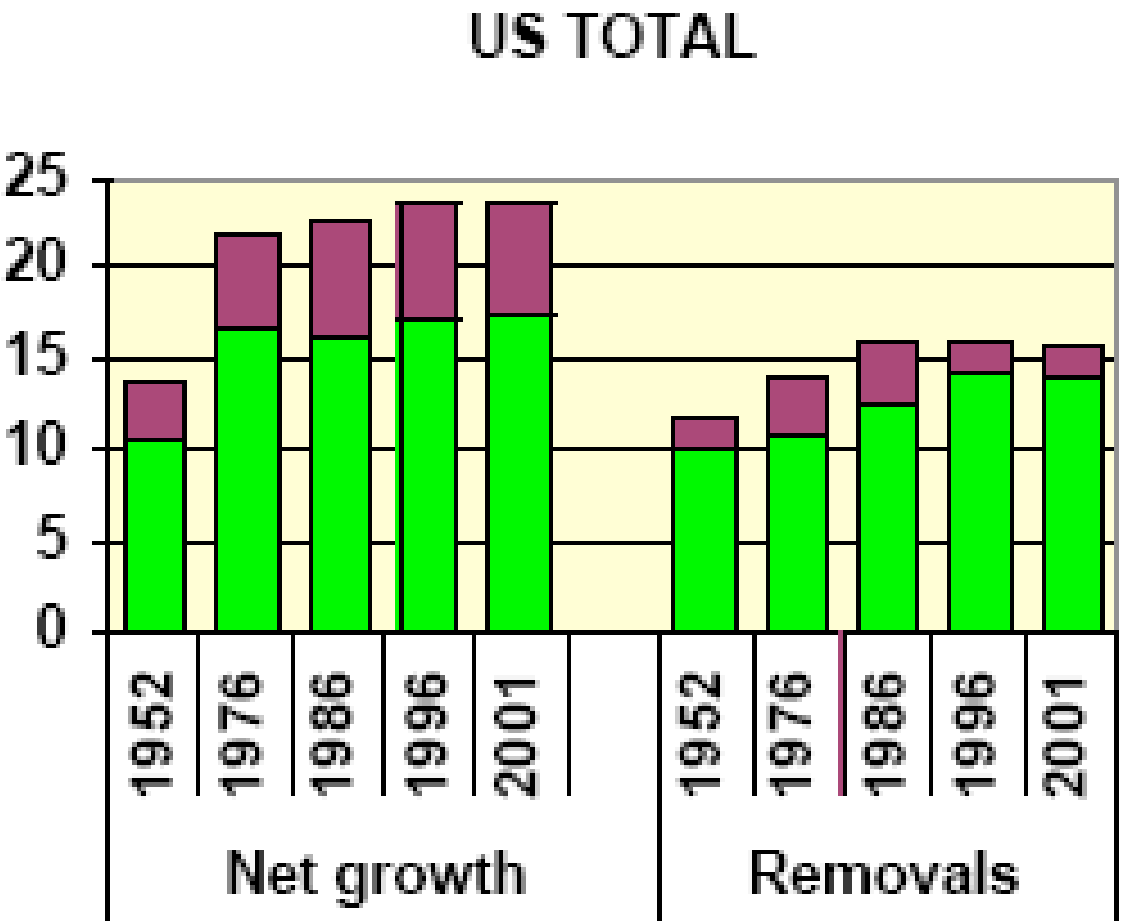
OREGON TIMBER HARVEST
Actual Harvest vs. Sustainable
(Private)



OREGON TIMBER HARVEST
Actual Harvest vs. Sustainable
(Public w/o Congressionally Reserved)



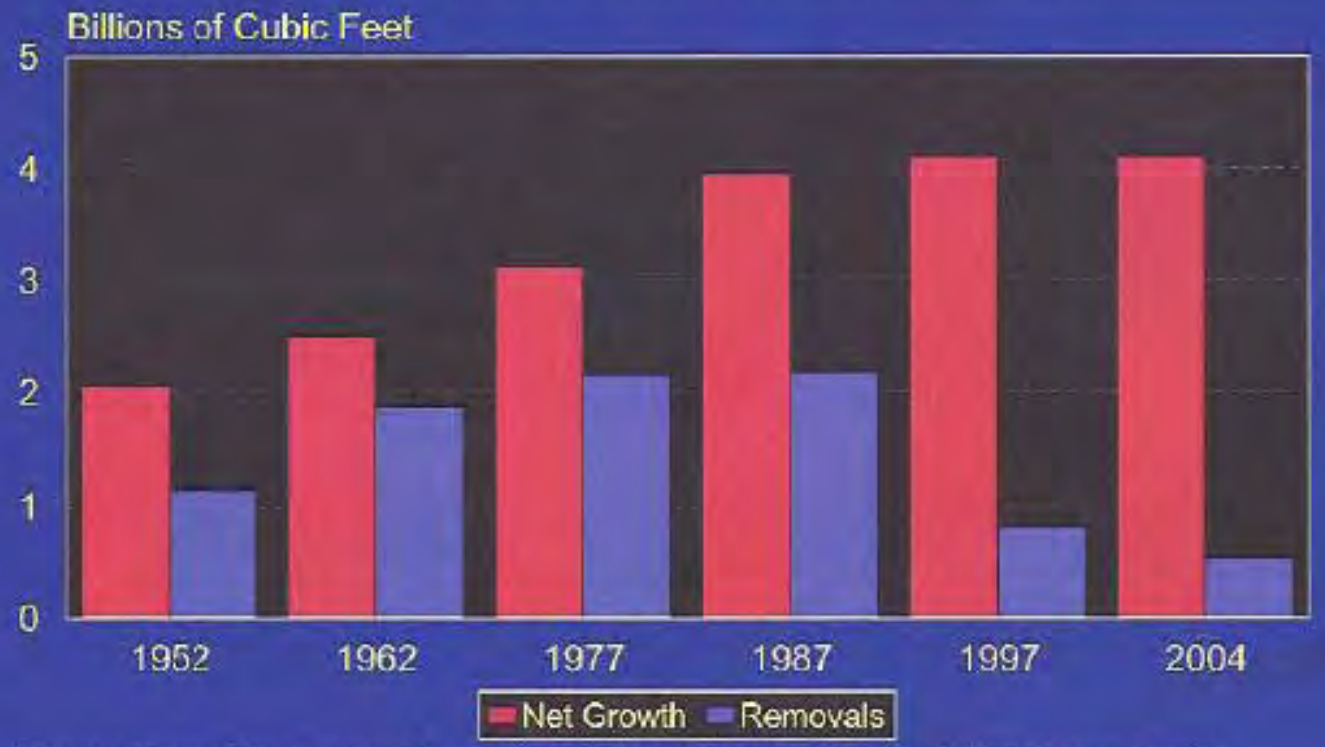
Net Growth Exceeds Removals



Net forest growth greatly exceeds removals on NFS lands

NFS Forest Growth and Removals

All National Forests - 1952-2004

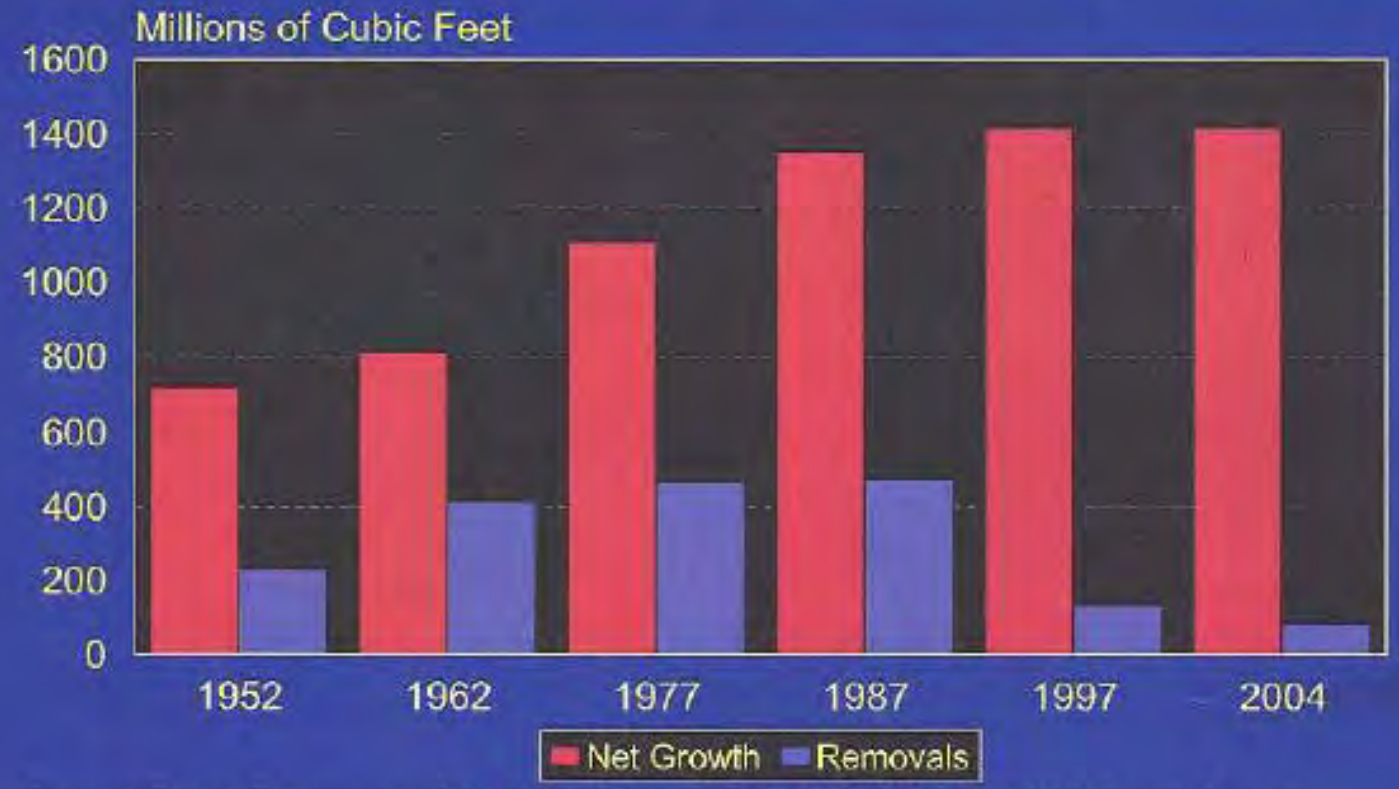


Source: Forest Resources of the United States, 1997; GTR-NC-219. USDA-Forest Service, 2001; NFS Cut & Sold Reports.

And even more so in the Interior West

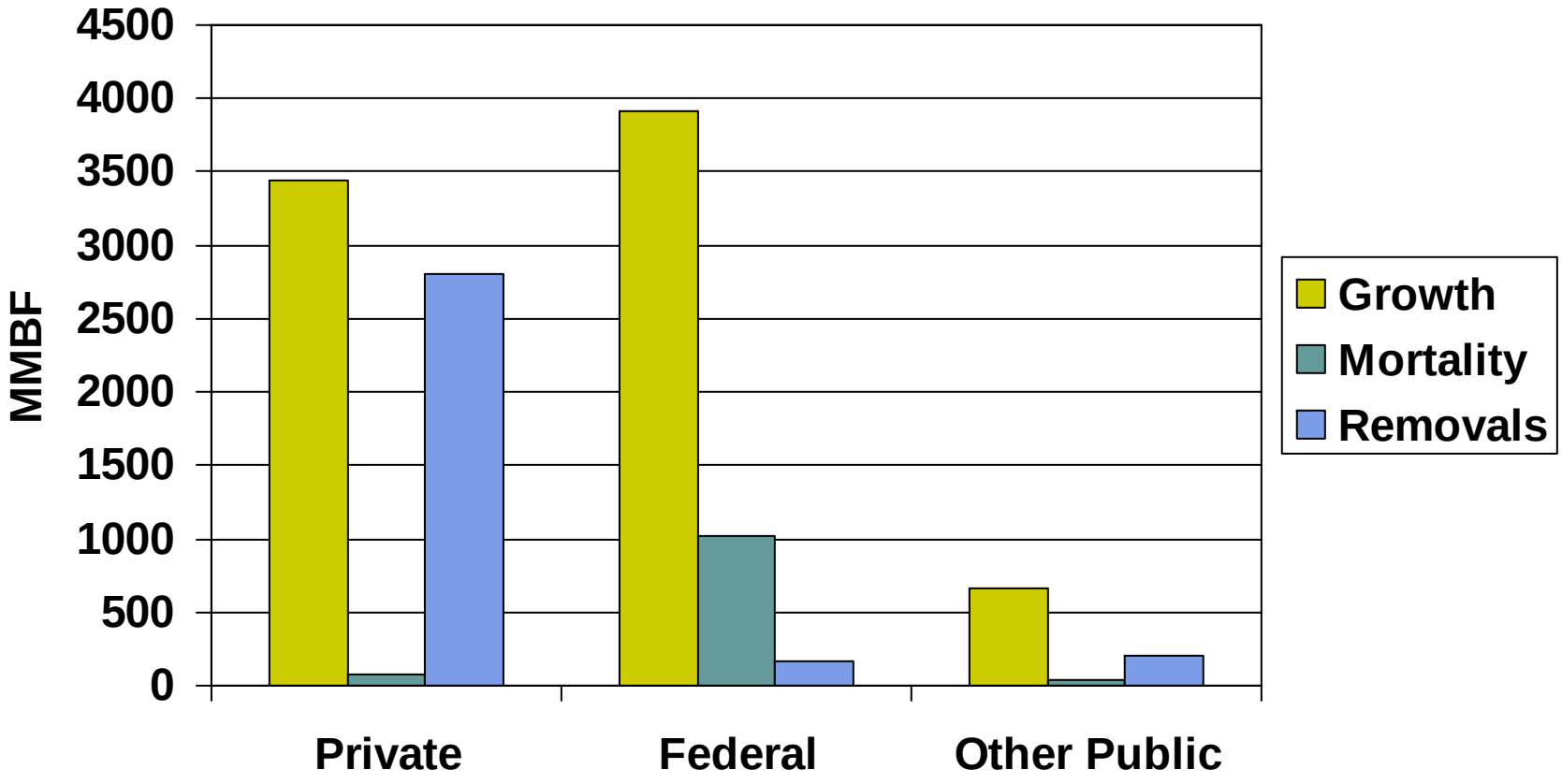
NFS Forest Growth and Removals

National Forests of the Interior West - 1952-2004



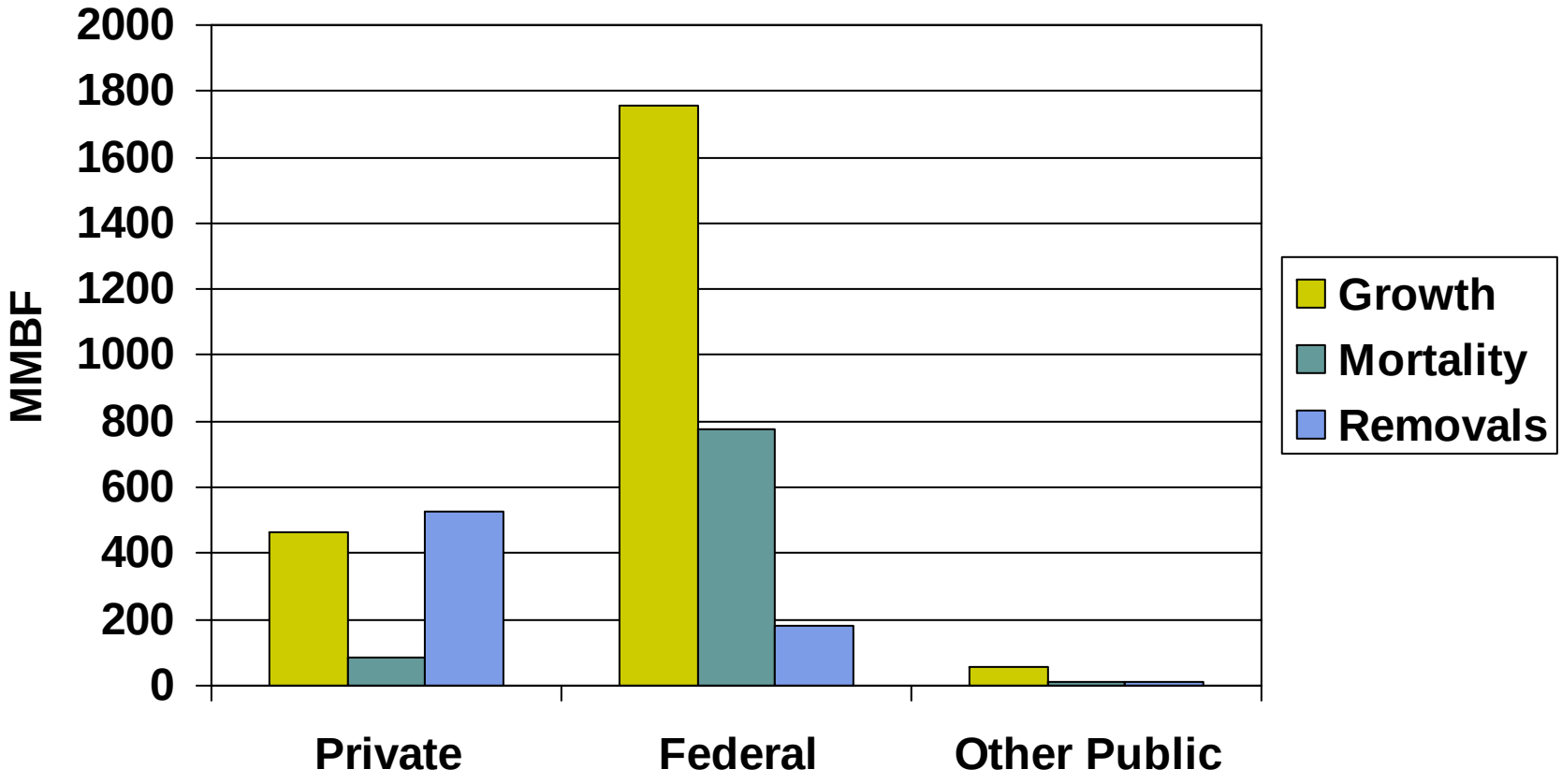
Source: Forest Resources of the United States, 1997; GTR-NC-219. USDA-Forest Service, 2001; NFS Cut and Sold Reports

Annual Growth and Mortality of Sawtimber on Non-congressionally withdrawn Timberland (W. Oregon)



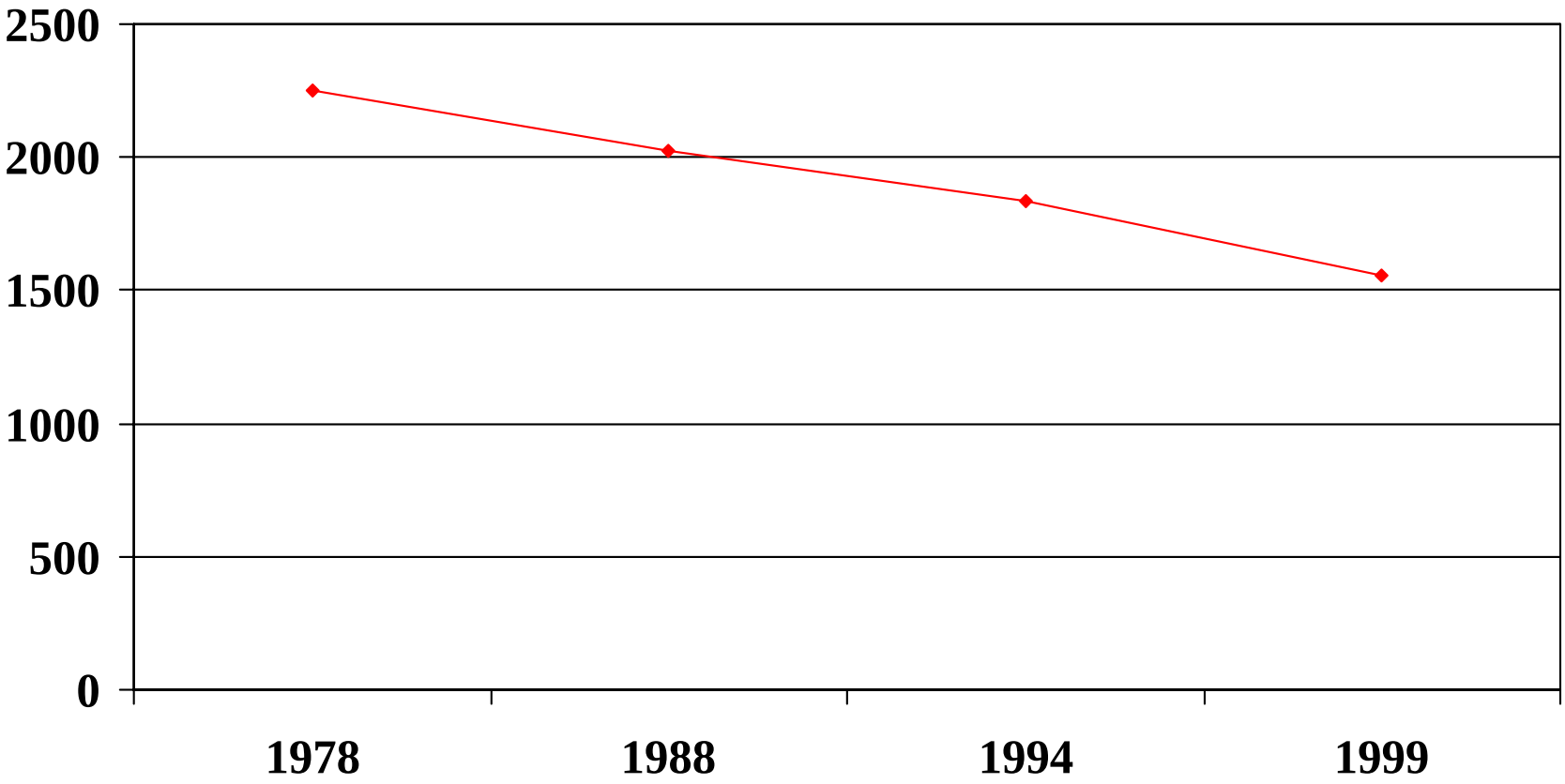
E.D Hovee & Co. Baseline Growth and Mortality Assessment
Private and Other 1990 – 99, Federal 1993 - 2004

Annual Growth and Mortality of Sawtimber on Non-congressionally withdrawn Timberland (E. Oregon)

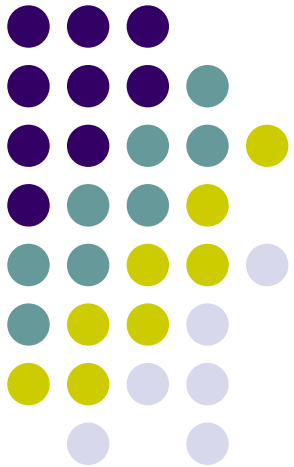


E.D Hovee & Co. Baseline Growth and Mortality Assessment
Private and Other 1990 – 99, Federal 1993 - 2004

Growing Stock Volume on Forest Industry Land in Eastern Oregon 1978-1999, Million Cubic Feet

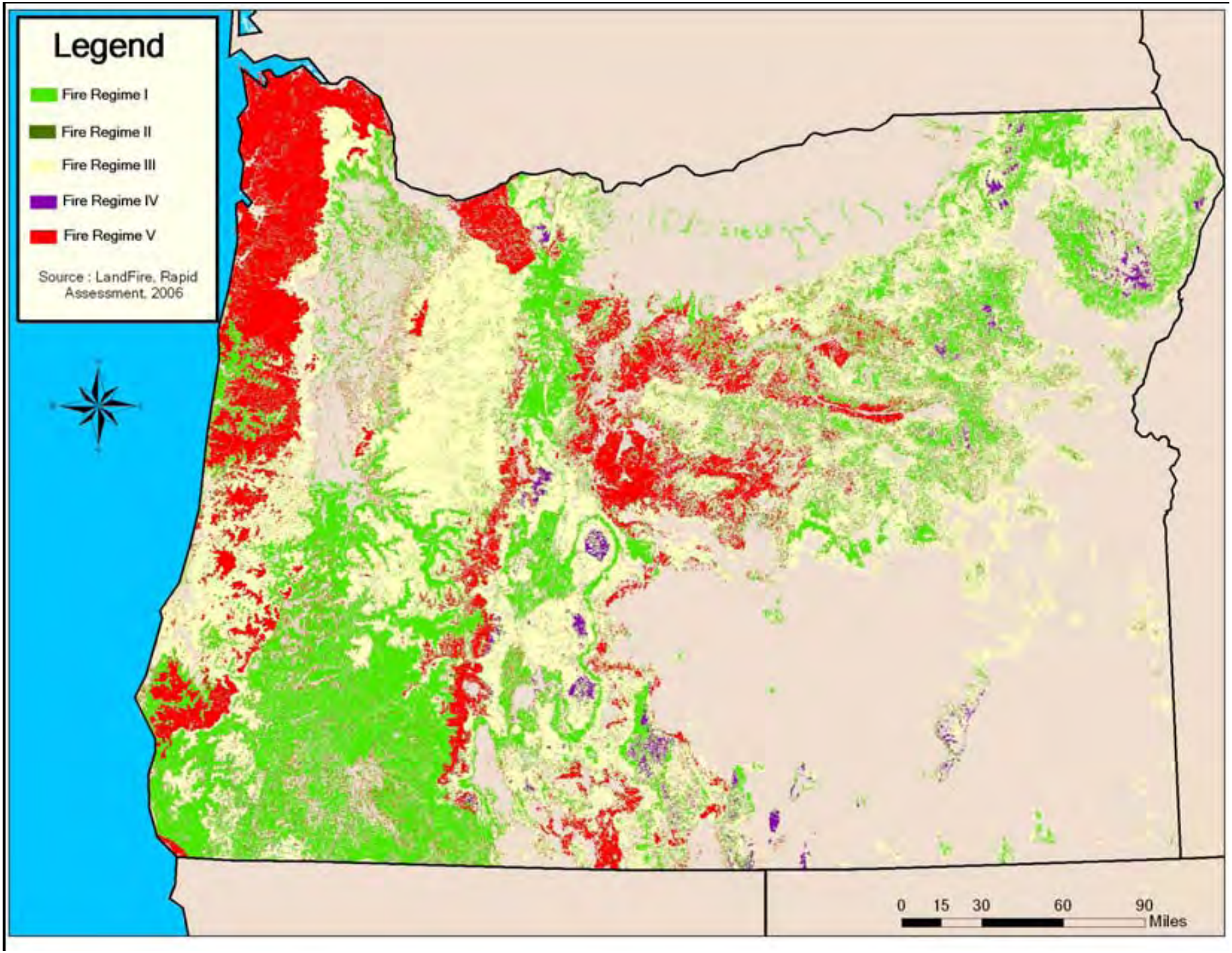


Maintain Forest Health



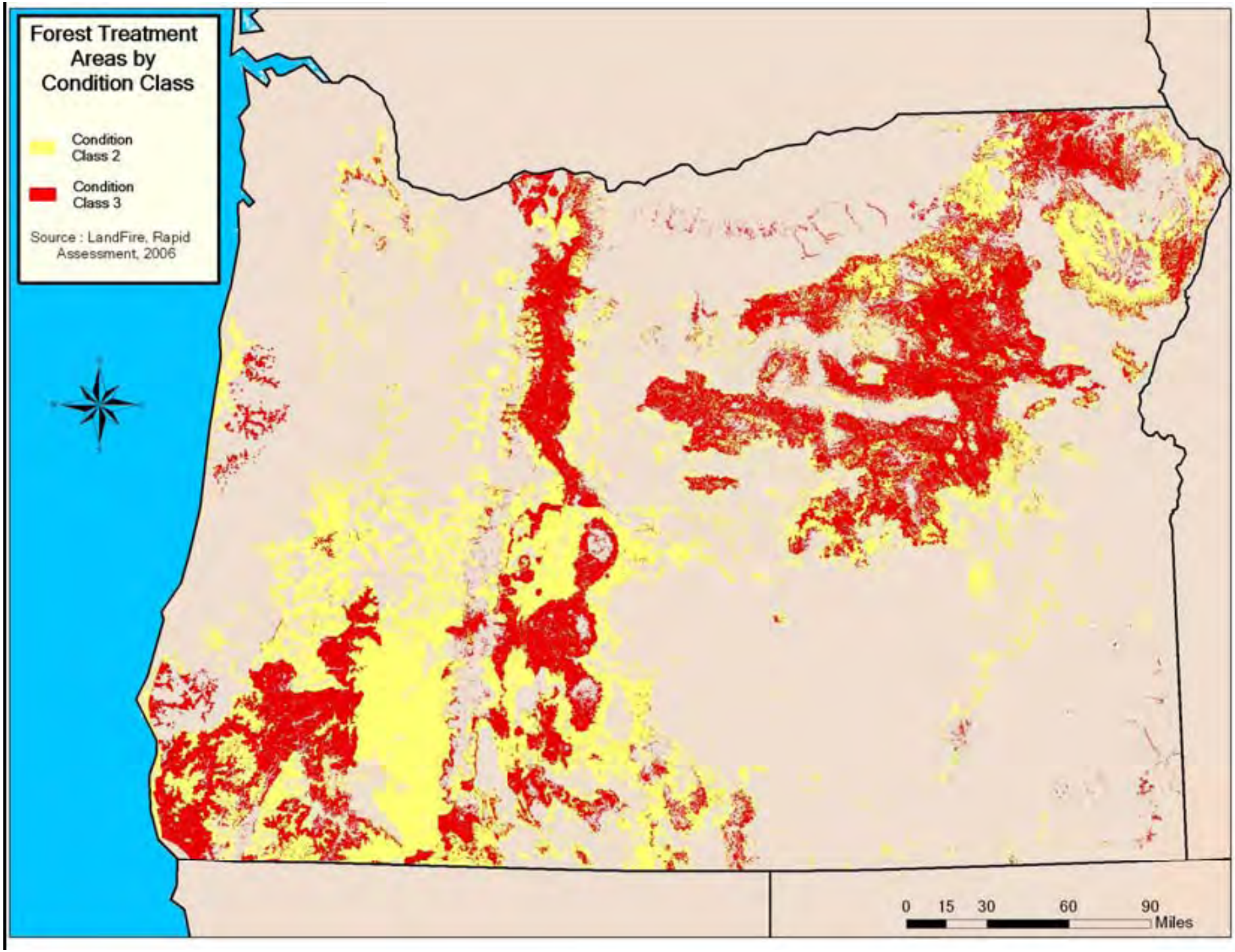
FIRE REGIMES

I	0–35 year frequency	low and mixed severity
II	0–35 year frequency	stand-replacement severity
III	35–200 year frequency	low and mixed severity
IV	35–200 year frequency	stand-replacement severity
V	200+ year frequency	stand-replacement severity


Legend
Fire Regime I
Fire Regime II
Fire Regime III
Fire Regime IV
Fire Regime V
Source : LandFire, Rapid Assessment, 2006
0 15 30 60 90
Miles

Fire Regime Condition Classes

Condition Class	Departure from Natural Range of Variation*	Description
Class 1	Low	Fire behavior similar to natural fire regime.
Class 2	Moderate	Fires moderately uncharacteristic. Risk of losing components.
Class 3	High	Fires high departure. High risk of losing ecosystem components

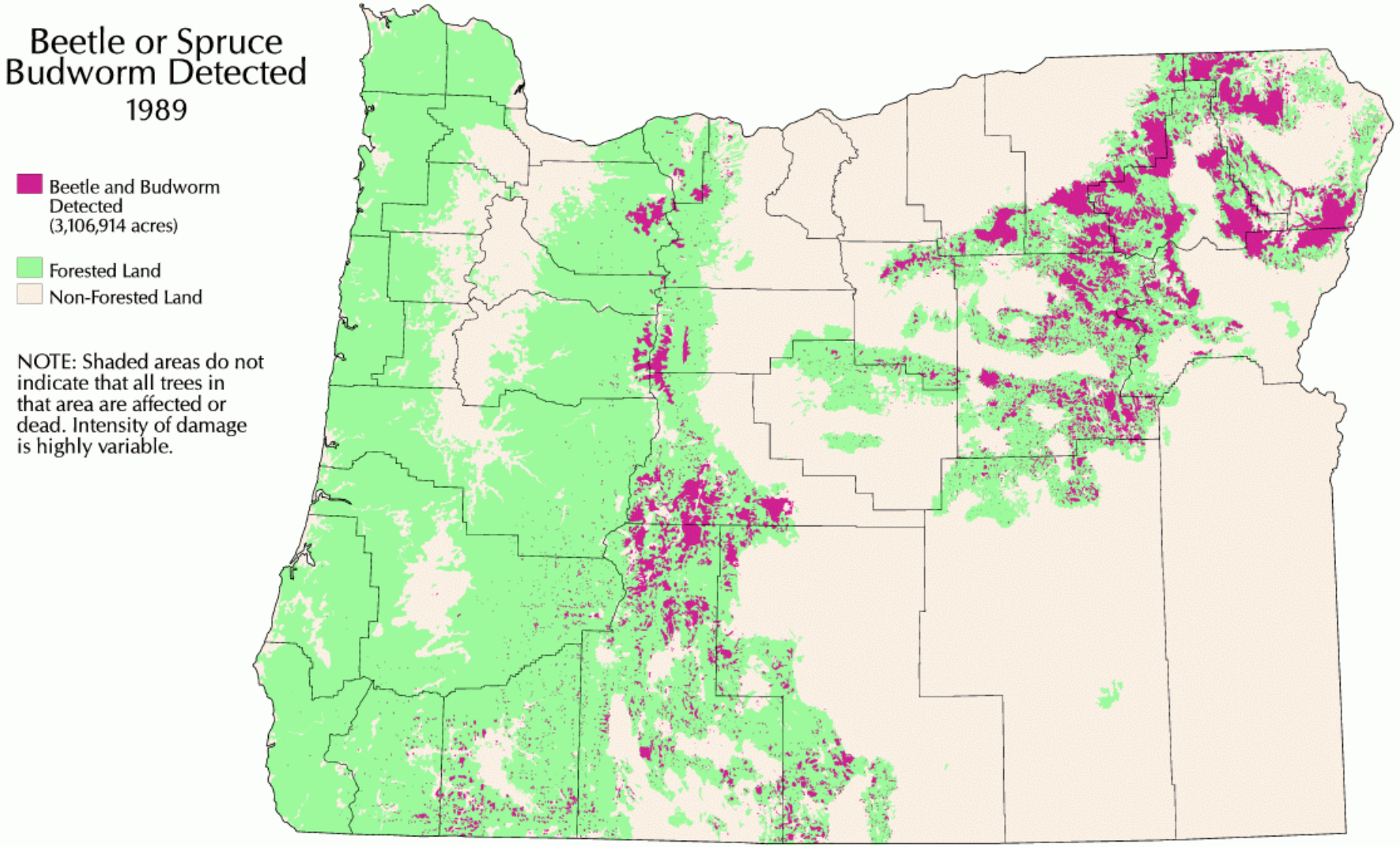

Forest Treatment Areas by Condition Class
Condition Class 2
Condition Class 3
Source : LandFire, Rapid Assessment, 2006
0 15 30 60 90
Miles

Annual acres of Forests needing treatment by category in 20, 25 year restoration timeframes

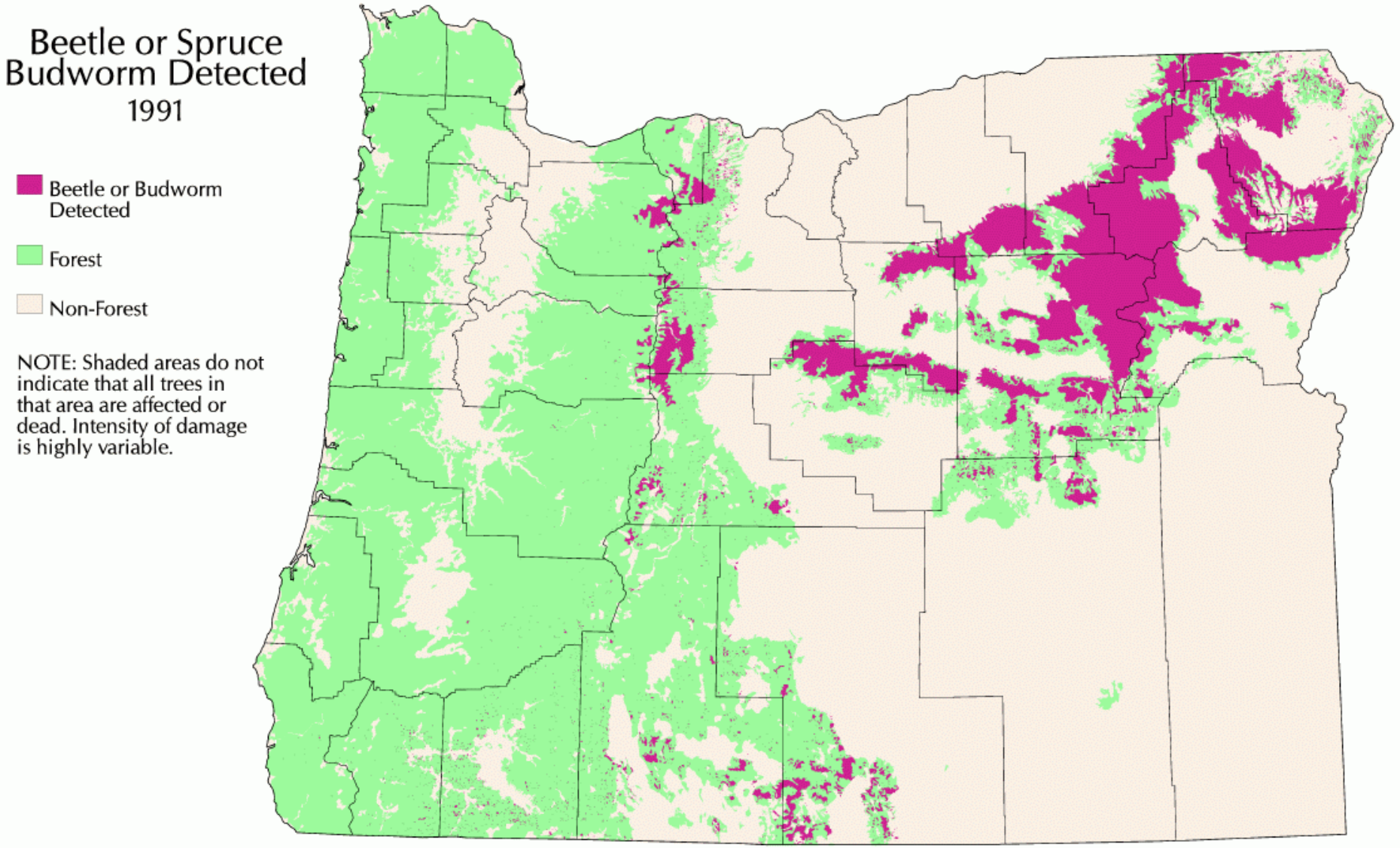
Category	20 Years	25 Years
All lands	1,051,000	841,000
All public lands including Wildland Urban Interface (WUI)	670,000	536,000
Non-wilderness, roadless public lands including WUI	559,000	447,000

MacDonald, et. al. 2006. The Condition of Oregon's Forests and Woodlands: Implications for the Effective Conservation of Biodiversity. The Nature Conservancy.

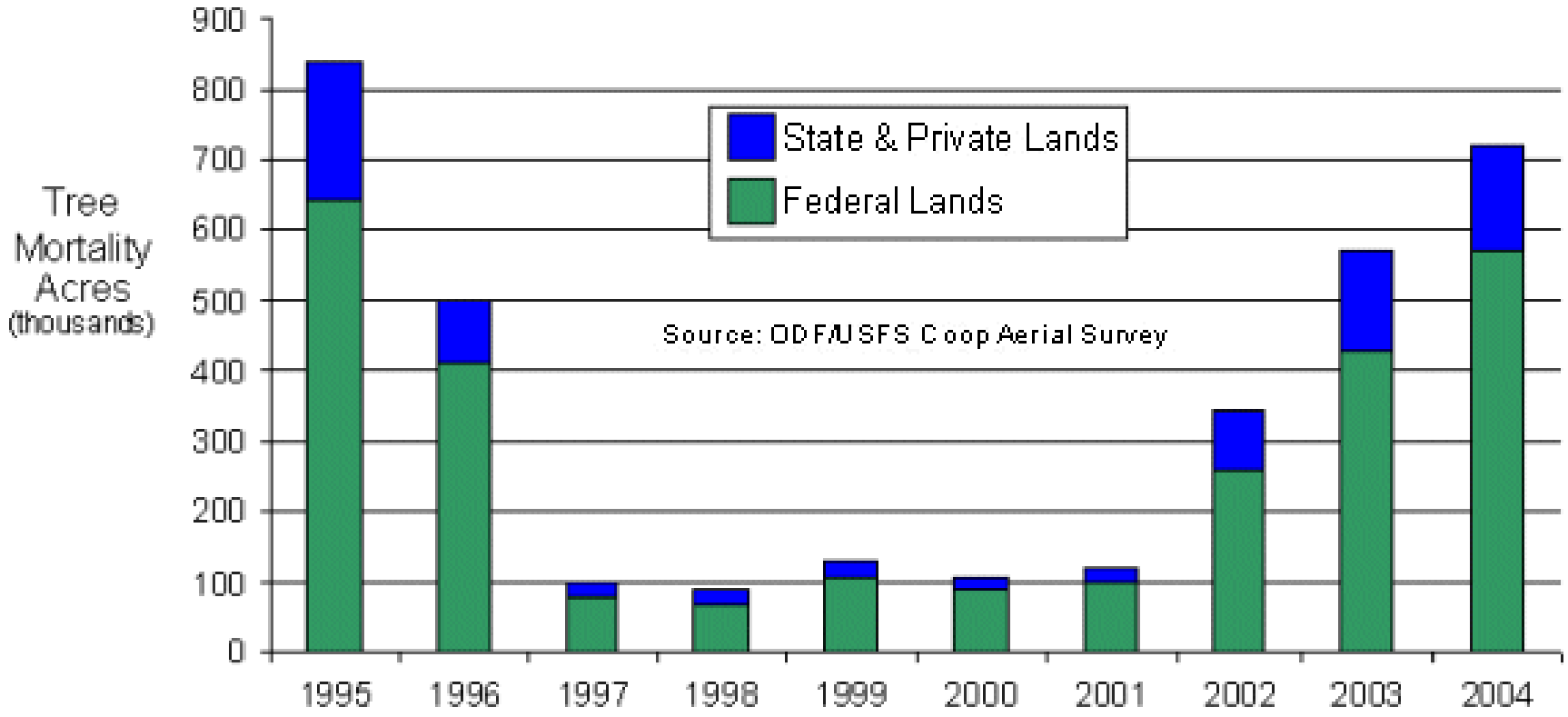
Beetle or Spruce Budworm Detected 1989



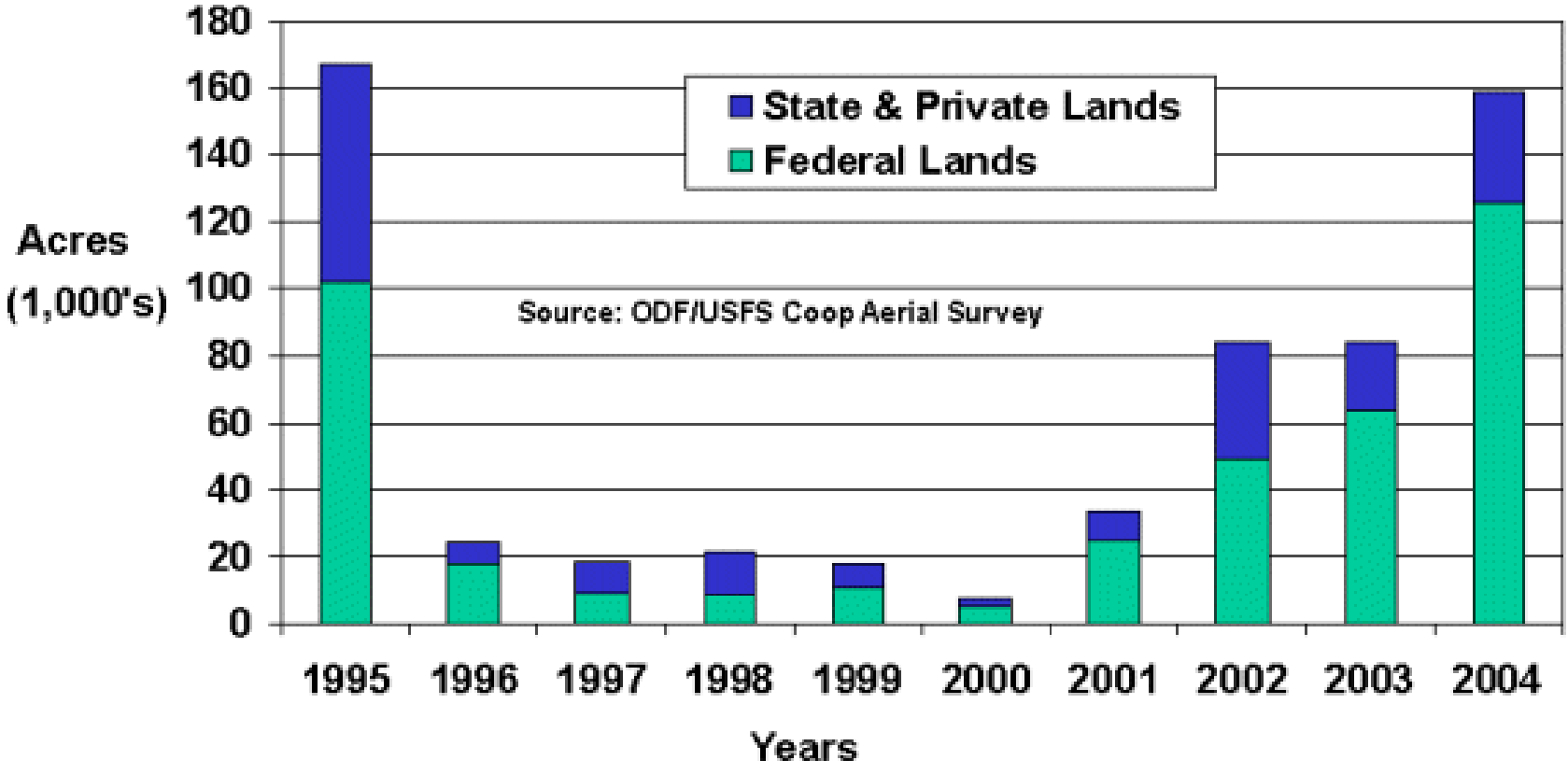
Beetle or Spruce Budworm Detected
1991



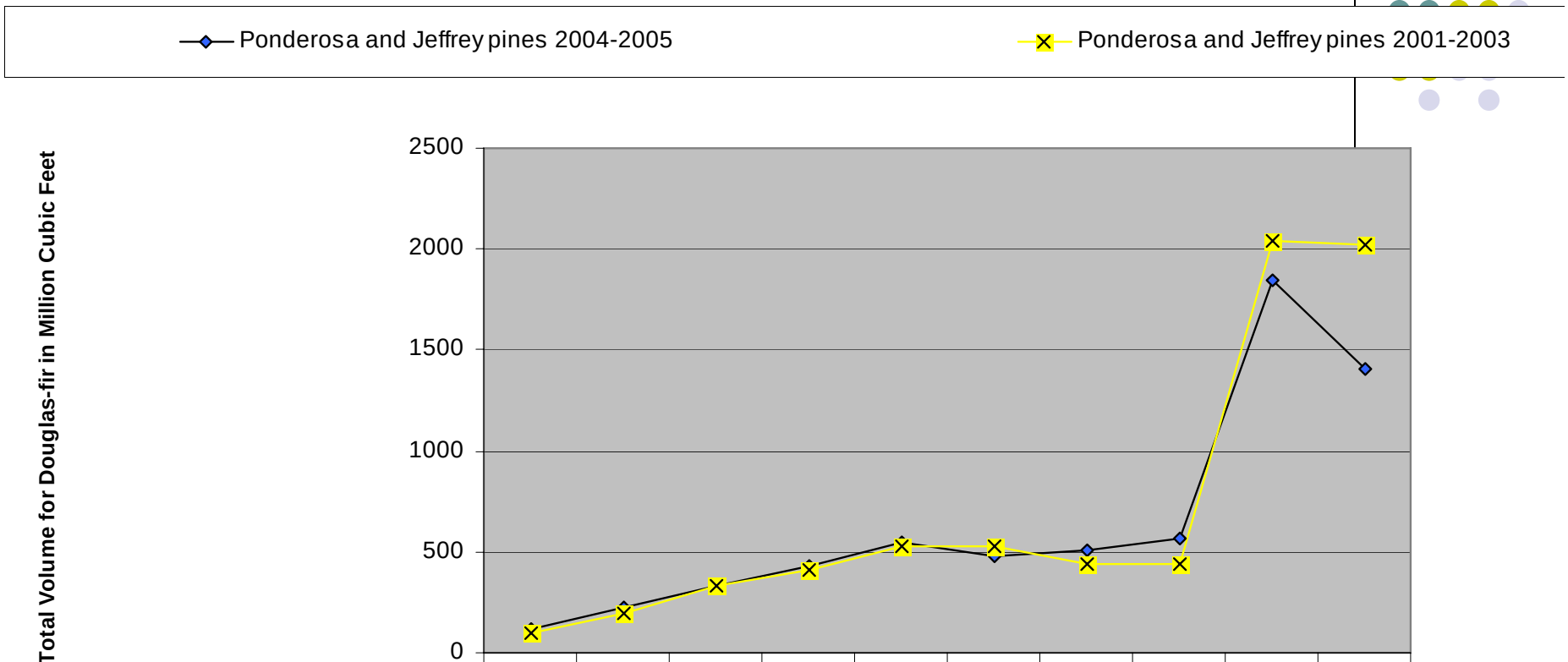
Acres infested with bark beetles in Oregon



Acres of ponderosa pine infested with bark beetles in Oregon



Ponderosa and Jeffery Pines
(Federal Lands)



Diameter Class (inches at breast height)	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
Ponderosa and Jeffrey pines 2004-2005	121	229	335	430	550	476	510	571	1844	1406
Ponderosa and Jeffrey pines 2001-2003	95	200	334	415	523	523	439	438	2039	2023

Example Eastside Biomass Treatment: Gerber Stew Stewardship

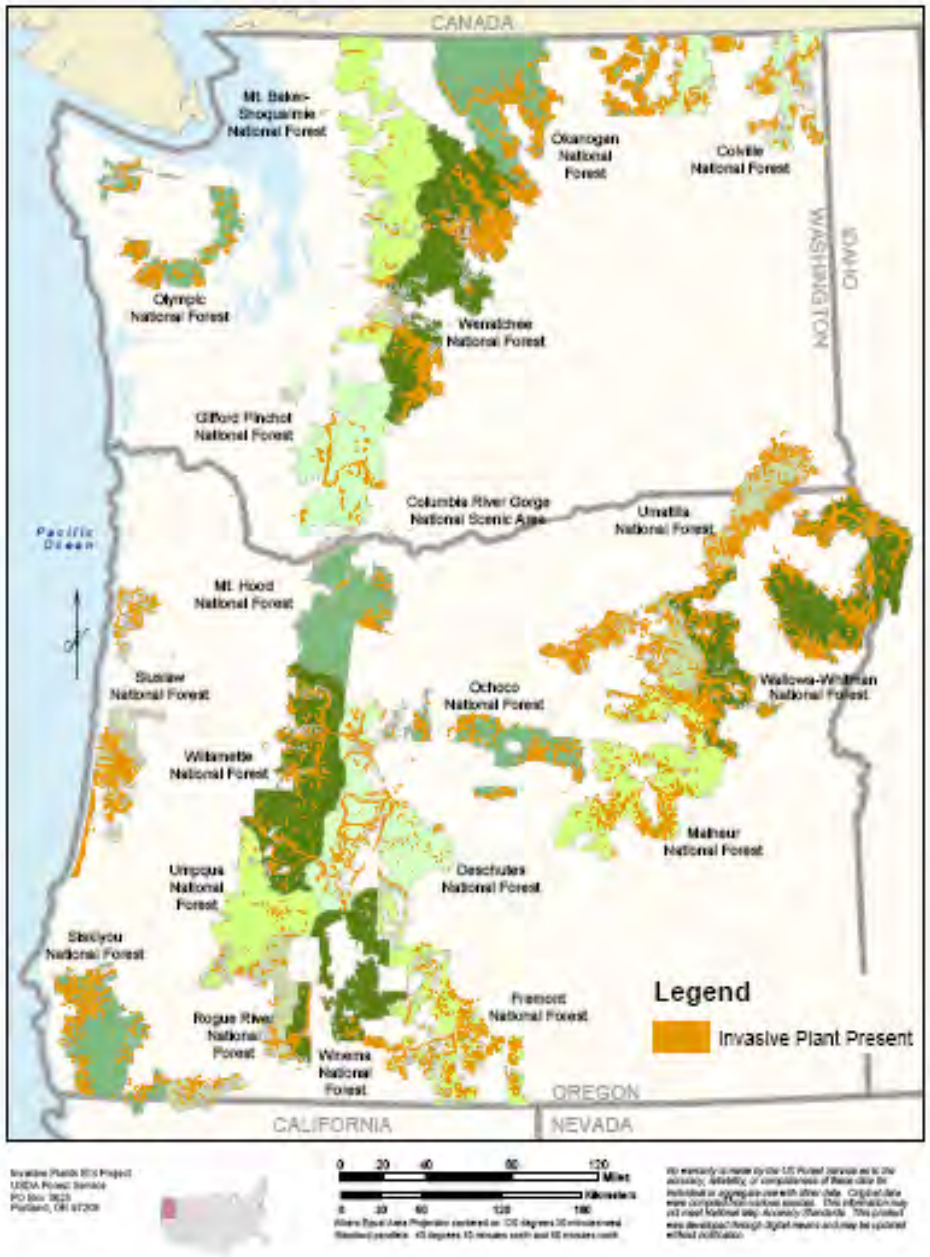
Pre Treatment Conditions

Post Treatment

Chipping Operations

Source – BLM

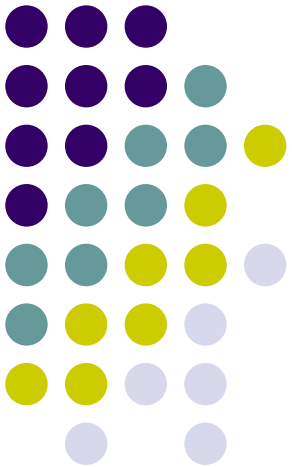
Figure 3-1 Invasive Plants Inventory, April 2003



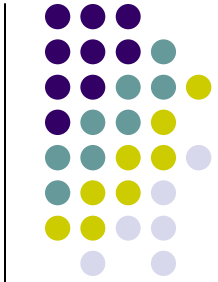
Major Issues Include:

- Changes in fire frequency, leading to type conversions of habitat (cheatgrass, Arundo)
- Changes in nutrient cycling (cheatgrass, knotweed)
- Toxicity to livestock (tansy ragwort, yellow starthistle)
- Loss of forage quality and quantity for big game (leafy spurge, knapweeds, yellow starthistle)
- Invasive shrubs acting as a population sink for native birds due to increased predation of nests within invasive shrubs (buckthorn)
- Changes in stream and river hydrology (knotweed, blackberry)
- Loss of nesting habitat and increased nest predation on endangered snowy plovers (European beachgrass)

Maintain soil, air, and water quality



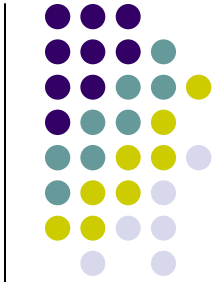
DEQ’s Role



DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

- Water Quality/Clean Water Act
- Air Quality/Clean Air Act
- Land Quality (solid and hazardous waste management, and cleanup)

DEQ Protects Water Quality for Beneficial Uses



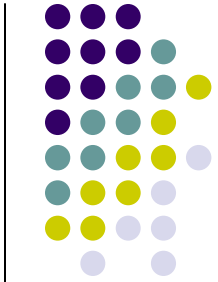
- Drinking Water
- Industrial Use
- Irrigation and Livestock Watering
- Aquatic Life
- Wildlife and Hunting
- Fishing and Boating
- Water Contact Recreation
- Aesthetic Quality
- Hydro Power
- Navigation and Transportation

Forests Benefit Water Quality

Riparian forest buffers help maintain in-stream water quality

- Stream Shade: temperature
- Bank Stability: temperature, sedimentation, turbidity
- Filtration: sedimentation, turbidity, temperature, nutrients, toxics
- Large Wood: sedimentation, temperature

Human Activities on Federal Lands Affect Water Quality



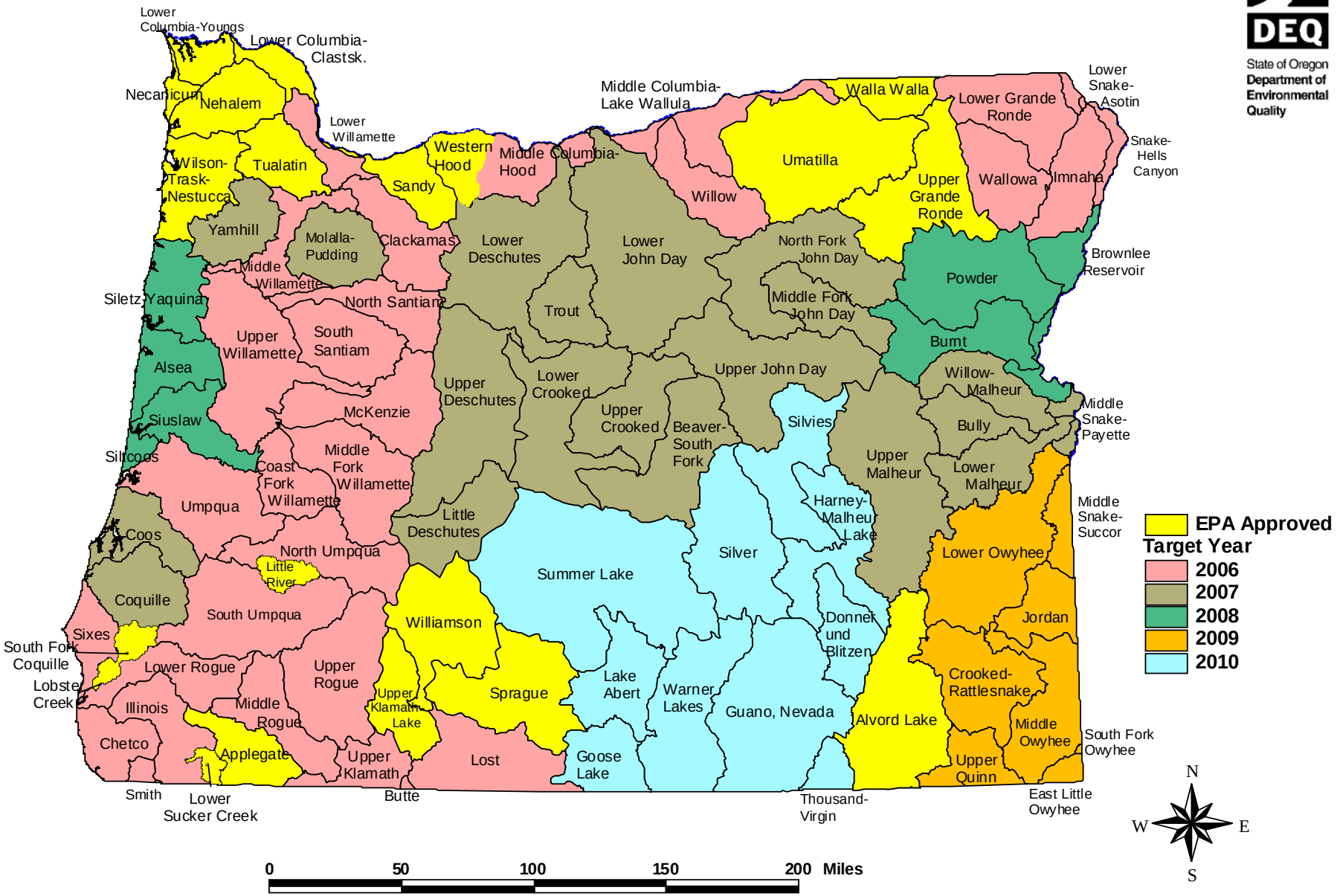
- Recreational use
- Road density and condition
- Timber harvest
- Fire/fuels management
- Reforestation
- Fertilization

- Invasive species and pest management
- Salvage logging
- Restoration activities
- Livestock grazing
- Mining

USFS and BLM's Role in Protecting Water Quality

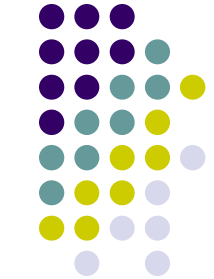
- In order to maintain and restore water quality on federal forestlands, USFS and BLM:
  - Develop and revise plans
  - Use and revise Best Management Practices
  - Monitor water quality
  - Track restoration efforts
  - Help DEQ conduct water quality assessments in watersheds
  - Coordinate with other land managers

Target Dates for Completion of TMDLs for 303(d) Listed Waters



State of Oregon
Department of Environmental Quality

Water Quality on Federal Lands 2002 Water Quality Assessment

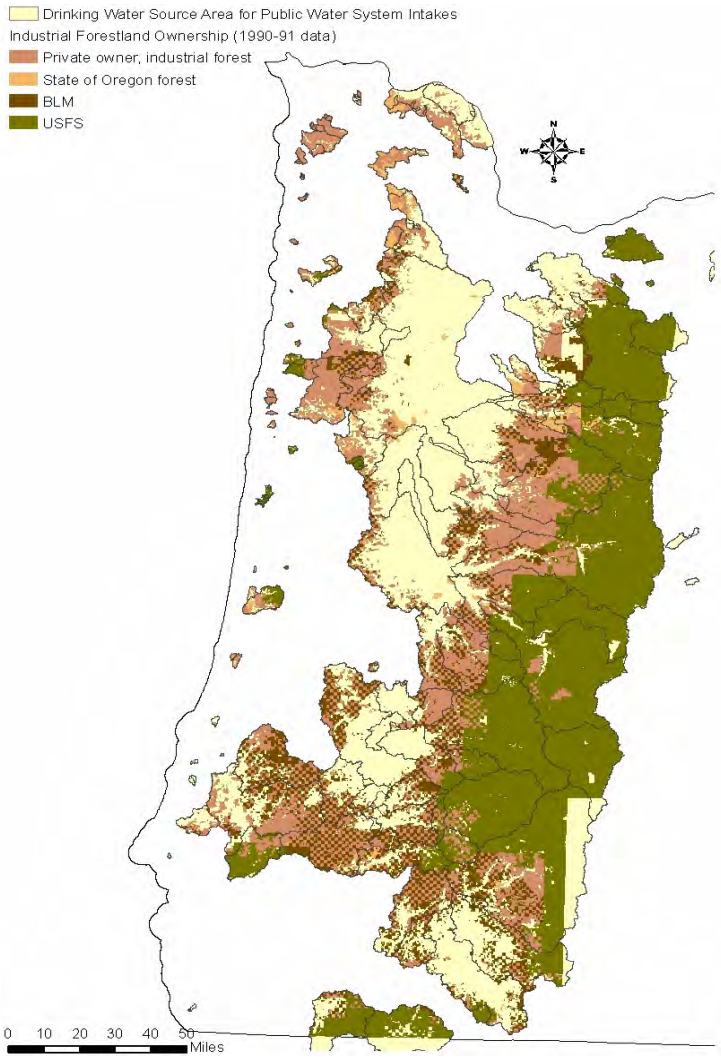


- Many miles of impaired streams that are in need of TMDL are on federal lands
  - 4700 stream miles due to high temperature
  - 340 stream miles due to sedimentation
  - 70 stream miles due to elevated levels of toxics.
- Impaired streams that were on previous lists but have TMDLs in place are no longer on the 303(d) list
- Uncertainties due to data gaps

Water Quality on Federal Lands Coho Study

- Within Coho Evolutionarily Significant Unit (mainly in Umpqua Watershed) on federal lands:
  - 16% wadeable streams did not meet the fine sediment benchmark
  - 77% wadeable streams exceeded Oregon's temperature benchmark

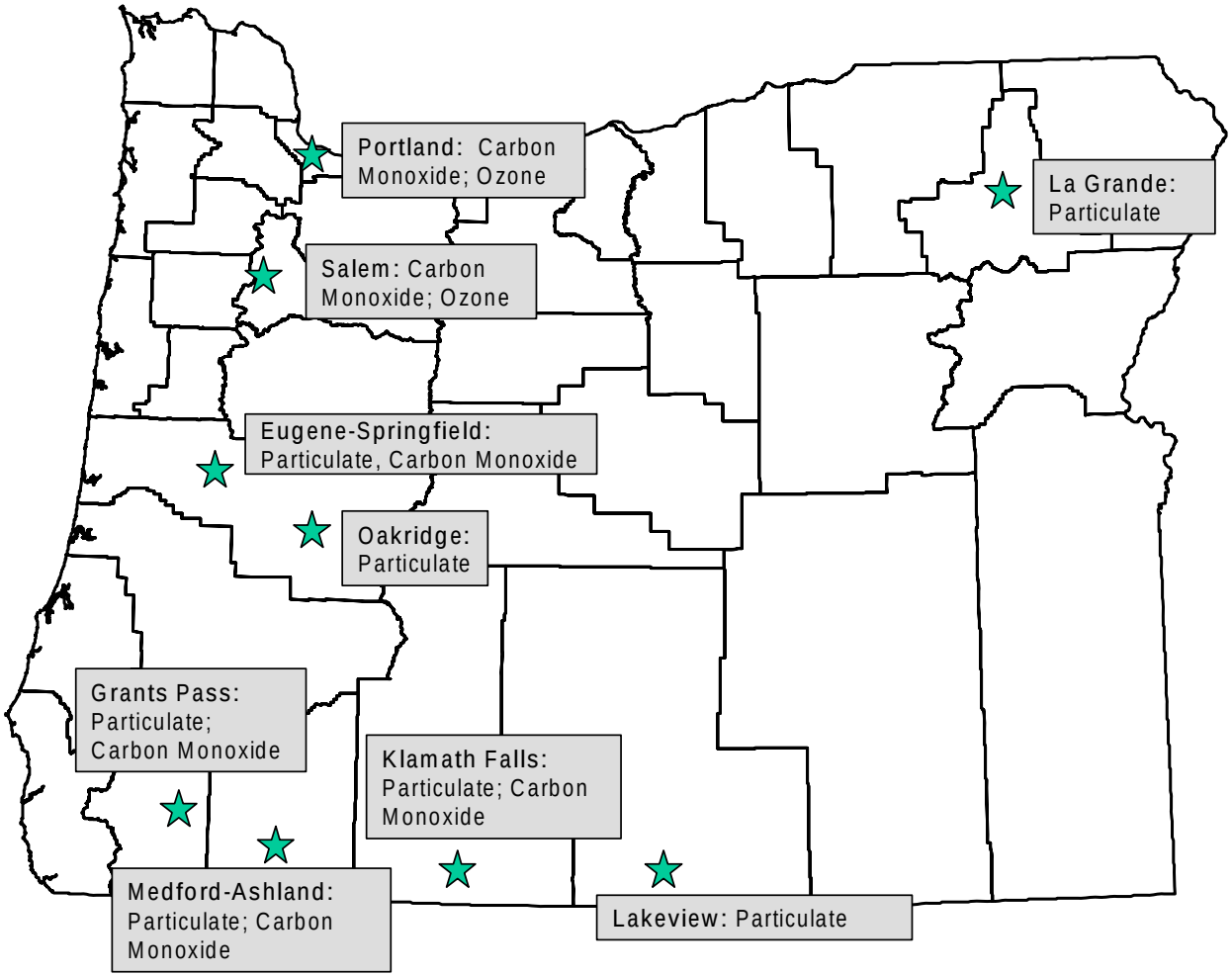
Public Water System Source Areas and Forestlands in Western Oregon



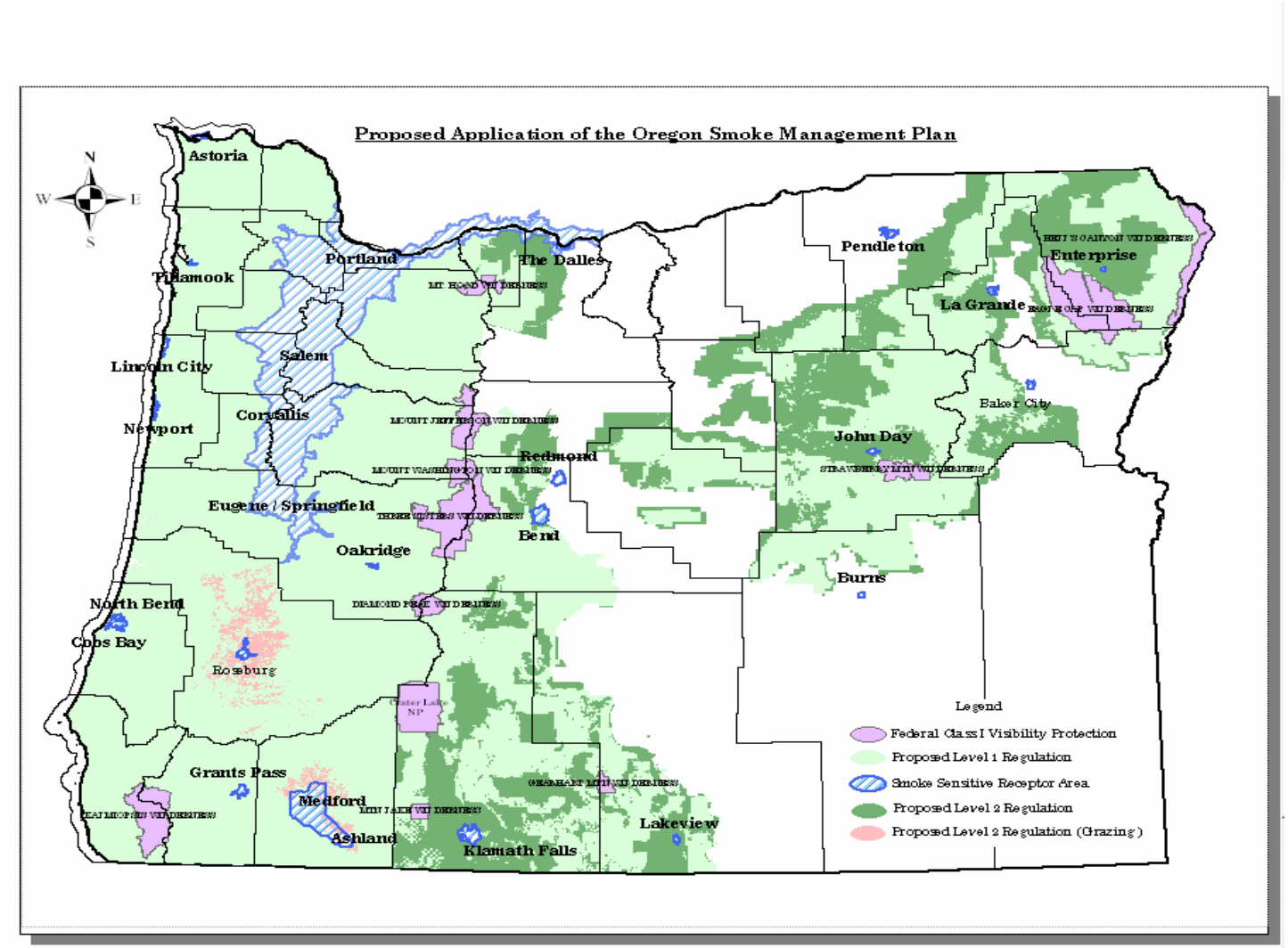
- Approximately 75% of Oregon's municipal watersheds are forestlands
  - USFS manages 4.3 million acres
  - BLM manages 2.6 million acres
- USFS/BLM acknowledge importance of their role in protecting municipal watersheds in planning
- Many Oregon public water systems have direct agreements with BLM and USFS for drinking water protection partnerships
- Primary issues of concern on federal forest lands are heavy recreation, road density, harvests/spraying, and fire retardants

Air Quality Maintenance Areas

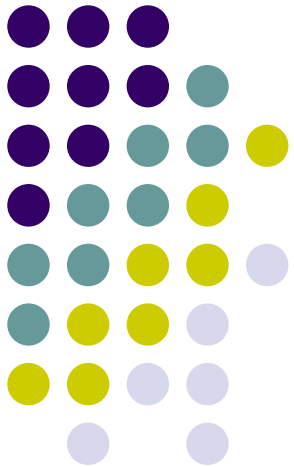
Areas that have violated federal standards



Smoke Protected Areas



Enhance Carbon Storage (Climate change)

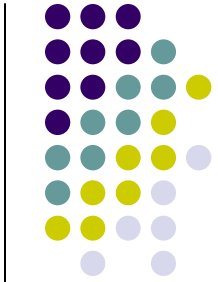


Forest Carbon Pool

Million metric tons

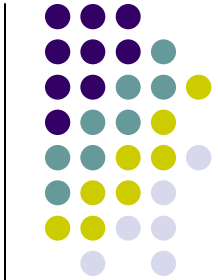
Forest Type	Age-class							
	0	1-29	30-59	60-99	100-149	150-199	200+	All
Douglas-fir	9.3	108.5	154.1	164.9	139.3	65.9	56.9	698.8
Ponderosa Pine	16.9	18.0	31.7	122.3	92.2	34.2	14.1	329.4
Spruce; Hemlock	0.1	3.3	5.2	8.9	7.7	2.1	1.9	29.3
True Fir	1.1	8.5	10.5	58.3	84.9	45.2	23.0	231.4
Lodgepole pine	5.1	16.6	12.9	31.8	24.2	7.6	2.2	100.2
Mixed conifer; Mixed deciduous	4.3	53.9	78.4	68.2	50.9	35.3	41.4	332.2
Deciduous	1.3	4.8	10.0	10.8	3.3	0	0.2	30.4
Regenerating Forest/Chaparral	6.9	0	0	0	0	0	0	6.9
Pinyon-Juniper	7.9	1.5	1.0	5.1	5.6	1.4	1.0	23.5
All	52.8	214.6	303.7	470.3	408.1	191.6	140.6	1,782.1

Oregon forest contribution to global carbon budget



Component	Carbon flux (million metric tons/year)
Growth	19.7
Mortality	-2.5
Logging residue	-1.5
Total tree carbon flux	15.7

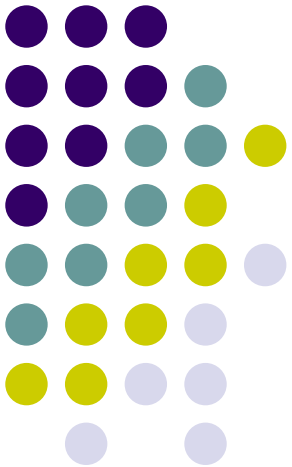
Climate Change



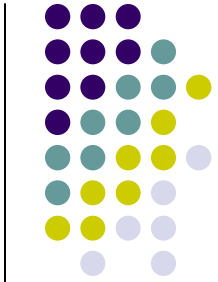
- Increase in rare wildland fire conditions
- Fire - primary agent of vegetation change
- Wholesale conversions of habitats
  - Temperate dry forests to grasslands
  - Moist tropical forests to dry woodlands
  - High-severity fires eliminate entire forests
- Greater risk of extinction
- Recommended actions include:
  - Identify fire-dependent or fire-sensitive ecosystems
  - consider climate change and variability when developing plans
  - Consider alternate climate scenarios when determining post-fire vegetation management
  - Reduce uncharacteristic fuel levels

Source: ASSOCIATION FOR FIRE ECOLOGY. SAN DIEGO DECLARATION ON CLIMATE CHANGE AND FIRE MANAGEMENT

Maintain socio-economic benefits

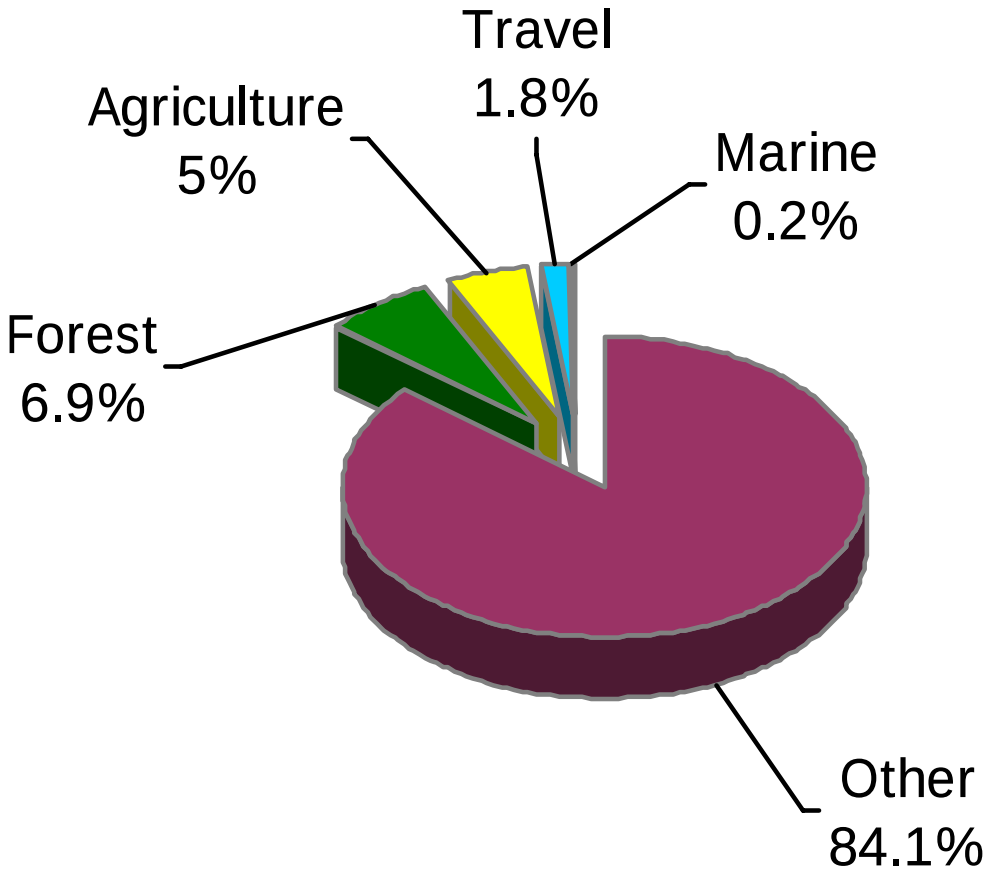


Oregon's Major Industries 2002



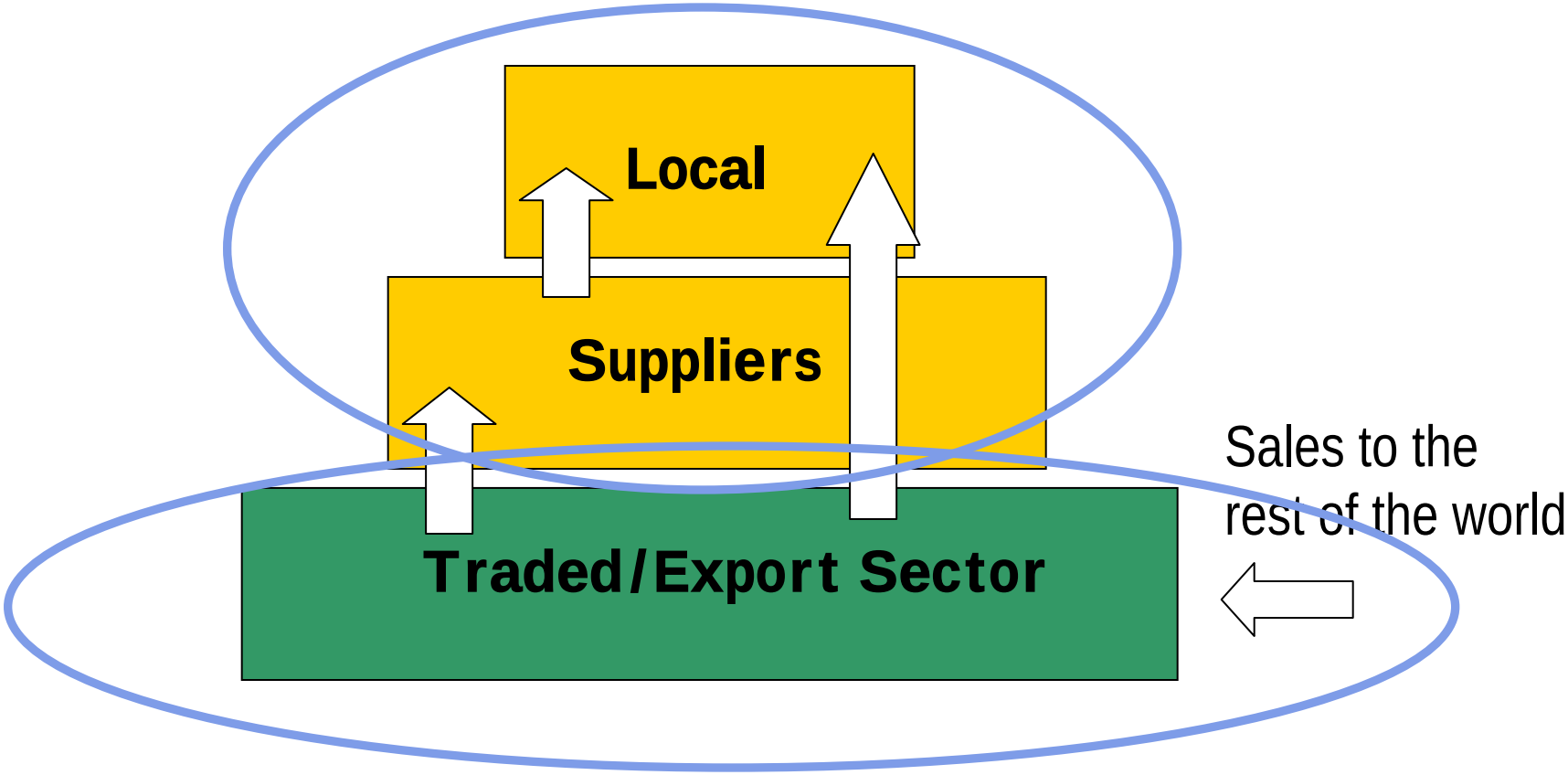
Industry	Gross Product
• High Technology	$13.2 Billion
• Forestry and Wood Products	$ 4.1 Billion
• Agriculture & Food Processing	$ 3.8 Billion
• Metals/Transportation Equipment	$ 2.4 Billion

Total Industrial Output
Oregon, 2002



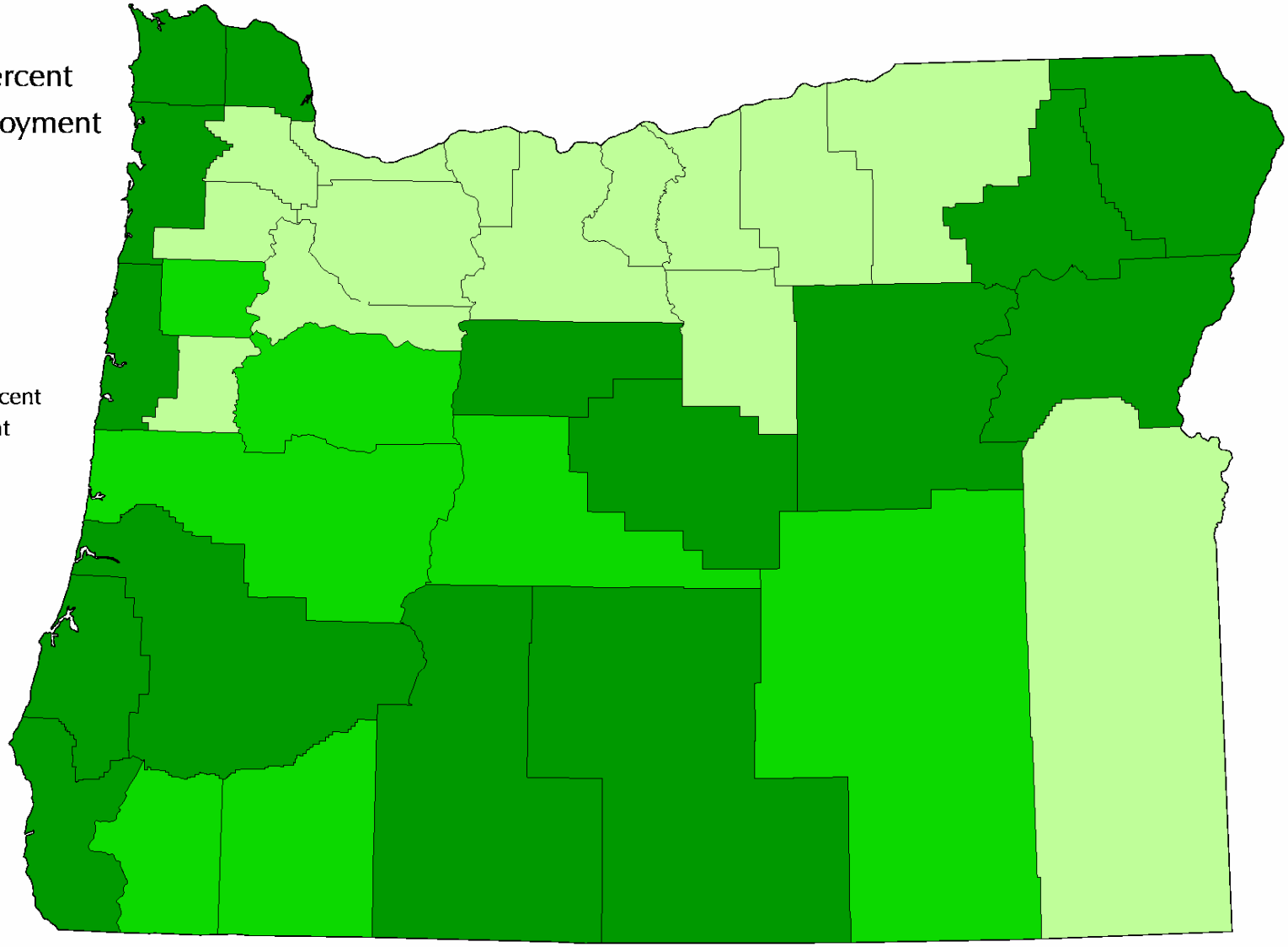
Traded Sector Drives Growth

Most jobs are here: schools, hospitals, grocery stores, restaurants



But firms in this sector drive the economy

Forest Sector as a Percent of Traded Sector Employment 2001

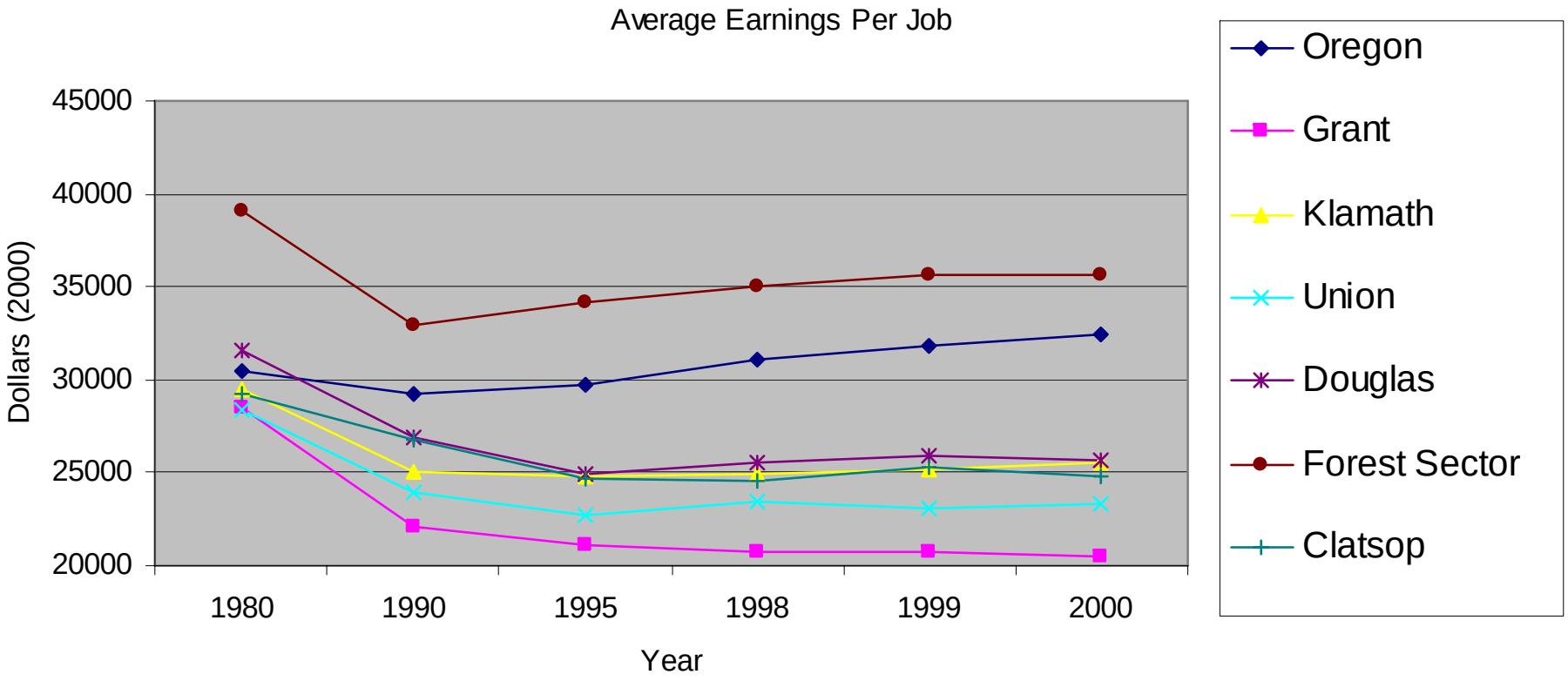


Data from:

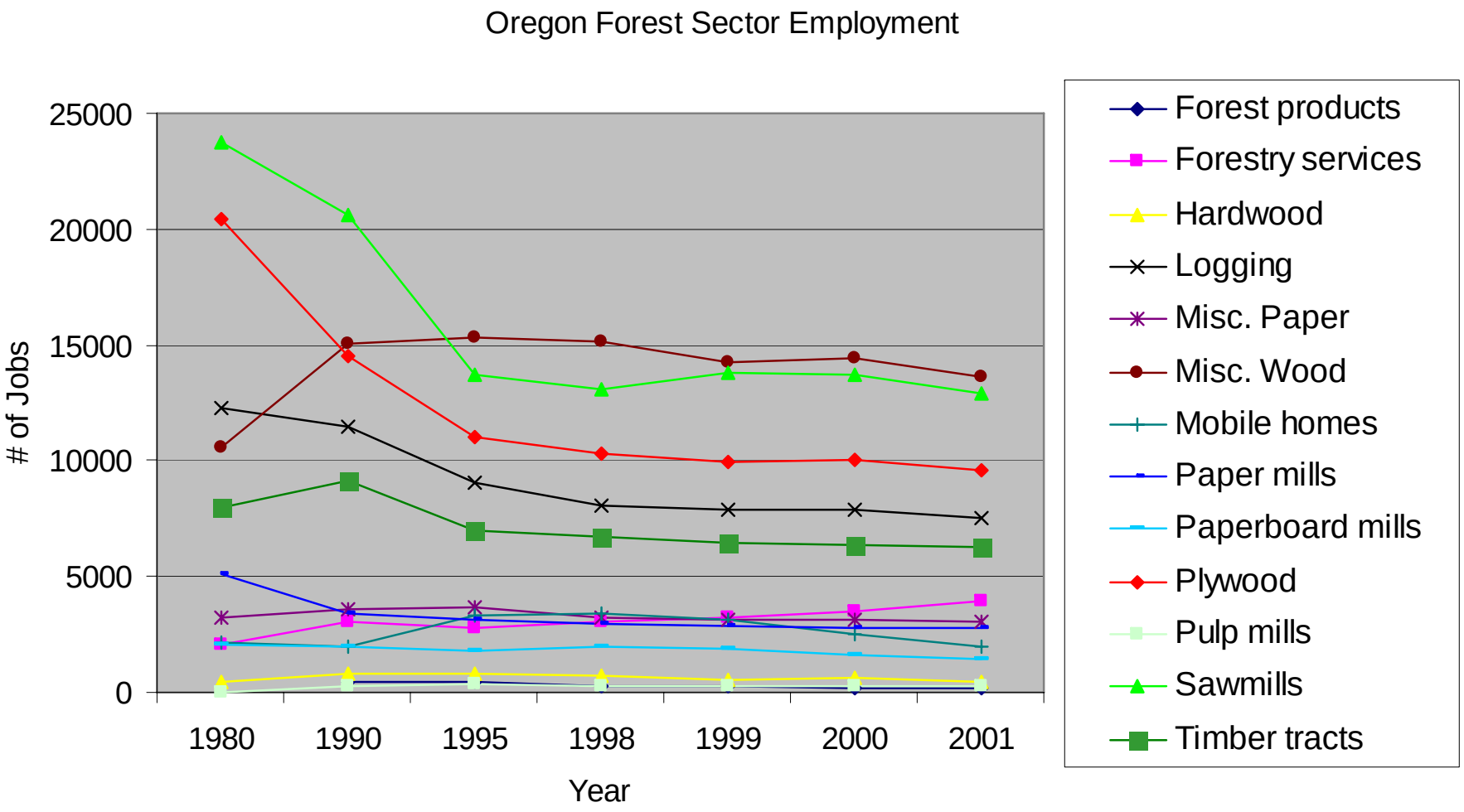
Covered Employment and Wages.
Oregon Employment Department,
Workforce and Economic Research

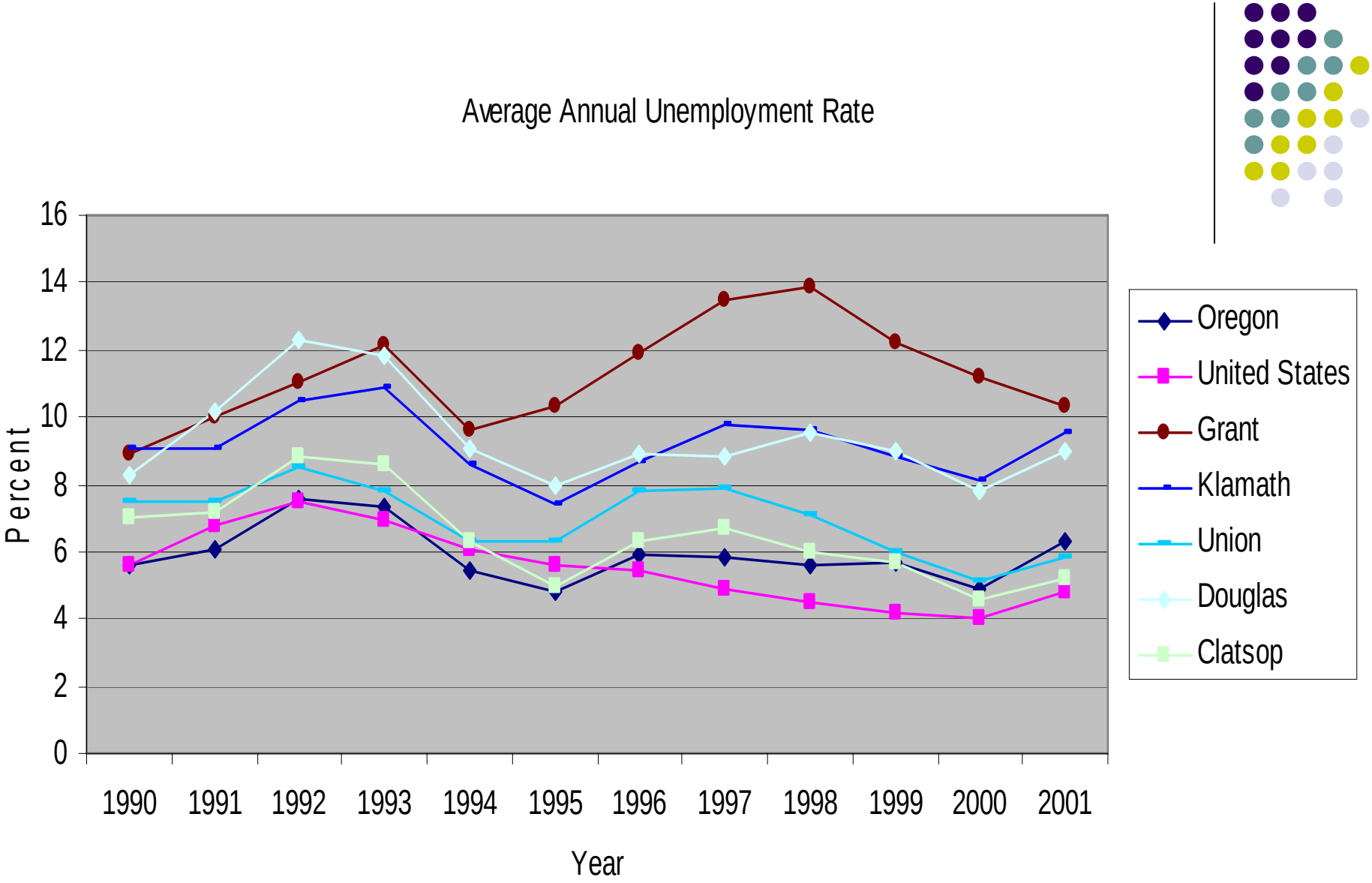
/odf/rp26/giscommon lam/zplot04/05/04

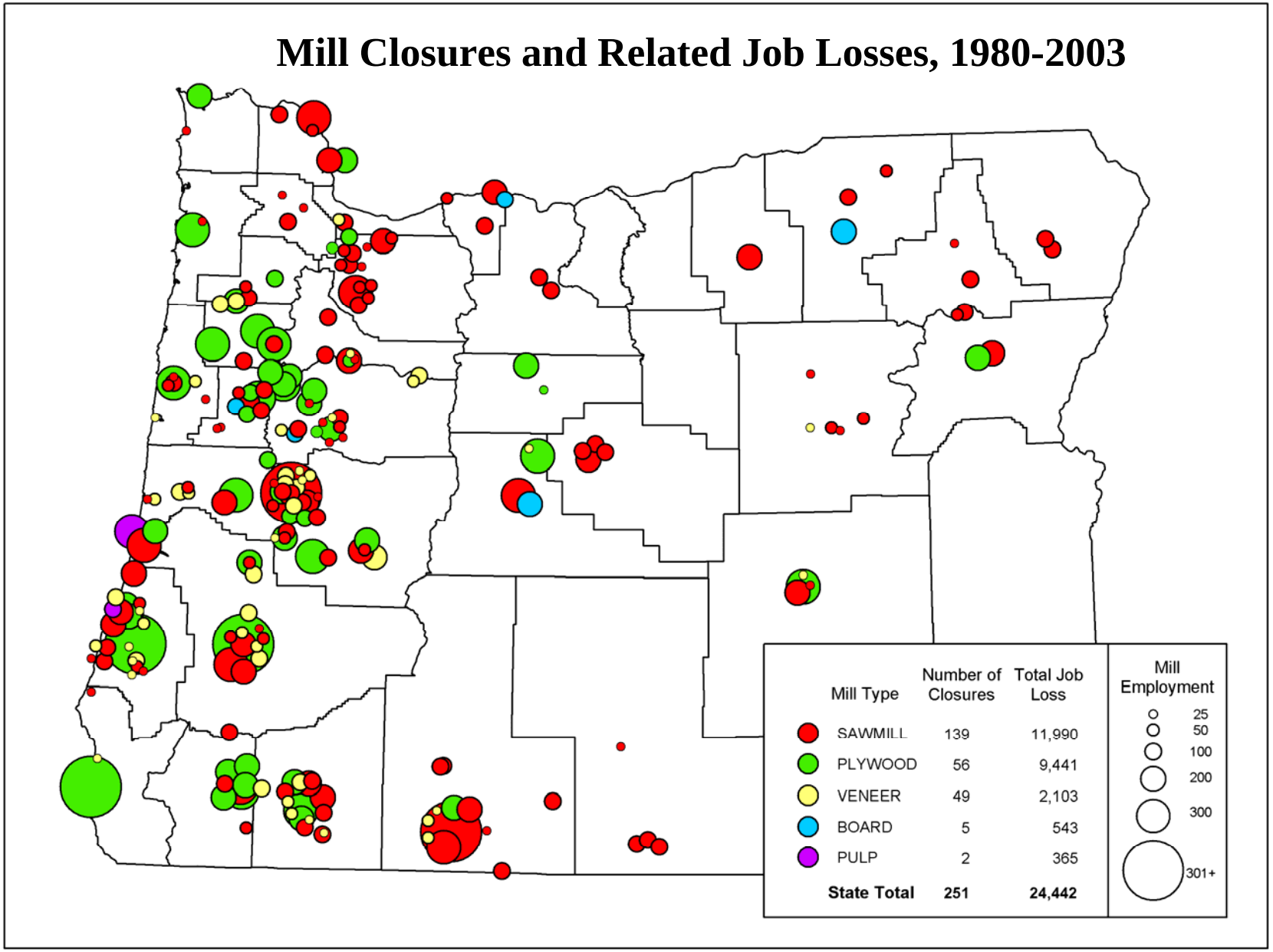
Average Earnings Per Job



Oregon Forest Sector Employment

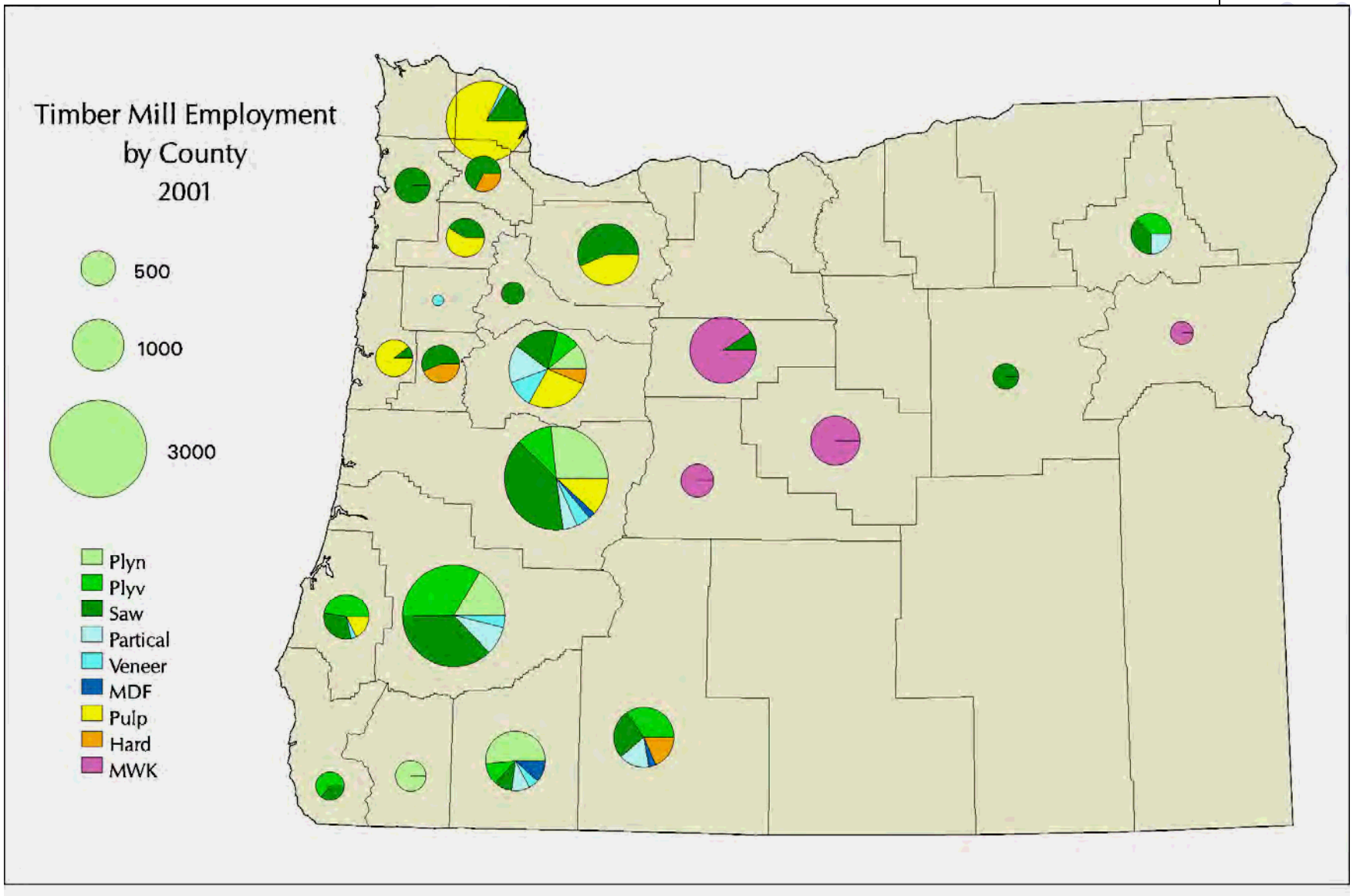



Average Annual Unemployment Rate
Percent
16
14
12
10
8
6
4
2
0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
Year
Oregon
United States
Grant
Klamath
Union
Douglas
Clatsop

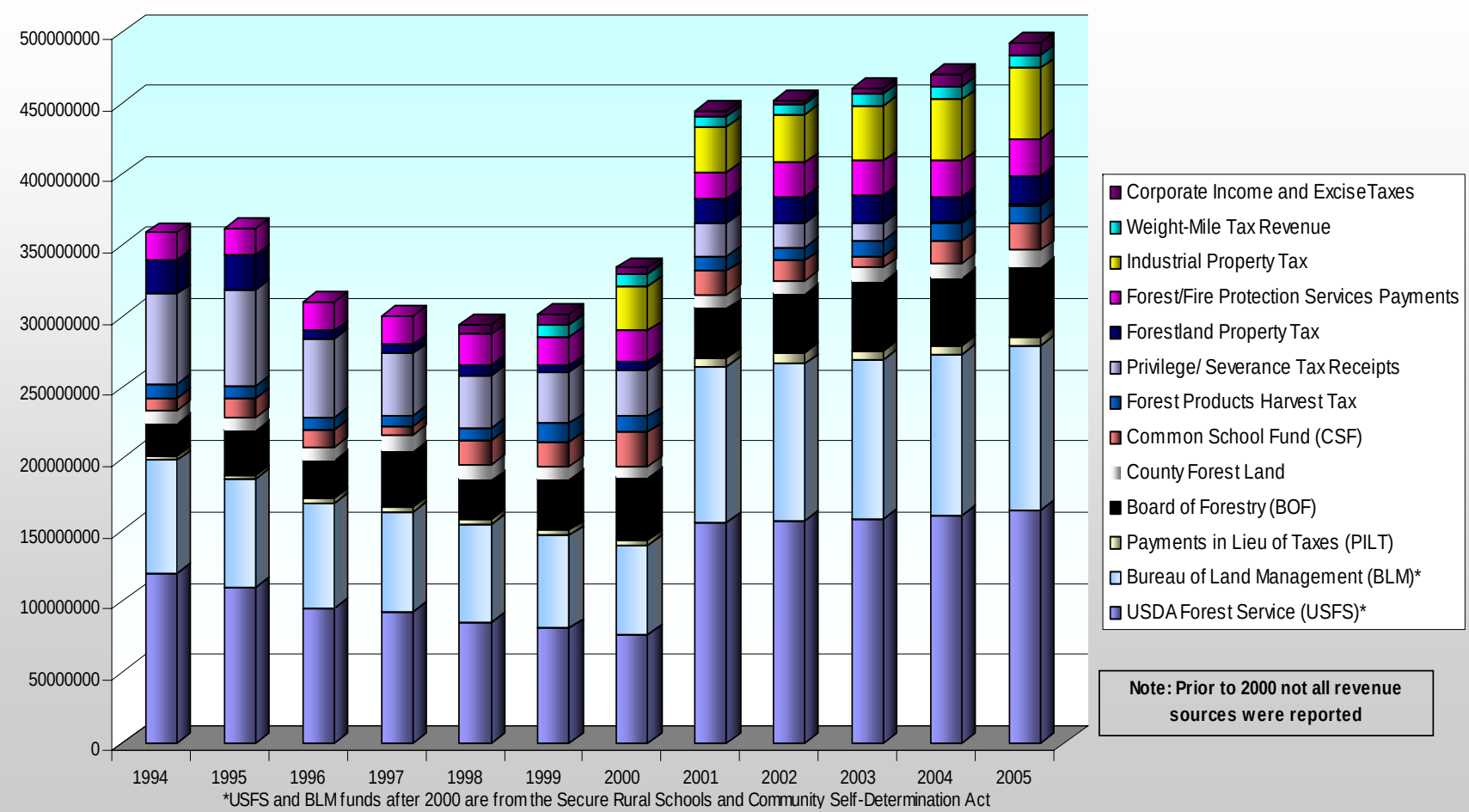


Source: Ehinger and Associates, 2003

E. OR Losing the Infrastructure Needed to Support a Viable Industry and Conduct Fuel Reduction Thinnings

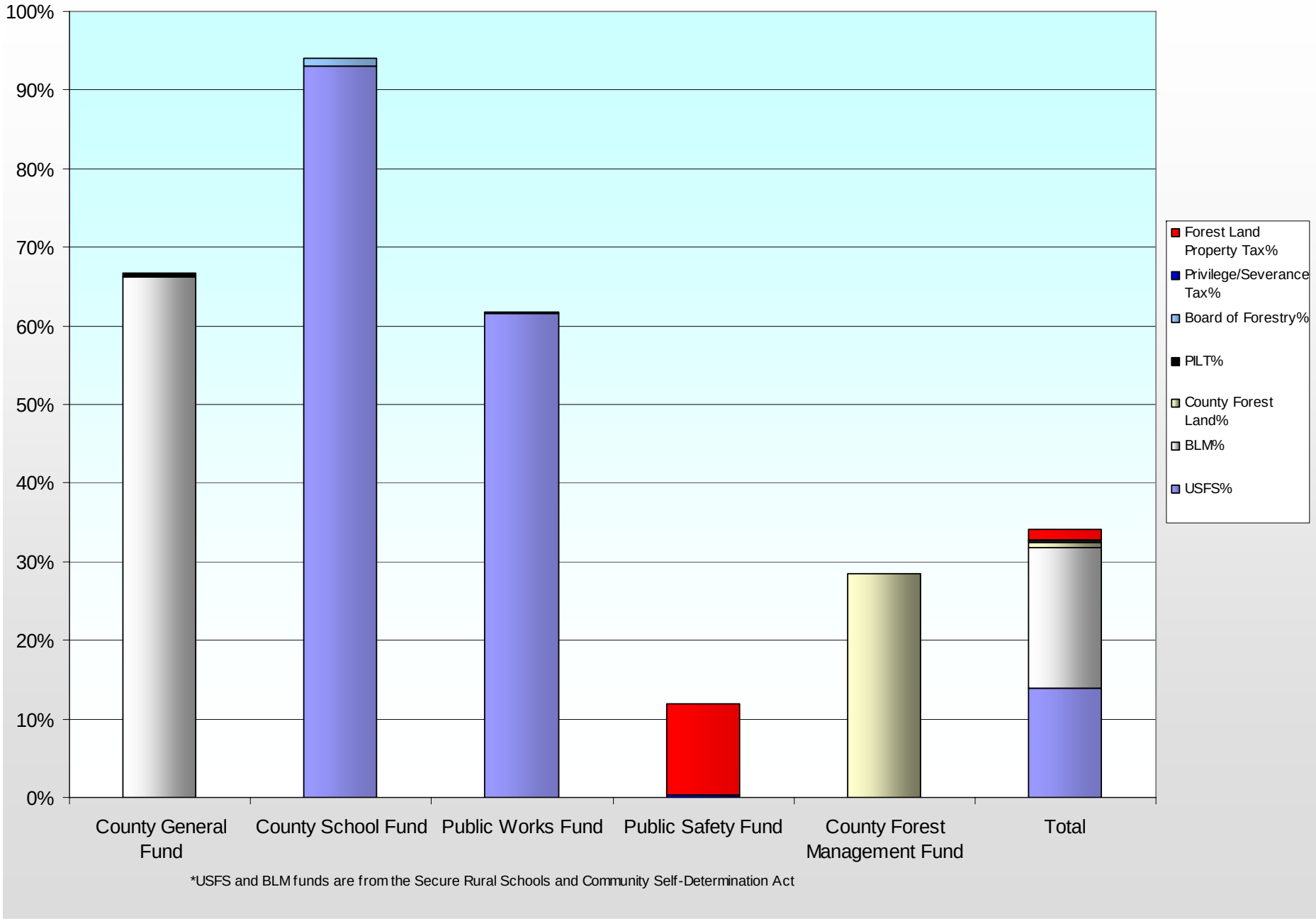


Oregon Forest Revenues to Counties 1994-2005



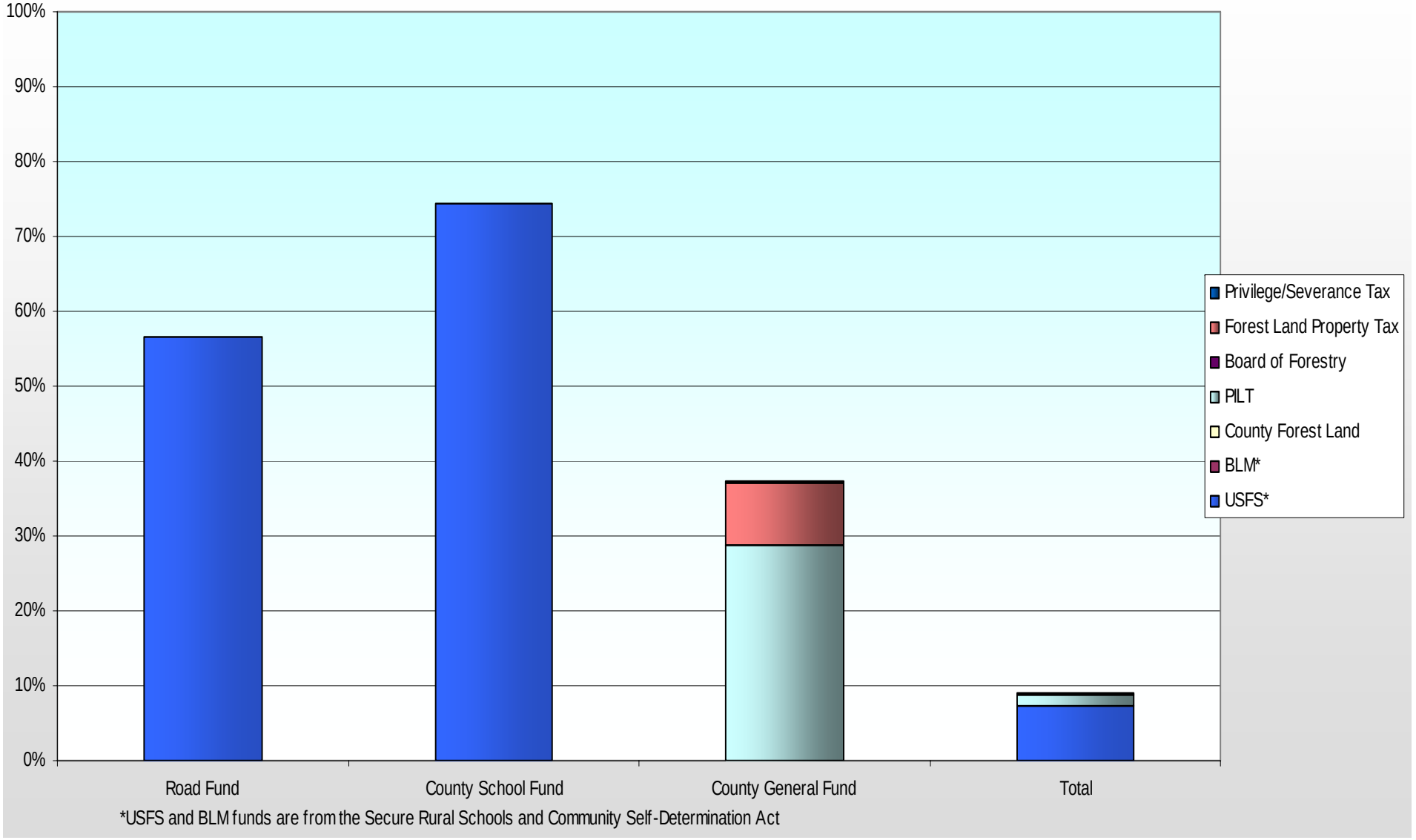
DRAFT

Forest Revenues as a Percent of Douglas County's 05-06 Budget



*USFS and BLM funds are from the Secure Rural Schools and Community Self-Determination Act

Forest Revenue as a Percent of Wallowa County's 05-06 Budget

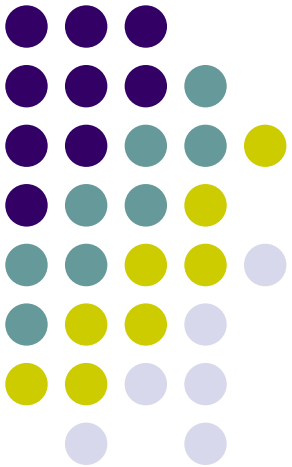


*USFS and BLM funds are from the Secure Rural Schools and Community Self-Determination Act

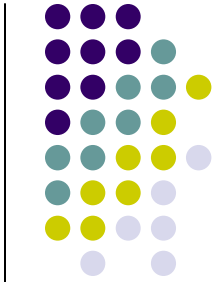
Summary

What have we learned?

What are the major concerns?



Maintain Plant and Animal Populations (Biodiversity)



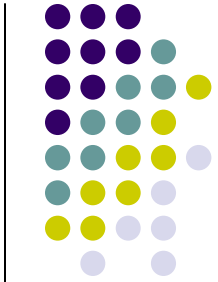
Maintain Productive Capacity (Economic well-being)

- Oregon's forest landbase has been relatively stable but may decline – Measure 37
- Timber harvest levels that can be sustained on public land under plans has declined dramatically
- Growth substantially exceeds harvest on public lands
- Harvesting at an unsustainable rate on private lands in E. OR

Maintain Forest Health

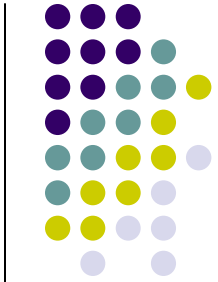
- >20 million acres are overstocked, and in danger of burning uncharacteristically
- Legacy of dead and dying trees from insect activity
- 100K’s acres of invasive spp. on FS lands
- May be losing ecosystem components

Maintain soil, air, and water quality



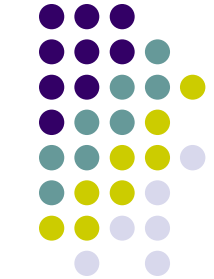
- Water quality standards are benchmarks - adequate for fish and other aquatic life, recreation, drinking, and other uses. Although there are data gaps, impairments due to high temperature, sedimentation, and other parameters on federal lands are identified in the State's Water Quality Assessment Reports
- Air Quality - statewide concern affected by prescribed burns and wildfire

Enhance Carbon Storage (Climate change)



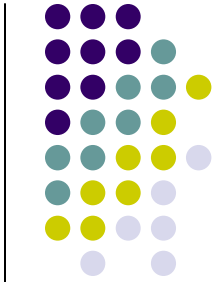
- Currently storing carbon in OR forests
- Climate change and fire could affect balance
- Risk of rapid habitat changes
  - Temperate dry forests to grasslands
  - Moist tropical forests to dry woodlands
  - High-severity fires eliminate entire forests

Maintain socio-economic benefits



- Forest industry is important to the traded sector in rural OR
- Declining employment and infrastructure
- High unemployment and loss of high paying jobs
- Rural wages flat or declining in some areas
- Spending on services is threatened

Questions for FFAC



- Areas to concentrate in 10-page summary?
- Additional information needed for vision and goals or to select top-ten issues?