WASHINGTON STATE DEPARTMENT OF

Natural Resources

Peter Goldmark - Commissioner of Public Lands

Olympic Experimental State Forest
Forest Land Planning
and
Draft Environmental Impact Statement

Informational Workshops

Olympia and Forks

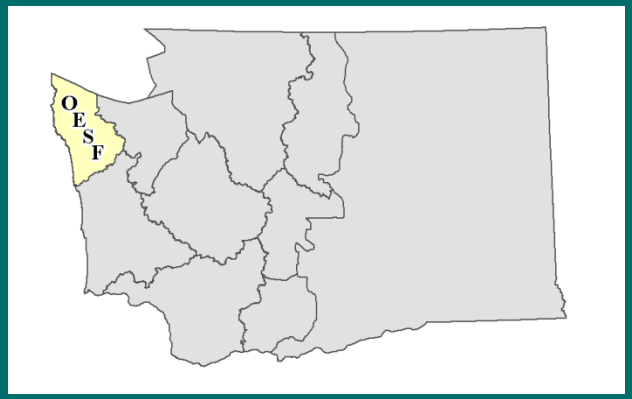
May 24th and 27th, 2010

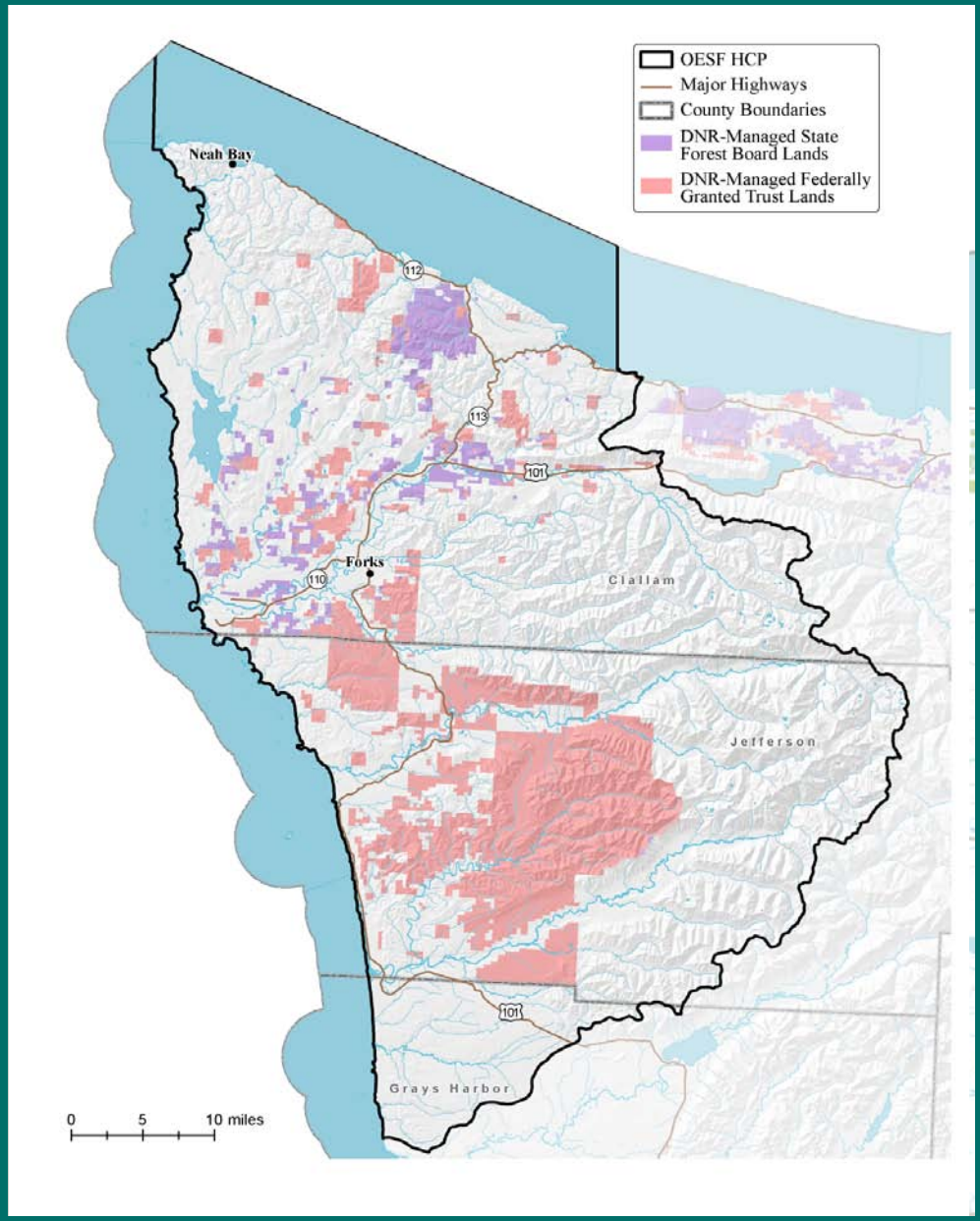
Purpose of this Workshop

- Share Information about the Draft Environmental Impact Statement (EIS)
  - Background
  - Environmental Analysis

Part One
Background

Where is the Olympic Experimental State Forest?





Vision of the Olympic Experimental State Forest

- An “unzoned forest”
- A place to learn how to integrate commodity production and conservation across the landscape

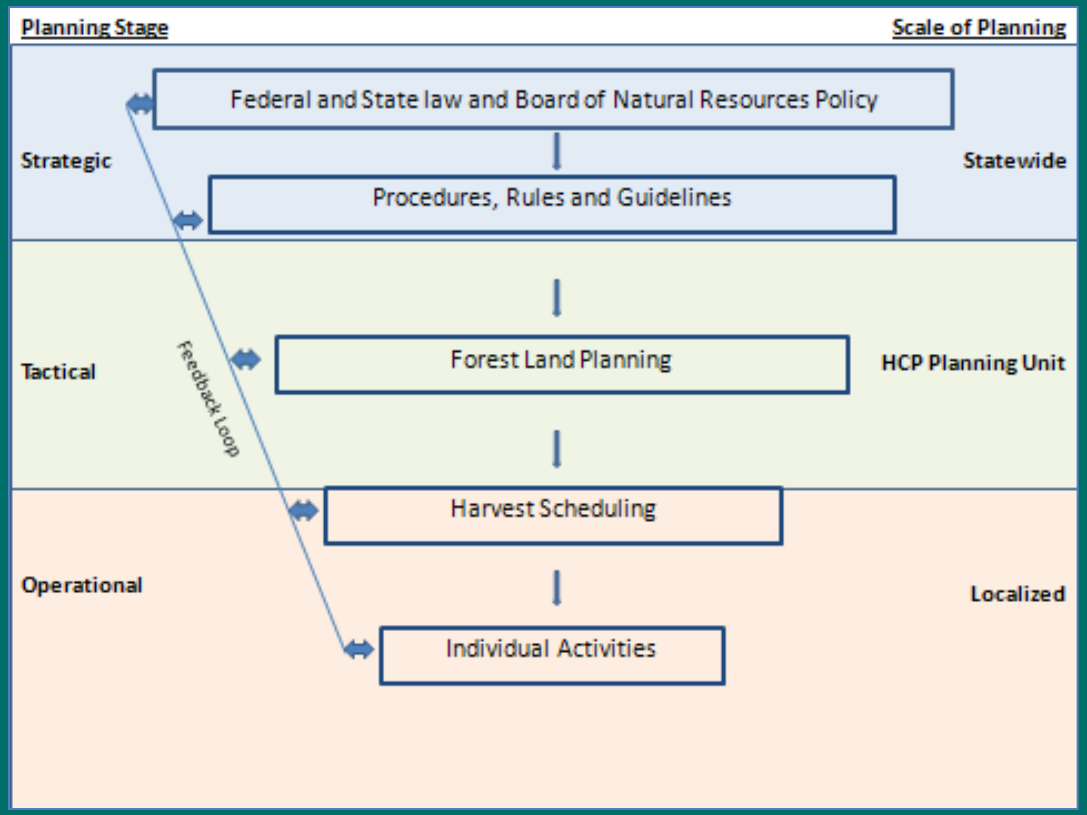
Photo: DNR/Peter Harrison

Six Management Process

1. Research and monitoring
2. Planning from a landscape perspective
3. Silviculture techniques that integrate production and conservation
4. Application of knowledge gained
5. Efficient information management
6. Effective communication

Forest Land Planning

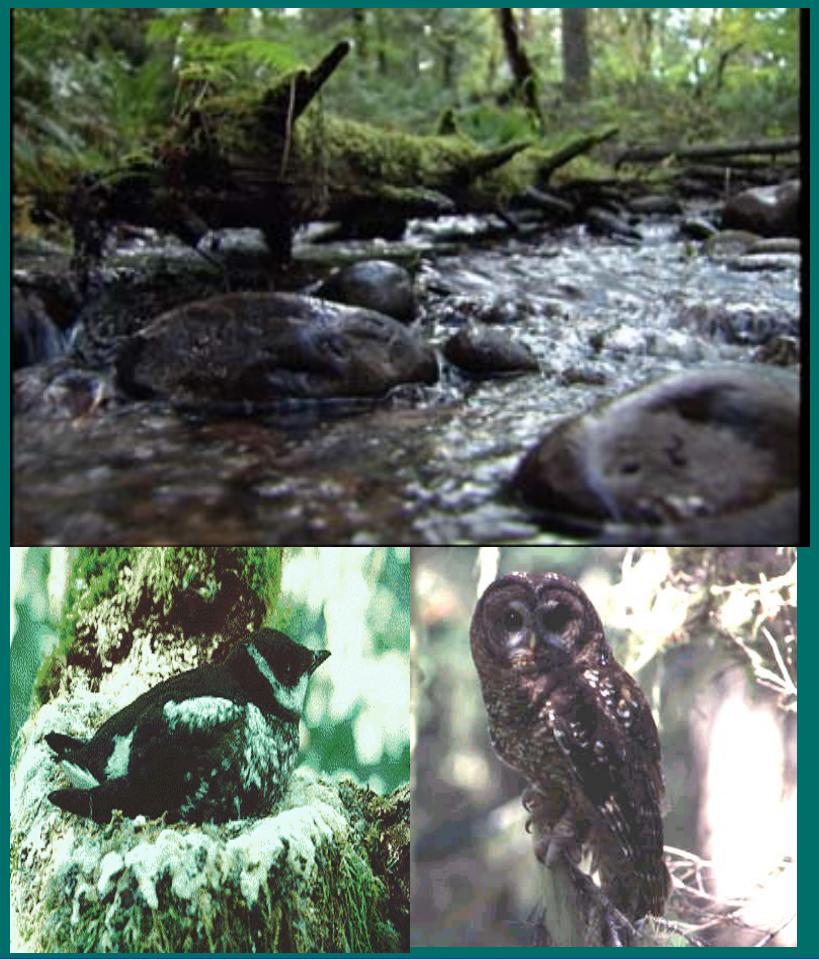
- Develops landscape management strategies to attain stated policy objectives



DNR's Hierarchical Planning Model

Habitat Conservation Strategies

1. Riparian ecosystems
2. Northern spotted owl
3. Marbled murrelet
4. Unlisted species



Experimental Nature of the Conservation Strategies

1. Working hypotheses
2. Two phases
   i. Restoration
   ii. Maintenance
3. Interlinked
4. Planning

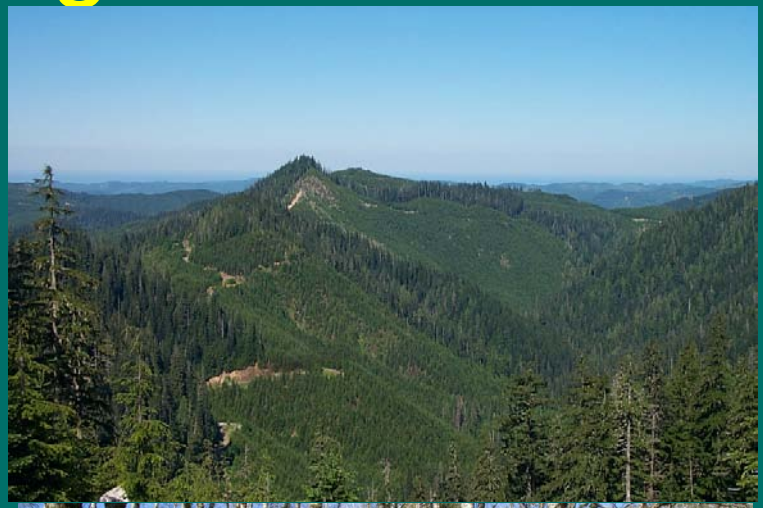


Photo: DNR/Richard Bigley

Goal of the Proposal

- Identify the optimal management regimes for each landscape within the OESF to achieve DNR's stated management objectives

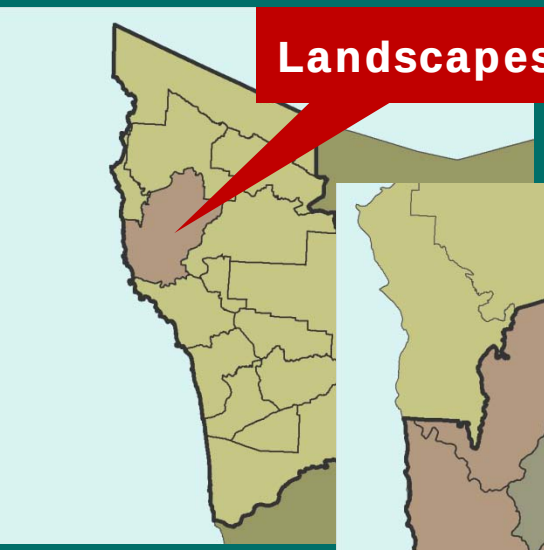
Alternatives

- No Action Alternative
- Landscape Alternative

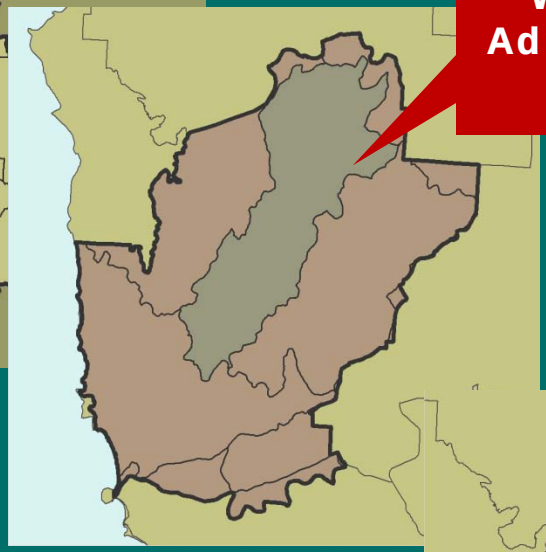
No Action Alternative

- Represents the Twelve-Step Watershed Assessment Process
- DNR needs to complete the assessment process across all 594 Type 3 watersheds
- Developed a modeling process

Scale of the Analysis

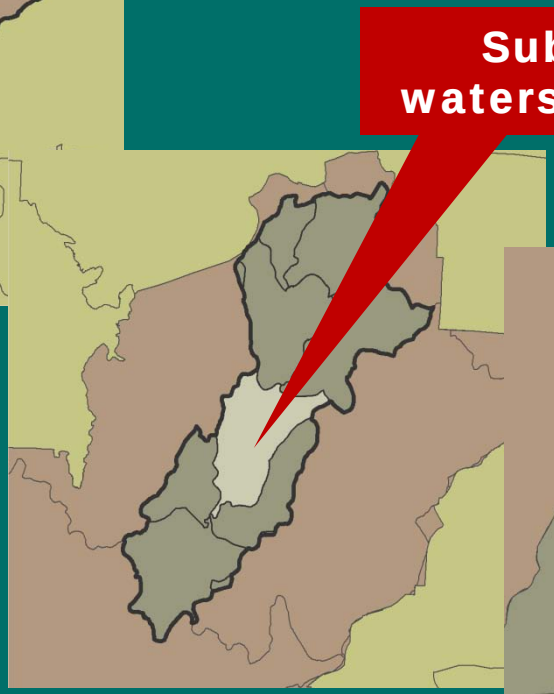


11 Landscapes



33 Watershed Administrative Units (WAUs)

17 WAUs in which DNR manages 20 percent or more of forested area



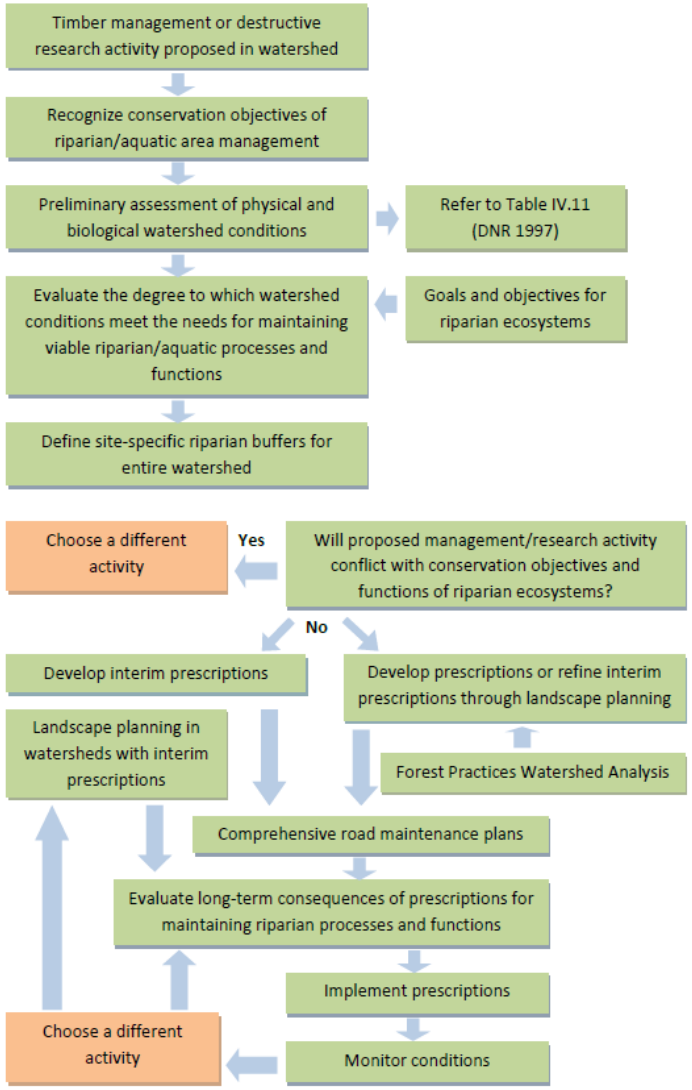
195 Sub-watersheds

594 Type-3 watersheds

Numbers represent areas in which DNR manages land

Twelve-Step Watershed Assessment Procedure

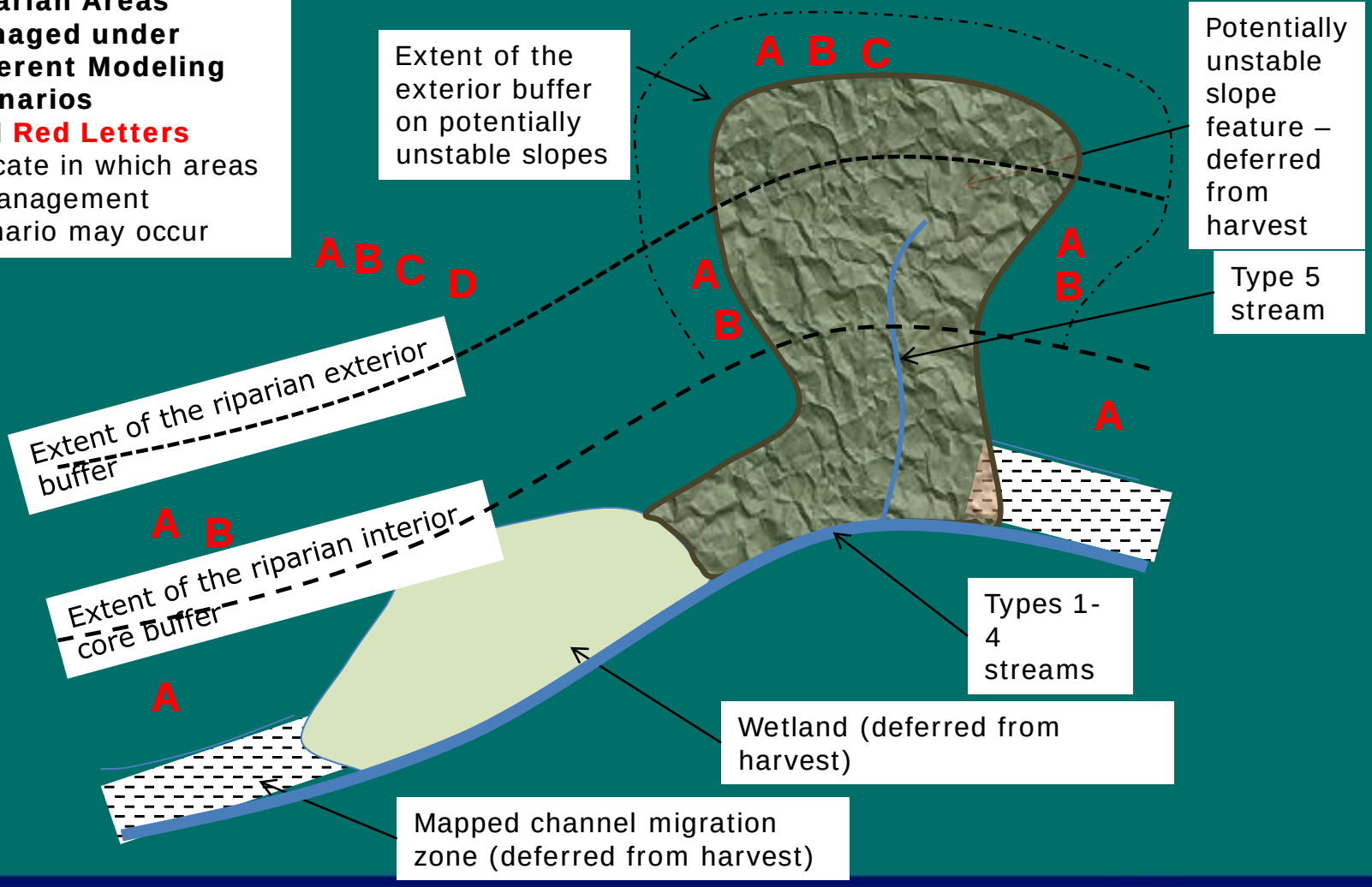
- Interim strategy until landscape planning was conducted
- Involved watershed analysis assessments
- Conducted as a result of proposed management action



Twelve-Step Watershed Assessment Procedure for Meeting Riparian Conservation and Management Objectives in the Olympic Experimental State Forest (DNR 1997, p. IV.129)

What does the Twelve-Step mean?

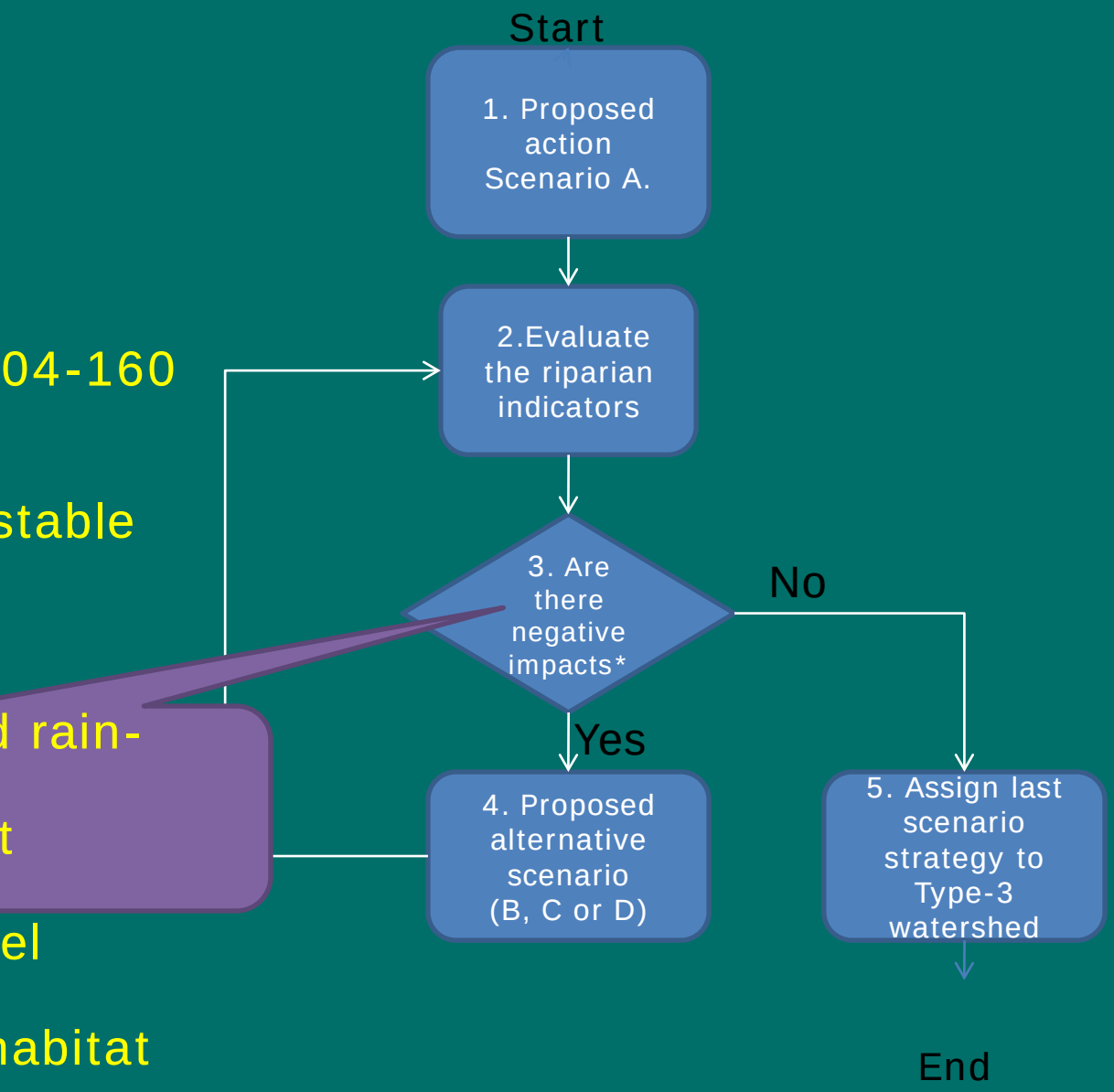
Riparian Areas Managed under different Modeling Scenarios
Bold **Red Letters** indicate in which areas a management scenario may occur



Modeling the Watershed Assessment Procedure

- Procedure 14-004-160 contains six assessments:

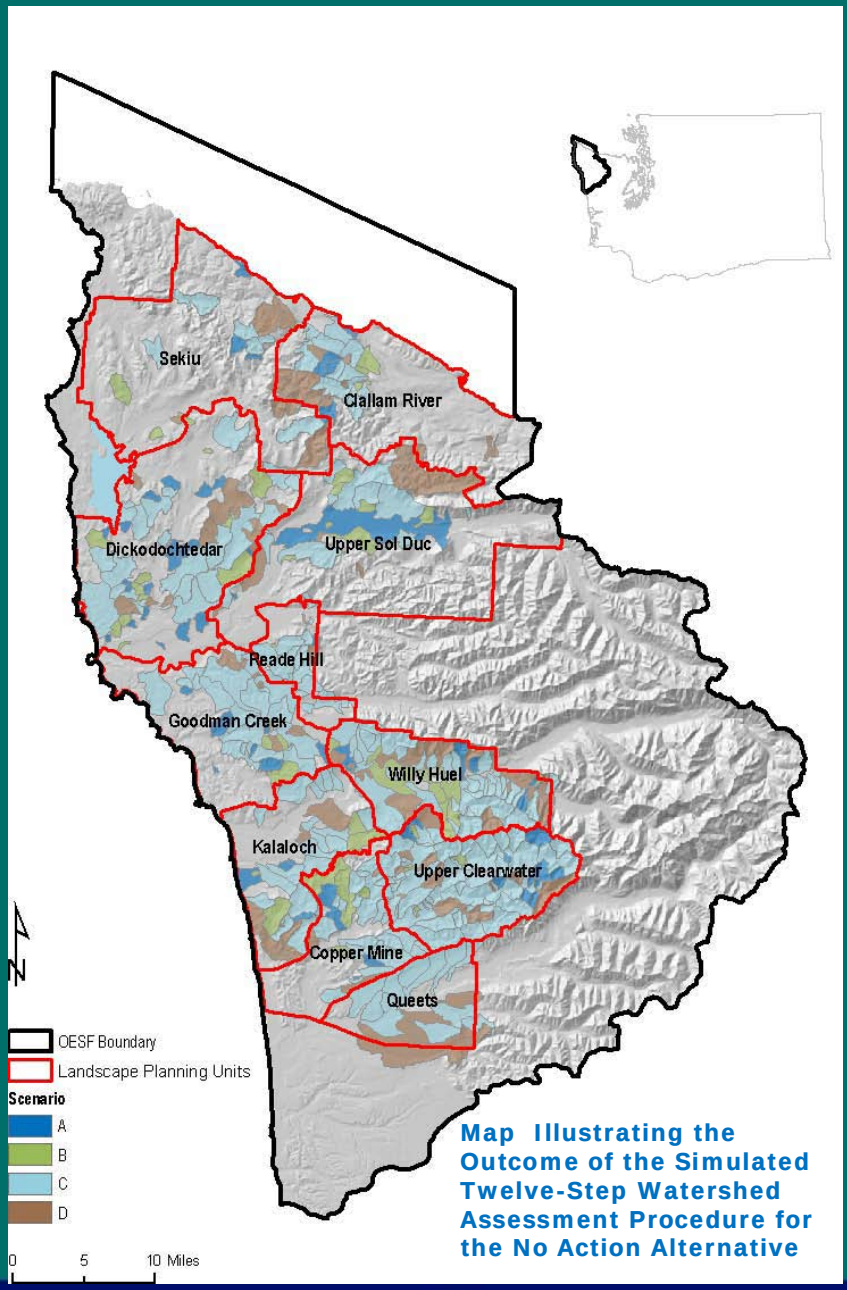
1. Potentially unstable slopes (mass wasting)
2. Road network
3. Hydrology and rain-on-snow
4. Riparian forest condition
5. Stream channel condition
6. Fish use and habitat



Outcome of the assessment process

- Each of the 594 Type 3 watersheds assigned a management scenario

Landscapes	Number of Type 3 watersheds	Scenarios A	B	C	D
Clallam-River	52	16	5	14	17
Copper-Mine	24	5	3	11	5
Dickodochtedar	95	34	19	26	16
Goodman-Creek	53	16	5	23	9
Kalaloch	52	8	5	24	15
Queets	27	1		16	10
Reade-Hill	25	2	3	15	5
Sekiu	47	11	6	12	18
Upper-Clearwater	84	12	5	53	14
Upper-Sol-Duc	54	6	11	21	16
Willy-Huel	81	14	10	42	15
Grand Total	**594**	125	72	257	140

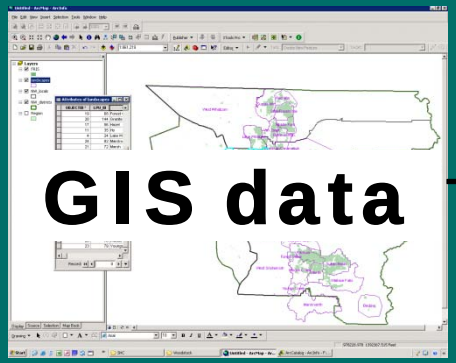


Map Illustrating the Outcome of the Simulated Twelve-Step Watershed Assessment Procedure for the No Action Alternative

Landscape Alternative

- Uses landscape planning decision-making framework to assess and make recommendations about the riparian conservation strategy
- Includes Twelve-Step Watershed Assessment Procedure – selected criteria and indicators are included in the forest-estate model

Forest-Estate Model



GIS data

Yields

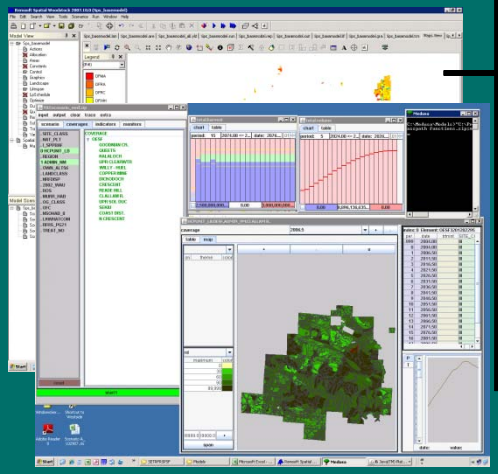
Added Yields:
- LWD
- Shade
- Peak Flow

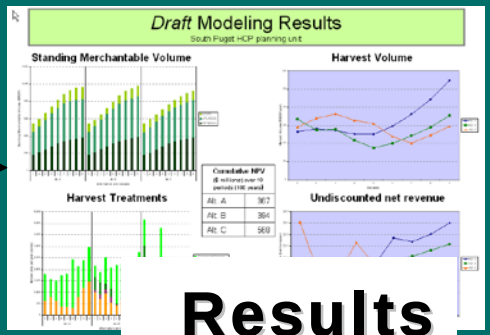
Objectives

Added Objectives:
- LWD
- Shade
- Peak Flow

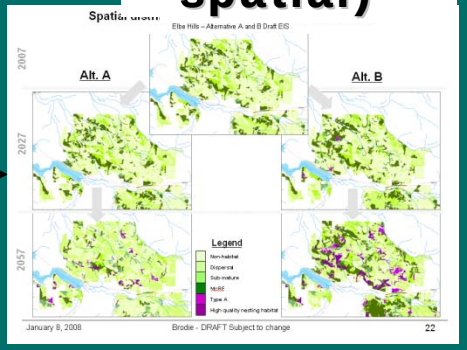
Model

Remsoft's Spatial Planning System





Results (Tabular and spatial)

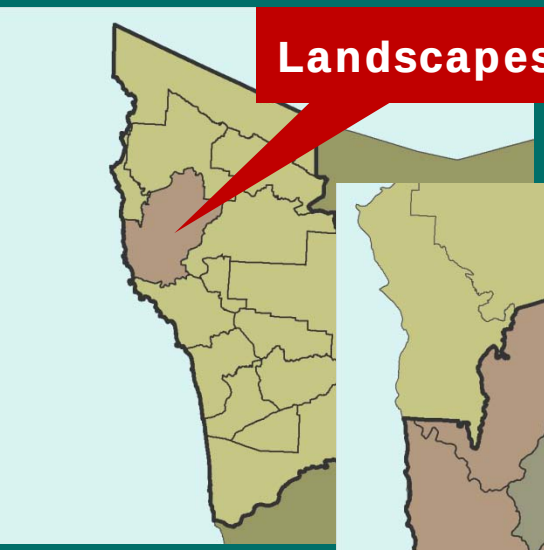


Summary of the Alternatives

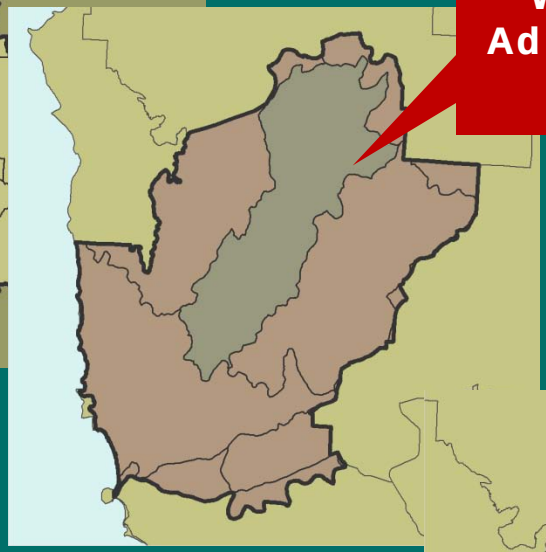
Riparian Conservation Strategy	No Action Alternative	Landscape Alternative
Watershed Assessment	Twelve-Step Watershed assessment procedures	Assessment procedures integrated into forest estate model
Riparian buffer design	Based on site specific assessment	Based on site specific assessment and landscape interactions

Part Two
Environmental Analysis

Scale of the Analysis

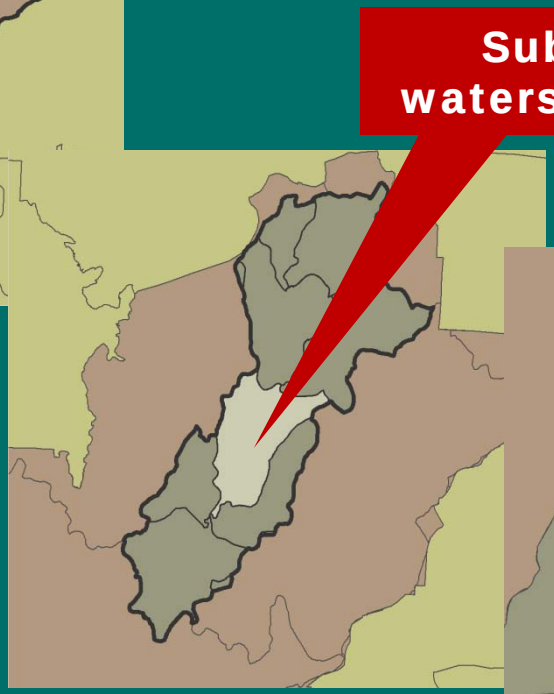


11 Landscapes



33 Watershed Administrative Units (WAUs)

17 WAUs in which DNR manages 20 percent or more of forested area



195 Sub-watersheds

594 Type-3 watersheds

Numbers represent areas in which DNR manages land

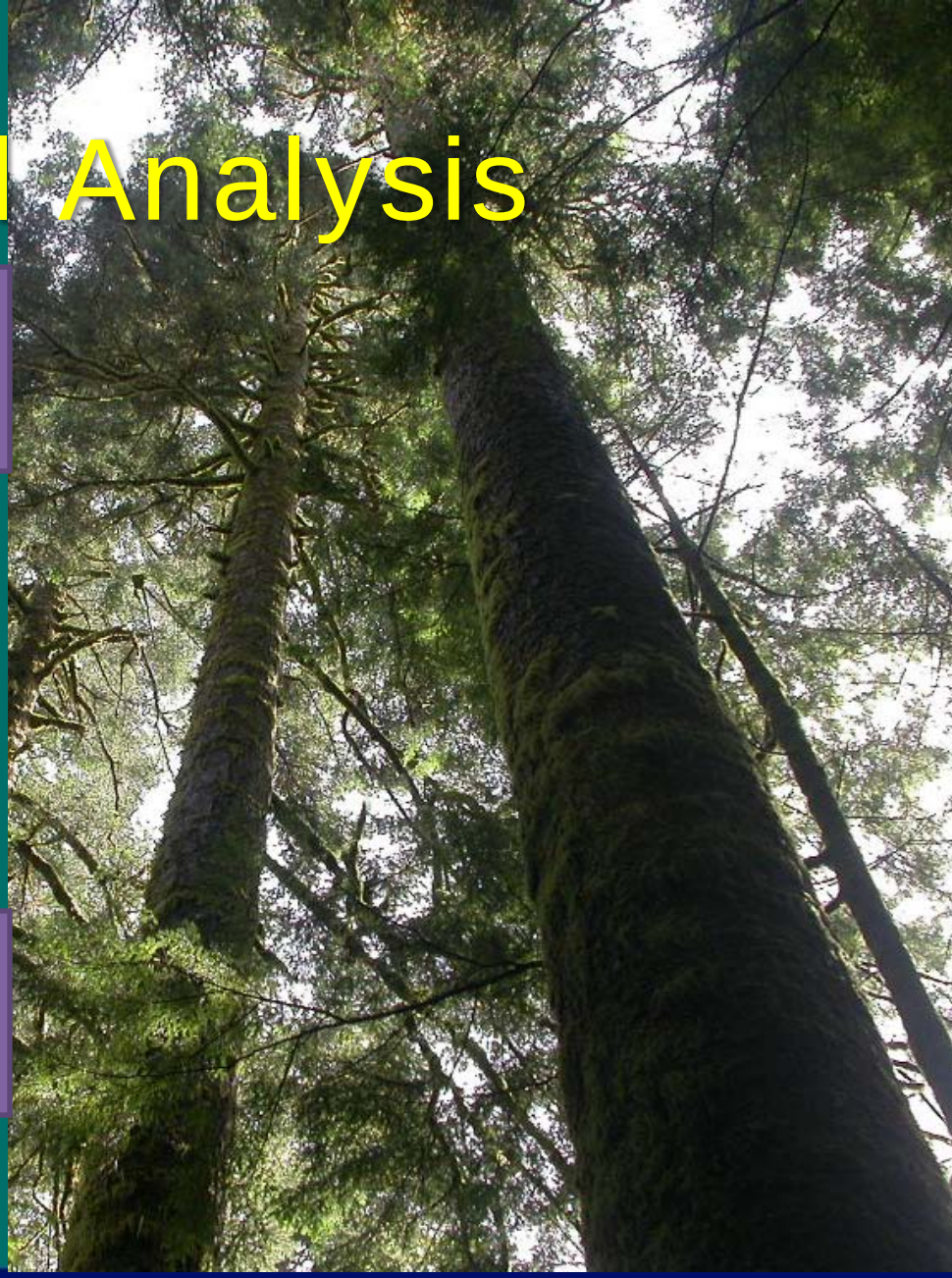
Presentation of the Data

Assessment Areas

- Riparian
  - Inner (27%)
  - Outer (18%)
- Wetlands (5%)
- Uplands (50%)

Environmental Analysis

1. Forest Conditions
2. Riparian
3. Stream Channel Conditions
4. Soils
5. Water Quality
6. Fish
7. Wildlife
8. Northern Spotted Owls
9. Marbled Murrelets
10. Cultural Resources
11. Climate Change



Forest Stand Development Stages

1. Ecosystem Initiation
2. Competitive Exclusion
3. Biomass Accumulation
4. Structurally Complex


Ecosystem Initiation stage forest

Competitive Exclusion stage forest

Photo – US Forest Service

Biomass Accumulation stage forest

Photo – US Forest Service

Understory Development to Niche Diversification

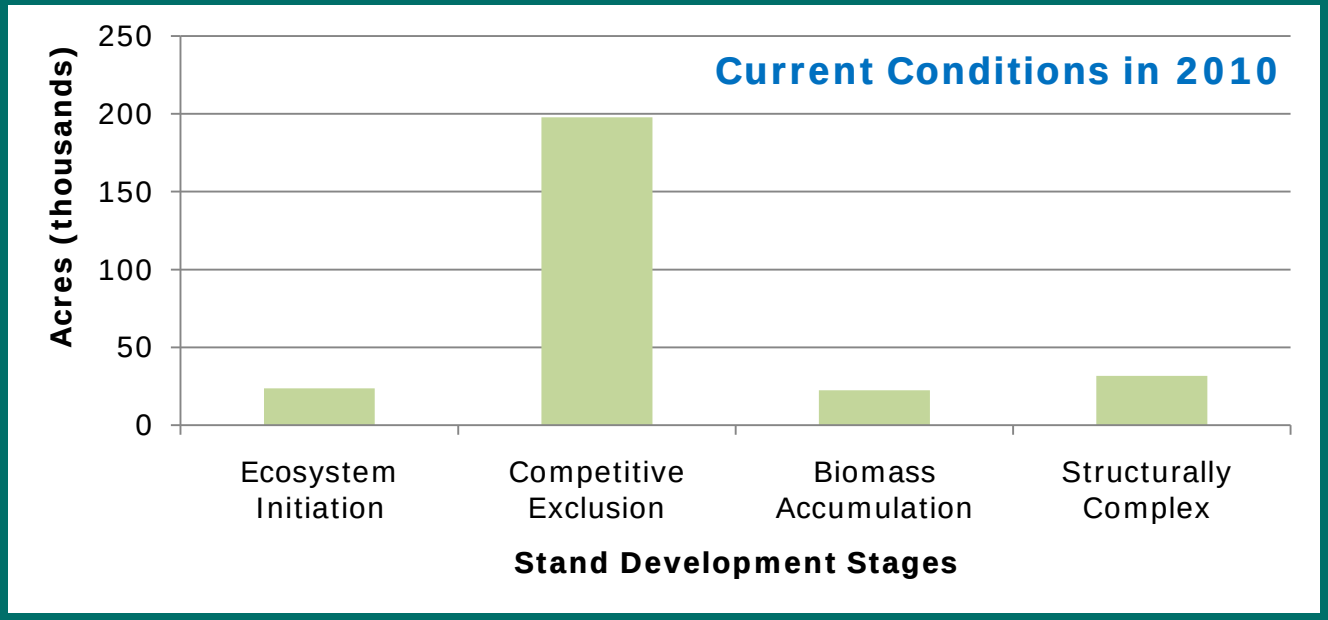
Photo – US Forest Service

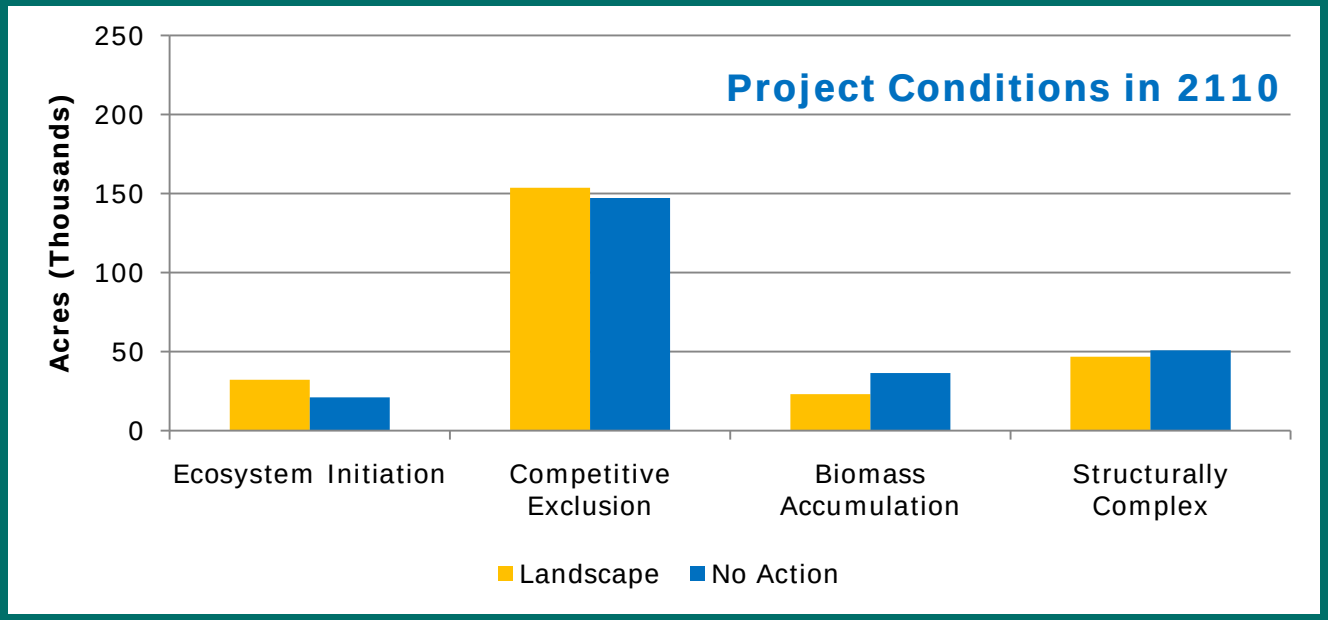
Structurally Complex

Photo: DNR/Steven Curry

OESF Forest Conditions

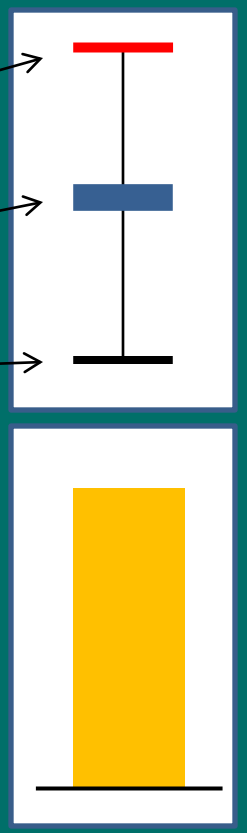
Stand Development Stages





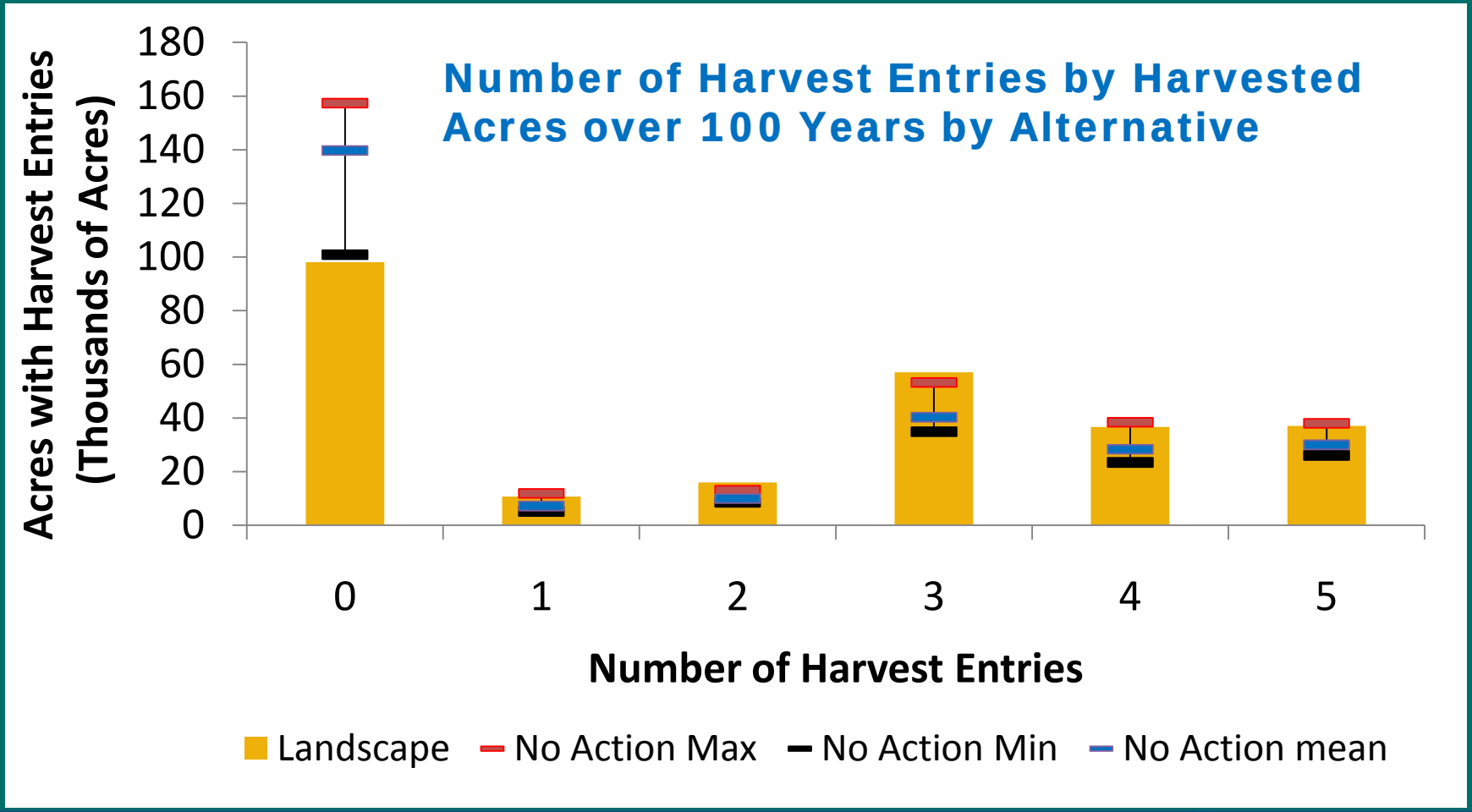
Presentation of Data

- No Action represented with 4 scenarios
  - Maximum
  - Mean value
  - Minimum
- Landscape Alternative with 1 model scenario



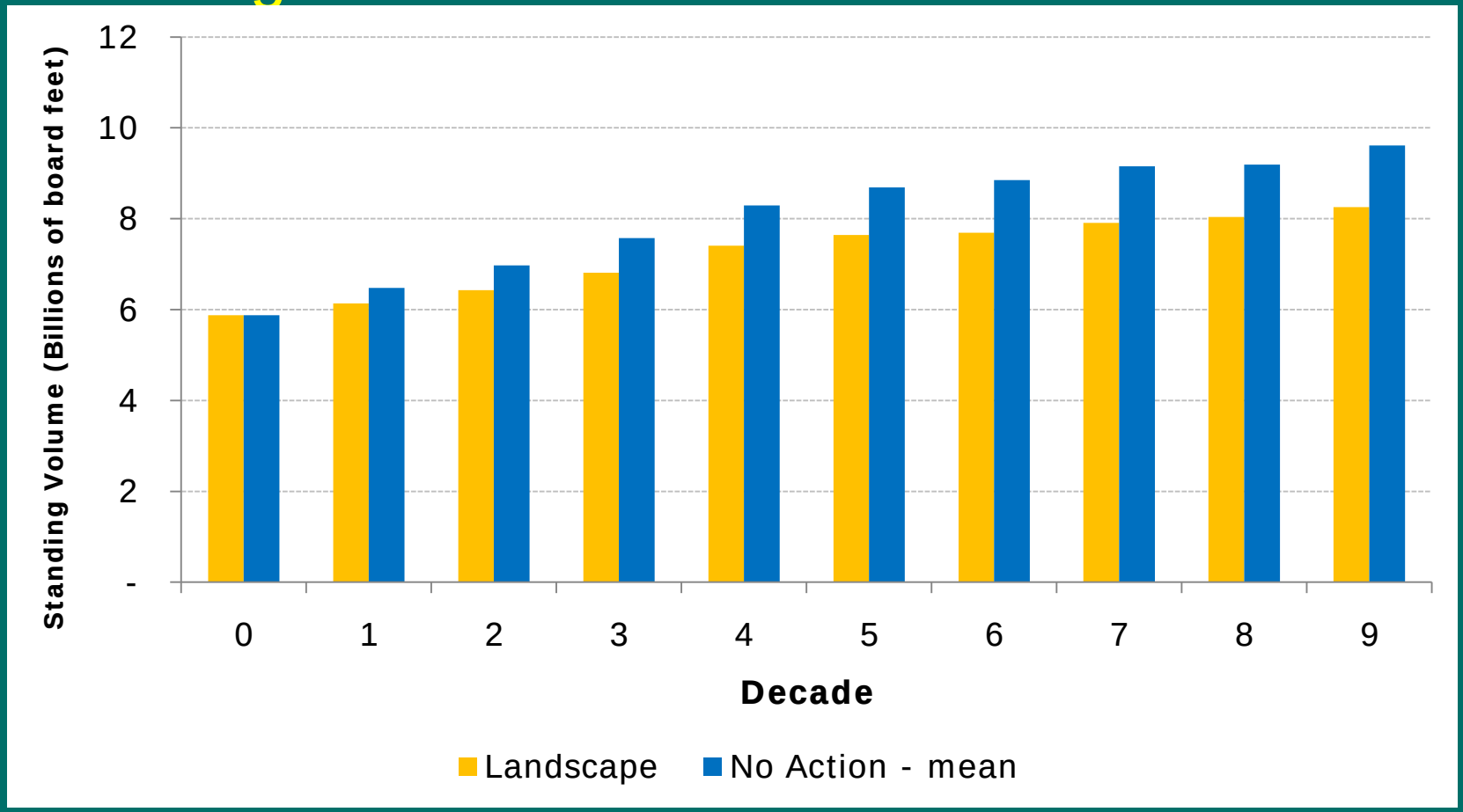
Forest Conditions

Harvest Entries



Forest Conditions

Standing Volume



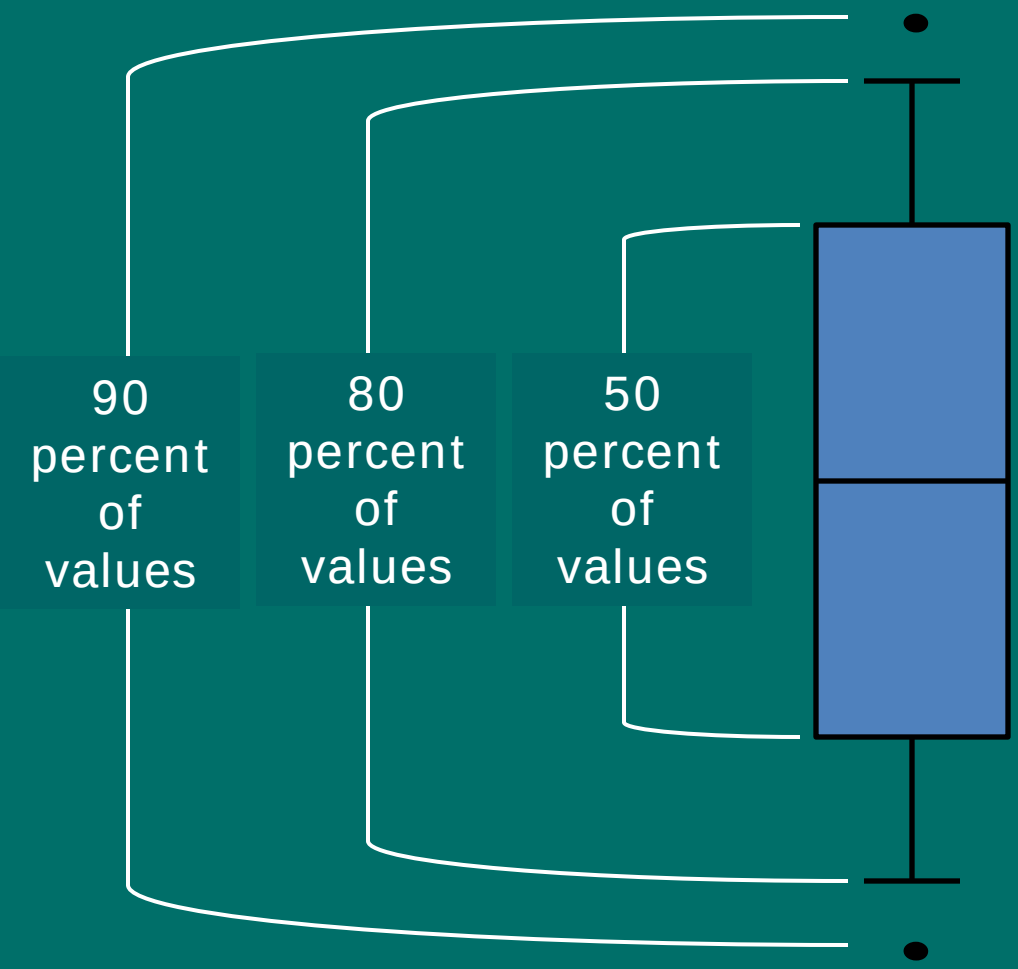
Riparian Forests

Indicators

1. Large woody debris recruitment
2. Leaf and needle litter recruitment
3. Stream shade
4. Microclimate
5. Windthrow
6. Peakflow

Photo: DNR/Peter Harrison

Presentation of Data



95th percentile
90th percentile
75th percentile

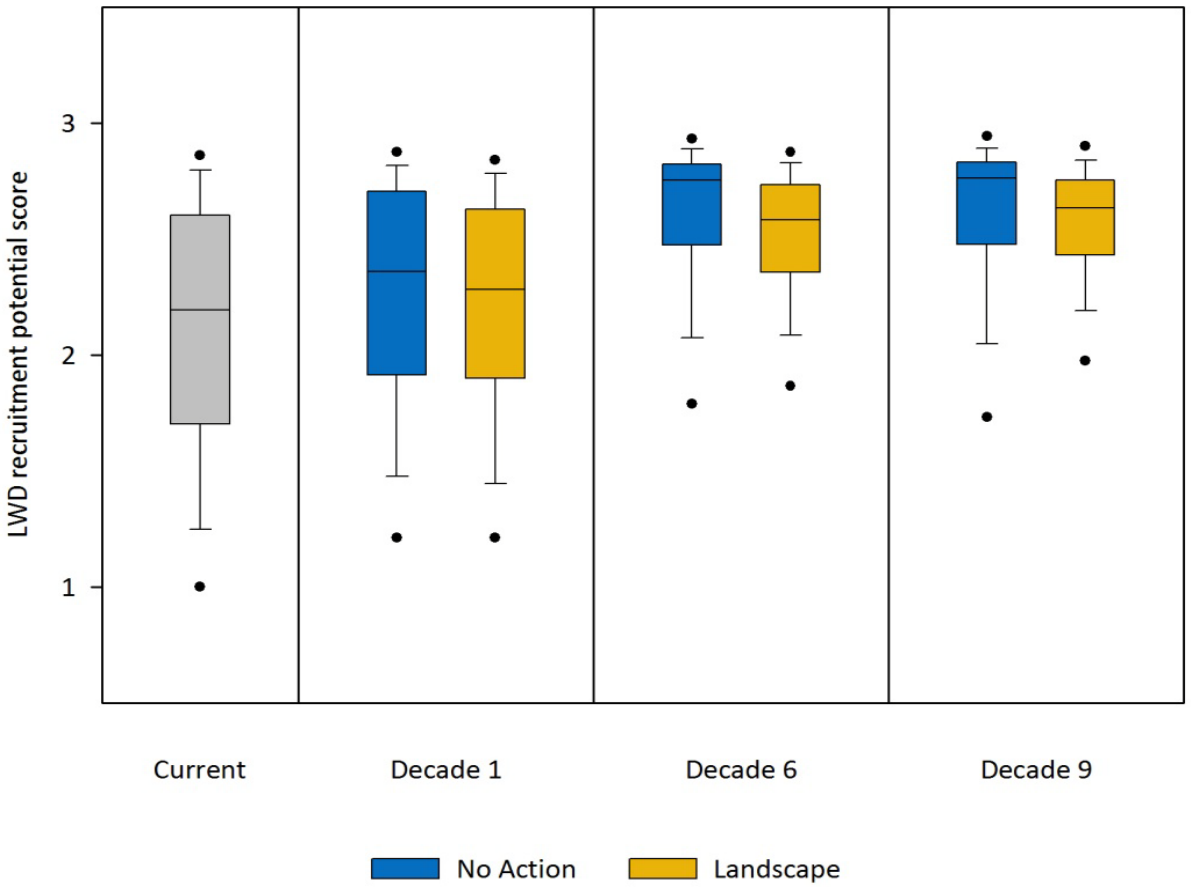
Box and Whiskers plots

Median (50th percentile)
25th percentile
10th percentile
5th percentile

Riparian Forests

Large Woody Debris Recruitment

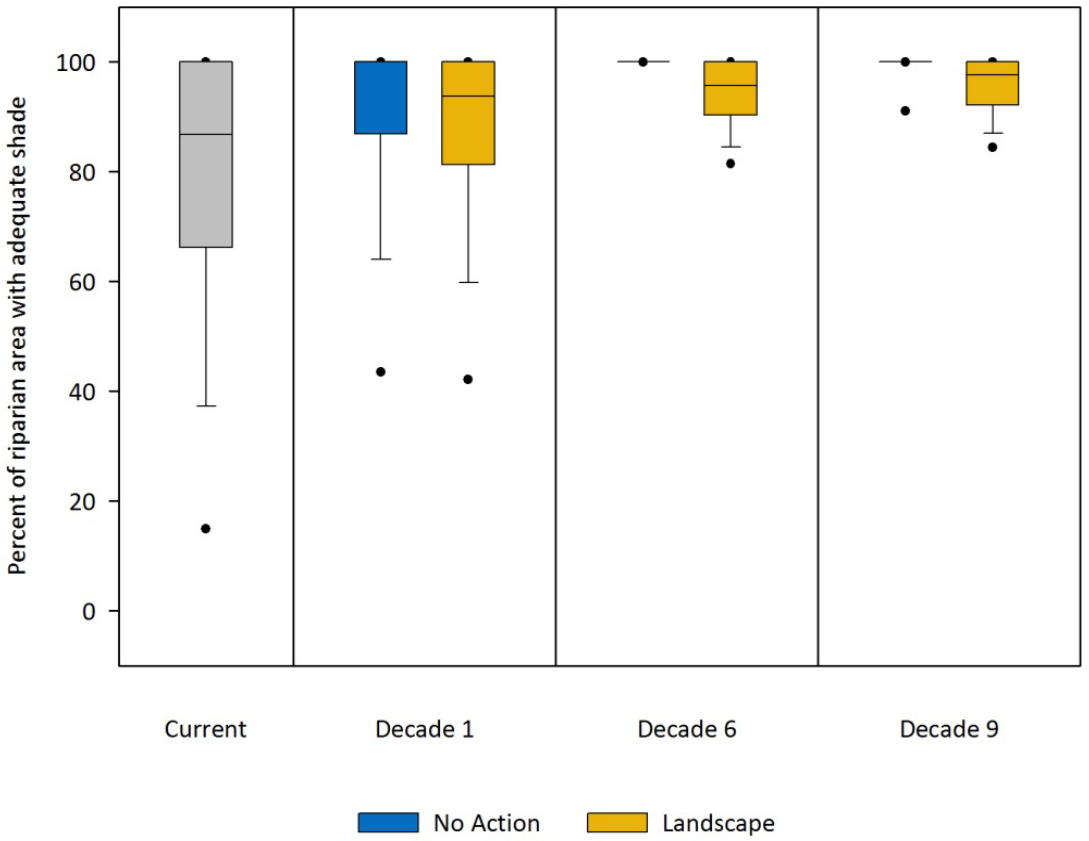
Change over time, by Alternative, in Distribution of Large Woody Debris Recruitment Potential Scores for Selected Type 3 Watersheds (n=406)



Riparian Forests

Shade

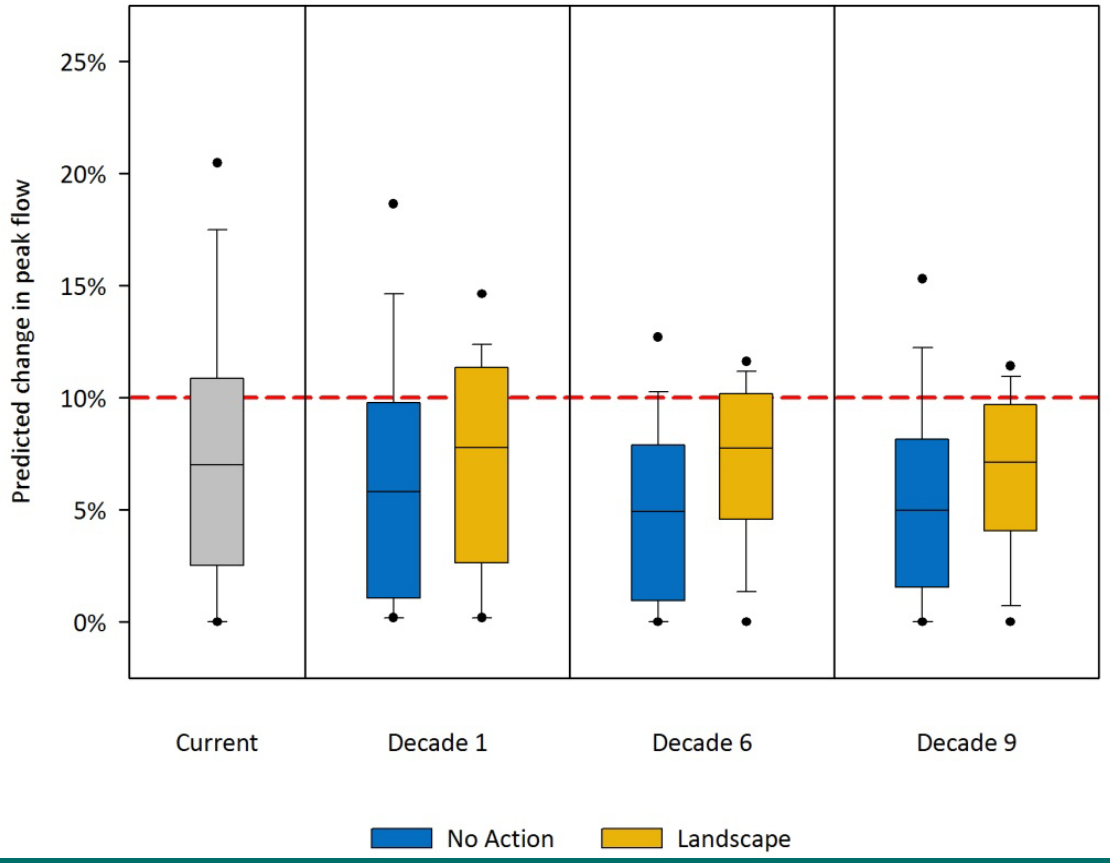
Change over time, by Alternative, in Distribution of the Percent of Riparian Area with Adequate Shade for Selected Type 3 Watersheds (n = 405)



Riparian Forests

Peak flow

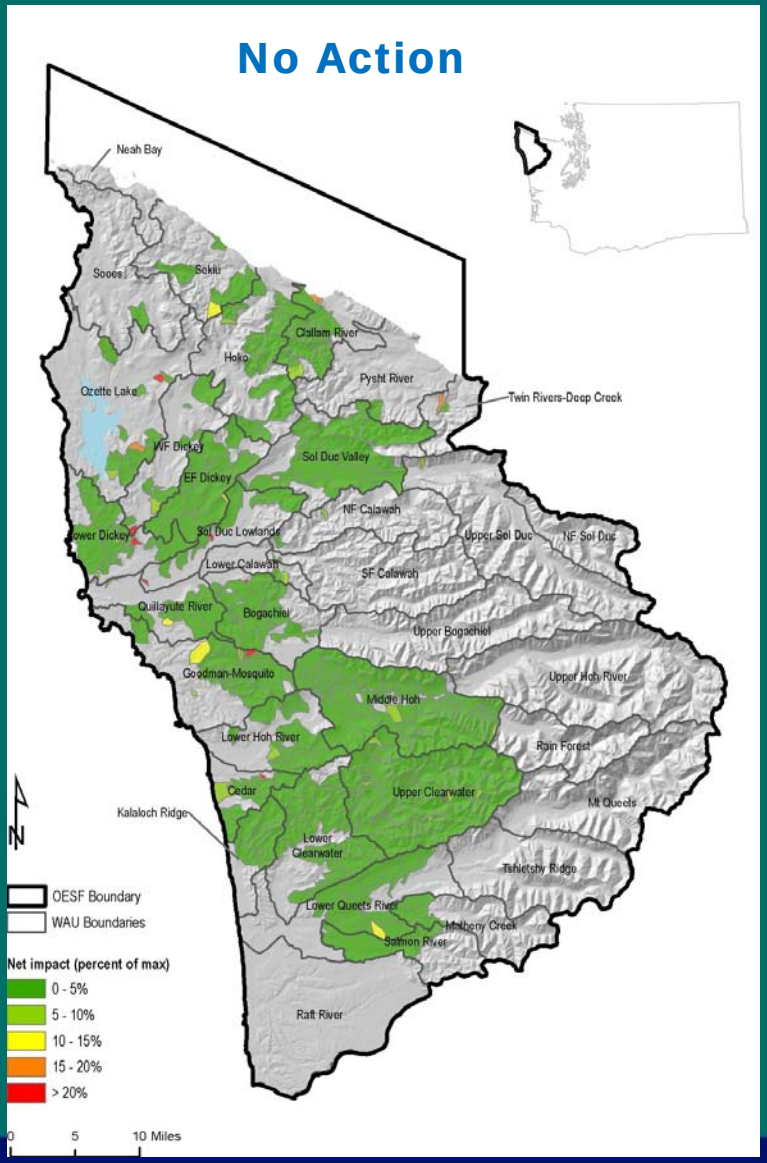
Change over time, by Alternative, in Distribution of the Percent Change in Peak Flow for Selected Type 3 Watersheds (n = 426)*



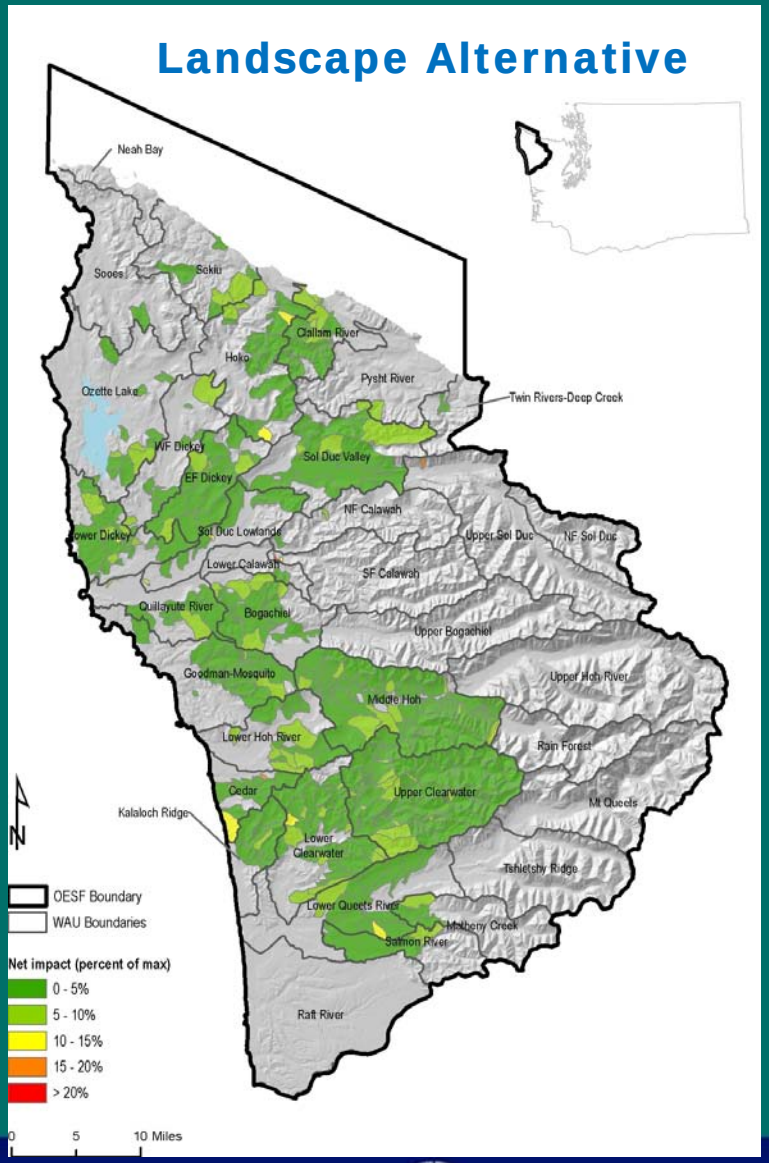
*Detection limit (10 percent change) shown in red

Net Potential Impact to Riparian Function across Type 3 watersheds in the OESF

No Action



Landscape Alternative



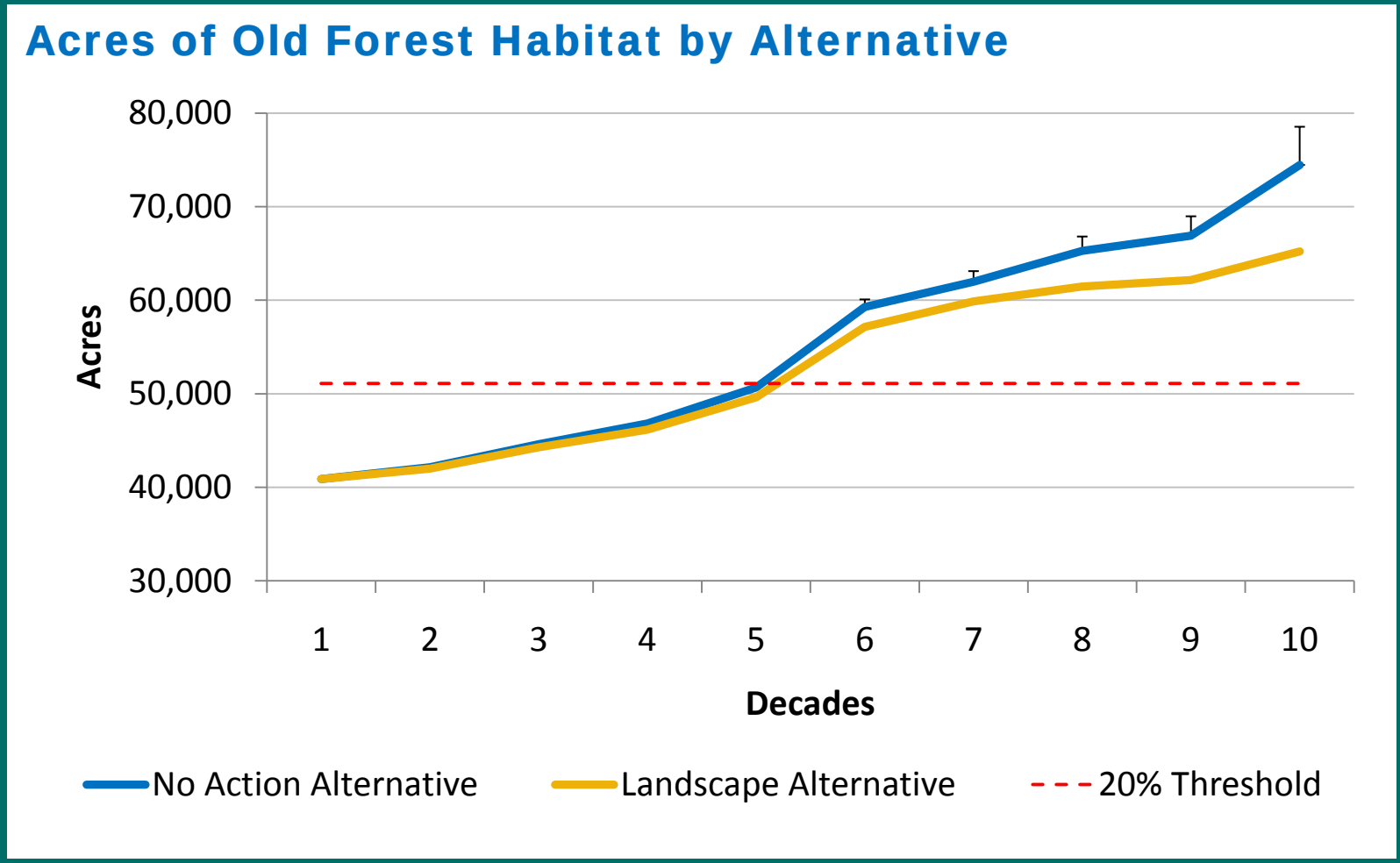
Northern Spotted Owls Indicators

1. Old forest habitat
2. Young forest habitat
3. Acres of harvest in Status-1-Reproductive Owl Circles

Northern spotted owls – Old forest habitat

Photo: DNR/Sabra Hull

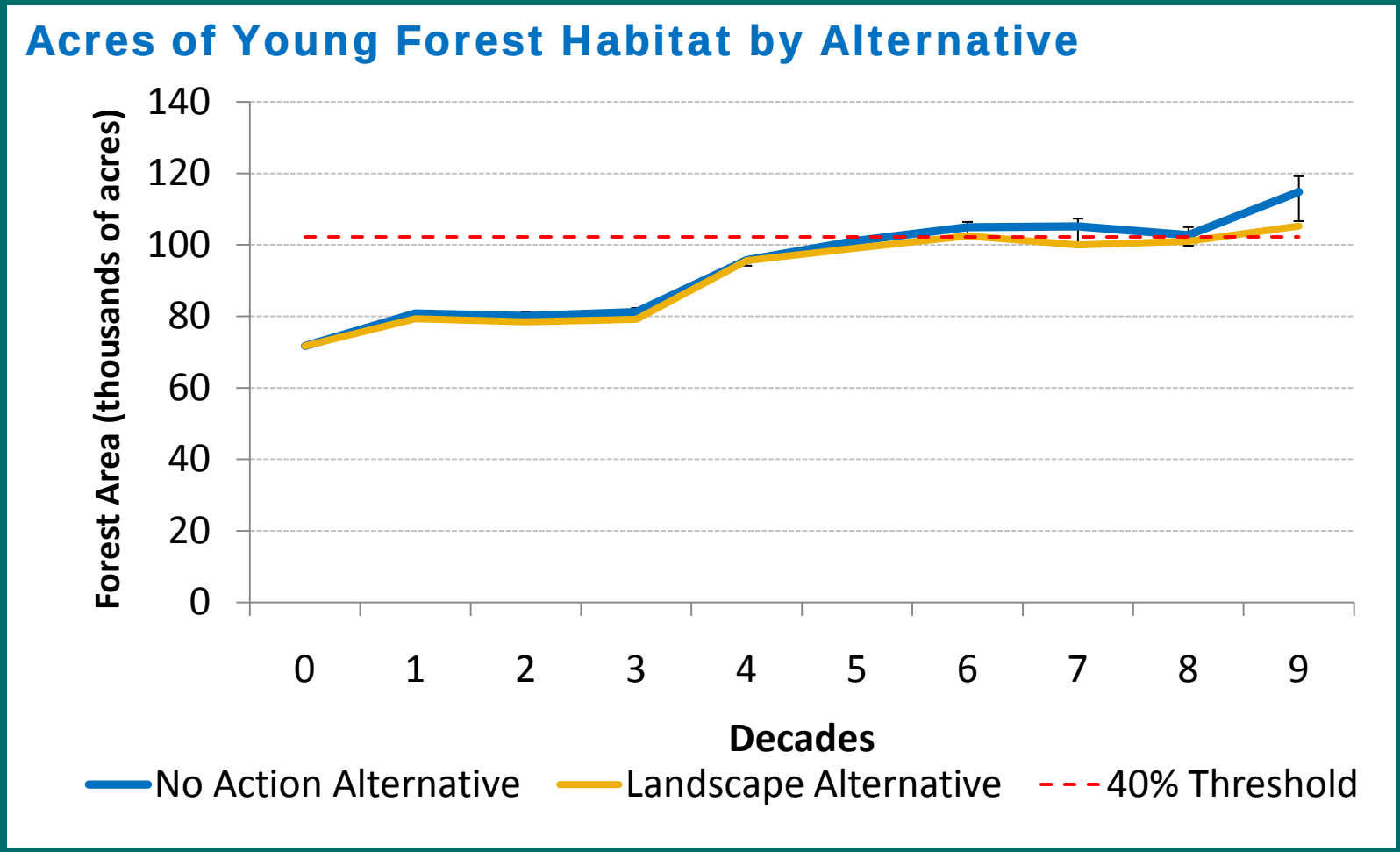
Northern Spotted Owls



Northern spotted owls – Young forest

Photo: DNR/Brodie

Northern Spotted Owls



Northern Spotted Owl

Estimated Decades for Young Forest Habitat area to be 40 Percent or More of all DNR Managed Forest Lands by Landscape

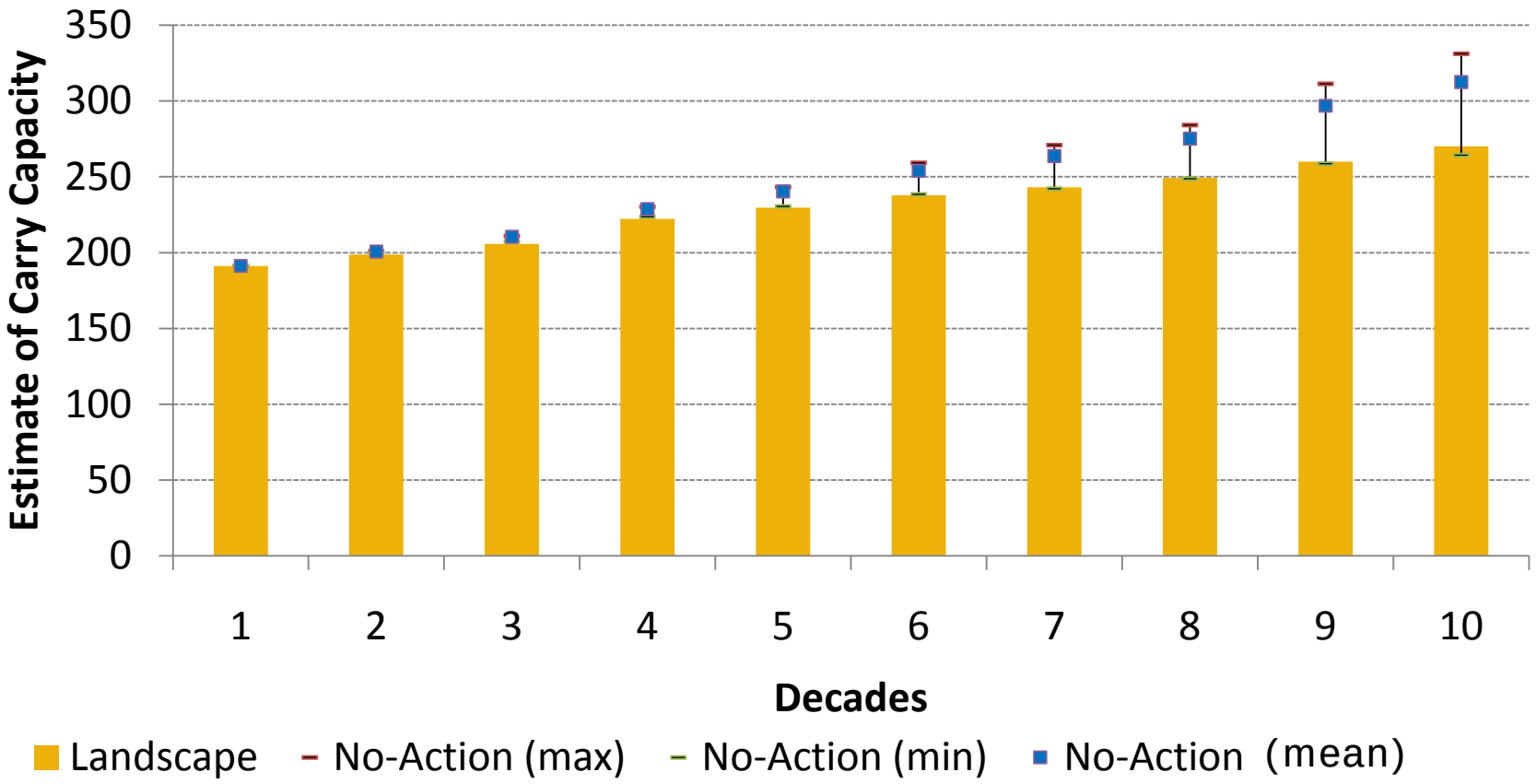
Landscape	Decade in which 40 percent of the landscape is Young Forest habitat or better**		
	Without hardwood acres	With hardwood (all DNR forested acres)	HCP (Table IV.7)
Clallam	4	1	1
Clearwater	4	5	3
Coppermine	6	5	3
Dickodochtedar	9	2	3
Goodman	6	1	3
Kalaloch	8	4	3
Queets	4	4	3
Reade Hill	0	0	1
Sekiu	7	5	3
Sol Duc	5	2	1
Willy Huel	6	6	3

**Shaded values did not meet the thresholds. The number indicates the earliest decade in which the highest level is reached

Marbled Murrelets
Indicators

1. Potential habitat
2. Carrying capacity
3. Harvest activities in sensitive areas

Marbled Murrelets



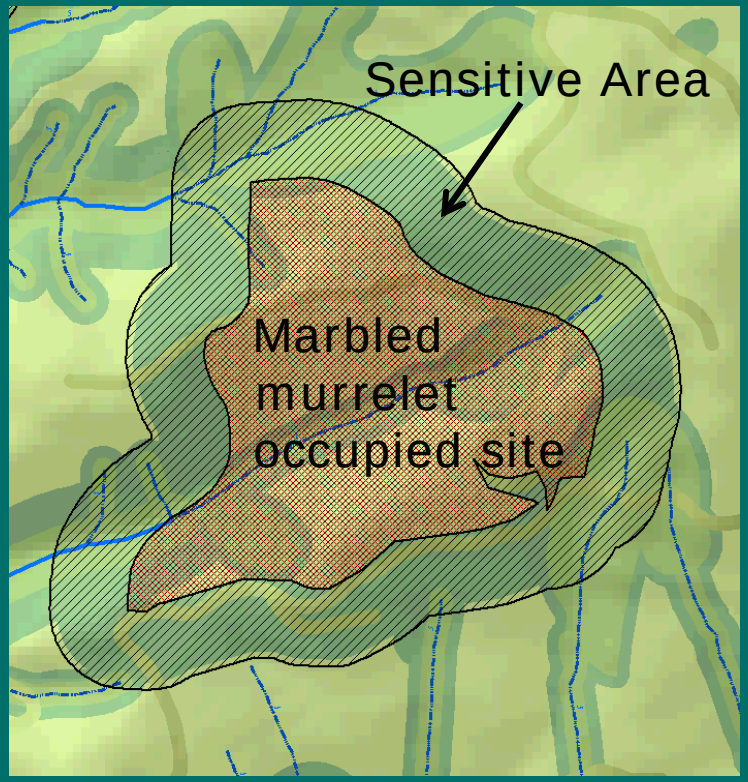
Marbled Murrelets

Sensitive Areas

- 100 meter buffer areas around occupied sites – 20,000 acres

Projected Harvest in Decade 1 in Sensitive Area

	No Action Alternative	Landscape Alternative
Variable Density thinning	537	1,600
Variable retention harvest	227	408
Total	764	2,008



Forest Management Analysis

Management Objectives
for Evaluating Alternatives

1. Restoration of riparian systems
2. Restoration of northern spotted owl habitat
3. Generate trust revenue

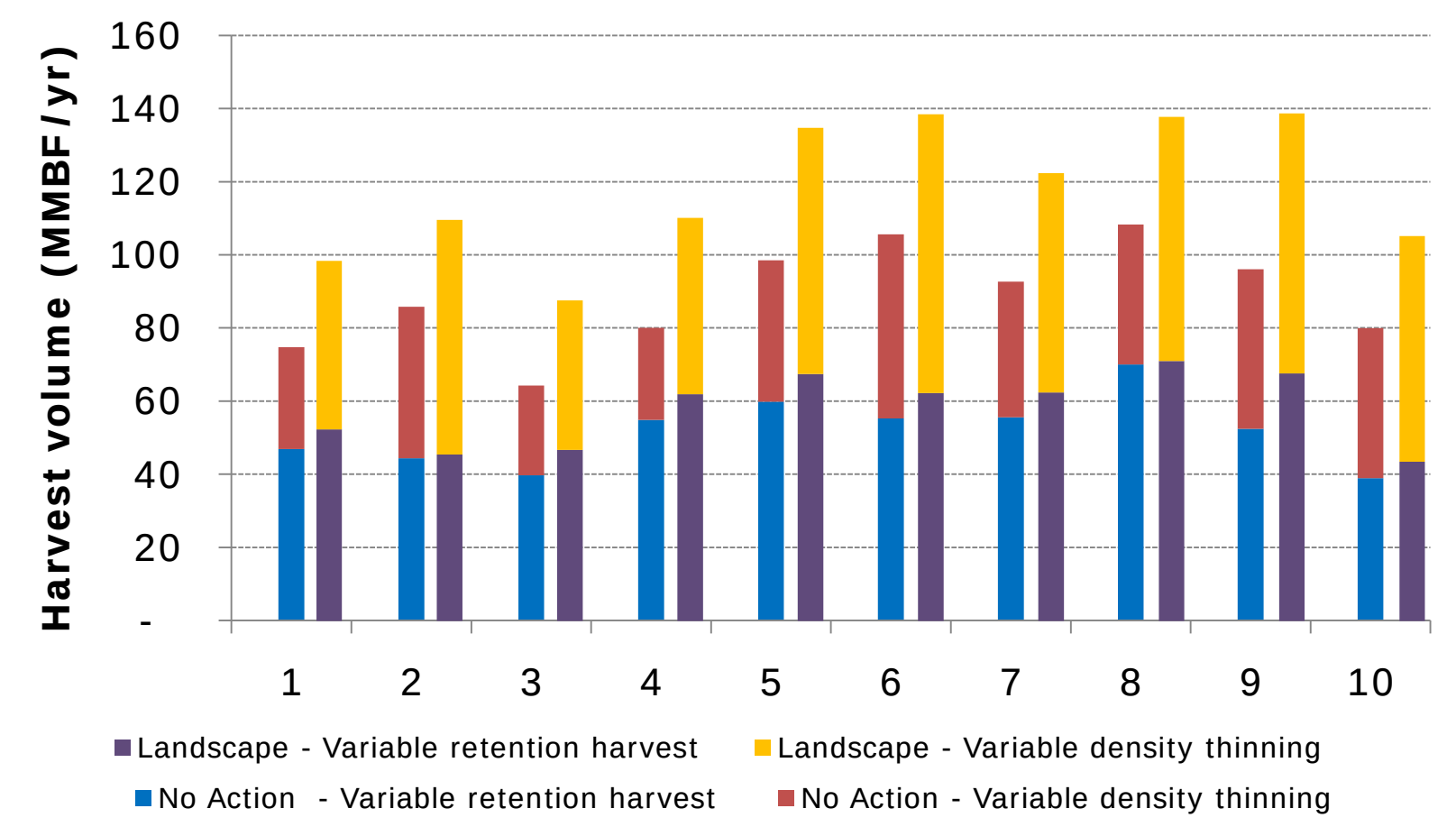
Photo: DNR/Scott Horton

Generating Trust Revenue

Alternative	Harvest Level Decade 1 (MMBF/yr)	Gross Revenue Decade 1 ($ Millions/yr)	Average Harvest Level over 10 Decades (MMBF/yr)	Cumulative Net Present Value ($ Millions)
No Action	75	8.7	89	187.6
Landscape	98	11.1	118	198.7

Note: Net Present Value calculated over a 100 years with a 5 percent real interest rate

Generating Trust Revenue



Summary

- Proposal considers
  - Two alternatives to implement the Riparian Conservation Strategy
- Environmental Analysis
  - No Action has less impact relative to the Landscape Alternative
- Management objective
  - Both alternatives meet conservation objectives

Next Steps

- Draft EIS available June 1, 2010
- 45-day comment period ends July 15
- Public hearings June 16 and 17
- Final EIS estimated in December