Non Commercial Thinning In A Late Succesional Reserve - LSR 267

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Outline

- EIS Background
- EIS Prescriptions – non commercial thinning
- Stand Assessments – young stands
- Demonstration Stands
- Conclusions

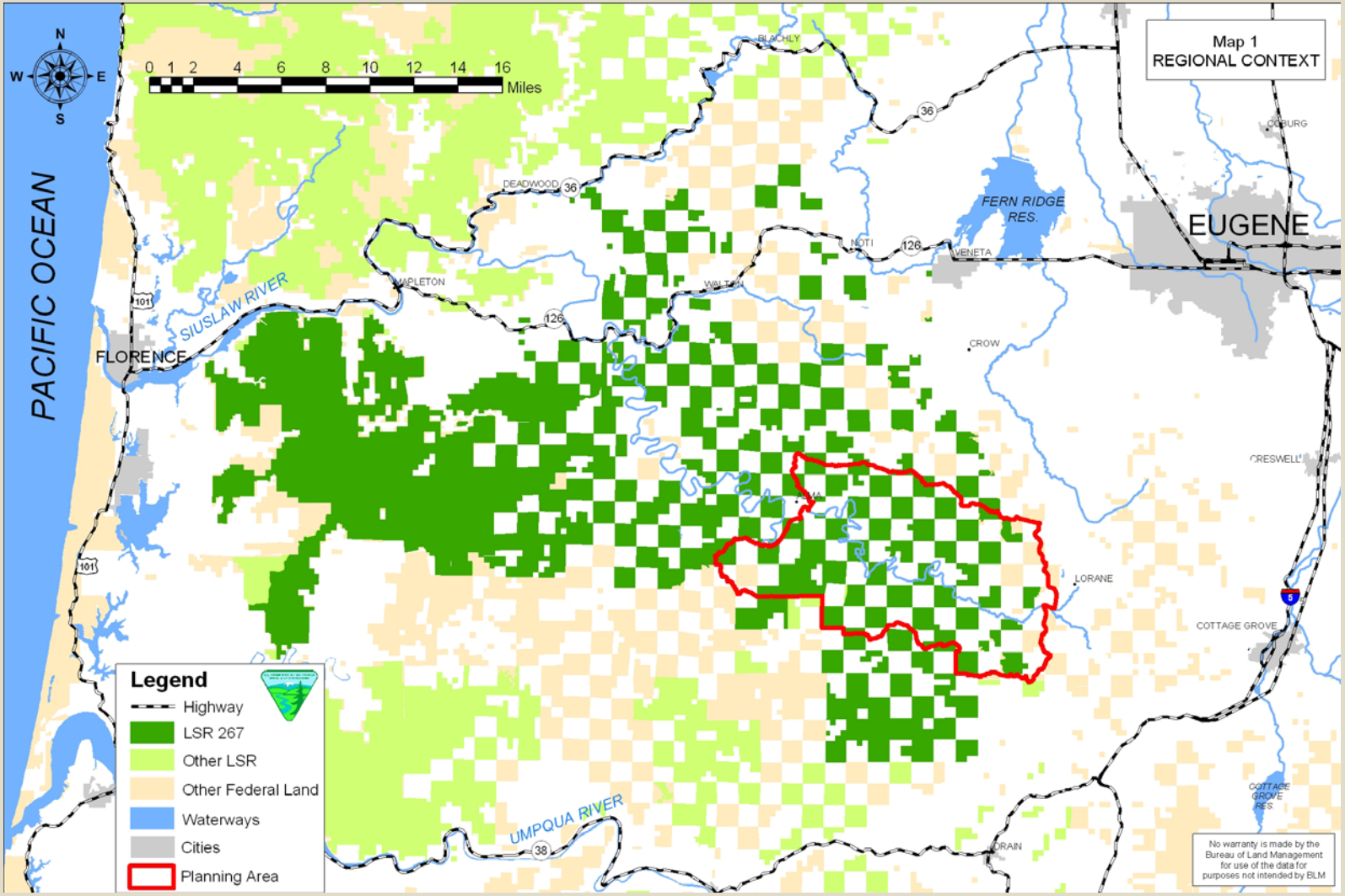
EIS - Upper Siuslaw LSR Restoration Plan

- Forest and Aquatic Restoration Plan – purpose and need
  - protect and enhance late-successional and old growth forest ecosystems
  - foster the development of late successional forest structure and composition in plantations and young forests
  - Reconnect streams and reconnect stream channels to their riparian zones and upslope areas

Objectives

- Reduce tree density and increase variability of tree spacing
- Control noxious weeds
- Decommission or improve roads
- Increase stream structure with woody debris
- Develop quantities of snags and coarse woody debris
- Restore riparian conifer density
- Develop understories of shade tolerant conifer species
- Eliminate barriers to anadromous fish movements

Planning Area



Credits EIS Team

• Karin Baitis	BLM	Soil Scientist
• Kathy Barry	USFW	Biologist
• Alison Center	BLM	Biologist
• Rick Colvin	BLM	Landscape Planner
• Dave DeMoss	BLM	Forester
• Richard Hardt	BLM	Forest Ecologist
• Leo Poole	BLM	Biologist
• Mark Stephen	BLM	Forester
• Debra Wilson	BLM	Resource Technician
• Bruce Hostetler	USFS	Entomologist
• Darrel Ashcraft	USFS	Fuels Technician

LSR Restoration Plan

- Innovative and creative approach to ecosystem mgt.
- Not "traditional" silvicultural practices – young stand management
- Not a philosophy "silviculture main function is the response to regeneration harvest" (*i.e.* rehab)
- http://www.edo.or.blm.gov/planning/lsr/index.htm

ROD = Record Of Decision
July 2004

- **Upper Siuslaw Late-Sucessional Reserve Restoration Plan - Upland Thinning Actions**
- **Upper Siuslaw Late-Sucessional Reserve Restoration Plan - Watershed Restoration Actions**

  - **GOAL 1:** ***Protect and enhance late-successional and old-growth forest ecosystems.***
  - **GOAL 2:** ***Foster the development of late-successional forest structure and composition in plantations and young forests within LSR 267.***
  - **GOAL 3:** ***Reconnect streams and reconnect stream channels to their riparian zones and upslope areas within LSR 267.***

Format

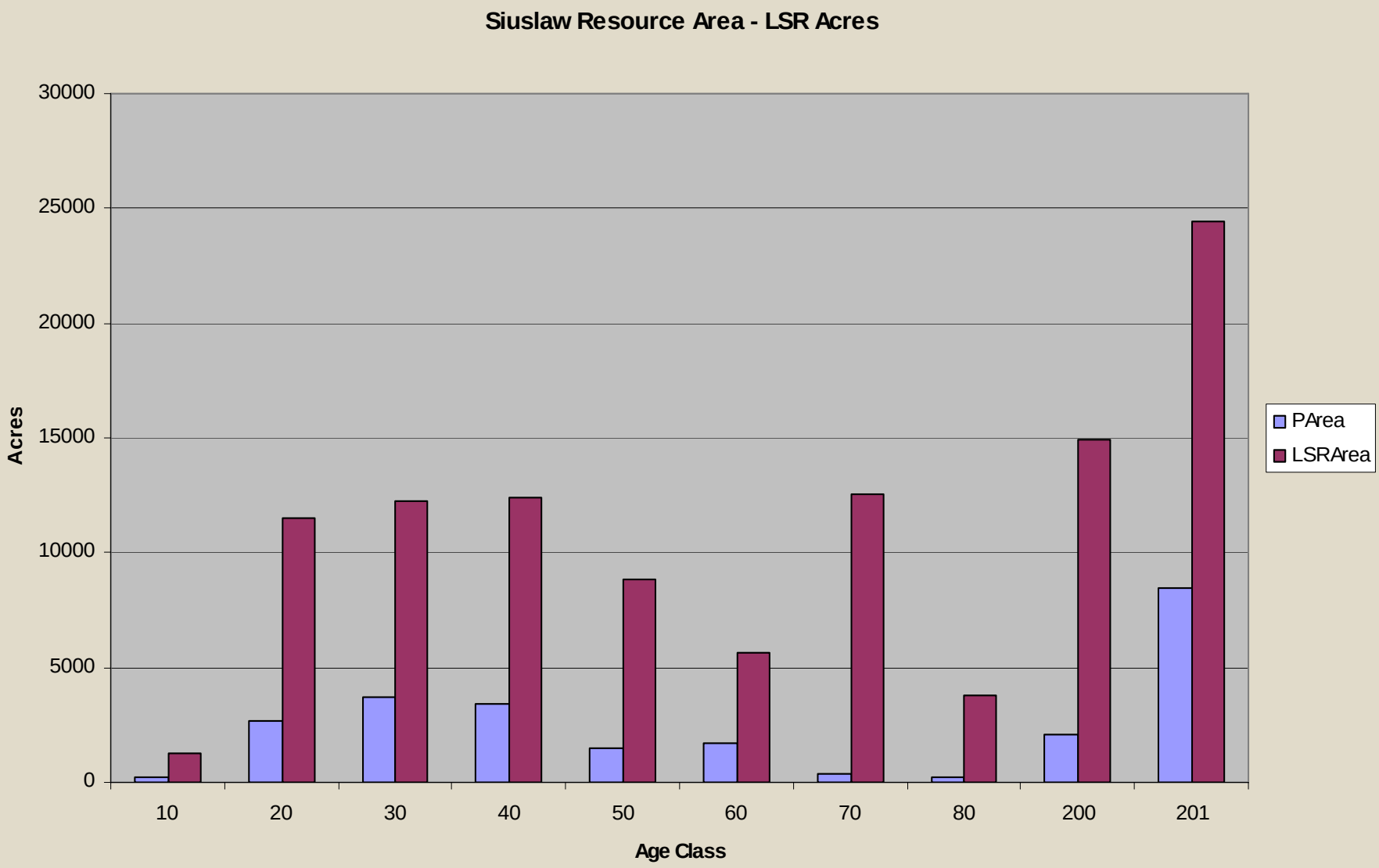
- Goal 1
  - Noxious weeds
  - Decommission roads
- Goal 2
  - Reduce tree densities
  - Develop shade tolerant species
  - Develop snags and CWD
- Goal 3
  - Reduce sedimentation from roads
  - Increase stream structures
  - Increase riparian conifer densities
  - Riparian hardwood conversion

Objectives and Actions

- **OBJECTIVE: Reduce tree density and increase variability of tree spacing in 75% (100% of stands; 75% of acres) of the 21-30-year age class, so that tree densities range from 40-110 TPA within 10 years.**

- **ACTION: Among stands aged 21 to 30 years that were pre-commercially thinned, thin approximately 1/3 of stands in uplands (i.e., >100' from streams) to a treated stand average of 40-60 Douglas-fir trees per acre, with variable spacing.**
- **ACTION: Among stands aged 21 to 30 years that were pre-commercially thinned, thin approximately 1/3 of stands in uplands (i.e., >100' from streams) to a treated stand average of 60-80 Douglas-fir trees per acre, with variable spacing.**
- **ACTION: Among stands aged 21 to 30 years that were pre-commercially thinned, thin approximately 1/3 of stands in uplands (i.e., >100' from streams) to a treated stand average of 80-110 Douglas-fir trees per acre, with variable spacing.**

Age Classes – Planning Area & LSR



IMPLEMENTATION – Non Commercial Thinning

Tree Girdling – Veg. Mgt. Contract

Equipment

Target Stands - Initial

- Non PCTed Stands
- Average Diameter 5-9 inches
- High Relative Density - 300 TPA
- Low Levels of CWD and Snags
- Accomplishments:
  - 2006 950 Acres
  - 2007 400 Acres

Specifications Slide 1

- 1. The Contractor shall select leave trees and shall girdle take trees to achieve a variable width spacing of the Douglas fir trees across the entire project area.

- 2. The Contractor shall normally select the largest, healthiest, or best formed tree for the leave trees.

- 3. The Contractor shall not girdle/cut conifer trees which are:
  - Trees less than 6 inches DBH
  - Trees greater than 16 inches DBH
  - Non Douglas-fir tree species
  - Hardwood trees
  - Douglas fir trees with green limbs within 10 feet of the ground
  - Tree leaning at greater than 30 degrees from vertical
  - Trees with a broken top or missing terminal leader

Specifications Slide 2

- 4. The Contactor shall girdle trees for an average spacing of approximately 18 by 18 feet (average of 134 trees per acre). The contractor shall normally vary the spacing from 12 to 24 feet. The contractor shall rarely (less than 5% of the time) use 8 foot spacing between trees.

- 5. The Contractor shall not girdle conifer trees when the existing conifer spacing is equal to or greater than 25 feet (70 trees per acre).

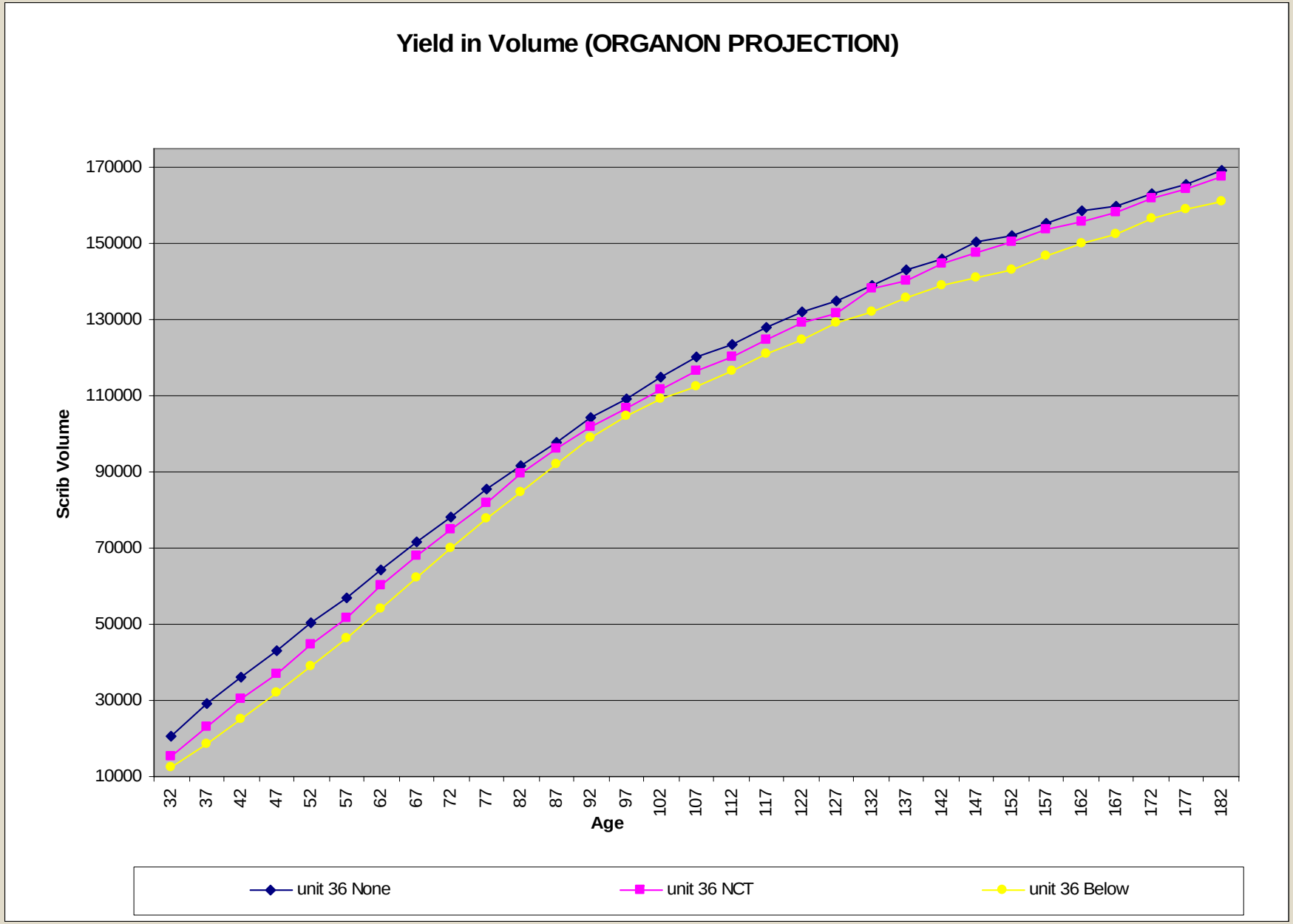
- 6. The Contractor shall not girdle trees within a 25 foot wide leave strip along designated stand edges as identified on the project area maps.

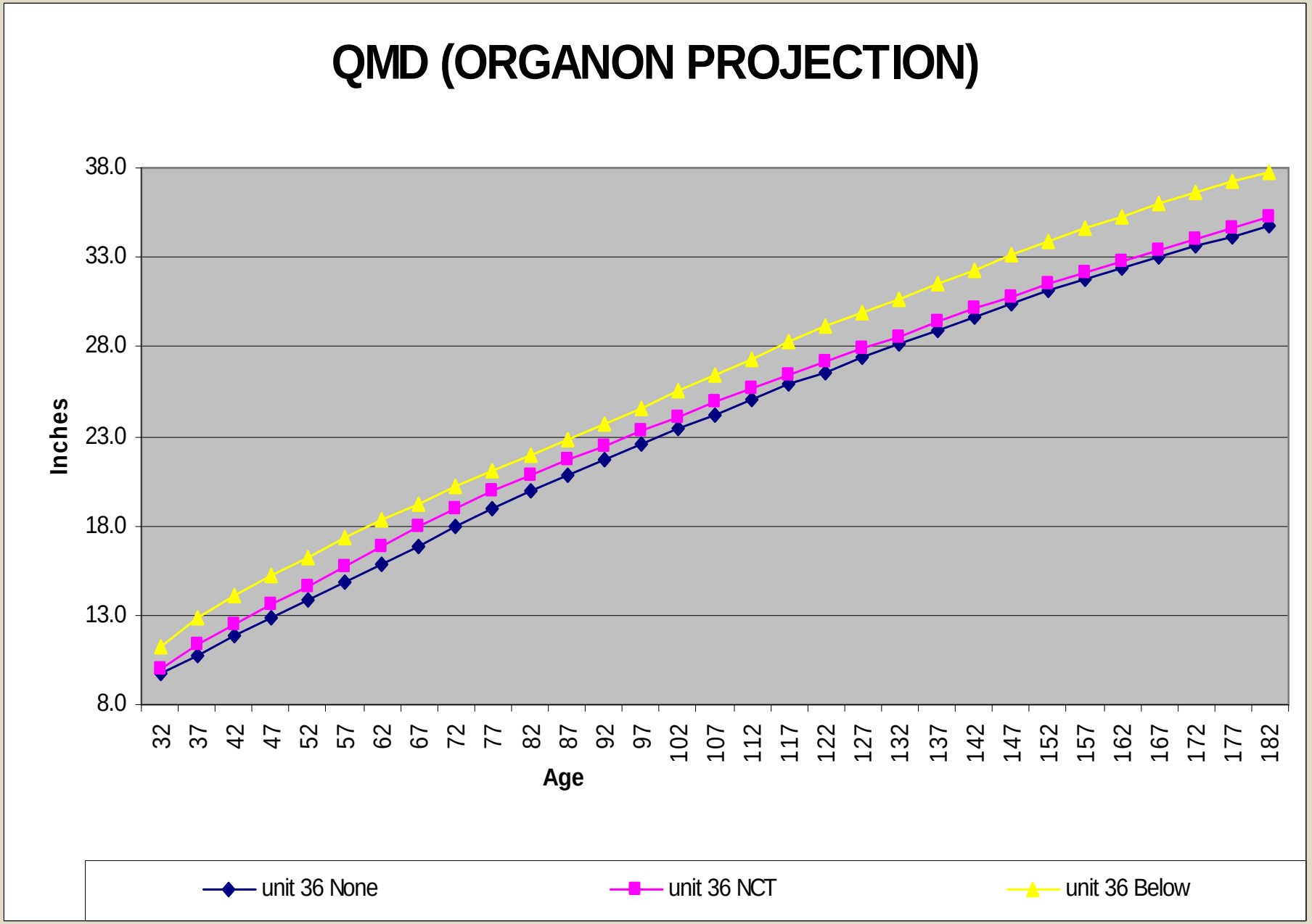
- 7. The Contractor shall not girdle trees within a 50 foot wide primary shade zone along the side of perennial streams as identified on the project area maps.

Tree Girdling – 1 to 2 years

Intended Conditions

- Forest Stand Post-Treatment
  - PCTed stands 40-110 TPA
  - non PCTed stands 75-150 TPA
  - variable tree spacing - 8 feet to 30 feet
  - shade tolerant conifers 26-90 TPA by age 81
  - snags and coarse woody debris 1102-3794 cu ft. per acre
  - riparian conifers ≥ 13 TPA ≥ 24 inches DBH by age 80-131
  - stream structures (woody debris) 30-160 pieces per stream mile


Yield in Volume (ORGANON PROJECTION)
Scrib Volume
170000
150000
130000
110000
90000
70000
50000
30000
10000
32
37
42
47
52
57
62
67
72
77
82
87
92
97
102
107
112
117
122
127
132
137
142
147
152
157
162
167
172
177
182
Age
unit 36 None
unit 36 NCT
unit 36 Below


QMD (ORGANON PROJECTION)
Inches
38.0
33.0
28.0
23.0
18.0
13.0
8.0
32
37
42
47
52
57
62
67
72
77
82
87
92
97
102
107
112
117
122
127
132
137
142
147
152
157
162
167
172
177
182
Age
unit 36 None
unit 36 NCT
unit 36 Below

Tools and Resources

- Reforestation records database (*Microstorms*)
- GIS maps
- Aerial photos
- Stand Assessments
- multi year/multi agency vegetation management contract

Stand Assessments

- **Stand Assessments versus Stand Exams**

Recommended Treatment - Options

- No Treatment
- PCT
- NCT
- Habitat Circles
- Understory Plant – Shade Tolerant Species
- Stewardship Opportunity
- Stand Exam
- Commercial Thin
- Density Reduction Treatment
- Road Decommission
- In Stream Debris and Structure
- Riparian Conifer Release
- Riparian Conversion

Demonstration - Stand Assessments

- Indicators:
  - Average TPA
  - Average DBH
  - Maximum DBH
  - Relative Density
  - Ground Vegetation
  - Snags and CWD

#1 Stand Conditions

1 Treatment ??

LSR Stand Assessment

	19-6-33
Average TPA	260
Average DBH	14
Maximum DBH	21
Ground Vegetation	mostly brown
Snags & CWD	medium-logs
Relative Density	75

#2 Stand Conditions

2 Treatment ??

LSR Stand Assessment

	20-5-35
Average TPA	600
Average DBH	8
Maximum DBH	13
Ground Vegetation	mostly brown
Snags & CWD	light- sup. mort
Relative Density	82

#3 Stand Conditions

3 Treatment ??

LSR Stand Assessment

	20-5-27
Average TPA	290
Average DBH	9
Maximum DBH	12
Ground Vegetation	mostly brown
Snags & CWD	light-pct slash
Relative Density	54

Barriers - Implementation??

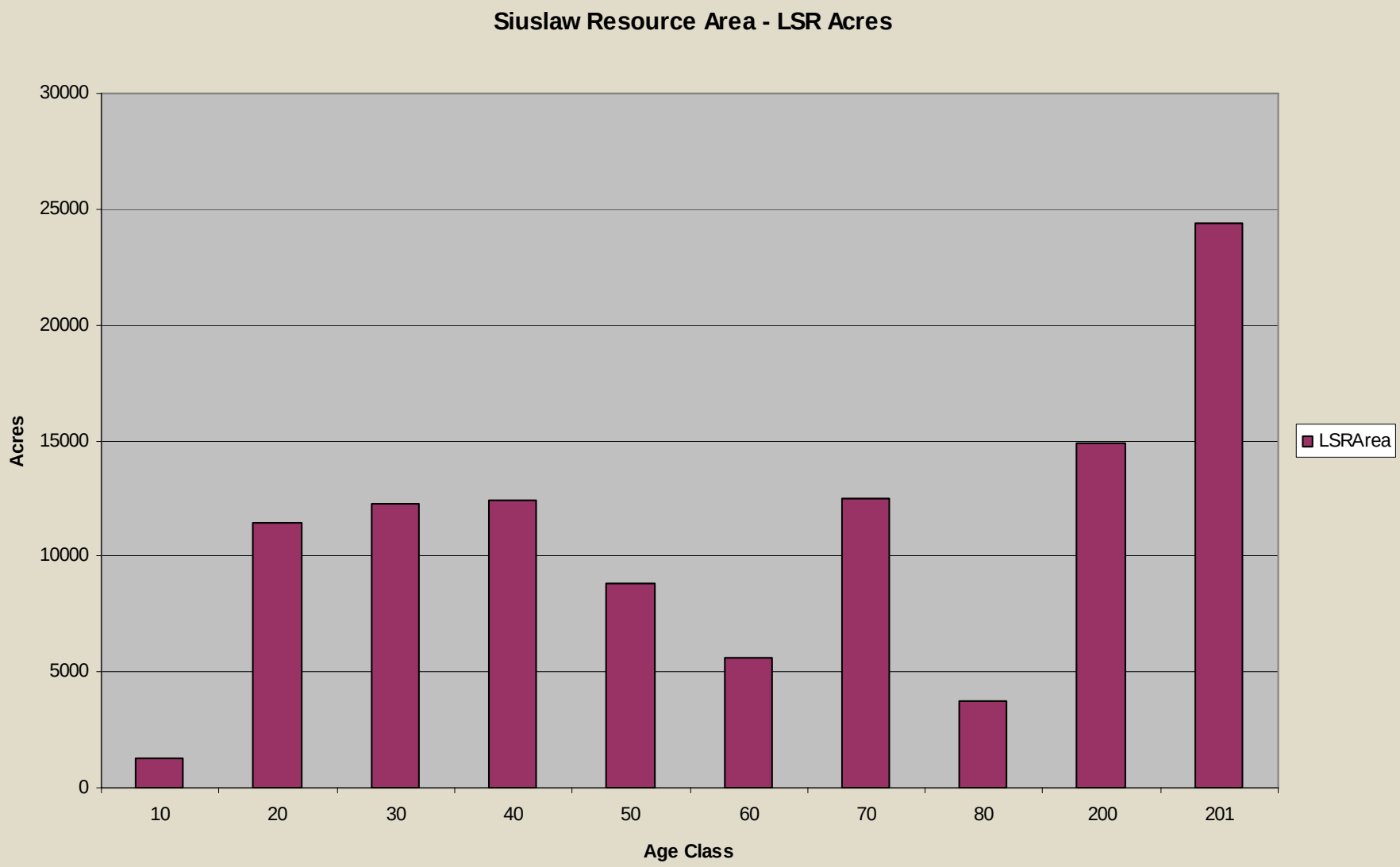
- Resistance to non traditional silvicultural treatments i.e. silviculture is “reforestation” not young stand management.

- Conflicts with potential timber sale areas and PSQ targets

Discussions & Controversies

- What is commercial and what is non commercial? What is the capability of the timber sale group?
- Best Approach - multi entry versus single entry?
- Timeframe - 10 Year plan versus long term development of the forest?
- CWD – grow and “pulse” versus create it next 1-5 years

Thinning Capability ??



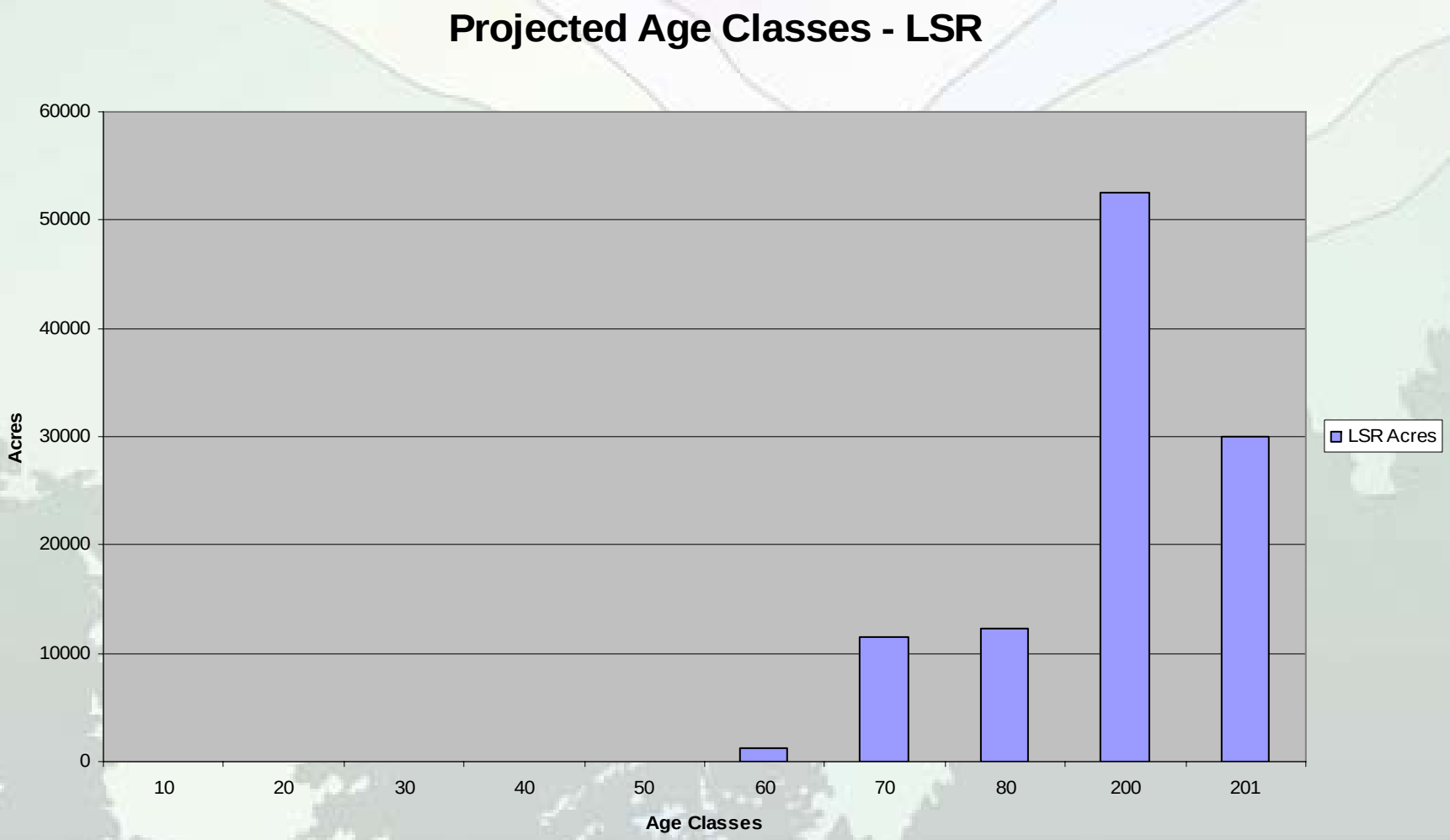
Science - Uncertainties

- Wide window of silviculture – not trying to optimize or maximize. In the context of the "traditional forest management practices" this project represents newly developed and untested practices.

- Prescribed level of snags and CWD?
  - Watershed Analysis = 1102-3750 cu ft. per acre

- Longevity and function of CWD?

Development of the Forest



LSR Timber Sales

LSR Timber Sales