Measuring Public Preferences for Biodiversity Conservation Policies in the Oregon Coast Range

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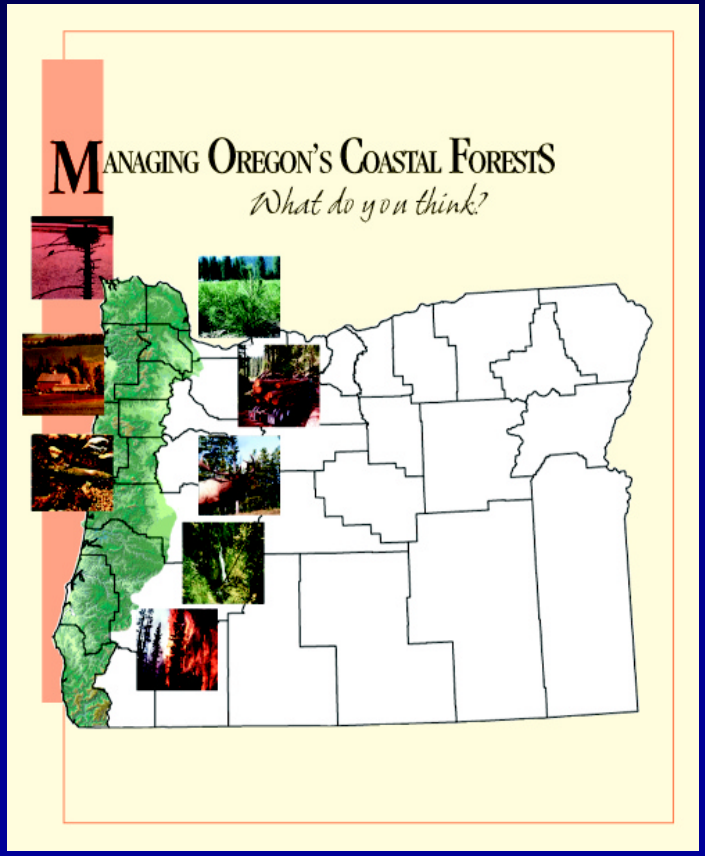
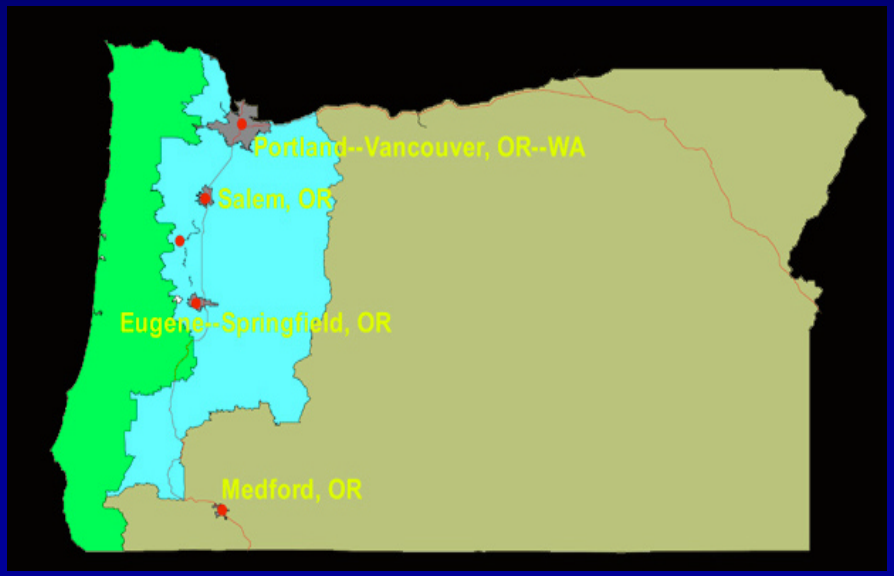


Objectives

- **Estimate economic value of biodiversity conservation in Oregon Coast Range in terms comparable to commodity values**
- **Test for differences in regional preferences**

Biodiversity Valuation Survey

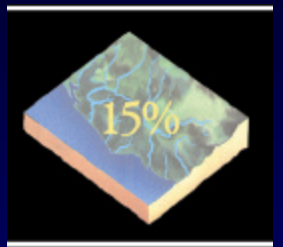
- 16 page survey booklet
- Mailed to 3000 Oregon households
- Sample stratified by region; 1000 each
- 54% response rate



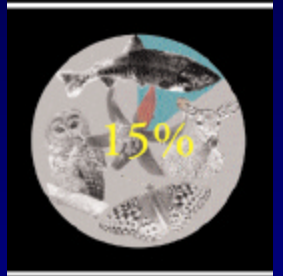
Biodiversity Conservation Programs

Baseline scenario

Salmon Habitat: proportion of coastal salmon streams in protected status similar to federal land



Endangered Species Habitat: proportion of critical habitat in protected status, e.g. covered by HCP

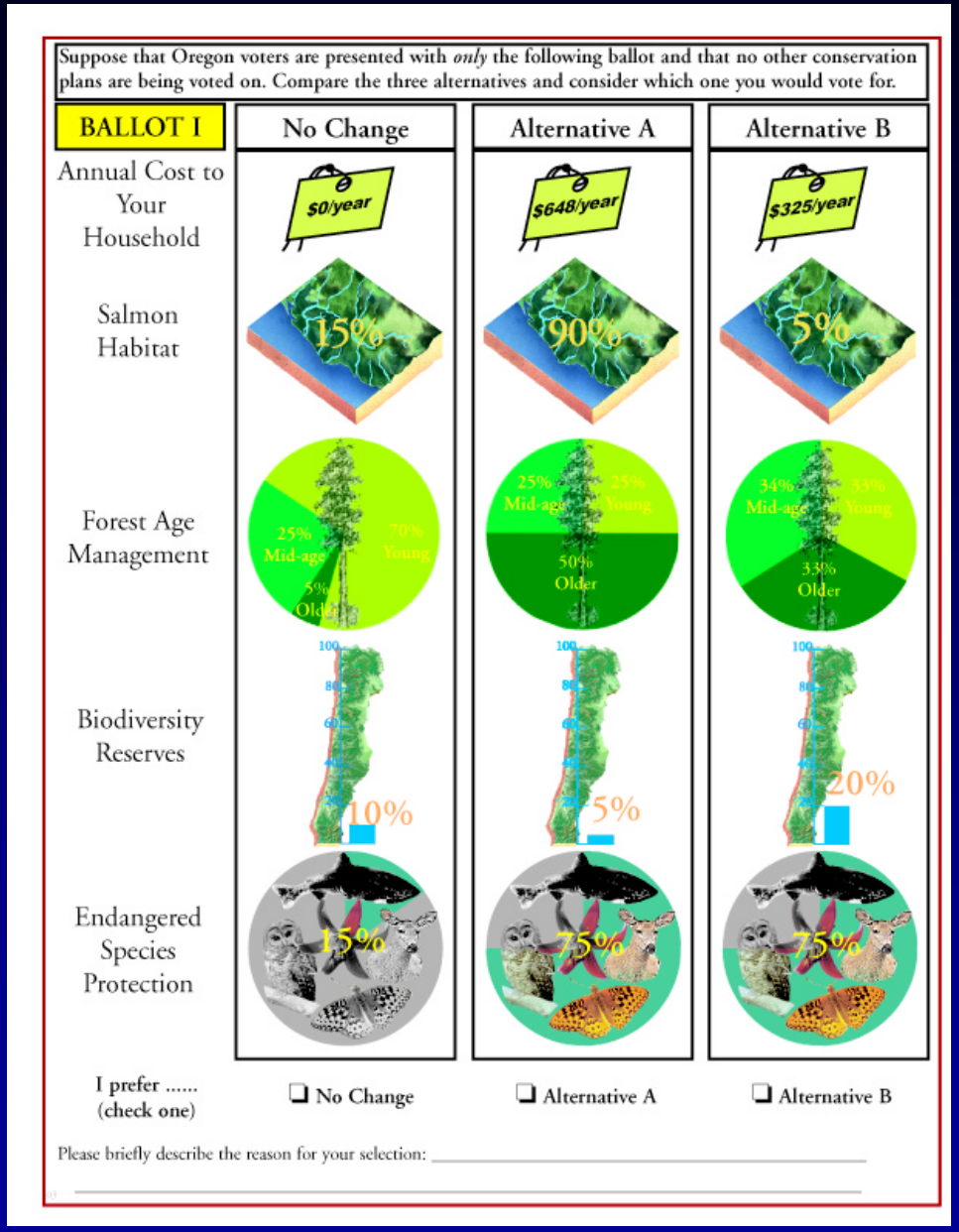


Forest Age Class Diversity: proportion of forest in three age classes

Biodiversity Reserves: proportion of Coast Range land in large-scale reserves

The Choice Scenario

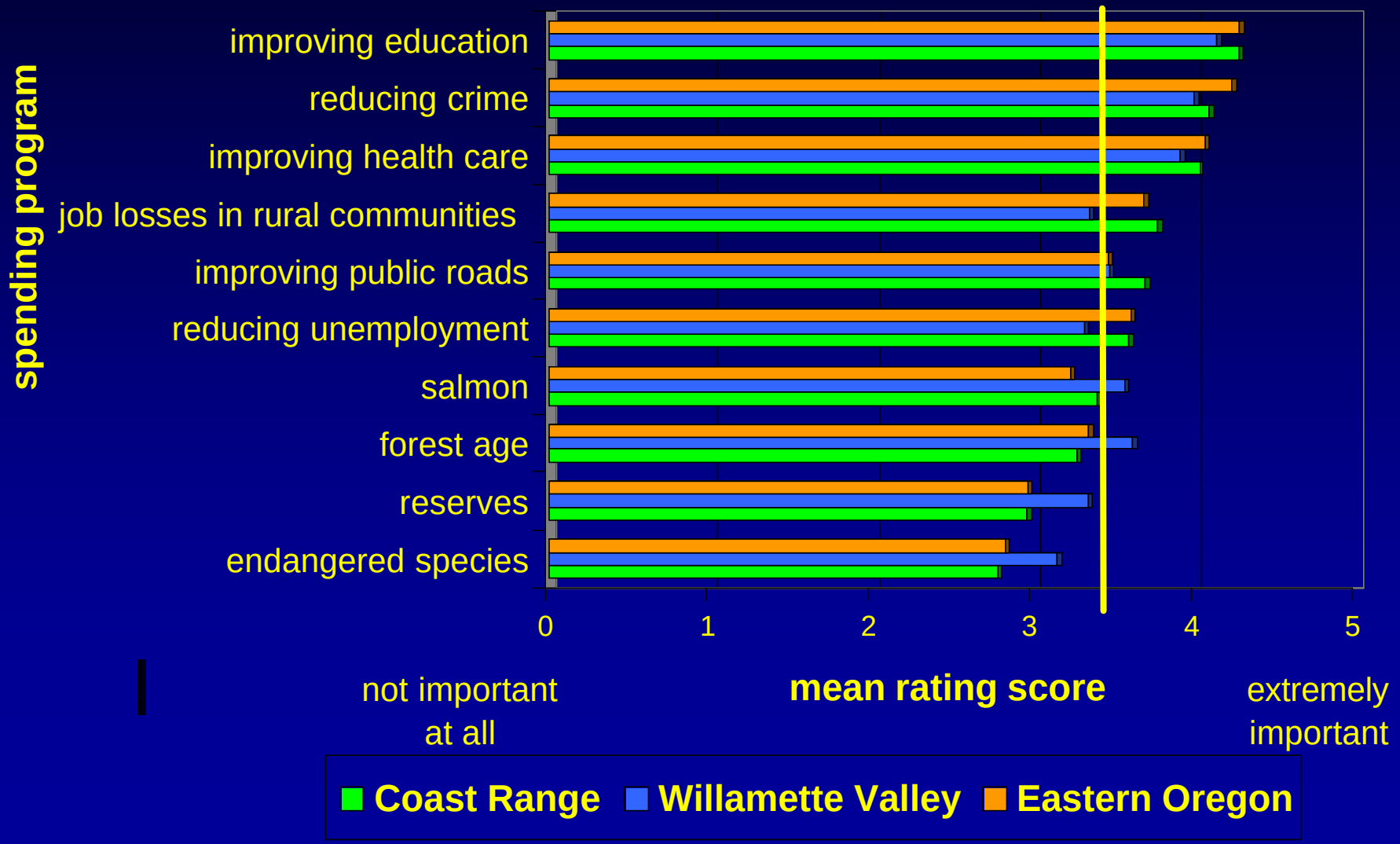
- Five elements in each alternative
- Status quo always an alternative
- Choose most preferred alternative
- Four ballots in each survey



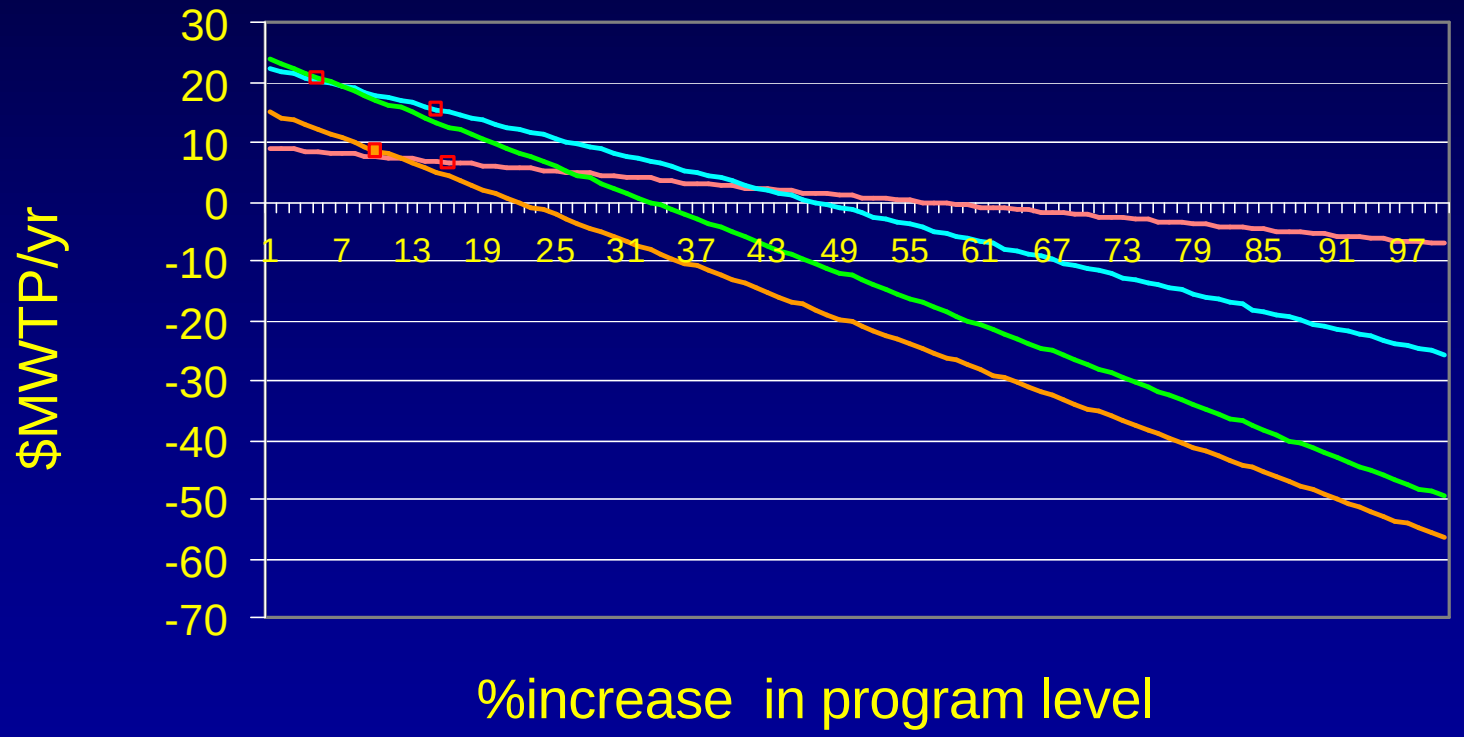
Data Analysis

- Logit Regression
- Choice of alternative = *f*(conservation levels, annual cost to household, status quo, respondent characteristics)

Attitudinal Ratings Of Biodiversity and Other Public Programs



Marginal WTP for Conservation Program Increases - State Weighted Average



Hypothetical Scenario: 10% Increase in Four Conservation Programs

Estimated Total Willingness to Pay per Household

Program	Program Level	*Regional Strata*			
		Coast Range	*Willamette Valley*	*E. Oregon*	*State Wtd Avg*
		Mean TWTP			
salmon	**25%**	67	63	51	60
endangered spp	**25%**	46	160	52	131
old growth	**15%**	150	235	98	201
reserves	**20%**	37	50	34	46
status quo cost		-242	-140	-173	-153
Total		59	367	62	286

Limitations

- Sample selection bias
- Model misspecification
  - Demand curves probably bend at baseline
  - Upward bias on WTP for increases, downward bias on portion of curve below baseline
  - Estimation not grossly biased
- Uncertainty over aggregation of WTP across programs

Key Conclusions

- Demand curves provide detailed measure of public priorities in biodiversity conservation
- Regional differences in preferences
  - Salmon habitat popular among Coastal residents
  - Valley residents display broader support for ESA-style protection

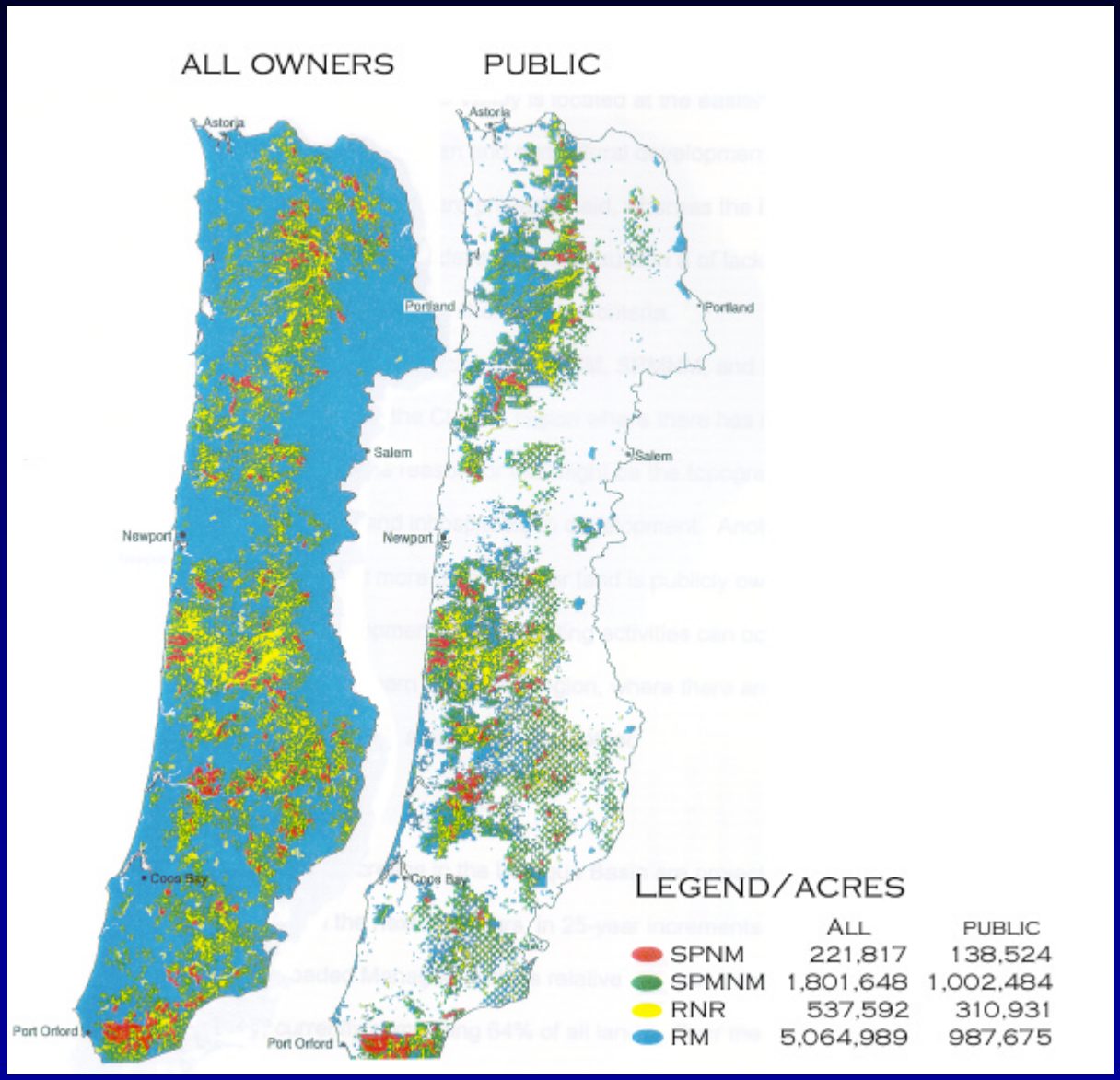
Recreation Landscape Analysis

- Developed by BLM Coos Bay District
- Lael Rogan M.S. Thesis, OSU Forest Resources; Mark Lichtenstein, PNW
- Objectives:
  - Use Recreation Opportunity Spectrum (ROS) to map recreation “habitat” on Coast Range landscape
  - Identify limiting factors in recreation opportunities

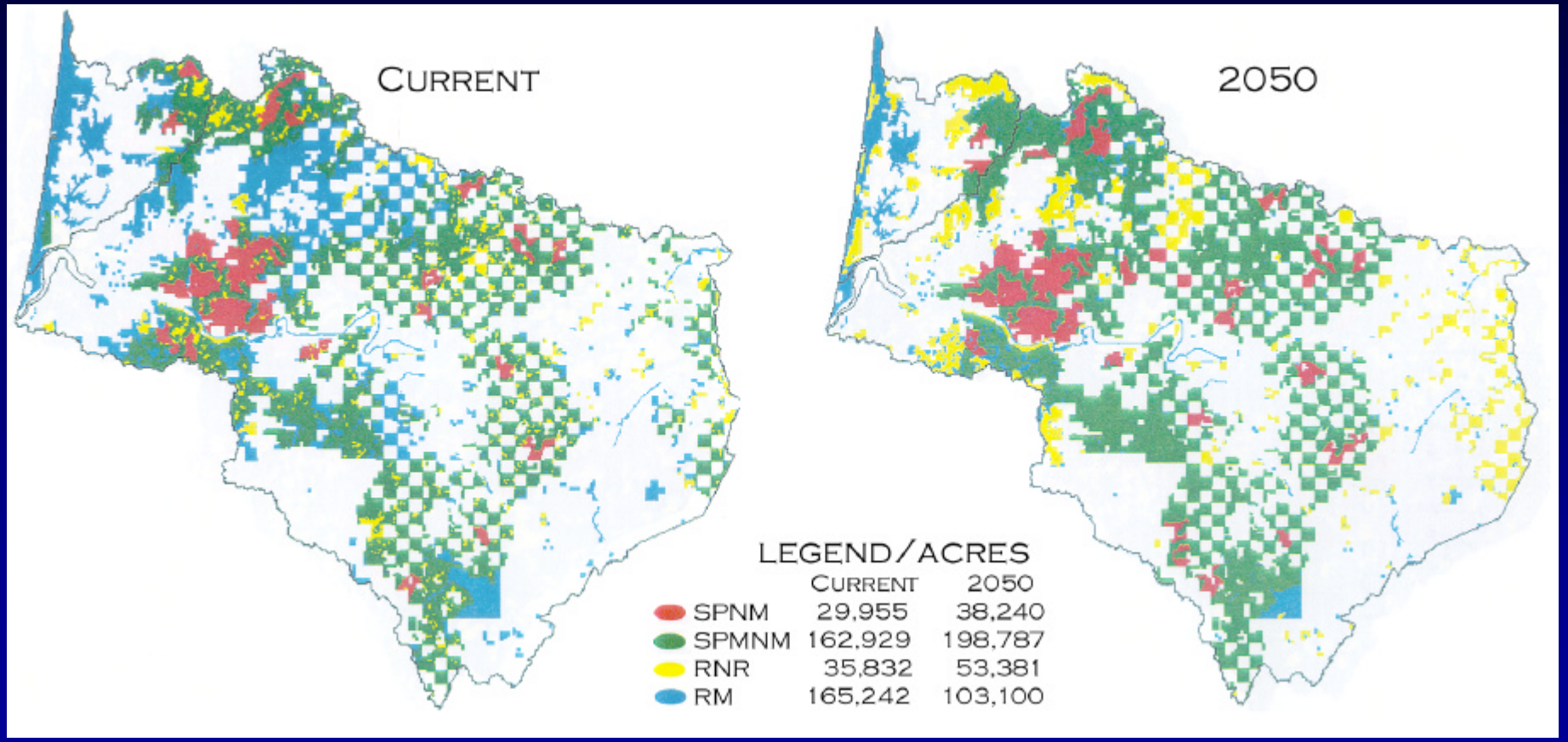
Recreation Opportunity Spectrum

- ***Primitive***: opportunities for remoteness and self-sufficiency; natural appearance and no motorized access
- ***Semi-primitive Non-motorized***: opportunities for remoteness and some solitude; motorized approach, but not inside area
- ***Semi primitive Motorized Non-managed***: access via primary/secondary roads; opportunities for remoteness and natural appearance
- ***Semi-primitive Motorized Managed***: same access as above; evidence of stand management
- ***Roaded Natural Rustic***: natural corridors along roads, easily accessed via car; surroundings appear natural, low traffic volume permits some remoteness
- ***Roaded Managed (Rural***): primary road access; natural features apparent but highly developed with no remoteness

ROS: Public/Private



ROS Over Time: Umpqua Basin



Conclusions/Implications

- Initial phase of study
- Indications that road density limits availability of unroaded recreation
  - Improved road data likely to indicate even greater density
- Analysis offers potential to identify priority areas for road closures
  - Use economic information on recreational benefits/costs of road closures