WOULD YOU LIKE FIRES WITH THAT?

Using stakeholder-derived forest management preference maps to model landscape-level fuel reduction treatment effects on wildfire spread

Brooke A. Cassell bcassell@pdx.edu, Robert M. Scheller, Max Nielsen-Pincus

Portland State University, Department of Environmental Science and Management

RESEARCH OBJECTIVES

Management of public lands in the United States aims to achieve multiple goals relating to ecological function, wildlife habitat, support of local economies, and recreation. In fireprone landscapes these goals are often combined with fuels reduction treatments (e.g., forest thinning and prescribed fire) for wildfire management. Applied landscape research may attempt to evaluate the tradeoffs implicit in public lands planning or envision potential future land management scenarios, but it often fails to incorporate the spatial diversity of stakeholder perspectives.

This study explores the use of public participation geographic systems (PPGIS) to identify spatial and thematic community preferences for fuel reduction treatments in a fire-prone landscape in eastern Oregon, U.S.

Stakeholders

- Local Landowners
- Recreational Users
- Timber Industry
- Ranchers
- Environmentalists
- Collaborative Group Members

Land Use

- Resource Extraction
- Grazing
- Firewood Recreation
- Conservation
- Hunting



Commercial Harvest

15,000 acres/year

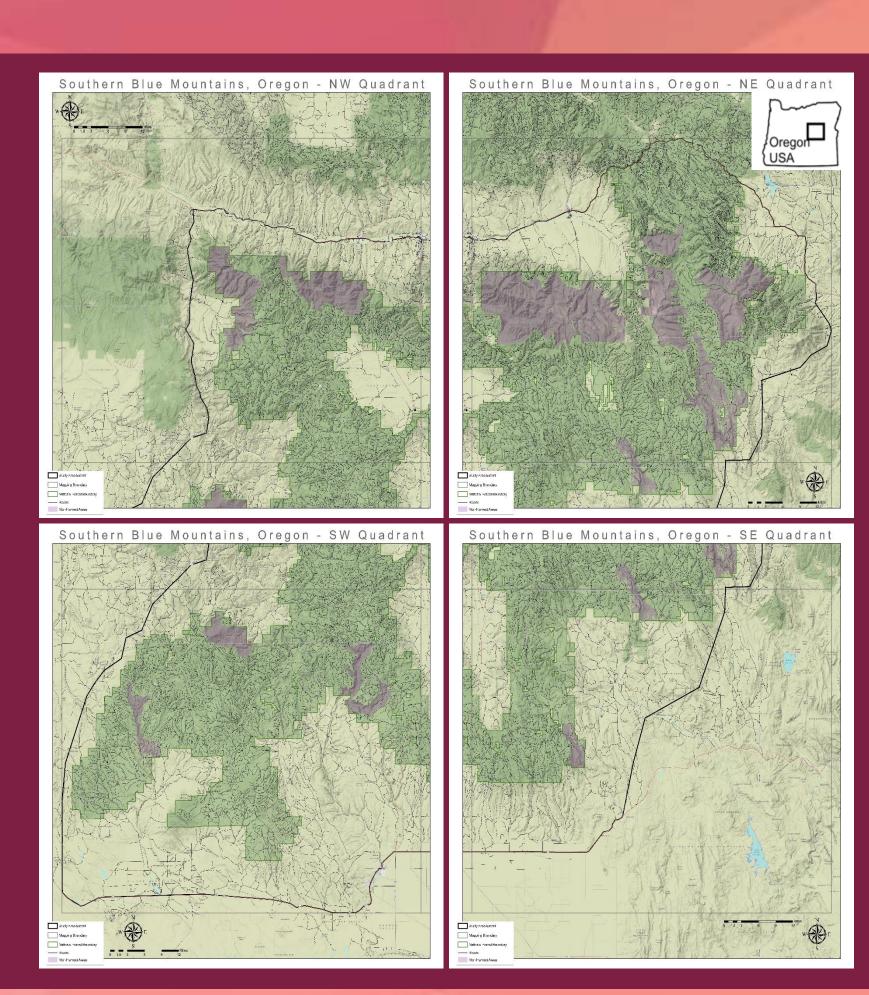
Rx burning

PUBLIC PARTICIPATION GIS (PPGIS)

Through open-ended questionnaires, 6 formal focus groups and 3 interviews, participants identified their fuel treatment preferences and drew polygons directly onto maps to identify areas they consider priorities for different types and intensities of fuel reduction treatments and areas they prefer to leave untreated. By digitizing these PPGIS-derived treatment maps and supplementing with treatment areas according to identified themes (e.g., forest types, protected areas) this research will then use modeling to compare the effects of alternative fuel reduction scenarios on wildfire spread across large landscapes during extreme weather events.

SCENARIO DEVELOPMENT

Alternate management scenarios were developed to reflect the range of community preferences.



Wildlife habitat

SCENARIOS

-DERIVED

10LDER

Soils----

No treatments in wilderness/roadless areas

10,000 acres/year

harvest

Mix of timber

Increased levels of harvesting sales/stewardship

Treat all areas: wilderness, roadless, riparian Managed wildfire as Rx fire

No size limits on trees, but leave some large, old individuals

Reduce fuels through timber harvest

Minimal Management

Business-As-Usual

Accelerated

Economic

No trees > 21", regardless of species

Little/no treatment in riparian buffers No treatments in wilderness

Minimal treatments in riparian areas: removal of conifers

Rx fire only in roadless areas

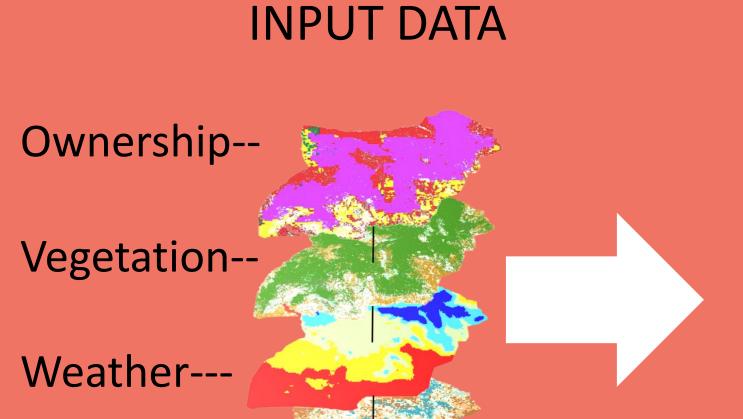
> Mix of precommercial thinning, harvest, and Rx fire

Site-specific

Minimal Rx fire: only post-harvest

Move toward local (not federal) decision making and increased timber for local economic growth

Landscape Modeling with LANDIS-II - 90-year simulations are run to compare the effects of each alternate management scenario on



SCENARIOS

Minimal Management Business-As-Usual Accelerated

Economic

Seed Dispersa

forest communities and fire regime across the landscape under extreme fire weather conditions. Extreme Fire Weather

Soil Carbon & Nitrogen

Competition

VEGETATION Forest Types

Biomass

FIRE

Size

Frequency

Severity

OUTPUT DATA

PROJECT PARTNERS

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