

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 fire-prone 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	Land Use
<ul style="list-style-type: none">Local LandownersRecreational UsersTimber IndustryRanchersEnvironmentalistsCollaborative Group Members	<ul style="list-style-type: none">Resource ExtractionGrazingFirewoodRecreationConservationHunting



Light/Pre-Commercial Thinning



Heavy Thinning/Commercial Harvest



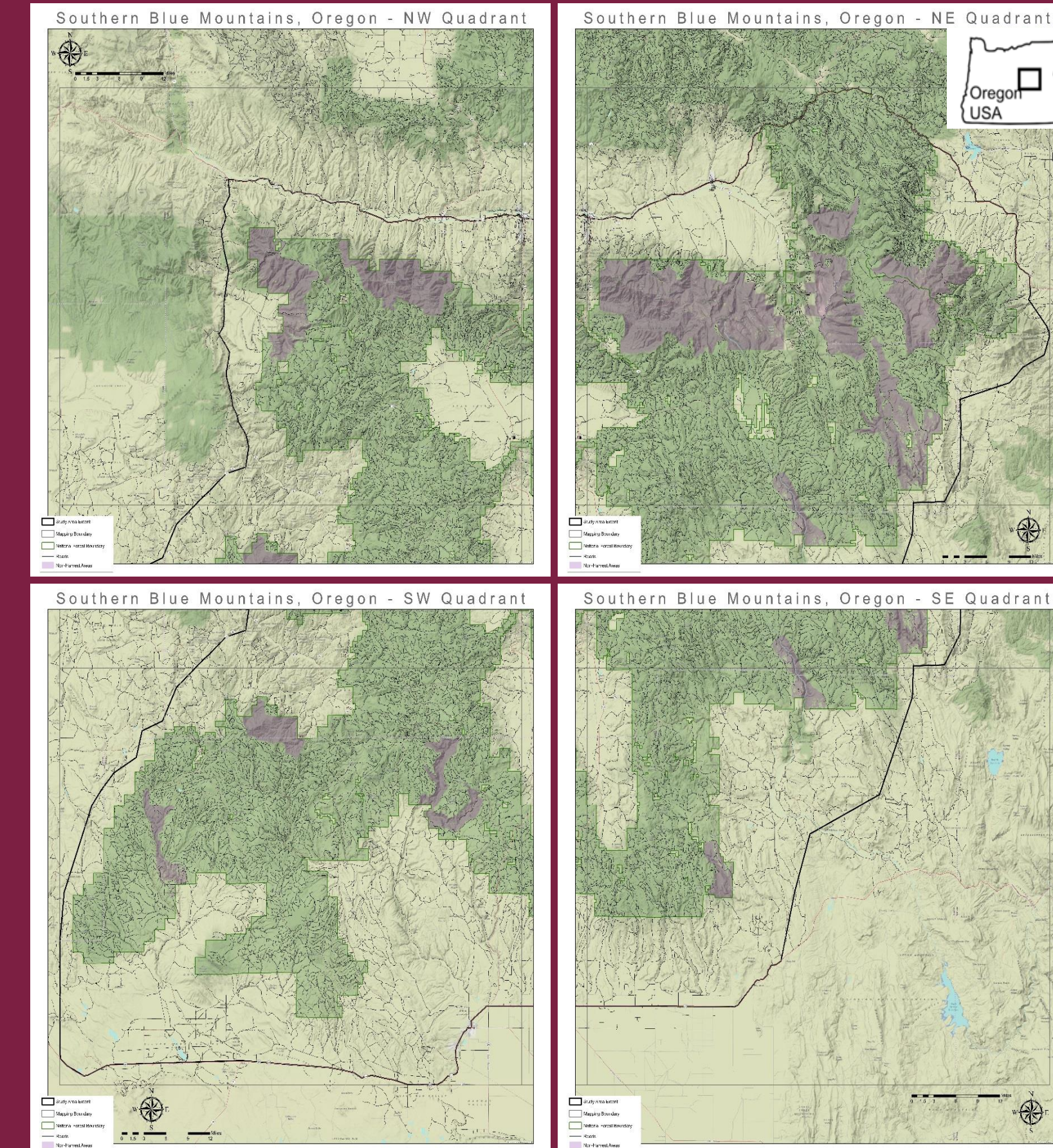
Prescribed Fire

PUBLIC PARTICIPATION GIS (PPGIS)

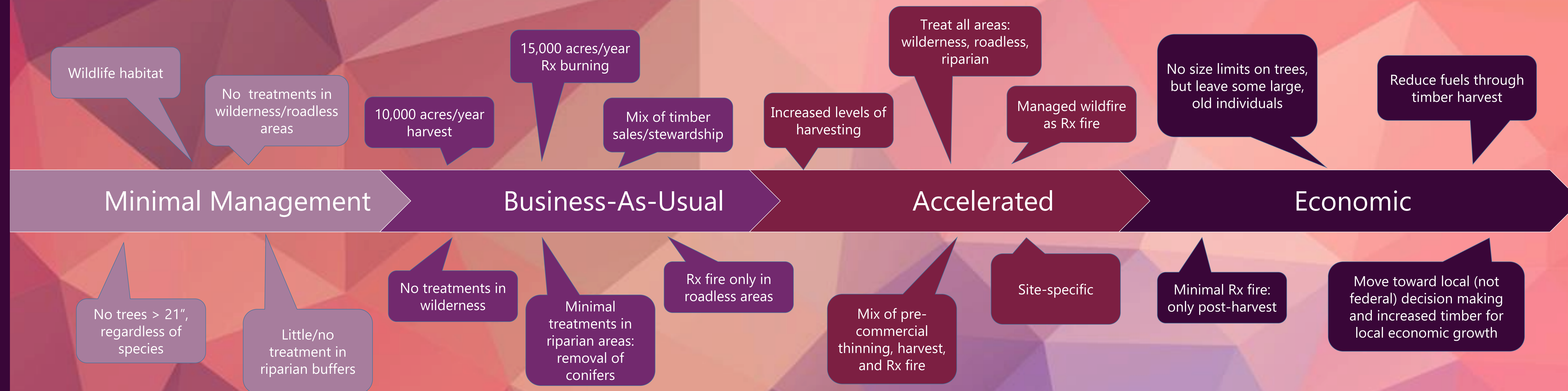
Through open-ended questionnaires, 6 formal focus groups and 3 interviews, participants identified their fuel treatment preferences and drew polygons directly onto maps to identify areas they consider priorities for different types and intensities of fuel reduction treatments and areas they prefer to 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

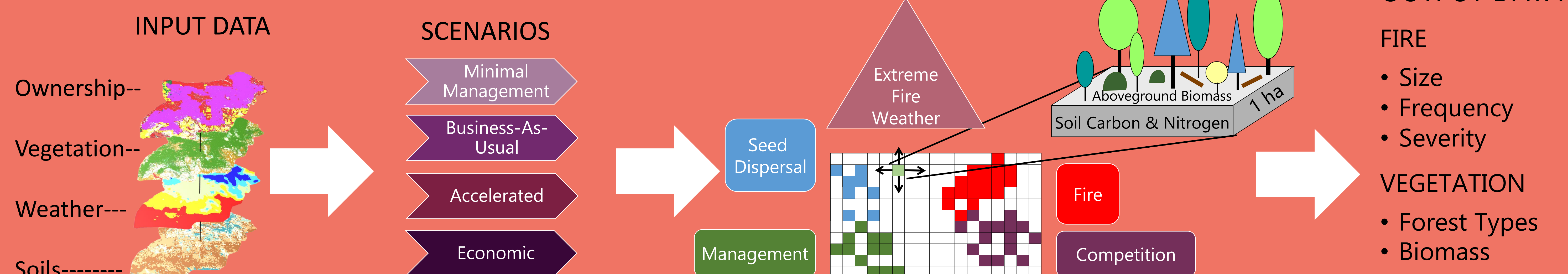
Alternate management scenarios were developed to reflect the range of community preferences.



STAKEHOLDER-DERIVED SCENARIOS



Landscape Modeling with LANDIS-II – 90-year simulations are run to compare the effects of each alternate management scenario on forest communities and fire regime across the landscape under extreme fire weather conditions.



PROJECT PARTNERS

Funding for this project is provided by the Joint Fire Science Program under Project #14-1-01-2



Travel funding provided by NASA-MSU and the Ed and Olive Bushby Scholarship