

A Network Approach to Understanding Social Capacity for Landscape Management



Importance of Organizational Networks

- **Management of wildfire and fire-prone forests require strategies that cross geographic and social boundaries**
- **Networks can function at scales at which formal organizations do not**
- **Structure of networks can reveal capacity for landscape management**

Questions

- **To what extent are organizations that are concerned with fire risk in the forested landscape of the Eastern Cascades Ecoregion interacting across boundaries?**
 - Geographic
 - Social
- **What does the structure of this network imply about social capacity to manage landscapes?**

Network Analysis

Interviews with representatives of 87 organizations

- Beliefs
- Management practices
- Social network ties



Network analysis

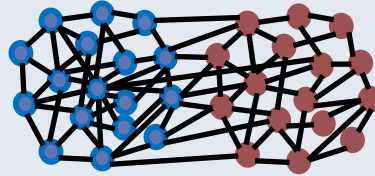
- Which types of organizations are interacting, and for what purposes?
- Which organizations are spanning geographic and social boundaries?

Who in other organizations do you:

- Plan, pay for or do work with?
- Get information from?
- Give formal advice to?
- Get new ideas from?
- Exert influence through?



Boundary Spanning



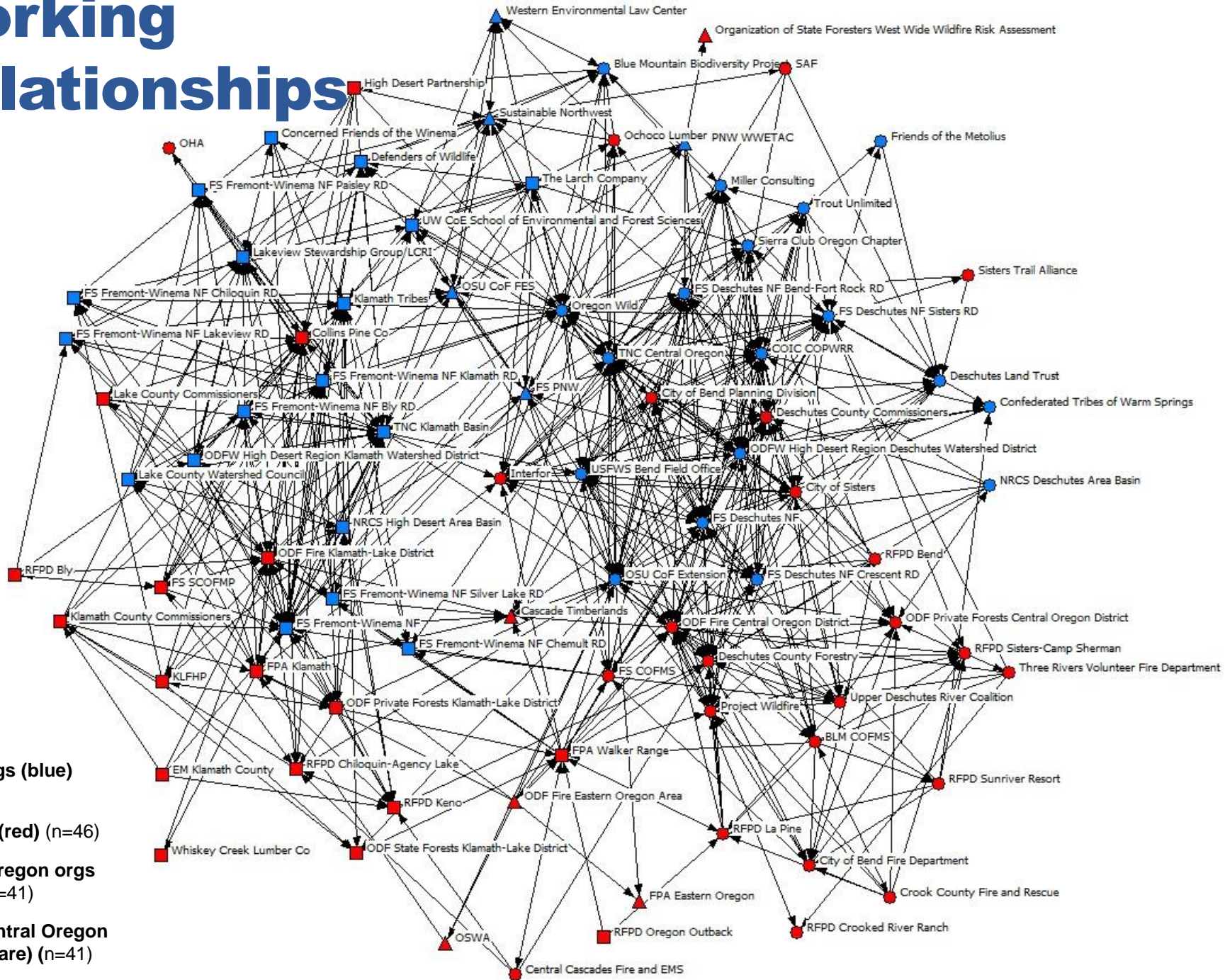
Geography

- **Central Oregon**
- **South Central Oregon**

Social Goals

- **Forest restoration**
- **Fire protection**

Working Relationships



Forest orgs (blue)
(n=41)

Fire orgs (red) (n=46)

Central Oregon orgs
(circle) (n=41)

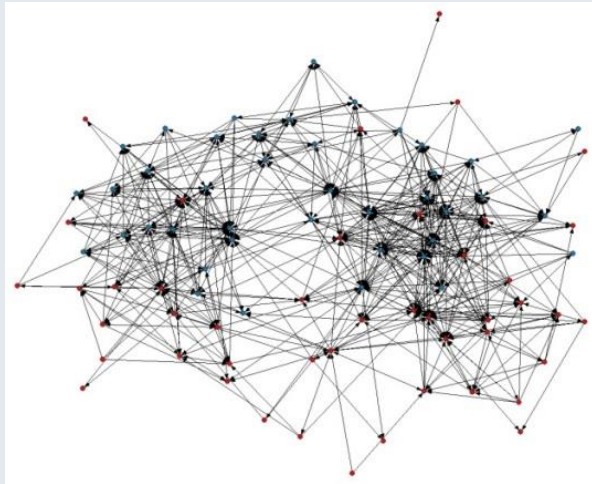
South Central Oregon
orgs (square) (n=41)

Less Boundary Spanning Than Expected

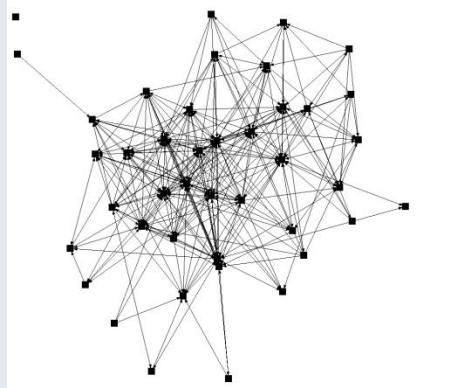
In response to the network questions about working partners and information sources, organizations reported:

- Interacting with organizations with similar goals and geographies more often than would be expected by chance
- Interacting with organizations with different goals and geographies less often than would be expected by chance

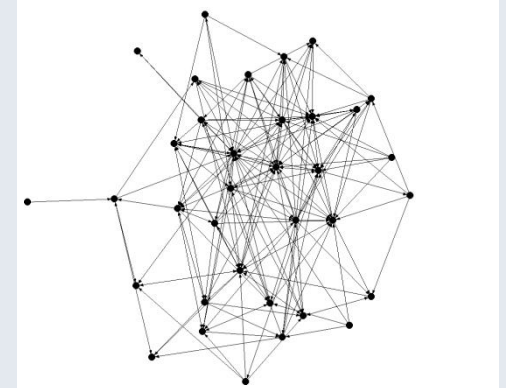
More Cohesion Within Geographic Subnetworks and Among Forest Orgs



■ All organizations (n=87)



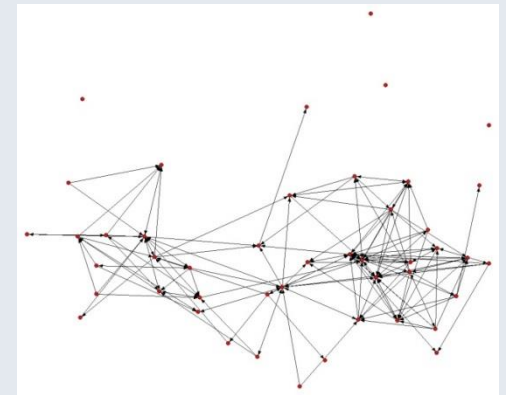
● Central Oregon (n = 42)



■ South Central Oregon (n = 39)



■ Forest orgs (n=46)



■ Fire orgs (n=41)

Evidence of Need for Boundary Spanning

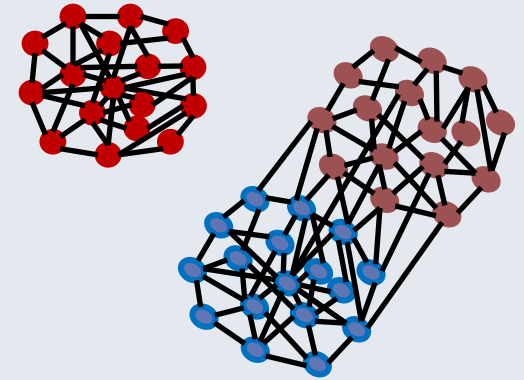
“It’s a hurdle when different agencies have different goals and objectives. How do we work together when they differ?...Another agency allowing fire to burn naturally directly threatens our fire protection responsibilities.”

Representative of a fire protection agency in south central Oregon

“Our 5 federal land agencies should be reevaluated for their ability to do the work they were supposed to do when came into being. [We may need] one land management agency with clear direction to truly do multiple use for everyone.”

County commissioner from Central Oregon

Summary

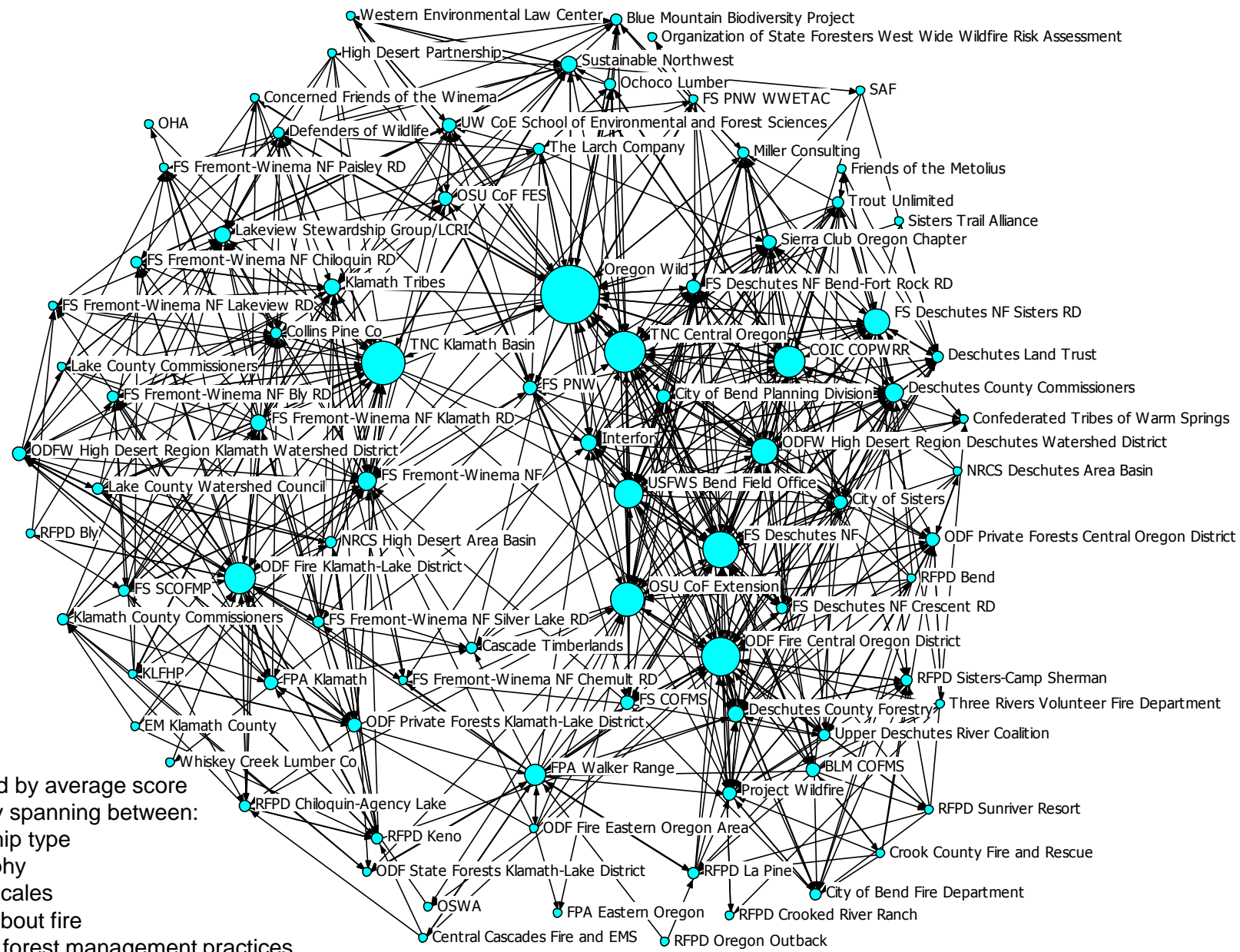


- 1. Not a cohesive network of organizations**
 - Bifurcated on social goals and geography
 - May be challenged in acting collectively to manage on the landscape scale
- 2. More cohesion among forest restoration organizations than fire protection organizations**
 - Forest organizations are in a better position to conduct landscape management than fire organizations

Policy Implications

- **Leverage institutions to improve communication and coordination across geographic and social boundaries**
 - **Fire Learning Network**
 - **Fire Science Consortia**
 - **Collaborative Forest Landscape Restoration Program**
 - ***National Cohesive Strategy***
- **Leverage boundary spanning organizations to facilitate communication and coordination**

Top boundary spanning organizations



Nodes sized by average score of boundary spanning between:

1. Ownership type
2. Geography
3. Spatial scales
4. Beliefs about fire
5. Fire and forest management practices
6. Knowledge (scientific, experiential)

Network Team

- **Paige Fischer, USDA Forest Service**
- **Ken Vance-Borland, Oregon State University**
- **Lorien Jasny, National Socio-Environmental Synthesis Center**
- **Kerry Grimm, Oregon State University**
- **Susan Charnley, Forest Service, PNW Research Station**
- **Emily Platt, Oregon State University**
- **Maribel Vidrio, Willamette University**

