

# COMMUNITY/SOCIAL NETWORKS

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WWETAC

Willamette  
National  
Forest  
Conversation  
about Natural  
Resource  
Issues and  
the Public

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# COMMUNITY

## ■ Community:

- Geographic expression (can also be a community of interest)
- System of social interactions
- Source of mutual identity

## ■ Community field:

- Arena for social interaction oriented toward the needs or interests of larger community rather than special interests

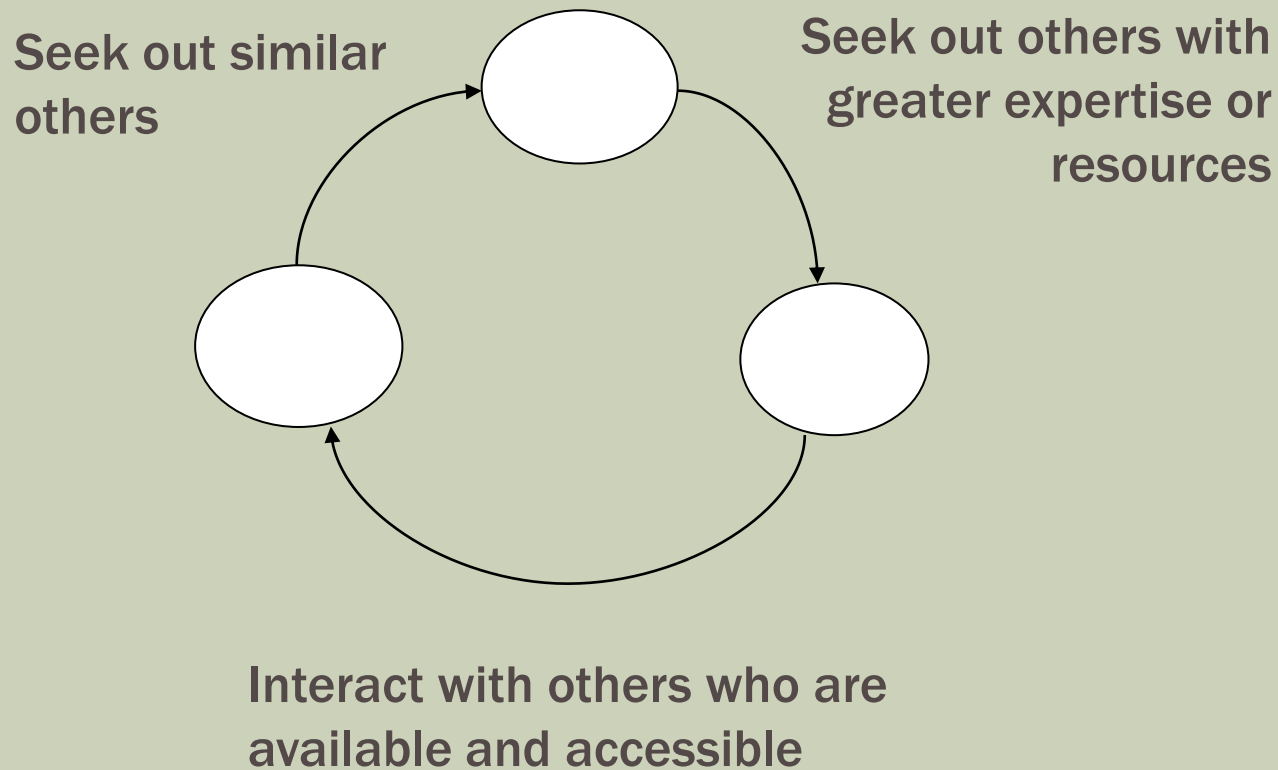
## ■ Social capital:

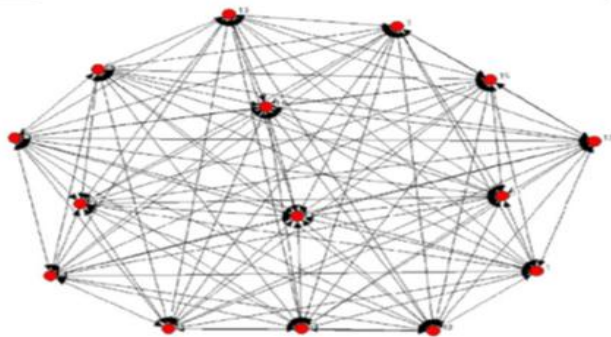
- Stock of relationships and norms of behavior
- Ability to work together in collective response to problems, and mobilize resources in times of perceived need

# SOCIAL NETWORKS

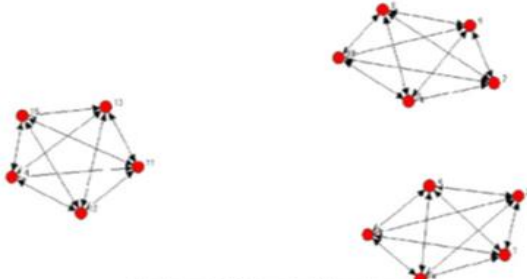
- **Social networks are:**
  - Sets of individuals or organizations and the patterns of interaction among them
  - Theoretical construct that refers to social structure as determined by interdependencies
  
- **Social network approach assumes:**
  - Relationships are important
  - Actors are interdependent
  - Ties are channels for exchange of information and resources
  - Network structure enables and constrains these exchanges

# THEORY OF SOCIAL INTERACTION

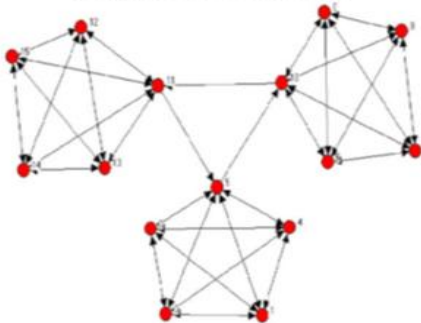




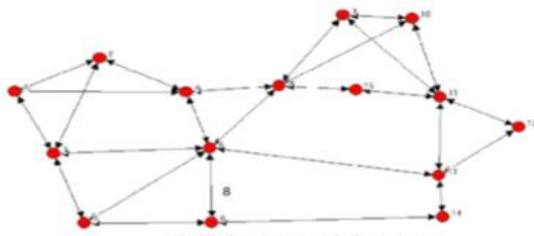
Complete Network Structure



Factional Network Structure



Coalitional Network Structure



Bridging Network Structure

# NETWORK STRUCTURE, COMMUNICATION AND SOCIAL BEHAVIOR

## Bonding capital

- Dense ties (within group)
- Social norms of behavior
- Communication of information
- Communication of complex knowledge
- Efficient decision-making
- Collective action

## Bridging capital

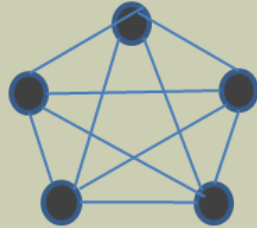
- Loose ties (between group)
- Access to rare information or resources
- Innovation
- Complex problem solving

## Bonding capital measures

Density: Proportion of all possible ties that exist



50%

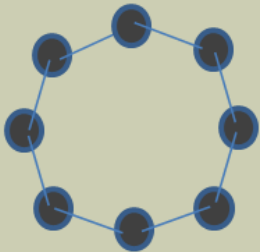


100%

Average degree: Average number of a ties held by network actors



Centralization: How centralized the network is



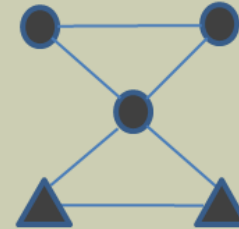
Centralization = 0



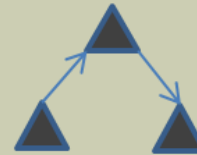
Centralization = 100%

## Bridging capital measures

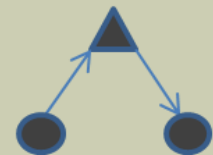
Cross-boundary exchange: Proportion of ties that connect different types of actors



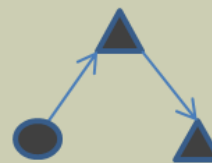
Brokerage: Indirect ties provided by a third party actor



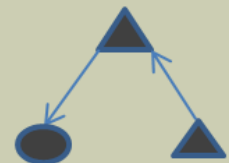
Coordinator



Consultant



Gatekeeper



Representative

# CASE STUDY: NETWORK OF ORGANIZATIONS INVOLVED IN THE MANAGEMENT OF CENTRAL OREGON'S FIRE-PRONE LANDSCAPE

## 1. Characterize the network

- Key organizations
- Institutional beliefs, values and behavioral intentions
- Patterns of interaction among organizations

## 2. Analyze implications of patterns of interaction for:

- Communication of information
- Learning and complex problem solving
- Coordination and collective action



## Forests People Fire (FPF) Study Area

### Ownership

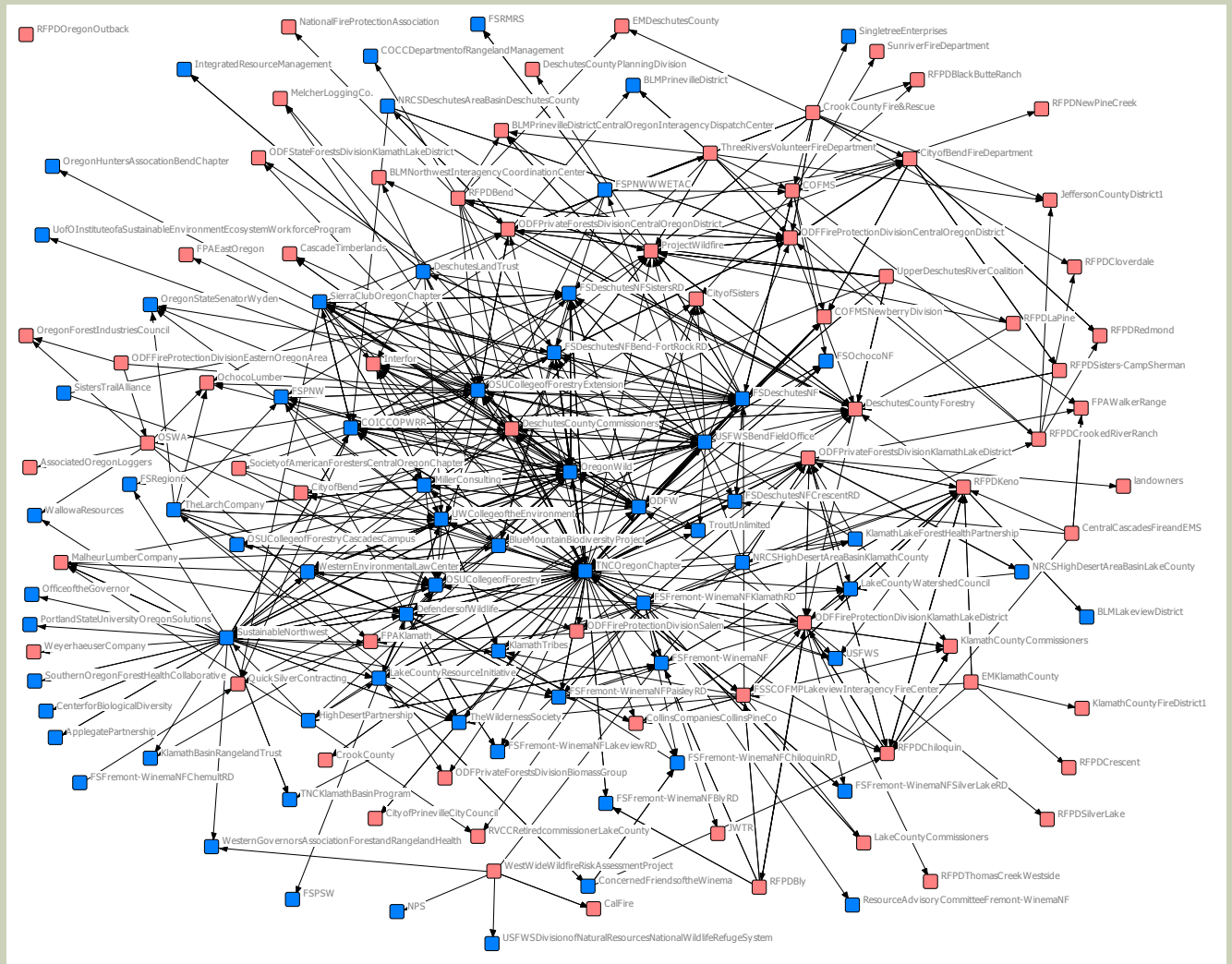
- BLM
- USFS
- Other
- Private industrial
- Private non-industrial
- State
- Tribal
- Lakes
- FPF boundary
- Cities
- County Line
- Highways



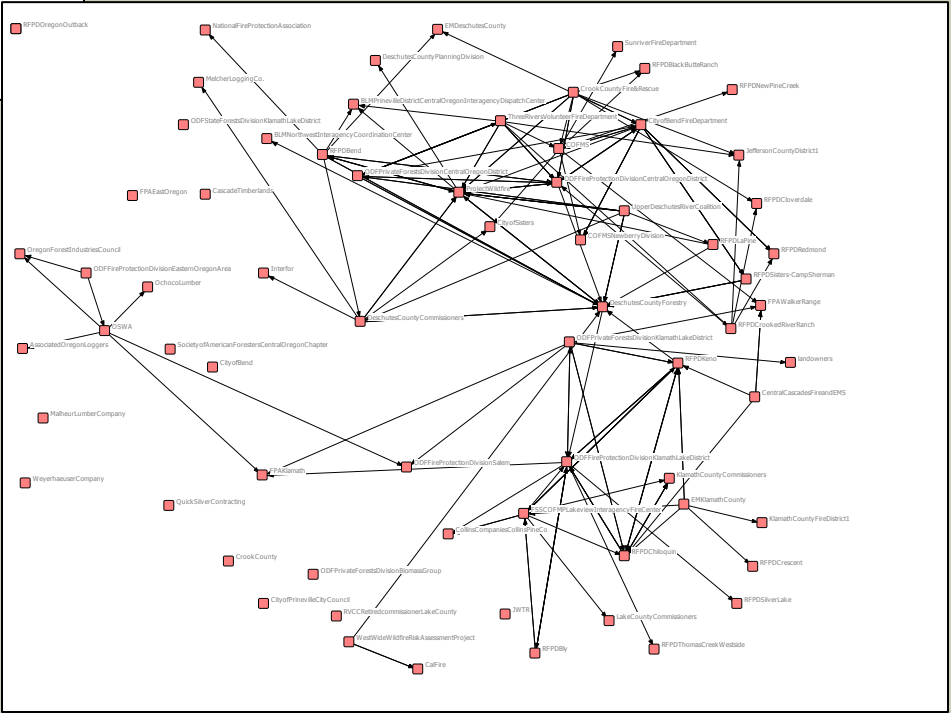
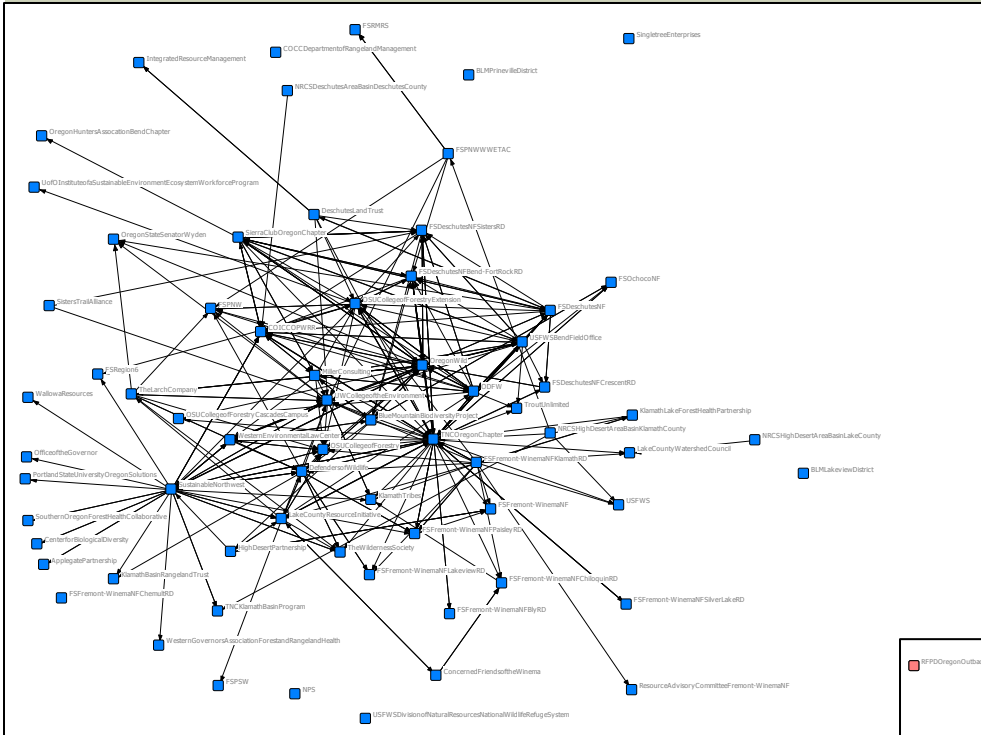


# INTERORGANIZATIONAL FOREST AND FIRE NETWORK

- **Fire organizations:** Fire protection, preparedness, and response agencies and private landowners
- **Forest organizations:** Public land management and conservation organizations



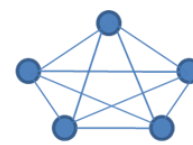
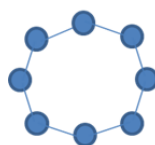



# Forest organizations

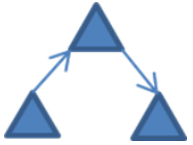
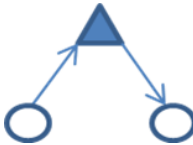



# Fire organizations

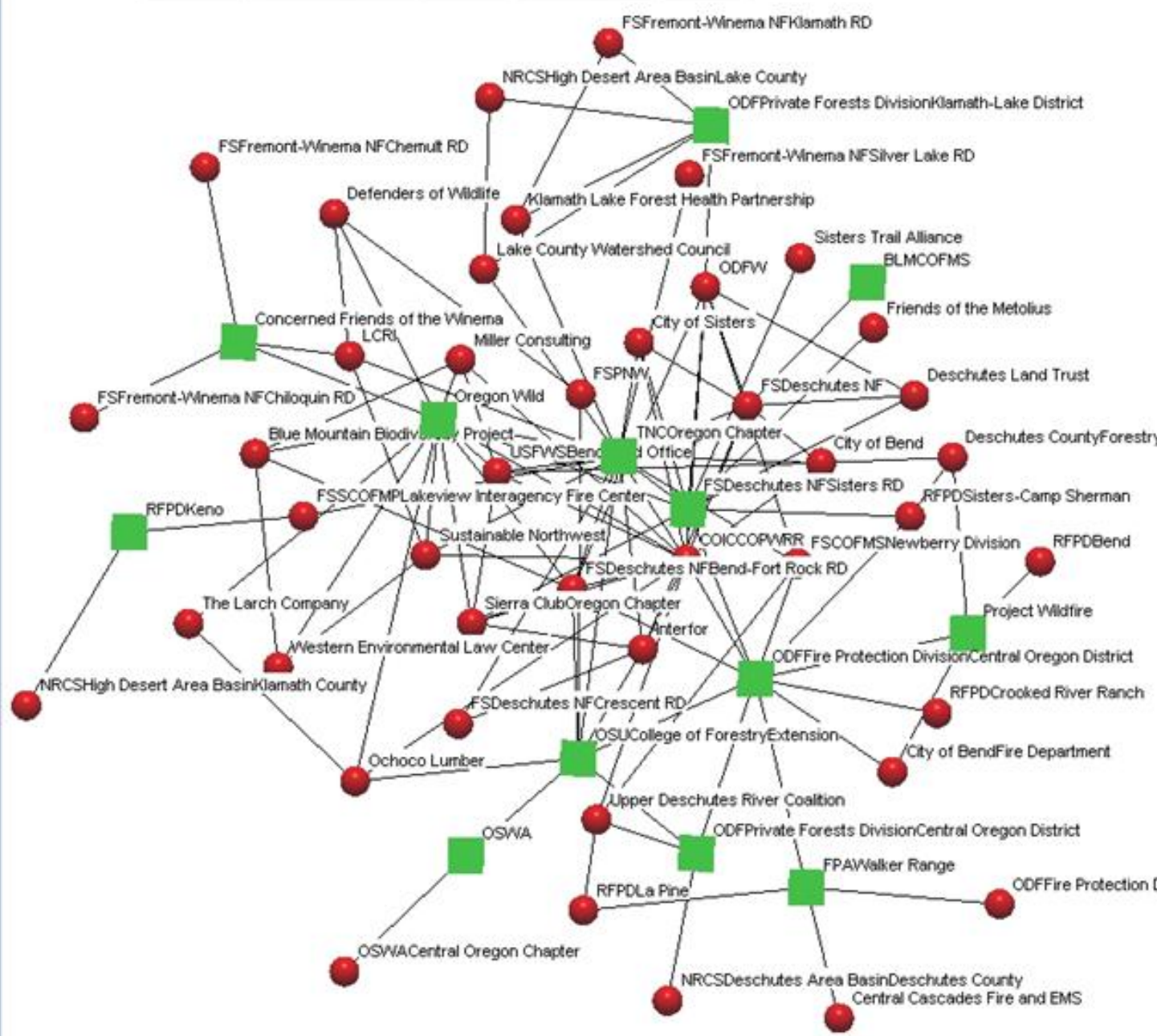
# BONDING CAPITAL INDICATORS

Variables		Overall (n=137)	Forest (n=68)	Fire n=69)
Average degree		3.686	3.85	1.64
Density	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>50%</p> </div> <div style="text-align: center;">  <p>100%</p> </div> </div>	2.7%	5.2%	2.4%
Centralization	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>0%</p> </div> <div style="text-align: center;">  <p>100%</p> </div> </div>	35.5%	44.8%	12.65%

# BRIDGING CAPITAL INDICATORS

Variables	Overall (n=137)	Forest (n=68)	Fire n=69)
Cross-boundary exchange	30.7%(-)***	29.8%(-)	32.3%(-)
Brokerage			
Coordinator 	1247(+)***	1052(+)**	195
Consultant 	247(-)***	192	55
Representative 	700(+)***	597	103





Record KP nodes kp-set

Delete KP Nodes

Save to nodelist

Set color ■ Lime

Set shape

Node size

Results

Weighted diffusion is 1.00

Edge value: AllTies-Sum

Initial fitness: 0.000

Final fitness: 1.000

Change in fitness: 1.000

Key Players:

- ODFFire Protection Division
- OSUCollege of ForestryExtension
- BLMCOFMS
- TNCOregon Chapter
- Project Wildfire
- ODFPrivate Forests Division
- FPAWalker Range
- Concerned Friends of the Winema
- FSDeschutes NFSisters RD
- ODFPrivate Forests Division
- Oregon Wild
- OSWA
- RFPDKeno

# INTERORGANIZATIONAL NETWORK: PRELIMINARY FINDINGS

- Opportunity for exposure to novel and rare ideas and resources may be limited by the lack of direct and mediated interactions among a broad range of forest and fire organizations in the network
- Communication and cooperation may occur more easily among forest organizations than fire organizations
- Lack of interaction among fire organizations in particular may impede management of fire risk across boundaries on landscape scale

# IMPLICATIONS FOR UNDERSTANDING THE PUBLIC

- Need to understand community field to understand the processes by which public attitudes, beliefs and behavioral intentions are formed
- Patterns of interaction among organizations are particularly important
- Social network structure can shed light on opportunities and constraints for communication and cooperation



**Thank you!**

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