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Turning contention into collaboration: The role of collaborative networks in natural resource governance

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Turning contention into collaboration: The role of collaborative networks in natural resource governance

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contentious

adversarial interest groups

advocacy

complexity

government distrust power no solution

winners losers

Wicked Problem

contested science

Collaborative Networks

Collaborative Networks
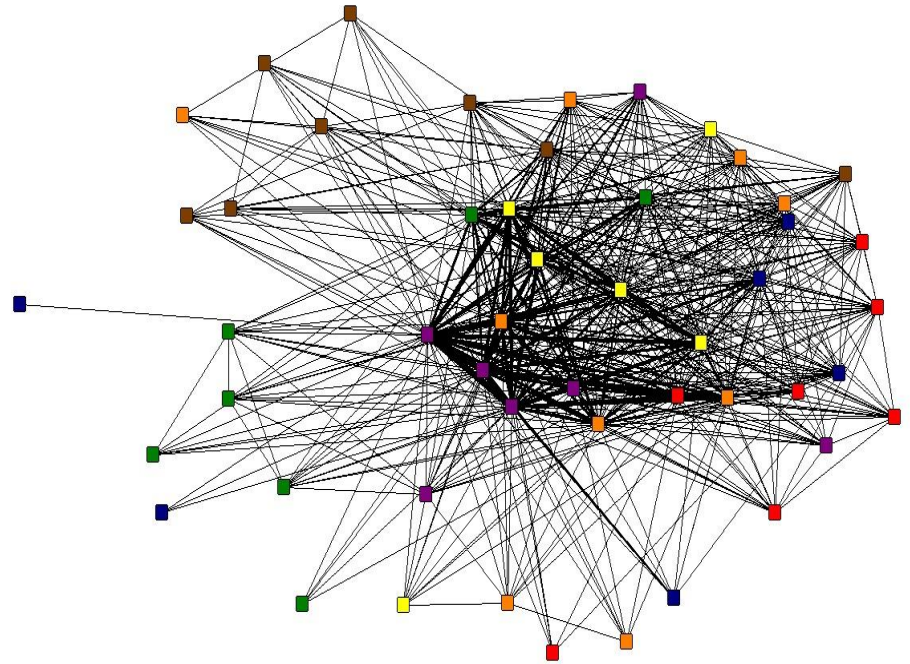

- Power
- Trust
- Learning

Mixed Methods Approach

Case study

Network analysis

Case Context

Vernal pool regulations in Maine

Vernal pool: seasonal wetlands that provide fishless breeding habitat for amphibian indicator species

Case Context

Vernal pool regulations ... e

Portland Press Herald

January 19, 2011

LePage: Ease regulations that protect vernal pools

A key tenet for the governor is reduction of policies that may impede development.

By Tom Bell tbell@pressherald.com
Staff Writer

LEWISTON — Gov. Paul LePage wants to relax state rules aimed at protecting vernal pools from development.

Speaking at a business forum Tuesday at the University of Southern Maine's Lewiston-Auburn campus, LePage said that proposal will be part of a major legislative package intended to reduce and streamline state regulations.

Case Context

- Initial group of 6 met in 2010, grew to 52 by 2014
- Fed, state, town, developers, land trusts, university
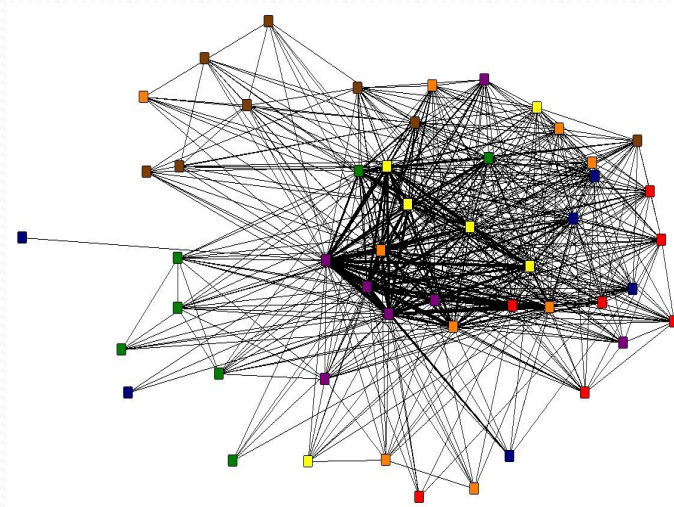- Developing a market-based, locally-tailored mechanism

Methods: Case Study

- Conducted 27 Interviews (2013)
- Attended 45 meetings (2010-2014)
- Collected documents, emails, press, web postings

- All data analyzed in Nvivo

for themes of power, trust & learning

Methods: Network analysis

Look at network patterns at actor and network levels

- Network links based on who co-attended meetings
- Data from same time period as interviews
- Analyzed in UCINET

Collaboration & Power

Is power equalized? If so, how?

- Network exchange theory
- Status characteristics theory

(Agranoff, 2006; Ansell & Gash, 2008; Bodin & Crona, 2009; Bramwell & Sharman, 1999; Johnston et al., 2011; Walker et al. 2000)

Collaboration & Power

Is power equalized? If so, how?

- Network exchange theory
- Status characteristics theory

Network measures

- Central actors
- Brokerage positions

(Agranoff, 2006; Ansell & Gash, 2008; Bodin & Crona, 2009; Bramwell & Sharman, 1999; Johnston et al., 2011; Walker et al. 2000)

Collaboration & Power: Results

No actors stand out as most powerful

- Position as reason for power

"(Army Corps rep) seems to play an important role but that's her institution - I mean she's the biggest regulatory hammer in the room."

- *University rep*

Collaboration & Power: Results

No actors stand out as most powerful

- Position as reason for power
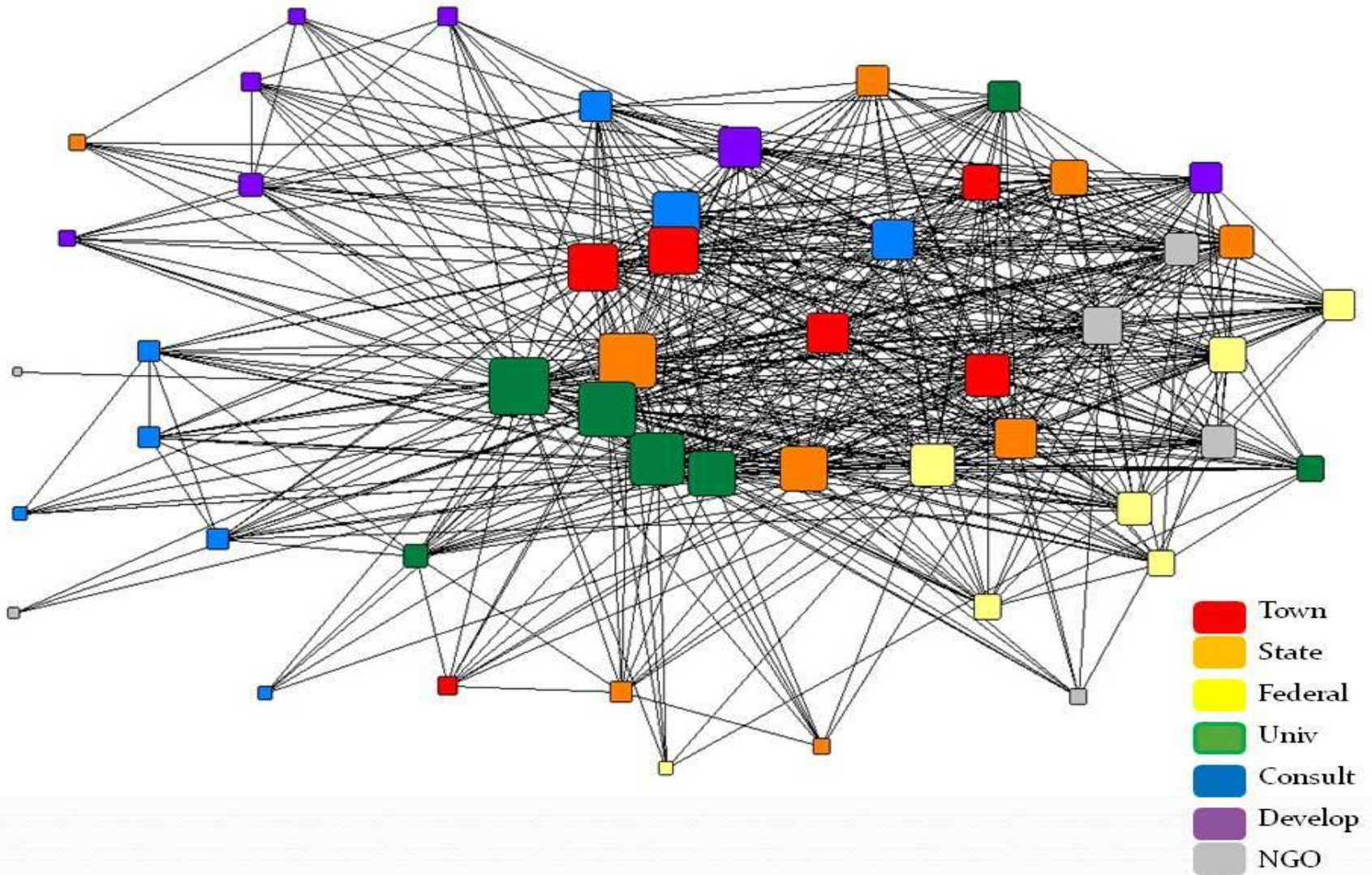- Status as reason for power

Collaboration & Power: Results

No actors stand out as most powerful
- Position as reason for power
- Status as reason for power

"(Town rep) is sort of the planning guru in the state of Maine. If we have a tool that he can promote, I think that would go a long way."

-State rep

Collaboration & Power: Results

Legend:
- Town (red)
- State (orange)
- Federal (yellow)
- Univ (green)
- Consult (blue)
- Develop (purple)
- NGO (gray)

Collaboration & Power: Results

Freeman's Network Centralization: 12.14%

Town
State
Federal
Univ
Consult
Develop
NGO
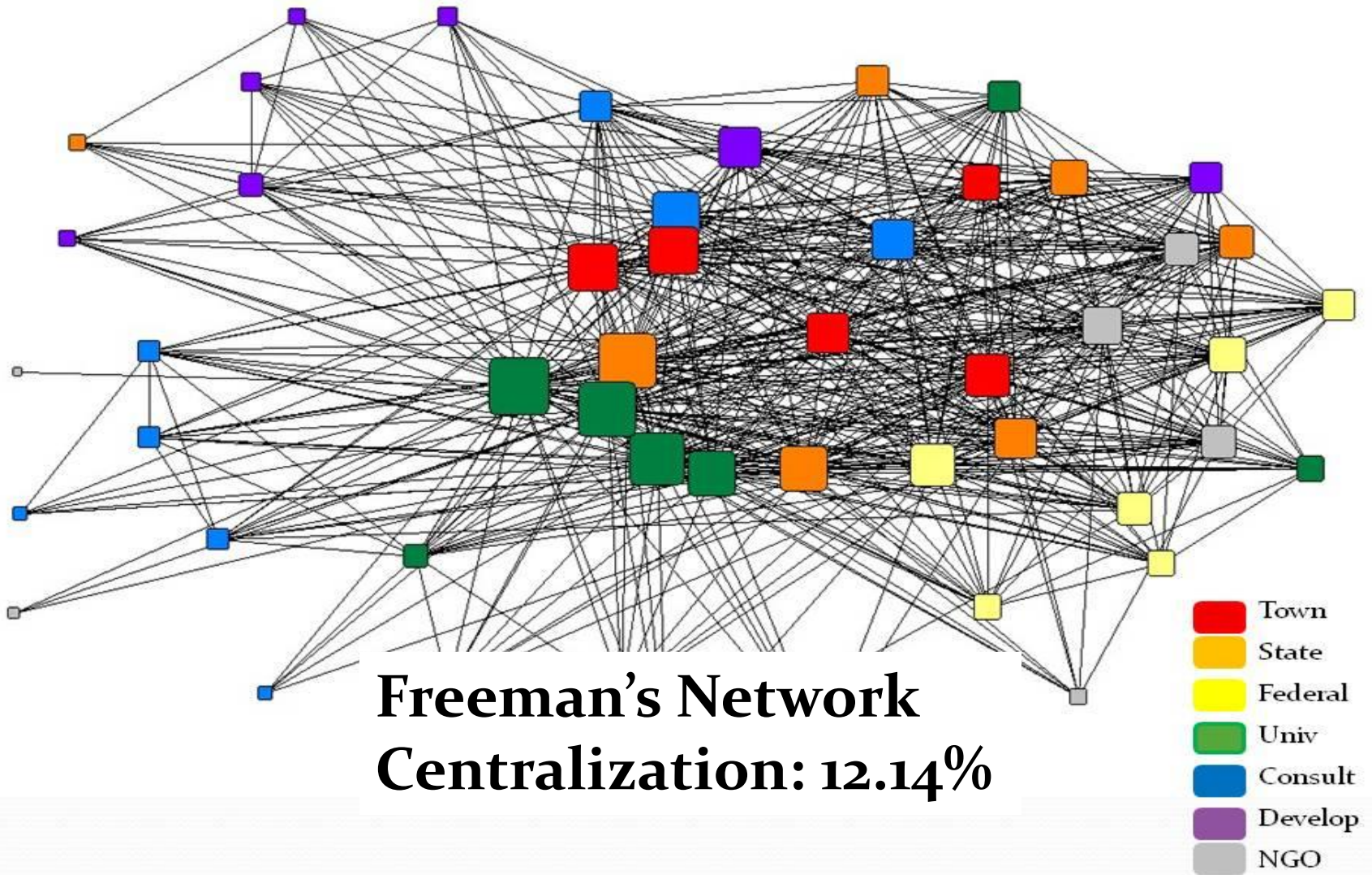
Summary of Results: Power

Power		
Theory	**Qualitative**	**Network Analysis**
Network exchange	Some positions matter	Power is equalized Position not important
Status characteristics	Prior & recent status more important	N/A

Collaboration & Trust

Does trust develop? If so, how?

- Institutional rational choice theory
- Social psychology/Advocacy coalition framework

(Bodin, Crona, & Ernstson, 2006; Henry & Dietz, 2011; Leach & Sabatier, 2005; Lubell, 2007)

Collaboration & Trust

Does trust develop? If so, how?

Network measures

- Institutional rational choice theory
- Social psychology/Advocacy coalition framework

- Dense networks

- Homophily

(Bodin, Crona, & Ernstson, 2006; Henry & Dietz, 2011; Leach & Sabatier, 2005; Lubell, 2007)

Collaboration & Trust: Results

Trust not a problem
- Institutional rational choice: recent & past experiences

"I don't really trust local governments to follow through with these things. Then again, I don't trust us or the State to follow through with (conservation) either. I haven't seen a good track record by anybody to do that."

-Federal rep

Collaboration & Trust: Results

Trust not a problem

- Institutional rational choice: recent & past experiences
- Institutional 'rules' mediated experiences

"It's really kudos to (the facilitators) for infusing and informing the process with a commitment to actually do this in as open and inclusive way as is possible, without which there would be no trust."

-Town rep

Collaboration & Trust: Results

Trust not a problem

- Institutional rational choice: recent & past experiences
- Institutional 'rules' mediated experiences
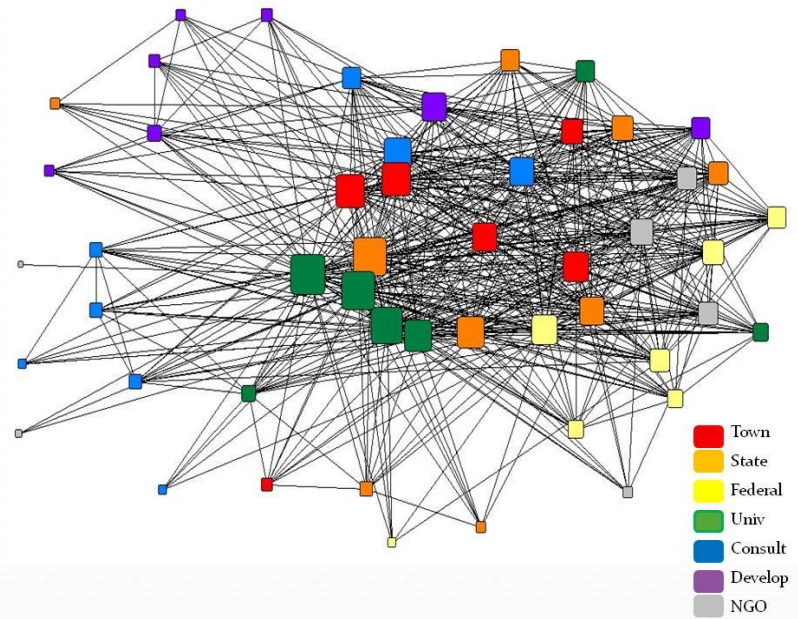- Core beliefs not influencing trust formation

"The other reason not to have involved (environmental advocacy groups) - I think it would have been harder, probably not impossible, but harder to build that level of trust.

-State rep

Collaboration & Trust: Results

Network Analysis

Overall density: 0.457

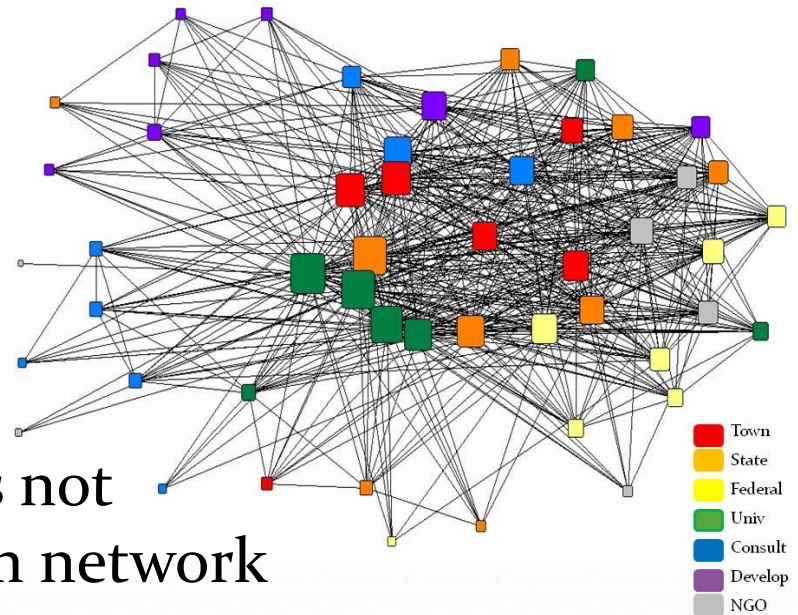Town
State
Federal
Univ
Consult
Develop
NGO

Collaboration & Trust: Results

Network Analysis

Overall density: 0.457

ANOVA results: Within-group ties not significantly different than random network

Town
State
Federal
Univ
Consult
Develop
NGO

Summary of Results: Trust

Trust		
Theory	**Qualitative**	**Network Analysis**
Institutional rational choice	Experiences and "rules" important	Density builds trust
Advocacy Coalition	Core beliefs not relevant No advocacy groups	No evidence of homophily

Collaboration & Learning

Does learning occur? If so, how?

- Social cognition/Collective learning theory

(Connick & Innes, 2003; Gerlak & Heikkila, 2011; Newig et. al., 2010; Pennington, 2008)

Collaboration & Learning

Does learning occur? If so, how?

- Social cognition/Collective learning theory

Network measures

- Decentralized

- Density

(Connick & Innes, 2003; Gerlak & Heikkila, 2011; Newig et. al., 2010; Pennington, 2008)

Collaboration & Learning: Results

Both personal & collective learning has occurred

"It evolved as a widening circle...from a core group of wildlife biologists and planners, to economic developers to local decision makers, and of course regulators were part of that early widening out. As that's happened, ideas have been introduced or complications have been introduced, pitfalls have been brought up that have to be overcome, and so the ideas evolved too."

-Town rep

Collaboration & Learning: Results

Both personal & collective learning has occurred

- Mechanisms for collective learning
  - Institutional

"I would say I'm not sure I know enough to help you. (Facilitator) said "that's alright you'll bring a different perspective," which I thought was good for her to look at it that way."

-Land Trust rep

Collaboration & Learning: Results

Both personal & collective learning has occurred

- Mechanisms for collective learning
  - Institutional
  - Individual characteristics

"I listen to them because I think it's fact based, and I think that they are interested in knowing how these pools actually function in the landscape. They're not ideological in their approach...I think they'd be willing to alter their views of things if the facts took them there."

-Town rep

Collaboration & Learning: Results

Network Analysis

Freeman's Centralization score: 12.14 %
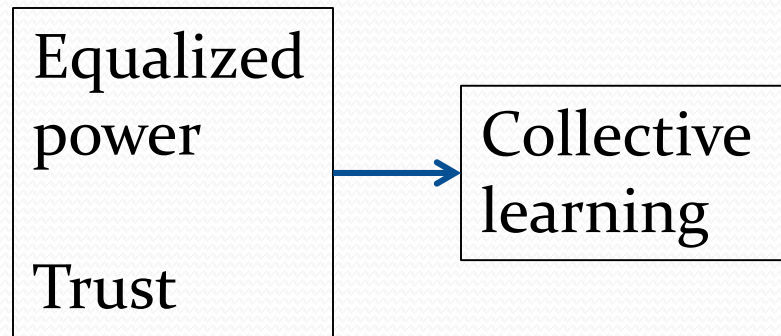
Density: 0.457

➢ Many connections, without central actors

Summary of Results

Learning		
Theory	**Qualitative**	**Network Analysis**
Collective learning	Personal & collective learning occurred	Decentralized Dense
	Mechanisms: institutional rules & personal characteristics	N/A

Discussion

Dynamics between power, trust and learning?

Equalized power

Trust
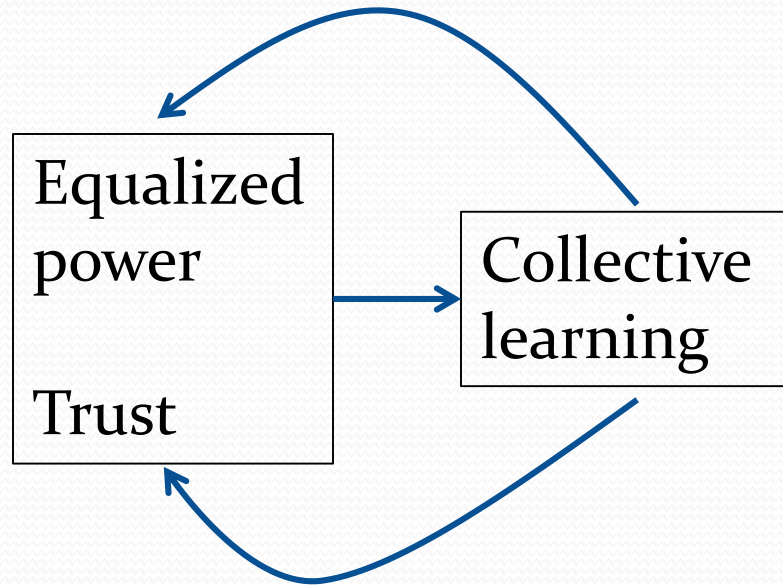
→ Collective learning

Discussion

Dynamics between power, trust and learning?

Discussion
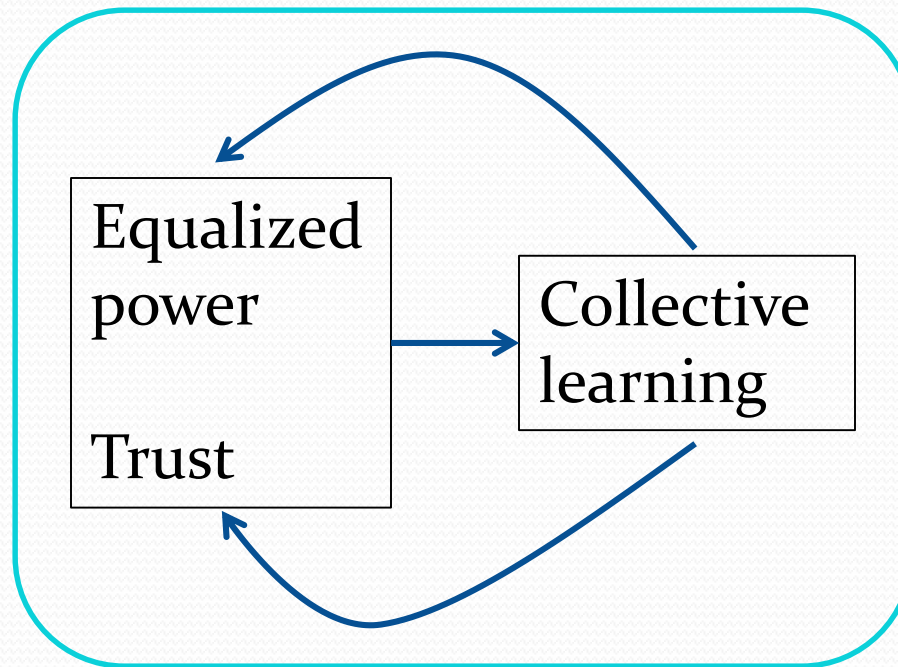
Dynamics between power, trust and learning?

Discussion

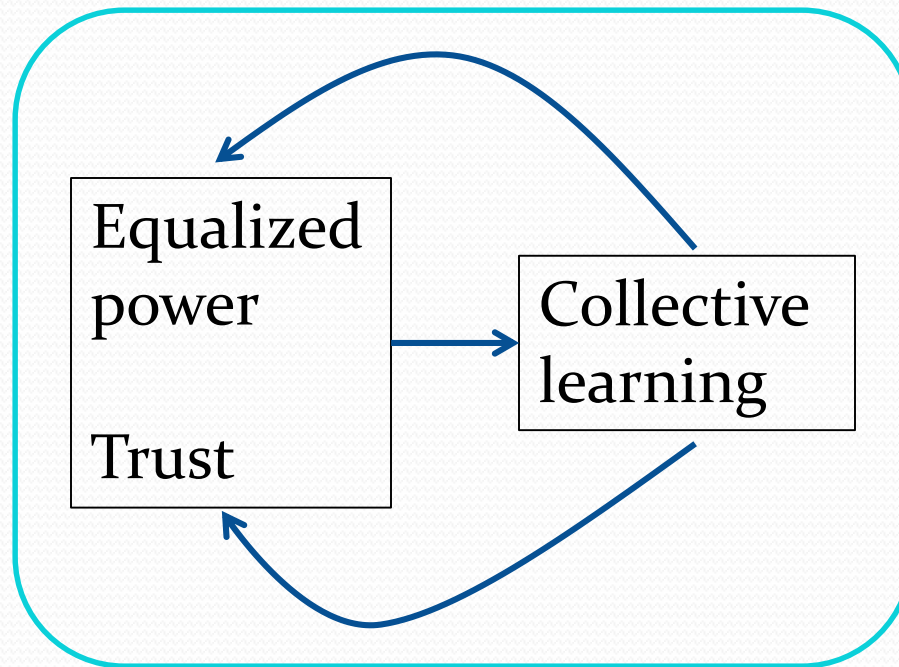Dynamics between power, trust and learning?

Discussion

Dynamics between power, trust and learning?

Institutionalism
Personal characteristics

LEADERSHIP

Equalized power

Trust

Collective learning
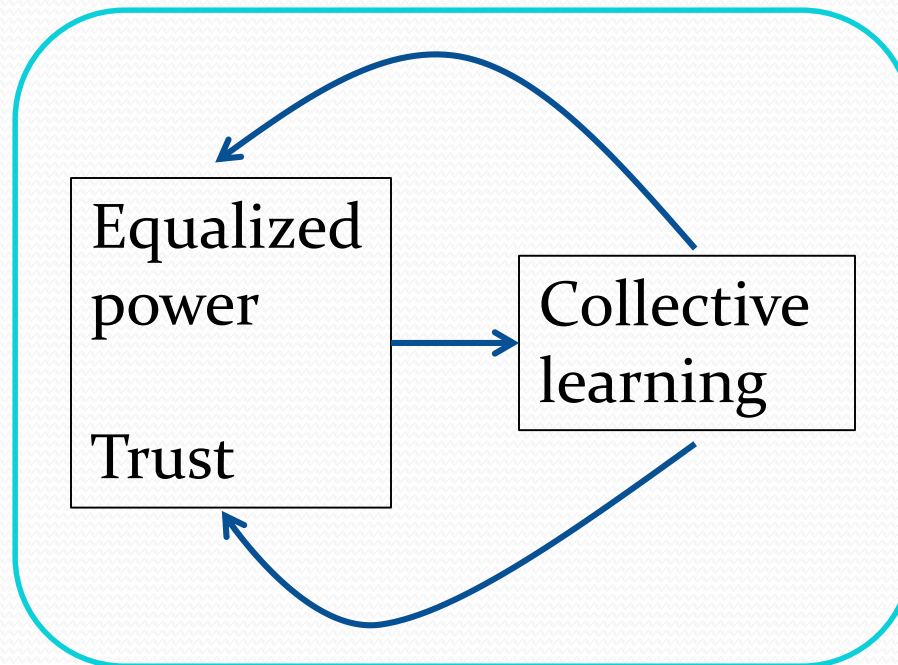
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   - Inland Fisheries & Wildlife
   - Environmental Protection
   - Agriculture, Conservation & Forestry
U.S. Army Corps of Engineers
US Environmental Protection Agency
US Fish & Wildlife Service

MAINE'S SUSTAINABILITY SOLUTIONS INITIATIVE

Collaboration & Power: Results

Organization type	Mean Brokerage	SD
Town	303.5	258.4
State	235.0	375.6
Federal	57.9	113.2
University	549.1	561.3
Consultant	113.3	179.0
Developer	44.3	108.1
Land Trust	44.5	65.6

Collaboration & Power: Results

Actors with above average centrality (more influential)

Organization type	Stakeholder interest
University (4)	Ecology (6)
State (3)	Governance (4)
Town (3)	Economics (2)
Federal (1)	None (1)
Developer (1)	
Consultant (1)	

Collaboration & Learning: Results

Collective learning theory

- Both personal & collective learning has occurred

"To me a vernal pool was something I wanted to run a bulldozer over every April so it didn't exist anymore because I didn't understand...I don't quite think that way anymore, I go "Okay, that's an important part of an ecosystem. What do we do?"

-Development rep

Collaboration & Trust: Results

Network Analysis

Overall density: 0.457

Sum of tie strengths within and between interest groups

	Economics	Ecology	Planning	None
Economics	92	168	119	28
Ecology	168	707	449	77
Planning	117	447	254	56
None	28	76	56	6

ANOVA results: Within-group ties not significantly different than random network

Power

Theory	Qualitative	Network Analysis
Network exchange	Some positions matter	Power is equalized Position not important
Status characteristics	Status is more important	Not tested

Trust

Theory	Qualitative	Network Analysis
Institutional rational choice	Experiences and "rules" important	Density builds trust
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Learning

Theory	Qualitative	Network Analysis
Collective learning	Personal & collective	Decentralized Dense
	Institutional rules & personal characteristics	Not tested