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Drivers and Constraints Affecting Community Capacity for Watershed Management

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Mae Davenport received a B.A. degree in English and Biology from the College of St. Scholastica in Minnesota, a M.S. degree in Forestry from the University of Montana and a Ph.D. in Natural Resources Science and Management from the University of Minnesota. Mae was an Assistant Professor of Forest Recreation in the Department of Forestry and co-leader of the Human Dimensions Research Unit at Southern Illinois University Carbondale from 2004 - 2009. Since 2009 she has been with the Department of Forest Resources at the University of Minnesota as an Assistant Professor of Human Dimensions of Natural Resources and the Environment.

Drivers and constraints affecting community capacity for watershed management

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CHALLENGES OF WATERSHED MANAGEMENT

Transboundary Impacts

Geographic inequities in land use, development and water impacts (Haughton, 1999)

- Distribution of economic, social, and ecological impacts

- Transfrontier responsibility for off-site impacts of actions

Interjurisdictional Governance

Governance gap (McKinney & Johnson, 2009)

- No single organization/institution has power or authority needed
- Conflicting goals for growth management and land uses
- Competing, inconsistent, uncoordinated policy interventions
- Power imbalances

Wicked Problems

Complexities of watershed science

- Coupled human and natural systems

- No clear technical solutions

- Multiple, diverse stakeholders; divergent interests and needs

- Uncertainty of environmental variables – climate change, invasive species
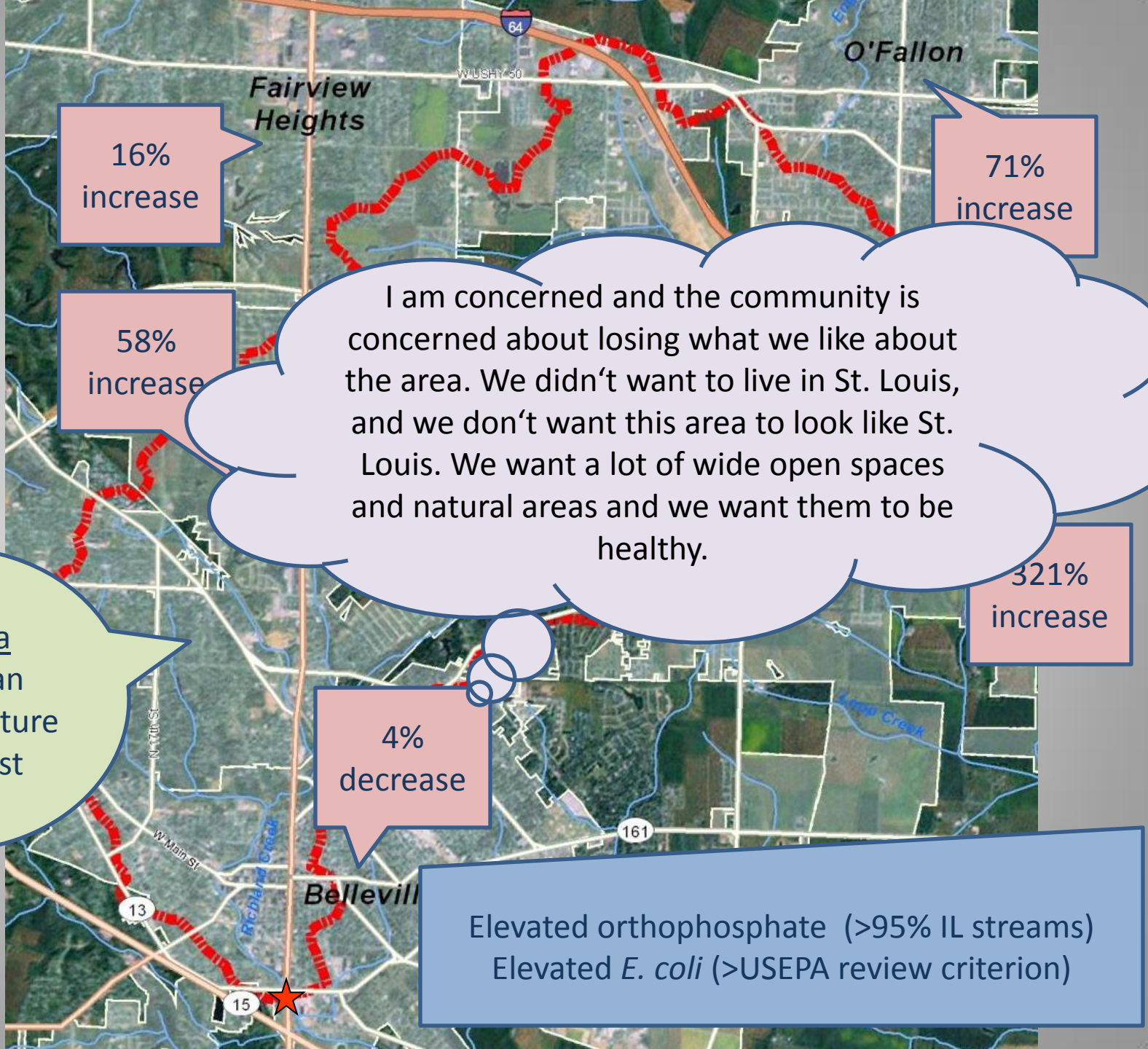
A Model of Regional Collaboration

Networks

Informal

Build relationships

Exchange information

Identify shared interests

Partnerships

Coordinate existing institutions

Negotiate compacts

Regional Institutions

Formal

Create intermediary organizations

Create regulatory agencies

McKinney & Johnson, 2009
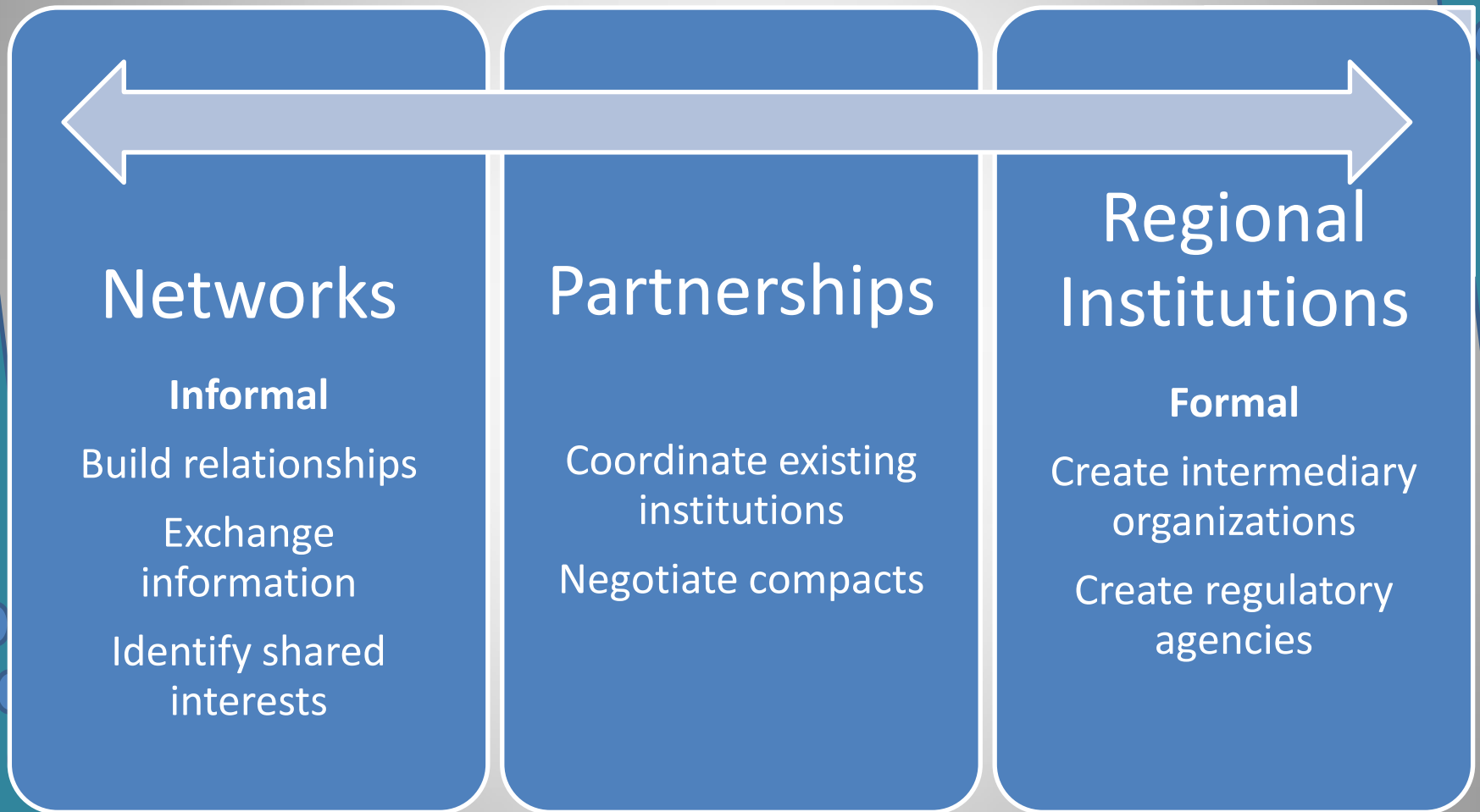
COMMUNITY CAPACITY: CONSTRAINTS AND DRIVERS

Community Capacity

"The interaction of human capital, organizational resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of that community" (Chaskin et al., 2001, pg. 7)

Methods of Scientific Inquiry

Interview approach: Key informants or "community gatekeepers"

Focus group approach: Community leaders, resource professionals, and organizations

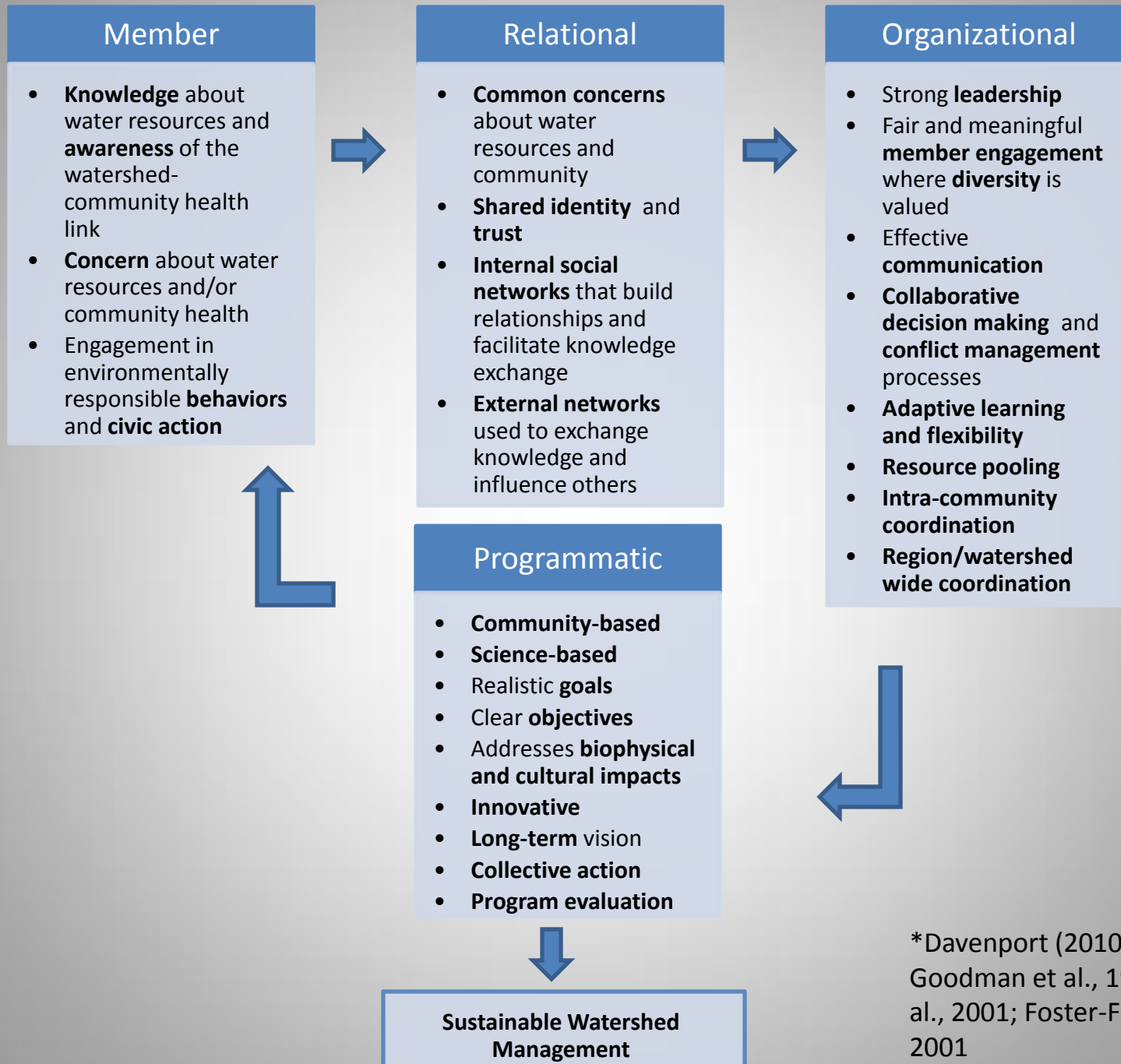Lower Kaskaskia Watershed Resident Survey

Watershed and Community Health

Southern Illinois University Carbondale

2009

Survey approach: Watershed residents

Community Capacity Levels and Indicators*

Member

- **Knowledge** about water resources and **awareness** of the watershed-community health link
- **Concern** about water resources and/or community health
- Engagement in environmentally responsible **behaviors** and **civic action**

Relational

- **Common concerns** about water resources and community
- **Shared identity** and **trust**
- **Internal social networks** that build relationships and facilitate knowledge exchange
- **External networks** used to exchange knowledge and influence others

Organizational

- Strong **leadership**
- Fair and meaningful **member engagement** where **diversity** is valued
- Effective **communication**
- **Collaborative decision making** and **conflict management** processes
- **Adaptive learning and flexibility**
- **Resource pooling**
- **Intra-community coordination**
- **Region/watershed wide coordination**

Programmatic

- **Community-based**
- **Science-based**
- Realistic **goals**
- Clear **objectives**
- Addresses **biophysical and cultural impacts**
- **Innovative**
- **Long-term** vision
- **Collective action**
- **Program evaluation**

Sustainable Watershed Management

*Davenport (2010) adapted from Goodman et al., 1998; Chaskin et al., 2001; Foster-Fishman et al., 2001

Member Capacity

Awareness

I thought everybody had a river like this. So, I didn't notice much. It wasn't very important to me because I grew up with it all the time. . . . It didn't astound me, because I thought everybody had a river like this. It was literally my backyard. . . . Today, [I have] a completely different perspective... **The importance, not just of the river, but the area has become very apparent to me.** *I think that happens to a lot of people when they grow up with a special place in their backyard.*

(Niobrara NSR, resident)

Relational Capacity

Trust

I trust them more than I used to. Growing up on a farm, traditional row crop agriculture, there is this stigma between anything that has the word environmental or regulation. But perceptions have changed and it's one of great trust. I think they are doing a great job because they are all working together. **With community partnerships they are working to restore the wetlands***.*

(Cache River Wetlands resident)

Organizational Capacity
Coordination

*As soon as [the communities] get the development rights, their goal is to see that something gets built in there so that it raises their tax base, and it's a vicious cycle and you are seeing sprawl basically. We are losing farm ground and we are losing lots of natural environment. **The communities in St. Clair County do not see this as a threat. They see it as a competition.***

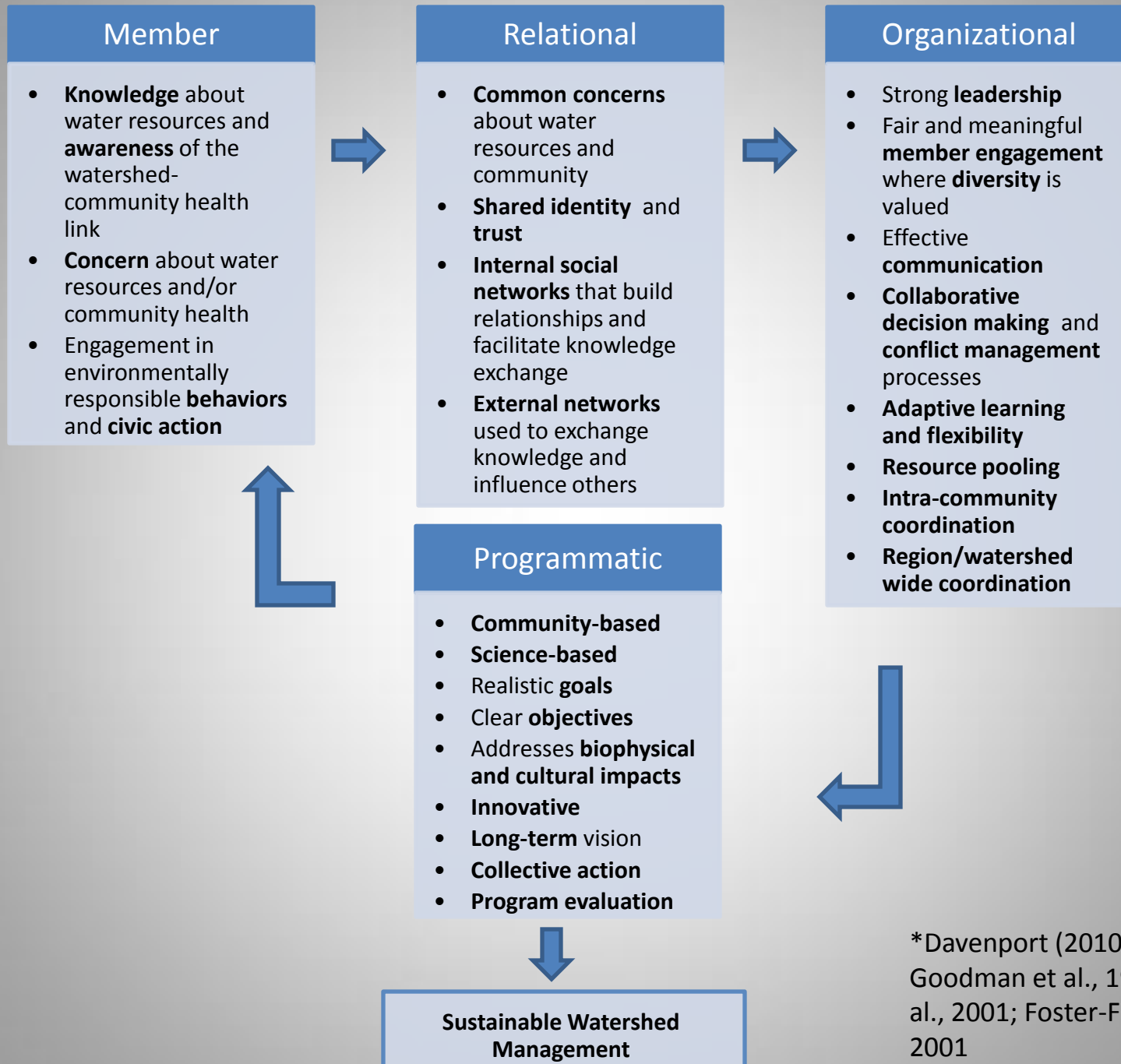(Lower Kaskaskia River Basin resident)

Programmatic Capacity
Education programs

*I think one of the problems is we had the perspective...that streams are a commodity without greater intrinsic value. Because if you ask a developer what he sees, it's the ability to sell a lot—it's more valuable to build next to a creek, because you got the trees and a stream right behind you. **But, there is an intrinsic and environmental value to it as well. And I...think the only way you [communicate] that is through education**...coming in contact riparian corridors through bike trails, for example.*

(Lower Kaskaskia River Basin community leader)

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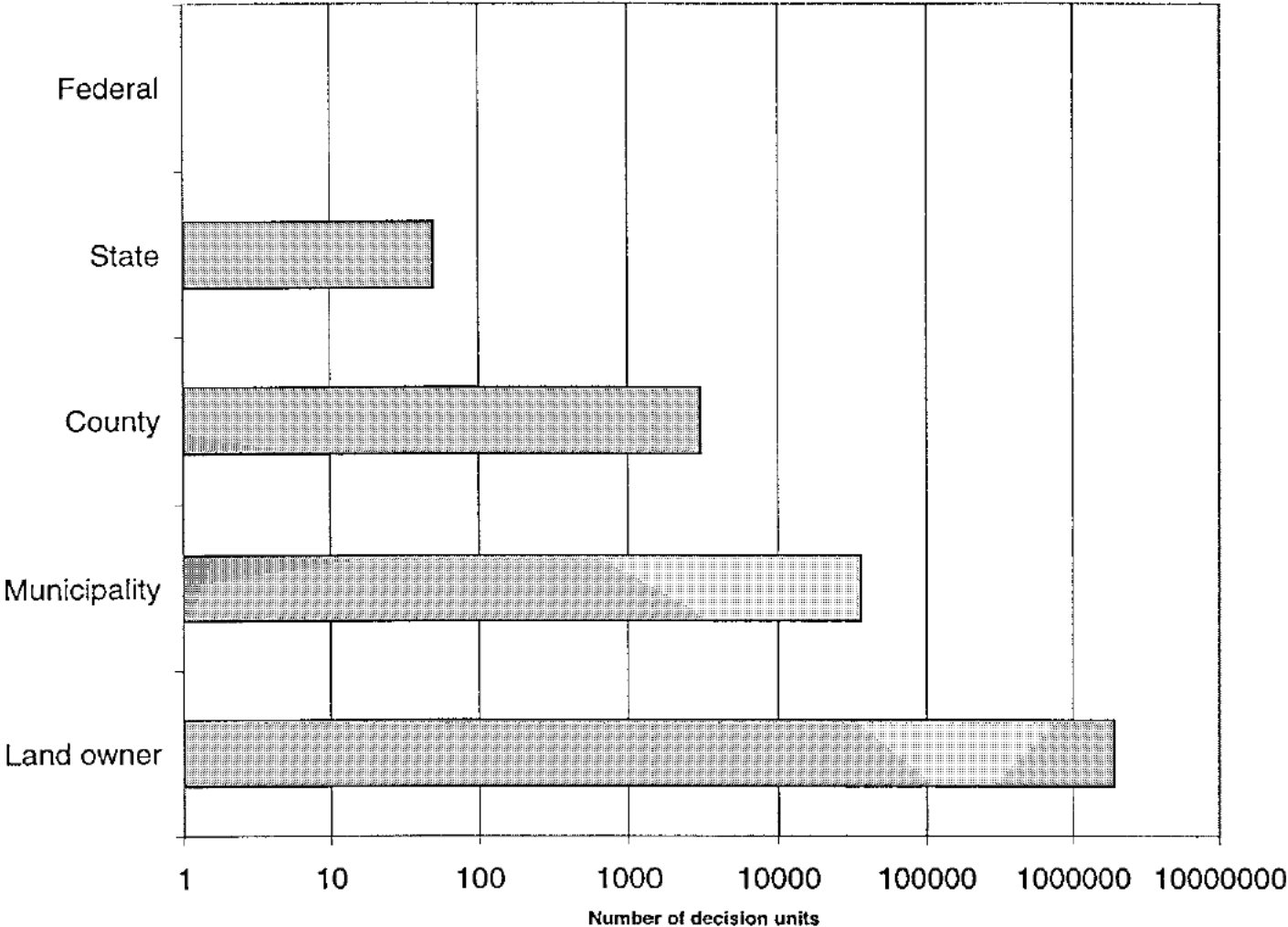# Local Land Use Decision-Making Authority

Figure 1. Land use decision making hierarchy in the US. This shows the number of jurisdictions (decision making units) with legal authority for making local land use decision making. Land owner is the number of large acreage agricultural land owners, a reasonable approximation of the potential number of land use decisions in the US, which assumes that agricultural conversion is the primary form of land use change in the US.

(Theobald et al. 2000)

Building Capacity for Watershed Management

Process models, tools and support for working across boundaries at the local level (McKinney & Johnson, 2009):

- Assess watershed problems and assets
  - Water quality/quantity, land uses, & community capacity
- Design appropriate watershed forums
  - Transboundary, inter-jurisdictional coordination
  - Citizen-based watershed associations
  - Networks, partnerships, and institutions
- Develop and implement watershed action plans
  - Community-based, regional planning
- Monitor, learn and adapt

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