"It's like Putting 50 Gallons of Water in a 5 Gallon Bucket": Examining Multiple Stakeholder Perspectives on Watershed Health in Southwestern Illinois

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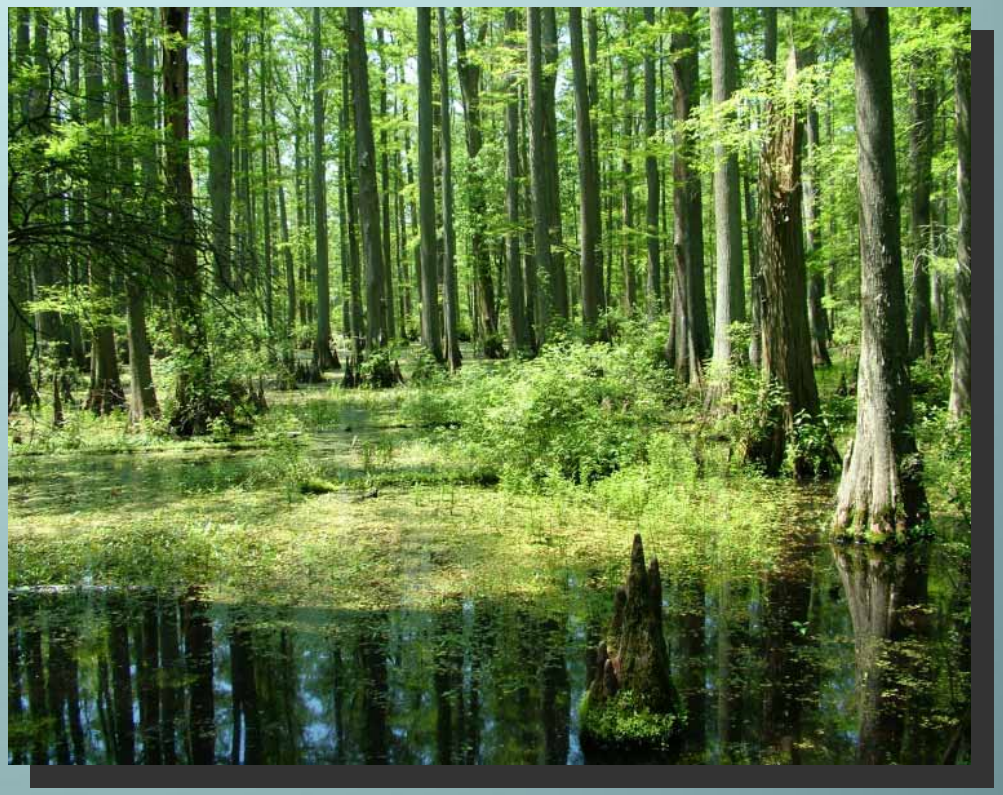
Illinois Residents' Attitudes toward Water Resources

- 90 percent rated protecting water quality as **very important**
- Water quality ranked **ahead of other community issues** such as preventing crime and improving public schools
- **Less than 35 percent were highly satisfied** with the amount of stream corridors and wetlands in the state



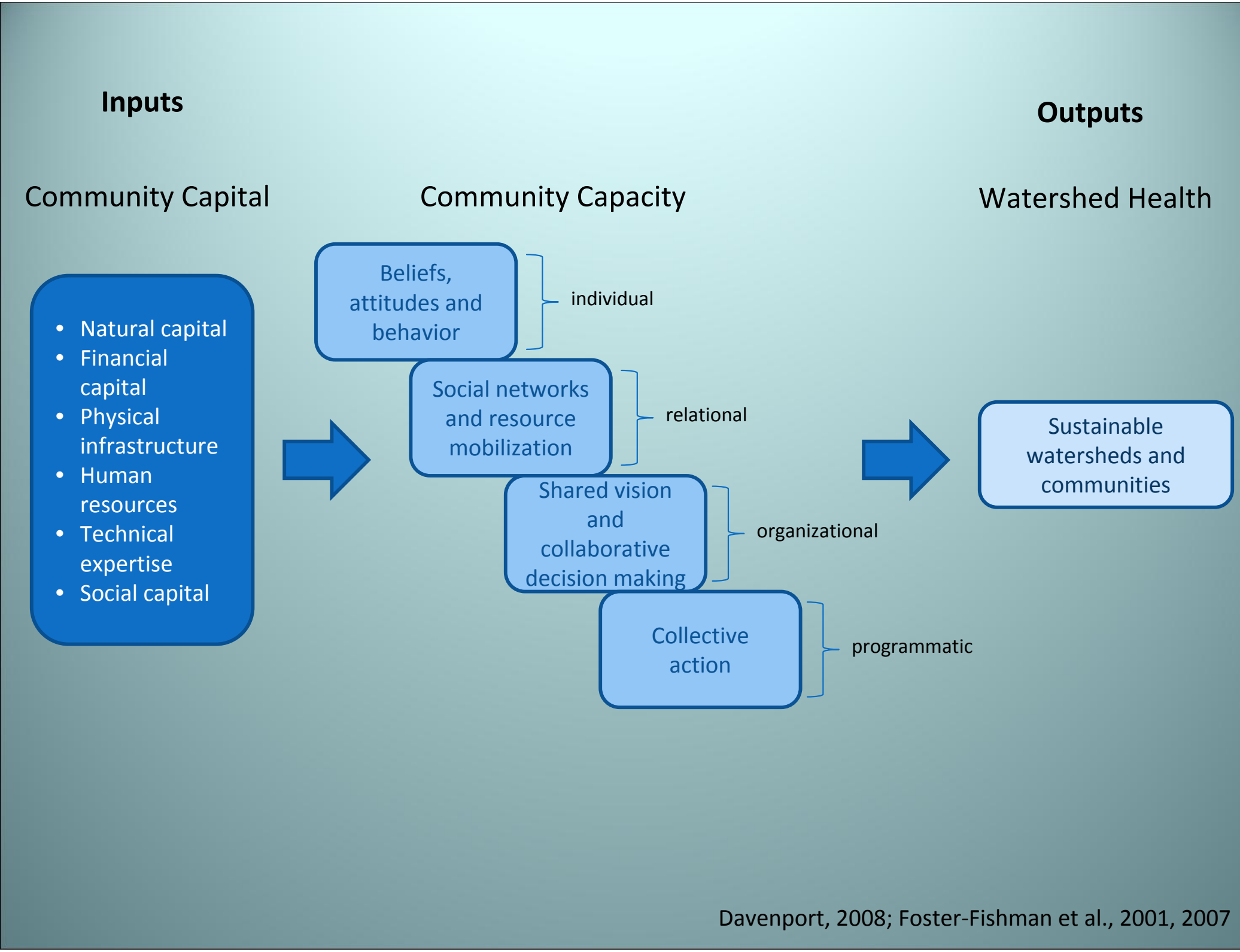
Illinois Department of Natural Resources, 2003

Illinois Water Resources Facts

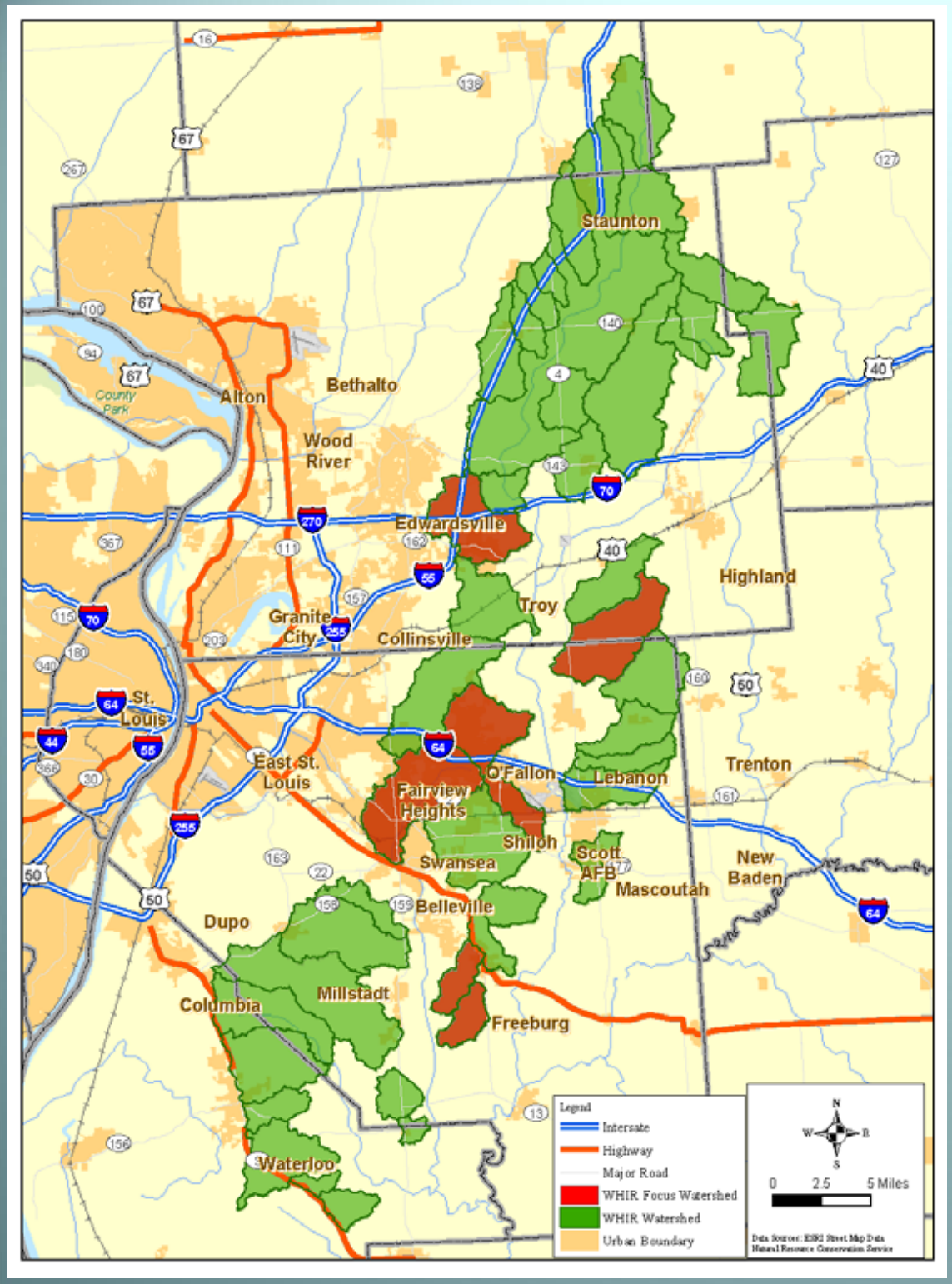
- More than 90 percent of Illinois' **original wetlands have been lost** (IDNR, 2005)
- Almost 40% of Illinois streams are deemed "**not supporting" for aquatic life** (Illinois EPA, 2006).

Study Objectives

- To investigate community members' perceptions of their watershed
  - What are your concerns about your community, natural environment, and water resources?
- To indentify indicators of community capacity for sustainable watershed management
  - Is your community actively planning or managing for a healthy natural environment?
  - How effective is your community at responding to problems or threats?



Davenport, 2008; Foster-Fishman et al., 2001, 2007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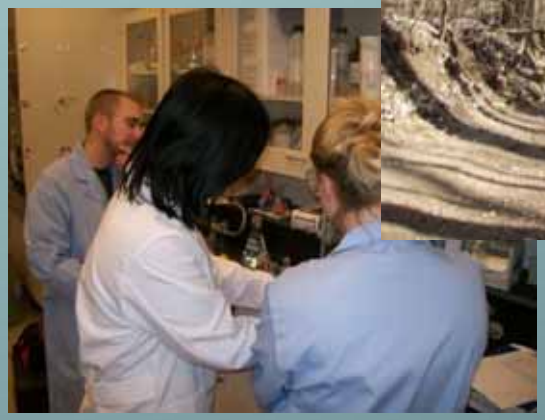
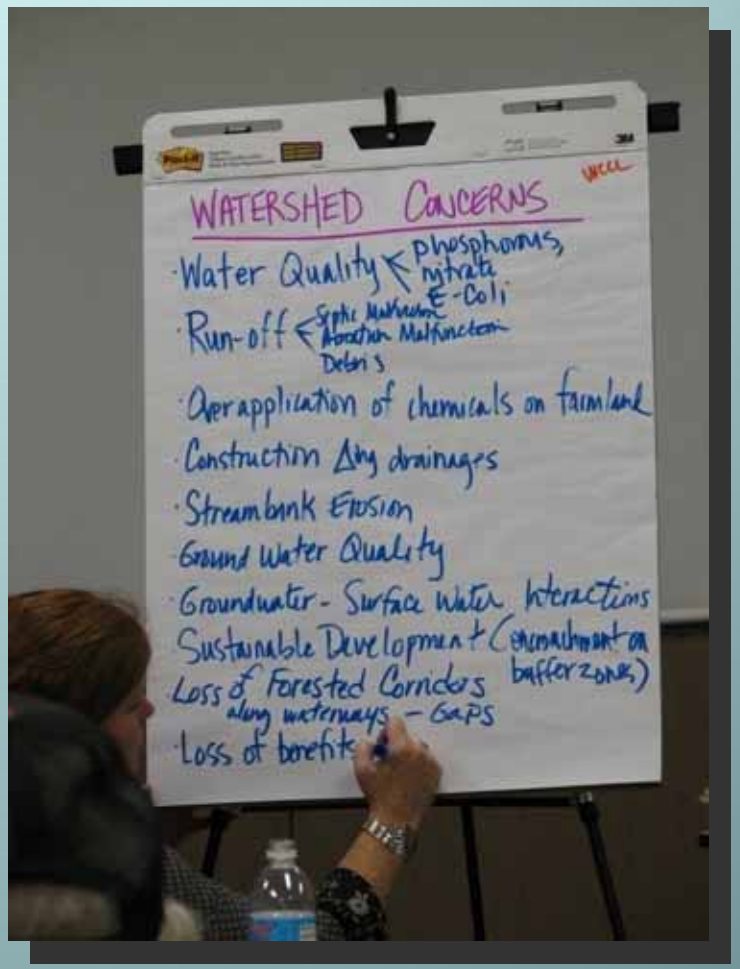


Watershed Classification	Community (pop.)	Watershed Area (Hectares)	% Urban	% Ag.	% Forest
Urban	Belleville (41,034)	5,043	55.5	29.6	9.0
Urban	O'Fallon (27,061)	2,991	39.1	38.2	18.9
Village	Troy (9,725)	3,743	17.1	63.1	15.9
Village	Freeburg (4,266)	1,247	9.6	80.3	6.7
Agriculture	Little Silver Creek	4,291	0.7	97.1	1.1
Agriculture	Broad Hollow Creek	1,205	0.9	97.8	0.1

Data Collection Techniques

- Key informant interviews with 41 participants
- 7 focus groups with 43 participants
- Participatory approach (65 community research team members)
- Grounded theory analysis
  - Open and focused coding
  - Thematic analysis
  - Constant comparison
  - Negative case analysis



Study Findings

Participant Profile Matrix

	Urban	**Village**	**Ag**	*total*
Community Constituents	15	22	11	48
Community Managers	18	9	-	27
Water Resource Planners	-	-	-	4
total	33	31	11	79

Concerns in Urban Watersheds

1. Erosion
2. Stream pollution
   - Fertilizer
   - Sewage overflow
   - Animal waste
   - Trash
3. Growth and development patterns
4. Lack of conservation buffers on streams
5. Stormwater management and flooding
6. Lack of recreational use of waterways
7. Little cooperation in watershed management
   - Limited regional approach to stormwater management
   - Confusion about jurisdiction and responsibility

Concerns in Village Watersheds

1. Stream pollution
   - Septic aeration systems
   - Farm chemicals
   - Trash
   - Phosphorus
   - Nitrogen
   - *E. Coli*
2. Growth and development patterns
3. Erosion
4. Flooding
5. Loss of wildlife habitat
6. Groundwater contamination

Concerns in Ag. Watersheds

1. Growth and development patterns
   - Conversion of agricultural lands
   - Loss of wildlife habitat
   - Loss of wetlands
2. Stream pollution
   - Leaky septic systems
   - City waste
3. Agricultural development of natural lands
   - Forested land
4. Groundwater contamination
   - Farm chemicals
   - Experimentation with new chemicals

Stormwater Management

The concerns are caused by many things. It depends on who you talk to…realtors, developers…its like putting 50 gallons of water inside of a five gallon bucket. The problems associated with runoff and rainfall are going to get worse and worse and worse. It is hard to deal with the bursts of strong rain water.

(Water Resource Planner)

Development Battles

How it's growing. We've slowed down a little bit this year, but for the most part we've taken off in the last couple of years with the housing market going crazy. It's been a battle of the villages…The fact that some of those fields right near my house that used to be full of deer are full of houses now. In the thirty years that I've been there, a lot of the farmland around it has been taken up by Belleville spreading out, growing.

(Village, Community Manager)

Septic Systems

Well, there's just too much, I mean there's people that have septic systems going into the creek. When I was a kid we used to, I don't care where you was at, you could drink out of almost any creek. Ain't no way Jose I'd try that now. I mean, no, it's just so stinkin' polluted. I'd hate to even wade in a lot of this stuff, you know. It's just bad news.

(Agricultural, Community Constituent)

No Concerns

I am really not familiar with them … I don't know enough to comment about it.

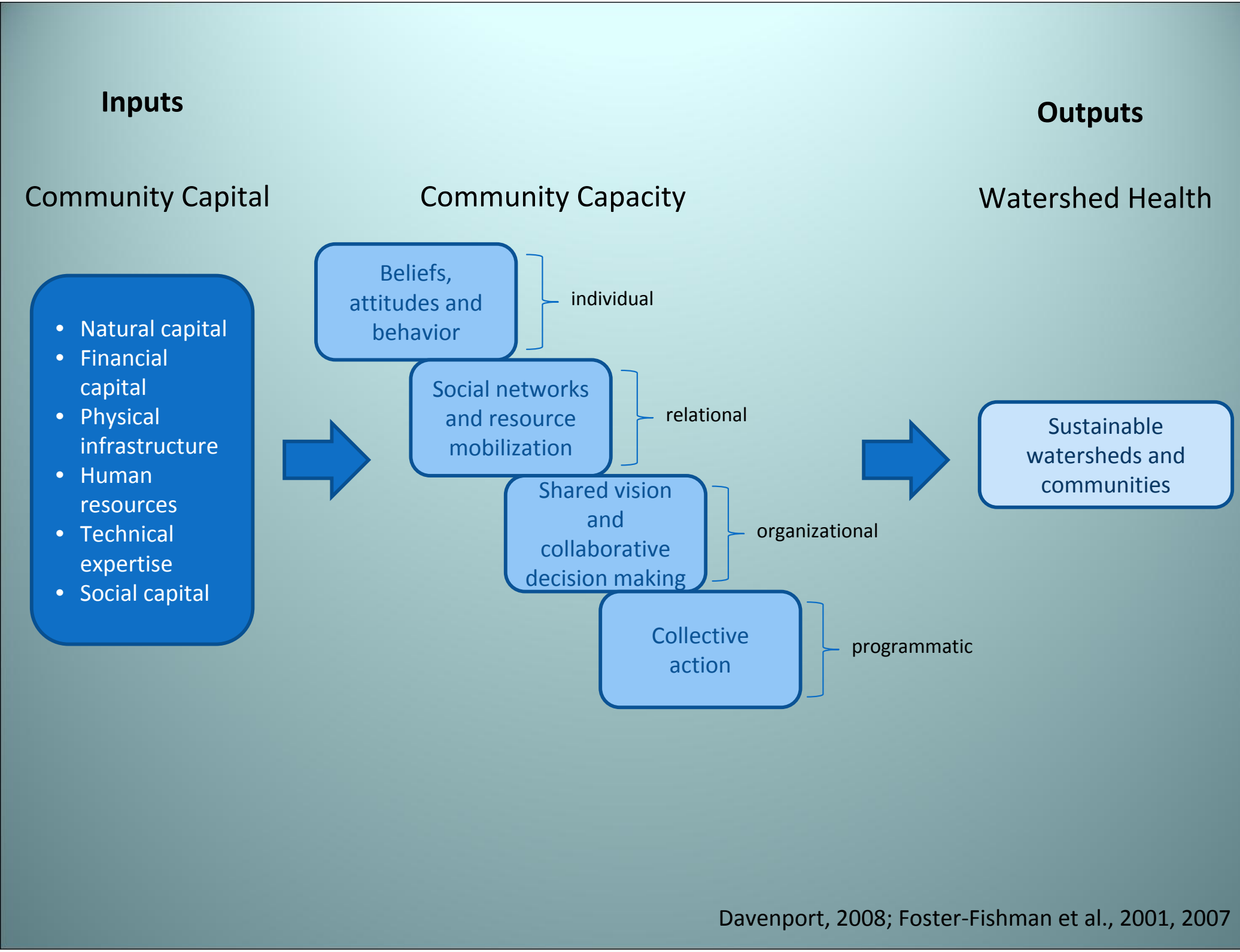
(Urban, Community Constituent)

I'd say for the most part they're clean and we like them.

(Agricultural, Community Constituent)

Comparisons

- Top 3 concerns
  - All groups: stream pollution and growth and development patterns
  - Urban and village: erosion
- Key differences
  - Stream pollution sources
    - Urban: Sewage overflow and fertilizers
    - Village: Septic systems and farm chemicals
    - Ag: City waste
  - Groundwater and loss of habitat concerns in village and agricultural watersheds



Davenport, 2008; Foster-Fishman et al., 2001, 2007

Inputs

Outputs

Community Capital

Community Capacity

Watershed Health

- Natural capital
- Financial capital
- Physical infrastructure
- Human resources
- Technical expertise
- Social capital

Beliefs, attitudes and behavior — individual

Social networks and resource mobilization — relational

Shared vision and collaborative decision making — organizational

Collective action — programmatic

Sustainable watersheds and communities

Davenport, 2008; Foster-Fishman et al., 2001, 2007

Key Indicators of Community Capacity

- **Shared community vision**
  - Balanced between growth and conservation
  - Long-term, regional perspective
- **Ownership and accountability**
  - Government jurisdictions
  - Developer and business responsibilities
- **Inter-organizational coordination**
- **Watershed management controls and incentives**
  - Comprehensive planning (multi-scale)
    - Regulations on new development and land use
    - Open space protection
  - Education and outreach that encourage watershed protection

Organizational

Programmatic

Ownership and Accountability

Well, [planning for a healthy community is] not my job. My job is to help stimulate and make growth and business development. And let the environmentalists and the government react to those pressures.

(Urban, Community Constituent)

Inter-Organizational Coordination

I think we have a big problem in this community with emergency planning. …The village is responsible for a police department… We have the civil defense guy…. The fire department is its own taxing body, ….So we have all of these organizations here that are very capable and all do a wonderful job, but we don't have anybody in the center that makes sure that if something bad happens that we're all on the same page, …and nobody's willing to do anything about it. I think that's a big threat to our community these days.

(Village, Community Constituent)

Land Use Restrictions

Well, out here in the country there's a hole. The rules that apply to people in town should apply to the people in the country, but it doesn't. I can do anything I want to out here. I mean, absolutely anything. And it really shouldn't make any difference whether you live in town or out in the country. But, I can just do absolutely anything I want to out here. People may not like it, but I can do it.
(Agricultural, Community Constituent)

Discussion

- Growth and development patterns are serious concerns across all watershed types
  - Perceived to threaten water resources and community character
- Concerns about stream pollution exist, but so does uncertainty around sources
  - Some evidence of finger pointing
- Awareness of landscape changes and pollution seems high
  - In need of organizational and programmatic support

Implications and Recommendations

- Increase awareness in all watersheds about pollutants, sources, and conservation practices
  - Water quality monitoring
  - Urban (greenway corridors), village (riparian habitat), and agricultural (groundwater) watershed targeted practices
- Identify leaders and inspire leadership in business sector
  - Low impact development/green building
- Offer organizational support; facilitate partnerships
  - Improve coordination
  - Regional comprehensive planning
- Address land use changes and growth patterns
  - land use restrictions and subdivision regulations (conservation development initiatives)

What's Next

- Resident survey in 7 watersheds to further investigate community capacity indicators
- Targeted watershed capacity building
  - Watershed workshops
  - Interactive website
  - Travelling exhibit

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