

Navigating Diverse Perceptions of the Environment Among Watershed Stakeholders

Courtney G. Flint

Lama BouFajreldin

University of Illinois at Urbana-Champaign

Department of Natural Resources & Environmental Sciences

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Outline

- Watersheds and Watershed Stakeholders
- An Integrated Approach to Managing Watersheds
 - Structural Factors
 - Contextual Factors
- Findings from two studies in East Central and Southern Illinois on water quality and watershed hazards and risks
- Concluding thoughts on integrating perspectives and concerns

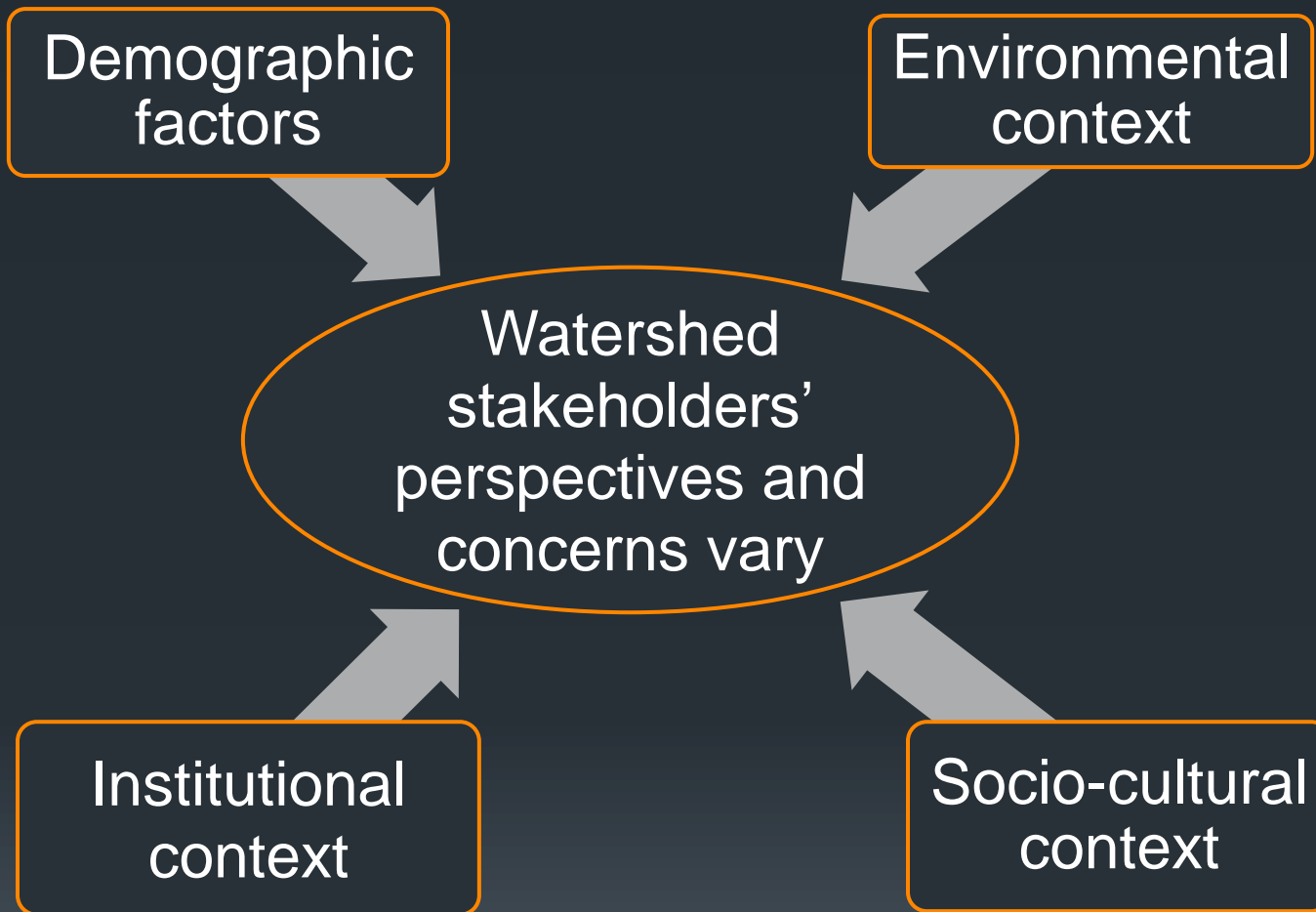


Watersheds

Socio-ecological landscapes

- Complex
- Dynamic
- High degrees of uncertainty





An Integrated Approach to Managing Watersheds

Structural Factors

- What do we expect to be key variables in any watershed?

Contextual Factors

- What are emergent variables unique to a particular watershed?



Structural Factors

- Legal & policy regimes and management institutions
 - Water rights, distribution arrangements, regulations, programs and initiatives
- Biophysical and socioeconomic vulnerability
 - Quantity & quality measures
 - Land use/land cover
 - Indices of vulnerability (Human Development Index, SoVI index)



Contextual Watershed Factors

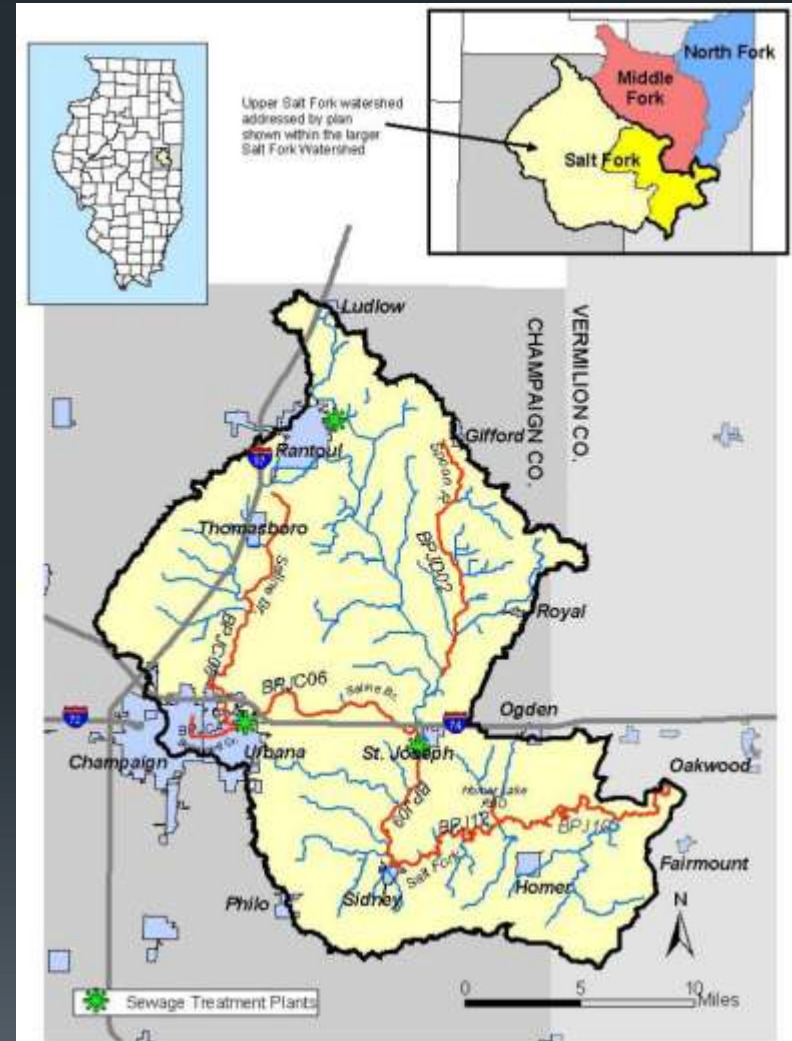
- Historical and hazards experience
- Political and policy environment
- Gender relationships
- Citizen/stakeholder engagement & interaction
- Role of scientific information & local knowledge
- Perceptions & values
- Cultural factors



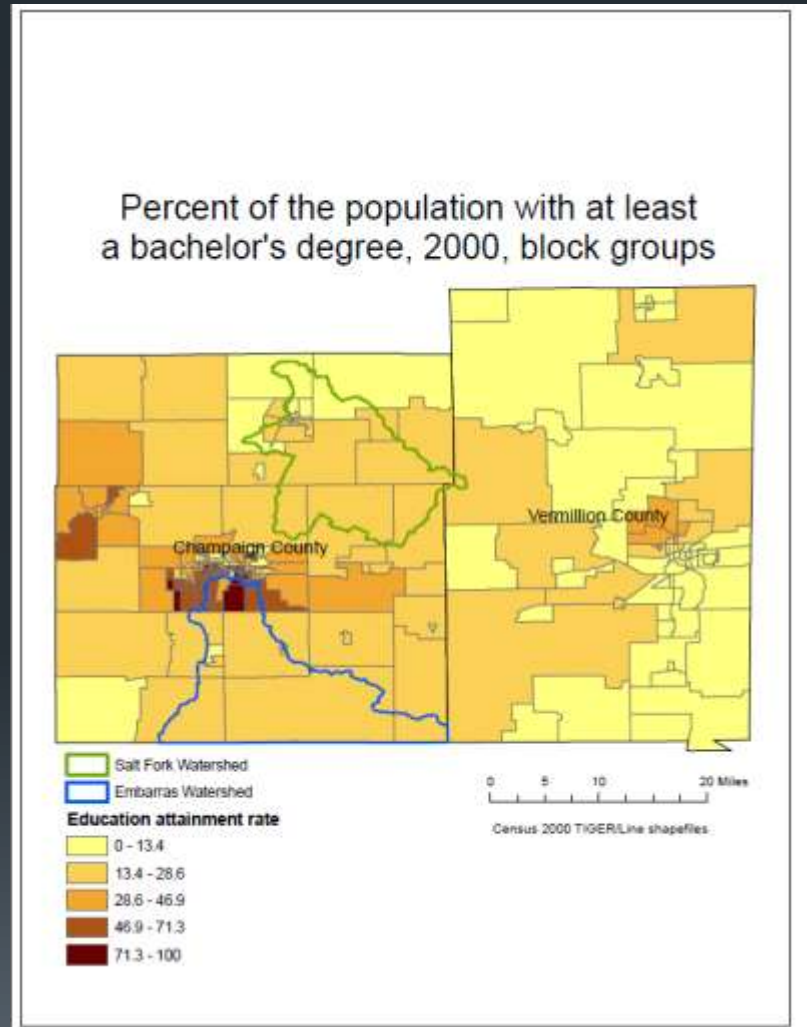
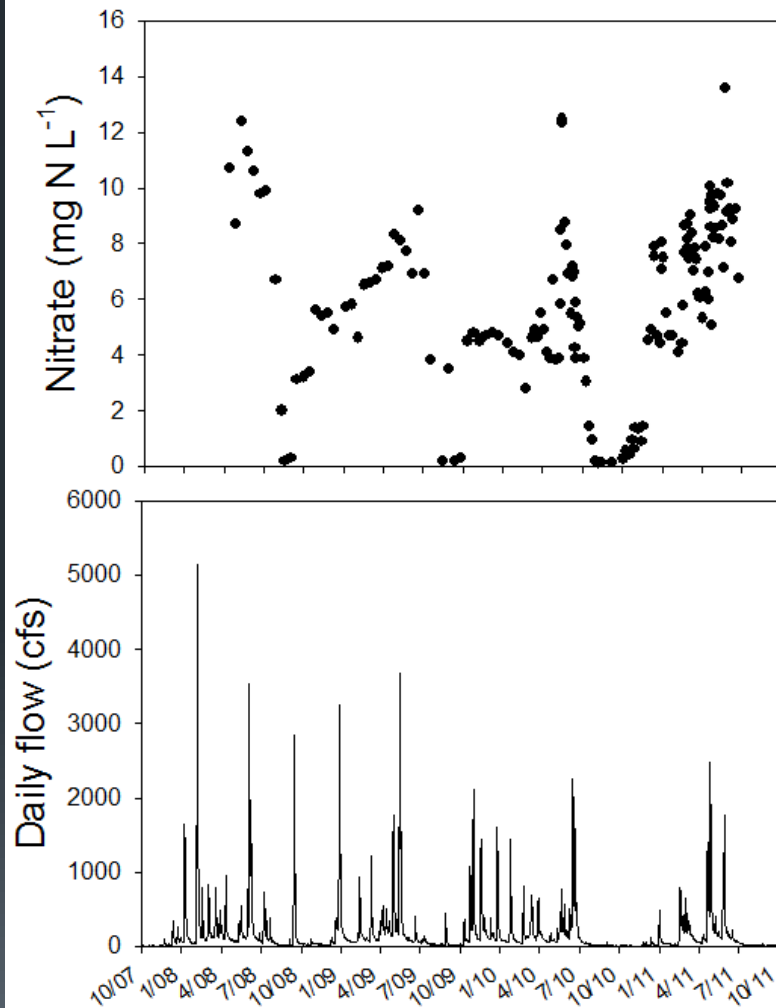
Watershed Studies

(1)

Upper Salt Fork Project East Central Illinois

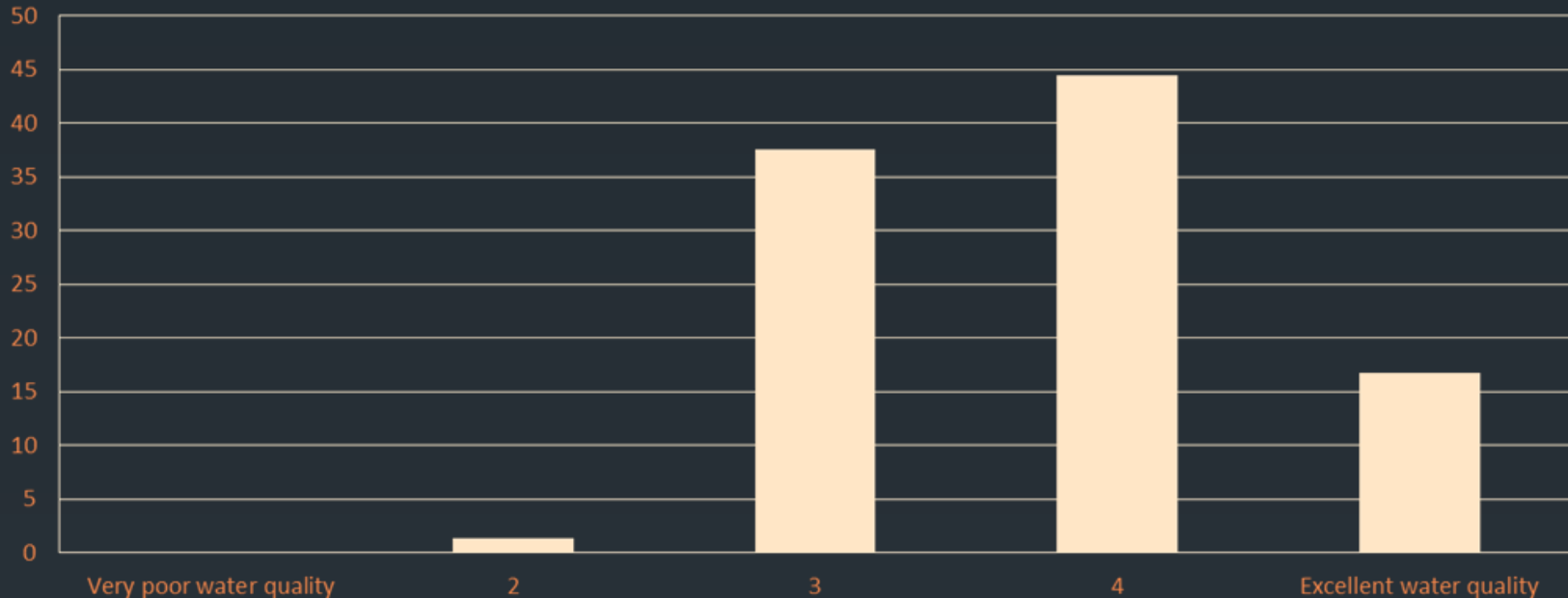


Upper Salt Fork – Structural Factors



Perceived water quality conditions

Percent Characterizing Water Quality Conditions in Watershed



Most felt water quality was good.

Most associated this question with drinking water, rather than agriculture

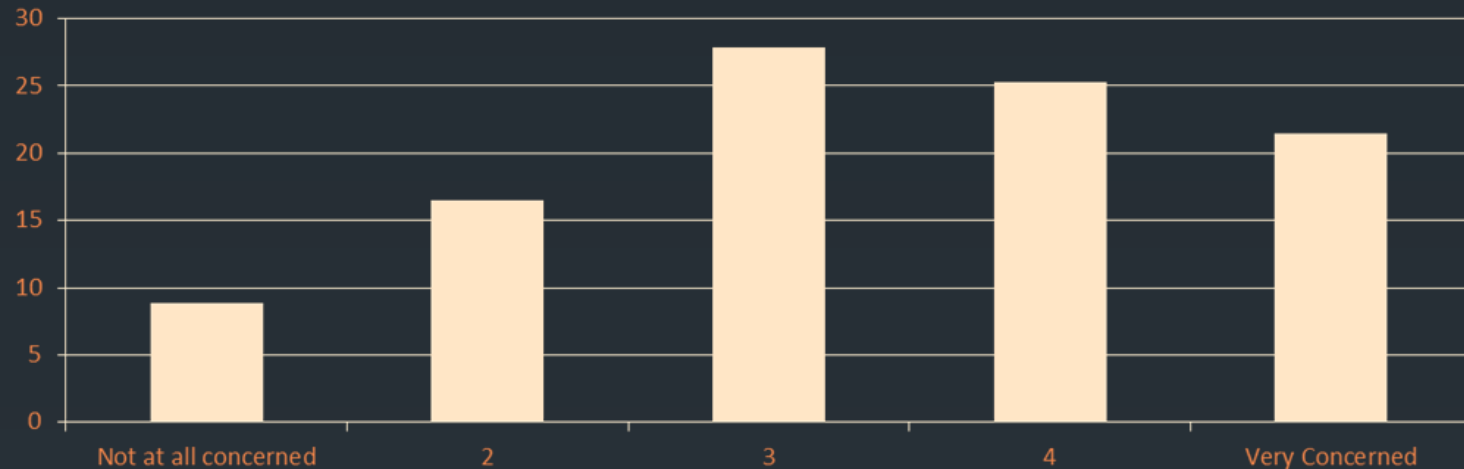
Q: How is the water quality in this area?

“I haven’t died yet from drinking it. It’s hard water, but it’s tasty. I’ve been drinking it all my life.”



Water quality concern

Percent Indicating Concern about Water Quality Issues in Watershed



Most are concerned primarily about drainage, rather than the quality of runoff.

“Drainage? Oh yeah. We drove around yesterday after it rained and looked to see what was going where. You’ll see farmers all over the place around here driving after the rainfall to see how things are flowing.”

“Our concern is more with water standing on the fields when we get heavy rain and no place to go with the water.”

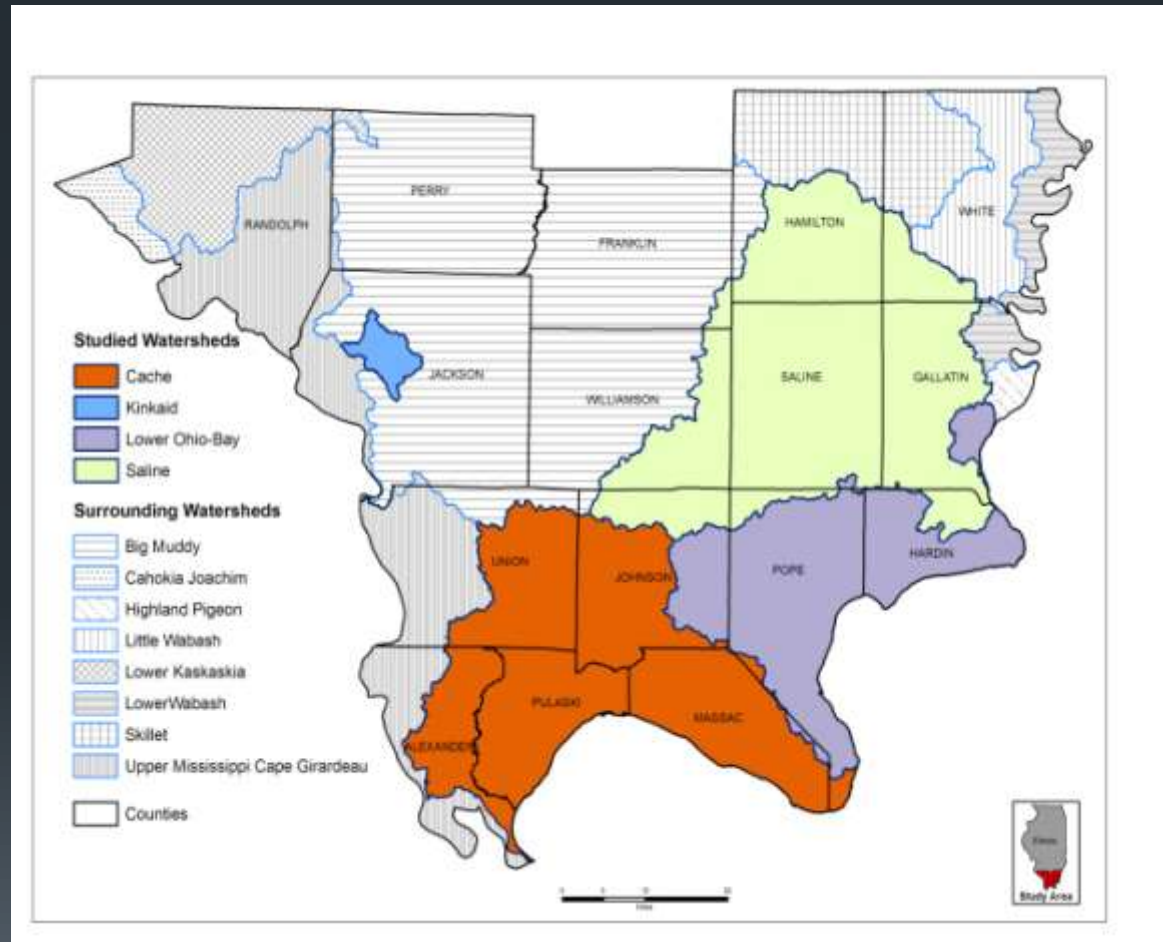


Watershed Studies

(2)

Southern Illinois
Watershed
Partnerships

Cache, Saline,
Kinkaid, and
Lower-Ohio Bay
Watersheds



Watershed Characteristics

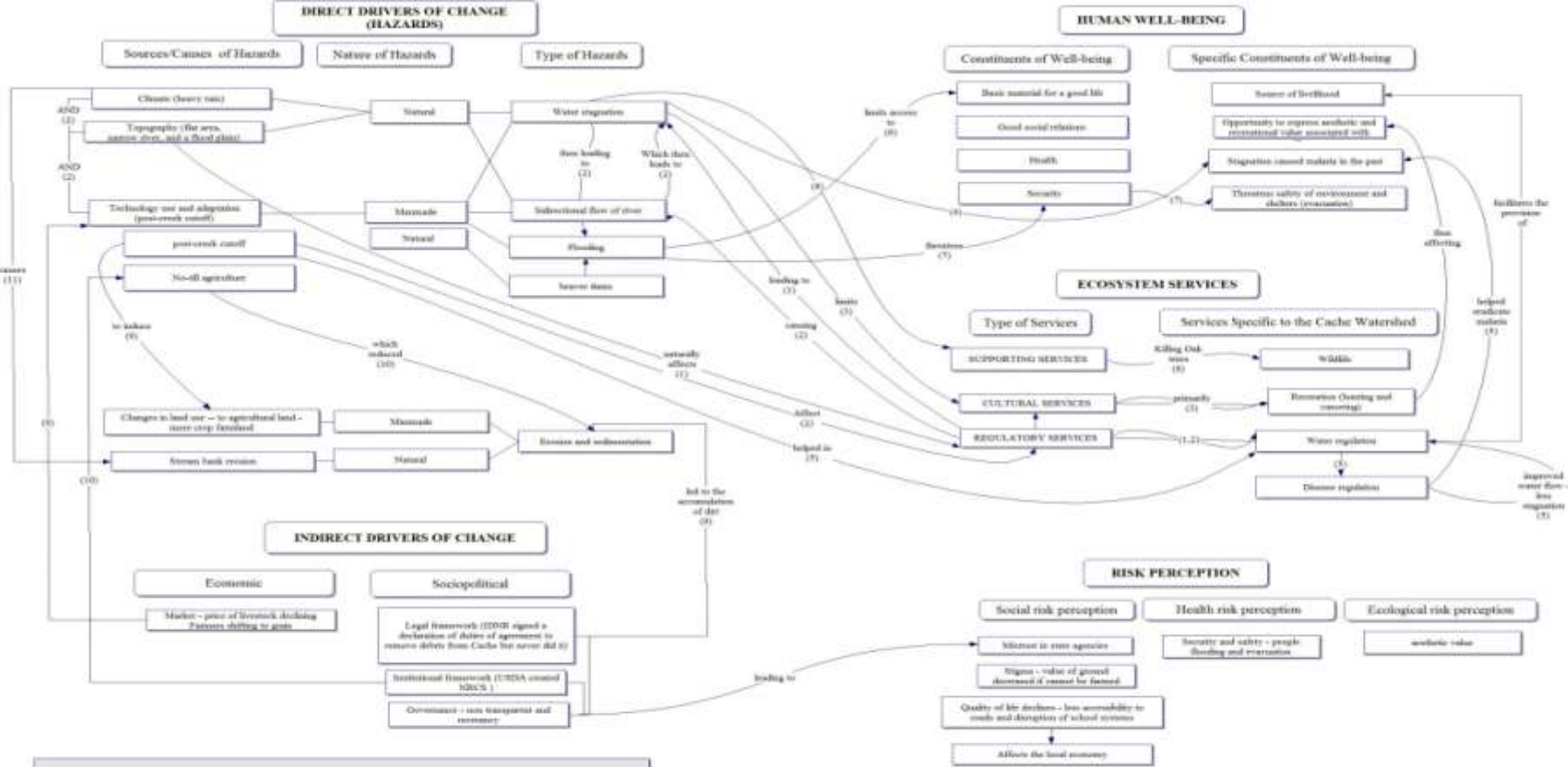
	Biophysical Vulnerability	
Socioeconomic Vulnerability	<i>Low</i>	<i>High</i>
<i>Low</i>	Lower-Ohio Bay	Kinkaid
<i>High</i>	Saline	Cache



Local Knowledge and Risk Perceptions

- Variations in local knowledge and Risk perception about multiple watershed hazards
 - Within partnership
 - Across watershed contexts





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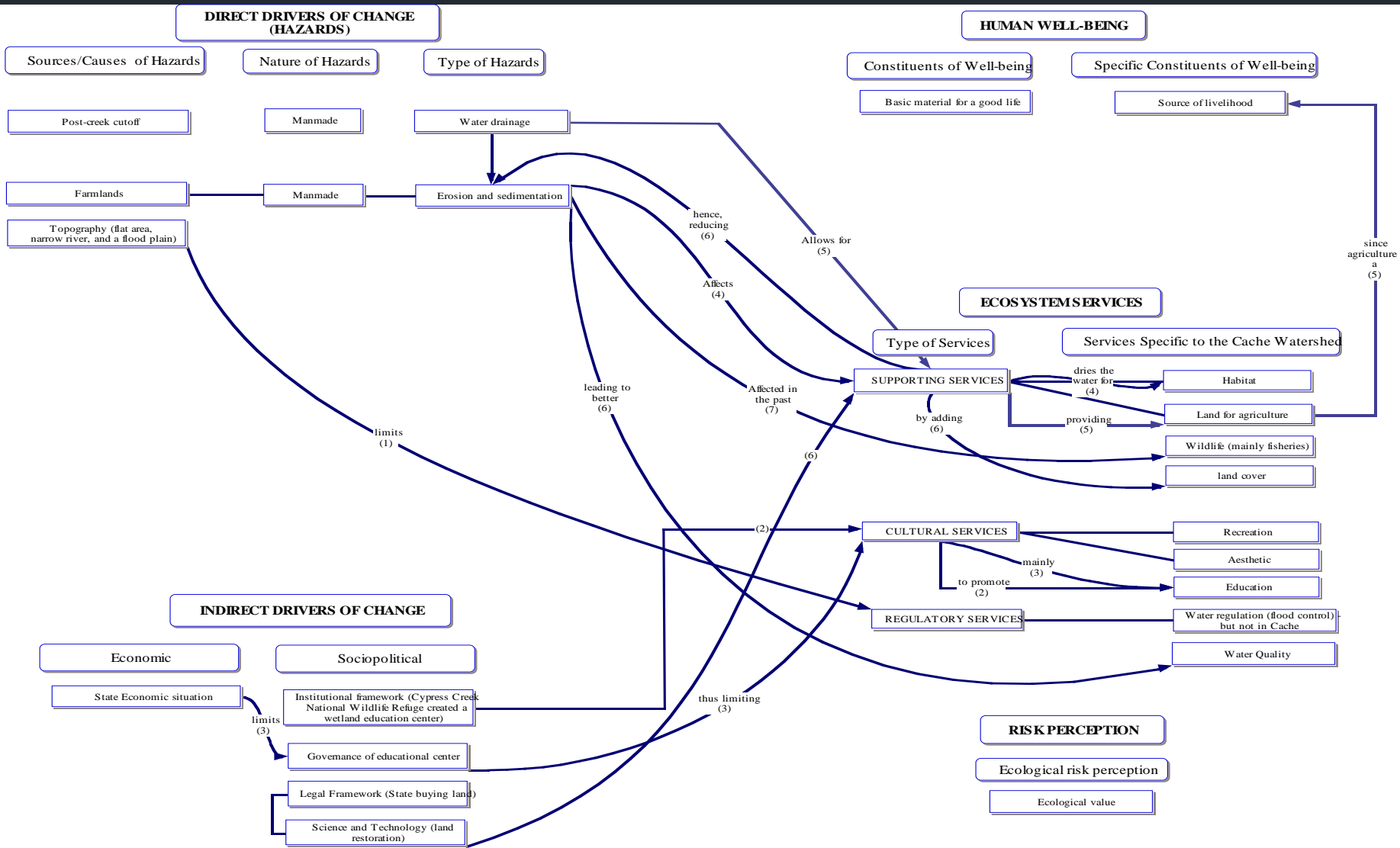
Dotted Line: designates the relationship between ecosystem services and elements of human well-being as indicated by participant, or between constituents of risk perceptions and human well-being.

Solid Line (without arrows): designates the link between the type of ecosystem services or elements of well-being and those specific to watershed, as indicated by participant.

Curved Line: designates the effects of hazards on ecosystem services and constituents of human well-being indicated by participant.

Right angled line: designates the relationship between the direct and the indirect forces of change.

“The current situation is pretty unreal. Even though there’s propaganda floating around to the contrary—most of it being spread by people that’s outside the area that really don’t know what’s going on here. And by me being a seventy year resident of the area—and currently I live right next to the wetlands, which the wetlands is part of my back yard. I’ve monitored the conditions for years, and I’m not bragging. I’m just giving you the facts. I know more about the historical and present conditions of this system than any two human beings on planet Earth.” **(CJVP1 – Local Stakeholder)**



LEGEND

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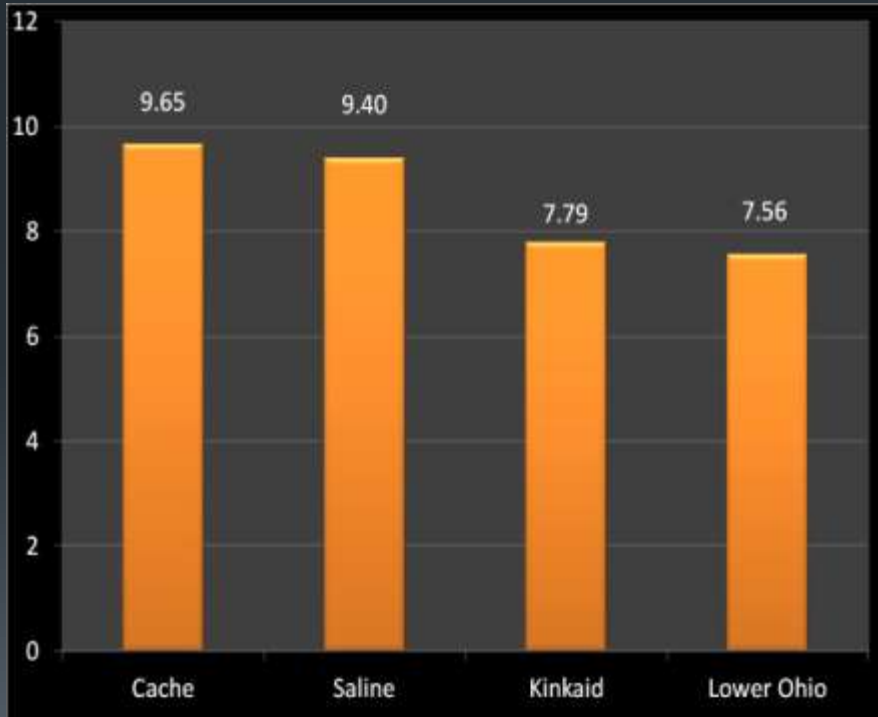
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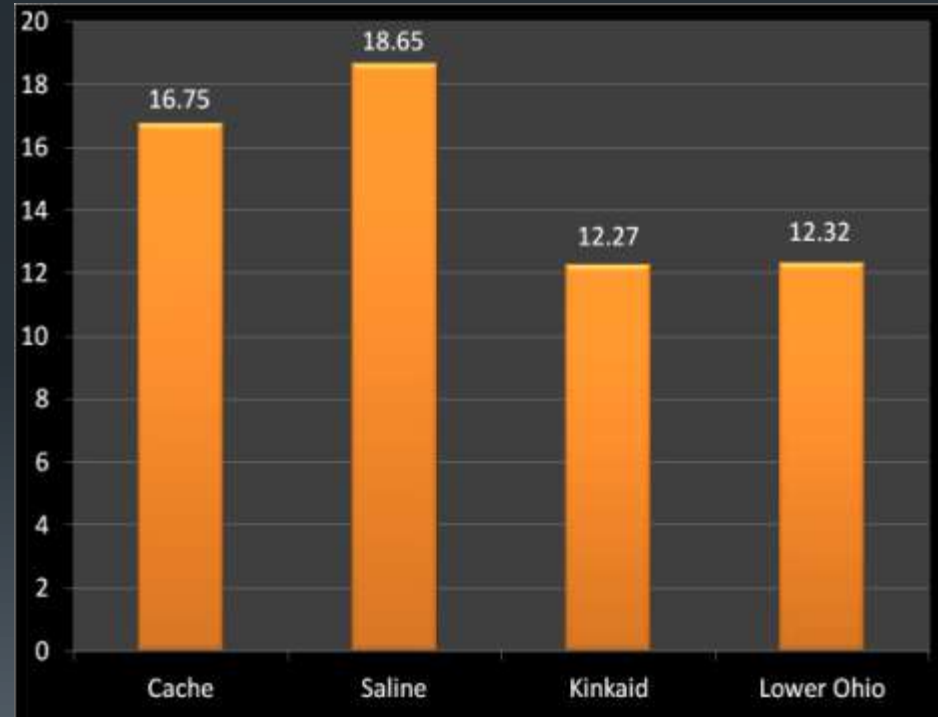
Government representative in the CJVP

Across Watershed Variations

- Mean Risk Perception Score



- Mean Local Hazards Knowledge Score



Technical Assessments vs. Local Perspectives and Concerns

- May not necessarily match.
- Technical assessments depend on aggregate data and do not reflect local conditions.
- There is a need to integrate varied perspectives and concerns (both technical and local) to effectively manage watersheds.



Summary

- Watershed comparisons need to go beyond physical and socio-economic structural factors
- Contextual and perceptual factors are critically important for
 - Effective water resource management and
 - Understanding and mitigating vulnerabilities
- Heterogeneity exists not only across, but also within watersheds
 - Caution against over-generalization – One size RARELY fits all
 - Interdisciplinary research is essential
- Multi-scale, cross-boundary, integrated assessments are necessary for understanding and managing watersheds
- But...HOW?



How to Navigate Diverse Watershed Perspectives

- Ask & Listen
- Social assessments & methodologies
- Tap into shared regional or watershed identities and foster interaction for common purposes
 - Explore “River Meanings” among stakeholders
 - Consensus is not always essential at all levels
 - Varied perspectives and concerns are encouraged in order to prioritize and find alternatives and solutions for watershed issues.
- Stakeholder advisory groups – or watershed partnerships - with broad representation





Thank you!

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Courtney Flint – cflint@illinois.edu

Lama BouFajreldin – lboufaj2@illinois.edu

