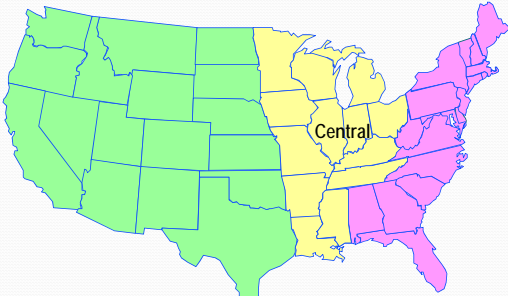


## Central U.S. Region: Challenges and Opportunities to Address Water Resources Needs


Barb Naramore  
Executive Director  
Upper Mississippi River Basin Association

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## Central U.S. Region Study Area: 13 States, Multiple Commissions and Basin Associations



### Trends and Challenges in Central Region: *Water Quality*




*Tale of Two Watersheds*

- **Iowa:** More than 90 percent of the state's land is agricultural, with 65 percent in row crop production
- **Michigan:** In 2004, DEQ identified over \$500 million in unmet funding for NPS pollution projects
- **Indiana:** Almost none of the Lake Michigan shoreline waters support full body contact recreational use
- **Ohio:** Over half of state's watersheds do not meet the standards for aquatic life uses

### Trends and Challenges in Central Region: *Navigation*

- **Wisconsin:** Lower water levels on Lake Michigan are a concern for commercial shipping and recreational boaters in ports and harbors
- **Arkansas:** Need to determine an adequate stream flow requirement to support navigation and ecological needs on the White River
- **UMRBA:** Seeking balanced investment in the future of the Upper Mississippi River System's navigation infrastructure and ecosystem




### Trends and Challenges in Central Region: *Water Supply and Allocation*

- **Mississippi:** 300-plus infrastructure improvement projects are needed in the six-county Gulf Region between 2010 and 2025
- **Minnesota:** Between 1995 and 2005, water use grew 50 percent faster than population
- **Illinois:** Chicago's regional population is projected to increase by 2.8 million people by 2040 (c. 30%)
- **Kentucky:** \$8 billion is needed to improve and expand public water supply infrastructure by 2020



### Trends and Challenges in Central Region: *Energy Water Nexus*

- **Louisiana & Arkansas:** Natural gas development is raising water quality and quantity concerns in some areas
- **Kentucky:** There are plans to produce 668M gallons of ethanol per year of by 2025, using 5.5 to 7.5 MGD of water
- **Large Rivers:** Hydrokinetic proposals pose important compatibility & cumulative impacts questions



## Trends and Challenges in Central Region: Natural Disasters

- **Mississippi:** Hurricane Katrina caused significant population shifts to inland counties, impacting water resources infrastructure in the affected areas
- **Tennessee:** Population growth in Middle Plateau region, where Karst topography is especially vulnerable to drought, raising water quality and quantity concerns
- **UMRS:** Repeated record flood events are giving rise to fundamental questions about data & models, human impacts, and flood risk management policy



## Needs in the Central States

| CENTRAL REGION                    |   |                                 |
|-----------------------------------|---|---------------------------------|
| State Summaries                   | Interviews                                | Workshop                        |
| Funding                           | Funding and resources                     | Data and information            |
| Infrastructure                    | IWRM                                      | Vision and guiding principles   |
| Data and information              | Balancing competing uses                  | IWRM                            |
| Planning and policy               | Infrastructure                            | Governance issues               |
| Water supply                      | Water quality and environmental pollution | Funding (investment strategies) |
| Authorities and regulatory issues | Climate change                            | Ecosystem needs                 |
| IWRM                              | Data and information                      | Water use reporting             |

## Opportunities

- Invest in information
- Coordinate and integrate
- Get the institutional piece right
- Establish the vision

## Invest in Information

- Includes monitoring, assessment, research, modeling, and information sharing
- Balance need for information with need for action
- Data access, coordination, & decision support tools critical



## Invest in Information (cont'd)

- **Specific opportunities**
  - National Streamflow Information Program
  - National Water Census
  - State water quality monitoring
- **Why?**
  - Inform decisions
  - Educate
  - Anticipate
  - Adapt

## Coordinate and Integrate

- Plan & manage on a watershed basis
- Use integrated water resources management (IWRM)
- **Key issues**
  - Policy and programmatic barriers to IWRM
  - Creating the right incentive structure
  - IWRM requires new players and networks
  - Scalability of watershed approach
  - Political boundaries aren't going anywhere
  - What's the role of interstates?
  - What's needed at a national scale to support?



## Get the Institutional Piece Right

- Vital framework for coordination, integration, and visioning
- Common threads
  - Coordination at watershed scale
  - Desire for the federal toolbox
  - Consistency across federal agencies
  - Federal structure that supports regionally appropriate solutions
  - Desire for IWRM—implications for who plays



## Institutional Piece (cont'd)

- Range watershed coordination alternatives
- Key differences
  - Formality
  - Leadership
  - Charge and powers
  - Scope
  - Connection to national policy

## Establish the Vision

- Need for a compelling, far-sighted water vision
- How and why to sustain the nation's critical water resources
- National vision
- Scalable regional/watershed visions
- Shape laws, policies, programs, institutions, & investments to support those visions



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## Models from the Central Region

- Interstate organizations of various types
- Collaboration among tribal governments
- Interagency Levee Task Force
- NRCS's work with Conservation Districts
- States' water planning efforts
- USACE's partnering efforts



## What Might These Guys Say?

- Challenge to maintain commitment over time
- Operationalizing vision is tough
- States occupy a critical nexus
- Diversity contributes to robustness
- Certain ideas are cyclical
- Extraordinary things can come from collaboration

