



America's Watershed Initiative

Report Card for the Mississippi River Watershed

The Illinois River River: A Watershed Partnership

October 28, 2015

Need for Collaboration



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Upper Mississippi River
Basin Association



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Mississippi River
Commission & USACE



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City of Dubuque, IA



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Lower Mississippi River
River Basin



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Mississippi Valley Flood
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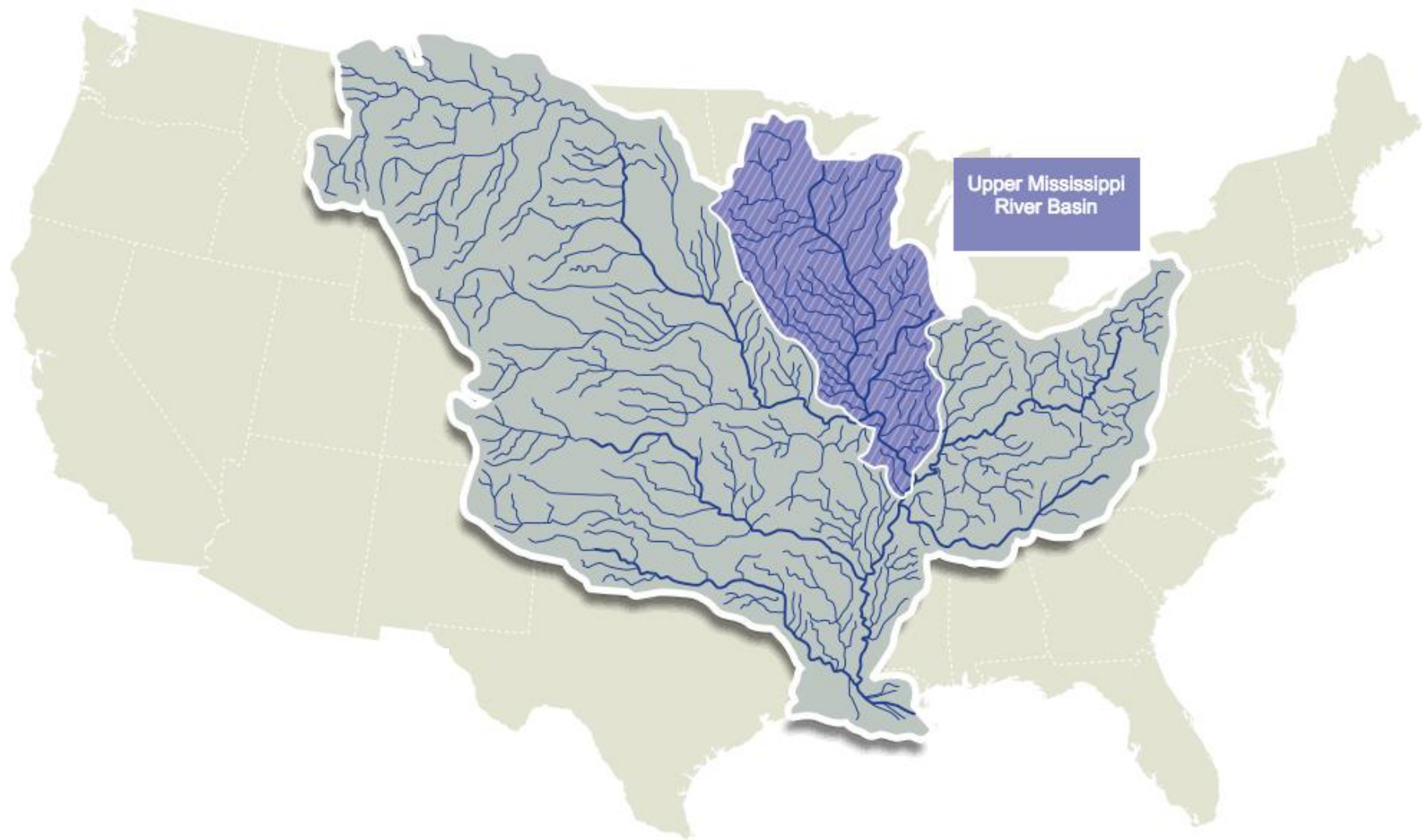


Charles Somerville
Marshall University & Ohio
River Basin Alliance



Max Starbuck
National Corn Growers
Association

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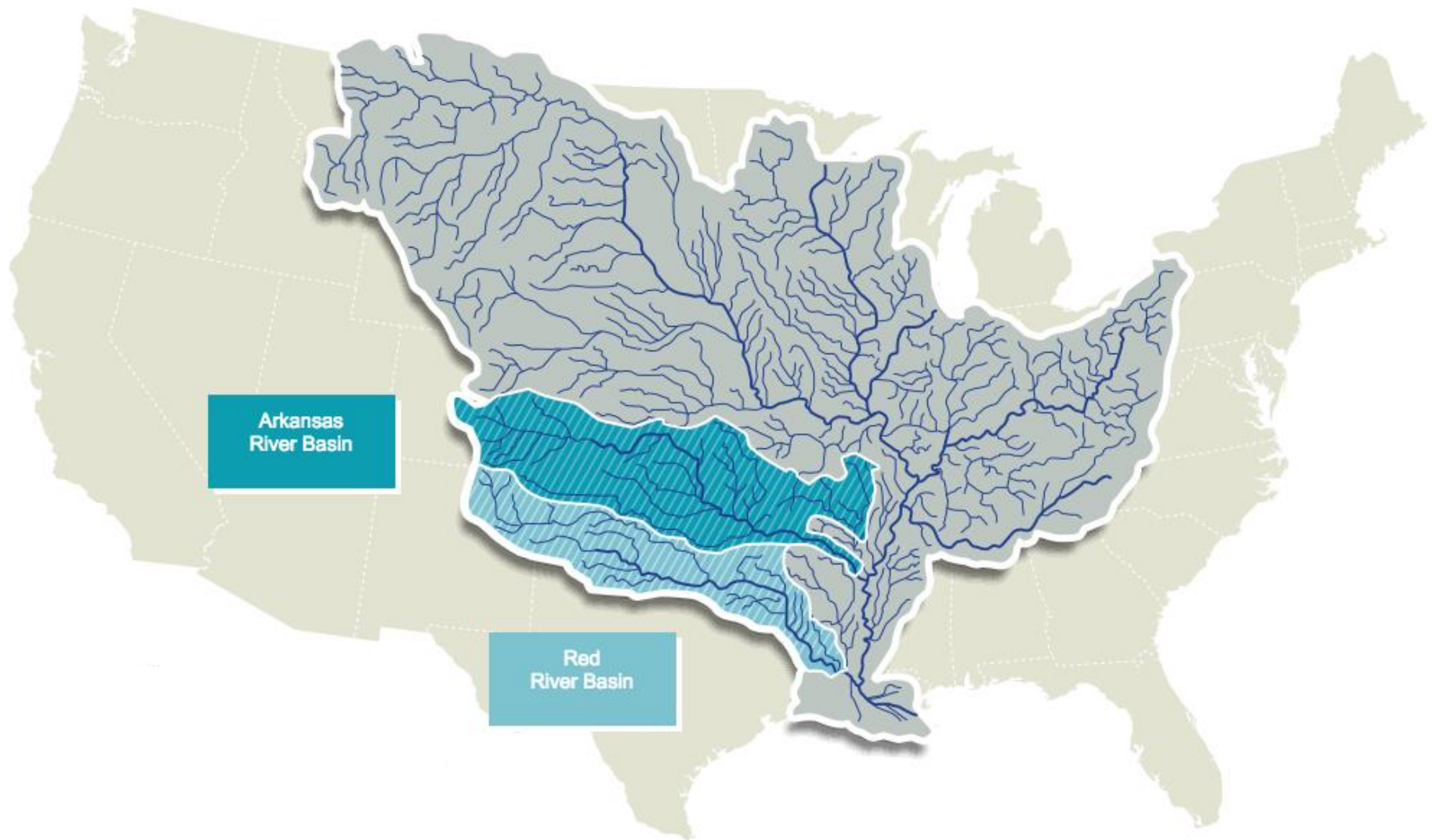
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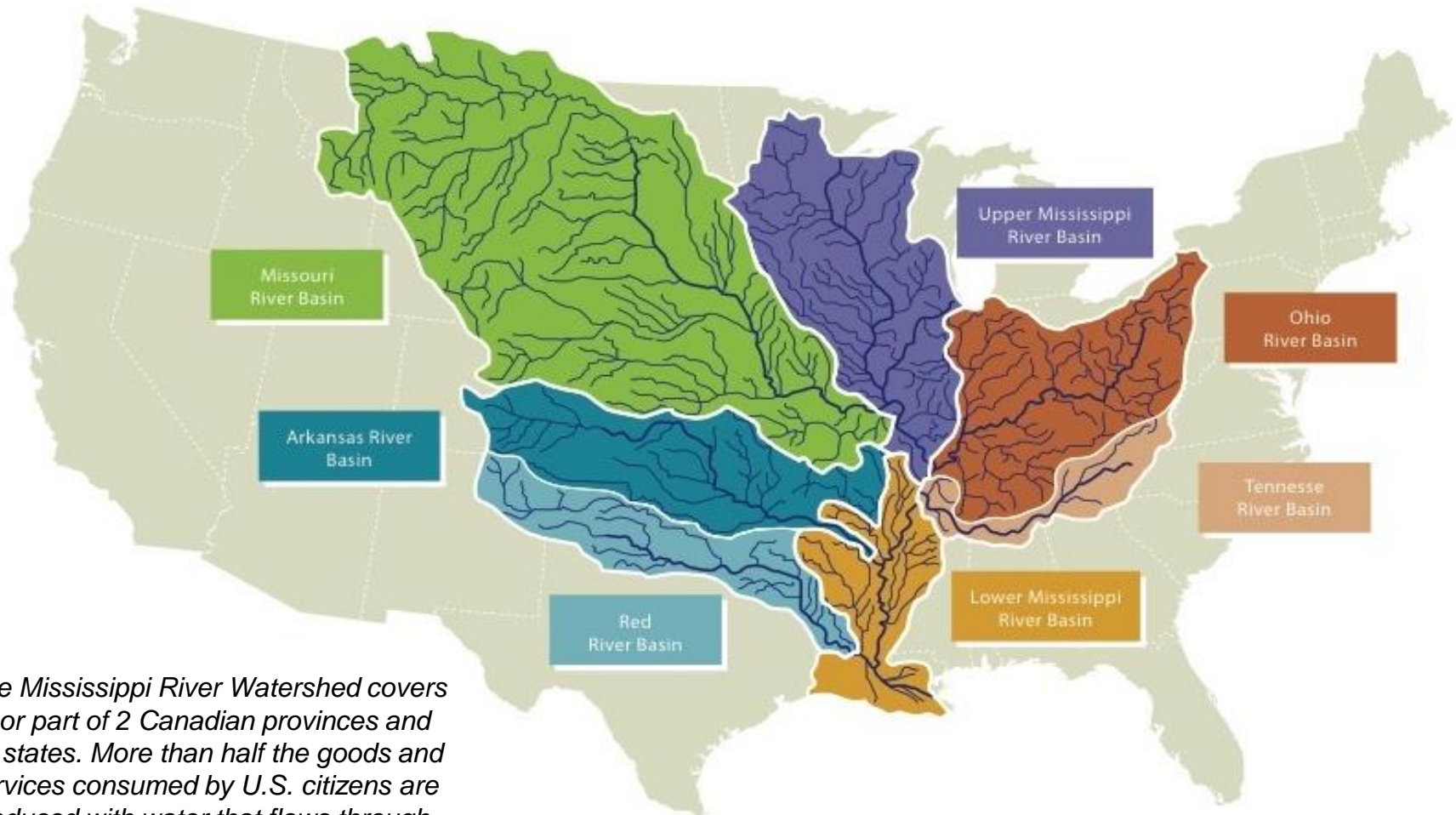
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America's Watershed Report Card process



The Mississippi River Watershed covers all or part of 2 Canadian provinces and 31 states. More than half the goods and services consumed by U.S. citizens are produced with water that flows through this great watershed.

Six Broad Goals for Watershed



Bringing People Together

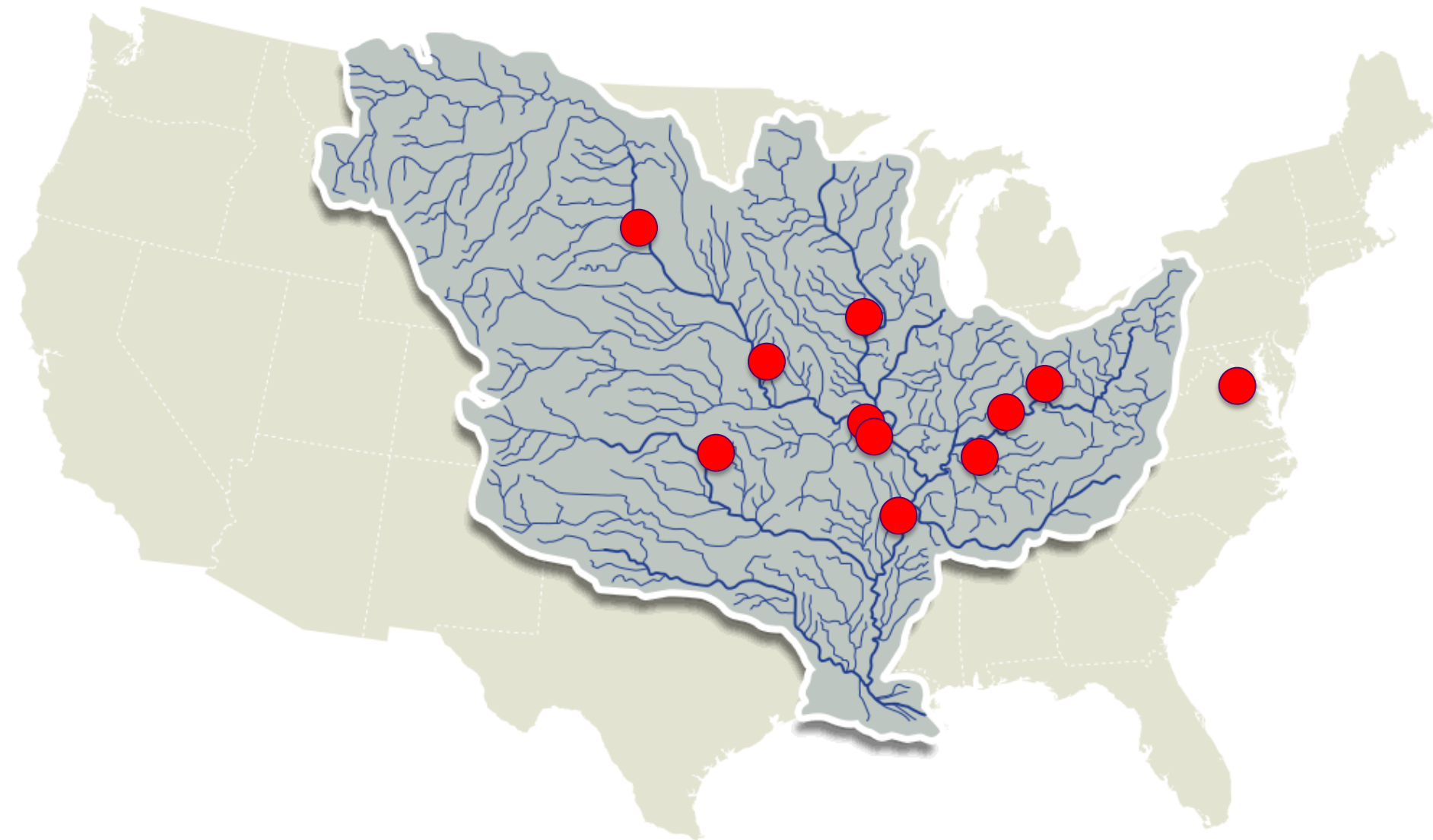


"... the America's Great Watershed Initiative was the best, most thought-provoking conference I have ever been to. An enormous amount of high quality information."

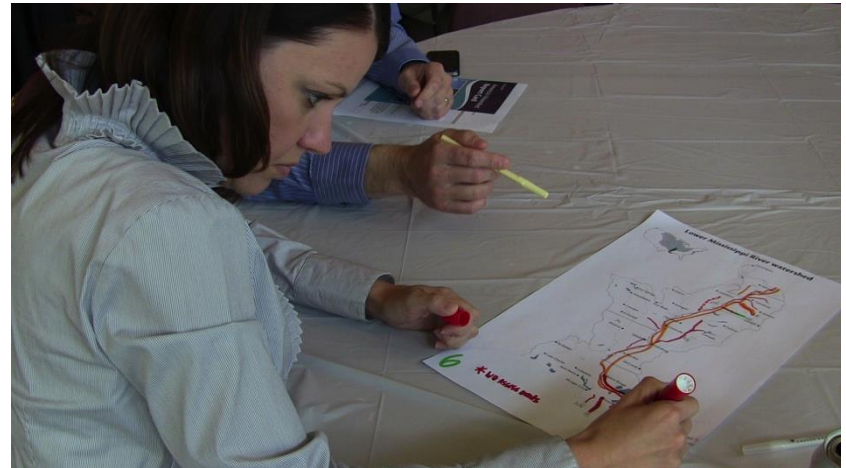
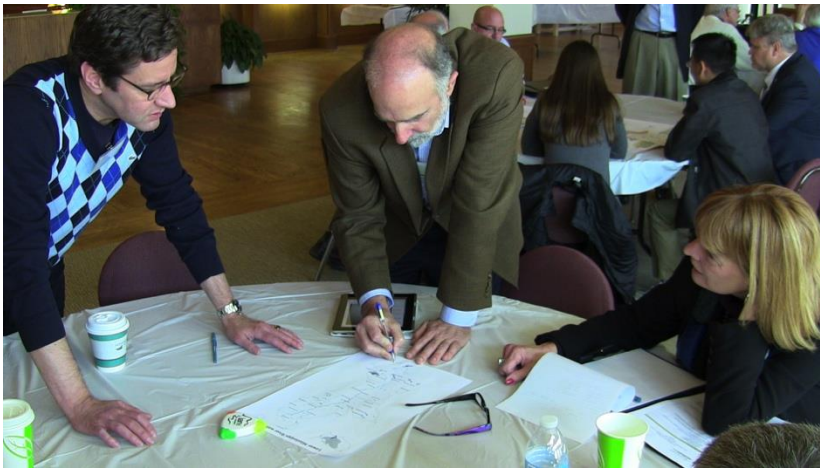
-- MG John W. Peabody



Watershed-Wide Participation



Bringing People Together



Participating Business Organizations

- Agriservices of Brunswick
- America's Central Port
- American Commercial Lines
- American Electric Power, River Operations
- Amherst Madison
- Anderson Tully Company
- ATKINS
- Battelle
- Biohabitats, Inc.
- Boeing
- Cargill, Inc.
- Caterpillar Inc.
- CDM Smith
- CH2M HILL
- Conversant
- Crounse Corporation
- Dawson & Associates, Inc.
- DLA Piper
- DTN/The Progressive Farmer
- Duke Energy
- DuPont-Pioneer
- East Coast Awakening
- Ecology and Environment Inc.
- Electric Power Research Institute
- Engineering News-Record
- ENVIRON International Corp
- Fox Consulting Group LLC
- Gaea Engineering Consultants, LLC
- Great Lakes Dredge & Dock
- Growmark, Inc.
- Gulf Coastal Ozarks LLC
- Hanson Professional Services, Inc.
- Headwaters Corporation
- IBM
- Ingram Barge Company
- Iowa Soybean Association
- Jones Walker
- KCI Technologies Inc.
- Kieser & Associates
- Klingner & Associates, P.C.
- LTA Consulting
- Marathon Petroleum Company
- McKinsey & Company
- Missouri American Water
- MO Agribusiness Assn.
- Monsanto Company
- Mississippi River Corridor-TN
- MWH Americas
- National Corn Growers Association
- National Corn Growers Assn.
- Oklahoma Cattlemen's Association
- Paul Davis PE
- SIMPCO
- SSM Group, Inc.
- Stanley Consultants, Inc.
- Stantec Consulting
- TerraCarbon LLC
- The Mosaic Company
- Tulsa Port of Catoosa
- Waterways Council, Inc.
- WaterWonks LLC
- Waurika Master Conservancy District
- Weston Solutions
- Woodland Venture Management
- Xcel Energy



Participating Organizations & Basin Groups

- America's Waterway
- America's Wetland Foundation
- American Rivers
- Appalachian Energy & Environment Partnership
- Assn. of State Floodplain Managers; ASFCO
- National Audubon Society
- Audubon Louisiana, National Audubon Society
- Audubon Missouri
- Audubon of Minnesota
- Big River Coalition
- Biodiversity Project
- Boone County Conservation District
- Cheney Lake Watershed, Inc.
- Coalition to Protect the Missouri River
- Cumberland River Compact
- Delta Dispatches
- Delta Wildlife Inc.
- Ducks Unlimited - Headquarters
- Ducks Unlimited - Illinois
- Ducks Unlimited - Washington DC
- Environmental Defense Fund
- Grand Lake O'the Cherokees Watershed Alliance Foundation
- Great Rivers Greenway
- Green Umbrella
- HeartLands Conservancy
- Horinko Group
- Interstate Council on Water Policy
- International Plant Nutrition Institute
- Iowa Corn Growers Association
- Iowa Environmental Council
- Izaak Walton League of America, Missouri River & UMR programs
- Kentucky Waterways Alliance
- Kentucky Association of Mitigation Managers
- Lake Texoma Association
- Living Lands & Waters
- Mid-America Freight Coalition
- Mississippi River Cities and Towns Initiative
- Mississippi River Network
- Mississippi River Program
- Mississippi Valley Flood Control Assn.
- Missouri River Navigation Caucus and Pallid Sturgeon Recovery Working Group
- Missouri River Recovery Implementation Committee (MRRIC)
- Missouri Valley Waterfowlers Association
- MO Coalition for the Environment
- MO Levee & Drainage District Assn
- Mississippi River Cities & Towns Initiative, NE-Midwest Institute
- National Waterways Conference
- National Wildlife Federation
- National Mississippi River Museum & Aquarium
- Natural Resources Defense Council
- North Dakota Water Users Assn.
- Nebraska Wildlife Federation
- Northeast-Midwest Institute
- Ohio River Basin Association
- OK Municipal League
- ORSANCO
- Ouachita River Valley Assn.
- Platte River Recovery Implementation Program
- Prairie Rivers Network
- Rahall Transportation Institute
- Red River Valley Association
- Restore or Retreat, Inc.
- River Network
- State Association of Kansas Watersheds
- The Little River Drainage District
- The Nature Conservancy – World Office
- The Nature Conservancy Global Water
- The Nature Conservancy North America Water
- The Nature Conservancy - Central Division
- The Nature Conservancy - UMR
- The Nature Conservancy - Indiana
- The Nature Conservancy - Indiana Lower Wabash
- The Nature Conservancy - Iowa
- The Nature Conservancy - Kentucky
- The Nature Conservancy - Kentucky - West KY
- The Nature Conservancy - Kentucky Green River
- The Nature Conservancy - Louisiana
- The Nature Conservancy - Mississippi
- The Nature Conservancy - Nebraska
- The Nature Conservancy - Ohio
- The Nature Conservancy - Oklahoma
- The Nature Conservancy - Tennessee
- The Nature Conservancy – TN/West TN program
- The Nature Conservancy - Western Dakotas
- The Nature Conservancy – Wisconsin
- The Water Institute of the Gulf
- The Waterways Journal
- Trust for Public Land - Embrace Open Space
- US Water Alliance
- Upper Mississippi River Basin Association
- Upper MS, Illinois & Missouri Rivers Association
- Wilderness Inquiry
- Yazoo-MS Delta Levee Board

Participating Federal Agencies

- Department of Defense
- Environmental Protection Agency
- EPA - Enviro Tech Innovation Center
- EPA - Hypoxia Task Force
- EPA - National Rivers and Streams Assessment
- EPA – National Exposure Research Laboratory
- EPA - Office of Water
- EPA - Wetlands, Oceans and Watersheds
- Gulf Coastal Plains & Ozarks Landscape Conservation Cooperative
- NOAA - National Weather Service
- NOAA - National Climatic Data Center
- Department of the Interior – Secretary's office
- National Park Service, Midwest Region
- National Park Service Mississippi River National River & Rec Area
- Fish and Wildlife Service - Missouri Ecological Services Field office
- Fish and Wildlife Service - Lower Mississippi Valley Joint Venture
- Fish and Wildlife Service - LMRCC
- Fish and Wildlife Service - Kentucky Ecological Services Field Office
- Fish and Wildlife Service - Mississippi Interstate Resource Association
- Fish and Wildlife Service - Big Muddy Refuge
- Fish and Wildlife Service - Fishers & Farmers Partnership
- Fish and Wildlife Service - Natl Wildlife Refuge System, Rock Island Ecological Services office
- US Geological Survey, Indiana & Kentucky Commonwealth
- US Geological Survey, Midwest Regional Office
- US Geological Survey, OH Water Science Center
- US Geological Survey, Upper Midwest Environmental Science Center (UMESC)
- Oak Ridge National Laboratory – Environmental Sciences Division
- Tennessee Valley Authority
- USACE U.S. Army Corps of Engineers
- USACE, Headquarters
- USACE Mississippi River Commission
- USACE, Great Lakes and Ohio River Division
- USACE Mississippi River Division
- USACE, Northwest Division
- USACE, Huntington District
- USACE, Kansas City District
- USACE, Little Rock District
- USACE, Louisville District
- USACE, Memphis District
- USACE, Nashville District
- USACE, Rock Island District
- USACE, St Louis District
- USACE, St Paul District
- USACE, Tulsa District
- USACE, Vicksburg District
- USACE CPRP, Rivers Project Office
- USACE Engineer Research and Development Center
- USACE Missouri River Recovery Program
- USACE MO River Basin Programs
- USDA - Conservation Effects Assessment Project
- USDA - NRCS - Kentucky
- USDA Forest Service Northeastern Region
- USDA National Laboratory for Agriculture and the Environment
- USDA NRCS Central Region
- USDA NRCS Watershed Planner
- USDA-NRCS - Missouri Basin
- USDA-NRCS - Ohio
- USDA-NRCS Kentucky
- USDA, Natural Resources Conservation Service, Headquarters
- AmericasWatershed.org

Participating State and Local Agencies

- Participating Local Governments
- AR Game & Fish Commission
- IA Dept. of Natural Resources
- IA Dept. of Transportation
- IL Dept. of Natural Resources
- IL Dept. of Transportation
- IL EPA Division of Public Water Supplies
- KS Water Office
- KS Bureau of Water, Kansas Department of Health & Environment
- KS Watershed Management Section
- KY Department of Agriculture
- KY Dept. of Environmental Protection, Water Quality Br
- KY Div. of Water
- LA Dept. of Enviro Quality, Office of Enviro Services
- MN Dept. of Ag
- MN Dept. of Natural Resources
- MN Pollution Control Agency
- MO Dept. of Agriculture
- MO Dept. of Conservation
- MO Dept. of Natural Resources
- MO DNR Water Resources Center
- MS Dept. of Environmental Quality, Office of Pollution Control
- MT Dept. of Natural Resources and Conservation
- MS DOT
- ND State Water Commission
- NE Department of Natural Resources
- OH Dept of Natural Resources
- OH DNR, Div of Soil & Water Resources
- OK Dept of Agriculture, Food & Forestry
- OK Dept of Environmental Quality
- OK Dept of Mines
- OK Dept of Transportation, Waterways Branch
- OK Municipal League
- OK Scenic Rivers Commission
- OK Water Resources Board
- Red River Waterway Commission
- SD Dept. of Environmental Natural Resources
- SD Game, Fish and Parks
- The Wildlife Resources Agency
- TN Fisheries Mgmt. Div., TN Wildlife Resources Agency
- TN Wildlife Resources Agency
- TX Commission on Environmental Quality
- TX Water Development Board
- WI DOT, Bureau of Transit, Local Roads, RR & Harbors
- WV Conservation Agency
- WV DEP
- WY Wyoming State Engineers Office
- Cherokee County Health Department (Kansas)
- City of Dubuque, IA
- City of Moline, IL
- Metropolitan Water Reclamation (Chicago)
- Port Authority of Kansas City, MO
- City of Portland, OR
- City of St. Louis Water Division
- Louisville Metropolitan Sewer District

Participating Academic Institutions

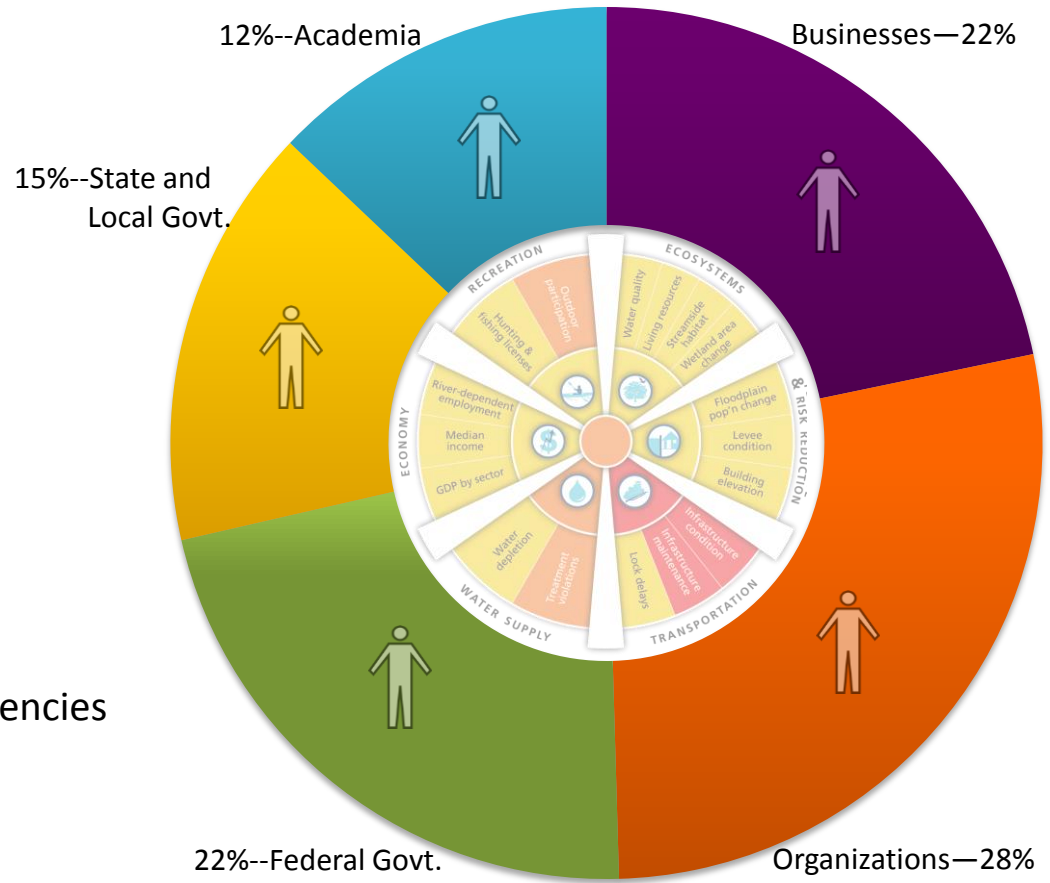
- Carnegie Mellon University
- Illinois Sustainable Technology Center
- Illinois State Water Survey
- Iowa State University
- Kansas State University
- Kansas State University, Big Creek Middle Smoky Hill River Watersheds
- Lewis and Clark College
- Louisiana Sea Grant College Program, LA State University
- Marshall University College of Science
- Marshall University Rahall Transportation Institute
- Mississippi State Cooperative Res Assn.
- Mississippi State University
- National Center for Water Quality Research, Heidelberg University
- National Great Rivers Research & Education Center
- Northern Kentucky University
- OHRB Consortium for Research & Education
- Oklahoma State University
- Thomas More College
- Tulane Institute on Water Resources Law & Policy
- Texas A&M Transportation Institute
- Univ. of Arkansas, Aquaculture & Fisheries Center
- University of Arkansas Water Resource Center
- Univ. of Maryland Center for Environmental Science - IAN
- Univ. of Maryland, Dept. of Civil & Environmental Engineering
- Univ. of Wisconsin-Madison
- University of Cincinnati
- University of Iowa - Iowa Flood Center,
- University of Minnesota
- University of Minnesota, Dept. of Forestry
- University of Missouri, Dept. of Fisheries & Wildlife Sciences
- Vanderbilt University
- Washington University in St. Louis
- Webster University



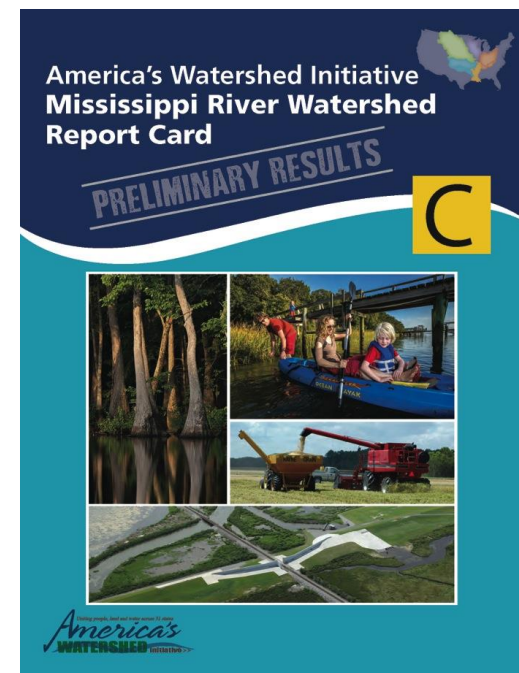
Diverse Participation

700+ Participants

- 400+ businesses and organizations
- 37 states + Canada and Korea
- 140+ Business Organizations
- 145+ Federal Agencies
- 180+ Organizations & Basin Groups
- 100+ State & Local Government Agencies
- 85+ Academic Institutions




Bringing People Together




More than just the Report Card document

- **Final Watershed Report Card**
 - Preliminary Report Card
 - Report Card Goals & Values
 - Report Card Methods paper
 - Participant Summary
 - 6 Watershed Workshop Reports
 - 6 Basin Fact Sheets
 - New Web Pages
 - Report Card Video


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Why America's Watershed Report Card?



Across the Mississippi River Basin and each of its major sub-basins, a wealth of information is available thanks to years of research and data collection by multiple sectors. The advantage of this vast and complex data, however, also presents a major challenge: how do we distill key messages and findings from such a broad base of information and make it accessible? This is critical to empowering decision makers to set priorities for policy, funding and management actions that can benefit the basin at large; and is ultimately why we are creating America's Watershed Report Card.

Using a variety of relevant, easily understood and transparent indicators of watershed health, the report card will synthesize watershed data in order to assess the health status of distinct sections of the basin and identify trends—which will allow us to move forward in achieving goals for the full Mississippi Watershed.

Goals measured in the report card will include:

Report Card

Preliminary results for America's Watershed Report Card

[Download Draft Report Card](#)

Below are summaries for each of the sub-basins included in the Report Card.

[Upper Mississippi River \(4.2 MB, pdf\)](#)
[Lower Mississippi River \(5.3 MB, pdf\)](#)
[Ohio River \(3.7 MB, pdf\)](#)
[Arkansas-Red River \(4.7 MB, pdf\)](#)
[Missouri River \(3.6 MB, pdf\)](#)

Follow the Progress

Below are links to download updates from the sub-basin report card workshops.

[Upper Mississippi River \(5MB, pdf\)](#)
[Lower Mississippi River \(4.4 MB, pdf\)](#)



Report Card for the Mississippi River Watershed



Report Card for the Mississippi River Watershed

The Report Card was built in the five basins

The Report Card team worked with experts in a multi-year process to analyze data and provide grades for the six goals in each of the main basins that make up the Mississippi River watershed—the Upper Mississippi River Basin, the Lower Mississippi River Basin, the Ohio River & Tennessee River Basin, the Arkansas River Basin, and the Missouri River Basin. Data was analyzed and grades assigned for each basin and for the entire watershed. Not surprisingly, grades for several goals showed consistency throughout the watershed, and some showed significant variety reflecting the diversity of the watershed.



The Report Card reveals challenges ahead

The Report Card conveys many inherent challenges in managing the watershed for the six broad goals of America's Watershed Initiative. Pressures on these goals will likely increase in coming decades, as demands for water increase, infrastructure ages, and our climate changes.

The region faces interconnected challenges

Regional changes from economic growth, land development, and changes in weather will add pressure to already stressed infrastructure and natural resources. Clean water for habitat, water supplies, and recreation impacted by pollution will continue to be under pressure due to increased demands on the watershed from population growth, agriculture, transportation, and land development. Groundwater supplies already in decline by overuse will be further affected by increases in irrigation and more severe droughts. Leaks and dams already in weakened condition from maintenance backlog threatens will be stressed further by more intense weather events, suggesting that failures could be more frequent and costly.

intense weather events, suggesting that failures could be more frequent and costly.

Connected goals require coordinated management

The six goals identified by America's Watershed Initiative are as highly interconnected as the challenges facing the watershed. Demands affecting one goal will impact the others, but we don't need to advance one goal at the expense of others. Management of the Mississippi River watershed to meet its challenges requires a mindset of opportunity—a coordinated approach that integrates multiple stakeholder needs, instead of an approach that advocates for single objectives independently.

Mississippi Watershed Results



The Mississippi River Watershed can and must do better

The Mississippi River is the backbone of America. Our economy and the future of our country depend on sustaining a healthy, functioning watershed. Overall the Mississippi River Watershed earned a D+, a poor result. The grades reveal a number of challenges—the Transportation and Flood Control & Risk Reduction goal areas, and the watershed-wide indicator for Coastal Wetlands Loss and the Hypoxic “Dead Zone” in the Gulf of Mexico all received D scores.

The Report Card results demonstrate that we are underperforming to meet the 6 goals for the Mississippi River Watershed. Our current trajectory is unsustainable and we must work together to dramatically raise the grade for most of the goals. Realistic, timely and innovative funding and collaborative actions must be pursued and implemented.

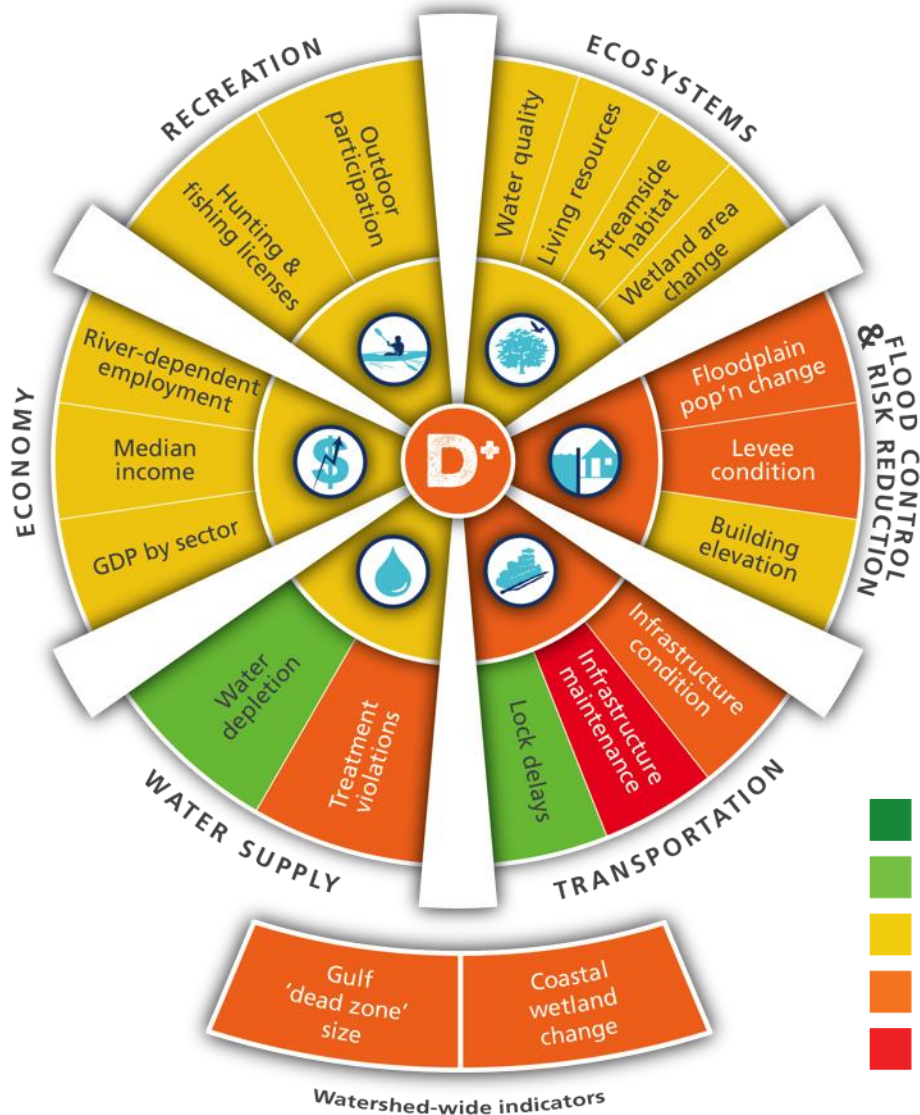
The Mississippi River Watershed has diminished as a healthy and sustaining water resource over the last several decades. To raise the grade, we need integrated management to reflect the relationships between the different goals and basins, and increased participation by partners and stakeholders working together on specific actions to improve the watershed.

The Mississippi River Watershed is a world-class asset to our nation, and we need to significantly improve information and management systems to make more informed and efficient decisions to improve its condition.

Goals and indicators used in America's Watershed Initiative Report Card

GOALS		INDICATORS	
GOAL: Ecosystems Support and enhance healthy and productive ecosystems The Report Card measured ecosystem condition in rivers and streams, and the effectiveness of wetland restoration and protection. Analysis shows more variability than any other goal—some areas show positive changes while others have significant challenges. The individualized eastern portion of the watershed and the Lower Mississippi River show the greatest adverse impacts to living resources. Poor water quality is a result of high nutrient concentrations in agricultural and industrial parts of the watershed, and this is a contributing factor to the low oxygen, “dead zone” area in the Gulf of Mexico.		Water quality Nutrient nitrogen and phosphorus levels in rivers and streams in the watershed. Streamside habitat Condition of stream and river habitat in the ecosystem.	
GOAL: Flood control and risk reduction Provide reliable flood control and risk reduction The Report Card measured levels in the number of people at risk, the condition of flood protection infrastructure, and community preparedness. The results are poor, especially because people continue to move into the floodplain. Risk from severe river floods are highest in the eastern portion of the watershed and along the Lower Mississippi River, although intensive investment in flood control infrastructure avoided huge losses from the recent flood in 2011.		Floodplain population change Change in number of people living in areas most at risk for flooding compared to the change in number of people living in a basin. Levee condition Status of levees inspected by the U.S. Army Corps of Engineers.	
GOAL: Transportation Secure as the nation's most reliable river transportation corridor The Report Card evaluated transportation system performance, the condition of locks and dams, and the funding for maintenance for the inland navigation system. Locks and dams are in a poor condition across the Mississippi River basin, and a lack of funding for infrastructure maintenance means that multiple failures may be imminent. River transportation currently functions with some delays, but as these systems continue to deteriorate, catastrophic failures resulting in severe economic, public safety, and water security problems can be expected to occur.		Infrastructure condition Condition of critical infrastructure at locks and dams. Lock delays Amount of time in 2013 that locks in a basin went unavailable compared to the best performing year between 2000 and 2012.	
GOAL: Water supply Maintain supply of abundant, clean water The Report Card assessed the safety of municipal water supplies and available quantity and quality of surface water across the watershed. As expected, scores show that less water is available in the west, which receives significantly less rainfall than the eastern portion of the watershed. Even where water is abundant, however, municipal water supply systems are not performing well. A disappointing finding is that key information is lacking on the status of groundwater resources and the suitability of surface waters for designated uses.		Living resources Condition of aquatic animal communities living in the ecosystem. Wetland area change Percent change in wetland area in each basin.	
GOAL: Economy Support local, state, and national economies The Report Card graded watershed basins against the set of the nation using statistics on per capita income, employment, and productivity in river-related sectors of the economy. Results reflect general economic conditions nationwide and differ only slightly between basins. Additional data is required to better analyze the economy directly tied to watershed and river management. The Mississippi River basin exports water in various ways through crops and products that tend to support economic development elsewhere to a greater extent than within the basin. As water stress increases, greater pressures will be placed on this resource, with potentially harmful economic effects.		Coastal wetlands change Coastal wetlands have been lost every year since measures began in 1960. The rate of wetland loss is declining, but with land subsidence and sea level rise accelerating, much more effort will be needed to restore wetland loss.	
GOAL: Recreation Provide world-class recreational opportunities The Report Card graded the number of people participating in various outdoor recreational activities. The rivers and streams of the Mississippi River basin provide many opportunities for recreation, with positive economic impacts. However, participation is most areas is at or below the recent past. Much more needs to be done to support current and emerging recreational opportunities. Through effective management of natural resources, additional information is also needed to evaluate some recreational uses.		Hunting and fishing licenses Recent sales of licenses, tags, stamps, and permits for hunting and fishing compared to the 10-year historical range. Outdoor participation Recent hunting, fishing, and boating activity and national park visitation compared to the 10-year historical range.	
Watershed-wide indicators The Report Card also included indicators that are relevant to issues at the scale of the whole watershed, or the entire area of low oxygen water (i.e., the hypoxic zone or “dead zone”) that forms in the northern Gulf of Mexico south of the River's mouth.		Gulf “dead zone” size For the last few years, the size of the hypoxic zone has not increased toward the hypoxic low has large. Reducing the size of the hypoxic zone will require reduction of nutrients from high sources throughout the watershed.	

Report Card for the Mississippi River Watershed



- Results variable
- Areas of concern
- Positive stories within





Ecosystems

Support and enhance healthy and productive ecosystems



Water quality: Water quality index calculated as average Total phosphorus and total nitrogen.

Living resources: Condition of aquatic animal communities.

Streamside habitat: Condition of stream and river habitat.

Wetland area change: Percent change in wetland area between 2006 and 2011 (National Land Cover Database).



Ecosystems

Support and enhance healthy and productive ecosystems



- Nutrients from urban and agricultural areas
- River and stream organisms show ecosystem health stress in industrial east and downstream
- Streamside habitat doing well in north and south
- Wetland area increasing in the middle and east



Flood Control and Risk Reduction

Provide reliable flood control and risk reduction



Floodplain population change: Change in number of people most at risk to flooding compared to total basin population (U.S. Census).

Levee condition: Results of levee evaluations following inspections by U.S. Army Corps of Engineers.

Building elevation: Degree to which communities have adopted requirements to elevate structures above mapped flood levels (Federal flood protection standards).



Flood Control

Provide reliable flood control and risk reduction



- A Very good
- B Good
- C Moderate
- D Poor
- F Very poor

- Increase in percentage of population living in the floodplain
- Levee condition variable, many private levees not assessed
- Some communities requiring building elevation over the flood level

- System handled the 2011 flood well



Transportation

Serve as the nation's most valuable transportation corridor



Lock delays*: Time that locks are unavailable for navigational use (USACE). Weighted by percent of total tonnage per year, and compared to best-performing year 2000-2012.

Infrastructure condition*: Percentage of critical components at lock and dam facilities identified as “inadequate” or “failed” (USACE).

Infrastructure maintenance: Adequacy of funding for operations and maintenance to maintain current navigation system in working order (USACE).

*there are no locks in the Missouri River basin; therefore we do not include a score for this indicator in the Missouri Basin

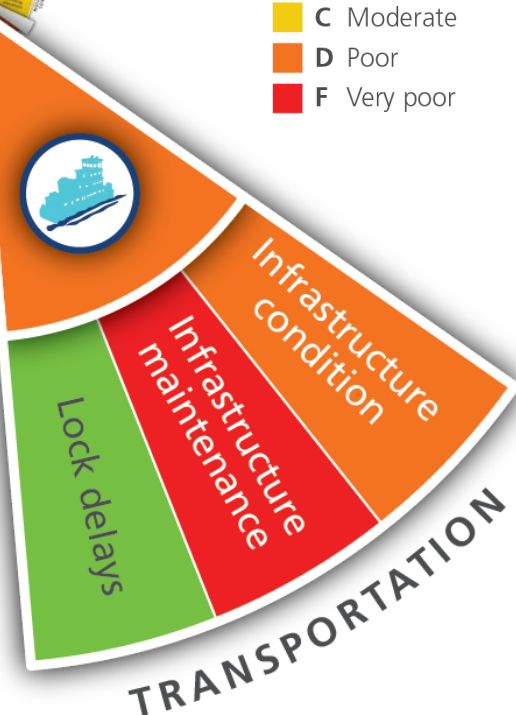


Transportation results

Serve as the nation's most valuable transportation corridor



■ **A** Very good
■ **B** Good
■ **C** Moderate
■ **D** Poor
■ **F** Very poor



- ~2-3% of critical infrastructure is in failing or near failing condition; system is interdependent
- Inadequate investment in maintenance
- Delays at locks variable
- Transportation system is efficient



Water supply

Maintain supply of abundant, clean water



Treatment violations: Violations by community water treatment systems (USEPA). Calculated as percent of population served by community water systems with no reported violations in 2013. Basin scores weighted to reflect population served by systems.

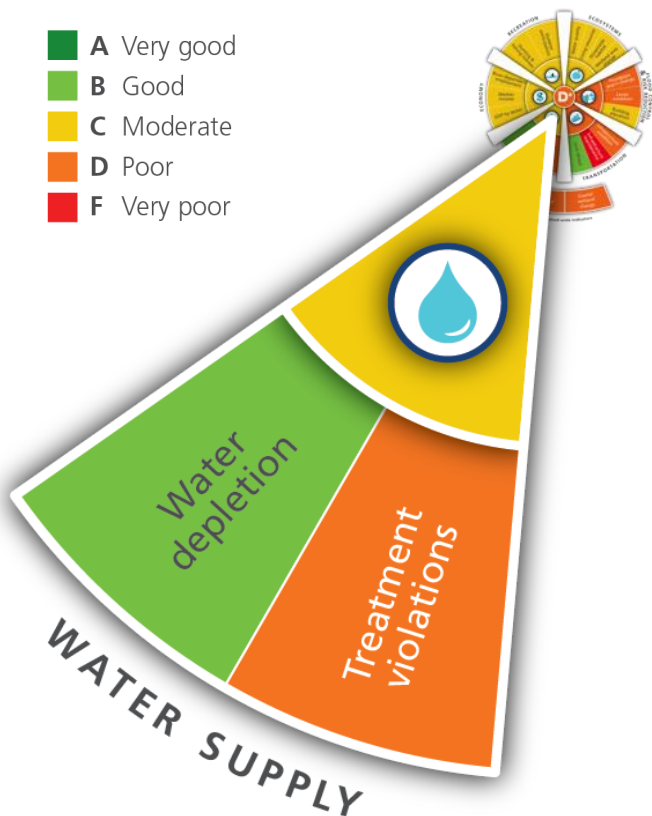
Water depletion: Quantity of available surface water using a water stress index, based on US Forest Service Water Supply Stress Index Model.



Water supply

Maintain supply of abundant, clean water

- A Very good
- B Good
- C Moderate
- D Poor
- F Very poor



- Some communities served by water supplies with treatment violations.
- Water depletion doesn't account for aquifer depletion
- Water depletion less of an issue in the wetter east watershed



Economy

Support local, state, and national economies



River-dependent employment: Compared the number of people in watershed employed in river dependent sectors (farming, fishing, forestry, production, transportation, material moving) to average employment in these industries in all states (US Bureau of Labor and Statistics).

Median income: Median per capita income in each watershed state for 2013 compared to average income (Bureau of Economic Analysis).

GDP by sector: Gross domestic product for selected industries in each state in 2013 compared to average GDP in selected industries for all states.



Economy

Support local, state, and national economies



- Consistent results
- Clear that the basin is an important driver of national economy
- Some regional economic analyses, but there are opportunities for others



Recreation

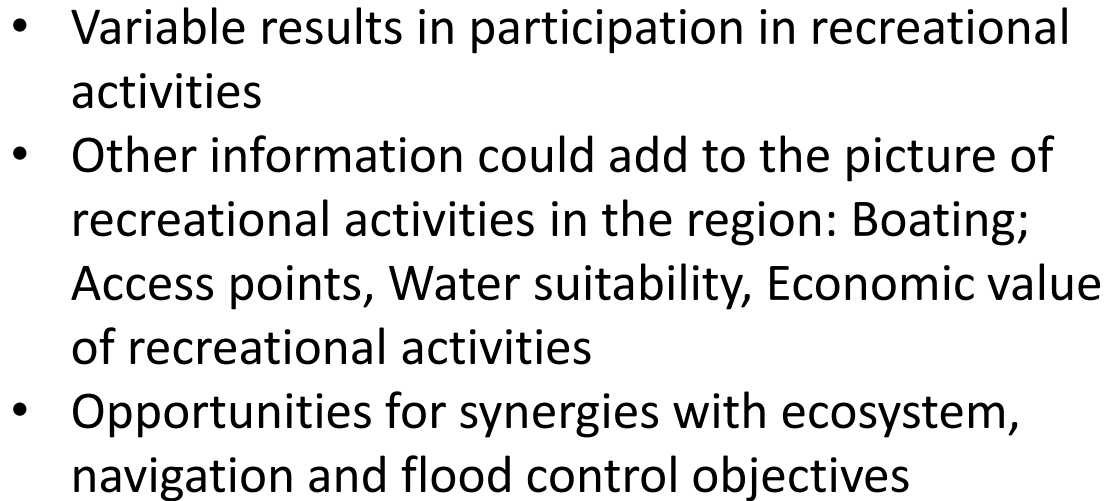
Provide world-class recreational opportunities



Outdoor participation: Compared most recent numbers of people Participating in hunting, fishing, birding, and national park visitation with 20-year historical range (FHWAR Survey, USFWS, US Census).

Hunting and fishing licenses: Sales of licenses, tags, stamps, and permits for hunting and fishing reported in National Hunting License Report 2004-2013. The score compared the three-year (2011-2013) average with the 10-year (2004-2013) historical range.

Provide world-class recreational opportunities





Watershed-wide indicators

Coastal wetland area change and Gulf of Mexico 'dead zone' size

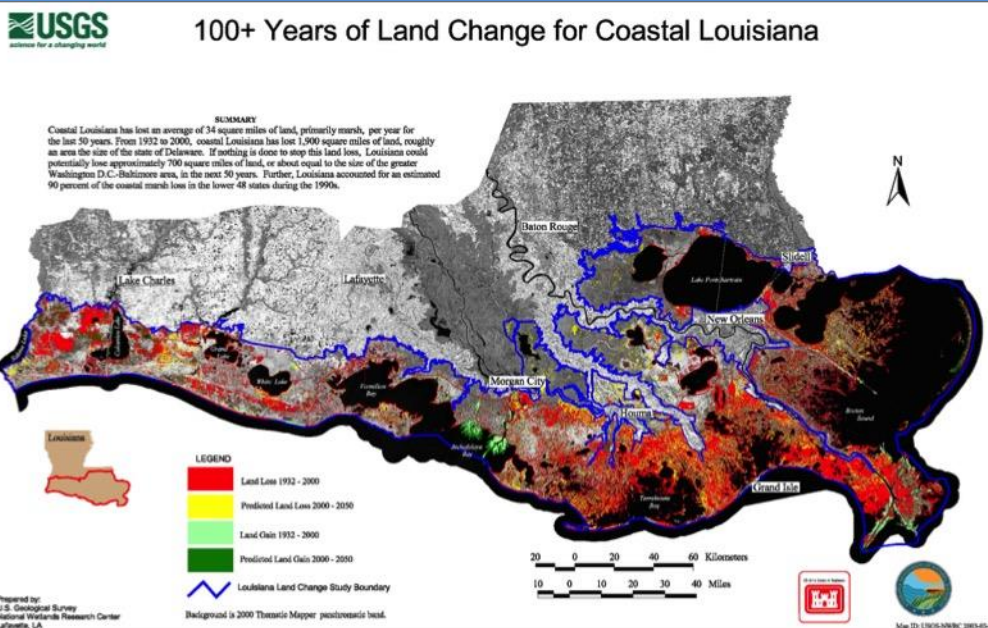


Watershed-wide indicators

- **A** Very good
- **B** Good
- **C** Moderate
- **D** Poor
- **F** Very poor

Watershed-wide indicators

Coastal wetland change



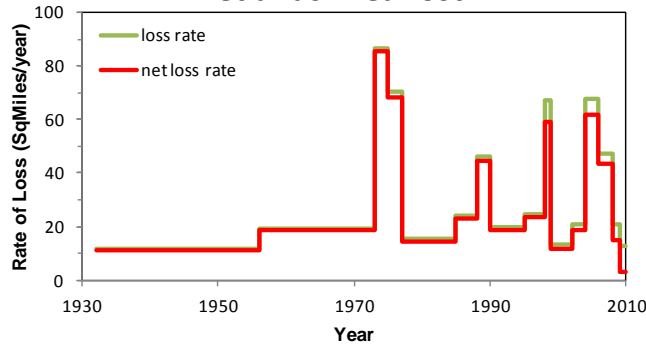
Measures the annual net rate of wetland loss in coastal Louisiana. Score is calculated based on the net rate of wetland loss in recent years compared to historical loss rates. No net loss of wetlands, yet no recovery would earn a C grade. The area must show a net gain in wetland area to score better than a C grade.



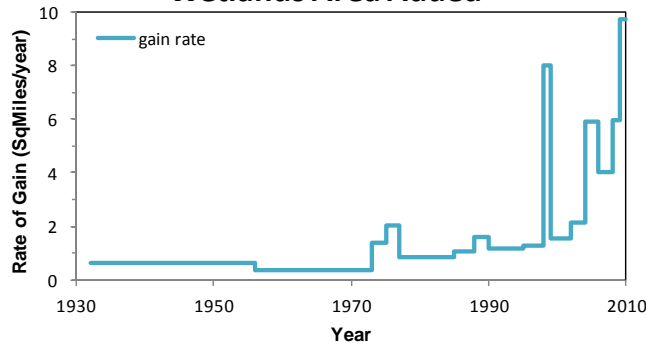
Watershed-wide indicators

Coastal wetland area

Wetlands Area Lost



Wetlands Area Added



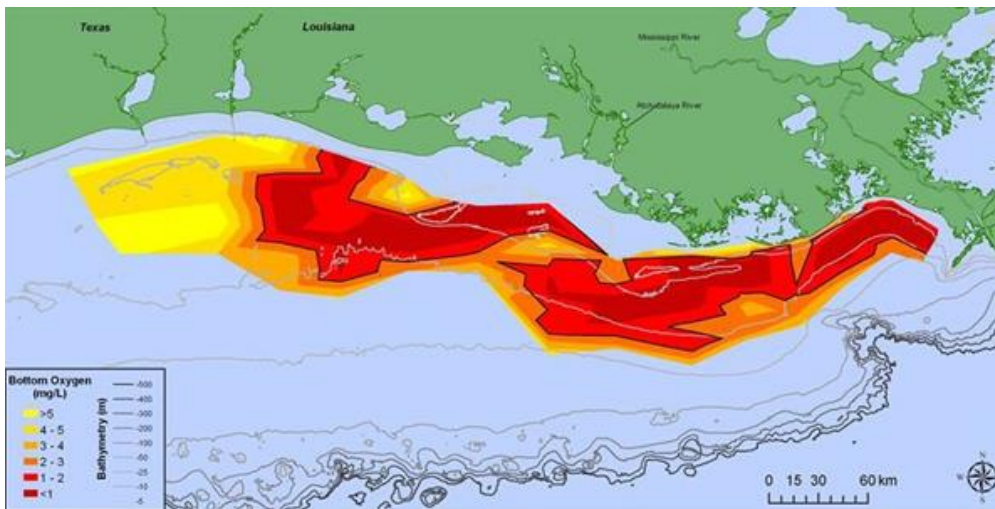
Net wetland loss is a dynamic process. Wetlands are lost in some areas, and gained in others

- Less wetlands are being lost each year, but they are still being lost
- More wetland area is being *added* but not enough to create a net increase
- Sediment recycling efforts creating new wetland areas



Watershed-wide indicators

Gulf of Mexico “dead zone” size



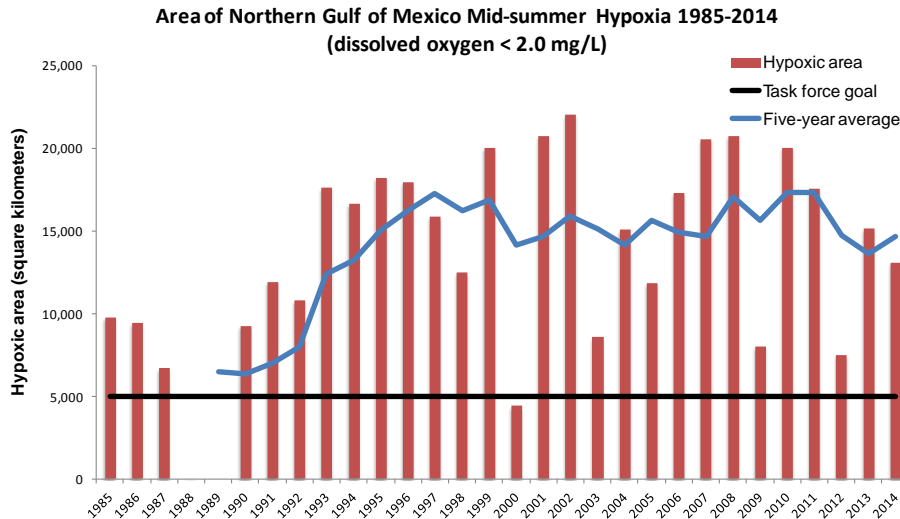
Measures the size of the dead zone against the official target of no more than 5000 square kilometers established by the hypoxia task force. Scoring based on a set of thresholds recommended by the expert hypoxia panel:

- <1000 square kilometers = A
- <5000 square kilometers = B
- <10000 square kilometers = C
- <15000 square kilometers = D
- >15000 square kilometers = F



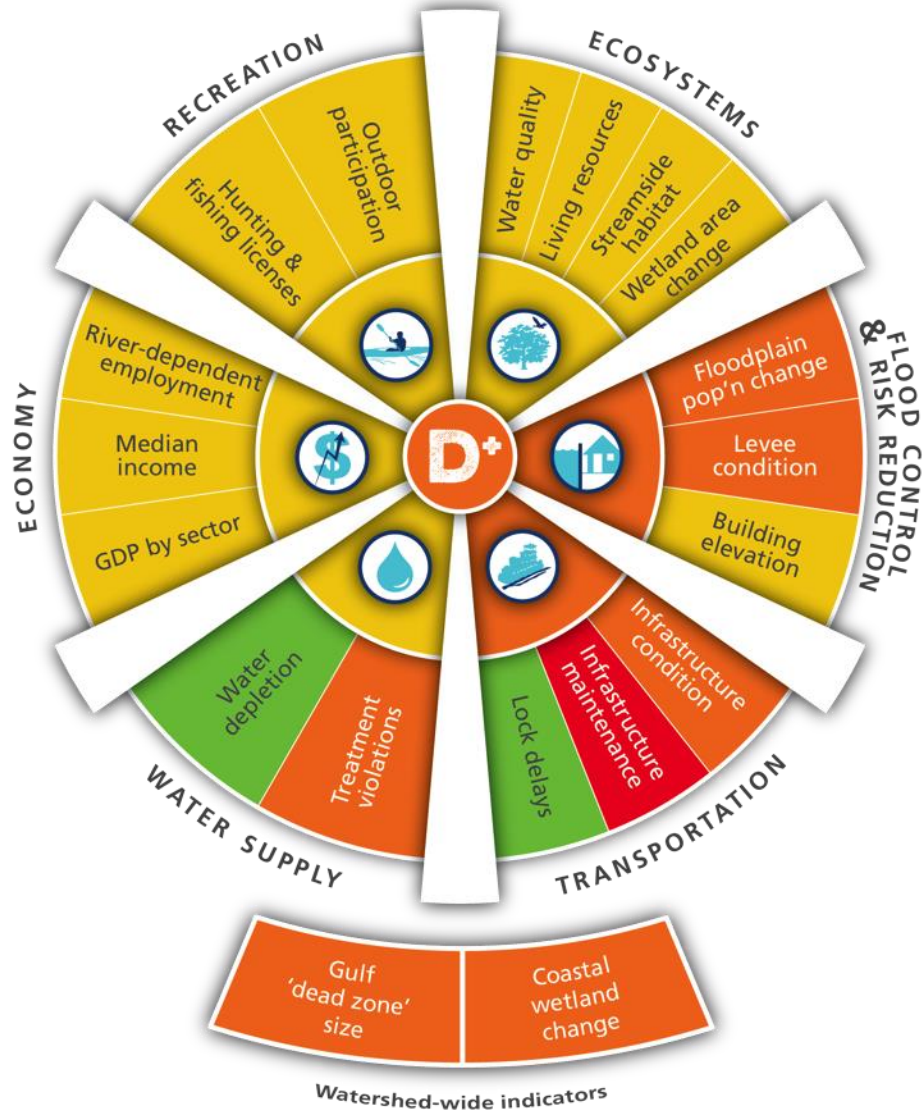
Watershed-wide indicators

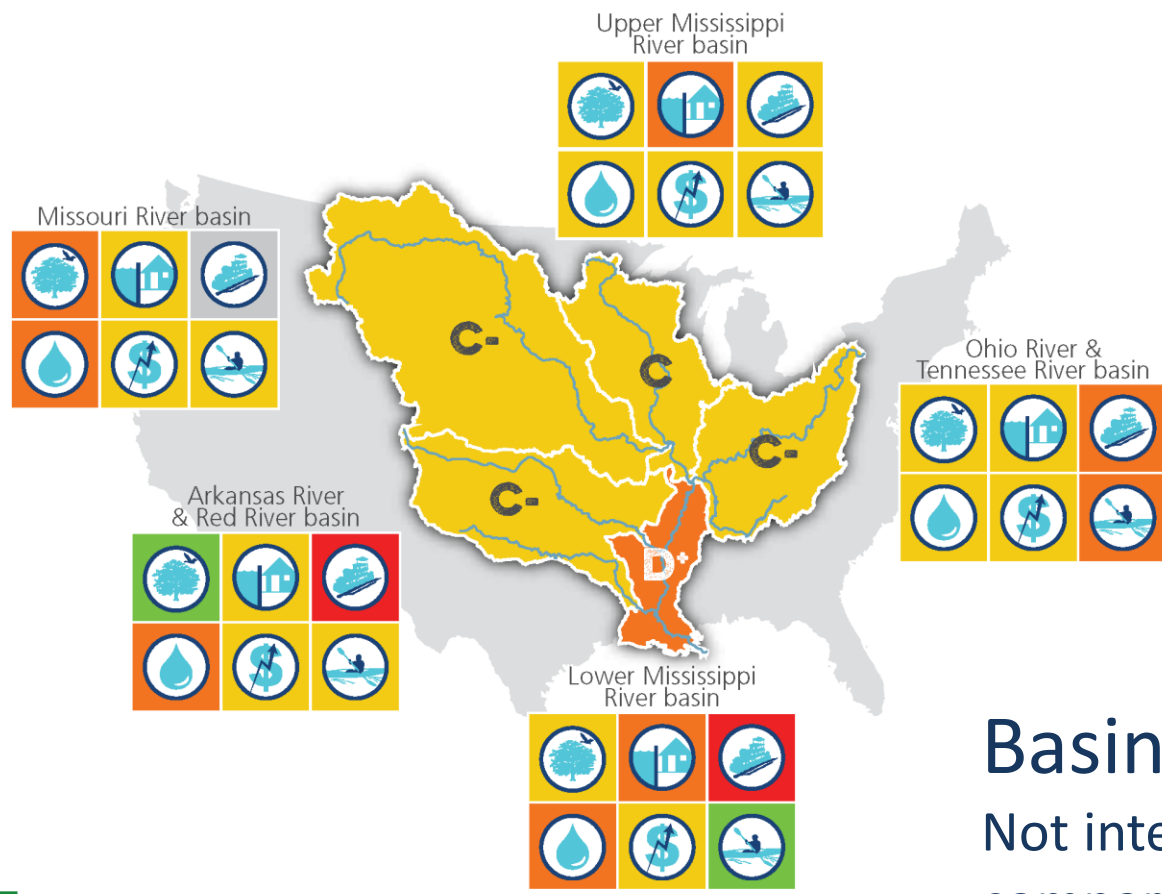
Gulf of Mexico “dead zone” size



Dead Zone (Area with low oxygen ‘hypoxic’) linked to the nutrients, primarily nitrogen that flow into the Gulf of Mexico from the Mississippi River.

- Goal is 5,000 km²
- Annual variability
- 2014 is 13,000 km² (2015 is over 15,000 km²)





GOALS

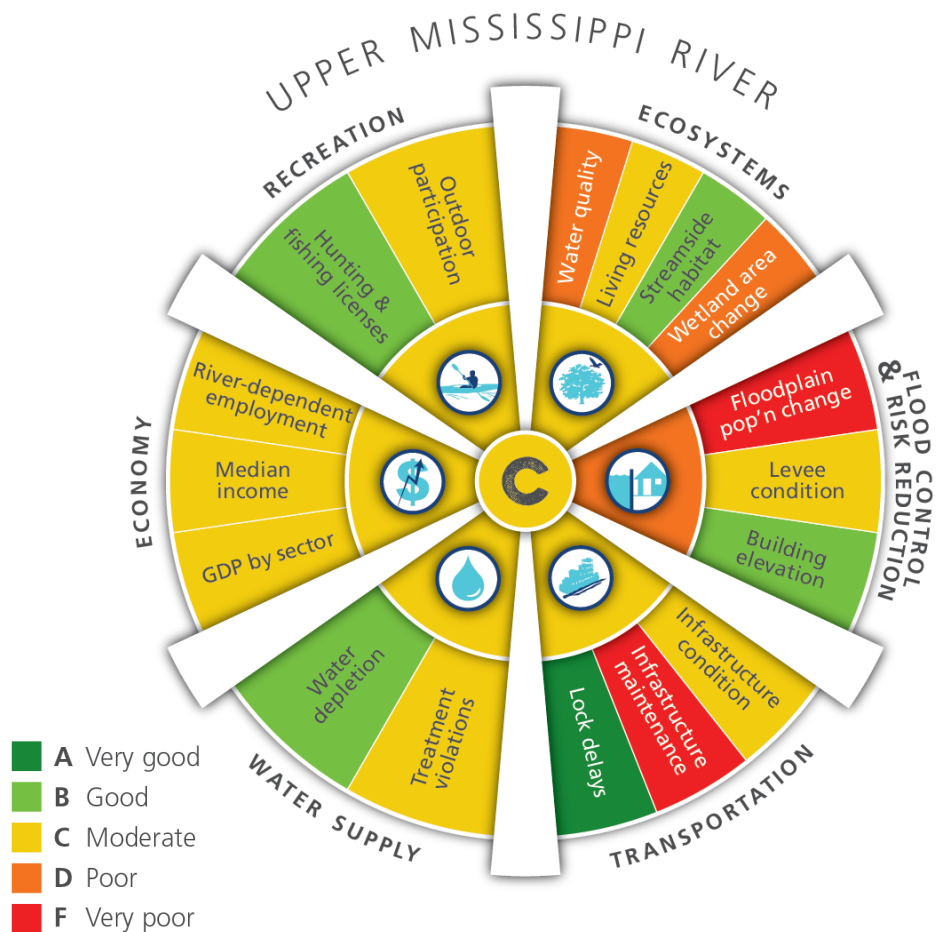
- Ecosystems
- Flood Control & Risk Reduction
- Transportation
- Water Supply
- Economy
- Recreation

- A** Very good
- B** Good
- C** Moderate
- D** Poor
- F** Very poor
- No data

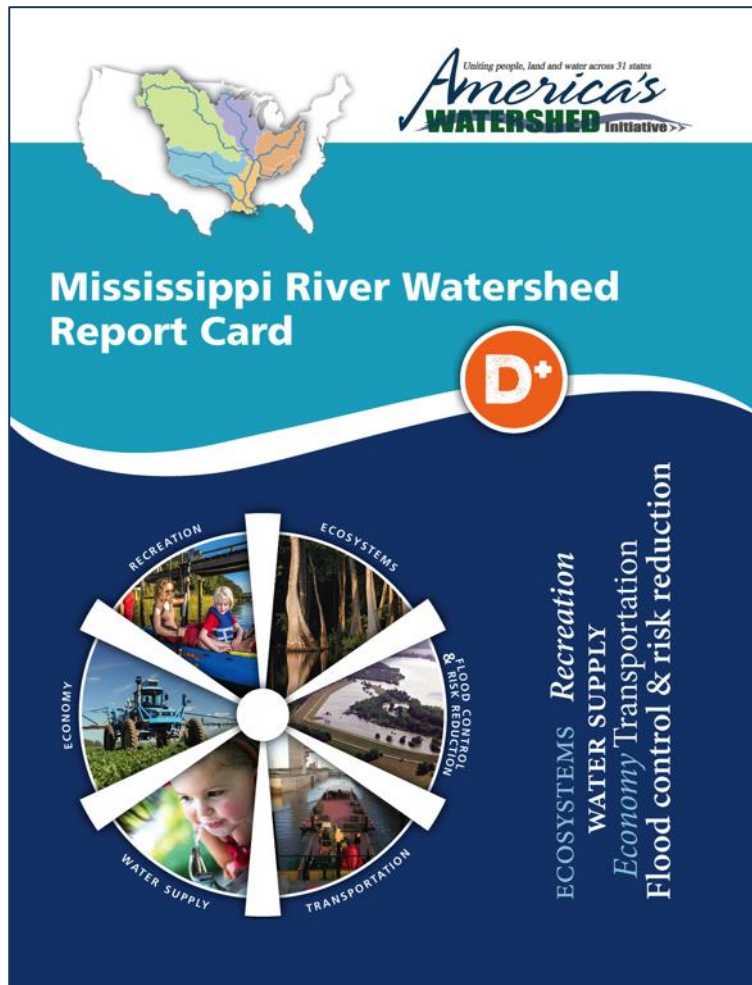
Basin results
Not intended for
comparisons between
basins



Results by basin: Upper Mississippi



- Mix of urban, agricultural, and forested areas, relatively high precipitation.
- Negative: Water quality, Wetland area change, Floodplain population
- Positive: Streamside habitat, Building elevation, Lock delays, Water depletion, Hunting & fishing licenses



Takeaways:

- First ever holistic analysis at the health of the watershed from multiple perspectives
- Lots of good data and information but some is inadequate
- Overall, there is room for improvement in the grades
- Opportunities for synergies
- The process was as important as the product

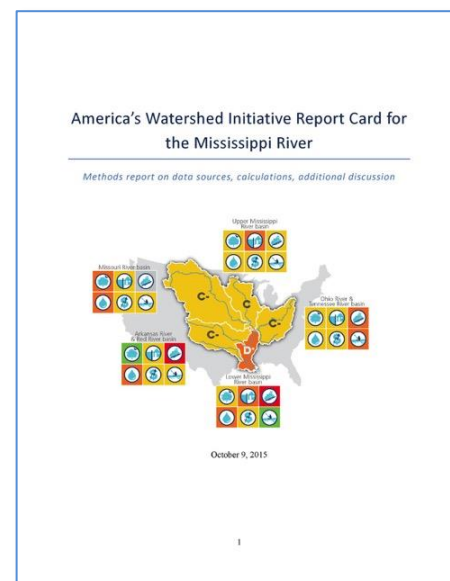
Report Card Webpage and Methods Paper

For more information and to access the Methods Paper
www.americaswatershed.org/reportcard

Website



Methods paper



Raise the Grade for the Watershed

- Advocate for \$1 billion annually in new public and private investment in Watershed
- Encourage greater collaboration and improved information to better manage an increasingly complex system for multiple benefits.
- Recognize and support local leaders who develop and implement solutions and inviting their continuing participation as partners.

What's next for AWI?

- Spread the word
- Strengthen & grow the collaboration
- Focus on action

America's Watershed



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