Great Rivers Partnership:

Connecting Science, Policy and People to Sustain Great River Systems

The Mississippi in a Great Rivers Context

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Freshwater Society
Sustainable Water Resources Roundtable – October 21, 2010

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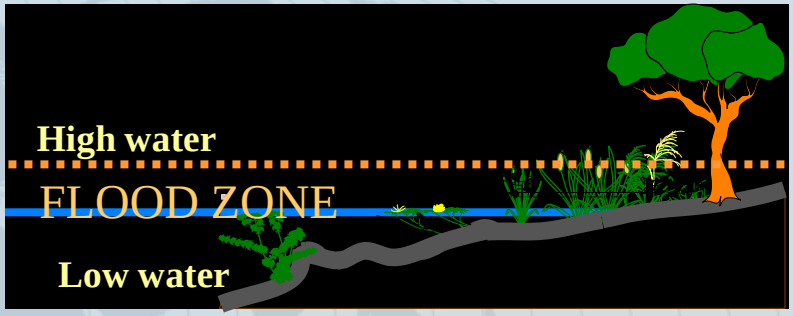
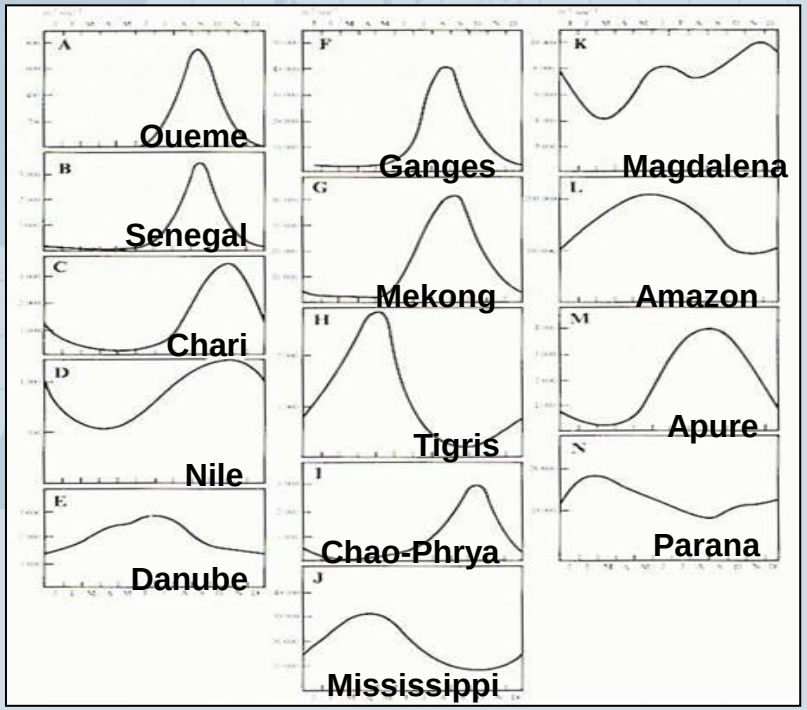
Defining Great Rivers

- Adapted from R.L. Welcomme's criterion for major river-floodplains
- Basic criterion is biological: the flood is sufficiently long lasting, predictable, and extensive that organisms have evolved life history strategies to exploit it
- Great rivers are highly productive "working rivers" vital to cultural heritage and economic prosperity in their regions





Source: Welcomme, R.L. FAO Fisheries Technical Paper. No.262. Rome, 1985. 330 pp.

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Mississippi River

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Yangtze River

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Magdalena River

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Paraguay-Parana Rivers

Zambezi River

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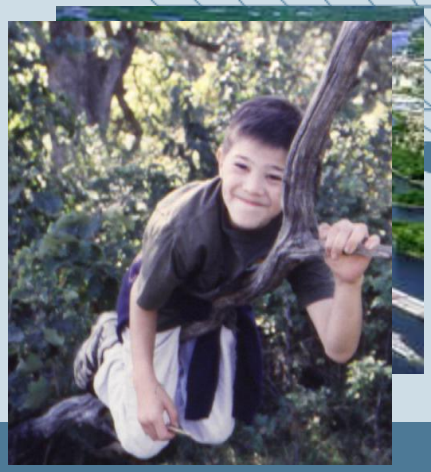
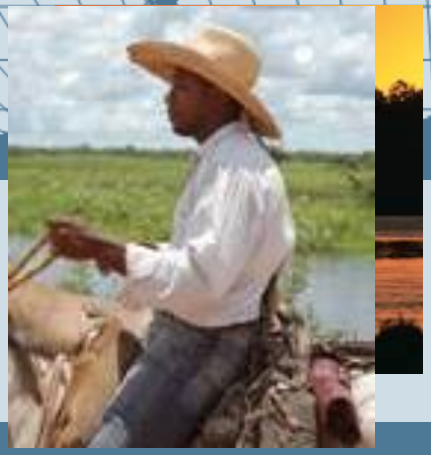
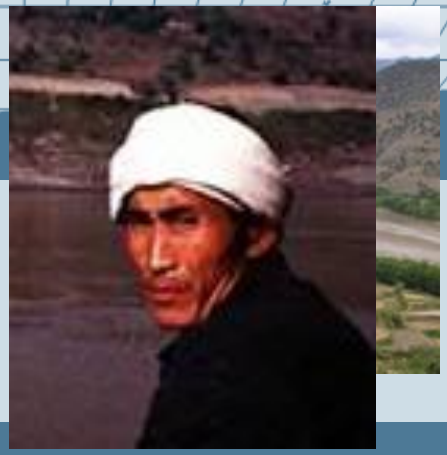
A partnership to sustain great river systems around the world for people and nature using the Mississippi River as a case study







The Mississippi: Case Study for Great Rivers

We can think about the Mississippi River in sophisticated ways because of unequaled investments in knowledge made over two centuries by many organizations and individuals ... from Lewis and Clark to the USGS Long-Term Resource Monitoring Program and a variety of universities.

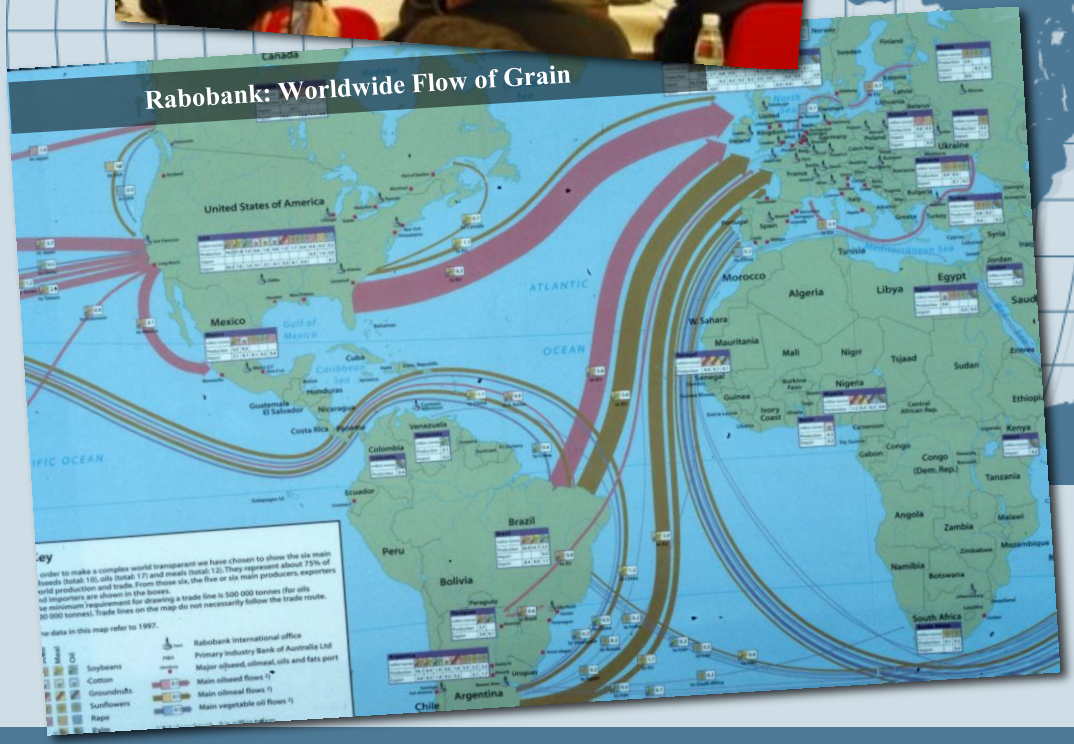
Lewis-Clark Expedition

Stephen A. Forbes

Charles Kofoid and Miles Newberry in high water on Illinois River, early 1900s

LTRMP staff, early 2000s

The Mississippi: Case Study for Great Rivers



GRP is acknowledged for:

1) calling attention to the plight of the world's great rivers
2) leveraging the Mississippi River as a global case study
3) advancing a systems approach to river management – Integrated River Basin Management
4) engaging diverse partners – including governmental and non-governmental organizations, and various business sectors – in a sustainability agenda

Yangtze–Mississippi Monitoring

Since 2008 USGS has led efforts to help Yangtze River agencies and scientists develop a state-of-the-art large river monitoring program

System scale projects

Coastal Restoration

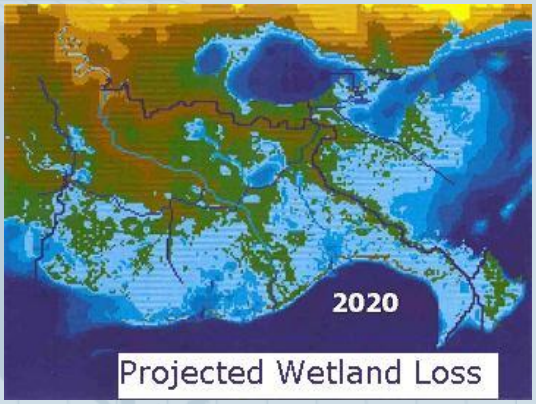
- In 2010 the GRP will sponsor a process to establish joint federal-state priorities for river and coastal management in Louisiana

Mississippi River Vision

- Since 2008 the GRP has provided leadership in the development of a collaborative vision and integrated river basin management for the Mississippi River including support of America's Inner Coast Summit – June 2010.

Field to Market

- Since 2007 the GRP has participated in an alliance of agricultural leaders facilitated by Keystone Center to define sustainability measures for agricultural landscapes



Field-to-Market on Mackinaw River, Sept. 2008

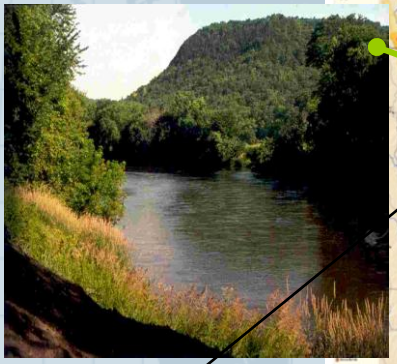
Nutrient and Sediment Management

For more than a decade TNC and partners have demonstrated a targeted and adaptive management approach to agricultural watershed management

Recent additions:

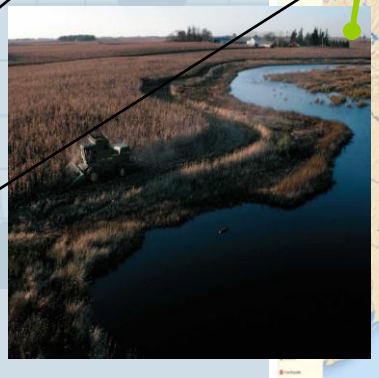
- **Cedar River, IA.**
- **Meramac River , MO**

Root River, MN

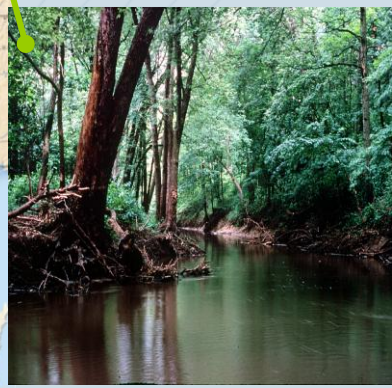


Pecatonica River, WI

Boone River, IA

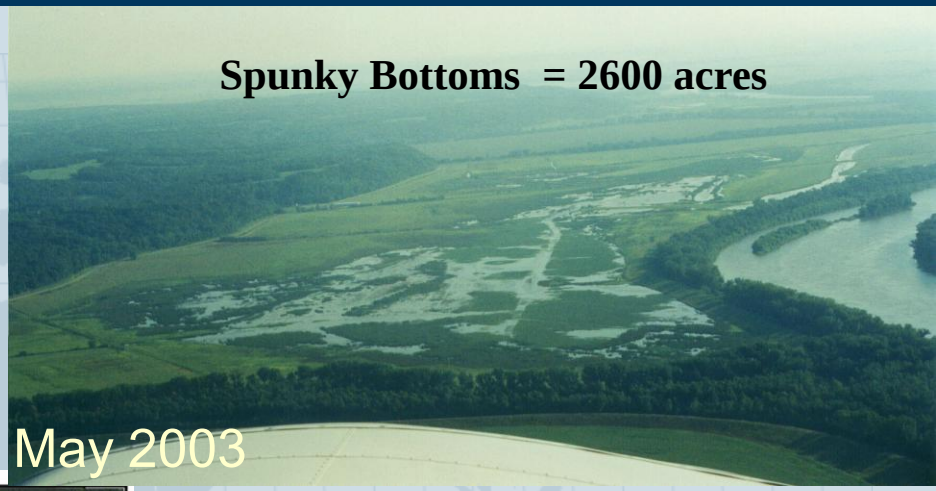


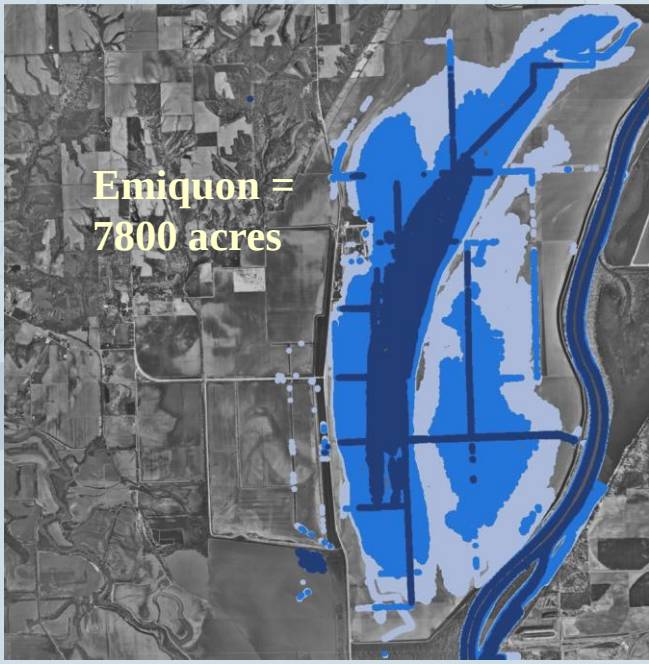
Mackinaw River, IL



Floodplain Restoration and Connectivity

Since 2000 more than 40 leading scientists have provided advice and research on economic and ecological aspects of floodplain function at the Emiquon Preserve, Spunky Bottoms, and Mollicy Farm





Integrated Floodplain Management and Ecosystem Services

- Since 2009 Southern Illinois University has led an investigation into Market based approaches to provide alternatives for floodplain management including:
  - **Review of available markets for floodplain functions.**
  - **GIS mapping of soil types with yield expectation for corn/soybean**
  - **Developing anticipated yield based on soil type for biomass (switch grass).**
  - **Developing anticipated biomass income based on current markets.**
- Work to identify potential areas of success for floodplain restoration on the mainstem of the Mississippi River leading 8 candidate levee districts that may consider other forms of land use within the floodplain with appropriate compensation

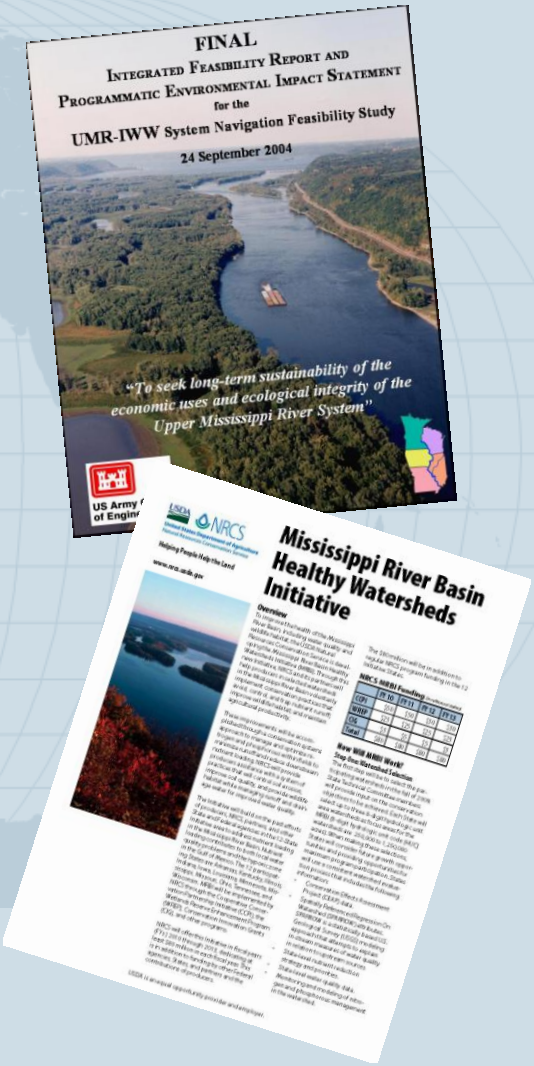
Policy Voice for the Mississippi River

Navigation and Ecosystem Sustainability

- Since 2005 diverse partners have come together to promote NESP, which is authorized to contribute $1.72 billion to ecosystem restoration and $2.2 billion to navigation improvements on the Upper Mississippi River

USDA Mississippi River Basin Initiative

- Since 2009 diverse partners have jointly supported the MRBI, which uses a science-based systems approach to target $320 million in Farm Bill funds to address nutrients affecting the Mississippi River and Gulf of Mexico

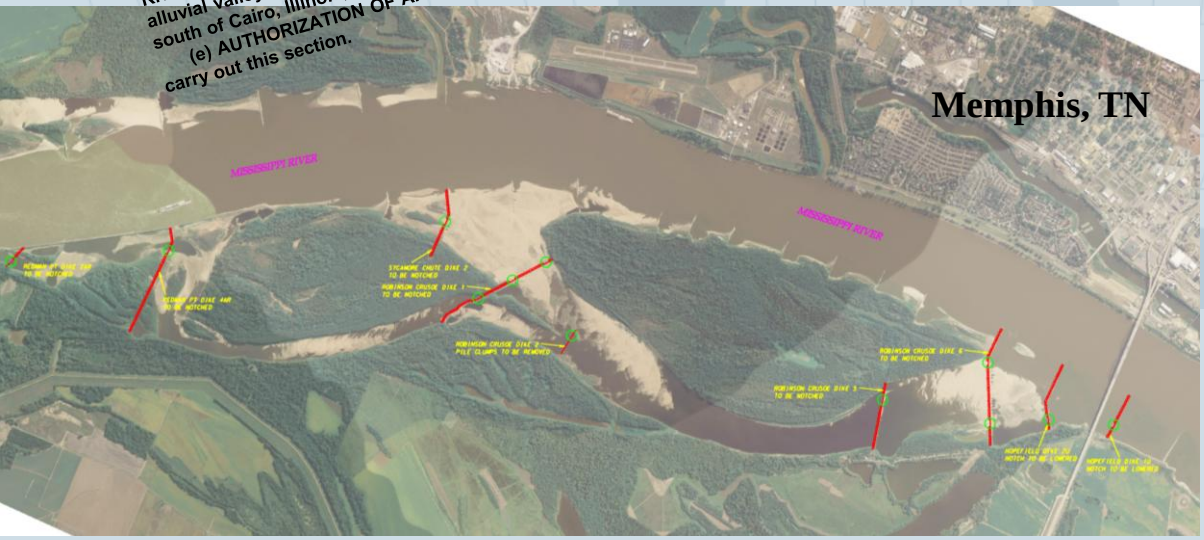


Lower Mississippi River Resource Assessment

Lower Mississippi River Resource Assessment (**LMRRA**)

Authority: Section 402 of WRDA 2000:

(a) ASSESSMENTS- The Secretary, in cooperation with the Secretary of the Interior and the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, shall undertake for the Lower Mississippi River system--
(1) an assessment of information needed for river-related management;
(2) an assessment of natural resource habitat needs; and
(3) an assessment of the need for river-related recreation and access.
(b) PERIOD- Each assessment referred to in subsection (a) shall be carried out for 2 years. Before the last day of the second year of an assessment under subsection (a), the Secretary, in cooperation with the Secretary of the Interior and the States of Arkansas, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee, shall transmit to Congress a report on the results of the assessment to Congress. The report shall contain recommendations for--
(1) the collection, availability, and use of information needed for river-related management;
(2) the planning, construction, and evaluation of potential restoration, protection, and enhancement measures to meet identified habitat needs; and
(3) potential projects to meet identified river access and recreation needs.
(d) LOWER MISSISSIPPI RIVER SYSTEM DEFINED- In this section, the term `Lower Mississippi River system' means those river reaches and adjacent floodplains within the Lower Mississippi River alluvial valley having commercial navigation channels on the Mississippi mainstem and tributaries south of Cairo, Illinois, and the Atchafalaya basin floodway system.
(e) AUTHORIZATION OF APPROPRIATIONS- There is authorized to be appropriated $1,750,000 to carry out this section.



Memphis, TN

Since the approval of the Reconnaissance Report on 5 March 2010 multiple partners have been working to begin the next phase, the watershed study. This work should lead to a restoration plan for the Lower Mississippi River.

Sustainability of Global Great Rivers

1. **Partnerships**
   - **Create a base to work toward balance of the uses of the river water and the uses**
2. **Science**
   - **Establish relationships and share knowledge**
3. **Government**
   - **Share water policy with the understanding that the implementation will be customized at each location whether it is in country or globally**
4. **Balance**
   - **Understand the cultural and social attributes of a geographic area that can support the mission of Integrated River Basin Management**

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