



*Great Rivers That Work
for People and Nature:
The Great Rivers Partnership (GRP)*

David Galat & Great Rivers Partnership Team (D. Baratta, G. Benjamin, D. Blodgett, S. Davis, D. DeGeus, S. Haase, S. McMahon, M. Reuter, D. Rudin, T. Strole, & Y. Yin)

*4th National Conference on Ecosystem Restoration, Baltimore, MD
1-5 August 2011*



- **Great Rivers Partnership**
- **Accomplishments: the First 5 Years 2005-2010**

GRP Strategic Profile



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Mission: bring together **diverse partners** and **best science** to expand options for achieving the **sustainable management and development** of the world's Great Rivers and their basins.

We seek **shared solutions to common land- and water-use dilemmas**, recognizing the inescapable linkages that connect our **economy, human well-being and ecosystem sustainability**.

We view our **history and leadership role** in the **Mississippi River Basin** as an **important regional asset**, and a **foundation** for promoting the **global exchange of knowledge and expertise**.

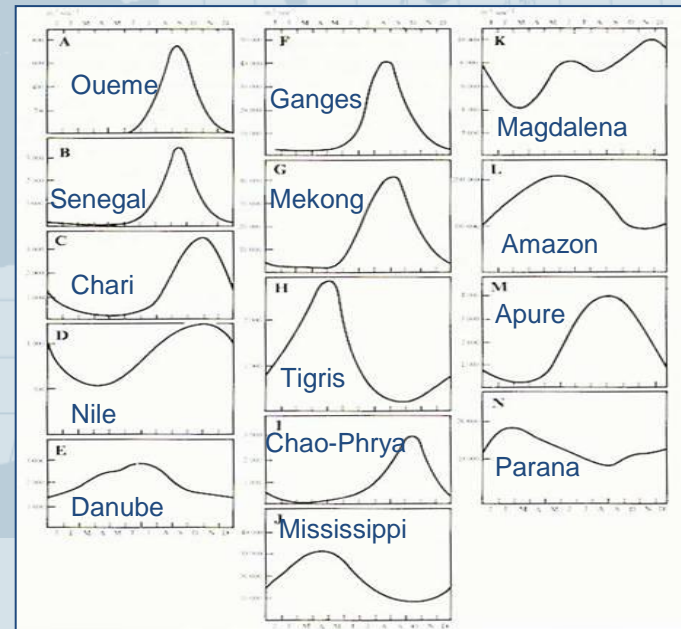
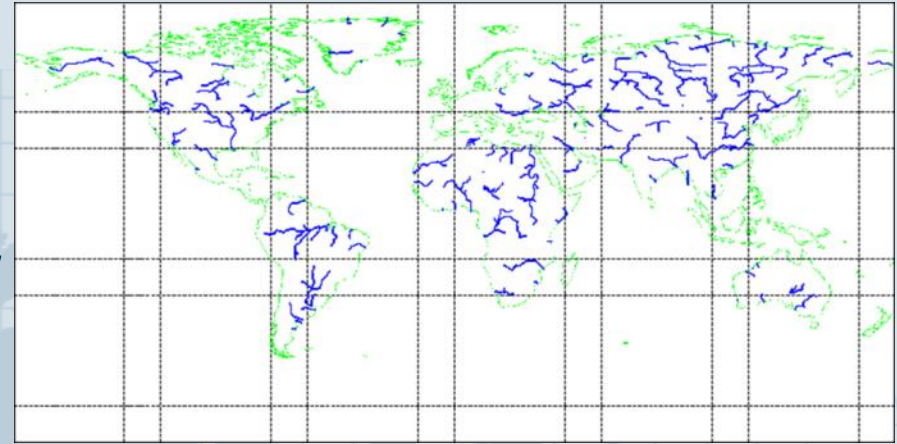
Everything is Connected

What are Great Rivers?



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- Are dominant continental landscape features
- Biota have evolved life history strategies to exploit annual flow pulse
- Are highly productive “working rivers” vital to the cultural heritage & economic prosperity in their regions



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Great Rivers Partnership



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

Mississippi River

Yangtze River

Magdalena River

Paraguay-Parana Rivers

Zambezi River





- **Partnerships**
- **Impact**
- **Leverage**

Partnerships



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Examples:

- **Navigation & Ecosystem Sustainability Program (NESP)**
- **China Program**
- **Agriculture & Environment**

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Partnerships – NESP



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WRDA 2007 Authorized Plan Navigation \$2.2 B, Ecosystem \$1.8B

- Navigation 7 locks and small scale
- Fish Passage @ Dams 4,8,22, and 26
- Changes in Water Level Control @ Dams 25 and 16
- Forest & Cultural Resources Management Plans
- Adaptive Implementation of 225 small projects of less than \$25 million each
 - Island Building
 - Water Level Management
 - Backwater/Side Channel Restoration
 - Wing Dam/Dike Alterations
 - Island Shoreline Protection
- 35,000 Acres of Floodplain Restoration
- Adaptive Management and Monitoring



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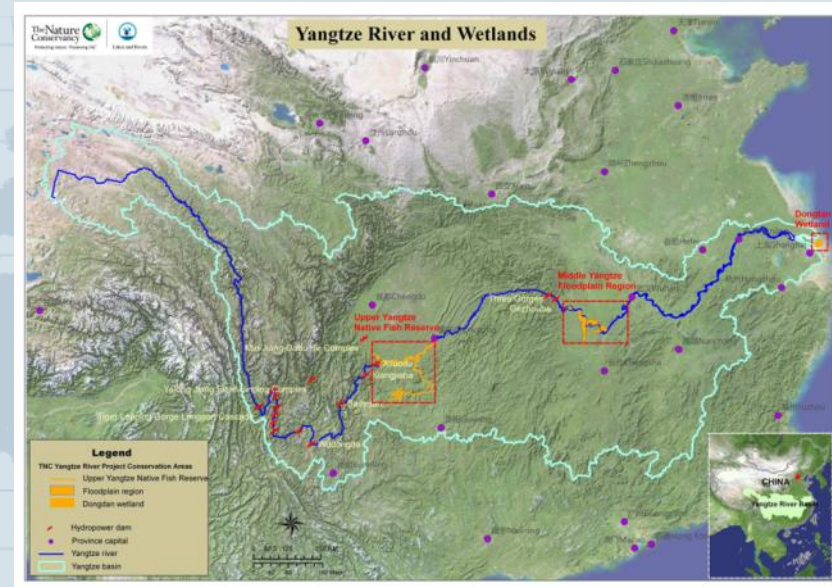
Partnerships – China Program



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- 2007: Memorandum of Understanding Changiang Water Resources Commission
- 2008, 2009, 2011 technical exchanges



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Field-to-Market

Keystone Alliance for Sustainable Agriculture

- A **collaborative stakeholder group** of producers, agribusinesses, food & retail companies, & conservation organizations
- **Defines and measures** sustainability of food & fiber production
- Develops **outcomes-based** metrics
- Measures **environmental & socioeconomic impacts** of agriculture
- Provides tools to **help growers analyze operations & food companies explain** how natural resources are being managed



Field to Market

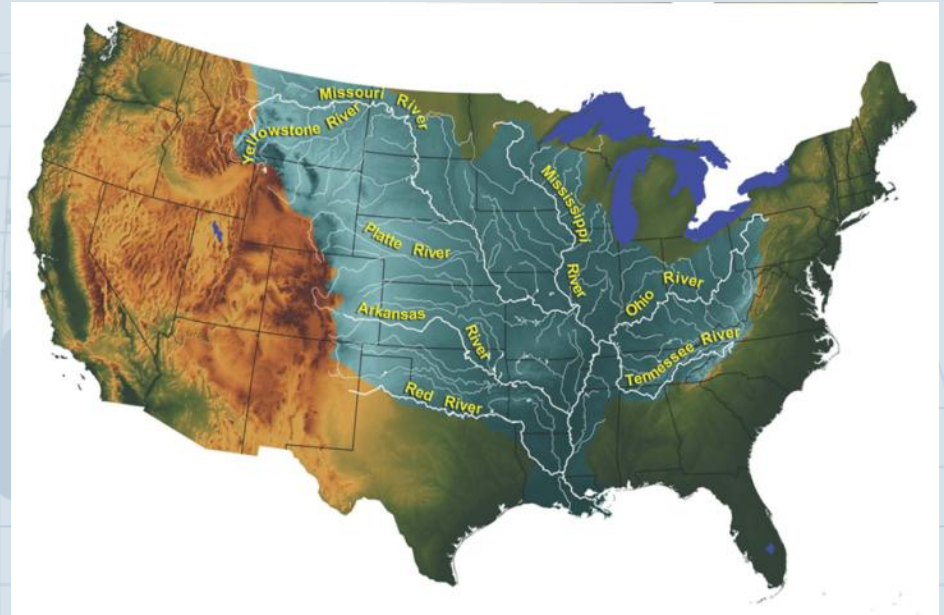
Impact



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Examples:

- **Mississippi River as a Global Platform**
- **Yangtze River: Water vs. People**
- **Magdalena River: Strategies & Priorities**



Convene America's Watershed



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Mississippi WATERSHED Initiative >>>

Uniting people, land and water across 31 states



A vibrant network that will ...

- Support local, state and national economies
- Supply abundant, clean water to our farms and communities
- Nurture healthy, productive ecosystems
- Serve as the nation's marine highway
- Provide reliable flood control
- Create world class recreational opportunities
- Enhance national security

"Integrated approaches, cross sector collaboration, leveraging science, engineering, technology and public policy"



Join the dialogue at
<http://merid.org/mississippiwatershedinitiative>

Floodplain Management for Multiple Benefits

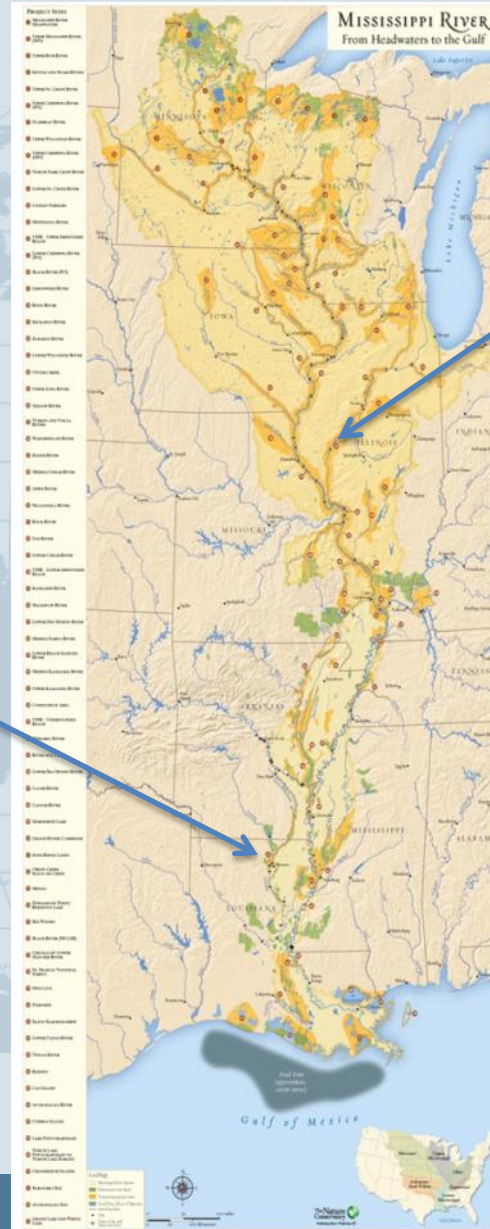


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Focus of Platform Projects

- Systemic
- Inform Larger Efforts
- Partnerships
- Innovative
- Communication

Mollicy Farms
Ouachita National
Wildlife Refuge, LA



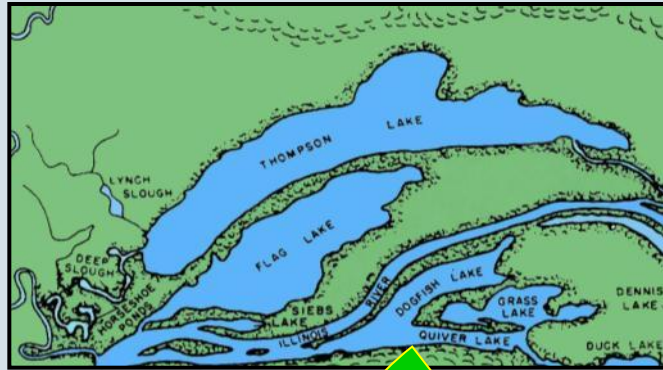
Emiquon
Illinois River



Proof-of-Concept - Floodplain Wetlands

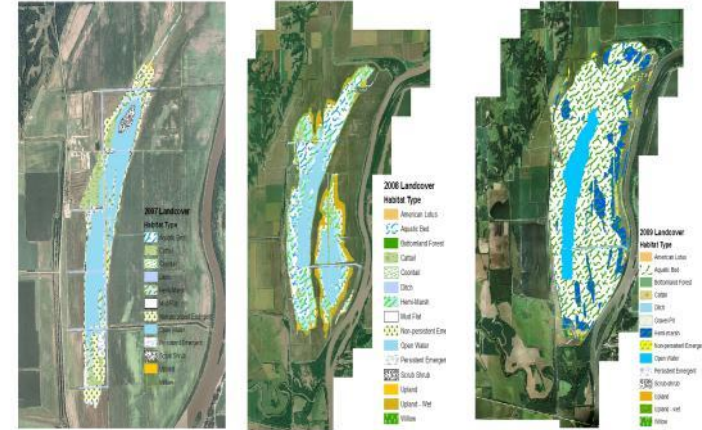
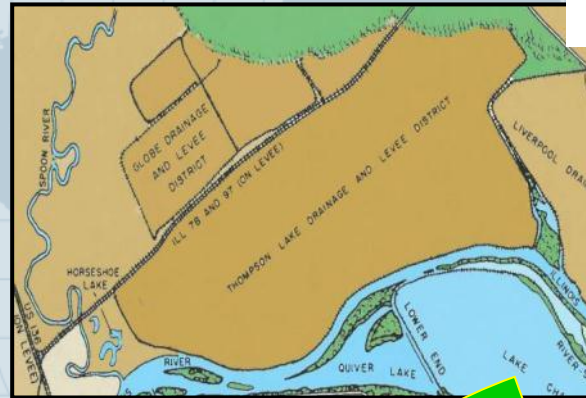


Emiquon Preserve, Illinois River, IL



2003

1919



Aerial map with overlay showing habitat development and distribution from 2007 to 2009 at the Emiquon Preserve.

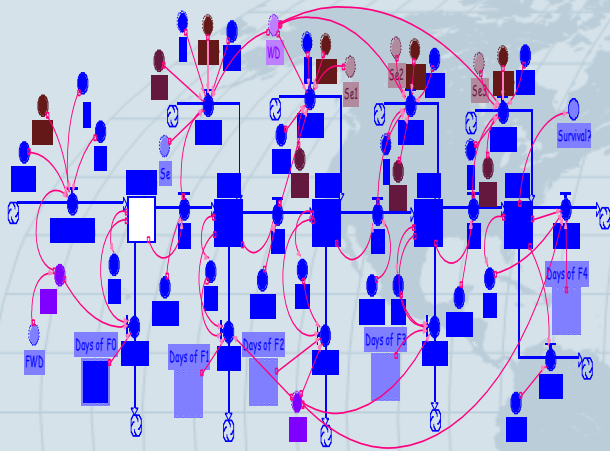


2009

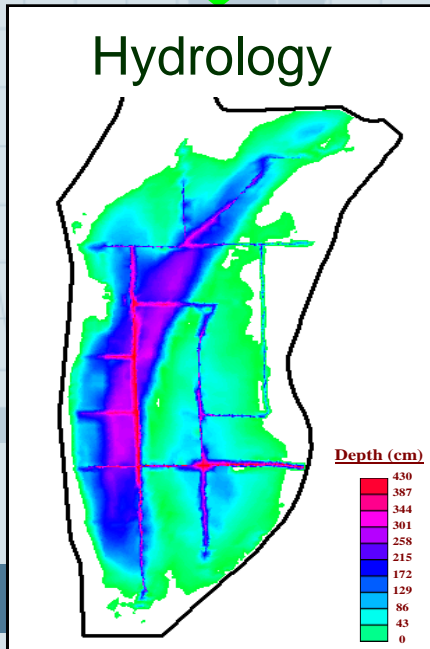
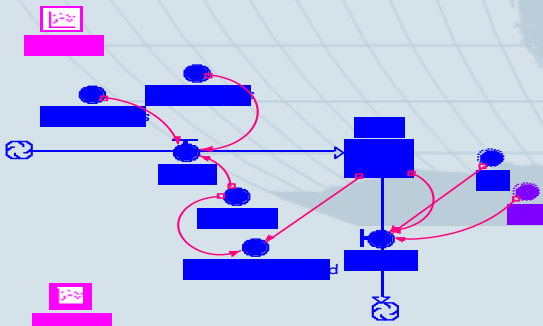
- >200 bird species observed
- Peak waterfowl densities ~200,000
- Public waterfowl hunting
- Over 60 wetland plant species
- Public boating and fishing

Emiquon computer simulation models

Moist soil plant growth



Moist soil plant seed production



Hydraulics & sedimentation



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Mississippi River – Sustainable Agriculture



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Bioreactor Wetland
Root River, Minnesota



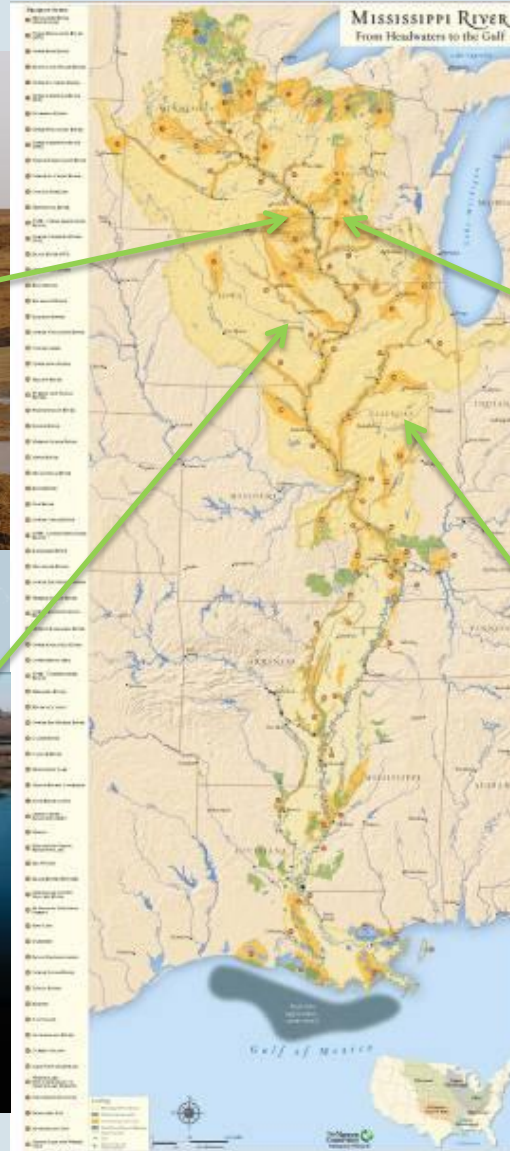
Restored Wetlands
Pecatonica River, WI



Boone River, Iowa



Mackinaw River, IL



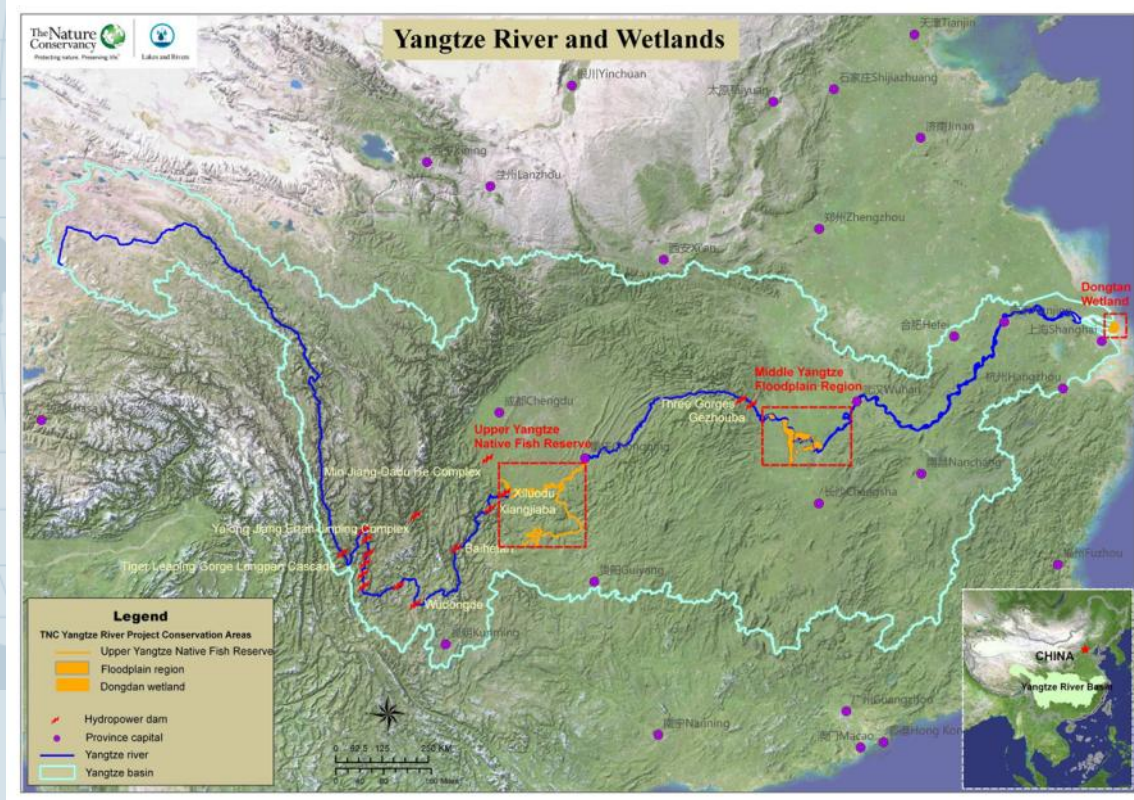
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Global Impacts – China (Qiaoyu Guo, Yao Yin)



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- Yangtze River Freshwater Ecoregional Assessment
- CAP (Conservation Action Plan) for Reserves
- Environmental Flows
- Hydropower Sustainability Fund
- River Health Monitoring Network



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Freshwater Ecological Assessment



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Hydropower Generation
w/o flood storage
51 GW



Extra Revenue
\$536 m/yr

**Hydropower Sustainable
Development Fund**

Bond Funding \$900m
For initial capitalization

Risk Coverage \$1.5 b
- Catastrophe Bonds
- Flood Insurance

Flood Risk Management

Early warning, evacuation, refuge and
reoccupation
\$108 m

Capital costs – infrastructure improvements \$1.3 b

Premiums for periodic costs --
Flood insurance \$40 m/yr

**Freshwater Conservation
Management Area System**

Ecosystem Conservation
\$200 m; \$20 m/yr

E-flows

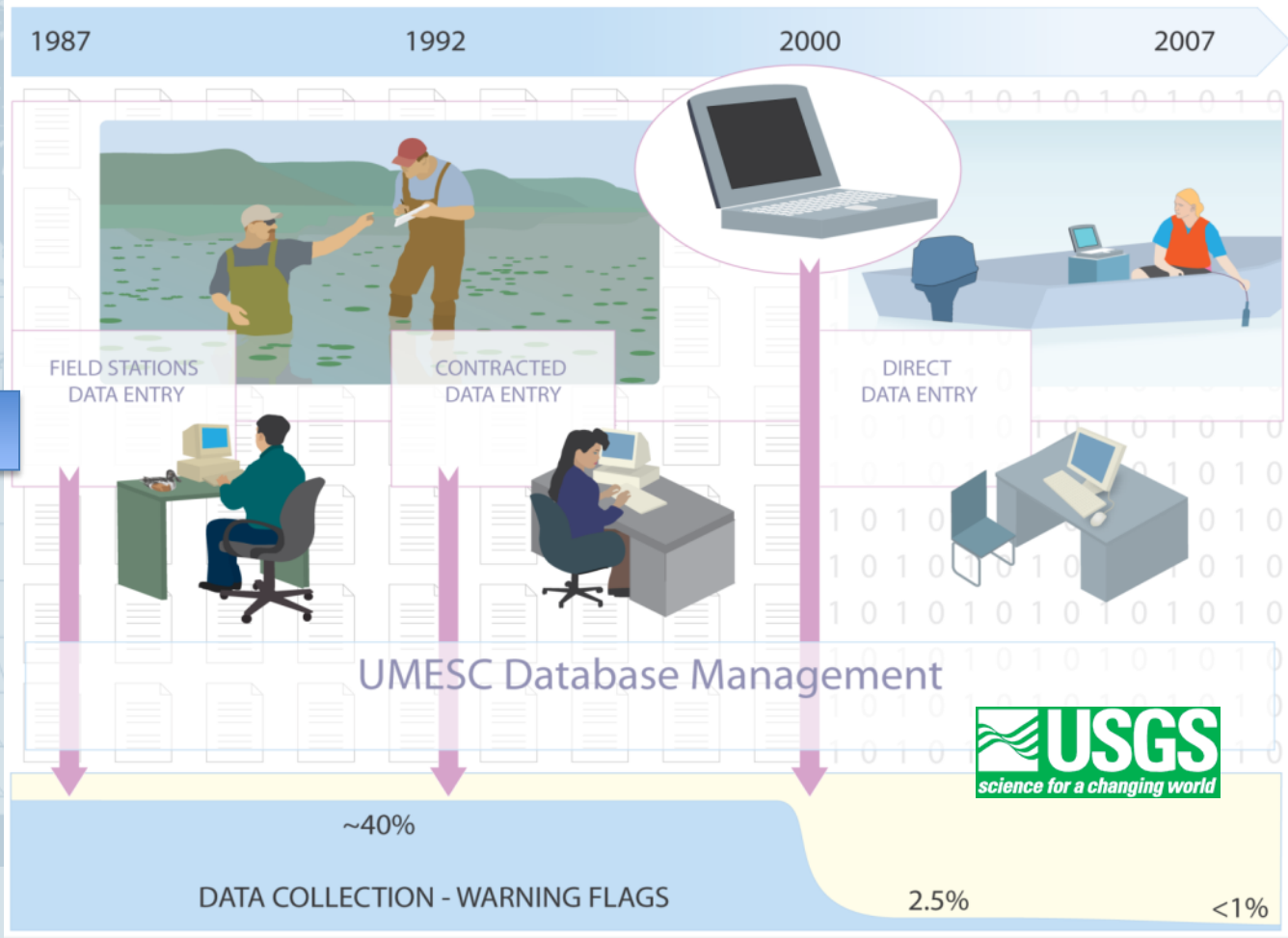
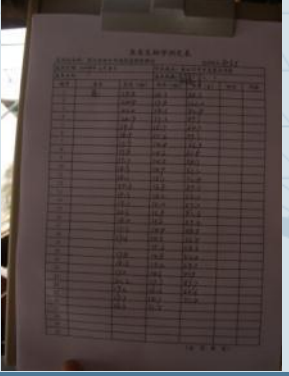
**Long-term
ecological
monitoring**

O&M \$45 m/yr



Yangtze

Mississippi



Global Impact: Magdalena River, Columbia



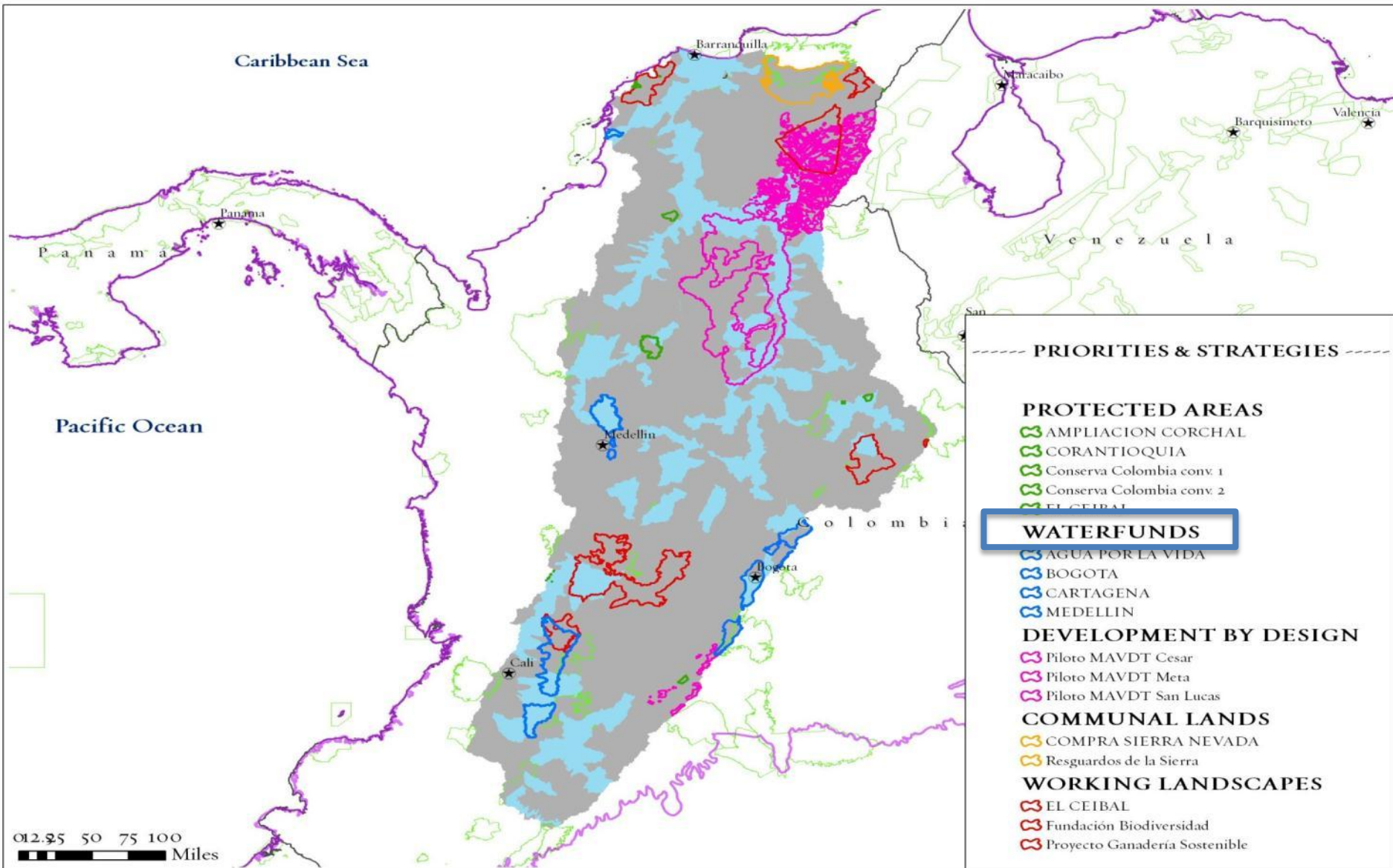
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Priorities & Strategies



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Water Producer Programs



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Problem:

- Ensuring sufficient clean water
- Financing self-sustaining natural areas

Solution:

Those who benefit from forests and other natural systems that produce clean water should help pay landowners who conserve them

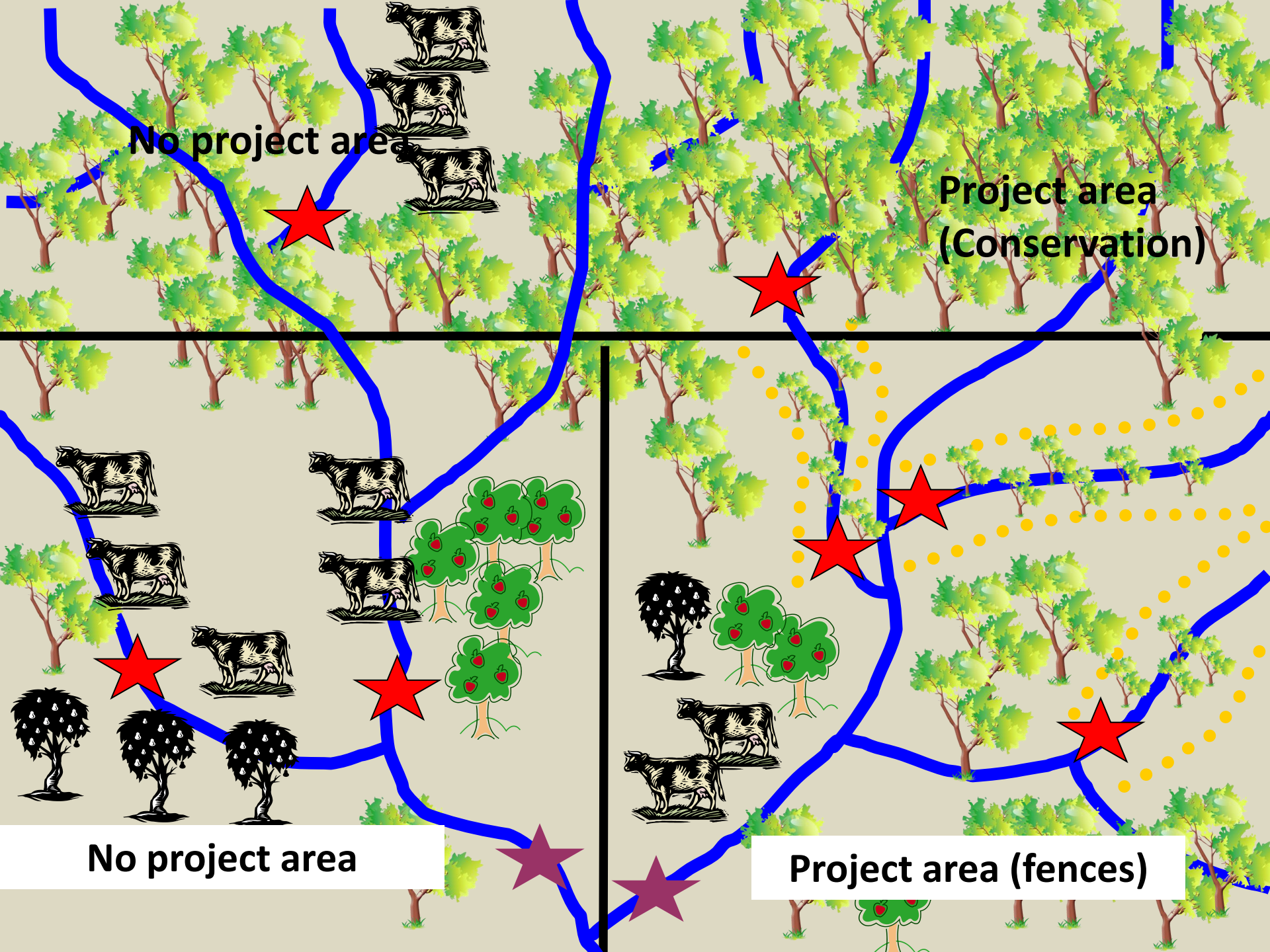


"We're learning to assess water according to a monetary value for the services it provides."

Alejandro Calvache, water funds specialist for the Conservancy



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No project area

Project area
(Conservation)

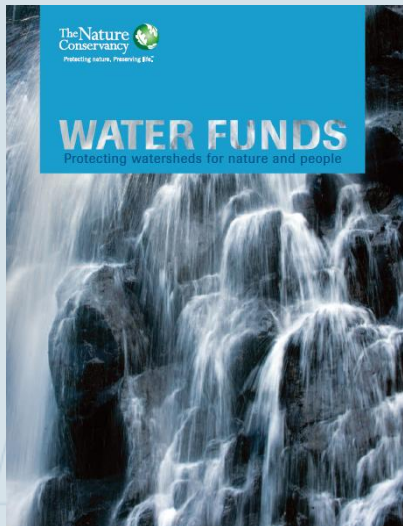
No project area

Project area (fences)

Impact: Water Funds...



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...link downstream water users with the source of their clean regular water supplies.

TNC Latin America Water Fund Program:

- **12 Water Funds**
- **6 million acres of key watersheds**
- **Clean water for 17 million people**

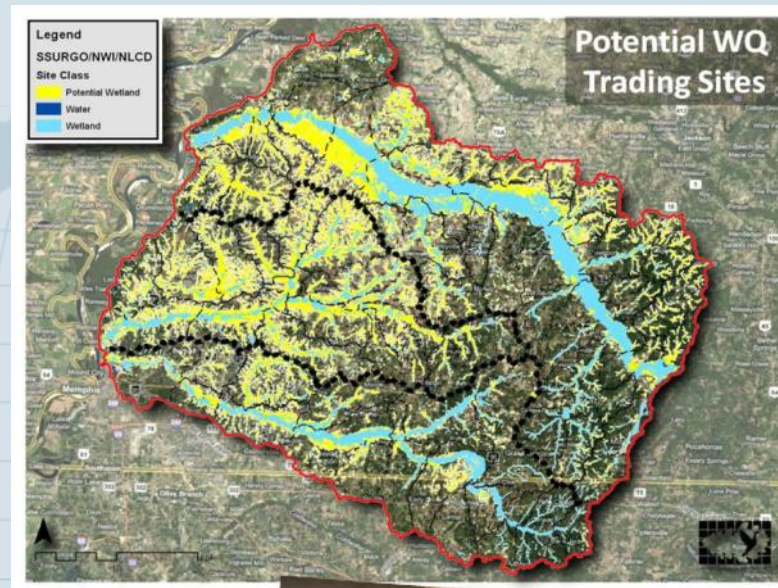
Quito, São Paulo, Brasilia, Rio de Janeiro

Leverage



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“The central idea behind the Great Rivers Partnership is stunning in its simplicity: **As different as great rivers around the world might be in some ways, the problems they face reduce to much the same thing. By sharing information and experience across rivers in many countries, we can accelerate their conservation.** It seems obvious now, but it didn't when we started the Great Rivers Partnership five years ago.”



- *Brenda Shapiro, Trustee, The Nature Conservancy's Great Rivers Partnership and Illinois Chapter*



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Leveraging the Mississippi – Magdalena River, Columbia



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“Our priorities for the Magdalena are flood control, navigation, natural resource management and hydropower, but this time around we want environmental impacts to be a guiding force in our design and construction.”

“We wanted to learn from the Mississippi experiences — the successes and also the mistakes,”

Paulino Galindo – Direction advisor for Cormagdalena, a government agency appointed with the management of the Magdalena River watershed in Colombia



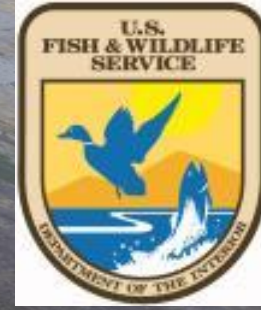
Leverage – Emiquon



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LINDENWOOD



Leveraging \$\$ GRP I – 2005-2010



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TNC U.S., China & Brazil programs
individuals, foundations,
corporations &
conservation partners

>\$60 M

Launch
2005

\$12 M



Public funding for conservation:
Mississippi, Parana-Paraguay,
Yangtze

>\$508 M

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Partnership Donors



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The Great Rivers Partnership thanks the individuals, foundations and corporations who collectively contributed **more than \$60 million** to our work since 2005. Our success is possible because of their generous support. Below are donors who contributed \$10,000 or more to the Great Rivers Partnership and our proof-of-concept project areas in the Mississippi River, Africa, Latin America and Asia Pacific regions.

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