

Natural Floodplain Functions Alliance (NFFA)
BI-MONTHLY WEBINAR SERIES PRESENTS:





Photo courtesy of U.S. Fish & Wildlife Service


The **Nature Conservancy's** Emiquon Project: Restoring Functional Floodplain for Nature and People



K. Douglas Blodgett
Director of River Conservation
The Nature Conservancy, Illinois
Chapter

April 28, 2016
2:00pm – 3:30pm CT

NFFA Webinars Hosted By



AGENDA



1. NFFA Federal Updates (15 min):
 - Disaster Deductible (Larry Larson / Sarah Murdock)
 - Implementation Status of the FFRMS (Larry Larson)
 - The National Wetland Condition Assessment – Status & Trends of Wetlands (Jeanne Christie)
2. Quarterly Webinar Topic (45 min):
 - **TNC's** Emiquon Project: Restoring Functional Floodplain for Nature & People (K. Douglas Blodgett)
3. Webinar Q&A



Photo courtesy of U.S. Fish & Wildlife Service

NFFA Federal Update: The National Wetland Condition Assessment – Status & Trends of Wetlands

Jeanne Christie
Executive Director
Association of State Wetland Managers
Jeanne.Christie@aswm.org

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Final Report: Mid-May

<https://www.epa.gov/national-aquatic-resource-surveys/nwca>



The screenshot shows the EPA website for the National Aquatic Resource Surveys. The main heading is "National Wetland Condition Assessment". Below the heading is a large image of a wetland. The text describes the NWCA as a collaborative survey of the Nation's wetlands, examining chemical, physical, and biological integrity. There are three main sections: "What is the NWCA?", "NWCA Results", and "Explore the Data". The "What is the NWCA?" section includes links for Background, Design, Indicators, and Manuals. The "NWCA Results" section includes a link for the 2011 NWCA Draft Report. The "Explore the Data" section includes a link for Download Data.

Important Opportunity for States

<http://www.aswm.org/wetland-science/national-wetland-condition-assessment>

The screenshot shows the ASWM website with the following content:

- ASWM Upcoming Webinars:**
 - Restoring Functional Floodplains for Nature & People - 4/29/16
 - Establishing Reference Conditions for Performance Standards & Long Term Monitoring Results - 5/12/16
 - Financial Assistance and Compensatory Mitigation - 5/25/16
- National Wetland Condition Assessment (NWCA):**

The National Wetland Condition Assessment (NWCA) is the first-ever national survey on the ecological condition of the Nation's wetlands and is one of the five National Aquatic Resource Surveys initiated in 2009. These studies provide nationally-compliant and scientifically-defensible assessments of our lakes, rivers, wettable streams, coastal waters, and wetlands and can be used to track change over time. The purpose of the survey is to generate statistically-valid and environmentally-relevant reports on the condition of the Nation's wetlands.

The NWCA only provides an overview of the condition (quality) of wetlands that remain in existence, and does not provide wetland loss data to drainage or flood. The first NWCA surveys were completed in the summer of 2011; the survey will be repeated in 2016. The study is the product of cooperation and collaboration between EPA, states officials, tribal and localities. EPA provides the funding for the study and states provide the fieldwork and expertise to conduct the assessment. It is intended to complement national wetland status and trends studies by the U.S. Fish and Wildlife Service that measure wetland gains and losses and estimate the quantity (number and area) of national wetland wetlands.

Year	Wetlands	Streams	Lakes
2001	1,114	1,114	1,114
2006	1,114	1,114	1,114
2011	1,114	1,114	1,114
2016	1,114	1,114	1,114

The NWCA is being used to:

 - Determine the national & regional condition of wetlands (NWCA findings are not state-specific)
 - Develop baseline information to evaluate change in condition over time
 - Build more and more capacity for improved wetland management

Templates for State Communication

<http://www.aswm.org/wetland-science/wetland-assessment/7220-aswm-draft-national-wetland-condition-assessment-communication-documents-and-templates-for-use-by-states-and-tribes>

The screenshot shows the ASWM website with the following content:

- ASWM Upcoming Webinars:** (Same as above)
- Science**
 - ASWM National Wetland Condition Assessment Communication Documents and Templates for Use by States and Tribes**

The upcoming public release of the National Wetland Condition Assessment report is an opportunity for states and tribes to promote the work they are doing at the state level to protect and preserve wetlands, as well as highlight specific needs for program development to protect and enhance state wetland resources. For this reason, ASWM has developed a set of communications templates for state and tribal use. If desired, to share the purpose and findings of the NWCA while simultaneously taking this information for individual states and tribes, EPA is expected to release the report on the 2011 NWCA findings this fall.

ASWM provides states and tribes with the following template documents:

 - ASWM NWCA Communications Guidelines for States and Tribes
 - ASWM NWCA Template Factsheet (Word)
 - ASWM NWCA Template Assessment Briefing (Word)
 - ASWM NWCA Template Legislative Brief (Word)
 - ASWM NWCA Draft Narrative/Trends (Word)
 - ASWM NWCA Press Kit Guidance
 - ASWM NWCA Report Factsheet - Understanding the Key NWCA Findings
 - ASWM NWCA Report Factsheet - Understanding the Key NWCA Findings
 - Social Media Toolkit for NWCA Communications (Facebook #1: Creating Quality Social Media and Website Content)
 - Social Media Toolkit for NWCA Communications (Facebook #2: Tagging and Timing Your Electronic Media Posts)

Providing template communications documents this summer provides states and tribes time to:

 - Review the templates.
 - Modify and revise the templates to meet specific operational needs.
 - Provide the templates with state-specific information, photos, maps, links, etc.
 - Work through the communications approval processes within the state/tribe to have the documents ready for use when the document is released in the fall (remember that this process can take up to 3 months).

Factsheet on Overall Report

http://www.aswm.org/pdf_lib/wetland_assessment/nwca_report_factsheet.pdf

Understanding the Key Findings of the National Wetland Condition Assessment: A Summary for Non-scientists

Compiled by the Association of State Wetland Managers (Last revised 2-16-16)

The National Wetland Condition Assessment (NWCA) is an evaluation of the environmental health of the nation's wetland resources that has been carried out by the U.S. Environmental Protection Agency along with state and tribal partners. The NWCA is one of four National Aquatic Resource Surveys initiated in 2006. These studies provide nationally-consistent and scientifically-defensible assessments of our lakes, rivers, wadesable streams, coastal waters, and wetlands, and can be used to track changes over time. The first NWCA survey was completed in the summer of 2011; the survey will be repeated in 2016.

EPA National Aquatic Resource Surveys (NARS) are conducted every year with each resource type sampled on five year cycles. This will allow us to evaluate changes in aquatic resource conditions over time.

2007	2008-2009	2010	2011
Lakes	Rivers and Streams	Coastal Waters	Wetlands
2012	2013-2014	2015	2016
Lakes	Rivers and Streams	Coastal Waters	Wetlands

NWCA provides an overview of the condition (quality) of wetlands that remain in existence, and does not address wetland loss due to drainage or filling. It is intended to compliment national wetland status and trends studies by the U.S. Fish and Wildlife Service that measure wetland gains and losses, and estimate the area (quantity) of the nation's remaining wetlands. It is assumed that an ecologically healthy wetland will not only provide superior fish and wildlife habitat, but will be better able to provide other ecological services that benefit the public, such as reducing pollutants from stormwater runoff, buffering storm surges, and storing/releasing water supplies. Therefore, identifying factors associated with poor or degraded condition was also an important component of the study.

What was actually measured during the NWCA and why?

Natural Floodplain Functions Alliance (NFFA)
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The Nature Conservancy's Emiquon Project: Restoring Functional Floodplain for Nature and People



Photo courtesy of U.S. Fish & Wildlife Service




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 Director of River Conservation
 The Nature Conservancy, Illinois
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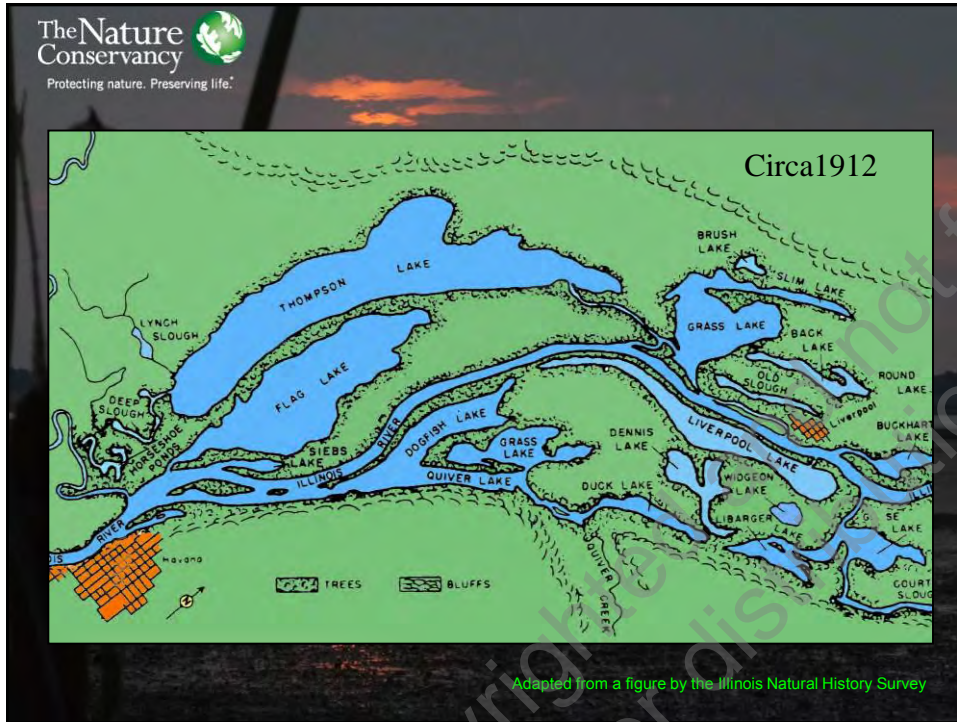


The Nature Conservancy's Emiquon Project: Restoring Functional Floodplain for Nature and People

by K. Douglas Blodgett
for the Natural Floodplain Functions Alliance
28 April 2016



Natural Floodplain Functions Alliance (NFFA)
Webinar 4/28/2016

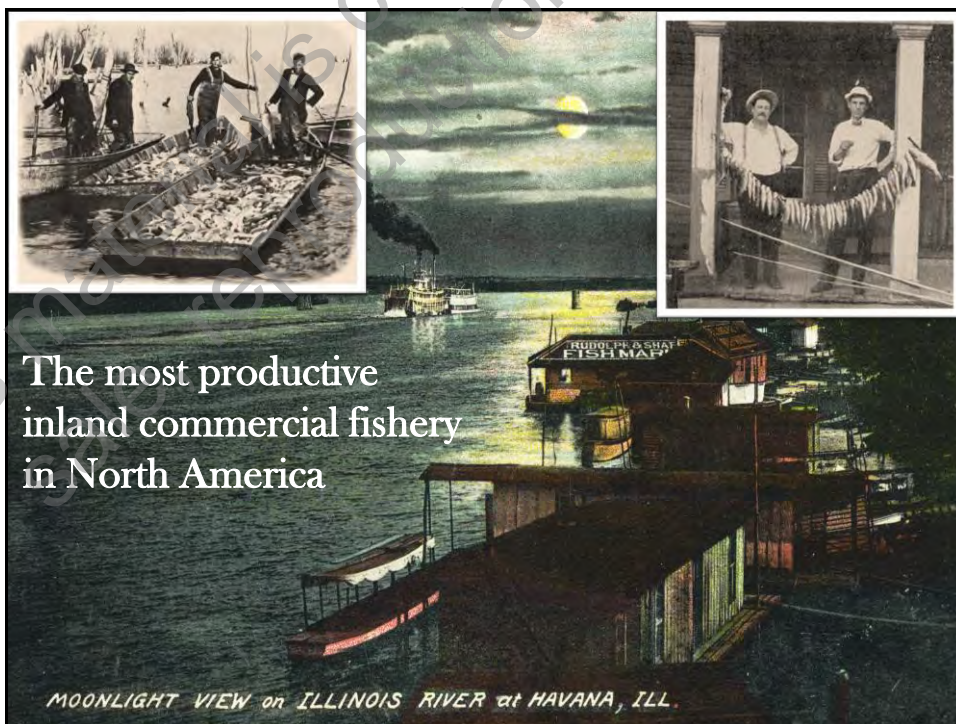




The most productive mussel stream
per mile in North America



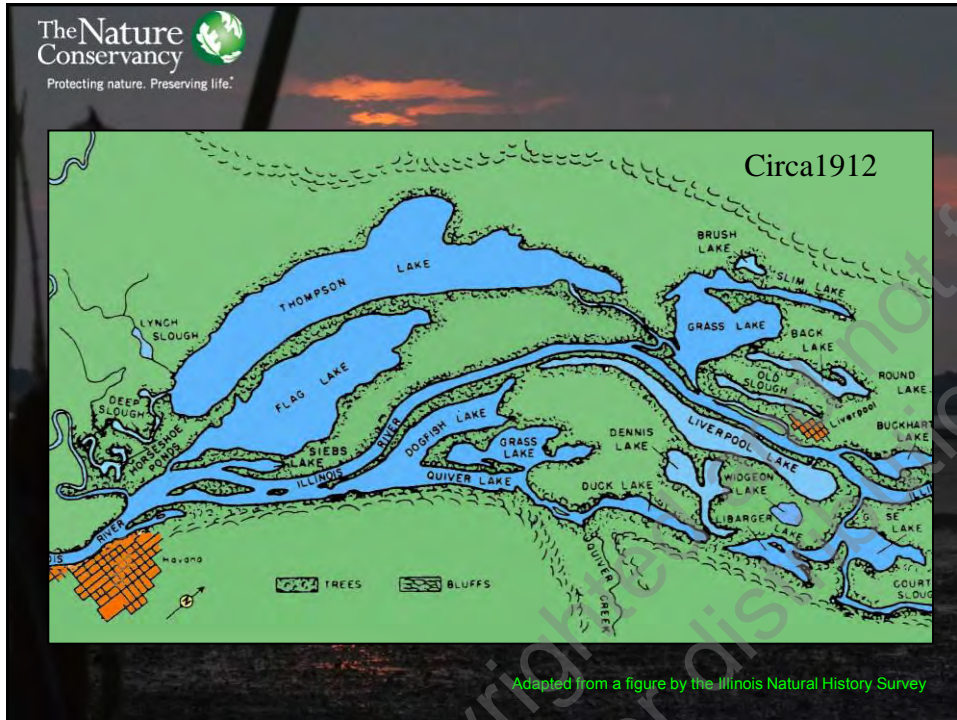
The most productive mussel stream per mile in North America

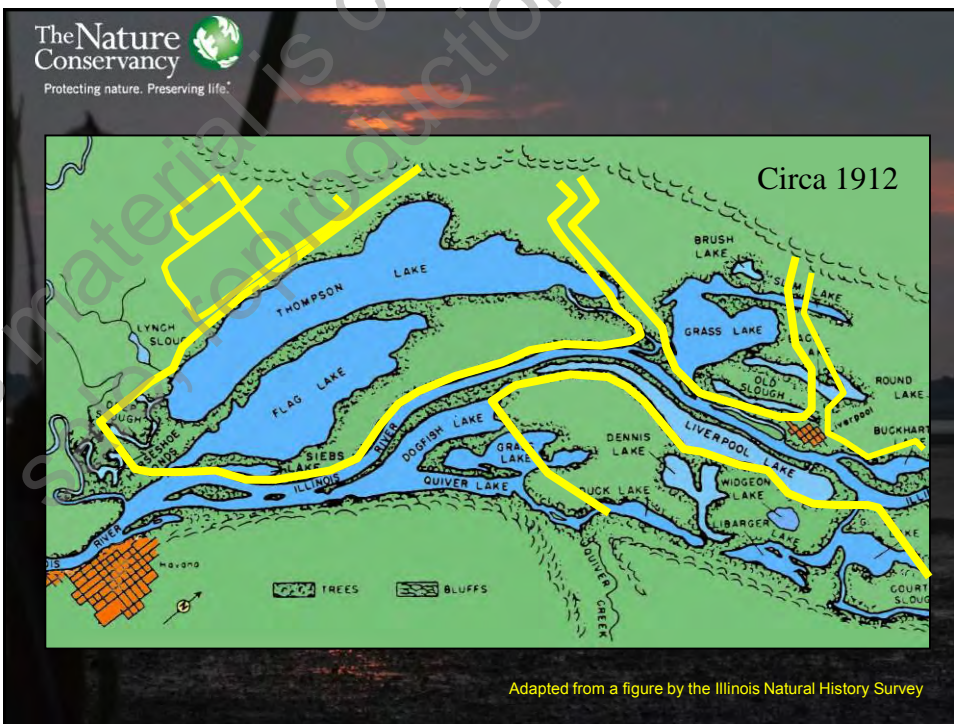
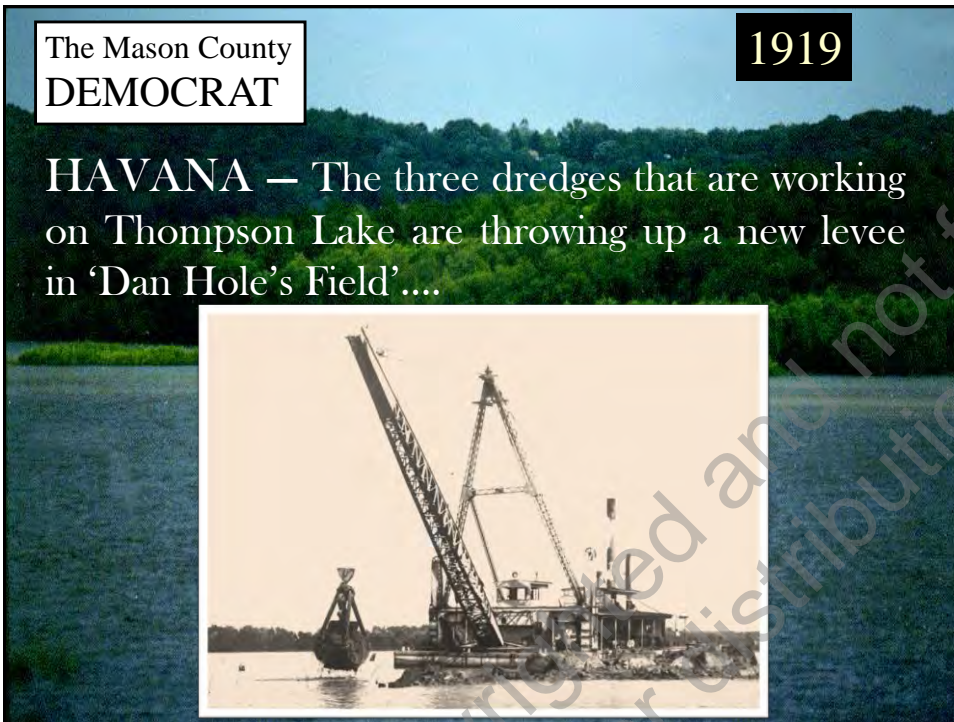


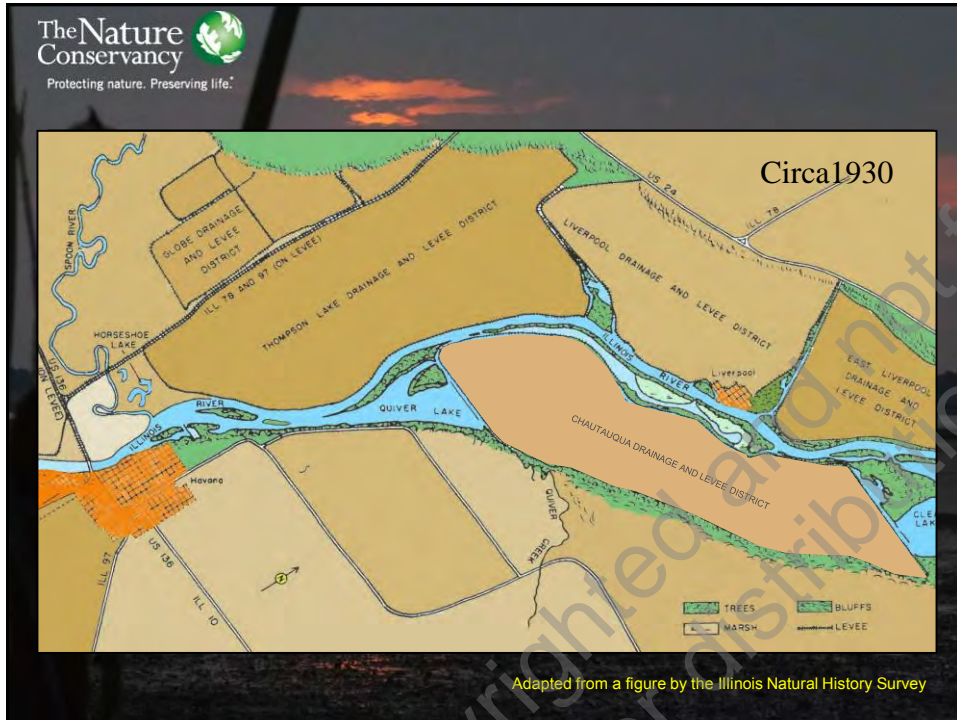
The most productive inland commercial fishery in North America

MOONLIGHT VIEW on ILLINOIS RIVER at HAVANA, ILL.

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Webinar 4/28/2016







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Some benefits of functional floodplain wetlands ...

- Provide habitat for native plants and animals (aquatic and terrestrial, resident and migratory)
- Supply materials (food, fiber, biomass for energy production)
- Contribute to a more natural hydrology by storing storm water (moderates unnatural water level fluctuations, reduces flooding and associated damages, and provides base flow)
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- Improve water quality
- Sequester carbon (helps reduce global climate change)
- Offer opportunities for recreation, education, and economic development

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Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy. National Research Council, National Academic Press. Washington, D.C. 1992. 662 pp.



Illinois River Site Conservation Plan. The Nature Conservancy. 1998. 73 pp.



A River That Works and a Working River. Upper Mississippi River Conservation Committee. 2000. 40 pp.



Conservation Priorities for Preserving Biodiversity in the Upper Mississippi River Basin. Weitzell et al. NatureServe and The Nature Conservancy. 2003. 90 pp.



Restoring the Upper Mississippi River and its network of tributaries. The Nature Conservancy. 2004. 22 pp.



Integrated Feasibility and Programmatic Environmental Impact Statement for the UMR-IWW Navigation Feasibility Study. US Army Corps of Engineers. 2004. 606 pp.



Illinois River Basin Restoration Comprehensive Plan with Integrated Environmental Assessment. Main Report, Public Review Draft. US Army Corps of Engineers. February 2006. 452 pp.



Restoration of Aquatic Ecosystems: Science, Technology, and Public Policy. National Research Council, National Academic Press. Washington, D.C. 1992. 662 pp.



Illinois River Site Conservation Plan. The Nature Conservancy. 1998.

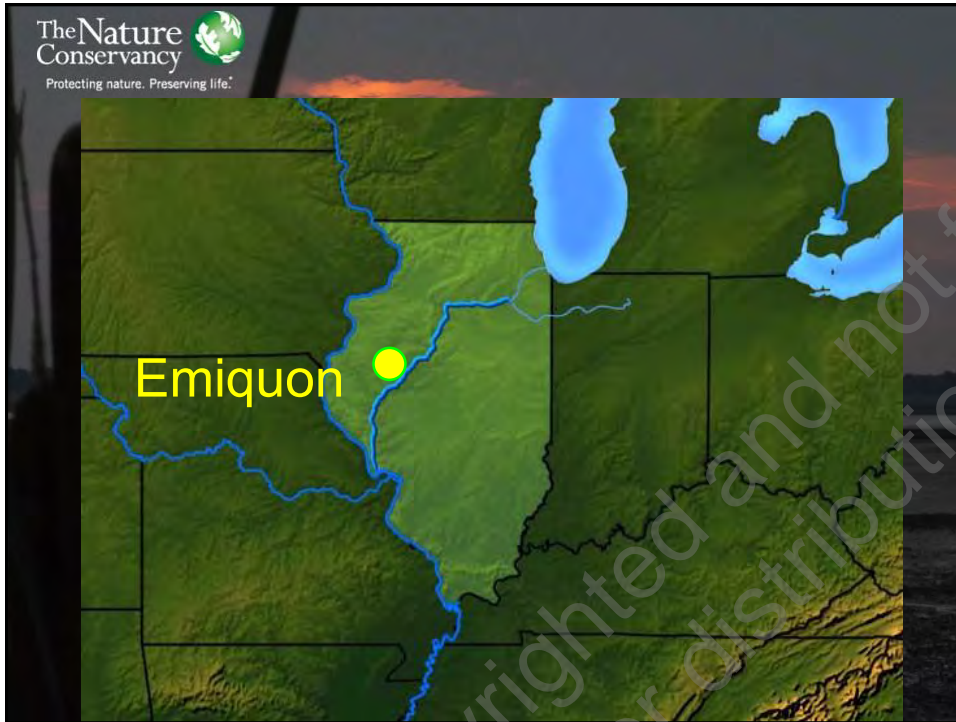
Restoration of functional floodplain is essential for restoring ecosystem health



Impact Statement for the UMR-IWW Navigation Feasibility Study. US Army Corps of Engineers. 2004. 606 pp.



Illinois River Basin Restoration Comprehensive Plan with Integrated Environmental Assessment. Main Report, Public Review Draft. US Army Corps of Engineers. February 2006. 452 pp.



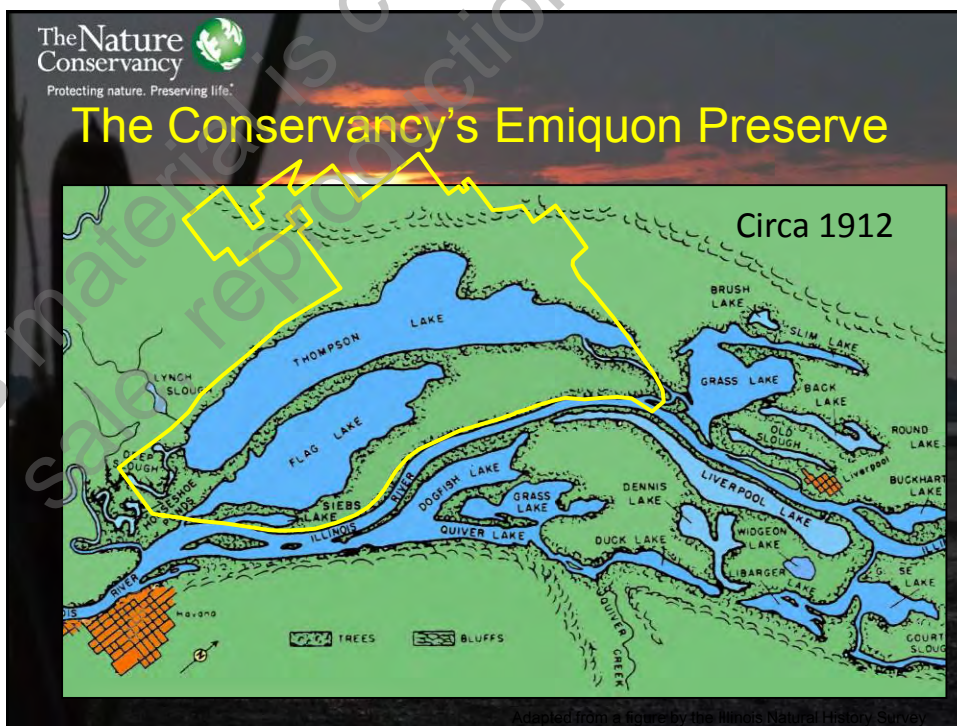
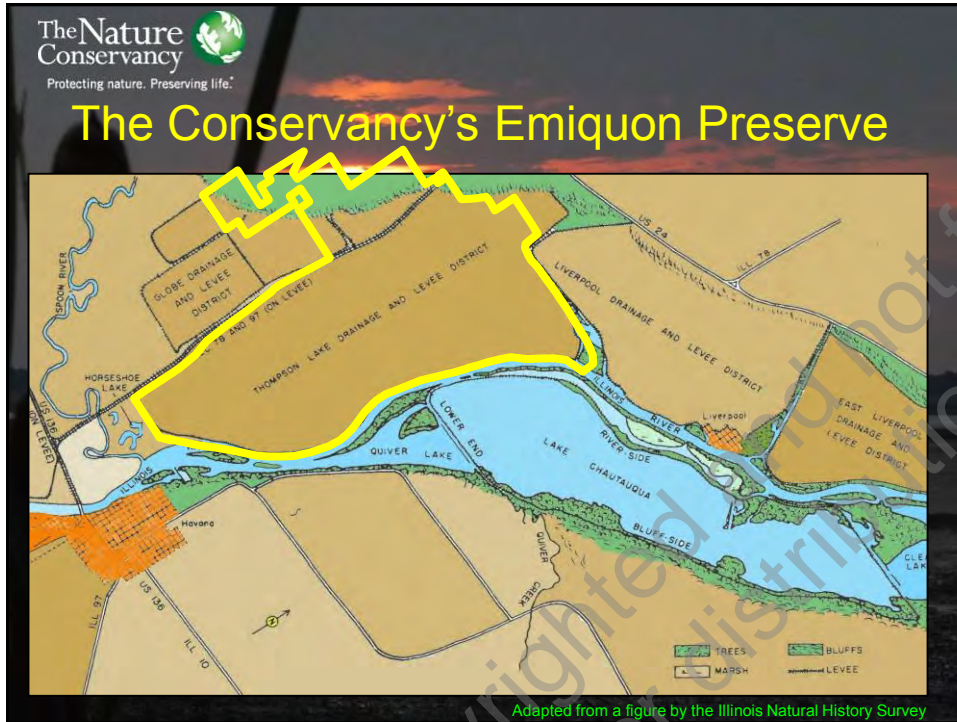
The Mason County
DEMOCRAT
Mason County's
Original and Best
Preserved
Family Owned
By Our People

May 3, 2000

Lewistown— The Nature Conservancy announces the purchase of Wilder Farm.

Nearly 7800 acres (3150 hectares)
Wilder Corporation, Florida
\$18.45 million

This newspaper clipping from The Mason County Democrat, dated May 3, 2000, announces the purchase of Wilder Farm by The Nature Conservancy. The article states that the purchase is for nearly 7800 acres (3150 hectares) from Wilder Corporation, Florida, for a price of \$18.45 million. Below the text are two aerial photographs of the property, showing a large body of water and surrounding fields.



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Emiquon Science Advisory Council

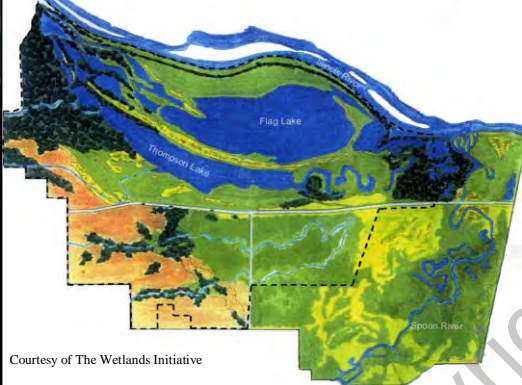
Bradley University
 Southern Illinois University-Carbondale
 Southern Illinois University-Edwardsville
 University of Illinois at Urbana-Champaign
 University of Illinois at Springfield
 Western Illinois University

Michigan State University
 Texas A&M University-College Station
 University of Georgia-Athens
 University of Michigan-Ann Arbor
 University of Missouri-Columbia
 University of Wisconsin-Madison
 Winona State University

Illinois Department of Natural Resources
 Illinois Natural History Survey
 Illinois State Museum-Dickson Mounds
 Illinois State Water Survey
 Illinois Water Resources Center
 National Great Rivers Research and Ed Center

Missouri Coop Fish and Wildlife Unit
 Natural Resources Conservation Service
 US Army Corps of Engineers, Rock Island Dist.
 US Army Corps of Engineers, Environmental Modeling, Simulation and Assessment Center
 US Army Corps of Engineers, Water Quality and Aquatic Plant Res. and Technology Center
 US Fish and Wildlife Service Refuges
 USGS Columbia Env. Res. Center
 USGS Upper Midwest Env. Science Center
 USGS National Wetlands Research Center

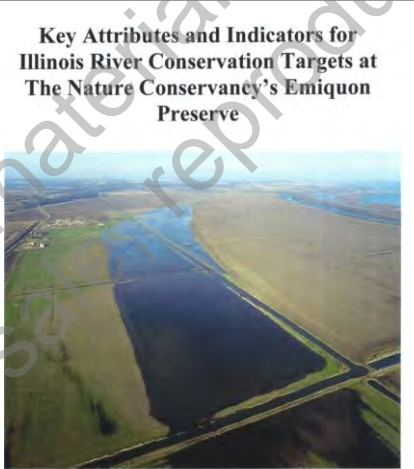
Applied Ecological Services
 Ducks Unlimited
 Field Museum of Natural History
 Smithsonian Environmental Research Center
 The Nature Conservancy
 The Wetlands Initiative



Courtesy of The Wetlands Initiative

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Key Attributes and Indicators for Illinois River Conservation Targets at The Nature Conservancy's Emiquon Preserve



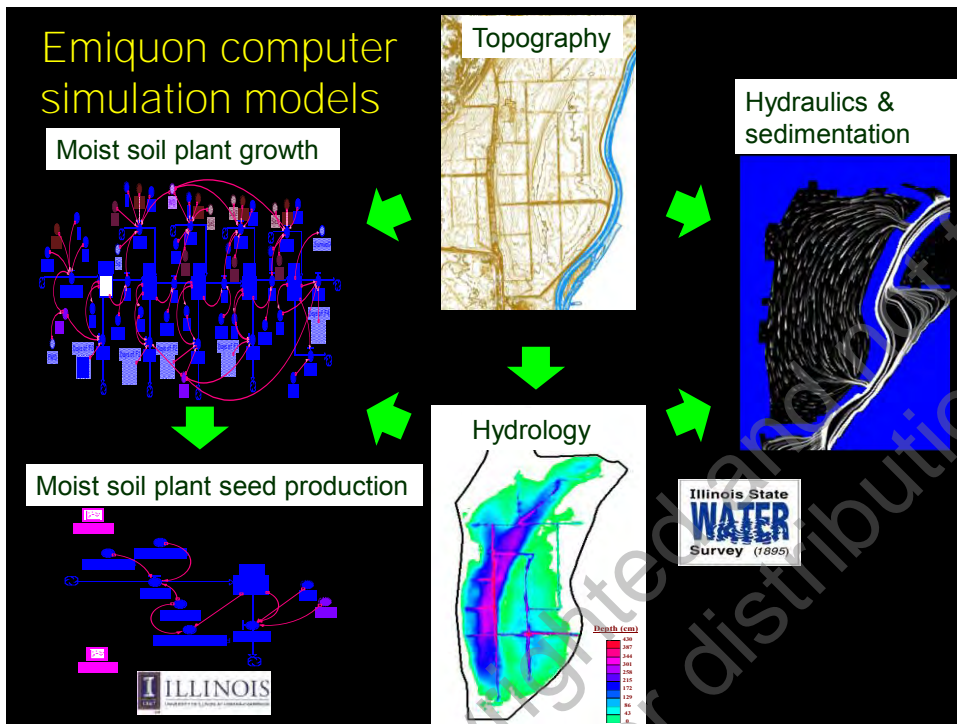
11 Targets (e.g., submersed aquatic vegetation, fish, waterfowl)

~26 Key Ecological Attributes or KEAs (e.g., underwater irradiance, hydrology, community composition, spawning, feeding)

~52 Indicators (% exotics, timing/duration/recession of flood, dissolved oxygen concentration, nest habitat availability)

google Emiquon Key Attributes

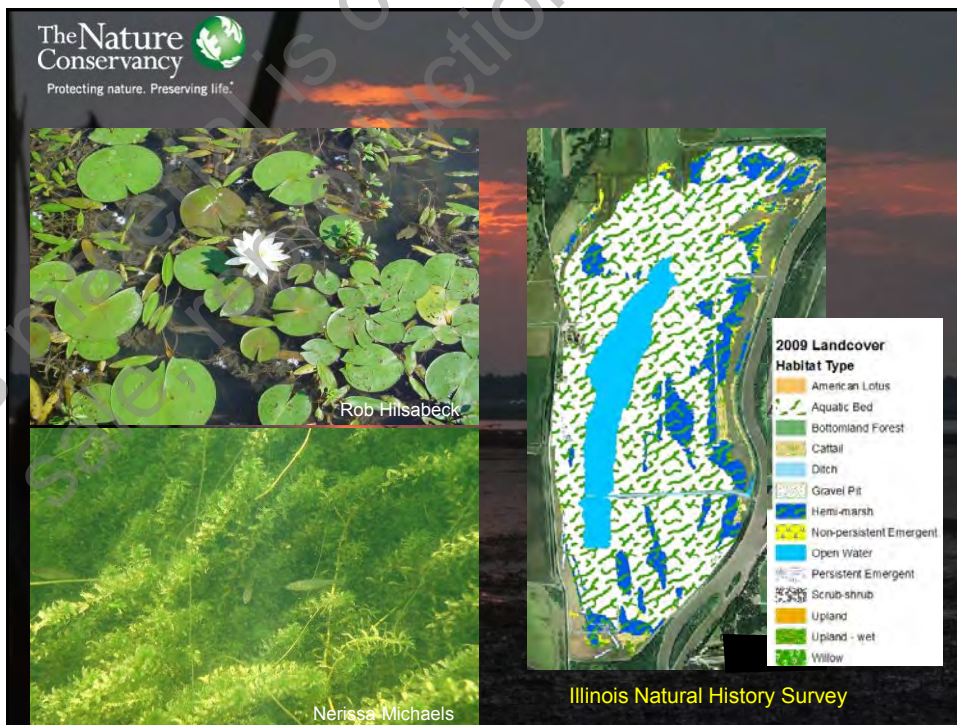
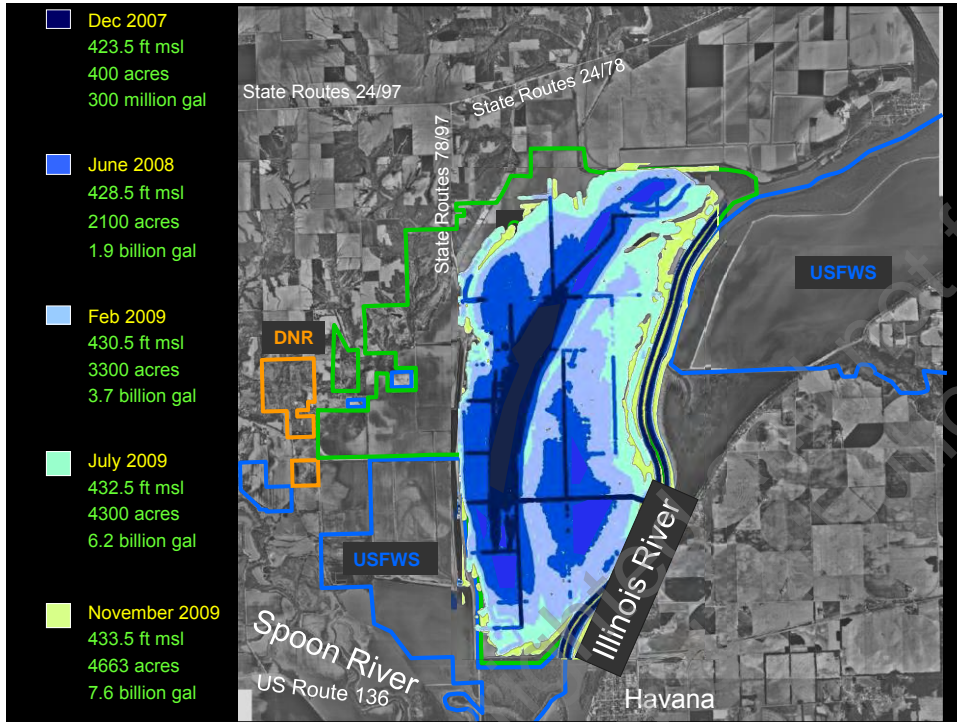
The Nature Conservancy
 Peoria, Illinois
 April 2006



Major acquisition in 2000
Restoration planning 2001-2006

Spring 2007:
a new day dawns at Emiquon

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Peak waterfowl densities approaching 200,000



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More than 265 bird species observed to date
with many relatively rare species ...

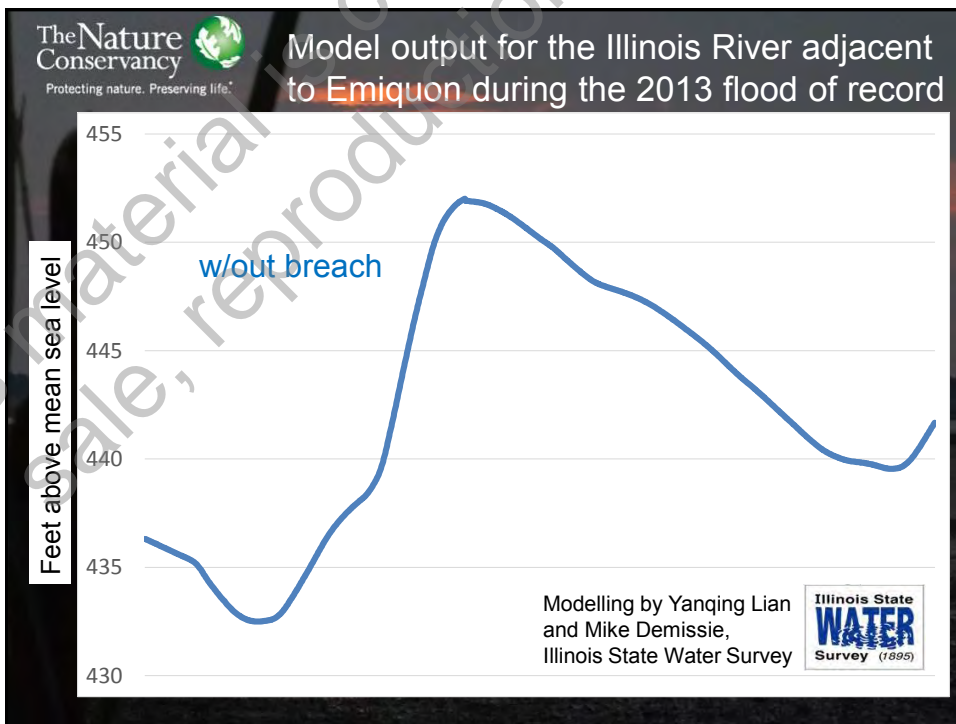
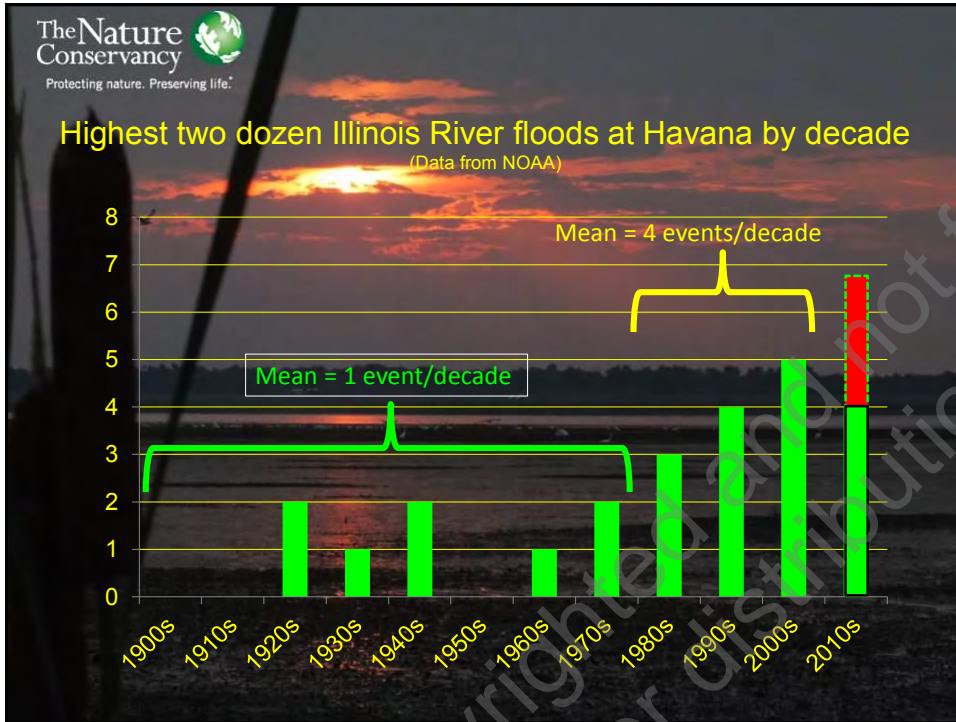


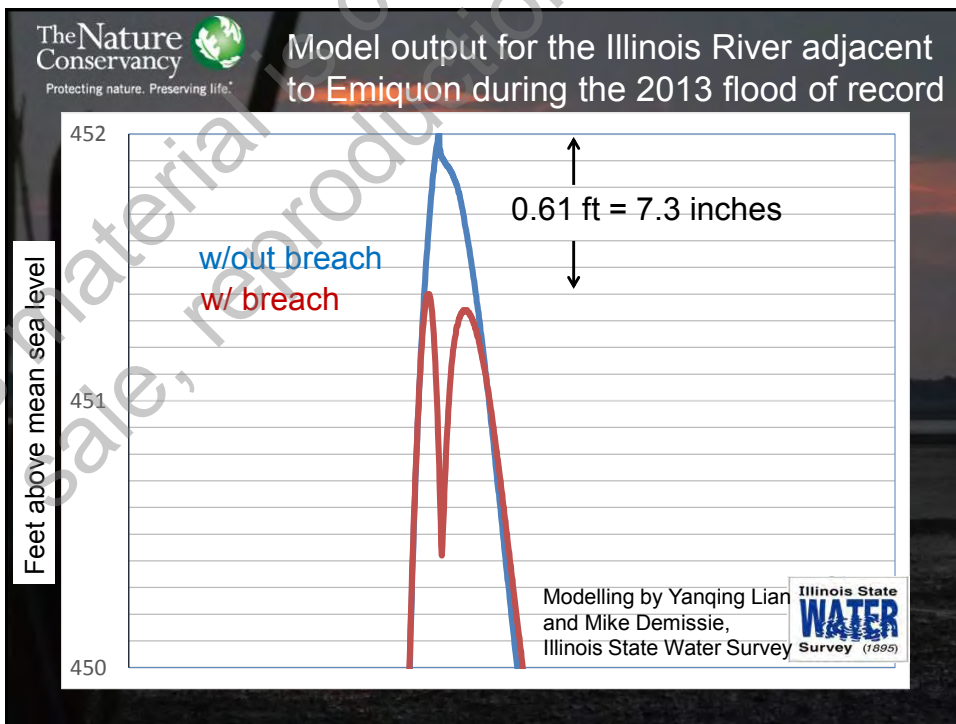
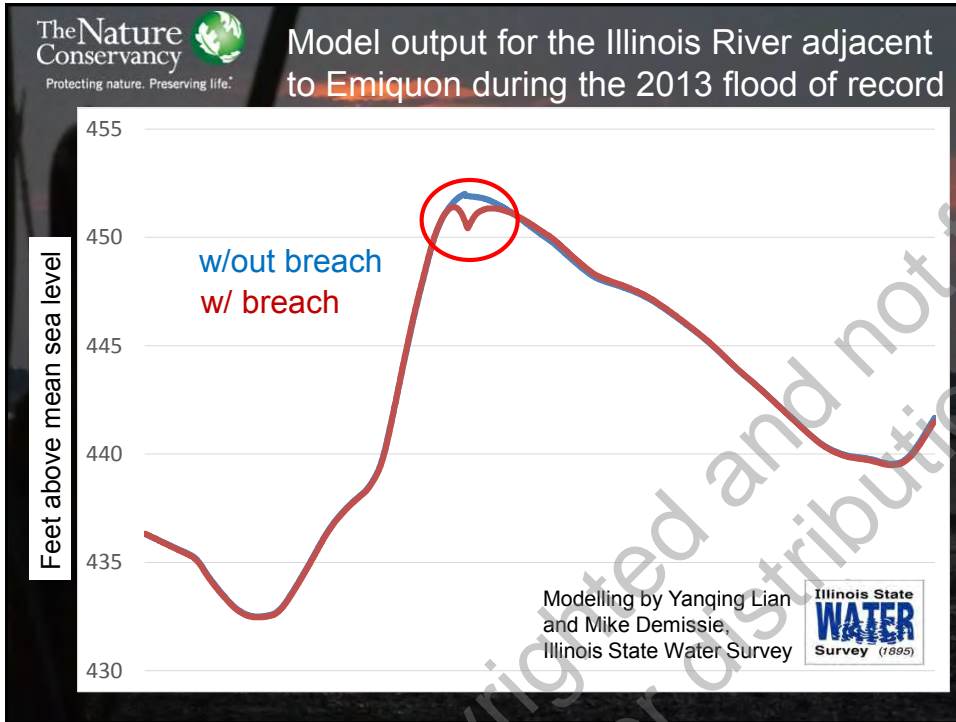
>90% of Illinois wetland-associated T&E bird species



Some benefits of functional floodplain wetlands ...

- Provide habitat for native plants and animals (aquatic and terrestrial, resident and migratory)
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- Store and process nutrients (e.g., nitrogen, phosphorous) and sediments
- Improve water quality
- Sequester carbon (helps reduce global climate change)
- Offer opportunities for recreation, education, and economic development

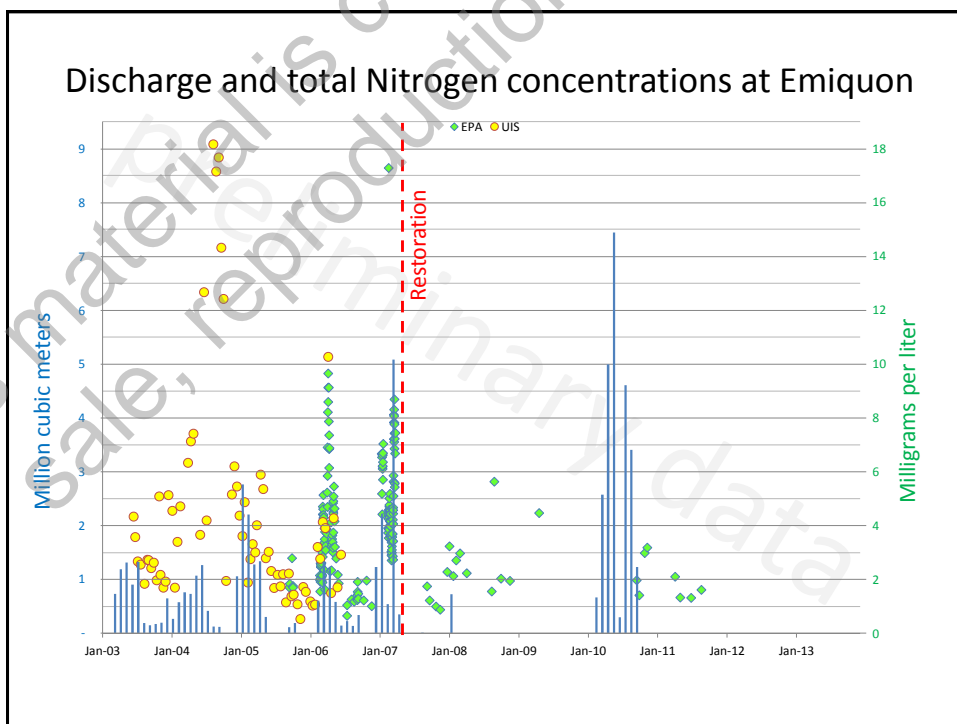


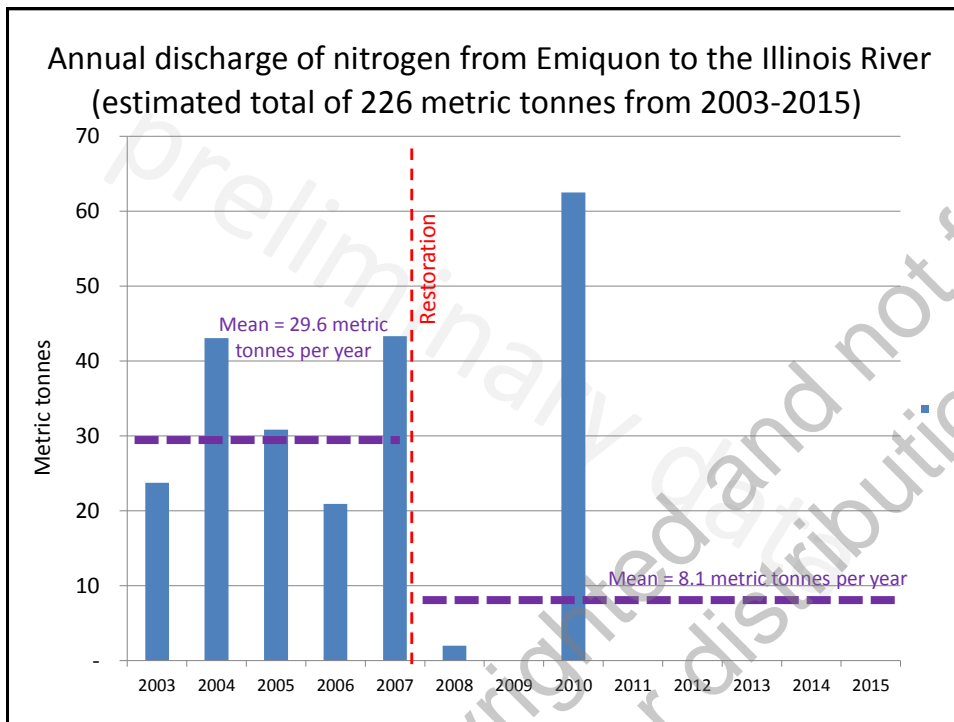


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Visitor use amenities

- roadways
- vehicle parking
- walkways
- boat/canoe launches
- wetland and lakeside observatories
- interpretive displays

Ebb and Flow

Wetlands act as sponges, absorbing excess water from streams, rivers and the soil. In drier periods, floodplain wetlands release water to the river, stabilizing base flows. They also recharge the groundwater. Wetlands improve water quality by filtering excess sediments, nutrients and other pollutants. This helps keep our nation's rivers clearer and cleaner, providing a renewable source of freshwater.

Hydrologic Cycle

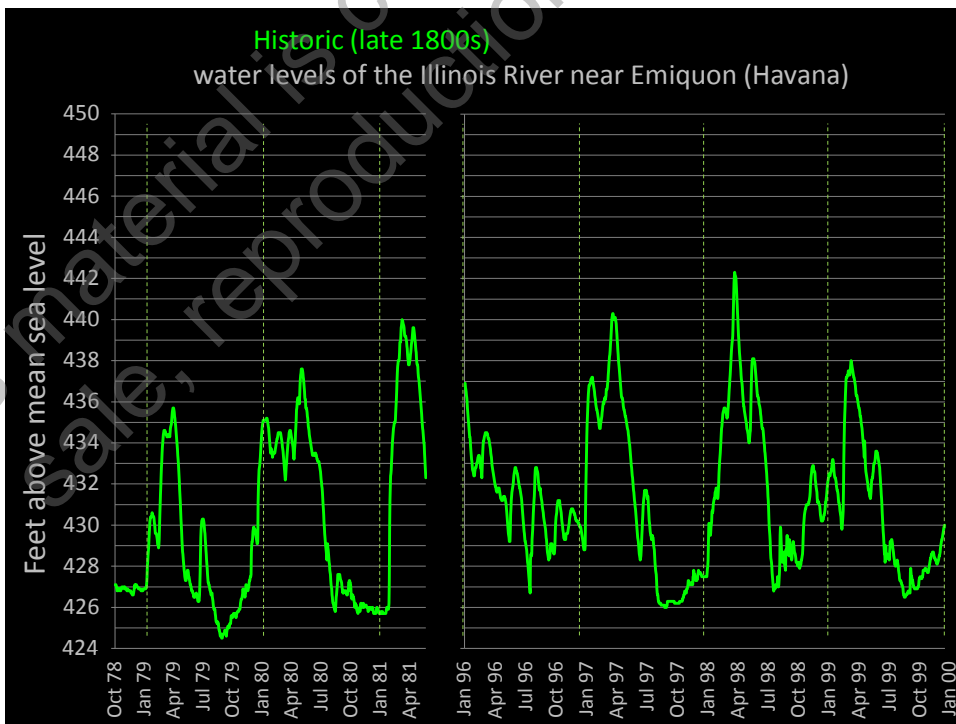
Rivers, wetlands and floodplains play important roles in the hydrologic cycle, the continuous movement of water above, on and below the earth's surface.

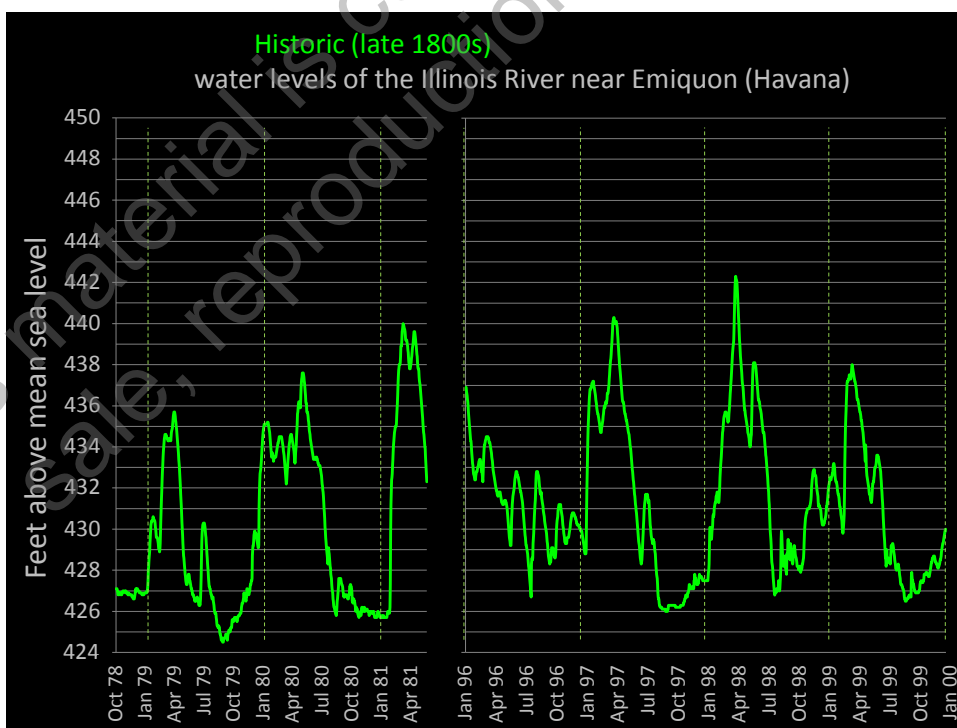
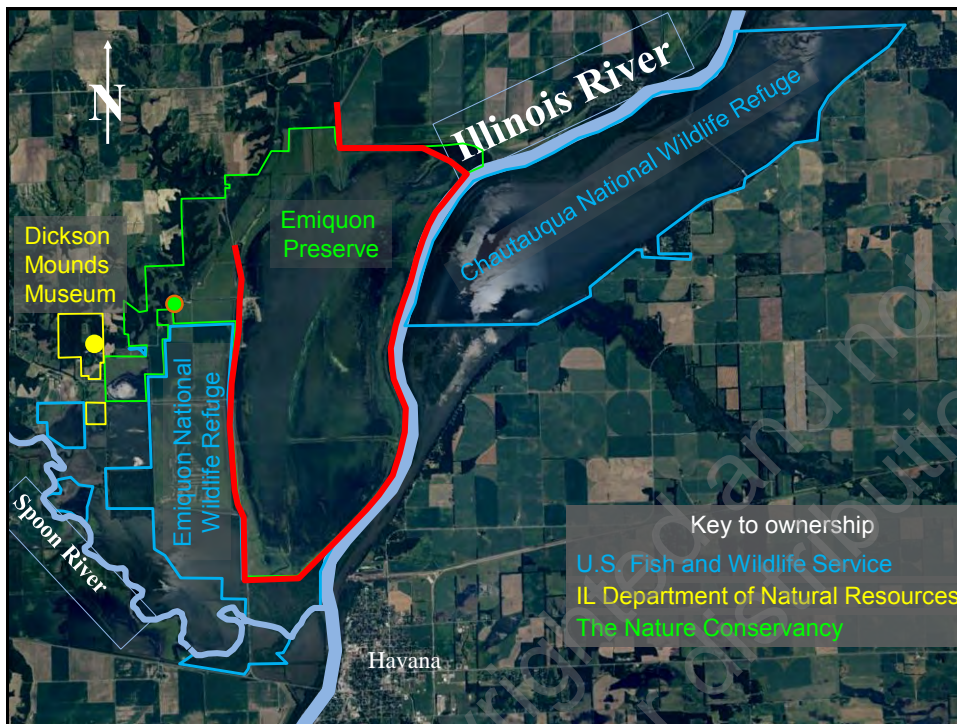
Wetlands River Water Levels 1953 to 1958 & 1959 to 1964

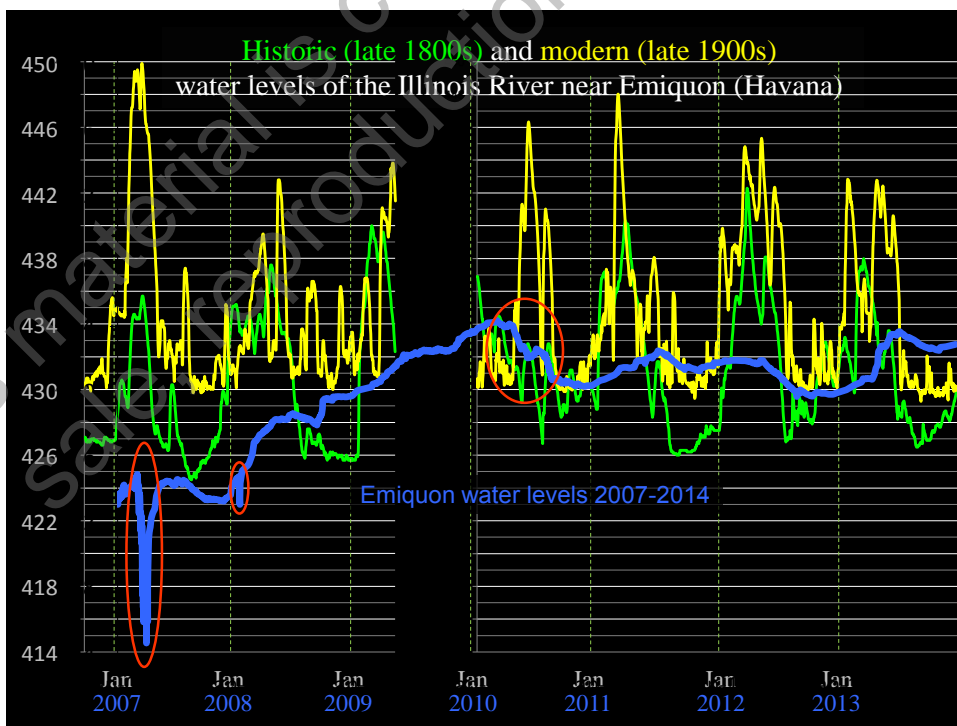
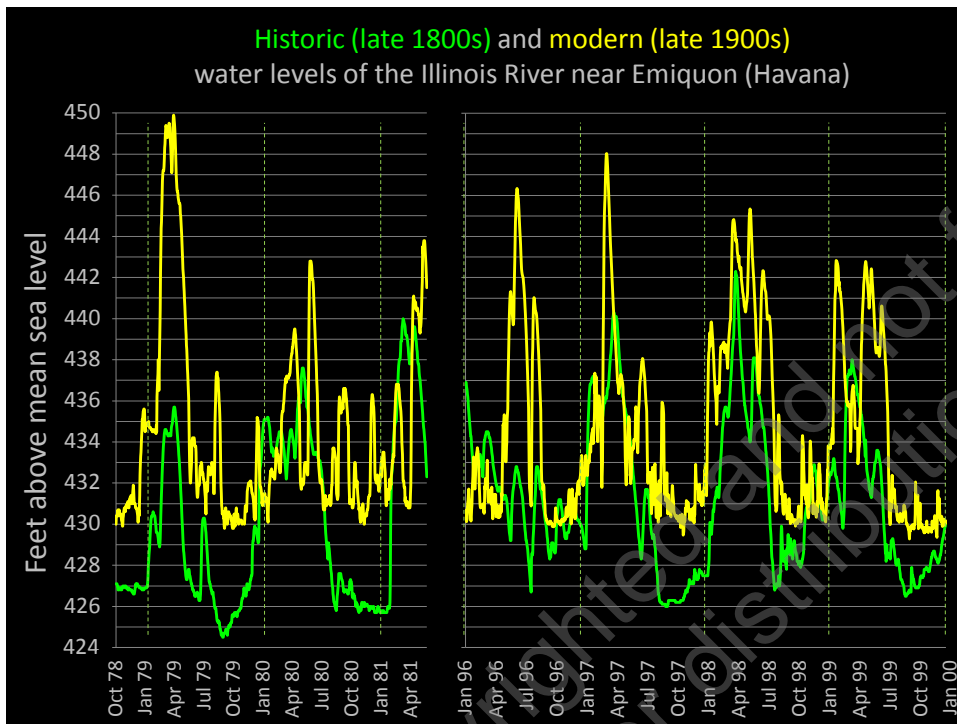
As greenhouse gases increase in the atmosphere, weather patterns are expected to become increasingly erratic and extreme. Wetlands help moderate floods and droughts by storing water.

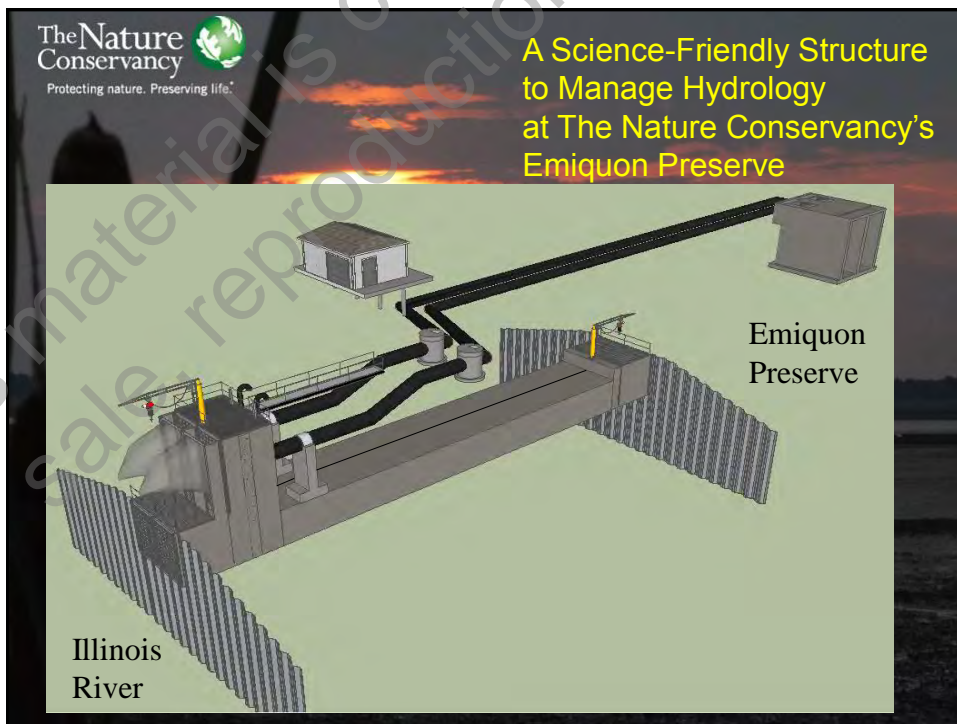
Wetland ecosystems such as Emiquon play an important role in the hydrologic cycle.



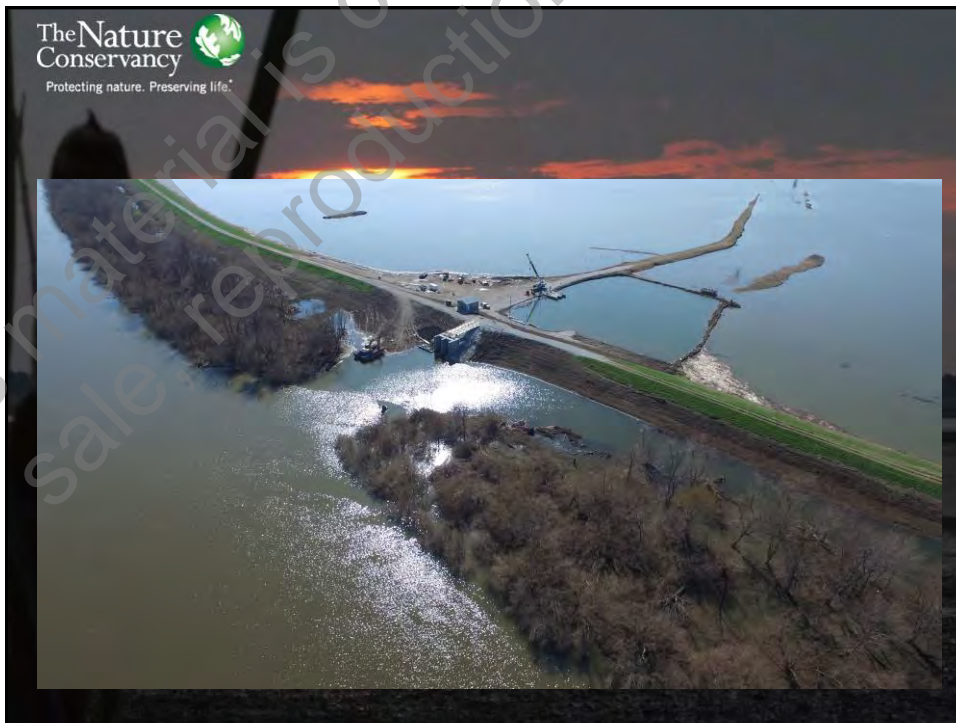









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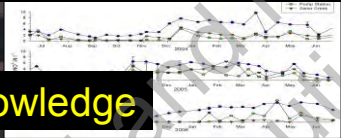

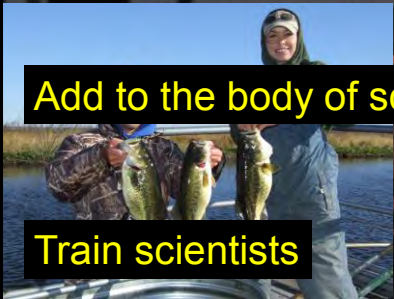
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Science at Emiquon





Guide restoration and management at Emiquon
... and other projects (e.g. IDNR, USFWS, USACOE)

Add to the body of scientific knowledge



Train scientists



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Sharing Science and Lessons Learned through Conservancy Initiatives

Upper Mississippi River Project North American Freshwater Program Great Rivers Partnership Global Freshwater Program



Colorado Mississippi Magdalena Tapajós Niger Ogooué Yangtze Mekong

GRP Rivers
GRP River Basins

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Join us for the 10th Annual Emiquon Science Symposium

18-19 May 2016
Big Horse Vineyards and Emiquon Preserve,
Lewistown, IL

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/illinois/events/emiquon-science-symposium-2016.xml>
... or search for
Emiquon Science Symposium 2016

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Ameren
The National Great Rivers Research & Education Center
Thompson Drainage and Levee District
AmeriCorps
LINDENWOOD
BRADLEY UNIVERSITY
WESTERN ILLINOIS UNIVERSITY
ILLINOIS DEPARTMENT OF NATURAL RESOURCES
UIS
ILLINOIS RIVER ROAD
MICHIGAN STATE UNIVERSITY
LIVING LANDS & WATERS
ILLINOIS NATURAL HISTORY SURVEY
WYCKOFF MOUNDS MUSEUM
STATISTICAL INDIAN
UNITY IN DIVERSITY
Montpellier SupAgro
US Army Corps of Engineers
CAT
YSI
U.S. FISH & WILDLIFE SERVICE
E.C.D.
ILLINOIS UNIVERSITY OF URBANA-CHAMPAIGN
Illinois State WATER Survey (1895)
GREAT RIVERS PARTNERSHIP
SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE
NRCNS Natural Resources Conservation Service

NFFA Webinars



Natural Floodplain Functions Alliance (NFFA)
Webinars

<http://www.aswm.org/watersheds/natural-floodplain-function-alliance>

-OR-

<http://bit.ly/243JqTp>

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