


## Recovery Program Overview and Context

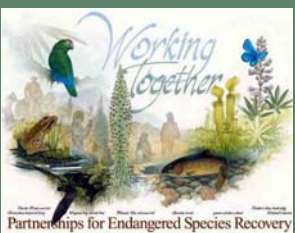
- Endangered Species Act
- Missouri River Recovery Program
- Implementation
- MRRIC Integration
- Examples



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## Endangered Species Act

- Became law in 1973
- 1,231 species are listed as endangered or threatened in United States
- Administered by the USFWS and the NMFS



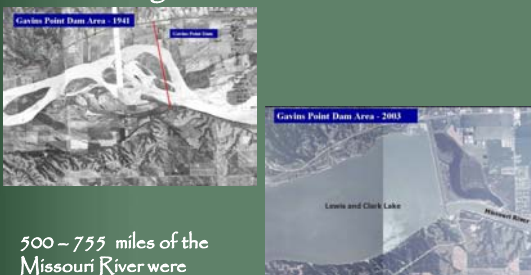
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## ESA - Section 7

- All federal agencies are required to undertake programs for the conservation of endangered and threatened species.
- Requires federal agencies to consult if any agency action is likely to adversely affect a listed species.
- 2000 the Corps and the USFWS entered into formal consultation on the Corps' operation of the Missouri River System. 2003 the Corps and USFWS reinitiated consultation based on new information.

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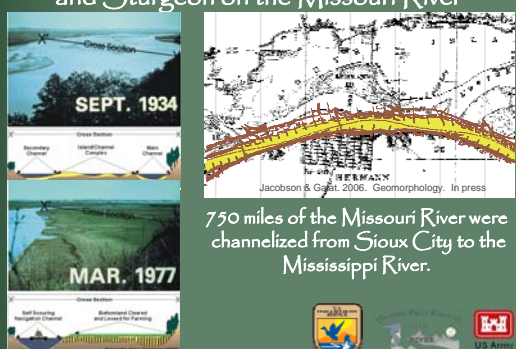
## Decline of Least Terns, Piping Plovers and Sturgeon on the Missouri River



500 - 755 miles of the Missouri River were inundated under reservoirs.

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## Decline of Least Terns, Piping Plovers and Sturgeon on the Missouri River



750 miles of the Missouri River were channelized from Sioux City to the Mississippi River.

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## Fish and Wildlife



Interior Least Tern



Piping Plover


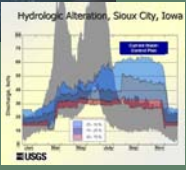


Pallid Sturgeon




## Biological Opinion

- Biological Opinion issued by the USFWS in 2000 and Amended 2003.
- Found that the operation of the system jeopardized the continued existence of the pallid sturgeon.
- Identified reasonable and prudent alternatives and measures to prevent extinction.

"When one tugs at a single thing in nature he finds it attached to the rest of the world"  
John Muir



## Missouri River Fish & Wildlife Recovery




Missouri River F&W Recovery Area  
Headwaters to the mouth and tributaries


BSNP Fish & Wildlife Mitigation  
NE, IA, KS, MO



## BSNP Fish & Wildlife Mitigation

- Nebraska, Iowa, Kansas and Missouri
- Restores habitat for fish & wildlife lost due to bank stabilization and navigation project not species specific
- Overlaps with BiOp Implementation
- Authorized WRDA 1986 & amended WRDA 1999



## Biological Opinion Reasonable and Prudent Alternatives


- Adaptive Management
  - Science based
  - Values Integration—MRRIC
- Flow Modification
  - Fort Peck & Gavins Point
- Unbalanced Intrasystem Regulation
- Habitat Creation, Restoration & Acquisition
  - Emergent Sandbar Habitat (ESH), Shallow Water Habitat (SWH), Cottonwoods
- Intensive Research and Monitoring
- Pallid Propagation Support





## The Mission:

To implement the Missouri River Biological Opinion and the BSNP Fish and Wildlife Mitigation so as to sustain the values of the Missouri River for the American public.



"Today, the nation and the institutions and citizens in the Missouri Basin are embarking on another journey of discovery... stakeholders in the Missouri Basin will be challenged to explore the unknown and seek ways to ensure the most complete understanding and best use for America of one of her great rivers."  
Steven P. Gloss, Chair The Missouri River Ecosystem: Exploring the Prospects for Recovery (2002) 1717



## MRRIC

- Provides a basin forum for collaboration on recovery activities
- Ensures consideration of public values in recovery decisions
- Consists of broad range of basin tribes, states, stakeholders, and federal agencies
- Provides consensus-based recommendations to entities in the basin
- Serves as critical part of Adaptive Management

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## Guiding Principles

- **Science-based approach:** Incorporate objective and fact driven investigations, constructive debate, and peer review.
- **Transparency and access:** Offer transparency and universal access to tools and data.
- **Consensus-building:** Use fair processes and strive to reach consensus on conclusions and proposals.
- **Inclusiveness:** Use collaboration to foster inclusiveness (MRRIC).
- **Accountability:** Meet schedules, maintain professional responsibilities and efficiently provide quality products for MRRP processes and teams.
- **Adaptive Management:** Seek continuous improvement in MRRP by using and building upon existing science and processes.

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## Missouri River Recovery FY07 Work Effort (CG)

Shallow Water Habitat	\$29.8M
Emergent Sandbar Habitat	\$6.5M
Fish Propagation Program	\$0.8M
Monitoring & Assessment	\$19.4M
MRRIC	\$0.8M
Project Management	\$2.3M
Ecosystem Restoration Floodplain	\$25.4M
	\$85.0M

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## Channel Modification Shallow Water Habitat



California Bend Chute –  
Chute Construction North  
of Blair, Nebraska



Overton Bottoms – Bank  
and Dike Notches near  
Rocheport, Missouri



## Emergent Sandbar Habitat



## Propagation & Hatchery Support

- Over 60,000 pallid sturgeon stocked in river since 1992
- Facility Improvements
  - Water Treatment
  - Expanded Capacities
  - Other Improvements
- Improved Tagging and Tracking Capabilities



## Research, Monitoring & Evaluation

- USGS Comprehensive Research
- Population Assessment
- Interior Drainage / Groundwater
- Physical Monitoring
- Ruckelshaus Institute Pallid Sturgeon Workshop



## Flow Modification

- Fort Peck Spillway Test
  - Waiting for Water
- Gavins Point Spring Pulse
  - Utilize data from '06 and future hydrologic improvements to refine the long-term flow management plan through adaptive management.



## WRDA 2007

SEC. 5016. MISSOURI RIVER AND TRIBUTARIES, MITIGATION, RECOVERY AND RESTORATION, IOWA, KANSAS, MISSOURI, MONTANA, NEBRASKA, NORTH DAKOTA, SOUTH DAKOTA, AND WYOMING.

(a) STUDY —

(1) IN GENERAL — The Secretary, in consultation with the Missouri River Recovery and Implementation Committee established by subsection (b)(1), shall conduct a study of the Missouri River and its tributaries to determine actions required—

(A) to mitigate losses of aquatic and terrestrial habitat;

(B) to recover federally listed species under the Endangered Species Act (16 U.S.C. 1531 et seq.); and

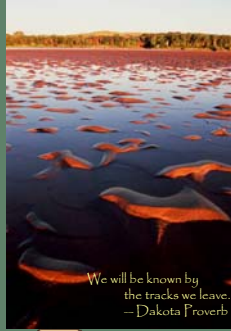
(C) to restore the ecosystem to prevent further declines among other native species.

(2) FUNDING.—The study under paragraph (1) shall be funded under the Missouri River Fish and Wildlife Mitigation Program.



## Ecosystem Restoration Plan Intent

To restore ecosystem functions, mitigate habitat losses, and recover native fish and wildlife, while seeking to enhance social, economic, and cultural values for future generations.



We will be known by the tracks we leave.  
—Dakota Proverb



## Plan Objectives

- Evaluate cumulative impacts to the human environment.
- Coordinate existing programs to better meet the ecological needs of the basin.
- Develop a comprehensive approach to apply ecological principles/criteria consistently to Missouri River programs in order to meet endangered species recovery requirements and ecosystem restoration goals.
- Identify objectives, opportunities, and strategies for long-term landscape-scale restoration priorities.



## Collaborative Efforts of the Plan

- USACE District Partnership
- USFWS Partner Agency
- Interagency Planning Team
- Collaboration with MRRIC



## For more information run don't walk ...



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