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# MISSOURI RIVER BANK STABILIZATION AND NAVIGATION PROJECT FISH AND WILDLIFE MITIGATION

([www.nwk.usace.army.mil/projects/mitigation/](http://www.nwk.usace.army.mil/projects/mitigation/))





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# ITEMS TO BE ADDRESSED

**BACKGROUND**

**PROJECT ACCOMPLISHMENTS**

**WRDA 99**

**ENDANGERED SPECIES ACT COMPLIANCE**

**PROJECT FUTURE**

# Missouri River Bank Stabilization and Navigation Project (BSNP)



**PROJECT LOCATION**

**(735 river miles)**

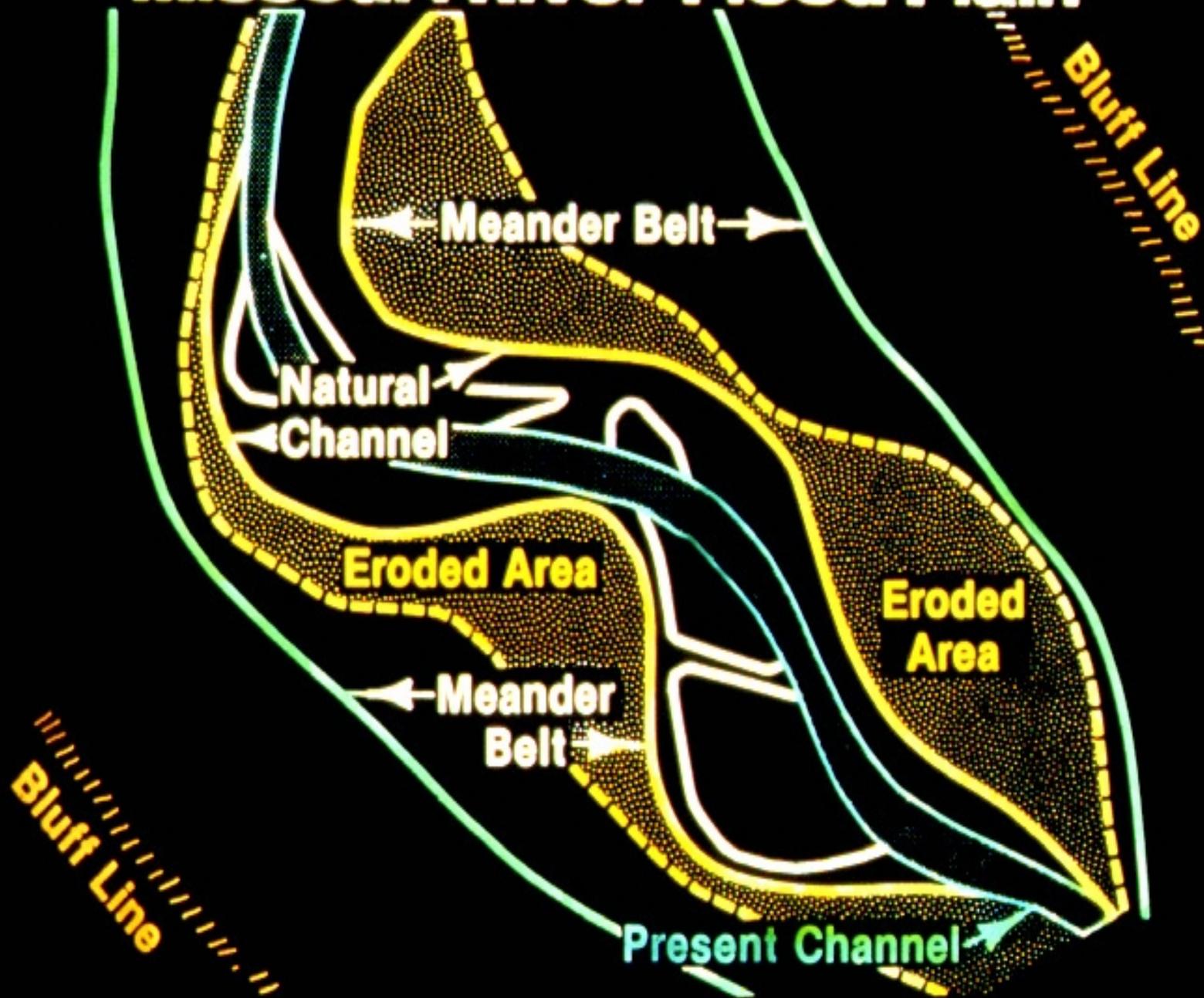


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**UNCHANNELIZED RIVER**

# Missouri River Flood Plain





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## BSNP PROJECT HISTORY

- 1912 6-foot deep channel, Kansas City to mouth
- 1925 200-foot wide channel, Kansas City to mouth
- 1927 Extended project to Sioux City, Iowa
- 1945 9-foot deep, minimum 300-foot wide channel  
Sioux City to mouth



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# RIVER CHANNELIZATION



OCTOBER 1937



JUNE 1945





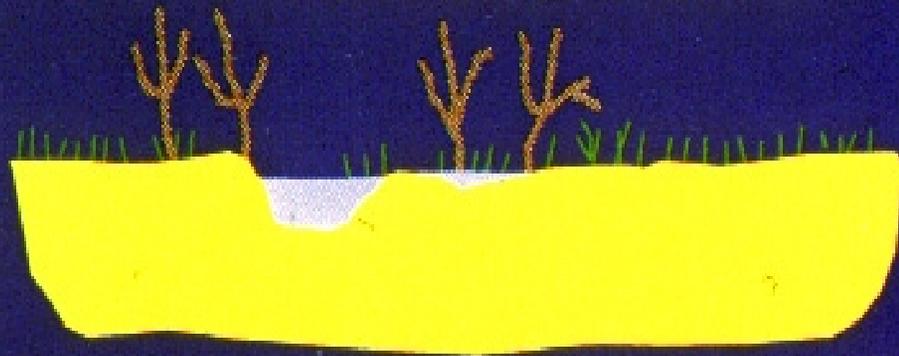
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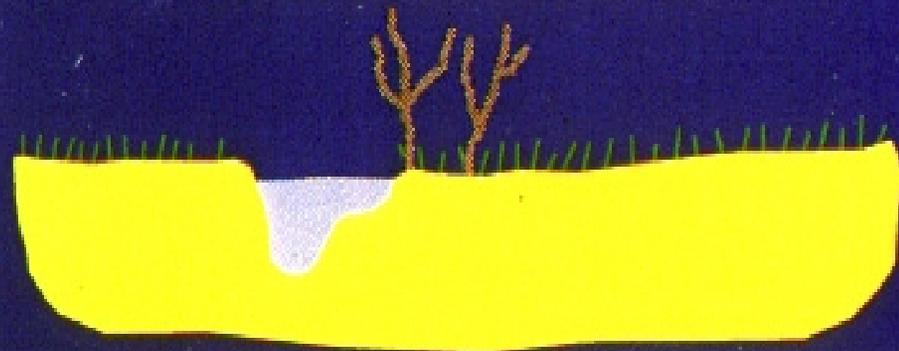
# Cross Section - Channel Accretion



**Without Bank Stabilization  
and Navigation Project**



**Midway through construction  
of the project**



**Ultimate effect of the project**



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## HABITAT LOST 1912 to 2003

	Natural Channel	Meander Belt	Total
Aquatic Habitat, Acres	100,000	0	100,000
Terrestrial Habitat, Acres	68,000	354,000	422,000
<b>TOTAL, Acres</b>	<b>168,000</b>	<b>354,000</b>	<b>522,000</b>



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# MITIGATION BACKGROUND

- Authorized by WRDA 86 based on 1981 Feasibility Report
- Purpose: Mitigation of fish and wildlife losses
- Project Cost: \$ 90.4 million
- Authorized: 29,900 acres land acquisition  
18,200 acres public land development  
48,100 total acres
- Mitigates 3% of the aquatic and 7% of the terrestrial losses
- Preceded listing of any endangered species



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## CURRENT STATUS

LAND ACQUIRED: 24,915 of 29,900 acres

PUBLIC LAND DEVELOPED: 7,800 of 18,200 acres

EXPENDED THRU FY01: \$ 65.0 million of \$ 90.4 million



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# MITIGATION ACCOMPLISHMENTS

- 50 River Structures (New/Modified/Removed)
- 5 Side Channels Constructed/Developed
- 10,000 Acres of Wetlands Restored
- 5,000 Acres of Floodplain Restored
- 9,000 Acres Bottomland Timber Restored



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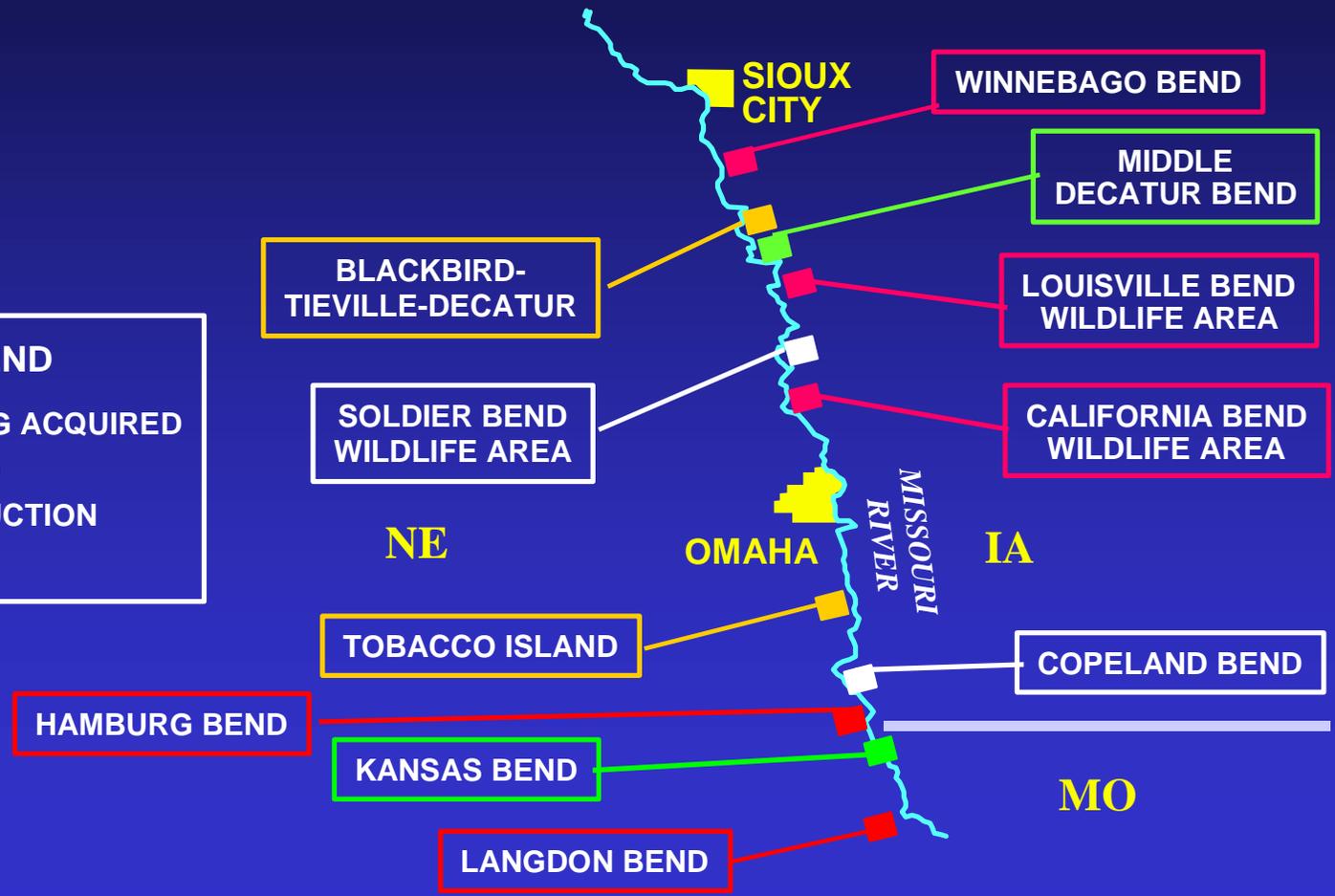
# NWO Sites

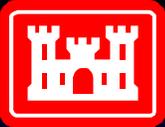


NORTH

**SITE LEGEND**

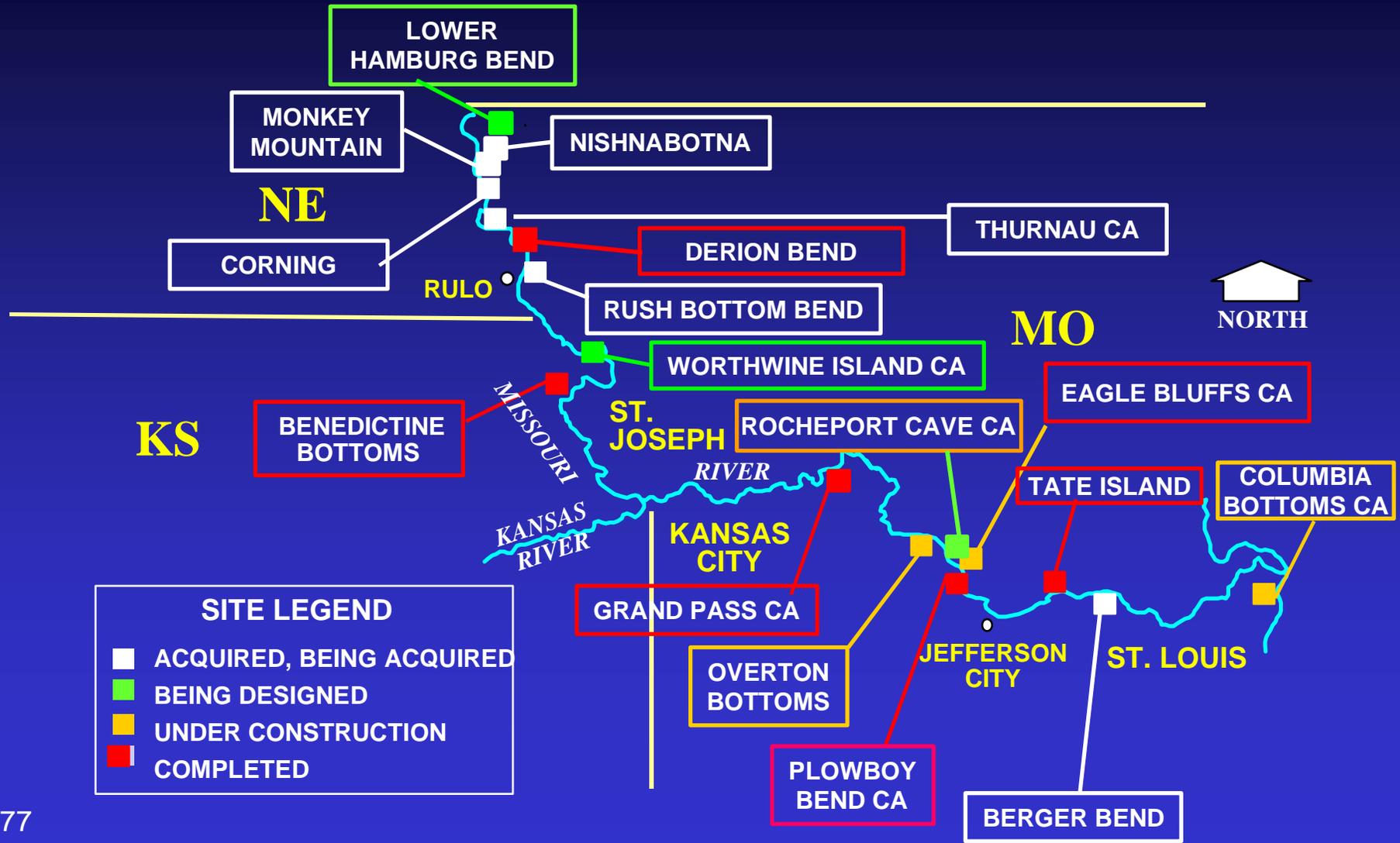
- ACQUIRED, BEING ACQUIRED
- BEING DESIGNED
- UNDER CONSTRUCTION
- COMPLETED





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# NWK Sites





Hamburg Bend Constructed Side Channel  
(Nebraska)



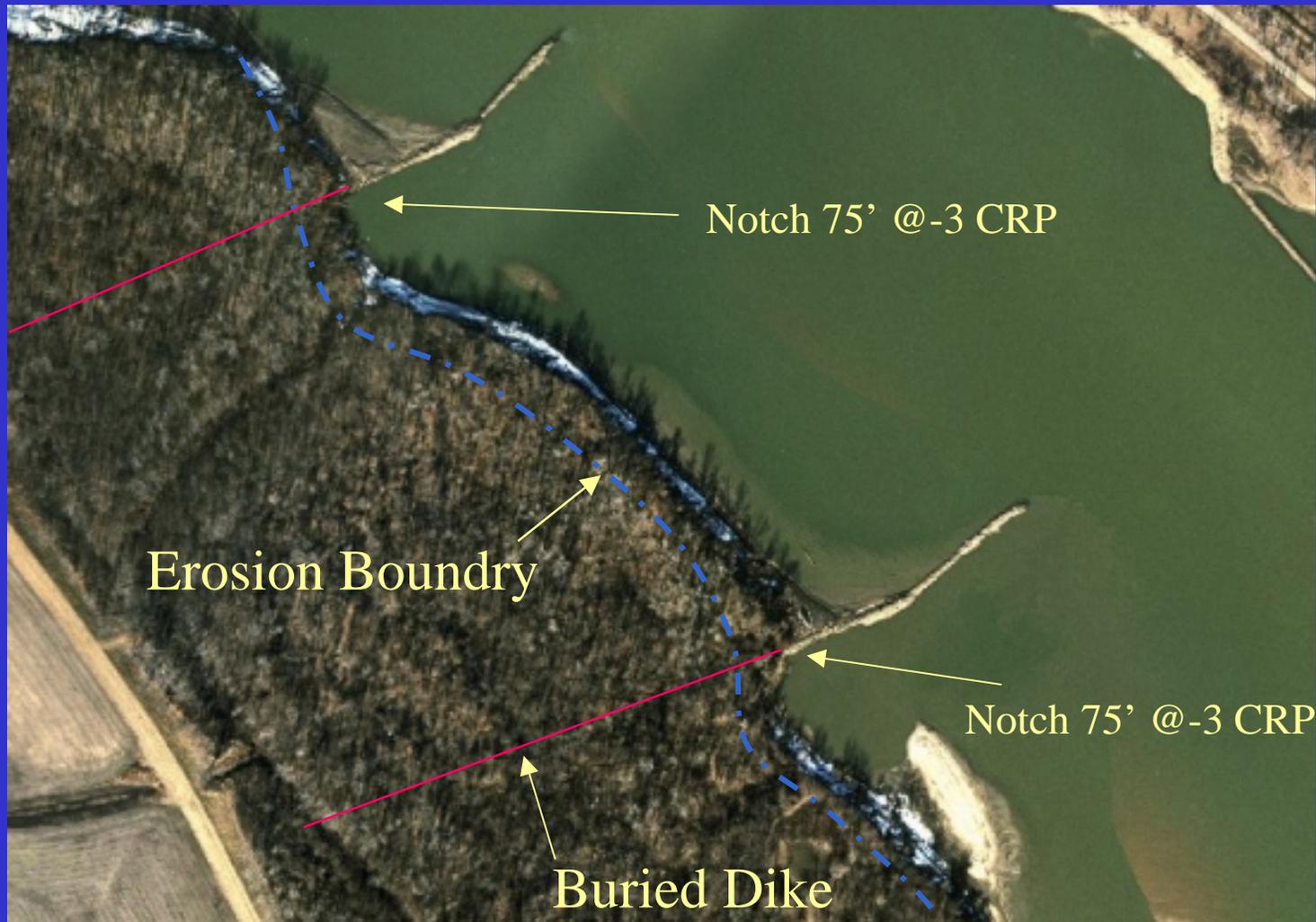
Constructed Side Channel at Derion Bend  
(Missouri)



Overton Bottoms Flooding  
(Missouri)



# RIVER WIDENING





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# Plowboy Bend

## March 2001





Sturgeon Sampling at Plowboy Bend  
Missouri



Fish Nursery Area  
Eagle Bluffs, Missouri



Prairie Cord Grass Plantings  
Overton Bottoms, Missouri



Benedictine Bottoms Constructed Wetland  
(Kansas)



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# MISSOURI RIVER MITIGATION WRDA 1999

- Section 334 (a): Amended project to add 118,650 acres of land
- Section 334 (b): Conduct study on cost and report to Congress

Why WRDA 99?

Project reaching acreage and dollar limits

Threatened and endangered species concerns



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# STATE AND FEDERAL INVOLVEMENT

- Section 334 (b)(1) of WRDA 1999 required study to be conducted in conjunction with the four affected States to determine the cost
- Utilized existing Missouri River Mitigation Coordination Team
  - Nebraska Game and Park Commission
  - Iowa Department of Natural Resources
  - Kansas Department of Wildlife and Parks
  - Missouri Department of Conservation
  - U. S. Fish and Wildlife Service



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## COST STUDY RESULTS

- Acquire and develop 118,650 acres at an estimated cost of \$740 million to \$1.33 billion (October 2001 price levels)
- Would restore an additional twenty-three (23) percent of the aquatic and terrestrial habitat lost to the BSNP



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# MITIGATION SUPPORT

PROJECT AND COST STUDY SUPPORTED BY:

- Four States along BSNP
- US Fish and Wildlife Service
- Missouri River Basin Association (MRBA)



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# ENDANGERED SPECIES ACT

Three Species Listed Since 1981



Pallid Sturgeon



Interior Least Tern



Piping Plover



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# ENDANGERED SPECIES ACT COMPLIANCE

- Received Biological Opinion November 2000
- Biological Opinion requires 20/30 acres of shallow water habitat per river mile on channelized reach
- Mitigation Project primary tool in channelized reach



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# WRDA86 AUTHORIZATION PROJECT COSTS (October 2001 Price Levels)

Monitoring/Evaluation	300,000
Lands	35,200,000
Engineering/Construction	54,907,000
<b>TOTAL COSTS</b>	<b>\$ 90,407,000</b>



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# WRDA99 MODIFIED MITIGATION COST ESTIMATE RANGE

(October 2001 Price Levels)

	<u>Pre-Opinion</u>		<u>Post-Opinion</u>
Monitoring/Evaluation	45,000,000	-	80,000,000
Lands	195,000,000	-	350,000,000
Engineering/Construction	500,000,000	-	900,000,000
<b>TOTAL ESTIMATE RANGE</b>	<b>\$740,000,000</b>	<b>-</b>	<b>\$1,330,000,000</b>



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WHERE DO WE GO FROM HERE?



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## NEPA COMPLIANCE

- Prepare supplemental Environmental Impact Statement (SEIS)
- Public involvement
- Scheduled to be completed in 2002
- Project Coordination Team

A large flock of geese is captured in flight, filling the upper two-thirds of the frame. The geese are in various stages of flight, with wings spread, against a clear blue sky. Below them is a lush green field, and in the foreground, a dense field of tall, golden-brown grasses. At the bottom of the image, a body of water reflects the scene, with some geese visible near the shore. The overall scene is vibrant and dynamic.

**THANK YOU**