

Fox River Bank Restoration - Lessons Learned

KANE COUNTY, ILLINOIS



2009 IAFSM ANNUAL CONFERENCE

March 11 & 12, 2009

Kenneth N. Anderson, Jr.

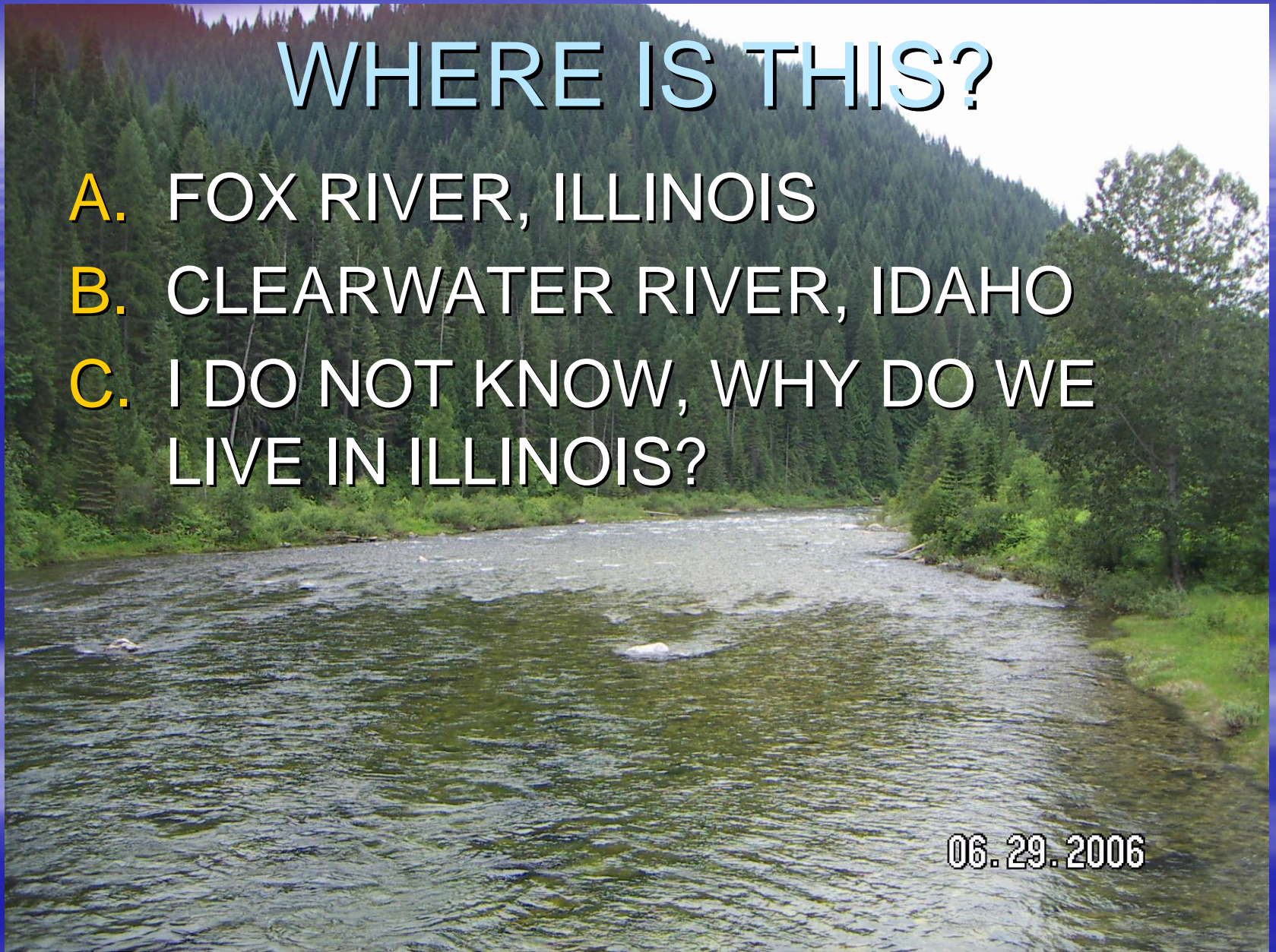
Project Manager

Kane County Department of Environmental & Building Management

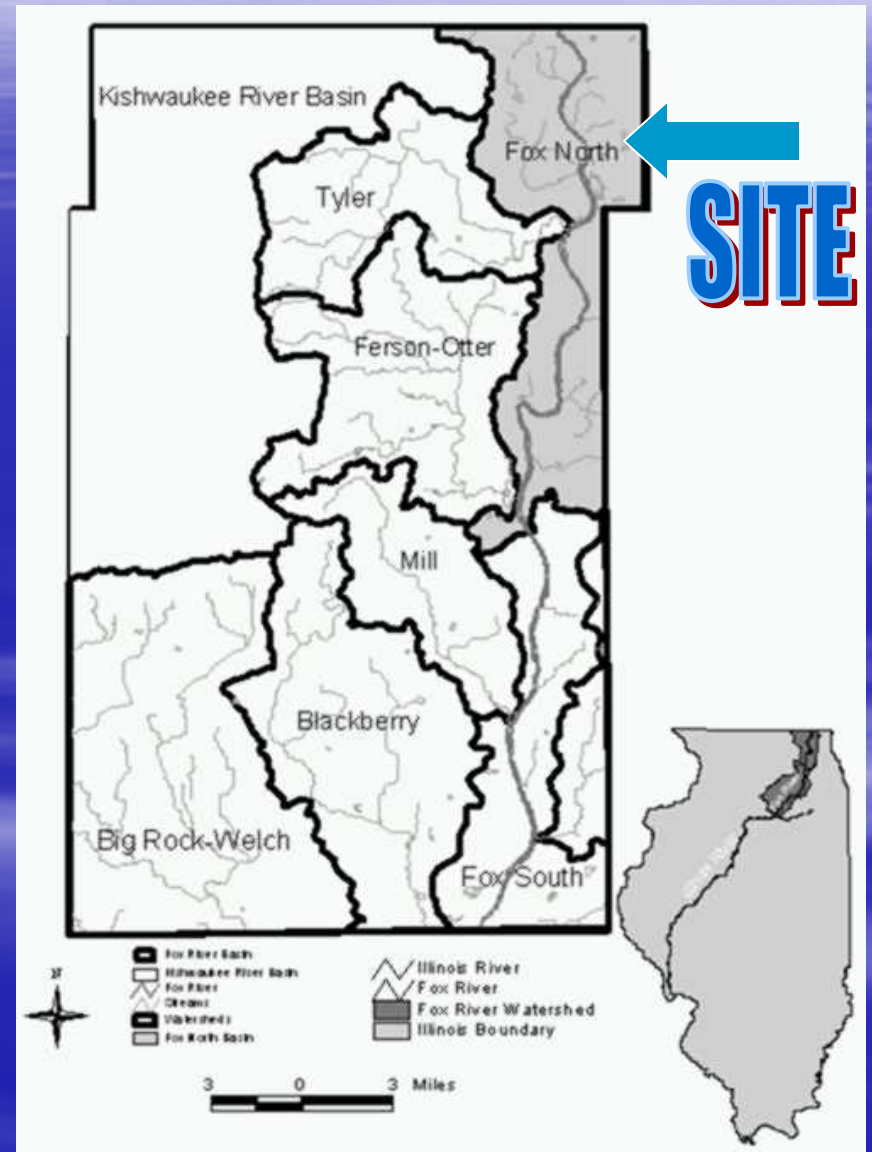
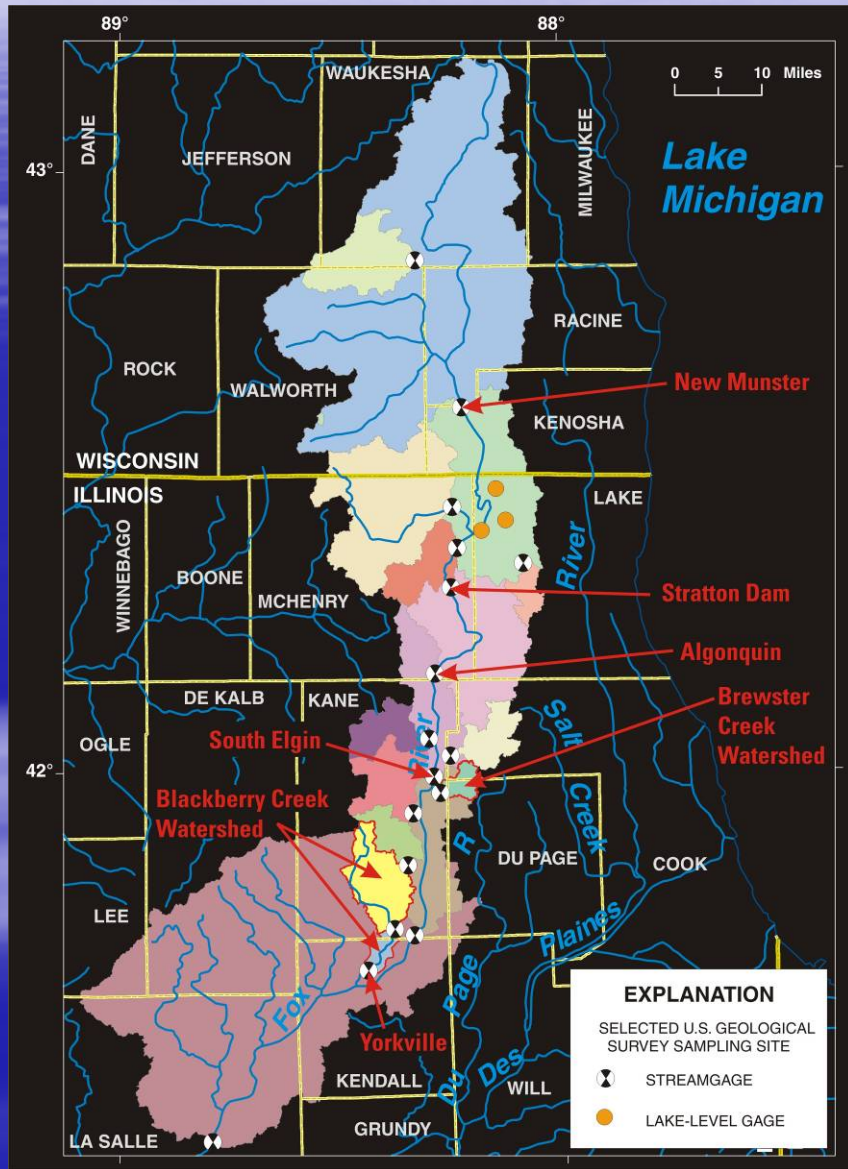
WHERE IS THIS?

- A. FOX RIVER, ILLINOIS
- B. CLEARWATER RIVER, IDAHO
- C. I DO NOT KNOW, WHY DO WE LIVE IN ILLINOIS?

06.29.2006



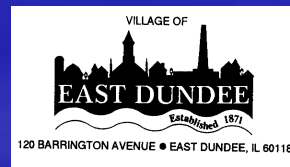
INTRODUCTION

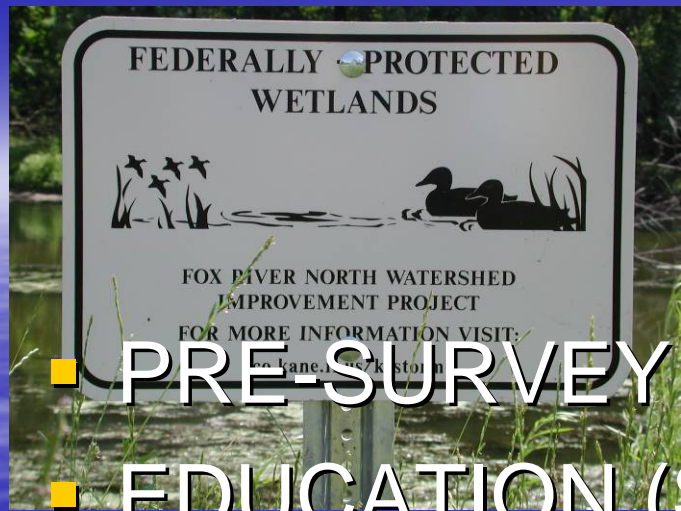


BACKGROUND

- LOCAL INITIATIVE
- COUNTY BOARD MEMBER
- 319 IEPA GRANT (\$1.2 MILLION)
- LOCAL FUNDING (\$800 THOUSAND)

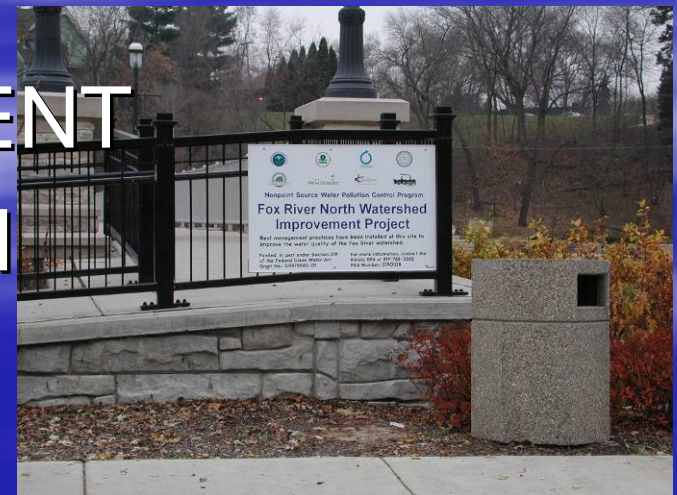
AGENCY	FUNDS
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY	\$1,200,000.00
VILLAGE OF CARPENTERSVILLE	\$100,000.00
VILLAGE OF EAST DUNDEE	\$100,000.00
VILLAGE OF WEST DUNDEE	\$100,000.00
KANE COUNTY FOREST PRESERVE DISTRICT	\$100,000.00
KANE COUNTY	\$400,000.00
TOTAL PROJECT FUNDING	\$2,000,000.00





OBJECTIVES

- PRE-SURVEY & POST SURVEY
- EDUCATION (SIGNAGE, PRESENTATIONS, VIDEO)
- STREAMBANK STABILIZATION
- HABITAT RESTORATION
- FLOODPLAIN MANAGEMENT
- WETLAND RESTORATION



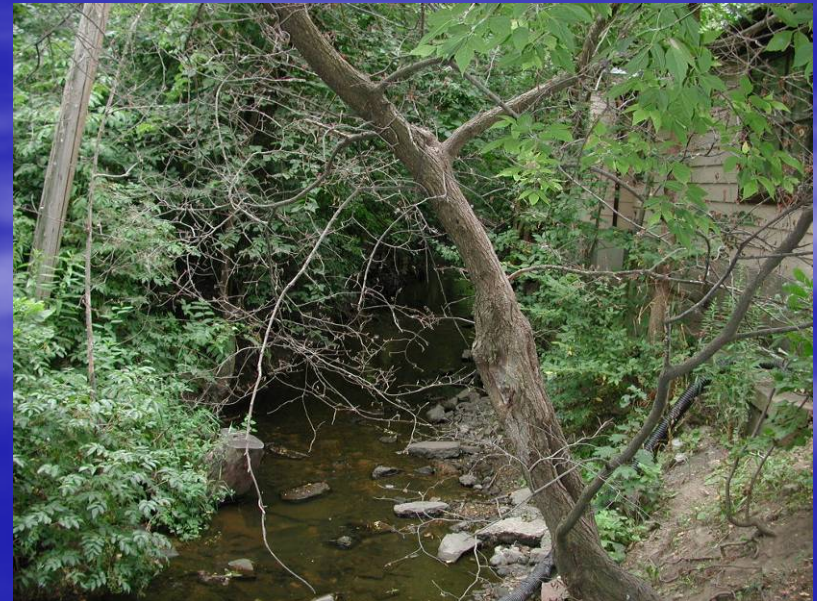
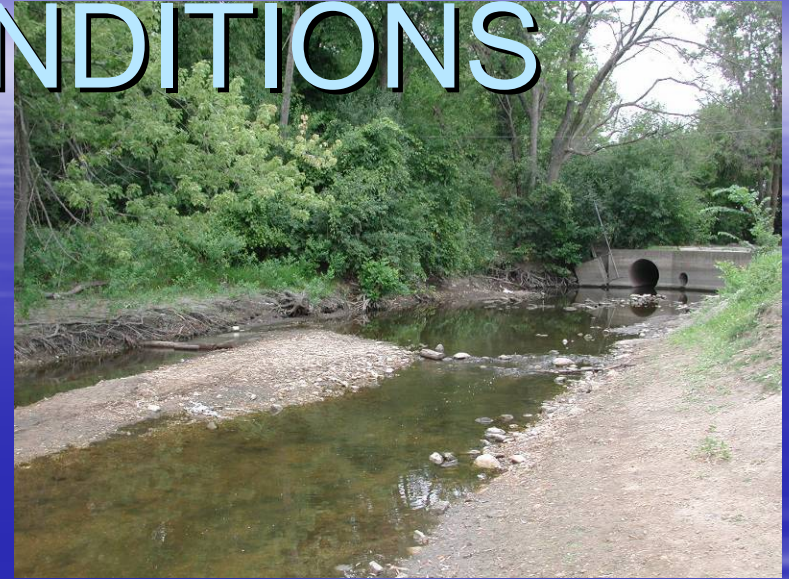
HISTORIC CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS



DESIGN



FOX RIVER NORTH WATERSHED IMPROVEMENT PROJECT

About the Project

Purpose

- Improve water quality by stopping the wearing down of the banks of the Fox River and creeks that drain to the Fox River.
- Restore plant and animal habitat along the river and creeks.

How

More than two miles of streambanks were stabilized with "Sustainable Bioengineering" methods-- see right.

Why

As farms and open space are changed to urban and built up land, the flow of the Fox River and its creeks changes. The water flows faster and more water runs over the ground. This causes the banks of the Fox River and creeks to wear away. More pollution enters the river and creeks. "Nonpoint Source Pollution" is increased.

Nonpoint Source Pollution

When rain water and snowmelt moves over a surface, it picks up pollutants. This pollution is carried and deposited wherever the water goes.

Nonpoint source pollution comes from:

- Buildings
- Streets and parking lots
- Lawns
- Farm fields
- Eroding streambanks

Nonpoint source pollution includes:

- Metals
- Sediment
- Fertilizers
- Pesticides

Nonpoint source pollution degrades:

- Streams
- Rivers
- Lakes
- Wetlands
- Groundwater
- People who depend on these resources

Benefits

- Improved water quality
- Less costly maintenance and repair.
- Improved habitat for plants and animals.
- Improved recreation for people.

Funding

Funding for this \$2,000,000 project was provided by:

- IEPA-- \$1,200,000
- Villages of Carpenter'sville, East Dundee, West Dundee and the Kane County Forest Preserve District-- \$100,000 each
- Kane County-- \$400,000

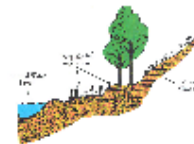
Location



Sustainable Bioengineering Methods

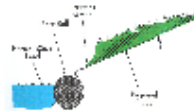
Planting Native Vegetation

The streambank is graded to reduce the slope steepness and provide a place for plants to grow. A special blanket is used to prevent soil from washing away. Seeds and small plants are used.



Coir Fiber Rolls

Rolls made from the fiber of coconut husks are used to protect the bottom of the slope where the water meets the ground. They also provide a place for plants to grow.



A-Jacks

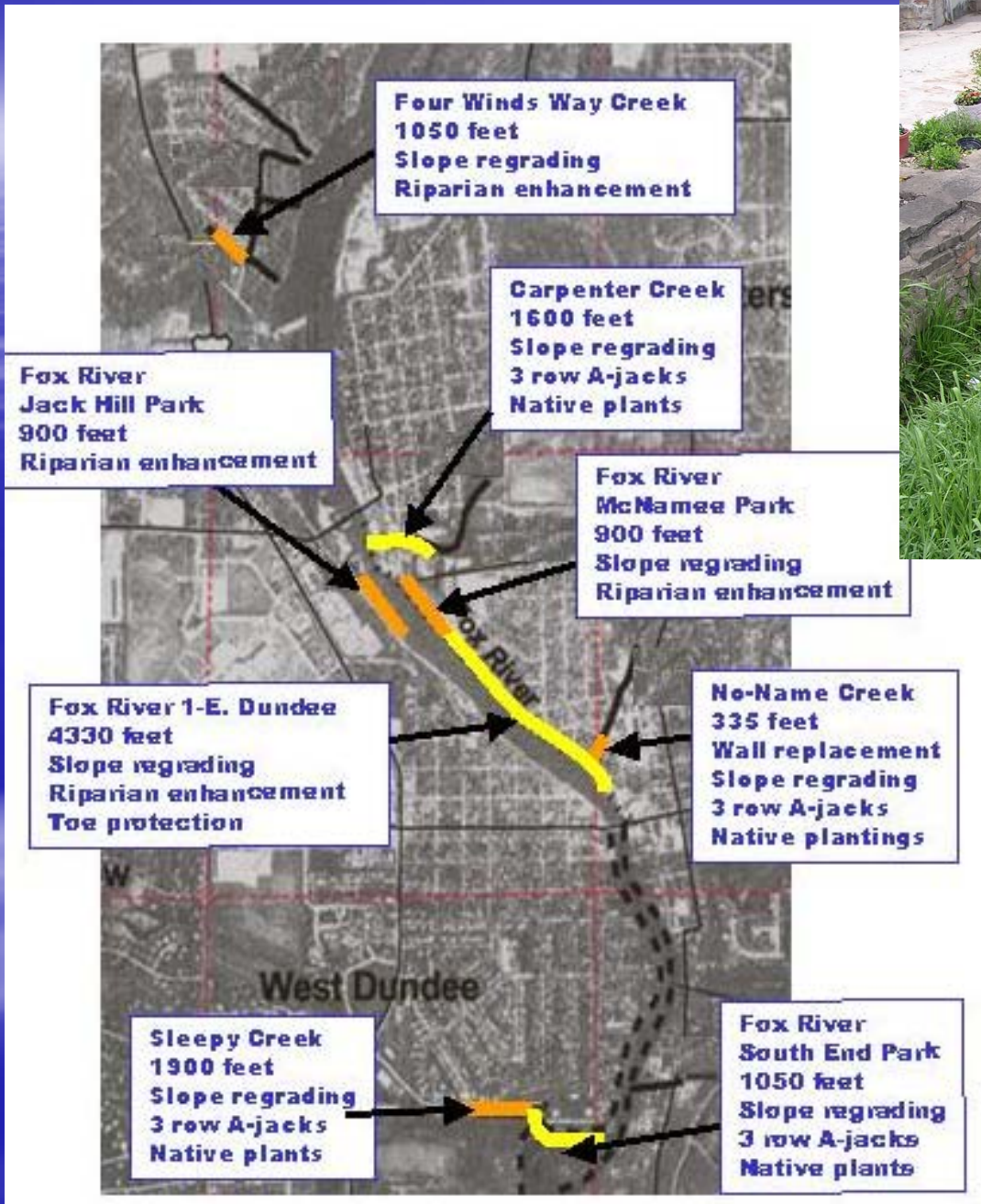
Interlocking concrete units are used at the bottom of the slope. They protect the streambank where it meets the water. Plants are added to provide stabilizing roots and improve the appearance.



Vegetated Geogrids

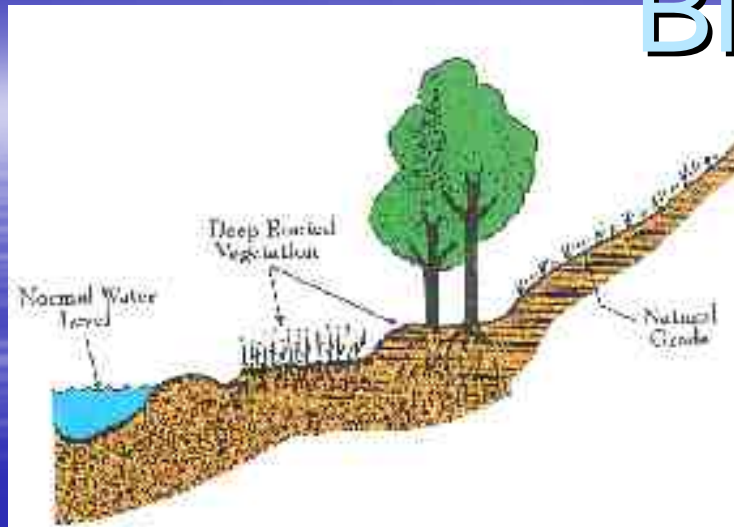
Fabric reinforced sheets of soil combined with plants are used to protect steep slopes. They are used on slopes that cannot be improved by grading.



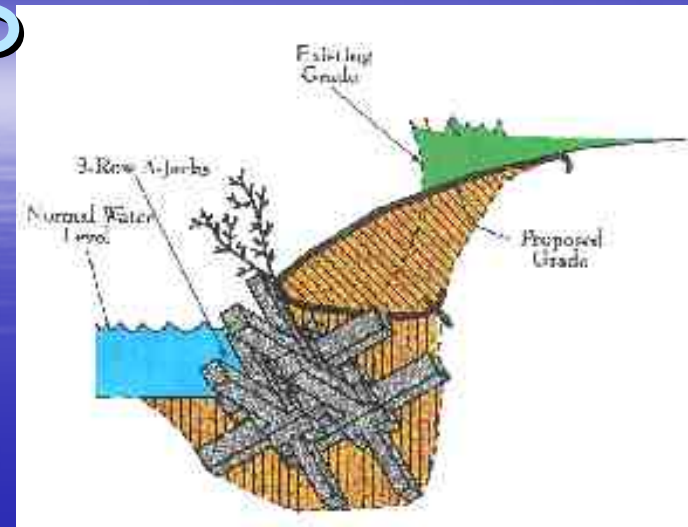


DESIGN

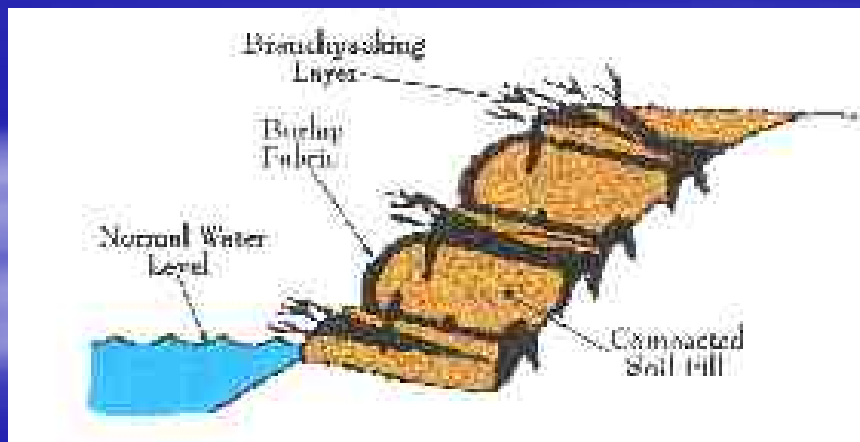
BMP'S



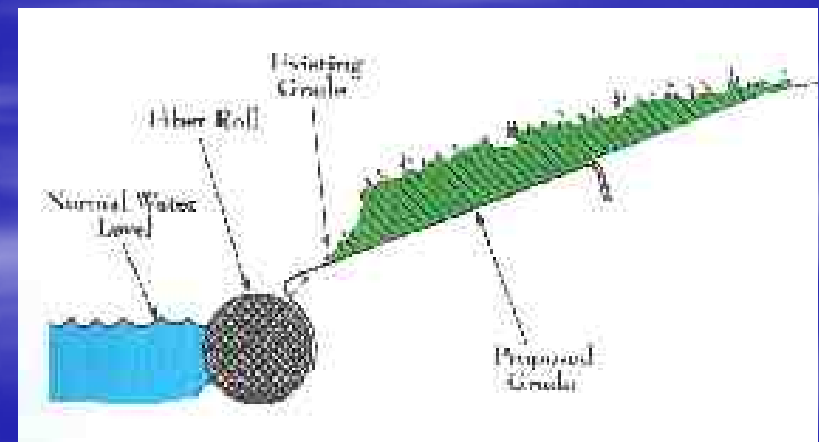
REGRAIDING/VEGETATION



A-JACKS



VEGETATED GEOGRIDS



COIR FIBER ROLLS

CONSTRUCTION



CONSTRUCTION





CONSTRUCTION



CONSTRUCTION



CONSTRUCTION



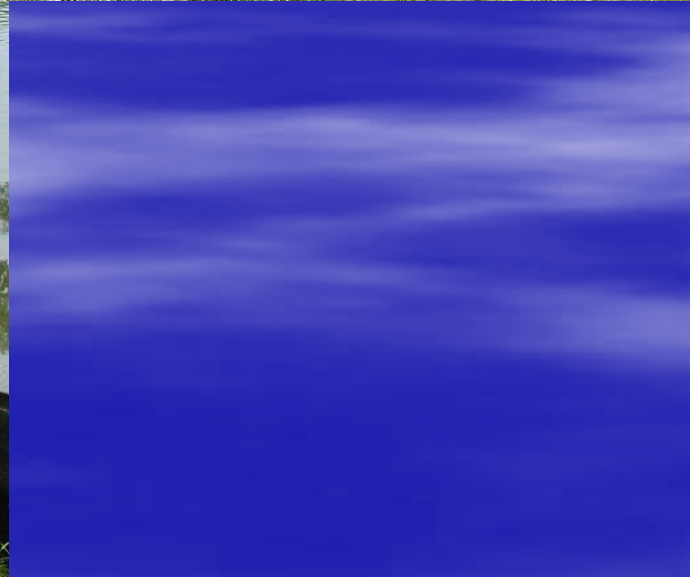
CONSTRUCTION



CONSTRUCTION



1ST YEAR GROWTH



1ST YEAR GROWTH



1ST YEAR GROWTH



1ST YEAR GROWTH



1ST YEAR GROWTH



1ST YEAR GROWTH



NATURAL DISASTERS & FAUNA IMPACTS

- 2003 CRITTER ENCOUNTER
- 2004 BAD NEWS
- 2005 MORE BAD NEWS





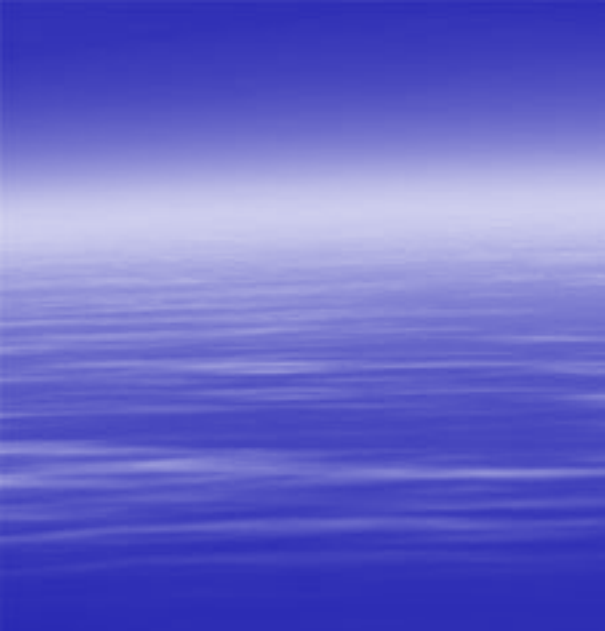
FAUNA IMPACTS



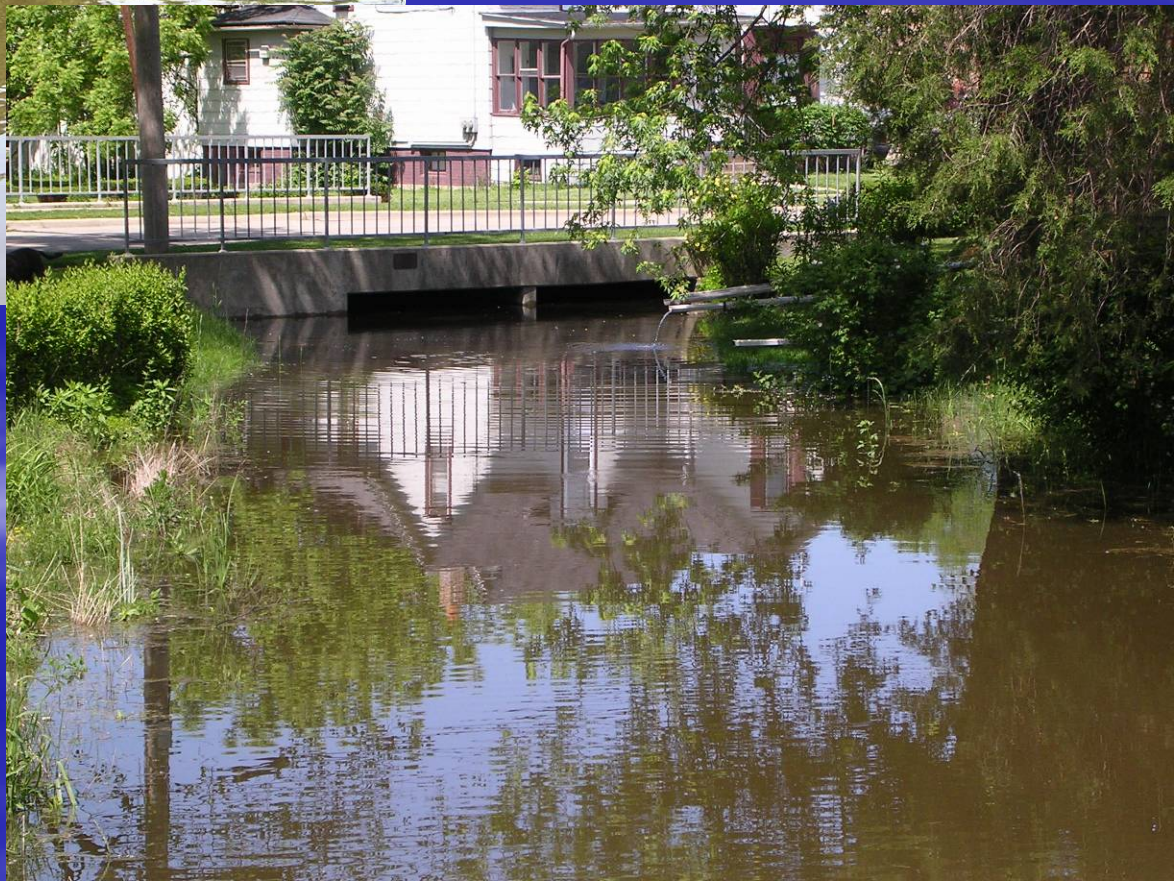
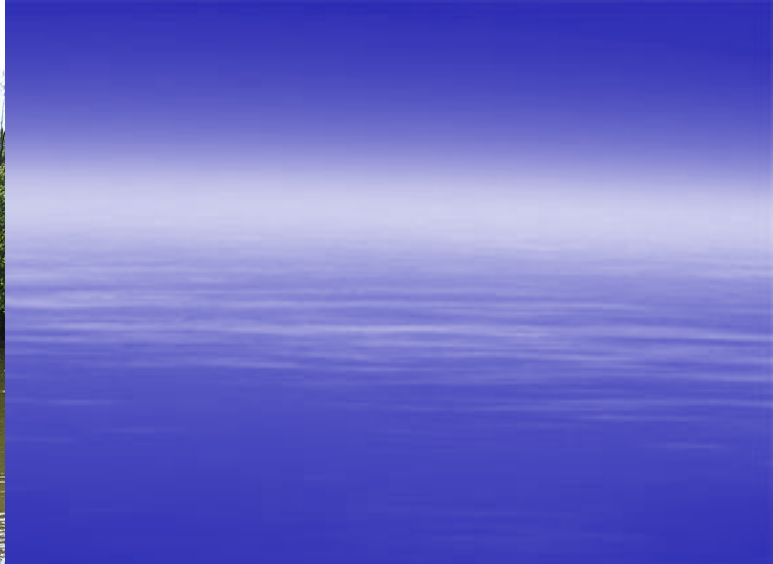


2004 FLOOD





2004 FLOOD



2004 FLOOD

POST 2004 FLOOD



POST 2004 FLOOD



POST 2004 FLOOD



POST 2004 FLOOD



REPLAY





REPLAY



REPLAY

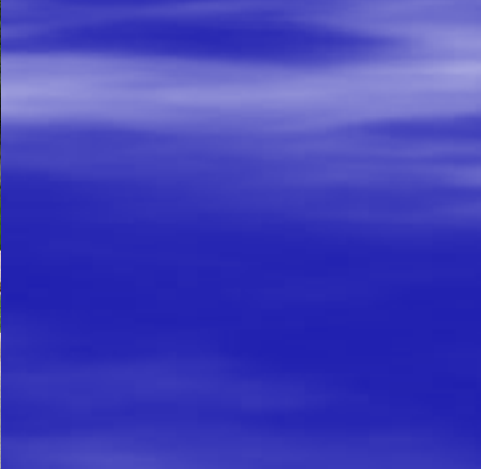
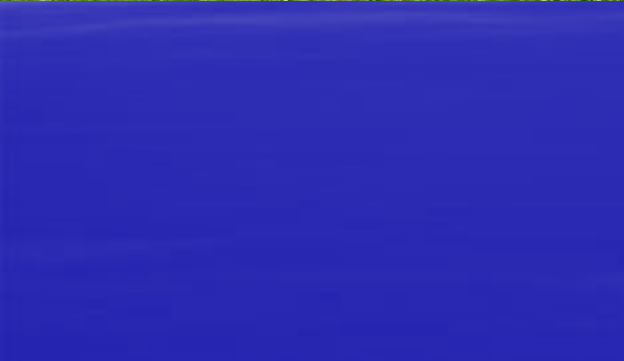


DROUGHT 2005



DROUGHT 2005





LESSONS LEARNED



LESSONS LEARNED



LESSONS LEARNED





Proverbs 15:22

Plans fail for lack of counsel, but with many advisers they succeed.

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Proverbs 3:13

**Blessed is the man who finds wisdom,
the man who gains understanding...**