

Hudson River Natural Resource Damages

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GOAL

To restore injured
natural resources

Presentation Overview

- NRDA Terms and Concepts
- The NRDA Process
- Assessing Injuries
- Restoration

Upper and Lower Hudson River



Terms and Concepts

CERCLA (Superfund)

Comprehensive Environmental Response,
Compensation and Liability Act

Terms and Concepts

- Trustees
- Trusteeship
- Trustee Council
- Trust resources

Terms and Concepts

Remedy, restoration and the house
afire...

“protective of human health and the
environment”

“restore to baseline”

Terms and Concepts

The **car crash** analogy...

Injury

Restoration

Baseline

Damages

Services

Terms and Concepts

Trustee Goals...

Quantify injuries

Restore to baseline

Compensate for losses

Terms and Concepts

- Responsible Parties
- Release of hazardous substance

The NRDA Process

The Damages Assessment process...

Guidance provided by DOI regulations

Legal case: burden of proof for PCB release,
injury, pathway, and damages

NRDA Process

- Preassessment
- Injury Assessment
- Damages Determination
- Restoration Planning

Goal: To restore injured natural resources

NRDA Process

- Preassessment - completed 1997
- Injury Assessment
- Damages Determination
- Restoration Planning

Goal: To restore injured natural resources

NRDA Process

- Preassessment
- Injury Assessment – on-going
- Damages Determination
- Restoration Planning

Goal: To restore injured natural resources

Injuries

- Biological
- Water, sediment and soils
- Recreation (lost use)
- Navigation (lost use)
- Air

Injuries

- Per se injury - exceeds government standards or criteria
- Original science - causes measurable harm

Injuries

- Interim

or

- Residual

Injuries

- Exposure

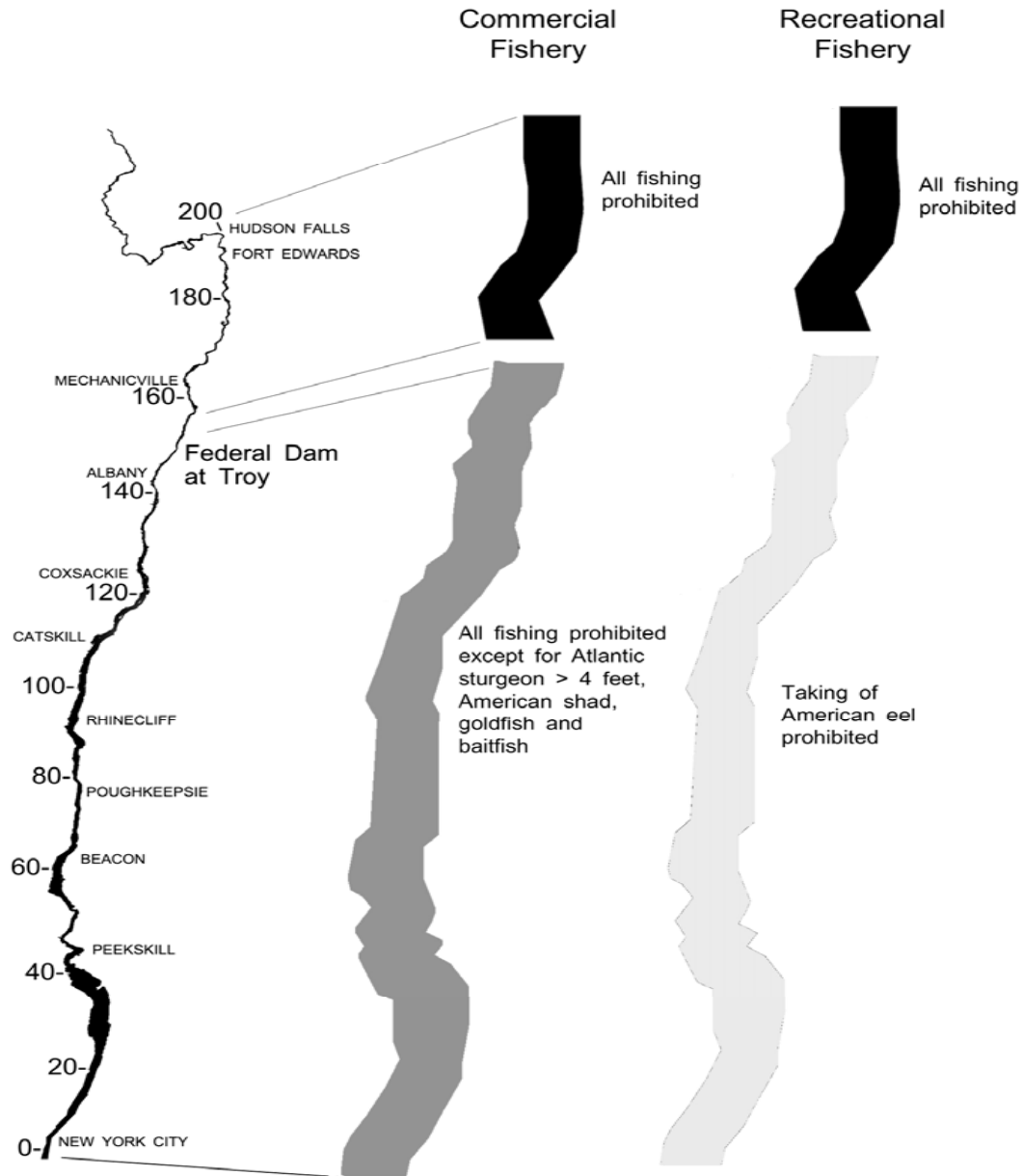
v.

- Injury

Use of the Hudson River Fishery



HUDSON RIVER FISHERY CLOSURES 1976



Injuries to Biota

- Mammals
- Birds
- Reptiles
- Amphibians
- Fish
- Benthic invertebrates

Injuries to Mink



Results

- Mink and otter associated with the Hudson River were more highly contaminated than animals in other areas
- Mink trapping results indicate lower mink activity near the Hudson River versus other areas
- Preliminary track plate survey results indicate lower mink activity near the Hudson River versus other areas

NRDA Process

- Preassessment
- Injury Assessment
- Damages Determination – on-going
- Restoration Planning

Goal: To restore injured natural resources

Damages

- Cost of restoration
- Economic models
- Habitat models

NRDA Process

- Preassessment
- Injury Assessment
- Damages Determination
- Restoration Planning – on-going

Goal: To restore injured natural resources

Restoration Planning

"...restore,
rehabilitate,
replace, and/or
acquire the equivalent of
the injured natural resources..."

Restoration Planning

- Primary
- Compensatory

Restoration Planning

- Connection to injuries
- Public ideas
- Public support

Restoration Planning

Which **injured** resources
need to be restored?

Water Quality



Sediment Dwellers



Sediment Feeders

Brown Bullhead



Largemouth Bass



Snapping Turtle



Aquatic Insects





Spotted Sandpiper

Floodplain Dwellers





Leopard Frog

Tree Swallow



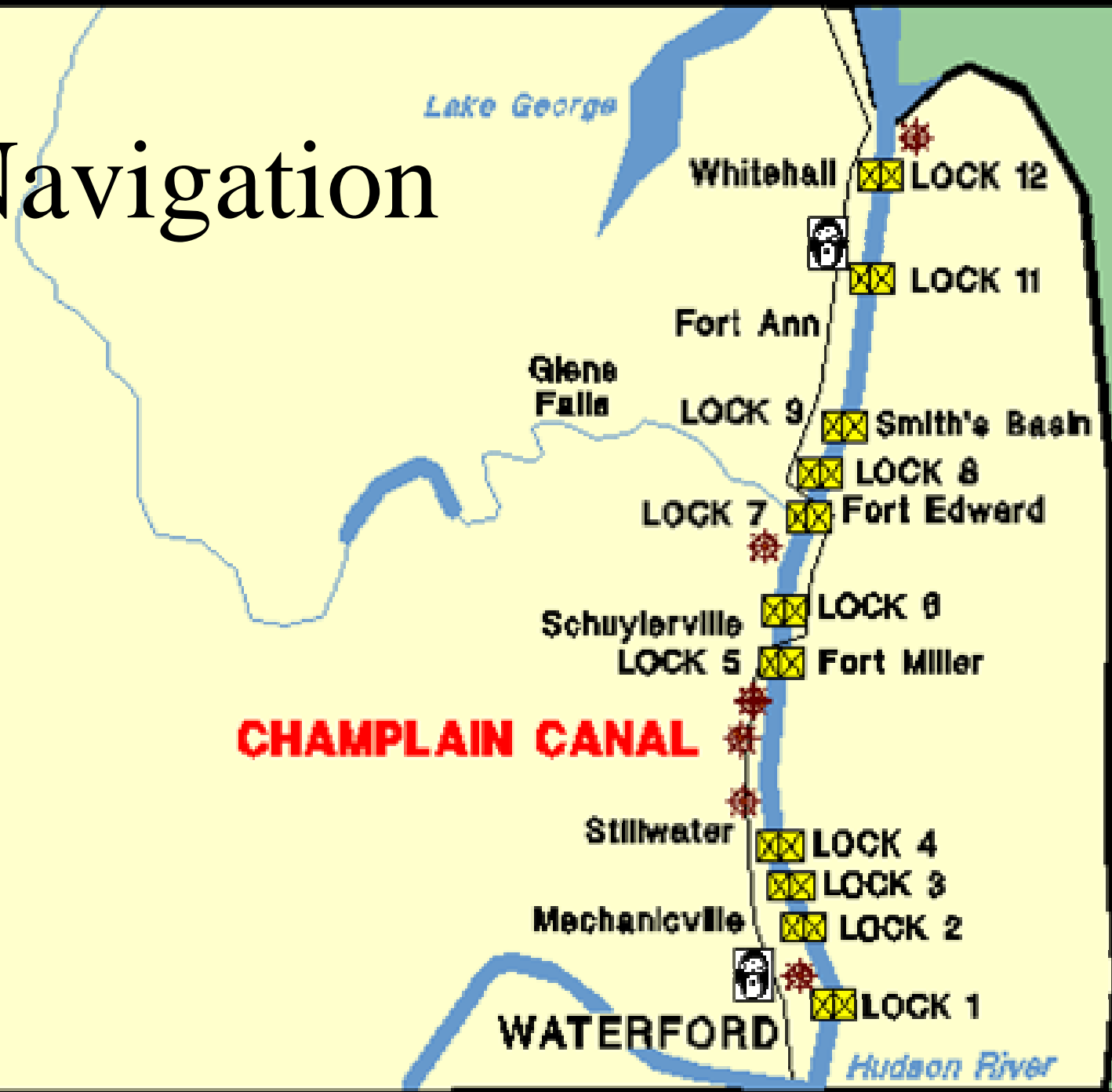


Mink



Saratoga National Historic Site

Navigation



VT

Lake George

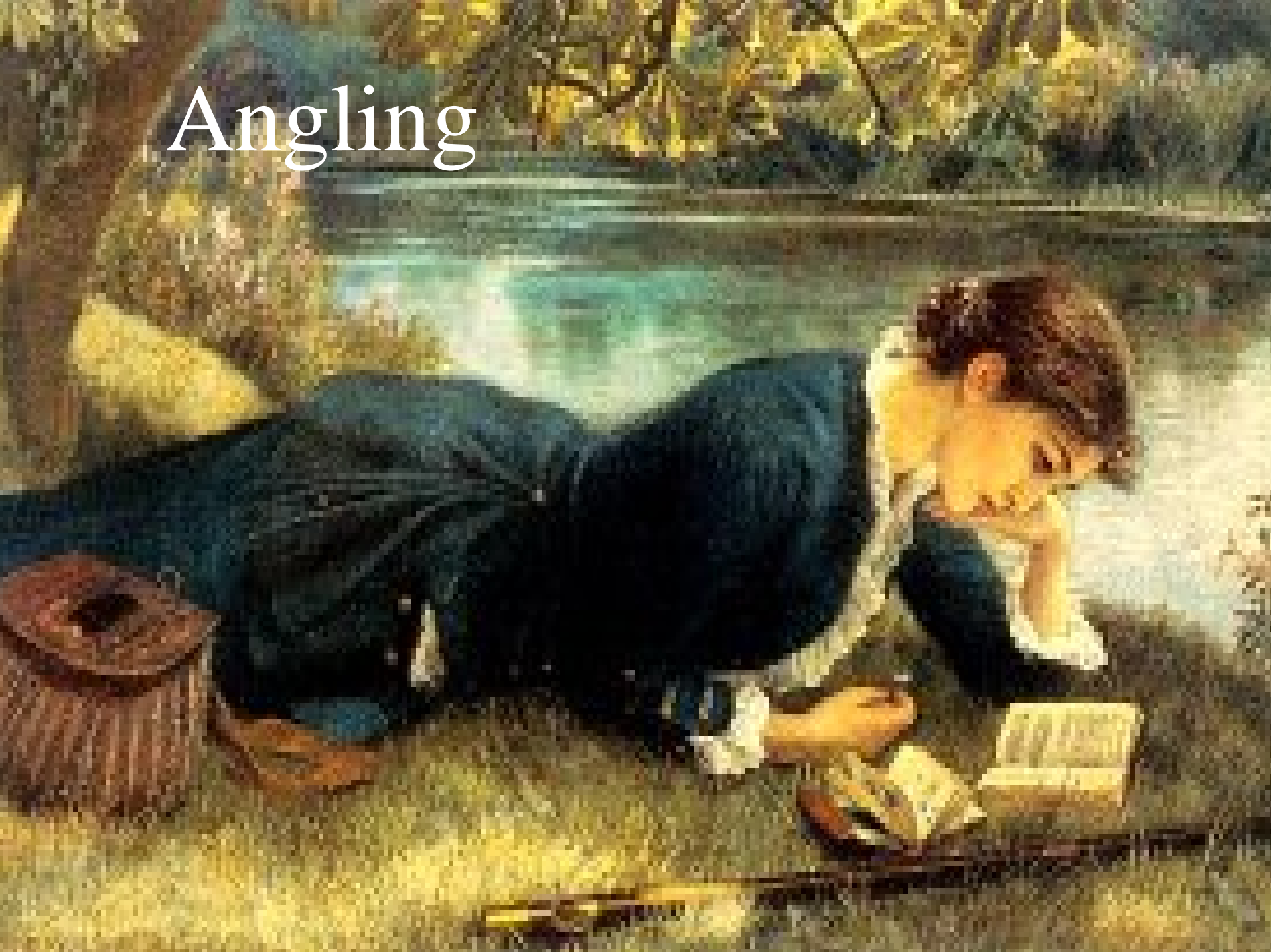
Hudson River

WATERFORD

Restoration Planning

Which **human uses** can
provide compensation?

Angling



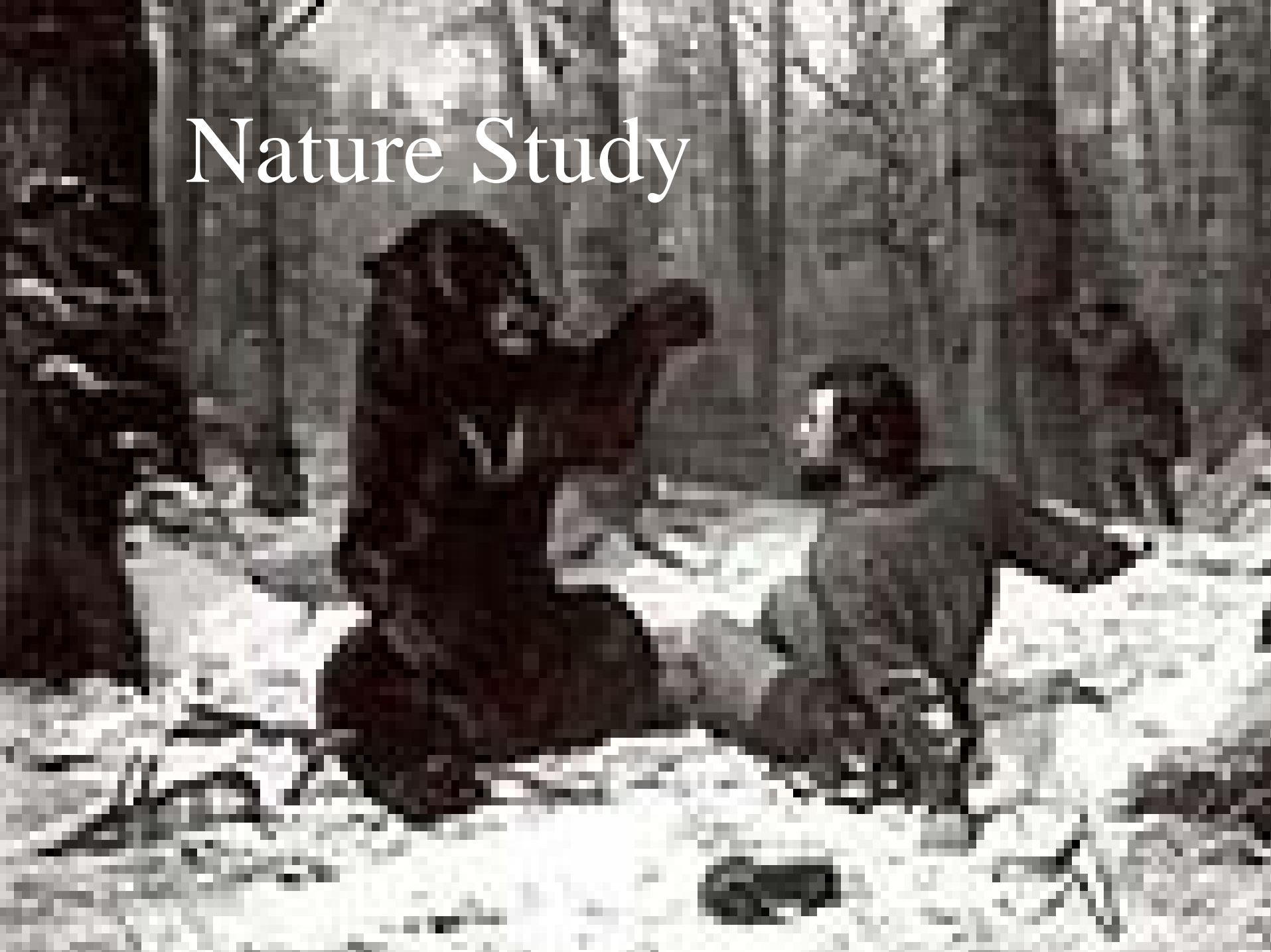
Boating



Swimming



Nature Study





Hunting

Restoration Planning

When would restoration
projects begin?

Websites

- www.dec.state.ny.us/website/dfwmr/habitat/nrd/index.htm
- [contaminants.fws.gov/restorationplans/Hudson River.cfm](http://contaminants.fws.gov/restorationplans/HudsonRiver.cfm)
- www.darp.noaa.gov/neregion/udsonr.htm
- www.epa.gov/r02earth/superfnd/udson/



Questions?