



HUDSON RIVER TRUSTEES  
ASSESSING AND RESTORING YOUR NATURAL RESOURCES

# Hudson River Natural Resource Damage Assessment and Restoration

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Hudson River PCB Forum, Marist College

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# Cleanup and Restoration Efforts

- **EPA: Superfund** – *clean up hazardous substances to protect the environment and public health.*
- **Trustees: Natural Resource Damage Assessment** – *process of assessing and restoring or replacing natural resources injured by hazardous substances to provide for the public's use and enjoyment.*



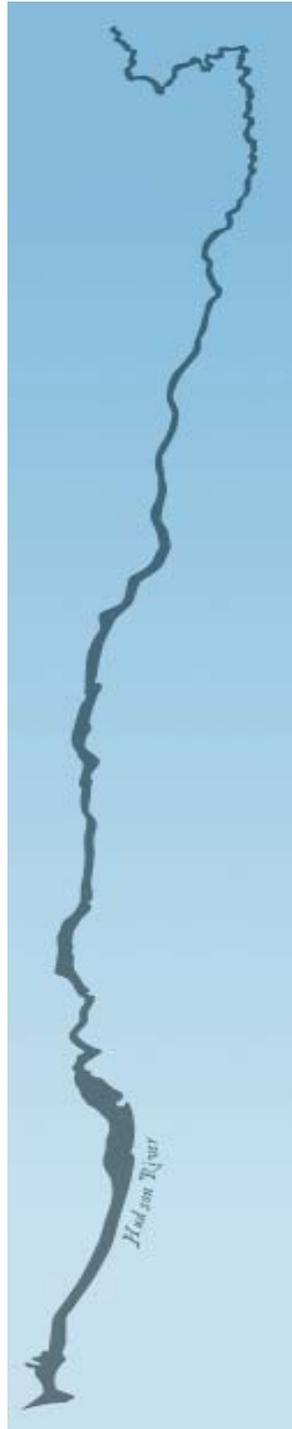
# Hudson River Natural Resource Trustees

- New York State, represented by the Department of Environmental Conservation (**NYSDEC**)
- U.S. Department of the Interior (DOI), represented by the U.S. Fish and Wildlife Service (**USFWS**)
- U.S. Department of Commerce, represented by the National Oceanic and Atmospheric Administration (**NOAA**)



# Role of the Trustees

- Trustees are stewards of the public's natural resources – agencies with resource management authority
- Trustees are authorized to pursue claims (damages) for injury to, destruction of, or loss of natural resources held in trust for the public resulting from the release of hazardous substances
- Damage claims compensate for the cost of restoration, loss of use of natural resources by the public, and money spent to assess injuries to natural resources



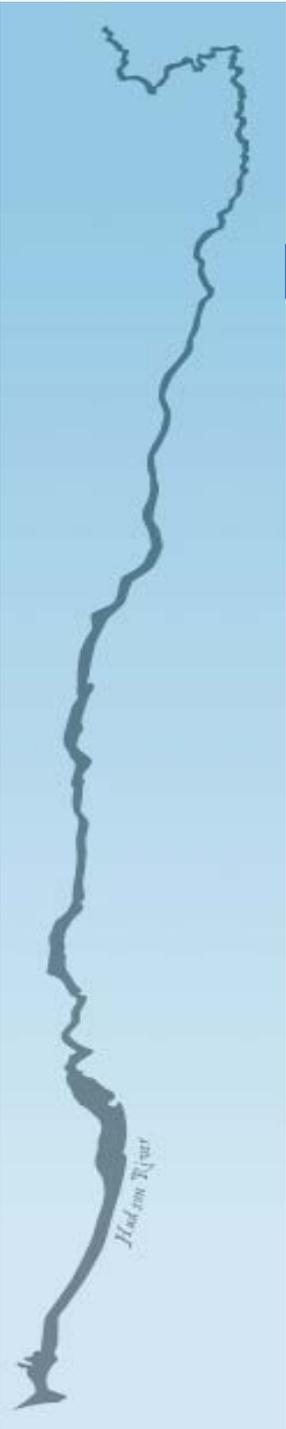
# Trustees – NRDA & Restoration

- NRDA: Evaluation of need for, and means of securing, restoration of injured natural resources
- Past, present, future injury and loss
- DOI NRDA regulations (43 CFR Part 11)
- Injury: “...a measurable adverse change, long or short-term, in the chemical or physical quality or viability of a natural resource, directly or indirectly from exposure to a hazardous substance...”



# Role of the Trustees

1. Assess the injuries.
2. Identify and scale appropriate restoration alternatives.
3. Resolve the claim.
4. Develop a restoration plan.
5. Conduct restoration activities.
6. Monitor the effectiveness of restoration activities.



# Assessment

The Trustees are conducting rigorous scientific studies to identify the nature and extent of the problems PCBs cause in and along the river.

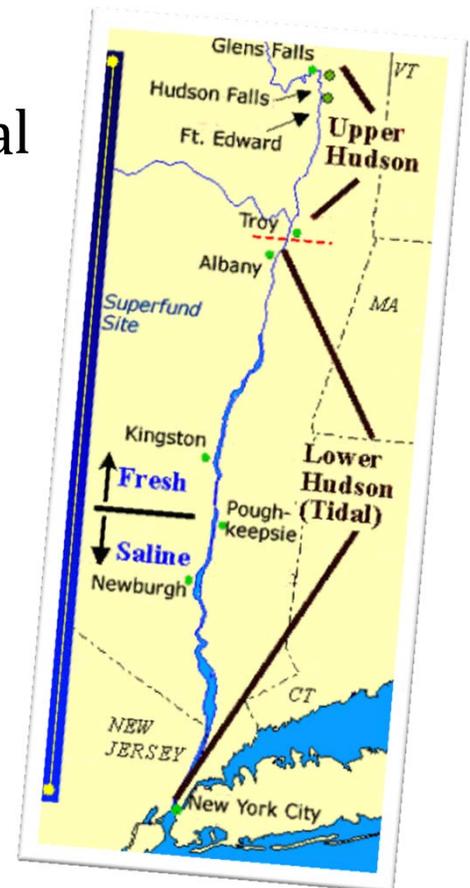
For each resource and service, we are:

- 1) determining the nature and extent of the injury;
- 2) quantifying the magnitude of the injury; and
- 3) determining if remedial actions will restore injured natural resources to baseline conditions



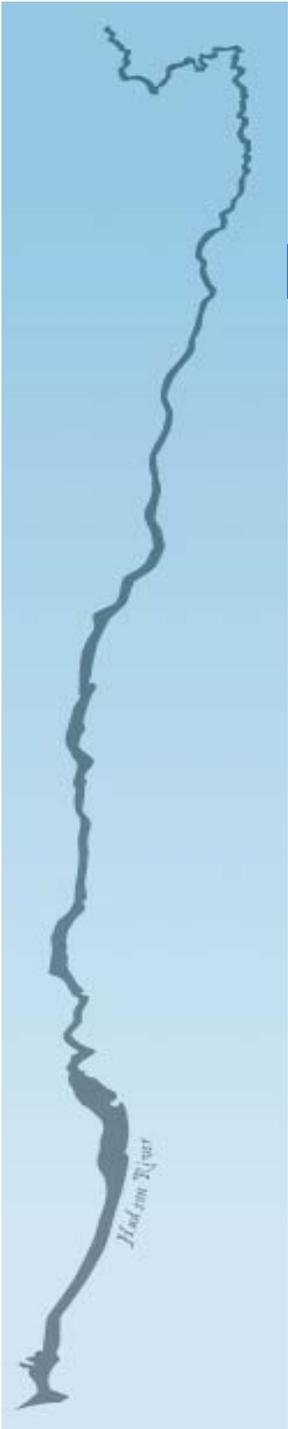
# Assessment: Injury Categories Under Investigation

- Violations of State or Federal standards
  - Fish (fish consumption advisories)
  - Waterfowl
  - Surface Water
    - Exceedances of State & Federal regulatory criteria
    - Navigational Service Loss
  - Ground Water
- Biological resource injuries
  - Mammals, Birds, Fish
- Remedy-caused injuries
- Pathway injuries



# Recent Publications

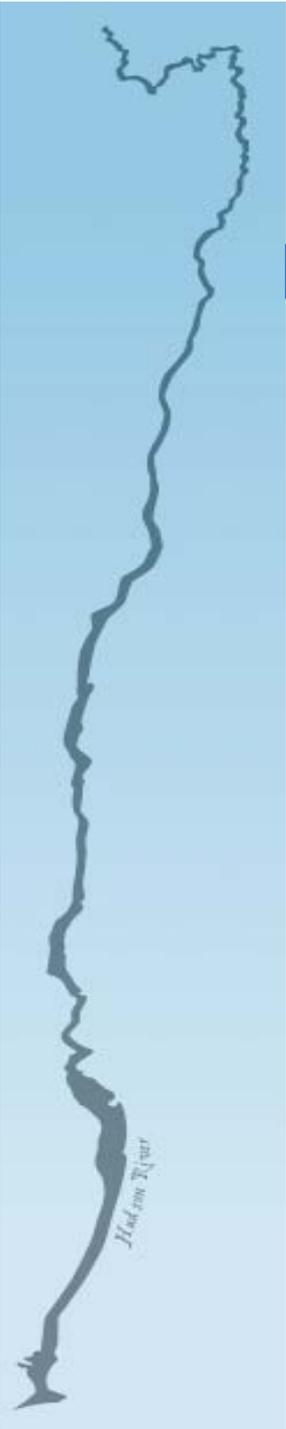
- Mink PCB-feeding study publications in Environmental Toxicology & Chemistry journal (Jan 2013)
- Avian injury determination work presented at the Society of Environmental Toxicology & Chemistry 2012 meeting (Nov 2012)
- Publication on early life stage toxicity of PCB 126 and TCDD to sturgeon (July 2012)
- Mink Injury: Final Study Plan (July 2012); Responsiveness Summary (July 2012); Draft Study Plan (March 2012)
- Bald Eagle Update Fact Sheet and data reports (May 2012)
- Restoration Planning Fact Sheet (March 2012)



# Restoration

## Steps in the restoration planning process:

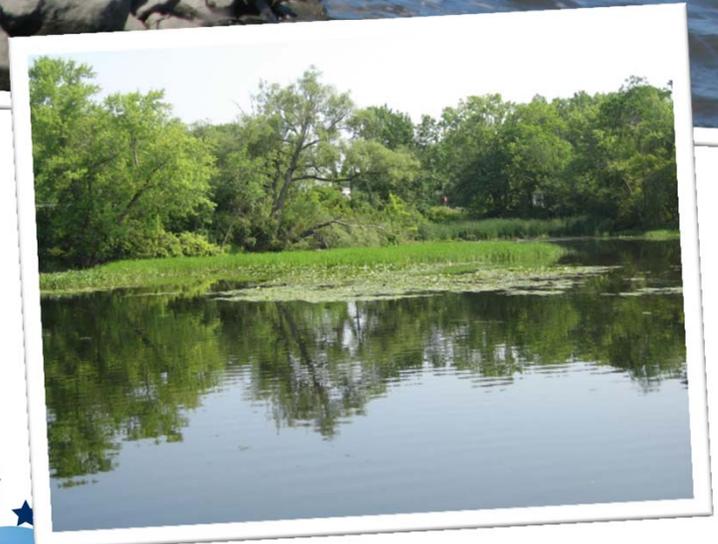
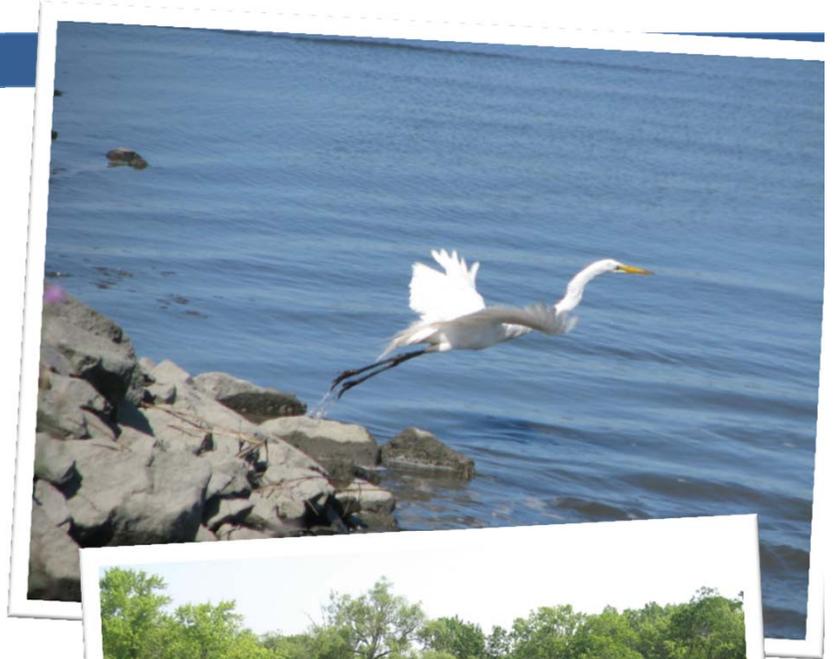
1. Identify categories for types of projects.
2. Develop restoration ideas.
3. Solicit additional ideas from the public.
4. Scale restoration.
5. Review and select preferred projects.
6. Develop the Hudson River Restoration Plan.
7. Implement the plan.



# Project Selection Criteria

Guidance for restoration project selection includes:

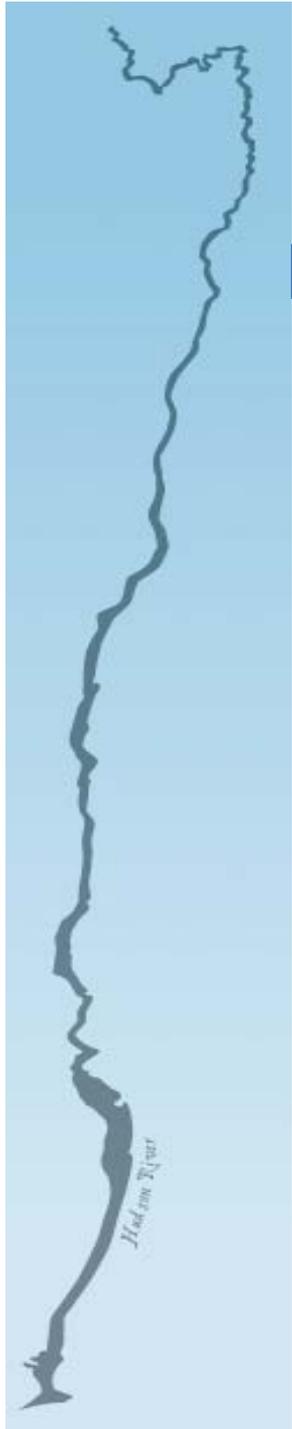
- Link to injury
- Legality
- Efficacy
- Feasibility
- Cost-effectiveness
- Ecological leverage
- Nexus to existing plans



# Examples of Restoration Project Alternatives under Consideration

## Project alternatives include but are not limited to:

- Dam removal and fish passage
- Restoration of secondary channels
- Restoration of flows to wetlands
- Restoration of floodplains
- Creation of grasslands
- Protection of floodplains
- Human use projects (facilities, access points)
- Ground water protection
- Restoration dredging of Upper Hudson PCB-contaminated sediments
- Navigational dredging



# Current Status and Next Steps

- Injury assessment studies are ongoing
- Identifying and evaluating restoration alternatives
- Laying groundwork for developing draft restoration plan



# We Need Your Input!

- Comment on draft study plans
- Attend public meetings
- Propose project ideas
- Comment on draft Restoration Plan
- Learn more on the Trustees' web sites, fact sheets, and through the listserve



# Have More Questions?

Trustee web sites

NOAA \_

[www.darrp.noaa.gov/northeast/ HUDSON/index.html](http://www.darrp.noaa.gov/northeast/ HUDSON/index.html)

NYSDEC -

[www.dec.ny.gov/lands/25609.html](http://www.dec.ny.gov/lands/25609.html)

FWS -

[www.fws.gov/contaminants/restorationplans/  
HudsonRiver/index.html](http://www.fws.gov/contaminants/restorationplans/HudsonRiver/index.html)

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Type in the subject line: `Subscribe hudsonnrda`

