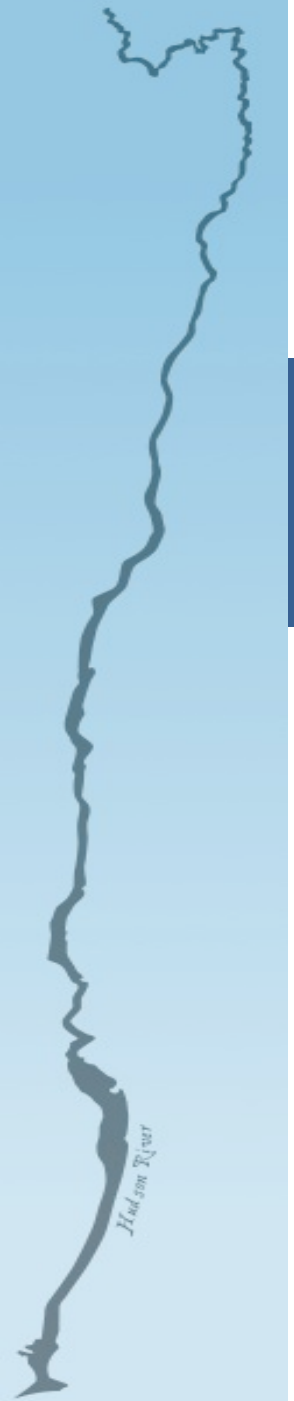

HUDSON RIVER TRUSTEES

ASSESSING AND RESTORING YOUR NATURAL RESOURCES

Hudson River Natural Resource Damage Assessment and Restoration

Natural Resource Trustees Update

For the Hudson River CAG

September 14, 2022

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Cleanup and Restoration Efforts

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

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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**)

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Role of the Trustees

- Trustees are stewards of the public's natural resources. These agencies have resource management authority.
- Trustees pursue damage claims for past, present, or future injury to natural resources.
- Trustees resolve damage claims through settlement or litigation.
- Trustees implement restoration.

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Trustees' Process

Steps in the Natural Resource Damage Assessment process being undertaken by Trustees under the CERCLA NRDA regulations (43 C.F.R. Part 11):

- Injury Determination;
- Injury Quantification; and,
- Damage Determination.

Photo Credit Brady Dillsworth

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Trustees' Process – Injury Determination

Injury Determination involves:

- Trustees' determination of whether injury has occurred as a result of the release of the hazardous substance(s).
- For each category of natural resources, such as surface water, groundwater, air, geological, and biological resources (e.g., fish), the CERCLA NRDA regulations define "injury" and set forth criteria to determine whether injury has occurred.
- Once injury is established, Trustees establish the pathway of exposure connecting the release to the injured resource.

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Trustees' Process – Injury Determination

To date, Trustees have published the following injury determination documents:

- Hudson River Fishery Resources: Fishery Closures and Consumption Restrictions (June 2001; April 2015)
- Hudson River Navigation (July 2006)
- Hudson River Resident Waterfowl (August 2013)
- Hudson River Groundwater (September 2015)
- Hudson River Surface Water Resources (December 2008; January 2018)
- Hudson River Remedial Injury Determination (February 2021)

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Trustees' Process – Injury Determination

To date, Trustees have published many reports that support injury determination, including:

Birds –

- Collection of Gray Catbird Eggs Along the Hudson River for Exposure to PCBs (November 2017)
- Effects of Exposure to PCB 77 on Heart Development in Tree Swallow (August 2017)
- Comparative Lethality of Exposures to PCB 126, PCB 77 and Two Environmentally Relevant PCB Mixtures to Japanese Quail (August 2019)
- PCBs in Adult and Juvenile Mallards from the Hudson River (September 2016)

Trustees' Process – Injury Determination

To date, Trustees have published many reports that support injury determination, including:

Mink -

- Dietary Exposure of Mink to Fish from the Upper Hudson River (January 2013)
- PCB Concentrations in Mink Prey Item (October 2017)
- Large-scale Variation in Density of an Aquatic Ecosystem Indicator Species (June 2018)

Mussels -

- Population Assessment and Potential Functional Roles of Native Mussels in the Upper Hudson River (July 2020)
- Freshwater Mussel Shell Thin-Section Analyses for the Hudson River NRDA (July 2020)

Trustees' Process – Injury Quantification

Injury Quantification involves the Trustees' determination of the nature, scope, and extent of injury.

During this step, Trustees consider the reduction in the quality and quantity of services provided by the injured resources resulting from the release.

Injury quantification relies on site specific data, scientific studies and modeling to determine the amount of injury that has occurred in the past and is anticipated to occur in the future.

Trustees' Process – Damage Determination

Damage Determination involves Trustees estimating the monetary damages to be sought in compensation for the injury.

- Damages are measured in terms of the cost of restoration, rehabilitation, replacement, and/or acquisition of the equivalent of the injured resources and their services.
- Trustees can also include the interim losses, defined as the compensable value of services lost between the release of a hazardous substance and the onset of benefits connected to restoration projects.

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Trustees' Process – Damage Determination

As part of the process of Damage Determination, Trustees will develop a ***Restoration and Compensation Determination Plan*** (RCDP), which sets forth a reasonable number of possible restoration alternatives, identifies the cost and benefit of these alternatives and selects the appropriate alternatives to compensate for each of the injured natural resources.

- Trustees publish the RCDP and seek public comment for a period of at least 30 days.

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Trustees' Process – Post-Assessment

After the three parts of the Assessment Phase, the trustees will seek compensation for restoration from the responsible party, either via a legal settlement or litigation. Once resolved, the trustees will implement and oversee the restoration projects.

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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.
   - https://pub-data.diver.orr.noaa.gov/admin-record/6306/Restoration_Planning_Fact_Sheet_FINAL.pdf
   - https://pub-data.diver.orr.noaa.gov/admin-record/6306/Fact_Sheet_Restoration_Project_Proposals_List_September_2013.pdf
4. Scale restoration. (Match injured natural resources to restoration projects.)
5. Review and select preferred projects.
6. Develop & Implement Hudson River Restoration Plan.

Project Selection Criteria

Guidance for restoration project selection includes:

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

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Examples of Restoration Project Alternatives under Consideration

Project alternatives include but are not limited to:

Floodplain Restoration/Protection

Dam Removal/Fish Passage

Upland Habitat Restoration

Groundwater Recharge

Grassland Management/Protection

Wetland Habitat Restoration

Navigational Dredging

Additional Dredging of Contaminated Sediments

Recreation Access

Stream Corridor Restoration

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Trustee's Ongoing Steps

- Completing the assessment
- Identifying and evaluating restoration alternatives
- Developing RCDP
- Continue building relationships with stakeholders

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Have More Questions?

- **Visit Trustee website**

https://www.diver.orr.noaa.gov/web/guest/diver-admin-record/6306

- **Join our Listserve**

Send an e-mail to: Margaret_Byrne@fws.gov
Subject line: "Add to Hudson River NRDAR Email Updates"

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Have More Questions?

- **Contact us**
  - Tom Brosnan, National Oceanic and Atmospheric Administration
    - Tom.Brosnan@noaa.gov; 301-346-5840
    - https://darrp.noaa.gov/hazardous-waste/hudson-river
  - Kathryn Jahn, U.S. Fish and Wildlife Service
    - Kathryn_Jahn@fws.gov; 413-427-3851
    - https://fws.gov/project/hudson-river-natural-resource-damage-assessment
  - Sean Madden, New York State Department of Environmental Conservation
    - Sean.Madden@dec.ny.gov; 518-402-8977
    - http://www.dec.ny.gov/lands/25609.html