



NOVEMBER 2007

AMPHIBIAN INVESTIGATIONS FOR THE HUDSON RIVER NRDA

HUDSON RIVER NATURAL RESOURCE DAMAGE ASSESSMENT

Past and continuing discharges of polychlorinated biphenyls (PCBs) have contaminated Hudson River natural resources. While the U.S. Environmental Protection Agency is continuing with cleanup plans, federal and state trustee agencies — the U.S. Department of Commerce, the U.S. Department of the Interior, and New York State — are conducting a natural resource damage assessment (NRDA). These agencies are responsible for evaluating the injuries associated with hazardous substance contamination of natural resources and determining appropriate actions to restore those resources. Natural resource damage payments provide a means for the Trustees to restore injured public resources to the condition they would have been in if the release of hazardous substances had not occurred, thereby compensating the public for lost services provided by those resources.

The Hudson River and its surrounding habitat support many species of amphibians, which spend a large part of their lives in contact with potentially contaminated water, sediment, and soil. Amphibians also consume potentially contaminated prey, and may pass these contaminants onto other organisms through the food web.



BULLFROG (*Rana catesbeiana*)

PRELIMINARY INVESTIGATION OF BULLFROG TADPOLES AND SEDIMENT SAMPLES - 2003

In August-September 2003, the Trustees collected near-shore sediment samples and bullfrog (*Rana catesbeiana*) tadpoles from the Hudson River for contaminant analysis. This work was undertaken by the Trustees to assist in determining the extent to which bullfrog tadpoles and nearshore sediments in the Hudson River are contaminated with PCBs, and to determine if additional pathway and injury assessment studies focused on bullfrog or other amphibian species should be conducted as part of the Hudson River NRDA. Bullfrog tadpoles and nearby sediment were collected from six study sites of known PCB contamination on the Hudson River between Bakers Falls and Schodack Island. In addition, tadpoles and sediment were collected from two reference sites. The tadpole and sediment samples were analyzed for select PCB congeners, PCB homologue groups, total PCBs, percent lipids (tadpoles only), and percent organic carbon (sediments only). The total PCB concentrations of tadpoles and sediments from the sites along the Hudson River ranged from 0.4 parts per million (ppm) to 9 ppm in tadpoles and from 2.6 ppm to 57 ppm in sediments. Based on studies on the Housatonic River, the U.S. Environmental Protection Agency has determined that a level of 1 ppm PCBs poses a significant risk to amphibians, suggesting a possible risk to Hudson River amphibians based on their body burdens of PCBs.



BULLFROG TADPOLE

NEXT STEPS

These preliminary investigations confirm that Hudson River amphibians are exposed to PCBs. As a next step the Trustees are evaluating — through use of the scientific literature and consultation with experts — the possible effect these PCBs may have on amphibian health, and considering the need for future injury determination studies of amphibians.

This fact sheet provides an update regarding a preliminary investigation of PCB impacts to amphibians being conducted as part of the NRDA.



The Hudson River Trustees—assessing and restoring your natural resources

Further information on the Hudson River NRDA can be found on the following websites:

www.darp.noaa.gov/northeast/ HUDSON/index.html

www.dec.ny.gov/lands/25609.html

<http://contaminants.fws.gov/restorationplans/HudsonRiver/HudsonRiver.cfm>

To add yourself to the **Hudson-NRDA listserv**:

1. Send a message to: requests@willamette.nos.noaa.gov
2. Write in the subject: **Subscribe hudsonnrda**

Hudson River Natural Resource Trustees
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If you have questions about natural resource damages, or want to submit a restoration project or be placed on the Hudson River NRDA mailing list, please contact one of the individuals listed below:

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