

Hudson River Foundation

Harbor Estuary Program

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FIRST COMPREHENSIVE REPORT ON THE NY/NJ HARBOR ESTUARY SHOWS SIGNIFICANT IMPROVEMENT IN ITS ENVIRONMENTAL HEALTH

Further Improvement Is Needed, Especially In Newark Bay And In The Waters Separating Staten Island and New Jersey

New York, NY – April 26, 2004 – The Hudson River Foundation for Science and Environmental Research, Inc. and the New York/New Jersey Harbor Estuary Program today released a report showing that scientific measures of the environmental health of New York Harbor have improved as much as ten-fold in the past 30 years. The “State of the Estuary” Report – the first comprehensive look at the environmental conditions of the estuary – examines trends by tracking key environmental indicators over time and across the harbor. The data analyzed were collected primarily by federal, state, and local agencies.

The New York/New Jersey Harbor Estuary consists of the tidal waters of New York Harbor and its tributaries, going as far north as the Tappan Zee Bridge and as far east as the Throgs Neck Bridge on Long Island Sound. The analysis – conducted by the Hudson River Foundation for the Harbor Estuary Program – consists of an extraordinary compilation of data, drawn from a wide variety of sources that have never before been pulled together in this way. Partial funding for the report was provided by the U.S. Environmental Protection Agency (EPA).

According to the report, the overall condition of the estuary has improved dramatically: contaminants in sediments have decreased to levels one-tenth of those observed 30 years ago; levels of contaminants in fish have dropped significantly; losses of wetlands and near-shore habitats have slowed considerably; dissolved oxygen levels in the harbor have greatly improved; and sewage-related pathogenic contamination has been notably reduced.

Even with these improvements, significant environmental challenges remain. Combined sewer overflows still contribute raw sewage to waterways when it rains; some species of fish are in decline; advisories against eating fish and shellfish from the estuary remain in effect because of contaminants in their flesh; and some shellfish beds have remained closed for decades. In terms of toxic contaminants, the waters of Newark Bay and the Kills, separating Staten Island and New Jersey, are of special concern.

“New York Harbor is much healthier than it was 30 years ago,” said Clay Hiles, Executive Director of the Hudson River Foundation, “thanks in large part to the federal Clean Water Act and the resulting improvements in sewage treatment and in the regulation of toxic industrial discharges. Now the challenge is to address the legacy of pollution and to identify and control less obvious pollution sources that are tougher to manage.”

"EPA is committed to protecting and restoring the estuary," said Jane M. Kenny, EPA Regional Administrator. "It is home to some very beautiful, but threatened, natural areas and is a nationally significant shipping port, driving the economic engine of the region. At the center of all of this, the estuary receives the pressure of constant use, including the daily waste of 10 million people. Striking an appropriate balance is a challenge to which EPA is committed."

“This landmark report will greatly help the New York/New Jersey Harbor Estuary Program to track environmental progress and focus future work to preserve and restore the estuary," said Robert Nyman, Director of the Program.

“With this study, we now have a better understanding of where to focus our efforts going forward,” said Dennis Suszkowski, the Hudson River Foundation’s Science Director. “Newark Bay and the Kills remain primary geographic areas of concern; fish contamination remains a significant threat to human health, and we are still finding toxic leaks and unexplained concentrations that need to be addressed. While the overall picture is quite positive, there is still a great deal to be done in cleaning up the harbor.”

The full report is available online at both www.harborestuary.org and www.hudsonriver.org.

The New York/New Jersey Harbor Estuary Program is one of 28 National Estuary Programs authorized under the federal Clean Water Act and working to protect, preserve and restore the nation’s estuaries. The Program is a partnership of federal, state, and local government agencies, non-profit groups, academics and individual citizens. Estuaries, where fresh water and salt water mix, are vital ecosystems that are critical to early life stages of many species of fish.

The Hudson River Foundation for Science and Environmental Research is a private, nonprofit organization, founded in 1981. Its mission is to make science integral to decision-making for the Hudson River and its watershed and to support competent stewardship of this extraordinary resource.

Key Findings of the State of the Estuary Report

Following are the major findings of the “State of the Estuary” Report – the first comprehensive look at the environmental conditions of the New York/New Jersey Harbor Estuary:

Changes in Habitat

About 80 percent of the harbor’s tidal wetlands have been lost due to filling, dredging, and other human activities since the nineteenth century. But loss of wetlands has slowed dramatically since the implementation of stricter wetlands protection laws. Protection and restoration of wetlands is now the challenge and should be a public priority going forward.

In some areas of the estuary, there is an additional danger of wetlands being lost by natural forces, exacerbated by human intervention. Jamaica Bay is a particularly emphatic illustration of this concern. There, wetlands loss has accelerated – to an average loss of about 44 acres per year.

The sizes of most fish populations in the estuary fluctuate considerably over time but appear generally healthy. Some species, however, are in decline, particularly American shad, white perch, and American eel. Most fish in the estuary, including shad, spend only a portion of each year here. Any decline could, therefore, be the result of problems elsewhere. Some species, like white perch, live in the estuary all year long, and their decline is more clearly a local matter. Further study of the fish population is needed to understand these trends more fully and their significance particularly for fully resident species.

Toxics in Sediments and Fish

Unregulated toxic chemicals were discharged into the estuary for generations. The resulting contamination still exists, largely because the toxics are relatively insoluble and persistent, winding up at the bottom of the estuary.

In recent years, environmental laws have either banned or significantly reduced the discharges, thereby addressing many of the major sources of contamination. But the contamination remains. There are high levels of toxics in sediment, as well as fish, that continue to pose either ecological or human health risks.

During the past 30 years, levels of most major contaminants in sediments, including PCBs, mercury, dioxin, and DDT (a pesticide), have decreased on average about 10-fold, but they are still problematic. PCBs throughout the estuary still exceed acceptable levels. Mercury levels are high in some sediments throughout the estuary and particularly in the Hackensack River, Passaic River, Newark Bay, and the Arthur Kill. DDT and the most toxic dioxin compound show high concentrations in the Lower Passaic, Newark Bay, and the Arthur Kill.

The locations in the estuary with the greatest number of toxic sediment sites are Newark Bay and the Arthur Kill, with Jamaica Bay of concern for some contaminants.

Improvement is similarly evident with PCBs, or polychlorinated biphenyls, in fish. Once federal regulations reduced the flow of PCBs into the estuary, PCB levels in striped bass began declining. In the mid-1970s PCBs in striped bass greatly exceeded the federal limit for commercial sale of fish of 2 parts per million. In New York Harbor, average concentrations are now less than 2 parts per million.

Nevertheless, the concentrations still justify advisories by New York and New Jersey on the amount of fish that should be consumed. Health officials in both New York and New Jersey advise that women of childbearing age, infants, and children under the age of 15 should not eat fish from any waters for which there are advisories.

Toxic chemicals continue to enter the estuary and shift within it, and further assessment is needed to develop a strategy for greater reduction of contamination. A comprehensive Contamination Assessment and Reduction Project (CARP) has been initiated by a partnership of government agencies and nonprofit organizations concerned about the contamination in the estuary. It will identify those sources of contaminants that need to be eliminated and define the most effective actions to do so.

Pathogens

Levels of fecal coliform bacteria in the Harbor Estuary have decreased dramatically with the construction and upgrading of sewage treatment plants. The challenge ahead is to achieve sufficient improvements in conditions so the harbor can be opened for recreational swimming and unrestricted shellfish harvesting. The greatest ongoing threat comes from combined sewer overflows when it rains. In those events, more water than sewage treatment plants can handle flows to the plants, and the overflow is diverted directly into the harbor, bypassing the plant. This results in raw sewage being discharged into the estuary and can lead to shellfish restrictions, as well as beach closings. Combined sewer overflows are primarily a function of the region's antiquated sewer system, and the Harbor Estuary Program is now considering a range of options, including innovative engineering approaches, for addressing the problem.

Nutrients and Organic Enrichment

Because dissolved oxygen is so critical to sustaining marine life and is a direct measurement of water quality, it has been used to gauge the health of the harbor for almost a century. One of the many positive effects of the development of waste treatment plants is that the amount of dissolved oxygen in the estuary has increased, because decomposing sewage depletes the oxygen.

Across the estuary, levels of dissolved oxygen are generally adequate, but in some areas—particularly in parts of western Long Island Sound and Jamaica Bay—pockets of low oxygen still exist during the summer.