



NYC Parks



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Harbor & Estuary Program
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A DAY IN THE LIFE OF THE BRONX RIVER

CITIZEN & PROFESSIONAL SCIENTISTS DEMONSTRATE RESEARCH PROJECTS IN ASSESSING THE HEALTH OF THE BRONX RIVER

NYC Parks today joined the NY-NJ Harbor & Estuary Program, the Bronx River Alliance and representatives from federal, state, city, university and community organizations who are conducting a wide range of research projects along the Bronx River. These monitoring efforts are expanding our knowledge of the health of the River, while helping government agencies and the public make decisions about water quality improvements, habitat restoration, and recreational use of this important urban waterway. Teams of professional and citizen scientists introduced themselves and demonstrated their methods at Shoelace Park's canoe launch at Bronx Park and 219th Street, prior to a larger media availability with representatives from the participating organizations which occurred at Hunts Point Riverside Park. Research demonstrations took place along the Bronx River throughout the course of the day.

"The parks along the Bronx River make nature accessible to the community" said Linda Cox, NYC Parks' Bronx River Administrator and Executive Director of the Bronx River Alliance. "Better understanding of how the River works and the needs of wildlife will make us better stewards of this New York City treasure."

"Projects such as those taking place on the Bronx River have been remarkably successful in expanding scientific knowledge, raising people's awareness of their environment and prompting action," said EPA Regional Administrator Judith A. Enck. "By providing citizen scientists with the funding needed to advance their knowledge about local pollution, the EPA is advancing environmental justice and making visible differences in communities that will lead to less pollution."

"Citizen scientists, such as the high school and college students working in the field today, are a vital means of keeping track of how clean the water is", said Robert Pirani, Director of the New York-New Jersey Harbor & Estuary Program at the Hudson River Foundation. "This information can help government agencies and the public make decisions about water quality improvements, habitat restoration, and recreational use while providing young people with important science skills and experiences."

"This collaborative effort of government, academia and local non-profits will provide a synergy not often achieved during research forums such as this," stated Venetia Lannon, New York State Department of Environmental Conservation Region 2 Director. "DEC looks forward to seeing the outcome of the results and agrees the findings will be a great asset in helping government agencies and the public make decisions about water quality improvements, habitat restoration and recreational use."

"The Bronx River is a vital recreational and educational resource for Bronx" said DEP Deputy Commissioner for Sustainability Angela Licata. "We applaud the efforts of the academics, citizen scientists, and community-based organizations who are conducting this important research; particularly as the DEP prepares to kick-off the Bronx River's Long Term Control Plan to evaluate alternatives and build green infrastructure for water quality improvements."

“All of the different groups working on environmental issues associated with the Bronx River are doing such interesting and important work” said Matt Palmer, Senior Lecturer in Ecology from Columbia University. “We thought that organizing this event would help to strengthen relationships within this network of researchers, and would allow us to showcase the work for the community and the broader public.”

Field Day activities that were featured included:

- Water quality monitoring, including pathogen sampling (citizen scientists working with the Bronx River Alliance and Rocking the Boat, with support from the NY-NJ Harbor Estuary Program and the Environmental Protection Agency)
- Sampling of nutrient loading and aquatic microbes, including bacteria and phytoplankton (Lamont-Doherty Earth Observatory at Columbia University)
- Sampling freshwater fish communities (NY State Department of Environmental Conservation)
- Forest sampling for ecological assessment of floodplain forests (Natural Areas Conservancy)
- Assessment and mapping of native oyster and ribbed mussel extent (NY/NJ Baykeeper, Hudson River Foundation, NYC Parks Natural Resource Group)
- Survey of introduced clam populations (Columbia University and Bronx River Alliance)
- Green Infrastructure in the Bronx River Watershed (NYC Department of Environmental Protection)
- Monitoring of green infrastructure performance (NYC Soil & Water Conservation District and Drexel University)
- Survey of aquatic and wetland plants and benthic macroinvertebrates (The New York Botanical Garden and Bronx River Alliance)
- Assessing the effect of dams on the migration and movement of American eels (Wildlife Conservation Society and CUNY Queens College)
- Recording of Bronx River water flow (U.S. Geological Survey)
- Riparian soil and stream water sampling (Fordham University)

The Citizen Science project is providing community members with the tools needed to generate high quality, credible data suitable for a wide variety of users. Project partners include the U.S. Environmental Protection Agency, New York-New Jersey Harbor & Estuary Program (HEP), Hudson River Foundation (HRF), New England Interstate Water Pollution Control Commission, NJ Department of Environmental Protection, and NY State Department of Environmental Conservation. Bronx River Alliance and Rocking the Boat are engaging local residents in all aspects of water quality testing in the Bronx River. Three other organizations are monitoring other streams as part of this project. For more information and to see the interactive map, visit www.harborestuary.org. The HEP was established in 1987 to protect and restore the estuary resources we depend on and share. The HRF was established in 1981 to make science integral to decision-making with regard to the Hudson River and its watershed and to support competent stewardship of this extraordinary resource. The HRF houses and manages HEP.

NYSDEC Bronx River fisheries work will include backpack electrofishing to determine fish community species composition, part of a larger NYSDEC fish community study of the Bronx River ongoing since 2007. Work will also include collecting samples for fish disease testing, part of a statewide surveillance for fish diseases, and fin tissue collection for genetic studies by a Fordham University genetics researcher.

NYC Parks' Natural Resource Group's (NRG) mission is to conserve New York City's natural resources for the benefit of ecosystem and public health through acquisition, management, restoration and advocacy, using scientifically supported and sustainable research. NRG has partnered with local community groups and scientific researchers on their work for the past 30 years. Collaborative projects that NRG has worked on along the Bronx River range from diadromous fish habitat restoration to green infrastructure to forest renovation.

The NYC Department of Environmental Protection will join to discuss the nationally recognized Green Infrastructure Program and Long Term Control Planning efforts. DEP builds green infrastructure in the Bronx River watershed in order to improve the health of the river. These green infrastructure practices also improve air quality, provide shade during hot summer months and beautify Bronx neighborhoods by increasing tree canopy and vegetation.

As part of Mannahatta/Welikia Project (<http://welikia.org/>) and Mannahatta 2409 (<https://mannahatta2409.org/>), the Wildlife Conservation Society will collect topographic data in areas where the elevation has not changed materially since the time of European contact in 1609. These data will be combined with information from historic maps and texts, ecosystem modelling, and wildlife accounts to build a picture of what the Bronx was like before becoming a city.

The Wildlife Conservation Society has coordinated NOAA funding for a variety of Bronx River partners over the past decade, and is currently partnering with CUNY Queens College, to monitor American eels in the river and assess the effect of dams in their movement and migration. The Bronx River has numerous dams which appear to be partial barriers to their migrations.

Columbia University and the Lamont-Doherty Earth Observatory are performing research in and around New York City across a range of ecosystems, including the Bronx River and its watershed. Columbia scientists are involved in research projects on water quality, pathogens and other aquatic microbes, freshwater bivalves, floodplain plant communities, and green infrastructure.

The Natural Areas Conservancy (NAC) will demonstrate the methodology used citywide to conduct ecological assessments of natural areas, including Bronx Park. The NAC works citywide, in partnership with NYC Parks to protect, restore and manage our City's natural resources. Our objective is to use and foster science-based planning and policy to conserve our natural areas and maximize their myriad benefits for communities throughout the city.

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