



# Jamaica Bay Clean Sweep

*A community-based marine debris prevention & removal program*

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## Jamaica Bay: An urban oasis with a big marine debris problem



Jamaica Bay is the most intact remnant of what was a thriving estuarine ecosystem throughout New York City. Collectively, its salt marshes, mud flats, and shallow-water areas are the largest expanse of estuarine habitat in this highly urbanized landscape: the bay's watershed is mostly comprised of the boroughs of Queens and Brooklyn. Part of the New York - New Jersey Harbor Estuary, Jamaica Bay is truly the city's last great wilderness. It lies at the confluence of two of the world's most urban, heavily trafficked, and stressed waterways: the New York Bight and New York Bay. Add to this the bay's position in the geographic corner formed by the east-west position of Long Island and the north-south orientation of the Mid-Atlantic coast, Jamaica Bay is a unique ecological phenomenon, supporting an exceptionally high concentration and diversity of life.

Despite ongoing pollution impacts, diverse habitats in Jamaica bay support abundant wildlife. Its salt marshes and nearshore waters are known to be used by the State and federally endangered Kemp's Ridley sea turtle (*Lepidochelys kempii*) and the State and federally threatened loggerhead turtle (*Caretta caretta*). Avian species that depend on these habitats include the State and federally listed roseate tern (*Sterna dougallii*), and least tern (*Sterna antillarum*) as well as several State-only listed species: least bittern (*Ixobrychus exilis*), osprey (*Pandion haliaetus*), pied-billed grebe (*Podilymbus podiceps*), common tern (*Sterna hirundo*), and northern harrier (*Circus cyaneus*).

As many species of birds (331) are found in the bay as are found in Yellowstone, Grand Canyon, and Yosemite combined!

The bays' relatively large size and remoteness of its marshes and beaches, combined with its location in a densely populated city and highly developed landscape, has allowed it to become home to intentionally dumped large debris (e.g., abandoned boats and barges), debris that has been washed in from other areas, and all manner of trash. Included in this are more than 100 derelict boats, a similar number of other large items such as appliances and derelict floating docks, and an untold volume of beverage bottles, plastic bags, other synthetics, clothing, and even remnants of waterside religious ceremonies.

This debris affects coastal and marine life, such as the endangered loggerhead turtle (*Caretta caretta*), through entanglement, exposure to toxins, and destruction (e.g., smothering) of critical habitat, such as tidal wetlands. Abandoned vessels and marine debris compact sediments, suffocate coastal dune and salt marsh vegetation, and eliminate potential habitat for benthic and epiphytic invertebrates.

Specific fish of the bay that are known to use the types of habitats - tidal wetlands and near-shore shallow waters - impaired by this debris include Atlantic silverside (*Menidia menidia*), killifish (*Fundulus* spp.), alewife (*Alosa pseudoharengus*), striped mullet (*Mugil curema*), winter flounder (*Pleuronectes americanus*), Atlantic menhaden (*Brevoortia tyrannus*), bluefish (*Pomatomus saltatrix*), and striped bass (*Morone saxatilis*).

Over the past few decades, we have been building a program to prevent and remove marine debris from the bay's waters and coastal habitats. More recently, we have begun to take the lead in removing derelict boats and other large debris.



## Preventing marine debris



system into Jamaica Bay. This ongoing campaign has fostered legislation to improve watershed planning and to require the use of best management practices aimed at overall reductions of stormwater discharges into the bay. In spring of 2010, we secured an agreement from NYC Department of Environmental Protection to upgrade all the sewage treatment plants around Jamaica Bay over the next 10 years and to provide 15 million dollars for marsh restoration.

### New York State's Bigger Better Bottle Bill

As a result of years of advocacy by the Littoral Society and others, New York State's Bottle Bill took a big step forward on October 31, 2009. Since then, all bottled water smaller than one gallon sold in New York requires a 5-cent deposit. In addition, the new law improves the infrastructure for collecting and recycling bottles and cans, making it more convenient for people to return their empty containers. This has the potential to increase recycling of NY water bottles from 14% to 77% of the 3.2 billion water bottles sold each year in New York State (Container Recycling Institute) and will significantly reduce the debris that finds its way to Jamaica Bay's vulnerable habitats.

### Reducing Combined Sewer Overflows

Because combined sewer overflow systems drain local streets and sewers, they are a source of marine debris during storm events. If there are no debris collars on the drains, everything washes out into the bay. (They are also a source of hydrocarbons and anything else that gets spilled on the street or dumped into storm drains.) We have been working with a coalition of groups to reduce pollution from the sewage

### Eco-Tours

From late spring to early fall, we lead monthly tours of the bay to connect people with the natural beauty of the bay: its habitats and wildlife. We also educate passengers about the many issues impacting the bay, such as marine debris.

### Educational Brochure

The environmental impact and personal legal consequences of abandoning boats and other large marine debris in Jamaica Bay are largely unknown to the public. To communicate the shortcomings of existing laws and statutes regarding boat registration and the nature and severity of legal consequences for abandonment, we are developing public outreach materials for distribution to boating and fishing establishments as well as to city and State policy makers.



## Removing marine debris

### Inventory

To better plan future work and determine funding needs, we and our partners conducted a baywide inventory of large debris in intertidal and supratidal areas of the bay using aerial images and field reconnaissance of the western bay. We identified over 200 items, rather evenly split between derelict boats and other large debris, such as appliances, derelict docks, and lumber. We will continue field-checking the aerial survey and also seek funds to inventory subtidal areas, as we know many derelict boats lie below the water's surface.



### Large Debris Removals

Since 2002, we and our partners have removed hundreds of abandoned boats, barges, and large marine debris from the salt marshes and beaches of the bay. More recently, we have begun a concerted effort to increase the scope and capacity of this work. Using our inventory as a guide, we have recently secured funding to remove and properly dispose of an additional 23 boats in 2011.

### Volunteers Cleanups

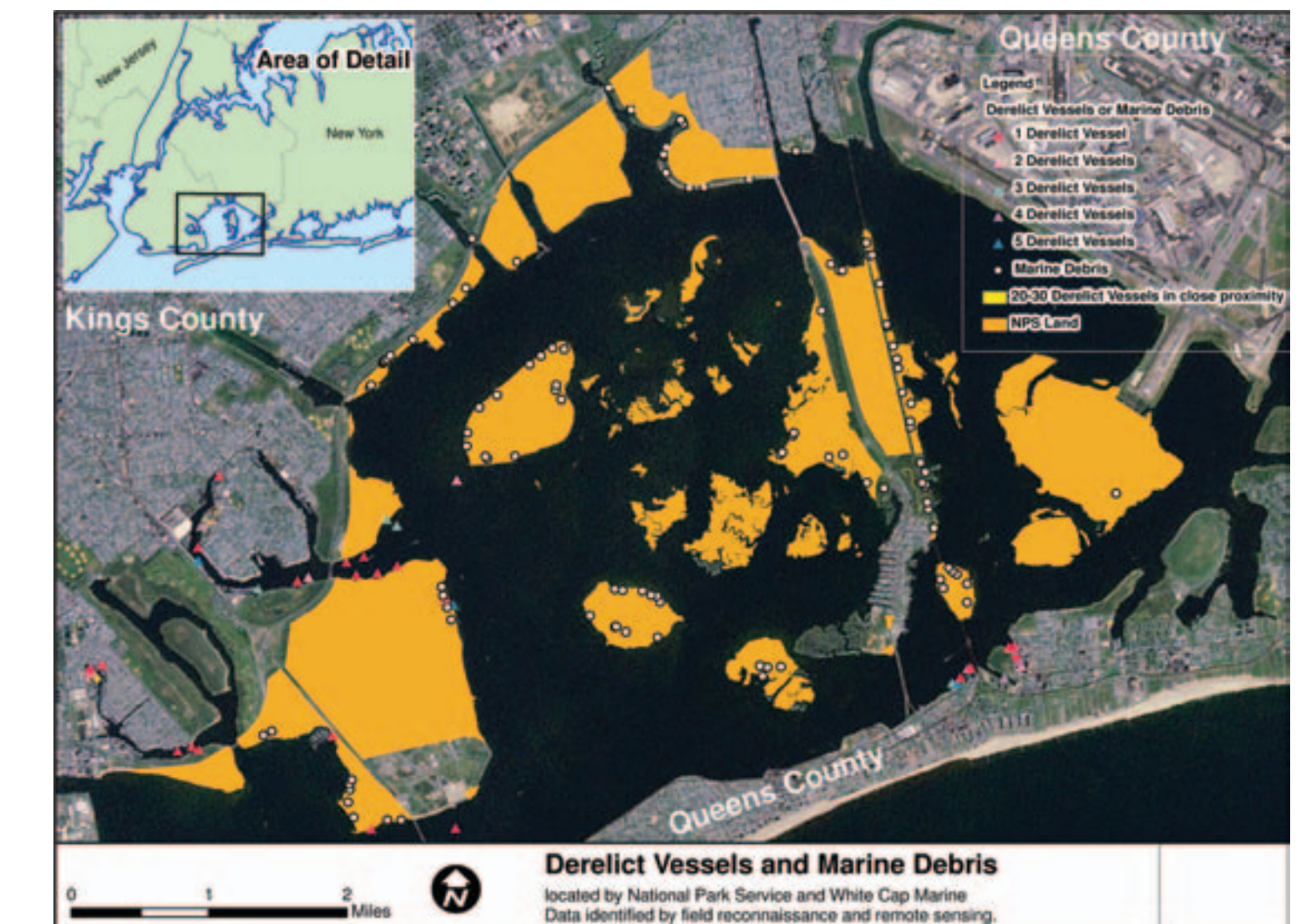
Since 1985, we have been coordinating the annual International Coastal Cleanup for the entire state of New York State, which of course includes Jamaica Bay. In 2000, we added another annual cleanup event in the bay on Earth

Day. In addition, we conduct several smaller-group cleanups around the bay. Volunteers come from the general public, our membership, as well as corporations, schools, and civic groups. Our most recent (2009) data show that more than 750 volunteers donated nearly 2,500 hours in removing more than 15,000 pounds of trash from the coastal habitats of Jamaica Bay. Stated another way, 7.6 tons of debris was prevented from entering or re-entering the aquatic habitats of the bay.



### Habitat Restoration

To further aid the habitat recovery process, we engage students and volunteers in the planting of native species at the cleanup and removal locations. We also install temporary fencing in the dunes to close off illegal trails, a significant threat to dune habitat. More recently, we are coordinating with local scientists to monitor the development of the habitat where large debris has been removed.



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Founded in 1961, the American Littoral Society promotes the study and conservation of marine life and habitat, protects the coast from harm, and empowers others to do the same.

## Project Partners

National Park Service New York City Dept of Environmental Protection New York City Dept of Parks & Recreation New York City Dept of Sanitation  
New York State DEC Marine Police Bloomberg Company Brooklyn College HDR Inc. Jamaica Bay Eco Watchers New York City Audubon  
New York City Sierra Club Rockaway Waterfront Alliance Sebago Canoe & Kayak Club Visiting Nurse Service of NY Whitecap Marine Rescue Service

## Project Funders

National Fish and Wildlife Foundation  
NOAA Marine Debris Program  
NOAA-Restore America's Estuaries Partnership