



Encompassing approximately 32 square miles and more than 13,000 acres, Jamaica Bay is the largest natural open space in New York City.

Saving Jamaica Bay

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Where Brooklyn and Queens meet at their southernmost point, a natural gateway opens into one of New York City's—and the region's—greatest natural treasures: Jamaica Bay. For city residents and visitors, Jamaica Bay is both a sanctuary and school, infusing nature into one of the planet's most urbanized places. But Jamaica Bay's close proximity to the city has not come without great cost: the refuge is plagued by an array of harms ranging from overdevelopment on its borders to water pollution to invasive plant and animal species.

Jamaica Bay's precious resources are in jeopardy. A unified effort on the part of government and residents is needed to restore this natural gem. It's time to put the unique determination and energy of New Yorkers to work and save one of the city's last wild places.



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A Wildlife Refuge in the Heart of New York City

More than half of Jamaica Bay's open waters and wetlands fall within the Jamaica Bay Wildlife Refuge, part of Gateway National Recreation Area. The more than 9,000-acre wildlife refuge is the nation's only wildlife refuge accessible by subway. Located on the Atlantic Flyway, a chief migration route, the bay is considered one of the best bird-watching locations in the western hemisphere.

Jamaica Bay hosts nearly 20 percent of the continent's species of birds every year, a population as varied and eclectic as the city's human residents. The bay's marsh fringes serve as habitat for 80 species of fish, as well as mollusks, crustaceans, and other marine life. Endangered and threatened species like peregrine falcons, piping plovers, and the Atlantic Ridley sea turtle reside in or visit the bay, treating New Yorkers to glimpses of exotic wildlife unconfined to a zoo.

The bay is a sanctuary from the hectic pace of urban life and a place for all New Yorkers to enjoy natural park space. With development continuing in every corner of the city, now, more than ever, we must protect this oasis for us and for wildlife. We must not neglect this key part of New York's natural history, or we risk losing it forever.

A Bay in Crisis

Water pollution chokes aquatic life. In parts of the bay, dissolved oxygen levels in the water are too low to sustain healthy aquatic life year-round. Algae levels are on the rise, and water clarity in Jamaica Bay has declined more than 20 percent since 1986.

Primary culprits include the four city sewage treatment plants that surround the bay. Every day, the plants discharge more than 250 million gallons of partially treated wastewater into the bay. While the bacteria have been killed, the wastewater still contains high amounts of nitrogen and other organic pollutants that can cause harmful algae blooms. The blooms turn the bay's water murky and, as the algae dies, it sinks to the bottom and causes the water's oxygen levels to drop, killing any aquatic life unable to swim away.

Dozens of outfall pipes also discharge combined sewer overflows (CSOs) and polluted stormwater into the bay. CSOs are overflows of raw sewage and polluted stormwater that flood the bay during rainstorms when the treatment plants' capacity is exceeded. Stormwater from places such as the Belt Parkway and JFK Airport, which uses millions of pounds of deicing chemicals annually, also flows directly into the bay without treatment.

Vital salt marshes are disappearing. The bay's saltwater marshes provide critical wildlife habitat, serving as the ecosystem's kidneys to filter out pollutants that enter the water. The salt marshes also act as protective storm barriers for nearby commercial and residential development.

But the bay's signature marshes are vanishing at an alarming rate—more than half of the bay's marshes disappeared between 1924 and 2001. At the current rate, the marsh islands will be gone completely within 20 years.

The bay's marshes historically have kept pace with sea level rise brought about by climate change—it is the interior of the marshes that are becoming waterlogged, causing the root structures to drown and fragment the marsh islands. Scientists are not certain what is causing this deterioration—it may be pollution, a lack of new sediment as a result of development and the bay's channelization, or a combination of these and other factors.

A Last Wild Place

The pace of life in Jamaica Bay is no less vibrant than on a busy Manhattan street. Small Atlantic brant geese trade low, guttural calls as they make the wildlife refuge an annual stopover on their long commute to the Arctic Circle, and the distinctive nasal *peent* of the male American woodcock echoes through the air at dusk as the mottled brown and gray birds begin the series of aerial swoops and dives meant to catch the eye of potential mates. As night takes over, a chorus of male frogs can be heard wooing their new mates, from the high, whistled *peep* of spring peepers to the short, melodic trill of the grey tree frog.



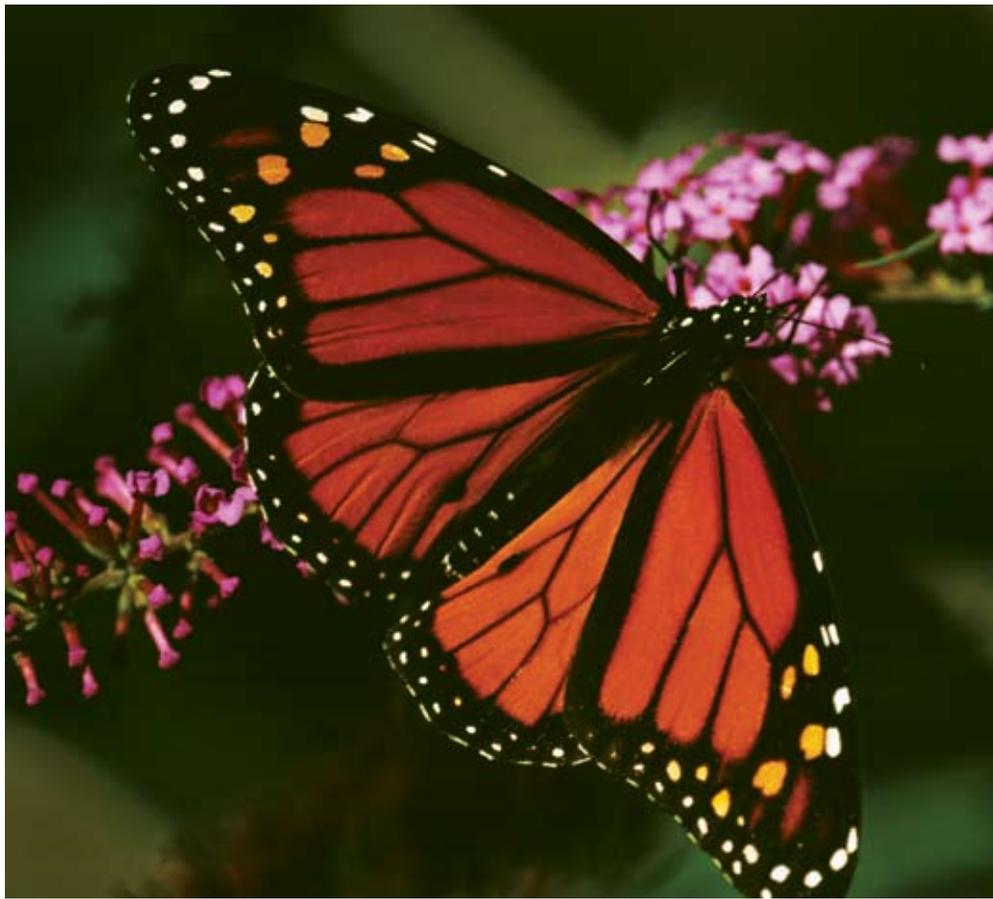
Policy Changes Are Needed to Protect the Refuge

Local, state, and federal officials must take the following actions to protect this unique New York natural resource:

1. Adopt a nitrogen control strategy to significantly reduce nitrogen flowing into the bay. Jamaica Bay needs a nitrogen control strategy equal to if not greater than the landmark program now in place for Long Island Sound, and the reductions must start immediately. The sooner we tighten nitrogen controls, the more marshes will be available to help with natural nitrogen treatment.

2. Improve stormwater management in the communities around the bay. New York City needs to adopt an aggressive “green infrastructure” strategy, which focuses on stopping water pollution from CSOs and stormwater at their source. Techniques include maximizing pervious surfaces by using vegetated or “green” roofs, planting trees, creating natural areas adjacent to roadways and sidewalks to absorb and treat stormwater, and implementing porous pavement technologies. Other U.S. cities are demonstrating that green infrastructure can be cost-effective and provide other environmental benefits, such as cleaning the air, greening our public spaces, and reducing global warming emissions.

3. Protect and restore the bay’s remaining natural areas. With natural areas around the periphery of the bay already drastically limited, the remaining open space needs to be protected and restored. Publicly owned open space near Jamaica Bay’s waters should be placed off limits to further development, and similarly situated, privately held natural areas must also be protected from harmful development. We must remove these precious open spaces from the market now, while we still can. Wherever possible, these areas should be restored to more natural states, providing enhanced wildlife habitats or serving as “pocket stormwater parks.”



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You Can Help Save Jamaica Bay

Individuals can make small changes to their own lives that together can have a big impact on the bay:

- 1. Keep garbage off city streets.** When it rains, trash from the streets fills the sewers, increasing overflows, or is flushed into the bay.
- 2. Conserve water in your household or office.** Reducing the amount of water that goes down your drain helps cut down on the sewer overflow events that can pollute the bay with untreated wastewater and stormwater.
- 3. Don't pour toxics down the drain.** Harmful chemicals, toxic substances such as mercury powder, and strong detergents or oils can all make their way from your sink into the bay.
- 4. Don't use nitrogen-rich fertilizers on your lawn or garden.** Fertilizers can make their way into storm drains and groundwater, eventually traveling to Jamaica Bay. Excess nitrogen in the bay is a major factor in water quality deterioration, harming wildlife and possibly contributing to marsh loss.
- 5. Improve how your home or business manages stormwater.** Where possible, direct rain gutters and spouts to soil, grass or gravel areas, or to a water storage cistern, instead of to hard surfaces (e.g., pavement or concrete) or into the storm sewer. Replace hard surfaces with plantings.
- 6. Volunteer for the bay.** Non-profit groups and government agencies organize events during which volunteers plant marsh grasses, clear debris, or otherwise help restore and beautify Jamaica Bay.

