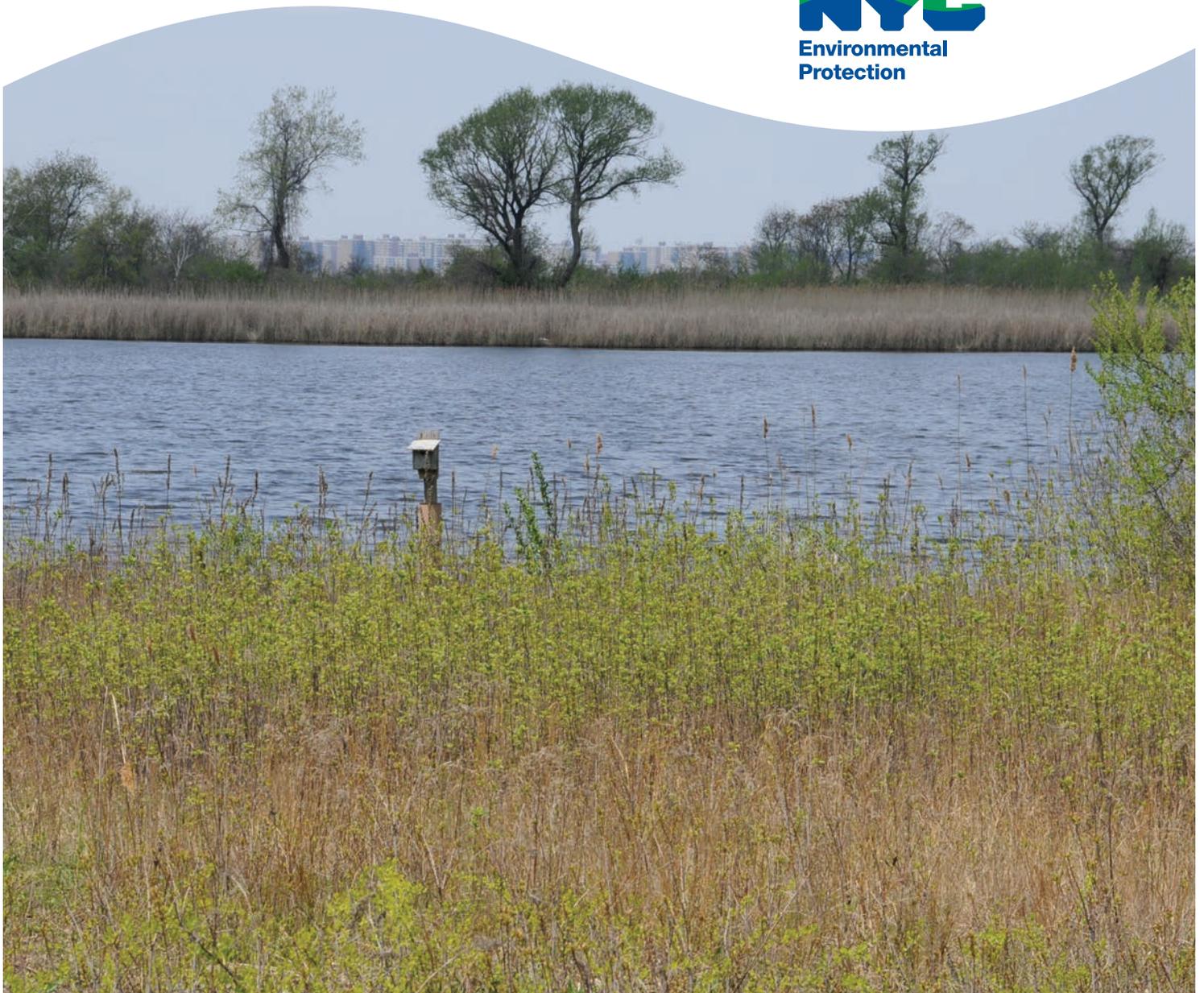


# Jamaica Bay Education Resource Directory

A Teacher's Guide to Education Opportunities in the Jamaica Bay Watershed  
Fall 2010

New York City Department of Environmental Protection  
and Jamaica Bay Watershed Protection Plan  
Education Coordinating Committee

Michael R. Bloomberg, Mayor  
Carter H. Strickland, Jr., Commissioner







## **Welcome to Jamaica Bay.**

Migrating birds come here to play.

Here the Great Blue Heron makes a nest.

Monarch butterflies think this place is the best!

A salt marsh makes a great breeding ground.

But you can watch an Osprey taking a bath.

The East and West Ponds are great bird watching spots.

If you want nature's beauty, this place has lots!

Jamaica Bay takes up almost 40 square miles.

All people who go there have nothing but smiles.

Many new plans have been made to protect it.

If there's ever a problem, the workers will detect it!

We're reintroducing old species like eel grass.

Preservation is another obstacle to pass.

If we succeed, we will truly be helping our nation.

Jamaica Bay will always aid the wildlife population!

Thomas, Grade 6, St. Andrew Avellino School, Queens



### **Jamaica Bay Watershed Protection Plan Education Coordinating Committee**

American Littoral Society  
 Brooklyn College  
 Center for International Earth Science Information Network, Columbia University  
 Citizens Advisory Committee for Pennsylvania Avenue and Fountain Avenue Landfills  
 Eastern Queens Alliance  
 Environmental Education Advisory Council  
 Friends of Gateway  
 Gateway National Recreation Area, National Park Service  
 GLOBE NY Metro at Queens College  
 Jamaica Bay Eco Watchers  
 Natural Resources Defense Council  
 New York City Department of Education  
 New York City Department of Environmental Protection  
 New York City Department of Parks and Recreation  
 New York City Soil & Water Conservation District  
 New York State Department of Environmental Conservation  
 NY/NJ Harbor Estuary Program  
 Southern Queens Park Association



### **Jamaica Bay Education Resource Directory**

Researchers, Writers and Reviewers  
 New York City Soil & Water Conservation District  
 Shino Tanikawa, District Manager  
 Gateway National Recreation Area, National Park Service  
 Jessica Browning  
 Julia Clebsch  
 Kayleigh Erasmus  
 Geri Kobryn-Blatter  
 Kathy Krause  
 John Lancos  
 New York City Department of Environmental Protection  
 Carl Ambrose and Scott Foster, Photographers  
 Xiao Chen, Intern, Flushing International High School  
 Songyi Ee, Intern, High School for Environmental Studies  
 Kim Estes-Fradis, Deputy Director of Education and Outreach  
 Min Kan, Director of Education  
 Erin Morey, Project Manager, Office of Stormwater Management Planning  
 Julie Stein, Director, Office of Stormwater Management Planning



### **For additional information or to comment, please contact:**

Kim Estes-Fradis, Deputy Director, Education and Outreach  
 Bureau of Communications and Intergovernmental Affairs,  
 New York City Department of Environmental Protection,  
 59-17 Junction Boulevard  
 Flushing, NY 11373  
[educationoffice@dep.nyc.gov](mailto:educationoffice@dep.nyc.gov) or (718) 595-3506

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## Jamaica Bay and its Watershed

### What is Jamaica Bay?

Jamaica Bay is one of the largest tidal wetlands in New York State. Comprised of approximately 20,000 acres (31 square miles) of open water, upland islands and salt marshes, the Bay provides the New York City metropolitan area with a unique, ecologically rich, natural area right in its own backyard (*Jamaica Bay Watershed Protection Plan Executive Summary*).

The Bay is located in New York City along the southern edges of Brooklyn and Queens with a small portion in Nassau County. Measuring approximately 10 miles at its widest point east to west and approximately four miles at its widest point north to south, the Bay is commonly referred to as an estuary, a partially enclosed body of water where freshwater from rivers and streams meet and mix with salt water from the ocean. The Bay is a component of the National Park Service's (NPS) Gateway National Recreation Area (GNRA) and a significant portion of the Bay, approximately 9,100 acres, is designated as the Jamaica Bay Wildlife Refuge.



For thousands of years, Jamaica Bay has been home to a diverse array of flora and fauna. The Bay has evolved over time as an important and complex network of open water, salt marsh, grasslands, coastal woodlands, maritime shrublands and brackish and freshwater wetlands. According to a study conducted by the U.S. Fish and Wildlife Service, these natural communities support 91 species of fish, 325 bird species (of which 62 are confirmed to breed locally) and are an important habitat for many species of reptiles, amphibians and mammals. The Bay supports seasonal and year-round populations of 214 species of special concern, including state and federally endangered and threatened species, such as piping plover, osprey, peregrine falcon and seabeach amaranth. The Bay is a critical stopover area along the Atlantic Flyway migration route and an internationally renowned birding location. In recognition of these values and functions, Jamaica Bay was designated a Significant Coastal Fish and Wildlife Habitat by New York State in 1992 and the first "Important Bird Area" by the National Audubon Society in 1997.

### The Jamaica Bay Watershed Protection Plan

In contrast to the myriad natural resources provided by Jamaica Bay, its watershed is one of the most densely populated regions in the country with approximately 1.7 million people living and working within the watershed's boundaries. The land area of the Bay's watershed is approximately 71,000 acres (111 square miles); 47,000 acres lie within the Boroughs of Brooklyn and Queens and approximately 24,000 acres are in Nassau County. A major concern for all who care about Jamaica Bay's ecosystem has been the accelerated loss of salt marsh wetlands, a defining ecological feature of the Bay. The transition from a natural to a more developed watershed over the last 150 years has directly and indirectly impacted the Bay's water quality. Dredging in the tributaries and open waters of the Bay, the introduction of wastewater treatment plants (WTPs) and combined sewer overflow (CSO) discharges, the hardening of shorelines, and the replacement of most of the natural features within the Bay's watershed with impervious surfaces have all been identified as potential causes of the Bay's degraded water quality and ecological integrity.



The protection of this invaluable resource is intimately connected to the uses and activities contained within its vast watershed. For this reason, Mayor Bloomberg signed Local Law 71 on July 20, 2005 and initiated the development of the *Jamaica Bay Watershed Protection Plan*. Local Law 71 required the New York City Department of Environmental Protection to assess the legal, technical, environmental and economic feasibility of various protection measures and to develop a comprehensive approach toward restoring and maintaining the water quality and ecological integrity of Jamaica Bay. The *Jamaica Bay Watershed Protection Plan* is intended to serve as a blueprint for the future management of the Bay and implementation of specific action strategies to protect and restore the Bay.

Local Law 71 also required that an advisory committee be formed to assist the New York City Department of Environmental Protection in fulfilling its responsibilities. The Mayor's office selected four members and three were selected by the Speaker of the City Council to form the Jamaica Bay Watershed Protection Plan Advisory Committee. Member representation includes the National Park Service, Natural Resources Defense Council, Jamaica Bay Eco Watchers, Marine Services Research Center at Stony Brook University, Port Authority of New York and New Jersey, US Army Corps of Engineers and a local community environmental activist.

The *Jamaica Bay Watershed Protection Plan* was completed by the New York City Department of Environmental Protection on October 1, 2007. Since the development of the Jamaica Bay Watershed Protection Plan, NYCDEP has been working diligently to implement the innovative hard and soft infrastructure alternatives, pilot studies, regulatory initiatives and public outreach efforts recommended in the Plan to collectively address the water quality and ecological issues facing Jamaica Bay. On February 25, 2010, Mayor Bloomberg announced a plan to improve the overall water quality and mitigate marshland loss in Jamaica Bay through a total of \$115 million in new investments. New York City will dedicate \$100 million to installing new nitrogen control technologies at wastewater treatment plants located on Jamaica Bay. Nitrogen is a naturally-occurring component of all wastewater. Although it is not a pathogen and poses no risk to human beings, high levels of nitrogen can degrade the overall ecology of a waterway. The first upgrade will be operational in 2015, and all improvements will be completed by 2020.

The City will also invest \$15 million in saltwater marsh restoration projects in the interior of Jamaica Bay. Since 2002, the City has invested \$37.4 million to reclaim more than 440 acres of environmentally sensitive land adjoining Jamaica Bay and plans to remediate nearly 100 additional acres. The City will leverage its new \$15 million investment in the Bay's marshlands by applying for Federal matching funds. This would further reduce the amount of nitrogen and other pollution that negatively impacts the area's wetland habitat. ("Mayor Bloomberg, State Environmental Conservation Commissioner Grannis and Natural Resources Defense Council Announce Agreement to Improve Water Quality and Preserve Marshlands in Jamaica Bay" Press Release, 25 February 2010)

To access a copy of the Plan and Plan Updates, please go to [www.nyc.gov/dep](http://www.nyc.gov/dep), click on "A-Z," and select "J" for the *Jamaica Bay Watershed Protection Plan*.

### **The Jamaica Bay Education Coordinating Committee**

The Jamaica Bay Education Coordinating Committee was formed to unite the diverse local organizations that serve the Jamaica Bay watershed and to develop specific education related strategies for the *Jamaica Bay Watershed Protection Plan*. The role of the committee was expanded to assist in the implementation of specific strategies intended to raise awareness among young people and educators about the importance of Jamaica Bay and to promote local environmental stewardship. Specifically, the work of committee members and information shared at meetings resulted in the development of this *Jamaica Bay Education Resource Directory*.



## Jamaica Bay Organizations at a Glance

The following local organizations provide a wealth of education resources about Jamaica Bay for young people and adults. You will find detailed information about these organizations beginning on page 16, Jamaica Bay Organization and Program Descriptions.

American Littoral Society  
[www.alsnyc.org](http://www.alsnyc.org)

Brooklyn College, City University of New York  
[www.brooklyn.cuny.edu](http://www.brooklyn.cuny.edu)

Brooklyn Public Library  
[www.brooklynpubliclibrary.org](http://www.brooklynpubliclibrary.org)

Center for International Earth Science  
 Information Network  
[www.ciesin.columbia.edu](http://www.ciesin.columbia.edu)

Citizens Advisory Committee, Pennsylvania/  
 Fountain Avenue Restoration

The Coastal Marine Resource Center  
[www.thecmrc.org](http://www.thecmrc.org)

Council on the Environment of New York City  
[www.cenyc.org](http://www.cenyc.org)

Eastern Queens Alliance  
[www.easternqueensalliance.org](http://www.easternqueensalliance.org)

Environmental Education Advisory Council  
[www.eeac-nyc.org](http://www.eeac-nyc.org)

Gateway National Recreation Area  
 National Park Service  
 GatewayInstitute [www.nps.gov/gate/nature-and-science/jamaica\\_bay\\_institute\\_home.htm](http://www.nps.gov/gate/nature-and-science/jamaica_bay_institute_home.htm);  
 The Jamaica Bay Unit [www.nps.gov/gate](http://www.nps.gov/gate);  
 The National Parks of New York Harbor  
 Education Center [www.nps.gov/nph](http://www.nps.gov/nph)

GLOBE NY Metro at Queens College  
[http://qcpages.qc.edu/qcglobe/wh\\_gl.htm](http://qcpages.qc.edu/qcglobe/wh_gl.htm)

New York Aquarium  
[www.nyaquarium.org](http://www.nyaquarium.org)

New York City Audubon  
[www.nycaudubon.org](http://www.nycaudubon.org)

New York City Department of Environmental  
 Protection  
[www.nyc.gov/dep](http://www.nyc.gov/dep)

New York City Department of Parks  
 & Recreation Urban Park Rangers  
[www.nyc.gov/parks/rangers](http://www.nyc.gov/parks/rangers)

New York City Soil & Water Conservation  
 District  
[www.nycswcd.net](http://www.nycswcd.net)

New York State Department of Environmental  
 Conservation  
[www.dec.ny.gov](http://www.dec.ny.gov)

New York University Wallerstein Collaborative  
 for Urban Environmental Education  
[www.steinhardt.nyu.edu/wallerstein](http://www.steinhardt.nyu.edu/wallerstein)

Prospect Park Alliance  
[www.prospectpark.org](http://www.prospectpark.org)

Queens Library  
[www.queenslibrary.org](http://www.queenslibrary.org)

Queens Museum of Art  
[www.queensmuseum.org](http://www.queensmuseum.org)

Southern Queens Park Association  
<http://www.sqpa.org>

United States Environmental Protection  
 Agency, Region 2  
[www.epa.gov/region2](http://www.epa.gov/region2)



Education/Speaker Visit



Field Trips



Professional Development



Web-Based Resource



Printed Resource



Program for General Public



Summer Program



Volunteer/Internship Opportunity

## Jamaica Bay Environmental Programs at a Glance

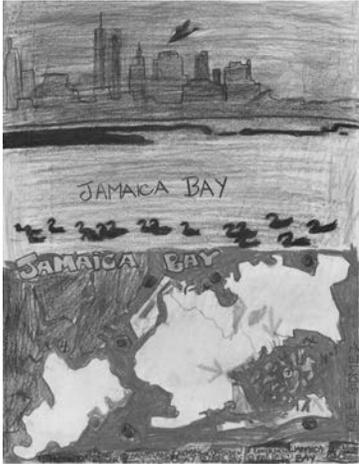
Full descriptions of the programs offered by each organization can be found in the Jamaica Bay Organization and Program Descriptions section, beginning on page 16. Program offerings may vary depending on season, funding and staff availability.

		Pre-K	Elementary	Middle School	High School	Adults	Families	Program Opportunities
p.17	American Littoral Society	•	•	•	•	•	•	
p.17	Brooklyn College, City University of New York					•		
p.18	Brooklyn Public Library	•	•	•	•	•	•	
p.18	Center for International Earth Science Information Network		•	•	•	•	•	
p.19	Center for Urban Research, CUNY Graduate Center				•	•	•	
p.19	Citizens Advisory Committee, Pennsylvania/Fountain Avenues Restoration		•	•	•	•	•	
p.20	The Coastal Marine Resource Center		•	•	•	•	•	
p.20	Council on the Environment of New York City			•	•	•	•	
p.21	Eastern Queens Alliance		•	•	•	•	•	
p.21	Environmental Education Advisory Council					•		
p.22	Friends of Gateway		•	•	•	•	•	
p.22	Gateway National Recreation Area, National Park Service							
	Gateway Institute			•	•	•	•	
	Jamaica Bay Unit		•	•	•	•	•	
	National Parks of New York Harbor Education Center		•	•	•	•		

## Jamaica Bay Environmental Programs at a Glance (continued)

-  Education/Speaker Visit
-  Field Trips
-  Professional Development
-  Web-Based Resource
-  Printed Resource
-  Program for General Public
-  Summer Program
-  Volunteer/Internship Opportunity

		Pre-K	Elementary	Middle School	High School	Adults	Families	Program Opportunities
p.25	GLOBE New York Metro at Queens College					💧		    
p.26	Mickey Cohen				💧	💧	💧	   
p.26	New York Aquarium	💧	💧	💧	💧	💧	💧	     
p.27	New York City Audubon			💧	💧	💧	💧	   
p.27	New York City Department of Environmental Protection	💧	💧	💧	💧	💧	💧	       
p.28	New York City Department of Parks and Recreation Urban Park Ranger		💧	💧	💧	💧	💧	       
p.29	New York City Soil & Water Conservation District		💧	💧	💧	💧		   
p.29	New York State Department of Environmental Conservation	💧	💧	💧	💧	💧	💧	    
p.30	New York University Wallerstein Collaborative for Urban Environmental Education					💧		   
p.30	Prospect Park Alliance	💧	💧	💧	💧	💧	💧	    
p.31	Queens Library	💧	💧	💧	💧	💧	💧	   
p.31	Queens Museum of Art	💧	💧	💧	💧	💧	💧	   
p.32	Southern Queens Park Association		💧	💧	💧	💧	💧	  
p.32	United States Environmental Protection Agency, Region 2	💧	💧	💧	💧	💧	💧	   



Kyle, St. Agatha School, Brooklyn

## Jamaica Bay Environmental Topics at a Glance

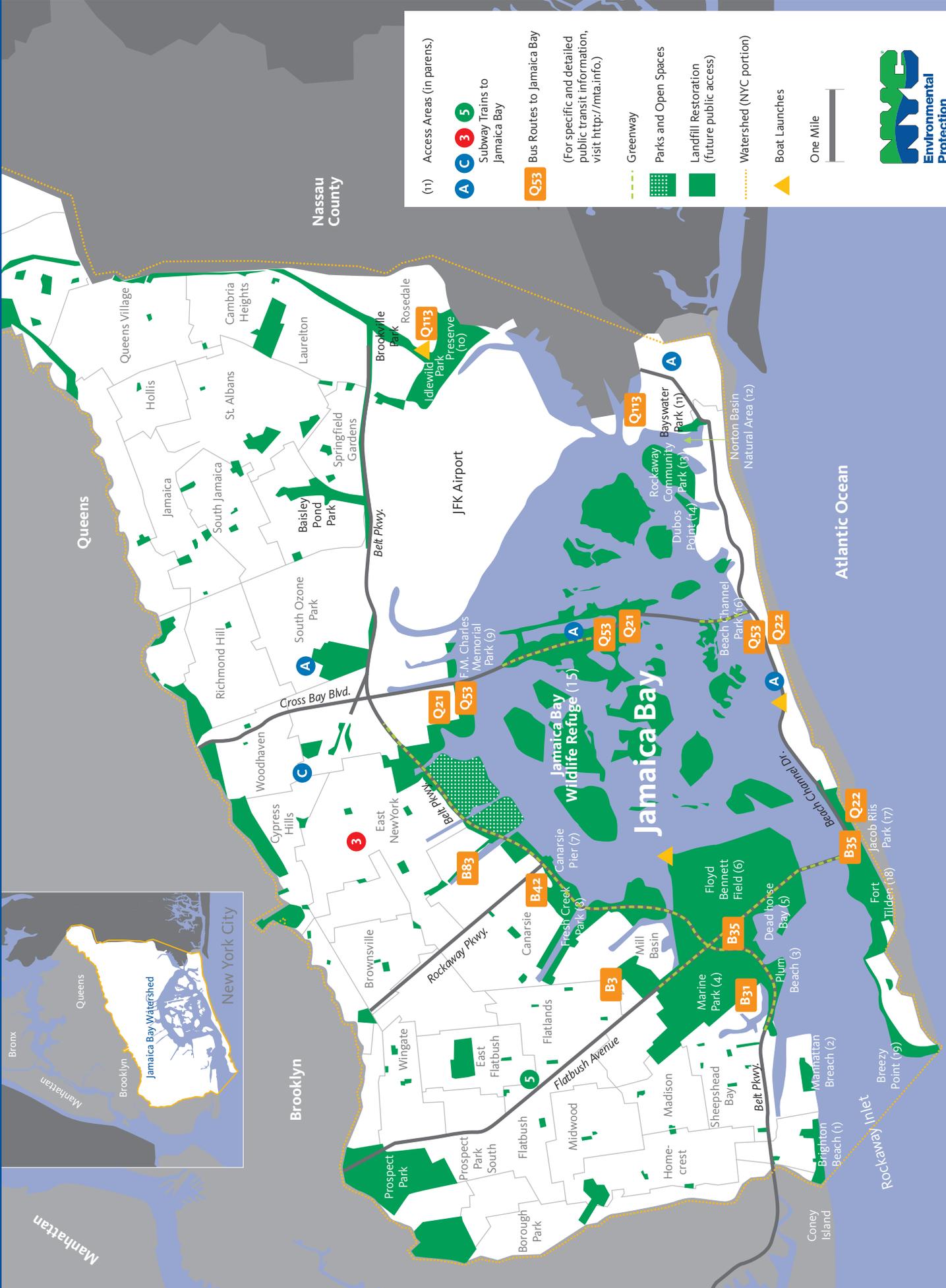
Below is a list of Jamaica Bay-related education topics that may be useful for lesson planning, field trip preparation and student research projects.

	Freshwater	Watersheds	Salt Water	Water Quality	Estuaries	Wetlands	Terrestrial Systems	Wastewater	Stormwater	Stewardship
American Littoral Society		•	•	•	•	•		•	•	•
Brooklyn College, City University of New York	•	•	•	•	•	•	•	•	•	•
Brooklyn Public Library	•	•	•	•	•	•	•	•	•	•
Center for International Earth Science Information Network	•	•	•	•	•	•	•	•	•	•
Center for Urban Research, CUNY Graduate Center										
Citizens Advisory Committee, Pennsylvania/ Fountain Avenues Restoration							•			•
The Coastal Marine Resource Center	•	•	•	•	•			•	•	•
Council on the Environment of New York City	•	•	•	•	•	•	•	•	•	•
Eastern Queens Alliance	•	•	•	•	•	•	•	•	•	•
Environmental Education Advisory Council										
Friends of Gateway		•	•		•		•			•
Gateway National Recreation Area, National Park Service										
Gateway Institute	•	•	•	•	•	•	•	•	•	•
Jamaica Bay Unit	•	•	•	•	•	•	•	•	•	•
National Parks of New York Harbor Education Center	•	•	•	•	•	•	•	•	•	•
GLOBE NY Metro at Queens College	•	•	•	•	•	•	•			•
New York Aquarium	•	•	•	•	•	•	•			•
New York City Audubon				•	•	•	•			•

## Jamaica Bay Environmental Topics at a Glance (continued)

	Freshwater	Watersheds	Salt Water	Water Quality	Estuaries	Wetlands	Terrestrial Systems	Wastewater	Stormwater	Stewardship
New York City Department of Environmental Protection	●	●	●	●	●	●	●	●	●	●
New York City Department of Parks and Recreation Urban Park Rangers	●	●	●	●	●	●	●			●
New York City Soil & Water Conservation District		●	●	●	●	●	●	●	●	●
New York State Department of Environmental Conservation	●	●	●	●	●	●	●	●	●	●
NYU Wallerstein Collaborative for Urban Environmental Education	●	●	●	●	●	●	●	●	●	●
Prospect Park Alliance	●	●		●			●			●
Queens Library	●	●	●	●	●	●	●	●	●	●
Queens Museum of Art		●								●
Southern Queens Park Association	●	●		●		●		●	●	●
United States Environmental Protection Agency, Region 2		●		●	●	●		●	●	●

# Jamaica Bay Access at a Glance



(1) Access Areas (in parens.)

**A** **C** **3** **5**  
 Subway Trains to Jamaica Bay

**Q33**  
 Bus Routes to Jamaica Bay

(For specific and detailed public transit information, visit <http://mta.info>.)

Greenway

Parks and Open Spaces

Landfill Restoration (future public access)

Watershed (NYC portion)

Boat Launches

One Mile



Restrooms



Handicap Accessible



Bus Parking



Picnic Area

Nature or Visitor  
Center

Wading Area



Pier



Boat Launch



Camping



Marked Trails



Permit Required

Drinking Water  
Fountain

## Jamaica Bay Access at a Glance

The best way to educate young people and adults about the importance of Jamaica Bay is to give them the opportunity to experience the Bay. The following parks offer access to its beauty and natural features. The site numbers correspond to the sites illustrated on the accompanying map. For information, please contact the agency listed for each site.

Site #	Site Name	Agency	Site Information
1	Brighton Beach	NYC Parks & Recreation	
2	Manhattan Beach	NYC Parks & Recreation	
3	Plum Beach	National Park Service	
4	Marine Park	NYC Parks & Recreation	
5	Dead Horse Bay	National Park Service	
6	Floyd Bennett Field	National Park Service	
7	Canarsie Pier	National Park Service	
8	Fresh Creek Park	NYC Parks & Recreation	
9	Frank M. Charles Memorial Park	National Park Service	
10	Idlewild Park Preserve	NYC Parks & Recreation	
11	Bayswater State Park	NYS Office of Parks, Recreation & Historic Preservation	
12	Norton Basin Natural Resource Area	NYS Department of Environmental Conservation	
13	Rockaway Community Park	NYC Parks & Recreation	
14	Dubos Point Wildlife Sanctuary	NYC Parks & Recreation	
15	Jamaica Bay Wildlife Refuge	National Park Service	
16	Beach Channel Park	NYC Parks & Recreation	
17	Jacob Riis Park	National Park Service	
18	Fort Tilden	National Park Service	
19	Breezy Point	National Park Service	

### Contact Information:

**National Park Service** [www.nps.gov/gate](http://www.nps.gov/gate), Canarsie Pier: 718-763-2202, Floyd Bennett Field Office: 718-338-3799, Jacob Riis Park/Fort Tilden: 718-318-4300, Jamaica Bay Wildlife Refuge: 718-318-4340

**New York City Department of Parks & Recreation** [www.nyc.gov/parks](http://www.nyc.gov/parks), Call 311 for New York City's Information

**New York State Department of Environmental Conservation Region 2** [www.dec.ny.gov](http://www.dec.ny.gov), 718-482-4942

**New York State Office of Parks, Recreation & Historic Preservation** [www.nysparks.state.ny.us/parks](http://www.nysparks.state.ny.us/parks), 212-866-3100



## Jamaica Bay Organization and Program Descriptions

The following pages contain detailed information about the many local organizations that provide education programs related to Jamaica Bay and its watershed. All of the organizations are eager to support your classroom lessons with resources such as field trips, speakers, publications, volunteer opportunities, and professional development. Contact them, giving advance notice, to arrange for programs and for advice on ways to enhance your curriculum with a Jamaica Bay unit. Program offerings may vary depending on season, funding and staff availability.

Please let us know what you think about the *Jamaica Bay Education Resource Directory*. An evaluation is included in the Appendix. Please complete the evaluation so that we can revise the Directory accordingly. Your input is invaluable in helping to improve and update the *Directory*, to ensure that the content is useful.

Thank you for helping to raise awareness of the importance of Jamaica Bay and its watershed. Please use this legend to help you find Jamaica Bay program opportunities.

### Program Opportunities



Education/Speaker Visit



Field Trips



Professional Development



Web-Based Resource



Printed Resource



Program for General Public



Summer Program



Volunteer/Internship Opportunity



### American Littoral Society ([www.alsnyc.org](http://www.alsnyc.org))

**Contact:** Don Riepe, 718-318-9344, [driepe@nyc.rr.com](mailto:driepe@nyc.rr.com)

**Audience:** Pre-K, Elementary – High School, Adults, Families

**Fee:** \$150

#### Organization Description:

The American Littoral Society is a coastal conservation organization dedicated to the study, conservation and enhancement of marine life and estuarine habitats.

#### Program Opportunities:

#### Program Description:

The American Littoral Society offers 1.5 to 2 hour field trips to the salt marsh to study flora, fauna and ecology. Presentations also include indoor PowerPoint presentations on various aspects of marine life, coastal wildlife and salt marsh habitats. The website contains information about clean-up and restoration projects as well as free nature programs. Also included is a photo gallery of Jamaica Bay images. The American Littoral Society also sponsors the annual International Coastal Cleanup in the New York City region.

**Location:** Various sites throughout Jamaica Bay in Brooklyn and Queens

### Brooklyn College , City University of New York (<http://dephome.brooklyn.cuny.edu/geology/>)

**Contact:** Joshua (Zhongqi) Cheng, 718-951-5000 ext. 2647, [zcheng@brooklyn.cuny.edu](mailto:zcheng@brooklyn.cuny.edu)

**Audience:** Educators

**Fee:** Based on number of credits

#### Organization Description:

The Department of Geology is part of an institution of higher education offering credit-bearing graduate courses leading to NYS certification to teach Earth Science. Professional Development Summer Institutes are also offered for credit and not for credit.

#### Program Opportunities:

#### Program Description:

In partnership with the School of Education, the Department of Geology offers both graduate and undergraduate programs for K-12 teachers interested in earth and environmental sciences. The new Master of Arts for Teachers program is targeting teachers from elementary, middle and high schools and non-public schools and those who wish to become earth science teachers. This science professional development initiative will provide three years of high quality professional development through a partnership between Brooklyn College and the National Park Service. Our programs also provide middle and high school teachers in need of state certification with 18 credits of earth science. Teachers participating in the programs will be immersed in research-based pedagogy that helps them become more effective teachers and improve student performance. All professional development will align with the NYC Science Scope and Sequence and the New York State Science Core Curriculum.

**Location:** Brooklyn College, Department of Geology

### Brooklyn Public Library ([www.brooklynpubliclibrary.org](http://www.brooklynpubliclibrary.org))

**Contact:** Library Representative, 718-230-2100

**Audience:** General Public

**Fee:** None

**Organization Description:**

Brooklyn Public Library (BPL) is an independent library system for the 2.5 million residents of Brooklyn. It is the fifth largest library system in the United States with 60 neighborhood libraries throughout the borough.

**Program Opportunities:** 

**Program Description:**

BPL offers free programs and services for all ages including author talks, literacy programs, public computers, and a huge selection of books in more than 30 languages. BPL also provides eResources, including eBooks and eVideos, catalog information and free homework help.

**Location:** Locations throughout Brooklyn; visit the website for more information

### Center for International Earth Science Information Network (<http://ciesin.columbia.edu>)

**Contact:** John Scialdone, 845-365-8978, [jscialdo@ciesin.columbia.edu](mailto:jscialdo@ciesin.columbia.edu)

**Audience:** Educators, Youth Groups, Families, Teens, Elementary – High School

**Fee:** None

**Organization Description:**

CIESIN, a center within the Earth Institute at Columbia University, provides data sets, databases, applications, services, and information resources for scientists, decision-makers, and the public to advance the understanding of the changing relationship between human beings and the environment.

**Program Opportunities:** 

**Program Description:**

The Jamaica Bay Research and Management Information Network (<http://nbii-nin.ciesin.columbia.edu/jamaicabay/>) is a growing community-driven knowledge base of past, present, and future activities in Jamaica Bay, drawing on information from federal, state and local government agencies, academic institutions, non-governmental organizations, and private industry. The website features an electronic bibliography containing more than 1,200 citations, as well as information on programs, projects, documents, data sets, and maps. The site tracks the activities of the Jamaica Bay Task Force, and assists the New York City Department of Environmental Protection in the progress of the Jamaica Bay Watershed Protection Plan. The site handles registration and logistics for Jamaica Bay BioBlitz events where teams of experts, amateur naturalists and volunteers collect and document species over a 24-hour period. Public events, meetings, publication announcements, and news concerning the Bay are highlighted on the homepage.

### Center for Urban Research, CUNY Graduate Center/ OASIS ([www.oasisnyc.net](http://www.oasisnyc.net))

**Contact:** Steven Romalewski, 212-817-2033, [sromalewski@gc.cuny.edu](mailto:sromalewski@gc.cuny.edu)

**Audience:** Educators, Families, High School

**Fee:** None

#### Organization Description:

The Center for Urban Research at the Graduate Center of the City University of New York organizes collaborative basic social science research projects on the critical issues facing New York and other large cities, works with public agencies and non-profit organizations to undertake applied policy research, and holds conferences and other forums. Its research seeks to understand how broad forces like global economic change and immigration are reshaping work, neighborhood life, and politics in large metropolitan areas.

#### Program Opportunities:

#### Program Description:

The Open Accessible Space Information System is a one-stop, interactive mapping and data analysis application via the Internet to enhance the stewardship of open space for the benefit of New York City residents. It allows users to create maps of open space by user defined parameters; identify key open space resources; locate these resources by name, type, and other attributes; identify other natural resources and landmarks; and calculate statistics based on open space patterns.

### Citizens Advisory Committee, Pennsylvania/Fountain Avenues Restoration

**Contact:** Lee Shelley, 347-446-8566, [pennfountain@aol.com](mailto:pennfountain@aol.com)

**Audience:** Educators, High School Students, General Public

**Fee:** None

#### Organization Description:

The Citizens Advisory Committee provides oversight for the development of Pennsylvania and Fountain Avenue Parks on Jamaica Bay and its inclusion into the National Park Service's Gateway National Recreation Area.

#### Program Opportunities:

#### Program Description:

The Citizens Advisory Committee offers free annual public tours. Tours are always scheduled for the second Tuesday in July. Educators, environmental professionals, volunteers and the public are invited. Beginning at 9:00am with a brief introduction and update on the Park's history, guests tour Penn and Fountain Park which is followed by a free luncheon, ending at 3:00pm.

#### Location:

The tour generally meets at the Brooklyn Sports Club, 1540 Van Sicken Avenue, Brooklyn or at the Pennsylvania Avenue entrance to Pennsylvania Park.

### The Coastal Marine Research Center ([www.thecmrc.org](http://www.thecmrc.org))

**Contact:** Cynthia Fowx; 347-410-7116

**Audience:** Educators, Families, Adults, Elementary – High School

**Fee:** Sliding Scale

**Organization Description:**

The Coastal Marine Research Center (CMRC) provides regional programs to businesses, schools, individuals and municipalities on sustainability and water-related strategies. By combining hands-on projects with public policy, the CMRC works to protect the resources in the NY-NJ Harbor Estuary, including Jamaica Bay and the Hudson River.

**Program Opportunities:** 

**Program Description:**

The CMRC offers volunteer beach clean-ups; education programs about aquatic ecology, environmental issues and horseshoe crabs; tools for green roof education; policy recommendations on emerging environmental issues; and an online “Virtual Estuary Project.”

**Location:** Various sites throughout Jamaica Bay watershed

### Council on the Environment of New York City ([www.cenyc.org](http://www.cenyc.org))

**Contact:** Mike Zamm, 212-788-7932, [cenyctso@hotmail.com](mailto:cenyctso@hotmail.com)

**Audience:** Educators, Youth Groups, Teens, Middle – High School

**Fee:** \$400 full day; \$250 half day

**Organization Description:**

The Council on the Environment of New York City (CENYC) is a privately funded citizens’ organization in the Office of the Mayor. Programs include the Greenmarket, Open Space Greening, Office of Recycling, and Environmental Education.

**Program Opportunities:** 

**Program Description:**

CENYC trains middle and high school students to participate in environmental improvement projects. Programs are funded through grants for schools within the Jamaica Bay area and are offered weekly and full-year.

**Location:** Varies according to locations of schools

### Eastern Queens Alliance ([www.easternqueensalliance.org](http://www.easternqueensalliance.org))

**Contact:** Barbara Brown, 866-372-4255, [eqa@easternqueensalliance.org](mailto:eqa@easternqueensalliance.org)

**Audience:** Educators, Families, Teens, Elementary – Middle School

**Fee:** None

**Organization Description:**

The Eastern Queens Alliance (EQA) mission is to promote, preserve and restore Idlewild Park Preserve; promote the educational and recreational value of the preserve; create access to Idlewild; and provide environmental education to children, families and other community members.

**Program Opportunities:** 

**Program Description:**

EQA provides inquiry-based environmental workshops to school groups, children and families, field trips for school and community groups and staff development workshops for teachers and educators with a focus on Idlewild Park Preserve.

**Location:** Springfield Park and Idlewild Park Preserve, Queens

### Environmental Education Advisory Council ([www.eeac-nyc.org](http://www.eeac-nyc.org))

**Contact:** Executive Committee, [info@eeac-nyc.org](mailto:info@eeac-nyc.org)

**Audience:** Educators

**Fee:** \$20 per year

**Organization Description:**

The Environmental Education Advisory Council (EEAC) promotes outstanding environmental education in NYC schools and other learning centers. EEAC began in 1974 and continues to support a network and forum for environmental education professionals while also serving as an advisory group to organizations and individuals in their efforts to design and implement environmental education initiatives.

**Program Opportunities:** 

**Program Description:**

Through membership, monthly meetings, newsletters, listservs and other initiatives, EEAC provides opportunities for educators, classroom teachers, administrators, students and other professionals in active support of environmental education.

**Location:** Varies

### Friends of Gateway ([www.treebranch.com](http://www.treebranch.com))

**Contact:** David Lutz, 646-458-1627, [dave.lutz@juno.com](mailto:dave.lutz@juno.com)

**Audience:** Elementary – Middle School

**Fee:** None

**Organization Description:**

Friends of Gateway works to improve the Park's environment, green the park for wildlife and recreation, call attention to and work for preservation of important Park historic sites, educate youth about urban environment stewardship, help create Gateway events, and keep local residents informed about their National Park.

**Program Opportunities:**  

**Program Description:**

Students engage in outdoor hands-on activities such as working with compost soil and tree seedlings and cleaning up the beach. Students learn about the importance of plants in an urban environment such as Jamaica Bay.

**Location:** Floyd Bennett Field, Brooklyn

### Gateway National Recreation Area, Jamaica Bay Unit, National Park Service ([www.nps.gov](http://www.nps.gov))

**Contact:** Jamaica Bay Unit, Division of Interpretation and Education, 718-338-4306

**Audience:** Elementary – High School

**Fee:** None

**Organization Description:**

Gateway encompasses the largest collection of natural systems, wildlife habitats, historic resources, and recreational opportunities in the New York City/New Jersey metropolitan area. Established with the express purpose of opening the “National Park Experience” to the urban population, Gateway lives up to its name. In addition to school programming detailed here, the park offers year-round programs for the general public that present learning opportunities for all ages. Ecology boat tours, birding and photography workshops, beach clean-ups and other stewardship programs, and an annual naturalist's lecture series, are just a few of the many programs that are offered.

### Barrier Beach Habitat Hunt

**Audience:** Elementary – Middle School

**Program Opportunities:**    

**Program Description:**

Students discover the barrier beach, the types of habitats found there, and how plants and animals have adapted to survive. Students work in small teams and use observational skills and data collection tools to compare environmental conditions (soils, wind and sun exposure, air temperature) and plant and animal life in maritime forest, back dune and ocean beach habitats.

**Location:** Fort Tilden, Queens

### Dynamic Seashores

**Audience:** Middle School

**Program Opportunities:**    

**Program Description:**

Students explore barrier beach habitats and the dynamic natural processes that create and continually shape them. Utilizing the scientific method, tools and techniques, the students learn about the natural formations and qualities of the beach, the natural histories of beach strand plants and animals and the impact that humans can have on this fragile coastal system.

**Location:** Fort Tilden, Queens

### Ecology Village Camping Program

**Audience:** 4th grade – Middle School

**Program Opportunities:**     

**Program Description:**

Ecology Village is an environmental education program designed to introduce students to New York City's natural habitats by incorporating science, social studies, and language arts during an overnight camping experience at Floyd Bennett Field. The program provides inquiry-based learning through field investigations and consists of ranger-guided and teacher-led activities focused on team building, urban environmental stewardship and marine and upland habitat explorations.

**Location:** Floyd Bennett Field, Brooklyn

### Habitats by Land and Sea

**Audience:** Elementary – Middle School

**Program Opportunities:**    

**Program Description:**

Students work in small teams to discover, explore, measure and compare environmental conditions (soil types, exposure to sun, wind, moisture, temperatures, salt spray), and plant and animal life in coastal and woodland habitats.

**Location:** Jamaica Bay Wildlife Refuge, Queens

### Operation Explore

**Audience:** Elementary – Middle School

**Program Opportunities:**    

**Program Description:**

OPEX is a year-long program introduces city youngsters to the scientific concepts of adaptation and interdependence in nature, to further explore interrelationships between their home community and the seashore, farm and forest ecosystems. The program involves classroom instruction, a ranger-guided day program at Gateway National Recreation Area, and a three-day residential camping program at Taconic Outdoor Education Center in Putnam County. OPEX Cooperators are the National Park Service; NYC Department of Environmental Protection; NYS Department of Parks, Recreation and Historic Preservation; NYS Department of Environmental Conservation; and Cornell Cooperative Extension.

**Location:** Floyd Bennett Field, Fort Tilden and Jamaica Bay Wildlife Refuge, Queens and Brooklyn

### What's Alive at Dead Horse Bay?

**Audience:** Elementary – Middle School

**Program Opportunities:**    

**Program Description:**

Students discover the difference between upland and shoreline beach environments. Working in teams, they explore and compare soils, sun exposure and other environmental conditions in the two areas including site-specific plants and animals and their adaptations.

**Location:** Dead Horse Bay, Floyd Bennett Field, Brooklyn

### Gateway National Recreation Area, Gateway Institute, National Park Service

[www.nps.gov/gate/natureandscience/jamaica\\_bay\\_institute\\_home.htm](http://www.nps.gov/gate/natureandscience/jamaica_bay_institute_home.htm)

**Contact:** Doug Adamo, 718-354-4510, Doug\_Adamo@nps.gov

**Audience:** Educators, High School Students, Colleges/Universities

**Fee:** None

**Organization Description:**

The Gateway Institute facilitates research and educational opportunities to support the informed decisions needed to improve the ecological health and social relevance of Jamaica Bay.

**Program Opportunities:**      

**Program Description:**

The Gateway Institute offers a variety of educational programs to further the Institute's mission to create a bridge between science and decision making. The Institute coordinates and delivers numerous programs throughout the year to teach responsible stewardship of the Bay's natural resources, promote sharing of scientific data and engage community members in the research process. Opportunities to interact with senior researchers, take part in the collection of scientific field data and get involved in the restoration efforts are the foundation of the program.

**Location:** Various sites around Jamaica Bay, Brooklyn and Queens

### Gateway National Recreation Area, National Parks of New York Harbor Education Center, National Park Service

**Contact:** Jeanette Parker, 718-535-4530, jeanette\_parker@nps.gov

**Audience:** Grades 4-12, Undergraduate, Graduate Students, Educators

**Fee:** None

#### Organization Description:

The National Parks of New York Harbor Education Center is a facility within Gateway National Recreation Area and is located on historic Fort Wadsworth in Staten Island. The Education Center's mission, in partnership with the National Parks of New York Harbor (NPNH), is to galvanize the wealth of NPNH resources into a vital education network. Through a partnership with Brooklyn College and the College of Staten Island, the Education Center offers important expertise and technical assistance to local national parks in order to serve the education community most effectively.

**Program Opportunities:** 

#### Program Description:

Marine Invaders of Jamaica Bay, a citizen science program for middle and high school classes, is a year-long program that involves students in field studies, data collecting, recording and analyzing the presence and impacts of invasive species on the Jamaica Bay ecosystem. The program includes professional development for participating teachers, teacher and student materials, a webquest to help students learn about invasive species through online research, field sampling and collecting protocols and student worksheets. Classes can visit locations along the shore of Jamaica Bay at different times throughout the school year to make observations and seasonal comparisons. At the conclusion of the school year, students from participating schools convene for a student summit to share their findings with other schools.

**Location:** Various sites around Jamaica Bay

### GLOBE NY Metro at Queens College ([www.qc.cuny.edu/qcglobe](http://www.qc.cuny.edu/qcglobe) and [www.globe.gov](http://www.globe.gov))

**Contact:** Allan Ludman or Peter Schmidt , 718-997-3324 or 718-997-6248, allan.ludman@qc.cuny.edu or peter.schmidt@qc.cuny.edu

**Audience:** Educators, Elementary, Middle and High School Students

**Fee:** Negotiable

#### Organization Description:

GLOBE Program partnership for southern New York State offers professional development in science for K-12 teachers. GLOBE is based on the premise that students learn science by doing science, not reading about it. Teachers learn rigorous scientific protocols so that their students can collect environmental data and send those data to research scientists.

**Program Opportunities:** 

#### Program Description:

Teachers model best practices in inquiry-based education using GLOBE Program science research protocols. Workshops train teachers to carry out measurements of local environmental variables. Topics covered include: atmosphere, hydrology, soil, seasonal change, land cover and ecology.

**Location:** Queens College campus or workshop requester's own site

### Mickey Cohen

**Contact:** Mickey Maxwell Cohen, 718-471-2166, bmcohen@aol.com

**Audience:** Educators, Families, High School

**Fee:** \$200

**Organization Description:**

Retired teacher and science supervisor with the NYC Department of Education, Mickey Cohen serves as a naturalist for the American Littoral Society and field trip leader at many sites around the Bay. He is also a retired coordinator with the Gateway Environmental Study Center and is the author of Exploring the Trails of Dead Horse Bay, Science Field Trips in NYC, and Visitors Field Guide to Great Kills Park.

**Program Opportunities:** 

**Program Description:** Various site explorations adapted to audience educational needs/requests

**Location:** Various Gateway sites throughout Jamaica Bay, Brooklyn and Queens

### New York Aquarium ([www.nyaquarium.org](http://www.nyaquarium.org))

**Contact:** Dr. Chandra Bennett, 718-265-3453, cbennett@wcs.org

**Audience:** Educators, Youth Groups, Families, Teens, Pre-K – College

**Fee:** \$185-\$225 for school groups (see website for specific listings)

**Organization Description:**

A division of the Wildlife Conservation Society, the New York Aquarium is a 14-acre indoor/outdoor facility with climate controlled buildings, open every day of the year. Exhibits include over 8,000 specimens including invertebrates, fish, sharks, sea lions, walruses, sea otters and more.

**Program Opportunities:** 

**Program Description:**

All programs (Pre-K – College) engage students, families and teachers in creative learning opportunities with a rich array of teaching tools, live animals, biofacts, and scientific equipment. Topics include animal adaptations, living environments and conservation education programs in marine biology - both in the classroom and local field locations (i.e., sandy shores and salt marshes of Jamaica Bay).

**Location:** New York Aquarium, Brooklyn

### New York City Audubon ([www.nycaudubon.org](http://www.nycaudubon.org))

**Contact:** Erik Karff, 212-691-7483, [ekarff@nycaudubon.org](mailto:ekarff@nycaudubon.org)

**Audience:** Adult

**Fee:** \$140

**Organization Description:**

NYC Audubon is a grassroots community organization that works for the protection of wild birds and habitat in the five boroughs, improving the quality of life for all New Yorkers.

**Program Opportunities:**   

**Program Description:**

NYC Audubon offers a day trip to Jamaica Bay Wildlife Refuge, part of the Gateway National Recreation Area and one of the largest bird sanctuaries in the northeastern United States. Tour leaders and transportation are provided.

**Location:** Jamaica Bay Wildlife Refuge, Queens

### New York City Department of Environmental Protection ([www.nyc.gov/dep](http://www.nyc.gov/dep))

**Contact:** Min Kan Shih, 718-595-3506, [mkan@dep.nyc.gov](mailto:mkan@dep.nyc.gov)

**Audience:** Pre-K – High School, Educators, Youth Groups, Families

**Fee:** Free

**Organization Description:**

NYC Department of Environmental Protection (DEP) protects the environmental health, welfare and natural resources of the city and its residents. DEP manages the city's water supply, which provides over one billion gallons of quality drinking water daily, serving over half the population of New York State, and manages 14 in-city wastewater treatment plants. DEP also carries out federal Clean Water Act rules and regulations, handles hazardous materials emergencies and toxic site remediation, oversees asbestos monitoring and removal, enforces the city's air and noise codes, and manages citywide water conservation programs.

**Program Opportunities:**        

**Program Description:**

DEP's education staff works in partnership with educators throughout New York City and the upstate watershed to design and implement a variety of education programs. These include interdisciplinary watershed and water-related classroom lessons, field trip and grant opportunities, publications, assembly presentations, internships, professional development workshops, student research and curriculum assistance, and upstate/downstate partnerships. The Visitor Center at Newtown Creek, located in Greenpoint, Brooklyn, at the Newtown Creek Wastewater Treatment Plant, showcases New York City's water resources. Hands-on activities and lessons for school groups are offered Tuesdays and Thursdays (by appointment only). The Visitor Center is also open on Fridays and Saturdays from 12 noon – 4:00 pm. The Newtown Creek Nature Walk, a short distance from the Visitor Center, is open sunrise to sunset. Educational materials are available for download from DEP's Web site, [www.nyc.gov/dep](http://www.nyc.gov/dep)

**Location:** Various Gateway sites throughout Jamaica Bay in Brooklyn and Queens, and Greenpoint, Brooklyn, for the Visitor Center at Newtown Creek and the Newtown Creek Nature Walk

### New York City Department of Parks and Recreation Urban Park Rangers

([www.nyc.gov/parks/rangers](http://www.nyc.gov/parks/rangers))

**Contact:** Bonnie McGuire, 212-360-2774, [bonnie.mcguire@parks.nyc.gov](mailto:bonnie.mcguire@parks.nyc.gov)

#### Organization Description:

Our mission is to link New Yorkers to the natural world, to teach them to care for the environment and their parks, to defend the parks and their wild residents and to appreciate New York's natural heritage. Rangers work out of nature centers in all five boroughs and provide park-based programs for children, adults, families and school groups.

### Salt Marsh Nature Center

**Contact:** Salt Marsh Nature Center, 718-421-2021

**Audience:** Elementary – High School

**Program Opportunities:** 

#### Program Description:

The Natural Classroom is designed to meet standards and teach stewardship to children in grades K-8. Topics include: ecology, entomology, botany, ornithology, ichthyology, conservation, Native Americans, geology, orienteering, and history. Ranger Conservation Corps, an after-school program, is designed to foster students' interest in science, promote their ability to excel in related classes and exams (Regents, etc.), and to develop stewardship in the students. The Junior Ranger Summer Day Camp program provides outdoor nature and recreation experiences in the safe environment of the nature center. The program draws from all other Urban Park Ranger programs and exposes students to ecology, recreation, and park restoration. The camp runs during July and August, from 9:00 am to 4:30 pm Monday through Friday in one-week sessions.

**Location:** Salt Marsh Nature Center, Brooklyn

### Explorer Programs

**Contact:** 866-692-4295

**Audience:** Families, Educators

**Program Opportunities:** 

#### Program Description:

Explorer programs are conducted on weekends and evenings. Topics include: artistic expression, photography, history, active conservation, nature exploration, biking, performing arts and lectures, outdoor skills, birding, camping, canoeing, activities for kids, hiking, night programs and orienteering.

**Location:** Marine Park and Plumb Beach, Brooklyn, Baisley Pond Park, Queens

### New York City Soil & Water Conservation District ([www.nycswcd.net](http://www.nycswcd.net))

**Contact:** Shino Tanikawa, 212-431-9676 X315, [shino@nycswcd.net](mailto:shino@nycswcd.net)

**Audience:** Educators

**Fee:** None

**Organization Description:**

The NYC Soil and Water Conservation District's mission is to conserve soil, water and related natural resources and assist decision-makers in planning the wise use of New York City's natural resources. We work in partnership with agencies and non-profit organizations and assist community organizations and educators in protecting our natural resources.

**Program Opportunities:**    

**Program Description:**

Professional development on water and soil quality testing is offered as well as other field-based activities for appropriate school groups.

**Location:** Can respond to educator's request

### New York State Department of Environmental Conservation

([www.dec.ny.gov/education/38184.html](http://www.dec.ny.gov/education/38184.html), [www.projectwet.org](http://www.projectwet.org), [www.projectwild.org](http://www.projectwild.org))

**Contact:** Betsy Ukeritis, 718-482-6404, [R2ed@gw.dec.state.ny.us](mailto:R2ed@gw.dec.state.ny.us)

**Audience:** Pre-K - High School, Youth Groups, Families, Educators

**Fee:** None

**Organization Description:**

The New York State Department of Environmental Conservation (NYSDEC) is the state agency charged with conserving, improving, and protecting New York's natural resources and environment. NYSDEC Region Two's professional environmental education staff offers a number of environmental programs throughout New York City. Our goal is to increase environmental awareness, to foster more informed decision-making and get youth outdoors to study and enjoy their local environment.

**Program Opportunities:**     

**Program Description:**

NYSDEC offers numerous program opportunities. During the summer, NYSDEC Camps offer an opportunity for students to go upstate for one week for free, and the program includes in-City pre-camp activities. Professional Development workshops for educators include Project Learning Tree, Project WET, and Project WILD (Basic, Aquatic, Flying, and Science & Civics), all proven environmental education curricula. NYSDEC Education staff are also available for outreach at conferences, fairs, and celebrations.

**Location:** Various sites throughout Jamaica Bay, Brooklyn and Queens

### NYU Wallerstein Collaborative for Urban Environmental Education ([www.nyu.edu/wallerstein](http://www.nyu.edu/wallerstein))

**Contact:** Dr. Mary Leou, 212-998-5474, [mary.leou@nyu.edu](mailto:mary.leou@nyu.edu)

**Audience:** Educators

**Fee:** None

#### Organization Description:

The New York University Wallerstein Collaborative provides year-round programming in environmental education for teachers and students preparing for careers in education in school and non-school settings. Programs include coursework, internships, summer professional development activities, field trips, workshops, and conferences.

**Program Opportunities:**   

#### Program Description:

During a three-week intensive field program for K-12 classroom teachers on the Hudson River Estuary, teachers are introduced to environmental educators and scientists engaged in estuary studies, with particular emphasis placed on water resources in the New York/New Jersey Harbor Estuary. Please see website for more information.

**Location:** NYU Campus at 34 Stuyvesant Street, Manhattan

### Prospect Park Alliance ([www.prospectpark.org](http://www.prospectpark.org))

**Contact:** Maria Cobo, 718-287-3400x103, [mcobo@prospectpark.org](mailto:mcobo@prospectpark.org)

**Audience:** General Public

**Fee:** Varies by program

#### Organization Description:

The Prospect Park Education Department interprets nature, science and history at the Prospect Park Audubon Center and at Lefferts Historic House through exhibits, programs and special events. Prospect Park's 585 acres of meadows, waterfalls, forest, lakes, and athletic facilities comprise a masterwork of urban green space.

**Program Opportunities:**       

#### Program Description:

The Prospect Park Education Department maintains, exhibits, and interprets art, nature, and history at the Prospect Park Audubon Center at the Boathouse, and at Lefferts Historic House. Programming is provided at those venues and with the Brooklyn Academy of Science and the Environment (BASE High School). The focus is on the conservation and preservation of natural and built environments within Prospect Park and beyond.

**Location:** Prospect Park; usually meets at Prospect Park Audubon Center at the Boathouse or Lefferts Historic House, Brooklyn

### Queens Library ([www.queenslibrary.org](http://www.queenslibrary.org))

**Contact:** Kathleen Degyansky, 718-990-0700, [Kathleen.Degyansky@queenslibrary.org](mailto:Kathleen.Degyansky@queenslibrary.org)

**Audience:** Pre-K – High School, Educators, Families, Youth Groups

**Fee:** None

#### Organization Description:

The Queens Library serves a book-hungry population of 2.2 million from 63 locations, seven Adult Learning Centers and two Family Literacy Centers. It has circulated among the highest number of books and other library materials in the country since 1994, and is the second largest public library in the U.S. in terms of size of collections.

**Program Opportunities:** 

#### Program Description:

Queens Library regularly sponsors programs for all age groups. THE GUIDE is a monthly schedule to the hundreds of programs at Queens Library that are available free of charge. The diverse range of programs has offerings for adults, teens, and children. Some programs require pre-registration. Sign-language interpretation is available by request for most library programs with two weeks advance notice.

**Location:** 64 locations; see website for complete list and exact locations

### Queens Museum of Art ([www.queensmuseum.org](http://www.queensmuseum.org))

**Contact:** Laura Groskinsky, 718-502-9700 ext 137, [lgroskinsky@queensmuseum.org](mailto:lgroskinsky@queensmuseum.org)

**Audience:** Pre-K – High School and Teens

**Fee:** \$75 - \$150

#### Organization Description:

The Education Department at the Queens Museum of Art offers students exhibition tours and studio workshops based on the museum's permanent exhibitions, The Panorama of the City of New York, A Watershed Moment: A Model of the New York City Watershed, and The Neustadt Collection of Tiffany Glass. The Museum also offers programs inspired by changing exhibitions of contemporary and historical art and artifacts. All of our programs integrate the 5 strands of the Department of Education's Blueprint for Teaching and Learning in the Arts and all are closely linked to the New York State Standards.

**Program Opportunities:** 

#### Program Description:

Tours and gallery activities engage students in art that reflects many cultures throughout several exhibitions in flux. Among these, The Panorama of the City of New York teaches students about New York City. Tours are led by Teaching Artists, who are also visual artists, using inquiry-based instruction as well as art-based vocabulary to interpret processes, themes, and the materials that create them. In addition, Teaching Artists impart their own knowledge and career experiences to interested students. Jamaica Bay is clearly represented in The Panorama of the City of New York.

**Location:** The Queens Museum of Art

### Southern Queens Park Association ([www.sqpa.org](http://www.sqpa.org))

**Contact:** Kian Brown, [kbrown@sqpa.org](mailto:kbrown@sqpa.org)

**Audience:** Educators, Families, Elementary – High School

**Fee:** None

**Organization Description:**

Founded in 1976 by community organizers, SQPA is a unique human service agency, which combines its stewardship of the 54-acre Roy Wilkins-Southern Queens Park, with its mission to provide and coordinate comprehensive programs to children, families, adults, and seniors in Southern Queens.

**Program Opportunities:** 

**Program Description:**

The Summer Waterfront Access program is a summer day camp serving children for the past 10 years. The park is also open to community groups.

**Location:** Roy Wilkins – Southern Queens Park, Queens

### United States Environmental Protection Agency, Region 2

[www.epa.gov/region2/](http://www.epa.gov/region2/) or [www.epa.gov/teachers](http://www.epa.gov/teachers)

**Contact:** Teresa (Terry) Ippolito, 212-637-3671, [ippolito.teresa@epa.gov](mailto:ippolito.teresa@epa.gov)

**Audience:** Educators, Teens, Elementary – Middle School

**Fee:** None

**Organization Description:**

The mission of the Environmental Protection Agency is to protect people's health and the environment. Its programs protect air, land and water, and bolster support for environmental education by providing professional services, websites and materials for classroom and non-formal educators.

**Program Opportunities:** 

**Program Description:**

An EPA environmental educator is available to deliver presentations on a watershed-related topic and the four websites that support environmental education (EE) programming. Sessions are designed to meet school/program-specific needs. Website lessons enable teachers to get the most out of these sites for “Kids” (Pre-K through Grade 4), “Students” (Grades 5 – 8), and “High School/Teachers” and has background information on watershed topics, downloadable resources, curricular material and a link to order free EPA EE materials.

**Location:** Various schools throughout Jamaica Bay, Brooklyn and Queens

## Appendix

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## Jamaica Bay Education Topics

The Jamaica Bay Education Coordinating Committee compiled the following list of education topics based on these three overarching questions:

1. *What do we want young people and adults to learn about Jamaica Bay?*
2. *Why does Jamaica Bay matter?*
3. *What action do we want young people and adults to take to improve and protect Jamaica Bay?*

We hope that the detailed topics below identified by the Jamaica Bay Education Coordinating Committee will assist educators in developing lessons and activities about Jamaica Bay's environs and ecological systems.

### Where does fresh water come from?

- What is the hydrological cycle?
- What can interfere with the movement of water through the cycle?

### What is a watershed?

- How does fresh water flow to a river?
- What factors influence the movement of water?
- What factors influence the quality of water?
- What are the land-use issues for the areas adjacent to the Bay?
- What are the land-use issues for the areas upland from the Bay?
- How does water cycle through an urbanized watershed?
- How does water cycle through a natural area?

### Where does salt water come from?

- How does water become salty?
- What causes tides?
- How do tides influence the environment?
- What are the differences between freshwater and salt water?

### What is an estuary?

- How are estuaries created?
- Why are estuaries important?
- Why do we need to protect estuaries?

### What is a wetland?

- Why are wetlands important?
- What makes wet land a wetland?
- What vegetation is characteristic of wetlands?
- What types of soil are characteristic of wetlands?
- What hydrology is characteristic of wetlands?
- Why is the classification of wetlands important?
- Why learn about wetlands?



**How is water quality monitored in an estuary?**

- What are the federal and local regulations?
- What government programs monitor water quality?
- What local stewardship programs take place in your community?

**What is needed for healthy ecosystems?**

- What abiotic and biotic factors affect life processes?
- What is plankton?
- What are food webs and food chains?
- What are aquatic habitats and what life do they support?
- What are upland habitats and what life do they support?
- What is biodiversity and why is it important?
- How does water quality influence the interconnectedness of habitats?
- How do watersheds affect water quality?

**What are the ecosystems of Jamaica Bay?**

- Where is Jamaica Bay?
- How do you access the resources of Jamaica Bay?
- Where are the wetlands of Jamaica Bay?
- What purpose do they serve?
- What organisms have adapted to life there?
- Where are the barrier beaches?
- What purpose do they serve?
- What organisms have adapted to life there?
- Where are salt marshes?
- What purpose do they serve?
- What organisms have adapted to life there?
- Where are mudflats?
- What purpose do they serve?
- What organisms have adapted to life there?
- Is Jamaica Bay an estuary?
- How do tides influence Jamaica Bay?

**What is wastewater?**

- What is the source of wastewater?
- What path does litter take from streets to the Bay?
- How do we treat our wastewater?
- Why do we treat our wastewater?
- How does wastewater affect our surrounding waterbodies?
- How are we responsible for our wastewater?
- What is combined sewer overflow?

**What is stormwater?**

- What is the source of stormwater?
- How do we treat our stormwater?
- How does stormwater affect our surrounding waterbodies?
- How are we responsible for our stormwater?

**What is the watershed for Jamaica Bay?**

- What are the boundaries of the Jamaica Bay Watershed?
- Is your school/home in the watershed?
- Where is it located in relation to the Bay?
- What human and natural features influence the watershed?
- What is non-point source pollution?
- What are sources of freshwater into the Bay?
- What are the sources of water pollution in the Bay?

**How do human activities impact Jamaica Bay water quality?**

- What activities take place on the Bay?
- How do they impact water quality?
- What activities take place in the watershed?
- How do they impact water quality?
- What activities take place globally that may impact water quality?
- How do they impact water quality?
- How will climate change impact Jamaica Bay?

**What is the water quality of Jamaica Bay?**

- Is Jamaica Bay important? Why?
- How is the water monitored?
- Who monitors the water?
- What are water quality problems?
- Why does water quality matter?

**What can people do to protect Jamaica Bay?**

- How can people help improve water quality and habitats?
- What is the value of open space to the health of the Bay?
- What are people doing to enhance the Bay?
- What regulations exist to protect the Bay?
- What still needs to be done?



## Glossary of Terms

This list of words is to help define unfamiliar terms you may encounter in the Jamaica Bay Education Resource Directory and during classroom lessons and field excursions. A great way to introduce these terms is by making a crossword puzzle or matching game. Have fun!

**Atlantic Flyway:** An important bird migration route along the Atlantic coast of North America

**Brackish Water:** Water that is a mixture of freshwater and salt water

**Coastal Woodlands:** An area near the coast that has substantial canopy cover from mature trees and herbaceous and/or shrub understory

**Combined Sewer Overflow (CSO):** Excess wastewater and stormwater that bypasses treatment plants and instead flows directly into nearby waterways; CSOs generally occur during heavy rain or snowmelt

**Dredging:** The excavation or repositioning of sediment in order to maintain ecological and navigational improvements

**Endangered Species:** A species that is in danger of extinction throughout all or a portion of its range

**Estuary:** A waterbody, such as a bay or inlet, where freshwater mixes with salt water

**Grasslands:** Areas that are dominated by grasses and other herbaceous plants

**Impervious:** Not allowing water to infiltrate

**Maritime Shrublands:** A community of shrubs growing on dry seaside bluffs, exposed to offshore winds and salt spray

**Salt Marsh:** Coastal wetlands rich in marine life; sometimes called tidal marshes because they occur in the zone between low and high tides

**Stewardship:** A personal responsibility to take care of the environment

**Tidal Wetlands:** Sheltered wetlands along the coast affected by both tides and freshwater runoff; also referred to as coastal wetlands because they occur in shallow, protected coastal areas, such as bays and estuaries

**Wastewater Treatment Plant:** A facility designed to use physical, chemical and biological processes to cleanse wastewater before it enters a body of water

**Watershed:** Land area that drains water to a particular stream, river, lake, bay or reservoir

**Wetlands:** Land area predominately saturated with water, where specific plant and animal communities live; a swamp, marsh, or bog; coastal areas that help absorb the forces of flood and tidal erosion to prevent loss of upland soil





## Flora and Fauna at a Glance: Jamaica Bay's Plants and Animals

The Jamaica Bay ecosystem is an important network of open water, salt marsh, grasslands, coastal woodlands, maritime shrub lands, brackish and freshwater wetlands. These 20,000 acres provide seasonal and year-round habitats for a remarkable variety of wildlife, including 91 species of fish and 325 species of birds.

How many common plants and animals can you find when you visit Jamaica Bay? Please refer to the following lists to keep a record of the flora and fauna you observe and add other species you find. To help with identification, use a field guide book listed in Additional Resources or join a Ranger-led interpretive walk featured in Program Descriptions. You may even want to bring a pair of binoculars if you have them. Enjoy!



### Trees

Common Name	Scientific Name	Location & Date Observed
American holly	<i>Ilex opaca</i>	
Black cherry	<i>Prunus serotina</i>	
Eastern cottonwood	<i>Populus deltoides</i>	
Eastern red cedar	<i>Juniperus virginiana</i>	
Eastern white pine	<i>Pinus strobus</i>	
Gray birch	<i>Betula populifolia</i>	
Pitch pine	<i>Pinus rigida</i>	
Red maple	<i>Acer rubrum</i>	
Tree of heaven	<i>Ailanthus altissima</i>	



### Shrubs and Vines

Common Name	Scientific Name	Location & Date Observed
Beach plum	<i>Prunus maritima</i>	
Japanese honeysuckle	<i>Lonicera japonica</i>	
Northern bayberry	<i>Myrica pensylvanica</i>	
Poison ivy	<i>Toxicodendron radicans</i>	
Pussy willow	<i>Salix discolor</i>	
Virginia creeper	<i>Parthenocissus quinquefolia</i>	
Winged sumac	<i>Rhus copallina</i>	



Common milkweed



Horseshoe Crab



Poison IVY

### Wildflowers and Grasses

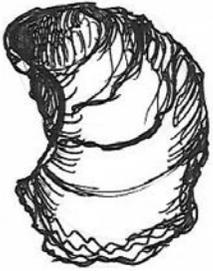
Common Name	Scientific Name	Location & Date Observed
American beachgrass	<i>Ammophila breviligulata</i>	
Beach pea	<i>Lathyrus japonicus</i>	
Common milkweed	<i>Asclepias syriaca</i>	
Common mullein	<i>Verbascum thapsus</i>	
Evening primrose	<i>Oenothera biennis</i>	
Little bluestem grass	<i>Schizachyrium scoparium</i>	
Reed grass	<i>Phragmites australis</i>	
Saltmarsh cordgrass	<i>Spartina alterniflora</i>	
Salt marsh hay	<i>Spartina patens</i>	
Seaside goldenrod	<i>Solidago sempervirens</i>	
Sea-rocket	<i>Cakile edentula</i>	

### Macroinvertebrates

Common Name	Scientific Name	Location & Date Observed
Amphipod	<i>Ampelisca abdita</i> (e.g.)	
Asian shore crab	<i>Hemigrapsus sanguineus</i>	
Blue crab	<i>Callinectes sapidus</i>	
European green crab	<i>Carcinus maenus</i>	
Fiddler crab	<i>Uca</i> spp.	
Horseshoe crab	<i>Limulus polyphemus</i>	
Lady crab	<i>Ovalipes ocellatus</i>	
Polychaete worm	<i>Streblospio benedicti</i> (e.g.)	
Sand shrimp	<i>Crangon septemspinosa</i>	



Blue Fish



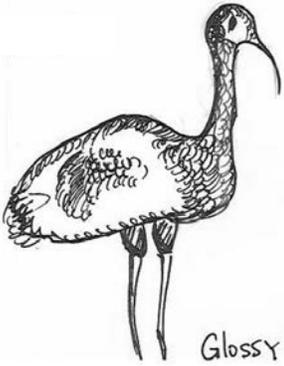
Eastern Oyster

### Fish

Common Name	Scientific Name	Location & Date Observed
American eel	<i>Anguilla rostrata</i>	
Atlantic menhaden	<i>Brevoortia tyrannus</i>	
Atlantic silverside	<i>Menidia menidia</i>	
Bluefish	<i>Pomatomus saltatrix</i>	
Lined seahorse	<i>Hippocampus erectus</i>	
Mummichog	<i>Fundulus heteroclitus</i>	
Northern pipefish	<i>Syngnathus fuscus</i>	
Northern puffer	<i>Sphoeroides maculatus</i>	
Northern searobin	<i>Prionotus carolinus</i>	
Striped killifish	<i>Fundulus majalis</i>	
Striped mullet	<i>Mugil cephalus</i>	
Summer flounder (Fluke)	<i>Paralichthys dentatus</i>	
Tautog (Blackfish)	<i>Tautoga onitis</i>	
Winter flounder	<i>Pseudopleuronectes americanus</i>	

### Mollusks (Univalves and Bivalves)

Common Name	Scientific Name	Location & Date Observed
Amethyst (gem) clam	<i>Gemma gemma</i>	
Atlantic jackknife clam	<i>Ensis directus</i>	
Atlantic mud crab	<i>Panopeus herbstii</i>	
Atlantic ribbed mussel	<i>Geukensia demissa</i>	
Atlantic slipper shell	<i>Crepidula fornicata</i>	
Blue mussel	<i>Mytilus edulis</i>	
Channeled whelk	<i>Busycotypus canaliculatus</i>	
Eastern mudsnail	<i>Ilyanassa obsoleta</i>	
Eastern oyster	<i>Crassostrea virginica</i>	
Hard-shelled clam/ northern quahog	<i>Mercenaria mercenaria</i>	
Knobbed whelk	<i>Busycon carica</i>	
Soft shell clam	<i>Mya arenaria</i>	



Glossy Ibis



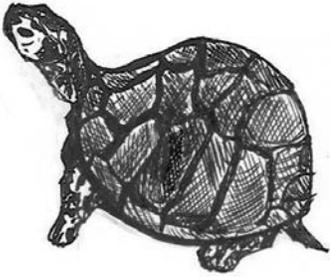
Little brown bat

## Birds

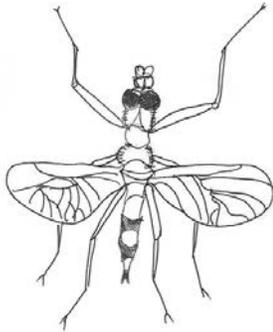
Common Name	Scientific Name	Location & Date Observed
Black duck	<i>Anas rubripes</i>	
Brant	<i>Branta bernicla</i>	
Canada goose	<i>Branta canadensis</i>	
Common tern	<i>Sterna hirundo</i>	
Glossy ibis	<i>Plegadis falcinellus</i>	
Gray catbird	<i>Dumetella carolinensis</i>	
Great blue heron	<i>Ardea herodias</i>	
Herring gull	<i>Larus argentatus</i>	
Osprey	<i>Pandion haliaetus</i>	
Piping plover	<i>Charadrius melodus</i>	
Red-winged blackbird	<i>Agelaius phoeniceus</i>	
Snowy egret	<i>Egretta thula</i>	
Tree swallow	<i>Tachycineta bicolor</i>	
Willet	<i>Catoptrophorus semipalmatus</i>	
Yellow-rumped warbler	<i>Dendroica coronata</i>	

## Mammals

Common Name	Scientific Name	Location & Date Observed
Eastern gray squirrel	<i>Sciurus carolinensis</i>	
Little brown bat	<i>Myotis lucifugus</i>	
Meadow vole	<i>Microtus pennsylvanicus</i>	
Muskrat	<i>Ondatra zibethicus</i>	
Norway rat	<i>Rattus norvegicus</i>	
Raccoon	<i>Procyon lotor</i>	
Virginia opossum	<i>Didelphis virginiana</i>	
White-footed mouse	<i>Peromyscus leucopus</i>	



Box turtle



Salt marsh Mosquito

### Reptiles and Amphibians

Common Name	Scientific Name	Location & Date Observed
Common snapping turtle	<i>Chelydra serpentine</i>	
Eastern box turtle	<i>Terrapene carolina carolina</i>	
Eastern garter snake	<i>Thamnophis sirtalis sirtalis</i>	
Gray tree frog	<i>Hyla versicolor</i>	
Northern black racer	<i>Coluber constrictor</i>	
Northern brown snake	<i>Storeria dekayi</i>	
Northern diamondback terrapin	<i>Malaclemys terrapin terrapin</i>	
Painted turtle	<i>Chrysemys picta</i>	
Redback salamander	<i>Plethodon cinereus</i>	
Spring peeper	<i>Pseudacris crucifer</i>	

### Insects

Common Name	Scientific Name	Location & Date Observed
Ant	<i>Tapinoma sessile (e.g.)</i>	
Bumblebee	<i>Bombus vagans (e.g.)</i>	
Cabbage white butterfly	<i>Pieris rapae</i>	
Dragonfly	<i>Anax junius (e.g.)</i>	
Eastern tent caterpillar	<i>Malacosoma americanum</i>	
Field cricket	<i>Gryllus spp.</i>	
Greenhead fly	<i>Tabanus spp.</i>	
Ladybug	<i>Hippodamia convergens</i>	
Monarch butterfly	<i>Danaus plexippus</i>	
Salt marsh mosquito	<i>Aedes sollicitans</i>	



## Books

Ackerman, Diane. ***A Natural History of the Senses***. New York: Vintage Books, 1990. Essays awaken us to a fresh awareness of the power of our senses. Adult

Atwell, Debby. ***River***. Boston: Houghton Mifflin, 1999. A river gradually becomes depleted as more and more people use its resources to build cities, transport goods and handle sewage. Ages 5-8

Cherry, Lynne. ***A River Ran Wild***. New York: Harcourt Brace and Co., 1992. An environmental history of the Nashua river in Massachusetts, from its discovery by Native Americans through the polluting years of the Industrial Revolution to the ambitious clean-up that revitalized it. Ages 9-12

Day, Leslie. ***Field Guide to the Natural World of New York City***. Maryland: Johns Hopkins University Press, 2007. Combining stunning paintings with a variety of photographs and maps, this book is a complete guide for the urban naturalists—with tips on identifying the city's flora and fauna and maps showing the nearest subway stop. Adult

Fowle, Marcia. ***The New York City Audubon Society Guide to Finding Birds in the Metropolitan Area***. New York: Cornell University Press, 2001. Tapping the expertise of 47 metropolitan birders, Marcia T. Fowle and Paul Kerlinger provide residents, tourists, and visiting birders with the information they need to make the most of the area's extraordinary birding sites. Adult

Hendrick, Daniel. ***Images of America: Jamaica Bay***. Charleston, South Carolina: Arcadia Publishing, 2006. Through historic photographs, follow the transformation of the Bay into a shell-fishing haven, wildlife preserve, recreational playground and now, the focus of long-term environmental rehabilitation. Adult

Hooper, Meredith. ***The Drop in my Drink***. New York: Viking, 1998. The story of water on our planet. Ages 9-12

Kornblum, William. ***At Sea in the City: New York From the Water's Edge***. North Carolina: Algonquin Books of Chapel Hill, 2002. New York City (including Jamaica Bay) through the eyes of a sailor and environmentalist. Adult

Kurlansky, Mark. ***The Big Oyster: History on the Half Shell***. New York: Ballantine Books, 2006. Here's a chatty, free-wheeling history of New York City told from the humble perspective of the once copious, eagerly consumed, now decimated eastern oyster. It focuses on an inviting social and economic history. Adult

La Rocco, Barbara. ***Going Coastal New York City: A Guide to the Waterfront***. New York: Going Coastal, Inc., 2004. A rich resource for all matters relating to New York's vast waterfront. Adult

Locker, Thomas. ***Where the River Begins***. New York: Penguin Books, 1984. A three-day journey to find the source of a river amid changing landscapes. Ages 4-8

Louv, Richard. ***Last Child in the Woods***. North Carolina: Algonquin Books of Chapel Hill, 2006. Research and solutions that direct exposure to nature is essential for healthy childhood development and for the physical and emotional health of children and adults. Adult

McCully, Betsy. ***City at the Water's Edge: A Natural History of New York***. New Jersey: Rivergate Books, Rutgers University Press, 2007. A unique account of how New York has served as an evolving habitat for a diversity of species, including our own. The author chronicles the growth of the city at the expense of the environment, but leaves the reader with a vision of a future city as a human habitat that is brought into balance with nature. Adult

National Park Service, Gateway National Recreation Area. ***The Evolving Legacy of Jamaica Bay***. Washington, DC: U.S. Department of Interior, 2003. Provides background information about Jamaica Bay's resources and resource issues, identifies stakeholders and user groups, outlines concerns and visions for the future. Adult

Outwater, Alice. ***Water: A Natural History***. New York: Basic Books, 1992. A story of the symbiosis that exists between the country's land, water and the life it supports. Adult

Parham, Jerril. ***Boundary Breakers: Remarkable People***. New York: Scholastic Library Publishing, 2007. While most people are content to rationalize the way things are, very few are willing to dedicate their lives to human rights, the environment, and other causes. A series of short biographies explains the motivations and accomplishments of people who decided not to accept the status quos. Ages 9-12

Peterson Field Guides. Various titles. Boston: Houghton Mifflin. Comprehensive and authoritative guides use accurate and detailed drawings to pinpoint key field markings for easy identification. Useful titles include, ***Trees and Shrubs, Birds of Eastern North America, Atlantic Coast Fishes, Shells of the Atlantic Seashore, Butterflies, Wildflowers*** and other areas of nature study. Adult

Peterson First Guides. Various titles. Boston: Houghton Mifflin. A simplified version of the full-sized guides, these are the first books the beginning naturalist, whether young or old, needs. Titles include, ***Guide to Birds of North America, Guide to Butterflies and Moths, Guide to Caterpillars of North America, Guide to Clouds and Weather***. Ages 7-12

Seitz, Sharon and Adrian Benepe. ***Big Apple Safari for Families: The Urban Park Rangers' Guide to Nature in New York City***. Vermont: Countryman Press, 2005. A valuable resource for those parents who have always held the love of nature as an integral part of their lives, and wish to share it with their children. This book is filled with activities and information about how to find and experience nature in all five boroughs. Adult

Seitz, Sharon and Stuart Miller. ***The Other Islands of New York City: A History and Guide***. Vermont: Countryman Press, 2001. Part travel guide, part comprehensive history and entertaining guide to forty-two human-made and natural islands that dot the waters around New York City (including Ruffle Bar, Canarsie Pol, Rulers Bar Hassock and other islands of Jamaica Bay). Adult

Shulevitz, Uri. ***Rain Rain Rivers***. New York: Farrar, Straus and Giroux, 1988. As rain patters everything nameless, a little girl imagines streams streaming, rivers rushing and the sea swelling to swallow up the sky. Ages preschool-5

Waldman, John R. ***Heartbeats in the Muck: A Dramatic Look at the History, Sea Life and Environment of New York Harbor***. New York: Globe Pequot, 1999. The book traces the fate of New York City's harbor from the 17th century, when it teemed with fish, porpoises, and whales to success stories about how it has improved. Adult



## Websites

### <http://www.alsnyc.org>

The American Littoral Society site contains information about clean-ups and restoration projects around Jamaica Bay as well as nature and seining programs offered free to the general public. Also included is a photo gallery containing images of Jamaica Bay sites, scenes and wildlife.

### [www.GreenAppleMap.org/page/modules](http://www.GreenAppleMap.org/page/modules)

Green Apple Map has produced a set of 6 new Energy & Environment Exploration Modules designed to help middle and high school age youth experience and interpret New York City's energy and environment from a sustainability perspective.

### <http://harborestuary.org>

The Harbor Estuary Program (HEP) is a National Estuary Program authorized in 1987 by the U.S. Environmental Protection Agency. The program is a multi-year endeavor to develop and implement a plan to protect, preserve, and restore the estuary.



### <http://www.marine-ed.org/>

The National Marine Educator's Association is a website that brings together people with the same interest in freshwater and salt water species. You can discover the history of this organization, find publications, and read about upcoming conferences and programs.

### [http://metroeast\\_climate.ciesin.columbia.edu/edumod.html](http://metroeast_climate.ciesin.columbia.edu/edumod.html)

The Metropolitan East Coast Assessment Educator's Pack is a package of GIS software, datasets and lesson plans designed for educators who are interested in using GIS technology to explore global climate change issues.

### [http://www.nps.gov/history/history/online\\_books/gate/jamaica\\_bay\\_hrs.pdf](http://www.nps.gov/history/history/online_books/gate/jamaica_bay_hrs.pdf)

Historic Resource Study, Jamaica Bay: A History; Gateway National Recreation Area.

### [http://www.nyc.gov/html/dep/html/dep\\_projects/jamaica\\_bay.shtml](http://www.nyc.gov/html/dep/html/dep_projects/jamaica_bay.shtml)

This website is a link to the New York City Department of Environmental Protection's Jamaica Bay Watershed Protection Plan.



### <http://www.nysmea.org/>

The New York State Marine Education Association website provides information about marine awareness, instructional resources, enrichment activities and many links to student events and programs.

### <http://training.fws.gov/library/pubs3.html>

The Nation Conservation Training Center provides a fantastic online conservation library. You will be able to gain access to photos of species, teaching materials, publications, posters, newsletters, and training opportunities related to Jamaica Bay.

### <http://www.waterfrontalliance.org>

The Metropolitan Waterfront Alliance works to transform the New York and New Jersey Harbor and local waterways into cleaner, more accessible places to play, learn and work.

Email:  
educationoffice@dep.nyc.gov/dep  
or Fax completed surveys to  
Kim Estes-Fradis at 718-595-3477

## Survey: Jamaica Bay Education Resource Directory

Name of Organization:

Website:

Contact Person Name:

Address:

Phone Number:

Contact E-mail:

Audience (check all that apply)

- Pre-kindergarten
- Elementary
- Middle School
- High School
- Adults
- Families

Program Fee:

Description of Organization:

Program Opportunities (check all that apply)

- Educator/Speaker Visit
- Field Experience
- Professional Development
- Web-based Resource
- Printed Resource
- Program for General Public
- Summer Program
- Volunteer/Internship Opportunity

Program Description:

Program Location:

Site Information:

- Restroom On-Site
- Handicapped Accessible
- Bus Parking
- Picnic Area
- Nature or Visitor Center/Indoor Facilities
- Wading Area
- Pier
- Boat Launch
- Camping
- Marked Trails
- Permit Required
- Drinking Water Fountain

## Evaluation: Jamaica Bay Education Resource Directory

Thank you for completing this evaluation of the new Jamaica Bay Watershed Education Resource Directory. Your feedback will help us when we periodically update and enhance the information contained within the directory.

1. Your Name:

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2. How did you find out about the Jamaica Bay Watershed Education Resource Directory?

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Yes  No 3. How was the information helpful to you?

Comments:

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Yes  No 4. Do you think it will be helpful to other educators?

Comments:

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Yes  No 5. Before you received the Directory, did you present information about Jamaica Bay and its watershed in lessons you conduct? Please describe.

Comments:

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Yes  No 6. Will you now consider including information about Jamaica Bay in your lessons?

Comments:

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Yes  No 7. Before you received the Directory, did you use Jamaica Bay field trips to enhance your lessons?

Please describe:

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Yes  No 8. Will you now use Jamaica Bay field trips to enhance your lessons?

Please describe:

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Yes  No 9. Before you received the Directory, did you work with any of the organizations listed in the Directory to help you develop lessons and curriculum? If you used others, please list

Comments:

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Yes  No 10. Will you now consider working with any of the organizations listed in the Directory to help you develop lessons/curriculum?

Comments:

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Yes  No 11. Did the information in the Directory help you learn about the subject?

Comments:

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Yes  No 12. Is the information in the Directory well organized?

Comments:

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Yes  No 13. Did you find any inaccuracies in the Directory?

Comments:

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Yes  No 14. Would you recommend this publication to your colleagues?

Comments:

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Yes  No 15. Would you post the electronic version of the Directory on your website or recommend it for another site?

Comments:

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**COMMENTS: Please share any additional information with us.**

16. What additional information about Jamaica Bay and its watershed would you find helpful?

---

17. How do you suggest we promote Jamaica Bay and the Jamaica Bay Education Resource Directory?

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18. Please add any further comments here. Thank you.

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**Please send the completed evaluation to:**

Kim Estes-Fradis, Deputy Director of Education and Outreach  
 New York City Department of Environmental Protection  
 59-17 Junction Boulevard  
 Flushing, NY 11373  
 Fax to 718-595-3477  
 Email to [educationoffice@dep.nyc.gov](mailto:educationoffice@dep.nyc.gov)  
[www.nyc.gov/dep](http://www.nyc.gov/dep)



