

Department of the Interior
Gateway National Recreation Area

Jamaica Bay Institute



Jamaica Bay Institute
Congressional Report
2009



This booklet is the summary of the Jamaica Bay Institute's annual report to Congress.

During the last few months of the year all the Research Learning Centers across the country are required to provide brief summaries of their activities for the previous year as well as a breakdown of monetary expenditures, impacts to accomplishments and plans for the upcoming year. These submissions are compiled and a final report submitted to Congress.

On the cover: Biological Technician, Steven Olijnyk, helps Jamaica Bay Institute Intern, Jennifer Pati, collect water quality parameters in the West Pond of the Jamaica Bay Wildlife Refuge. Photo: Jessica Browning/NPS.

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Basic Information and Administration

Initial funding year:

2002

Funding source:

Natural Resource Challenge

Mission Statement:

“To promote and improve the ecological health and social relevance of Jamaica Bay through research, education, and informed decision-making”.

Administration:

The Jamaica Bay Institute (JBI) was established in 2002 to promote and improve the ecological health and social relevance of Jamaica Bay through research, education and informed decision-making. Servicing the Jamaica Bay Unit of Gateway National Recreation Area, the JBI was staffed by a Research Coordinator (GS-12, permanent) and Biologist (GS-7, SCEP) during the 2009 fiscal year.



Facilities and Logistical Support



The Jamaica Bay Institute is housed in the Headquarters building of Floyd Bennett Field in Brooklyn. Over 4,000 square feet of space accommodates JBI staff offices, as well as the following assets:



The Researchers Suite, which offers three computers with Internet access, printer, tele-phones, shelf, drawer and desk space as well as ample room to spread out if needed. The Suite experiences steady traffic throughout the year. Researchers usually end their work days here compiling field data, checking gear and communicating with distant colleagues.





Down the hall lies the **Jamaica Bay Institute Laboratory**. Wet and dry adjoining laboratories are equipped with various materials that make it possible to carry out research there or to prepare specimen or samples for transportation to specialized labs. A large chest freezer, specimen refrigerator, large and small aquariums, vent hood and fire cabinet occupy both rooms and there is no shortage of storage or counter space.

Additional amenities include:

- ~ Drying oven
- ~ Dionized water filtration system
- ~ Light microscope
- ~ Dissection microscope
- ~ Scale



This season, both the chest freezer and refrigerator were at occupied with samples including avian samples acquired for multi-agency avian influenza monitoring, antibiotic resistant bacterial testing as well as vegetation and invertebrate samples collected as part of the Elders Point Marsh Restoration & Monitoring Project.

Off the lab lies the **break room**, a spacious area divided into a lunch and storage area. One half of the room contains lockers, desks and heavy duty shelving for both personal and equipment storage while the other half of the room contains a small refrigerator, microwave, toaster oven, pantry area and dining table. Field crew for the NPS/USACE Marsh project have utilized both areas, packing field backpacks, sorting samples, and storage and enjoying lunch breaks in a comfortable setting.



For more formal meetings and presentations, the Jamaica Bay Institute offers researchers a sizable conference room as well as a smaller room for more intimate, less formal meetings.



Upon completion of a research project, final materials are submitted and catalogued in the **Jamaica Bay Resources Library** to be utilized by students, researchers, park staff and interested public. The Jamaica Bay Resource Library houses over 4,000 publications pertaining to the natural and cultural resources of Jamaica Bay. A computerized catalog makes searching quick and convenient.



During peak research times, the library is occupied and utilized primarily by students and researchers while in the slower off-season, our own park staff visit the library to develop educational programs, public presentations, reports, PMIS entries, MOU's and more. Most of the collection can be searched via the NPS Online Library Catalog or browsed by subject from the Institute website. The operation is overseen by the Institute staff, but is run by the support of volunteers. To date, eight volunteers have worked in the library, dedicating over 1000 hours.





Photo: James Estrin, NYTimes

The JBI Research Vessel is docked at the Gateway Marina near JBI headquarters. The Research Vessel is a 21 foot Maritime skiff with a 90 horsepower Suzuki four stroke outboard. During the summer months, an MOCC certified boat operator is hired by the JBI to escort researchers to various field sites around the bay. Service is offered to researchers with a valid Gateway NRA scientific permit, on a first come first served basis.



To aid in research facilitation, the Jamaica Bay Institute offers **Lodging**, a four bedroom, two bathroom house within twenty minutes walking distance (4 minute drive) from JBI offices exclusively available to visiting scientists conducting research in the park. Additional park housing at Fort Tilden and Staten Island is made available to accommodate scientists for short-term research visits. Housing is based on a first come first served basis and must be reserved at least one month in advance.

Research Facilitation

Research Learning Centers across the nation strive to facilitate research in the National Parks. The Jamaica Bay Institute strives to accomplish this goal in many ways; through logistical support as well as creative and intellectual support. One of the criteria put forth in the congressional report includes a few paragraphs highlighting these instances.



During FY09, JBI resources and support were routinely requested and utilized by a variety of agencies, organizations and universities. The laboratory was a key storage and processing location for an assortment of items this year. JBI facilities supported such projects as “Antibiotic resistant Salmonella contamination in water fowl populations in the Jamaica Bay Wildlife Refuge”, The Seabird Ecological Assessment Network (SEANET), avian influenza surveillance in waterfowl found in Jamaica Bay, and the Elders Point Marsh Restoration Assessment and Monitoring Project.



Partnerships

The Jamaica Bay Institute partners with a number of entities throughout the year to accomplish a wide variety of short and long term projects. Partnerships are an important component of Research Learning Centers and are crucial to achieving the mission of both RLC’s and the National Park Service. Included in the following list are entities the Jamaica Bay Institute has partnered with to achieve these goals.

American Littoral Society	NYDEC
Bates College	NYU, The Steinhardt School of Education
Biology Teachers Association	Queens Botanical Garden
Brooklyn Botanical Garden	St. Johns U.
Brooklyn Children’s Museum	SUNY Stonybrook
Brooklyn College	The Lab School
CERC, Columbia University	The Rockaway Artist Alliance
CIESIN, Columbia University	University of Virginia
Columbia U.	USACOE
CUNY/CESU	USDA
Eastern National	Wagner College
Ecowatchers	Wild Metro
GAIA Institute	Wildlife Trust
GLOBE	
Hofstra University	
Hudson River Foundation	
National Geographic	
National Parks Conservation Association	
New York Aquarium	
NJ Audubon	
NPNH Ed Center	
NY SeaGrant	
NY/NJ Baykeeper	
NY/NJ Harbor Estuary Program	
NYC Audubon Society	
NYC DEP	
NYC Parks and Recreation	





“It has been such a pleasure to discover the Jamaica Bay Institute. As a new faculty at Brooklyn College, I was anxious to find partners in the community to support my research and education initiatives. The staff at JBI were extremely helpful in getting my urban students out to Gateway National Recreation Area to experience science and nature first hand. We collaborated on a student research experience at Plumb Beach and a Bioblitz at Floyd Bennett Field involving over a hundred students. Through

the professional guidance and assistance by JBI personnel, both events were an enormous success. I look forward to many more collaborations in the future, including a much larger Bioblitz in the Spring.”

Brett F. Branco, Ph.D.
City University of New York- Brooklyn College, Assistant Professor,
Geology and Associate Director, AREAC



The JBI Research Vessel provides transportation to a variety of universities, agencies and organizations every year. During the 2009 summer season the vessel was utilized 80+ times to assist with research projects throughout Jamaica Bay including ptilochronology studies by University of Virginia doctoral candidates and the monitoring and banding of barn owls and osprey nests by New York State Department of Environmental Protection and Ecowatchers, a group of local volunteers.



Once again, the Research Vessel was utilized the most by the high profile, multimillion dollar Elders Point Marsh Restoration Assessment Team- a multi-agency collaborative restoration project. The Monitoring and Adaptive Management Plan provides for monitoring vegetation, nekton, birds, benthos, insects, biogeochemistry, sediment elevation, habitat and landscape to assess the progress and detect any remedial action necessary for the 50 + restored wetland acres in Jamaica Bay.

Research Dissemination

A major role of the Resource Learning Centers is the sharing and dissemination of research results. Included in the report to Congress is the request to demonstrate these sharing and dissemination efforts, particularly to park staff and managers.



The Institute continues to coordinate a Brown Bag Lunch Series in order to connect park staff and the public with visiting researchers, interns, partners, and park staff in an informal setting. Information presented at these lunches is

frequently integrated into resource management planning, interpretive materials, and formal presentations. Two well attended events included a presentation given by a group of Brooklyn College (CUNY) students detailing their monitoring results of Plumb Beach, an area of the Jamaica Bay Unit that has experienced substantial erosion and faces serious consequences as well as a presentation entitled, “Understanding Biodiversity in an Increasingly Urban World”, outlining the effects of expanding urbanization on the flora and fauna within parks throughout New York City.

During FY09, the Jamaica Bay Institute was responsible for Natural Resource operations in addition to RLC activities. In an effort to streamline and distribute information more effectively RLC staff developed a simple yet comprehensive reporting template that allows Natural Resource staff to provide a summary and important details of monitoring activities. The goal is to post these



reports, once edited and approved by management, to the Jamaica Bay Institute website to update other programs as well as the public.

Value to Researchers

Savings to Researchers

Savings to researchers is determined by comparing the rates of area lodging to park lodging (\$17/night)*.

Hotel	Cost per night	Savings per night
Holiday Inn	\$103	\$86
Comfort Inn	\$140	\$123
Best Western	\$170	\$153
Courtyard Mariott JFK	\$189	\$172

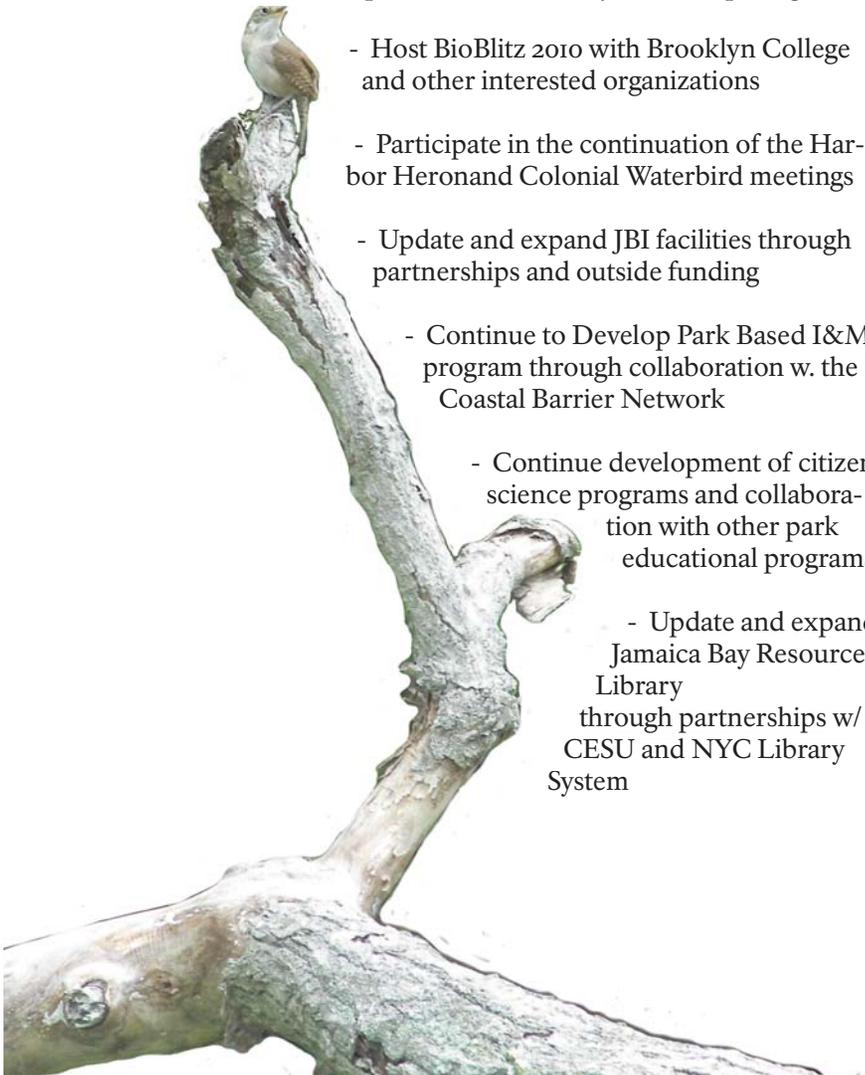
Jamaica Bay Institute offers housing, offices, lab space, computer lab, field equipment available for sign-out and most importantly: the various natural habitats of Jamaica Bay including salt marsh, grasslands, and barrier beach: all of which are within walking or a short driving distance of JBI facilities.

Of particular importance is the JBI Research Vessel that is offered to port researchers around Jamaica Bay currently offered at \$40 per day. Other boat rentals in the area may cost significantly more. This logistical ease enables researchers to maximize the use of their time and project funds.



Plans for FY2010

- Expand the Jamaica Bay Student Fellowship Program
- Expand the Jamaica Bay Internship Program
- Host BioBlitz 2010 with Brooklyn College and other interested organizations
- Participate in the continuation of the Harbor Heron and Colonial Waterbird meetings
- Update and expand JBI facilities through partnerships and outside funding
- Continue to Develop Park Based I&M program through collaboration w. the Coastal Barrier Network
- Continue development of citizen science programs and collaboration with other park educational programs
- Update and expand Jamaica Bay Resource Library through partnerships w/ CESU and NYC Library System



Communicating Relevance

In addition to facilitating and disseminating the research, Research Learning Centers are tasked with communicating the relevance of these activities to the general public as well as making results easily accessible.



Following the success of the first BioBlitz in Jamaica Bay in 2007, The Jamaica Bay Institute has again partnered with the City University of New York (CUNY) college system to host another.

On September 11-12, 2009 an eager crowd of scientists, amateur naturalists, students and volunteers gathered at Gateway National Recreation Area's Floyd Bennett Field for the start of the second Jamaica Bay Bioblitz. Despite foul weather approximately 100 students and volunteers fought the wind and rain to observe a total of 123 species of birds, fish, mammals, plants and marine and terrestrial invertebrates. Due to the inclement weather a number of taxa were not able to be sampled.



Brooklyn College (CUNY) intends to partner with the Institute on an annual basis to host these events and the most recent event, while data was collected, was a small scale “practice run” in anticipation of the larger annual events, the first which is scheduled for May 2010. A number of institutions from the New York City metropolitan area were represented at this year’s Bioblitz: Hofstra University, Brooklyn College, Queens College, College of Staten Island, Adelphi University, American Museum of Natural History, and the Environmental Protection Agency.

Raw data can be accessed at <http://www.nps.gov/gate/jamaica-bay-bioblitz.htm> as well as a short advertisement compiled by Brooklyn College (CUNY) that can be found at <http://www.brooklyn.cuny.edu/bc/spotlite/Brooklyn-Mornings2010/index5.html>

As part of an on-going effort to understand aspects of both ecology and health of a variety of wading birds as well as protect and restore coastal wetland habitat in an area that serves as the breeding sites of nine species of colonial wading birds, including herons, egrets and ibis, the Jamaica Bay Institute (JBI) at Gateway National Recreation Area (GNRA), along with Wildlife Trust, Harbor Herons Subcommittee of the NY-NJ Harbor Estuary Program, and the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service sponsored the fourth annual Harbor Herons, Cormorants, and More meeting in the fall of 2008. The gathering was convened in order to share and compare research results from the summer breeding season, discuss observable trends in the

harbor heron population, identify obstacles impairing conservation efforts, and coordinate research within the tri-state area.



GPRA



Staffing and Facilities

Ia1A, Ia1B, Ia2A, Ia2B, Ia2C, Iao4, Ia6, Iao1A, Ibo1, Ib2E, Ib4A, Ib3, IIa1, IIb1X, IVa, IVao, IVb1, and IVb2A

Research Permitting and Support

Ia1A, Ia1B, Ia2A, Ia2B, Ia2C, Iao4, Iao1A, Ibo1, Ib2E, and Ib3.

Restoration Projects

Ia1a, Iao1A, Ibo1, IIb1, IIb1X, IVa, IVao, IVb1, IVb2A, and IVb2B.

Partnerships, Internships, and Volunteers

Ia1a, Iao1A, Ibo1, Ib3, IIb1, IIb1, IIb1X, IVa, IVao, IVb1, and IVb2A

Website and Information Dissemination

Ia1a, Iao1A, Ibo1, Ib3, IIb1, IIb1X, IVa, IVao, IVb1, and IVb2A

Science for the Public

IIa1, IIb1X, IIb1, IVb1, and Iao4.

For a complete list of GPRA goals please refer to PMDS website.

Collaboration Across the Challenge

Collaboration between the Jamaica Bay Institute and many entities occurs throughout the year. The Congressional report asks for one very short example of how the RLC is improving efficiency and effectiveness in working with other NRC or other NPS programs (CESU, I&M, EPMT, other divisions, NRPC, etc.).



During 2009, The Jamaica Bay Institute was able to assist City University of New York (CUNY)-Brooklyn College, a member of the CESU system, in connecting students to the resource through place based learning programs. Geology students will visit the Jamaica Bay Unit to collect GPS data and conduct GIS studies as well as another class that will visit Plumb Beach, a highly eroded site within the park, to observe trends and formulate recommendations. Near the end of the semester, classes present their data to park staff, including management. These classes will conduct these exercises every semester and will continue to expand their scope and depth.

Promoting Resource Stewardship

As partnerships have become an essential component in many areas of the National Park Service, Research Learning Centers have been encouraged to forge new partnerships as well as foster those that previously existed to promote resource stewardship.



The Jamaica Bay Institute in cooperation with Eastern National launched “The Jamaica Bay Research Fellowship Program”.

This program serves to encourage scientific and scholarly research within the Jamaica Bay ecosystem. Particular studies that address NPS resource management issues and research needs identified in our Jamaica Bay Research Catalogue are given weight in the selection process. A typical fellowship grant is \$3,000 but may be as high as \$7500. The fellowship program supports field research in the biological, physical, social, and cultural sciences and is open to academic institutions.

Research fellows must be self-directed individuals whose work will contribute to the scientific knowledge of the natural and cultural resources of Jamaica Bay. All recipients agree to present their work in written summary and through presentations, either formally or informally, to park staff and stakeholders.

This year we are funding two projects totaling \$8000. Both graduate projects are in the natural sciences. The first selected project is from a graduate student at Hofstra University and focuses on Norway Rat predation on Diamondback Terrapins. The second awarded project is from the College of Staten Island. The graduate student proposes to ascertain effects of chronic habitat degradation on juvenile oysters.

The Jamaica Bay Institute launched the Internship Program this year. The program provides high school and undergraduate students invaluable hands-on training in the field of resource management in preparation for future academic pursuits or career ambitions in the park sciences.

Students enrolled in the program must invest a minimum of 10 hours per week, and with the cooperative nature of the program, NPS and their associated academic institution develop a performance plan, with the student earning academic credit for successful completion of program.



This year we had a local undergraduate from Hunter College who completed a spring semester internship program with the Institute. This student initiated a water quality monitoring program at the East and West ponds and devel-

oped a SOP Standard Operating Procedures document, so routine monitoring can continue on a consistent and uniform basis.



We then recruited a student from Beloit College in Wisconsin who saw the program advertised online. She is a Brooklyn resident and worked 40 hours/week for eight weeks during the summer break. She assisted in amphibian and reptile surveys and developed an SOP for our Mute swan management program.

Climate Change

In response to the climate change initiative, Research Learning Centers across the country have taken on the issue and put forth serious efforts by hosting conferences and coordinating research related to the issue.



In October 2008 the NYCDEP in partnership with the Jamaica Bay Institute convened a two-day, State of the Bay symposium highlighting emerging research on a range of issues impacting the ecology of Jamaica Bay, a unique and irreplaceable ecological resource for New York. The symposium was very successful. There were nearly 100 participants, and based on responses from attendees, each found the symposium very informative. Audience members included many Jamaica Bay environmental stakeholder groups, regulatory agencies, academic institutions and concerned citizens.

The symposium included 19 speakers presenting information on a diverse range of scientific research topics that included; salt marsh dynamics, wetland trends, eutrophication issues, implementation of “keystone” habitat pilot projects and stormwater best management practice pilot projects within the watershed of Jamaica Bay. The symposium was capped off by a boat tour of Jamaica Bay that captured all its splendid beauty.

The Research Learning Centers, developed as part of the Natural Resource Challenge, receive funding and support that is meant to further the program.