

**Testimony of Angela Licata
Deputy Commissioner of Environmental Planning and Analysis
New York City Department of Environmental Protection**

**Committee on Environmental Protection
Council of the City of New York
Oversight - Implementation of the Jamaica Bay Watershed Protection Plan
Strategies**

250 Broadway, October 29, 2010

Good morning, Chairman Gennaro and Members of the Committee. I am Angela Licata, Deputy Commissioner for Environmental Planning and Analysis at the New York City Department of Environmental Protection (DEP). Thank you for the opportunity to testify today on the implementation of the Jamaica Bay Watershed Protection Plan strategies. At the outset, I want to recognize the work of this Committee and especially your leadership, Chairman Gennaro, whose efforts have greatly contributed to making 2010 a landmark year for Jamaica Bay.

The Jamaica Bay Watershed Protection Plan was submitted to Mayor Bloomberg and City Council Speaker Quinn on October 1, 2007. The planning process required DEP to explore decentralized and integrated solutions for the issues facing our City's most valuable and fragile natural resources including stormwater management, public access, and public education and outreach in addition to water quality and restoration ecology. Most significantly, the Plan presented a comprehensive and holistic watershed approach to water quality and ecological improvements considered more financially and environmentally sustainable than infrastructure improvements traditionally relied upon.

The goals of the plan were cross cutting and far reaching throughout the watershed, and Plan implementation was based on green and gray strategies, structural and non-structural measures, innovative alternatives, pilot studies and public outreach efforts. As you will hear later in my testimony, the Jamaica Bay Watershed Protection Plan has provided the model for watershed planning approaches citywide.

Together, the planning process and ongoing efforts of different stakeholders to implement the Plan over the course of the past three years have resulted in significant progress for the Bay. In February of this year, Mayor Bloomberg announced an historic agreement between the City, the New York State Department of Environmental Conservation (DEC), the Natural Resources Defense Council (NRDC) and a coalition of environmental groups, including New York/New Jersey Baykeeper, the American Littoral Society, and Jamaica Bay Ecowatch, under which the City will make \$115 million in new investments to improve overall water quality and mitigate marshland loss in Jamaica Bay.

The investments include \$100 million to install new nitrogen-control technologies at four wastewater treatment plants located on Jamaica Bay. The investments, made in concert with \$95 million the City has already committed for nitrogen control upgrades, will reduce the nitrogen loads discharged into Jamaica Bay by nearly 50% over the next ten years. That puts us well on the way to meeting State water quality standards. And it will have a remarkable impact on the overall quality of the Bay's ecology.

These upgrades range from basic retrofits of existing equipment to introducing new nitrogen-reducing chemicals and adding additional aeration tanks. The 26th Ward plant will be the first to be upgraded, by 2015. By 2019, work on the Rockaway plant will be finished. Upgrades to the Coney Island plant will be complete in 2020.

The City will also invest \$15 million for marshland restoration projects around the 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 over and above the projects included in the agreement. For example, using \$15 million in Federal stimulus funds, we are going to restore 38 acres of wetlands and grasslands near a DEP facility under construction in Paerdegat Basin.

Most recently—on September 28th—Mayor Bloomberg unveiled the NYC Green Infrastructure Plan, a comprehensive plan to improve harbor water quality by capturing and retaining stormwater runoff before it enters the sewer system. The NYC Green

Infrastructure Plan identifies green infrastructure opportunities such as streets and sidewalks, multi-family residential complexes, commercial development parking lots and new development/redevelopment in combined sewer areas across the city, including those that are adjacent to Jamaica Bay and its tributaries. Specifically, the Plan quantifies these opportunities in terms of captured runoff, combined sewer overflow reductions, and cost savings compared to an all-gray infrastructure approach. In addition to water quality improvements, the NYC Green Infrastructure Plan is expected to enhance conservation, create green neighborhoods and reduce the costs required for grey infrastructure.

The multiple objectives of the Green Infrastructure Plan combined with a set of diverse implementation strategies presents a citywide management approach very similar to the Jamaica Bay Watershed Protection Plan. In fact, some of the first green infrastructure projects thought to be essential to the implementation of the Green Infrastructure Plan are being piloted in the Jamaica Bay Watershed.

The pilots are intended to demonstrate retrofit technologies most suitable to NYC's environmental conditions and most likely to be replicated based on general land use opportunities and common development practices. Each pilot project includes monitoring for a two-to-three year period to collect data on performance and inflow and outflow measurements, construction costs, maintenance requirements, and potential water quality impacts within specific waterbodies. DEP's robust monitoring program will measure and analyze the effectiveness of each demonstration project, and allow the City to fine tune the green infrastructure approach as it is scaled up to meet the goals of the Plan.

Another key aspect of adaptive management approaches in both the Green Infrastructure Plan and Jamaica Bay Watershed Protection Plan is monitoring on a larger scale. In June of this year, DEP launched an enhanced water quality testing program in Jamaica Bay, increasing the number of sampling sites there from 13 to 20 locations, including combined sewer overflow post-construction monitoring in selected tributaries. Bay and Harbor monitoring gives DEP vital information needed to ensure that the City's 14

wastewater treatment plants meet or exceed State and federal treatment standards and to determine the effectiveness of watershed-wide strategies over time.

In the remainder of my testimony I would like to offer more detail on a few of the wide range of implementation strategies that are enumerated in the nine-page chart at the front of the Plan Update: first, those that will see citywide application as elements of the Green Infrastructure Plan, and second, those that are integral to the ecological restoration of the Bay.

Streetside Swale / Enhanced Tree Pit Pilots

A total of five enhanced tree pits with subsurface storage capability and six streetside infiltration swales were constructed in various residential and commercial neighborhoods throughout the Jamaica Bay watershed this past spring and summer. Stormwater flow is directed to each tree pit and swale through a series of approved curb-cut or catch basin inlets. In the event of heavy rainfall, the tree pits and swales also have curb-cut outlets to relieve additional flow volumes. Different subsurface storage technologies are also being evaluated as part of the streetside swales, including stormwater chambers, crushed stone and recycled crushed glass. In addition to stormwater infiltration, vegetative uptake and evapotranspiration, these green infrastructure installations also provide depression storage on the surface for increased stormwater capture.

As the vegetation at each of these pilot sites becomes established, these pilot projects add aesthetic value and other environmental benefits to the community. In addition to the monitoring parameters to be evaluated across all of the pilots, these projects will also look more closely at maintenance procedures and costs to address potential agency concerns.

The North and South Conduit Avenue Stormwater Pilot

This pilot involves the design, construction and monitoring of a large bioretention system within an existing roadway median to divert stormwater runoff from adjacent roadways and away from the existing drainage infrastructure into green infrastructure. The project

is located between North and South Conduit Avenues, near the intersection of Sutter Avenue in Queens. It is anticipated that drainage from approximately nine acres will be captured and treated by the proposed project. Street drainage modifications are being implemented through a combination of curb cuts, catch basin modifications, and installation of new catch basins.

Design recommendations for bioretention systems on other medians in New York City right-of-ways can potentially be established based on the monitoring results of this pilot.

Green Roof / Blue Roof Pilot

In partnership with the New York City Department of Education (DOE) and School Construction Authority (SCA), DEP completed the construction of a blue and green roof comparison pilot study on an existing school roof this past August. The pilot will directly compare construction costs, maintenance requirements and performance of two rooftop source controls under similar environmental conditions.

Design of both the green roof and blue roof components was based on the typical structural loading capacity of existing buildings. Construction—completed this past August—involved the removal and replacement of the existing roofing system, installation of controlled flow orifices in the roof drains, intermediate check dams for the blue roof, and 4” of soil media on the green roof system. In addition to the blue and green roof installations, an unmodified section of the roof will serve as the control in the study.

This pilot project includes a significant educational component as DEP develops a monitoring program that involves the teachers and students of PS 118 through the installation of on-the-roof and other instrumentation in classrooms. Student involvement in monitoring combined with lessons on different environmental topics as provided in the Jamaica Bay Education Resource Directory can promote environmental awareness and stewardship early in a child’s education and development.

Rain Barrel Giveaway Program

This pilot, now complete, distributed 1,000 rain barrels—250 rain barrels in the summer of 2008 and 750 in the summer of 2009—to single- and two-family homeowners in the watershed. Through distribution and collection of a homeowner survey, the pilot allowed for an evaluation of homeowners' interest and ability to install and maintain rain barrels and regularly use captured stormwater to irrigate lawns and landscaping. Homeowner responses were overwhelmingly positive: 84% of survey respondents were likely to recommend a rain barrel to a friend or neighbor and 95% said they would reconnect their barrel in the spring. Eighty percent said that the barrel satisfied at least half of their landscape watering needs.

Stormwater Rate Study

As you may also be aware, the Water Board completed a study in December 2009 that evaluated expenditures, revenue sources, and alternative water, wastewater and stormwater rate structures. A primary goal of the study was to research possible structures that could be implemented in New York City to enhance revenue stability, equity for customers, and resource conservation.

One strategy resulting from the study is a Sewer Charge for Stormwater for Parking Lots. The charge would apply to parking lots that have no water service and therefore do not pay for wastewater services, yet are generating demands on the wastewater system due to the extent of impervious surface coverage on these lots. Parking lots will be charged an annual wastewater charge for stormwater of \$0.05 per square foot of property area. A credit program will be in place when DEP implements this. The charge to incentivize approvable green infrastructure technologies is to be implemented in January 2011.

These projects represent the City's progress on several stormwater initiatives first identified in the Jamaica Bay Watershed Protection Plan, and they are now expected to provide a sound, cost-effective basis for the continuous refinement of the adaptive management approach outlined in the NYC Green Infrastructure Plan.

Now I would like to describe the pilots and techniques we are implementing that are directed at improving water quality and the ecology of the Bay.

Marsh Island Restoration

Construction of the Elders Point West wetland began in November 2009. This \$11.6 million project will restore approximately 35 acres of wetland habitat. DEP provided a cost-share of approximately \$2.75 million.

An additional 60 acres of wetland habitat are proposed for restoration at Yellow Bar Hassock. Designs are currently being developed by the US Army Corps of Engineers and are expected to be completed by the end of 2010.

Eelgrass

This pilot consists of limited plantings of eelgrass near Floyd Bennett Field, Little Egg Marsh, Breezy Point Tip, Breezy Point Yacht Club and Dubos Point to evaluate existing environmental conditions for the potential to restore eelgrass. Submerged aquatic vegetation beds are important for a number of fish and shellfish species. Additional objectives of the pilot were to determine appropriate planting depths, timing of plantings and whether to use seeds or adult shoots.

Although both the spring 2009 and 2010 planting of approximately 3,500 plants combined did not result in the sustainable establishment of eelgrass in Jamaica Bay, the pilot project has provided DEP a continuous learning opportunity not just about eelgrass but about the overall improving conditions within the bay. For example, excessive sediment movement may be one factor preventing the establishment of eelgrass. The Breezy Point Tip area exhibited the most favorable results and a larger-scale planting is anticipated to occur in the fall of 2011 to continue this study.

Paerdegat Basin Restoration

In January 2010, DEP announced the registration of a \$15 million American Recovery and Reinvestment Act (ARRA) funded contract to restore 38 acres of wetlands and

coastal grasslands adjacent to the Paerdegat Basin CSO Facility. This investment will greatly improve the ecology of the Paerdegat Basin area and, when finished, will enable the community to enjoy a five-acre Ecology Park surrounded by native plant and animal life. The combination of absorbing more stormwater and the creation of tidal wetlands will improve water quality in Paerdegat Basin. The Ecology Park will offer access to salt marsh intertidal mudflats, grassland, and shrublands and include educational exhibits about coastal habitats. Construction began in spring 2010 and is expected to be completed in January 2012. The restoration will complement the \$357 million capital investment that DEP is making in building the Paerdegat Basin CSO abatement project, which will store 50-million gallons of CSOs during storms.

Oyster Bed Pilot

This month DEP is undertaking two oyster bed reintroduction pilot studies within Jamaica Bay—the design and implementation of an oyster bed off Dubos Point, Queens, and the placement of oyster reef balls in Gerritsen Creek, Brooklyn. The oyster study will evaluate whether climatic and environmental conditions within the bay are suitable for oyster growth and reproduction. The study will also measure how effective these bivalves are at filtering various pollutants affecting the bay, such as nitrogen, other nutrients, and particulate organic matter. If the pilot is successful, the oysters could not only help regenerate the natural environment of the bay, but also provide additional water quality benefits.

I appreciate the opportunity to present testimony and to answer any questions you may have.

Testimony Submitted by
Doug Adamo, Chief, Natural Resource Management Division
Gateway National Recreation Area

Before the Committee on Environmental Protection
The Council of the City of New York

October 29, 2010

I am Doug Adamo, Chief of the Natural Resource Management Division at Gateway National Recreation Area, a unit of the U.S. Department of the Interior's National Park Service. I am here to offer the following comments on behalf of Gateway National Recreation Area and its role as natural resource steward of a major portion of the Jamaica Bay estuary, including the Jamaica Bay Wildlife Refuge. The National Park Service and Gateway National Recreation Area appreciate the opportunity to testify today regarding the New York City Department of Environmental Protection (NYCDEP) Jamaica Bay Watershed Protection Plan (JBWPP), including the plan updates and its overall level of effectiveness:

The National Park Service mission to "...preserve unimpaired the natural and cultural resources of the National Park System, for the enjoyment, education and inspiration of this and future generations" is generally supported by the goals of the JBWPP. In order to fulfill the more specific park mission: "...to protect significant park resources and create high quality opportunities for visitors to enjoy," Gateway National Recreation Area natural resource managers and researchers have been working cooperatively with key non-government groups, city, state, and federal agencies. When Local Law 71 was

passed, I was pleased to participate for the National Park Service as a co-chair on the Jamaica Bay Watershed Protection Plan (JBWPP) Advisory Committee created by the law under the leadership of Councilman James Gennaro. We have been encouraged by the spirit of cooperation that Local Law 71 inspired and, due to the efforts of many government and non-government entities, we remain optimistic about the future of the Bay's aquatic ecosystems. We continue to view the overall goal of restoring and sustaining the water and sediment quality and ecological integrity of Jamaica Bay as the highest priority for Gateway National Recreation Area, its wildlife, its millions of visitors, and the City of New York.

The National Park Service is encouraged by the progress made since the JBWPP was released. The updates to the JBWPP underscore NYCDEP's commitment to the overall plan objectives, especially with respect to ecosystem restoration project support.

Although further research is needed to find a clear link between cause and effect pertaining to saltmarsh and other habitat loss in Jamaica Bay, restorative measures have yielded nearly 100 acres of newly created saltmarsh over the past 5-6 years. Jamaica Bay remains one of the largest and most productive coastal ecosystems in the northeastern United States, and includes the largest tidal wetland complex in the New York metropolitan area. The functions and values of this resource to fish and wildlife have been well documented and are also well known by those concerned, including yourselves. The National Park Service therefore applauds the planned 50% nitrogen reduction from wastewater treatment facilities over the next ten years. This is a very encouraging start

toward the improvement of the relatively poor water quality of the bay and its watershed / sewershed.

From a resource management perspective, The National Park Service is greatly concerned about getting over the water quality hurdle as quickly as possible because most of the resource management strategies being developed for the bay are contingent upon good water quality for success. Once the Bay's waters and sediments are improved to a sustainable high level of quality, ecosystem restoration efforts, such as shellfish and seagrass beds that have been absent from the bay for decades, will no longer be viewed as high risk endeavors. Partners will be more willing to support these and other ecosystem restoration efforts, and the future of the Bay will again be bright. We encourage NYCDEP and all involved partners to take the next big step toward such sustainability, and plan to reduce to nitrogen loading by another 50% by 2030.

The National Park Service is also encouraged by the implementation of pilot projects such as the wastewater treatment plant algal scrubbers, the Paerdegat Basin restoration (including the storm water tanks and tidal wetland creation), the Green Infrastructure Plan, and Streetside Swale/Enhanced Tree Pit Pilots. All these, and other pilots that improve watershed conditions, will contribute to the goals of the plan. The one missing element, sediment contamination abatement, is perhaps one of the most challenging technologically and in terms of gaining public support. As the JBWPP mentions, nearly 50% of Jamaica Bay sediments are contaminated at various levels. Since the sediments represent a critical habitat interface with the water column and are capable of supporting

the basis of the aquatic food web, improving the Bay's sediment quality must be viewed as a second critical element, along with water quality improvement, in our quest for a healthy and sustainable estuarine ecosystem. We therefore, encourage NYCDEP and all involved partners to focus on this important task in coordination with the National Park Service and all involved partners.

The National Park Service and Gateway National Recreation Area greatly appreciate the work and support of New York City Council's Committee on Environmental Protection. We look forward to sustained support from the Council and the many other partners involved in protection and enhancing the Jamaica Bay ecosystem. We are extremely grateful for the dedication and knowledge shared by the many talented staff members throughout the agencies, universities, and organizations. In the spirit of the original intent of Local Law 71, we urge you to support any and all immediate actions pertaining to the most critical concern at hand, the continued reduction of water and sediment contaminants in the Bay, as well as implementation of other key steps and management practices recommended by the Jamaica Bay Watershed Protection Plan Advisory Committee throughout the Jamaica Bay Watershed.

I thank you again for your support and interest in this endeavor, and for the opportunity to submit this testimony.

**TESTIMONY SUBMITTED BY
LEONARD HOUSTON, CHIEF
ENVIRONMENTAL ANALYSIS BRANCH,
NEW YORK DISTRICT, U.S.ARMY CORPS OF ENGINEERS**

**OVERSIGHT HEARING ON THE IMPLEMENTATION OF THE JAMAICA
BAY WATERSHED PROTECTION PLAN STRATEGIES.**

**BEFORE THE COMMITTEE ON ENVIRONMENTAL PROTECTION
THE COUNCIL OF THE CITY OF NEW YORK
JAMES F. GENNARO, CHAIRMAN**

OCTOBER 29, 2010

As one of the mayor's appointees to the Advisory Committee that the Council charged with oversight in the preparation of the Jamaica Bay Watershed Protection Plan (JBWPP) it has been my privilege to work closely with the six other Committee members and the Department of Environmental Protection (DEP) in developing and advancing this innovative and far reaching plan to restore the bay. The challenge now lies in putting the plan strategies into action to make real progress toward improving Jamaica Bay.

As an agency, our District Engineer, Colonel John R. Boule has championed the concept of a World Class estuary in which the economic values of the Port of New York and New Jersey and the environmental values of Hudson Raritan Estuary (HRE), of which Jamaica Bay is an integral part, are looked upon as mutually supportive elements of a sustainable system. The ongoing deepening of the navigation channels in the Port reflects the Federal government's commitment to the economy of the region, while the creation of a Comprehensive Restoration Plan (CRP) for the HRE is the first major step towards the environmental commitment that completes the balanced vision.

Developed with matching funds from the Port Authority of New York and New Jersey (PANYNJ), this master plan for restoring the ecological values of the estuary has been developed and supported by a diverse group of stakeholders that includes city agencies such as the DEP, Department of Parks and Recreation (DPR), City Planning and the Economic Development Commission (EDC). The CRP is being looked upon as a guide for the many collaborators to use in planning their individual restoration efforts to support system-wide goals. The CRP is divided into eight geographical sub-regions, one of which is Jamaica Bay. Since the Jamaica Bay Watershed Protection Plan is fully consistent with the goals of the HRE, we have been able to work with our partners to implement projects that advance both plans in a mutually beneficial manner. Most notable is the on-going oyster reef pilot study. Designed in close coordination with DEP's current oyster bed pilots in Gerritsen Creek and off Dubos Point, this HRE-funded effort will have completed six small pilot reefs at locations throughout the HRE. The results from these sites, taken in conjunction with DEP's monitoring of their Jamaica Bay sites, will provide valuable insight into expanding the JBWPP strategy for oyster reef restoration in the bay.

For actions directly supporting implementation of JBWPP strategies you have only to look at the marsh restorations that began in 2006. Matching state and local funds at a 2:1 level, The Corps has been able to put in place two completed marsh restorations this year; one along a tributary into the bay, Gerritsen Creek, and the other in the central portion of the bay at Elders Island West. At Gerritsen we matched \$1.5 million funds from NYCDPR with \$5 M Federal to create 20 acre shoreline marsh from a former

landfill, while at Elders West we matched a combined \$4.2 M from DEP and NY State Department of Environmental Conservation with an additional \$7.8M to beneficially use some 240,000 cys of dredged material from the harbor deepening to add 34 acres of salt marsh to the 42 acres that were constructed earlier at Elders East, in partnership with the PANYNJ. Besides adding to marshes lost when the landfill was created, the marsh at the head of Gerritsen Creek will also help improve the water quality in the tributary and ultimately the bay, another major strategy from the JBWPP. The Elders West marsh island, taken in conjunction with Elders East, represents the first serious large-scale reversal of what had been a steady annual decline in marsh islands that has been plaguing the bay for many years. None of this would have been possible without the outstanding cooperation of Gateway National Recreation Area (GNRA). Not only did Gateway approve the two island restorations on their own property, but they have been an active partner in the site designs and are now conducting a detailed monitoring of both sites to help document their success and identify measures to correct any problems or improve the process in the future

And that future appears to be bright. Plans are currently being completed for a second tributary marsh restoration at the head of Spring Creek (again with NYCDPR), and a third marsh island at Yellow Bar (with the same DEP/DEC partnership) in 2011. Estimated at a total cost over \$25M, the two projects alone would have exceeded the settlement funds DEP has dedicated to marsh restoration in the bay. However, by working together, Federal funds would cover two thirds of the construction costs, freeing

city and state funds to advance additional restoration plans for Blackwall and Ruler's bar marsh islands that are just getting underway now.

This said, we also realize Jamaica Bay is made up of a diversity of habitats in addition to marsh islands. The Corps has recently completed a Feasibility report to restore eight other sites along the periphery of the bay. These range from a beach/marsh complex along Deadhorse Point, to water quality and benthic habitat improvements within Paedegat and Fresh creek tributaries (advancing the JBWPP implementation strategy for CSO controls at these tributaries), and to marsh protection and creation along the bay's periphery at Brant Point, Dubos point and Hawtree Basin (supporting the JBWPP wave attenuator pilot strategy to protect what is still there). Though still several years from final approval and authorization by Congress, these projects represent the second generation of improvements, and a longer-term opportunity to expand tight budgets through future cost-sharing. As such, active support by the Council would go a long way toward getting Congressional authorization and funding to put those in place for the years to come.

We have succeeded collectively so far because everyone worked together to move traditional hurdles and roadblocks out of the path to success. Over the past several years a truly astounding and very successful partnership for the bay has evolved, and the results are there for all to see. This remarkable level of success has been due in no small part to the group putting the needs of the bay above their own. It is imperative that this ability to focus on the big picture be maintained. Though appropriate environmental

controls must be and have been followed, the desire for perfection, to push a specific agenda or eliminate all levels of risk must not be allowed to creep back into the planning or review process or we will quickly see the costs escalate and the time frames expand to the point that real opportunities are lost and the bay suffers in the long-run.

But for now, at least, Jamaica bay has been the center of attention and recipient of substantial investments in its protection and restoration. It serves as a great example of how a diverse group of stakeholders can all work toward a common goal and is therefore looked upon as the poster child or model for advancing restoration throughout the HRE. As such Colonel Boulé has been very proactive in bringing agencies and organizations to the bay to witness what can and has occurred. While onboard he has used the opportunity to promote not just the bay but the overarching idea of a world Class Estuary to a whole new group of potential partners, political supporters, donors, and the media. This has resulted in a flurry of very favorable media coverage and strong public support that culminated in a recent visit from Secretary of Interior Kenneth Salazar to convene a summit on Ellis Island to explore ways of advancing the conservation agenda for urban parks in the harbor, and in particular Jamaica Bay, through adaptation of the CRP. Collectively we have the partnership and the unified vision that fits in very nicely with many of the strategies in the JBWPP and we look forward to many years of great work together to move these ideas to fruition.

**TESTIMONY SUBMITTED BY
BRADFORD H. SEWELL, SENIOR ATTORNEY
NATURAL RESOURCES DEFENSE COUNCIL**

**OVERSIGHT HEARING – IMPLEMENTATION OF THE JAMAICA BAY
WATERSHED PROTECTION PLAN**

**BEFORE THE COMMITTEE ON ENVIRONMENTAL PROTECTION
THE COUNCIL OF THE CITY OF NEW YORK
OCTOBER 29, 2010**

I am Brad Sewell, Senior Attorney with the Natural Resources Defense Council (NRDC). I direct NRDC's Atlantic coast and ocean-related advocacy activities, including with respect to Jamaica Bay. As the Committee knows, I have served as co-chair of the Jamaica Bay Watershed Protection Plan Advisory Committee (Advisory Committee), which advised the New York City Department of Environmental Protection (DEP) during DEP's development of the Jamaica Bay Watershed Protection Plan. I greatly appreciate the opportunity to appear again before the Committee to testify about Jamaica Bay and specifically about implementation of the Jamaica Bay Protection Plan.

Jamaica Bay is one of the largest and most productive coastal ecosystems in the northeastern United States, and includes the largest tidal wetland complex in the New York metropolitan area. The bay's waters and marshes are home to a diversity of wildlife and a haven for millions of people who fish, boat and enjoy a view of Manhattan from within this urban oasis. Its wetlands serve as a critical stopover point for migrating birds – estimated to be visited annually by nearly twenty percent of the continent's different bird species – and are home for more than eighty fish species, as well as many threatened and endangered species. The bay's tidal marshes also provide flood protection and shoreline erosion control for surrounding homes and businesses in Brooklyn and Queens.

This year brought the best news for Jamaica Bay in a very long time. The Advisory Committee's #1 recommendation for the Jamaica Bay Watershed Protection Plan was for DEP to drastically reduce nitrogen pollution into the bay. Around 40,000 pounds of nitrogen a day pour into the bay from four city sewage treatment plants, making it among the most nitrogen-polluted water bodies in the world. The excess nitrogen causes harmful algae

blooms that frequently render portions of the bay inhospitable to marine life and unusable for people. There is also mounting evidence that elevated nitrogen levels are contributing to the rapid erosion of the marsh islands. It was the Advisory Committee's determination, one shared by many other experts, that the bay's ecosystem will not survive without a substantial reduction in nitrogen loadings.

Last January, New York City publicly committed to significantly reduce nitrogen pollution into the bay, as well as to fund large-scale marsh restoration activities and to improve water quality monitoring in the bay. The Jamaica Bay Watershed Protection Plan update report submitted earlier this month to the Council provides some information about the proposal, which was crafted with the New York State Department of Environmental Conservation, NRDC, and several other conservation groups.

Here's a thumbnail sketch of what's in the proposed agreement:

Over a period of 10 years, the City has committed to invest in a series of upgrades at all four of the treatment plants, which are expected to cut the current nitrogen discharges to the Bay *nearly in half*. Some of the cost-effective pollution abatement technologies the City will be using are quite innovative and, in the tradition of New York City leading the way, could well be applied elsewhere to address nutrient pollution, which is an escalating global environmental problem.

The City will also direct \$15 million over the next five years to restoring the bay's signature marsh islands that we hope will be matched nearly 2:1 by federal funds through the Corps of Engineers.

Finally, the City will significantly improve its monitoring of water quality in the Bay. This may include using new equipment to provide continuous, real-time information on conditions in the bay, so New Yorkers can track the success of this plan. Under the agreement, citizen groups will continue to have a formal role in the development of these new monitoring plans. The intensive monitoring will also allow state and federal regulators to determine, after all of

the treatment plant upgrades are completed, whether additional measures to reduce water pollution are needed to fully restore the bay to health.

One key element of the commitments by the City is that they will resolve a long-running dispute over the sewage plants' Clean Water Act permits. The City is agreeing to new, stricter permit terms that will lock in a binding and enforceable schedule for treatment plant upgrades and the resulting reductions in nitrogen discharges. This will ensure they are lasting commitments not only by the Bloomberg Administration, but by the City of New York for years to come.

Once the complex agreement is finalized – which we believe will be soon -- it will be a landmark achievement to help ensure that the bay remains a haven for all of its amazing wildlife and for the millions of New Yorkers that learn from it and enjoy its refuge. DEP should be heartily congratulated for making these significant and long-term commitments to Jamaica Bay.

The components of the agreement also constitute very significant improvements to the Jamaica Bay Watershed Protection Plan, relative to two years ago when the last Plan update was done. In addition, according to this month's update, important pilot projects included in the Plan, such as construction of an algal turf scrubbers pilot at the Rockaway plant, have also moved forward. Another example of progress, based on the update: components of the important program to implement stormwater best management practices or "BMPs," which overlap with the City's efforts pursuant to Local Law 5 and PlaNYC, and with DEP's Green Infrastructure initiative, are substantially underway.

Having discussed the good news, we would be remiss not to draw the Committee's attention at this oversight hearing to certain significant remaining shortcomings of the Jamaica Bay Watershed Protection Plan, including as reported in the latest update from DEP. As the Committee is aware, the Advisory Committee criticized the Plan when it was released in October 2007 because we believed that it lacked critical components required by the authorizing statute, Local Law 71, namely adequate performance goals, implementation schedules, and monitoring programs. Specifically, according to Local Law 71, the Plan was

to have included specific goals for water quality and ecological improvements to result from the Plan, schedules for implementing each component of the Plan and for achieving its goals, and a method for monitoring progress. The October 2007 Plan did not include these components. Rather, it set out a long list of proposed activities without tying them to specific or even Plan-wide performance goals and did not include a meaningful plan for monitoring the success of these activities. Many of these proposed activities are not simply part of the Jamaica Bay Plan but also part of other programs and initiatives and have an array of other goals and objectives.

The latest Plan update has not corrected these problems. We remain without a Plan that complies with the legal requirements and contains all the necessary components, meaning a plan with specific meaningful goals, the specific means of achieving those goals, and a means of knowing whether we are, in fact, succeeding in doing so. We continue to believe these missing components are critical to the Plan's ultimate success. Indeed, we are uncertain as to how the DEP will be able to comply with the legal requirement to review and revise the Plan as necessary (and no less frequently than every two years) to achieve its goals – as things now stand, there are no specific Plan goals to achieve, no monitoring program by which to determine whether such goals, *if* they existed, were being achieved, and no project-related construction or performance milestones that could be revised to improve success in achieving the Plan goals (*if* they existed). This is a fundamental problem, as we are sure the Committee recognizes: with a plan like this, determining whether and what improvements are necessary requires knowing what the plan intended to accomplish in the first place and how it planned to do so.

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New York City is very fortunate to have a unit of the National Park Service within its borders, including the only federal wildlife refuge accessible by subway. A concerted effort to counteract the array of threats confronting the bay is necessary to preserve its incalculable benefits to the City and the region. We thank the Committee for its role in initiating and steering such an effort, as well as for holding this hearing today and providing NRDC with the opportunity to testify.



NEW YORK CITY AUDUBON

Report to the Committee on Environmental Protection
New York City Audubon
Jamaica Bay Watershed Protection Plan
October 29, 2010

My name is Lynne Hertzog, and I am Vice President of the Board of New York City Audubon. New York City Audubon is an independent grass-roots conservation organization, affiliated with the National Audubon Society since 1980. We serve and represent 10,000 members in the City's five boroughs. Our primary mission is to protect wild birds and habitat within the City, improving the quality of life for all New Yorkers. From protecting herons, egrets, and ibis nesting in the New York Harbor to raising awareness of the hazards of glass and light for millions of migratory birds, to linking beach cleanups with horseshoe crab surveys and shorebird observations in Jamaica Bay, New York City, Audubon has been at the forefront of efforts to protect wild birds and their habitat. We educate the public about the importance of our city for wild birds and nurture the next generation of young conservationists and stewards of our environment.

Urban habitats can yield a surprisingly significant level of biodiversity, but the challenge of maintaining healthy habitats in an industrialized, heavily built environment can be daunting. Agencies are faced with the need to manage habitats altered by human development. For example, the National Park Service has mandated the managers of the Jamaica Bay Unit of NPS's Gateway National Recreation Area to manage the Jamaica Bay Wildlife Refuge for the protection of all species, especially those of conservation need. A significant proportion of those species are migratory shorebirds.

Jamaica Bay is designated by Bird Life International, the leading international conservation organization, as an Important Bird Area of global significance because of its use by migratory shorebirds and colonially breeding waterbirds. Overall, shorebird populations are declining rapidly, and some species like the Red Knot may go extinct within our lifetime. At least 35 species of shorebirds have been identified during their migration through Jamaica Bay. Most of these species are long-distance migrants, and one individual bird will traverse thousands of miles as it moves to and from breeding and wintering grounds in the Arctic and Latin America. Many of these birds depend upon finding suitable stopover habitat that affords high-energy food and protection from predators along the way is critical to the survival of the individuals and the persistence of the species. As coastal and wetland habitat continue to degrade and/or disappear, areas like the Jamaica Bay mudflats play an increasingly important role in the conservation of migratory species.

Jamaica Bay is the most important area for birds in New York City. Protecting Jamaica Bay's watershed and achieving high standards of water quality in the Bay are critical components in providing high quality habitat for the survival, health, and condition of these key wetland-dependent bird species. New York City Audubon applauds the efforts of the Mayor's Office and the New York State Department of Environmental Protection in their implementation strategy for Jamaica Bay's watershed protection. In addition to the work being done regarding best management practices for stormwater management, reduction of nitrogen loading and CSO inputs, and improved dissolved oxygen concentrations, New York City Audubon urges that the City move forward in committing funding to monitoring programs so that these management strategies can be evaluated at the ecosystem level. The fate of migratory shorebirds passing through Jamaica Bay depends on these actions.

Thank you.

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Appearance Card

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I represent: NYC Dept. of Environmental

Address: Protection

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Date: _____

Name: Lynne Hertzog (PLEASE PRINT)

Address: 71 W. 23rd St.

I represent: NYC Audubon

Address: 71 W. 23rd St.

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Name: Leonard Houston (PLEASE PRINT)

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I represent: US Army Corps Engineers

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(PLEASE PRINT)
Name: Brad Sewell
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I represent: Natural Resource Defense Council
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Name: Douglas Adamo
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I represent: The National Park Service
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