INTERSTATE ENVIRONMENTAL COMMISSION

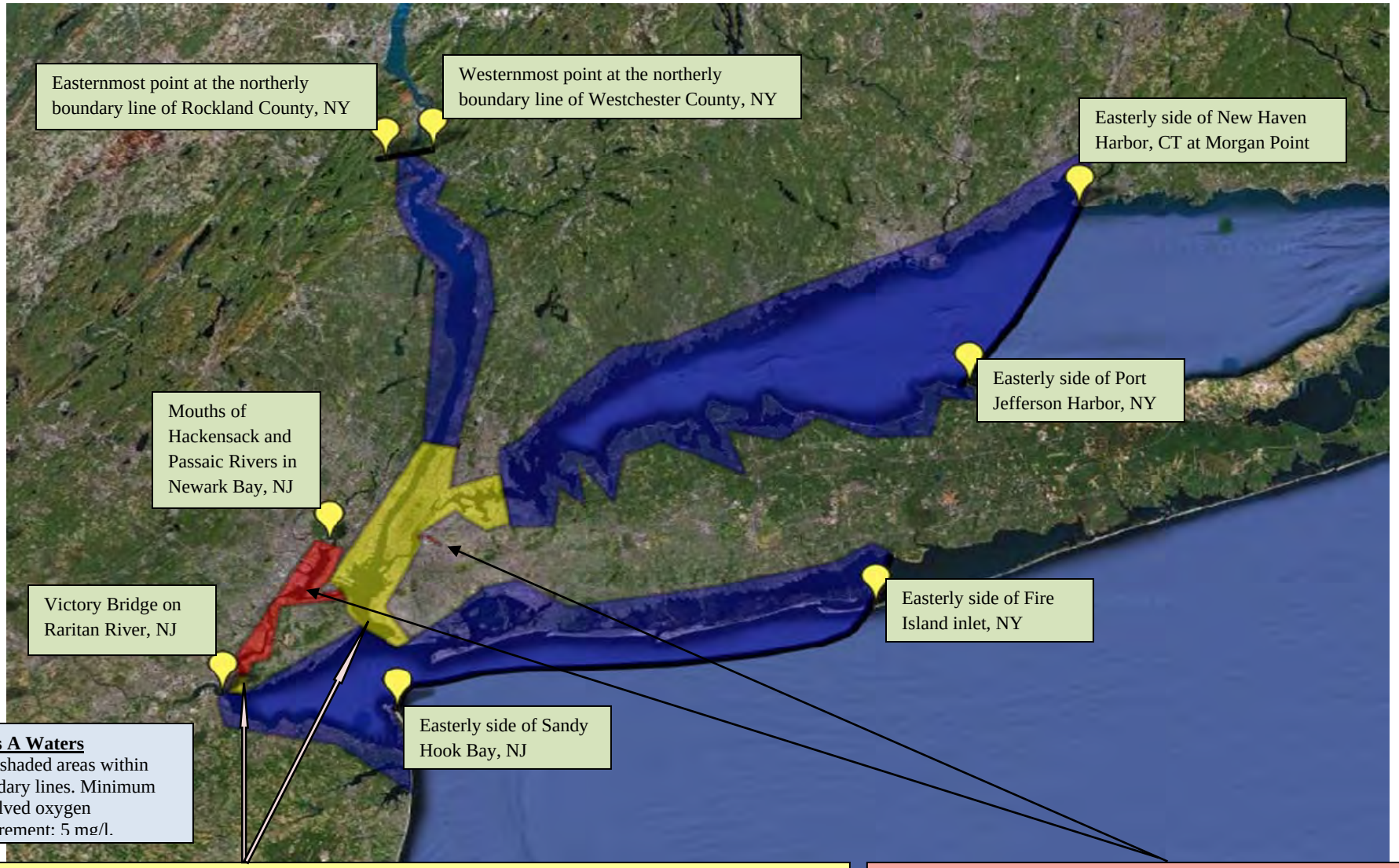
New York – New Jersey - Connecticut

ANNUAL REPORT 2011

THE INTERSTATE ENVIRONMENTAL DISTRICT

Classification of Waters

Yellow Watermarks: Boundary Points | **Solid Black Lines: Boundary Lines** | **Blue Areas: Class A Waters** | **Yellow Areas: Class B-1 Waters** | **Red Areas: Class B-2 Waters**



Class A Waters
Blue shaded areas within boundary lines. Minimum dissolved oxygen requirement: 5 mg/l.

Class B-1 Waters
West from the Whitestone Br. and south from the confluence of Hudson River with the Harlem River, including the upper New York Harbor, a portion of the Lower Bay and terminating at the mouth of the Kill Van Kull. Also, the lower portion of the Arthur Kill south of Outerbridge Crossing. Minimum dissolved oxygen requirement: 4 mg/l.

Class B-2 Waters
The waters of the Arthur Kill north of Outerbridge Crossing and those of the Newark Bay, Kill Van Kull and Newtown Creek. Minimum dissolved oxygen requirement: 3 mg/l.

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INTERSTATE ENVIRONMENTAL COMMISSION

A Tri-State Water and Air Pollution Control Agency

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New York	Judith L. Baron, Chairperson Donna B. Gerstle, Esq. Gerard J. Kassar Rose Trentman Joseph Martens
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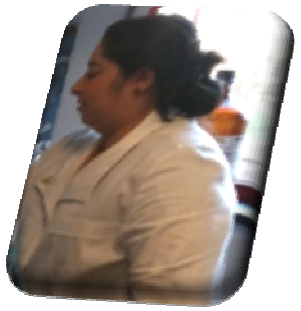


STATEMENT FROM THE CHAIRPERSON

This year, 2011, marks the Interstate Environmental Commission's (IEC's) 75th Anniversary. The Commission and the District it serves, New Jersey, New York and Connecticut, was established in 1936 with the consent of Congress. The IEC was given the responsibility of protecting the waters and the environment of its District in a regional manner.

From its inception, in 1936, IEC has provided service to its member States and their citizens. IEC has worked with the governmental environmental and health agencies of its member States, with the United States Environmental Protection Agency and with local community and environmental entities within the three States.

What distinguishes the Commission from agencies of its member States is the fact that the Commission is not only an intrastate agency, but also an interstate agency, one that crosses State lines. While out of state dischargers can adversely affect the waters of an IEC member State, they are beyond the reach of the agencies in the affected State, but not out of the jurisdiction of the Commission. When necessary, and in coordination with its member States and the United States Environmental Protection Agency, the IEC can get involved in order to solve problems.

With Commissioners from its three member States and with a professional and dedicated staff, the IEC continues to strive to meet its responsibilities. We monitor and analyze the waterways of the District and have an abiding commitment to high quality research.

IEC Commissioners and staff continue to seek other areas in which we can assist in educating and mentoring those who seek environmental and interstate information.

During the past several years of budgetary cutbacks, IEC's objective has been to support the needs of the environmental agencies of our member States wherever possible. We have strived to coordinate IEC's activities with those agencies on a cost effective and value added basis. In order to accomplish this, we have streamlined our operations through management and internal operational controls. We have worked with agencies in order to prioritize projects and as a result have made our joint operations more efficient.

This year, after two major environmental disruptions, IEC office, field and laboratory staff were called on during and after these emergencies to assist wherever necessary. The first was a fire at New York City's North River sewage treatment facility on the Hudson River and the second was Hurricane Irene. Both events affected all three of our member States. IEC's laboratory was requested by the NYC Department of Health and Mental Hygiene to perform analyses on beach samples on both occasions.

STATEMENT FROM THE CHAIRPERSON, Cont'd

The College of Staten Island

Public Involvement in Implementing Green Infrastructure Technologies in Newark, NJ

IEC's laboratory, located on the campus of the College of Staten Island since 1993, is recognized by the Commission's member States as an accredited environmental testing facility. IEC's laboratory is certified by the National Environmental Laboratory Accreditation Program through the New York State Department of Health, the New Jersey Department of Environmental Protection and the Connecticut Department of Health. The laboratory is involved in a wide range of sampling and research projects in collaboration with academic and governmental agencies as well as with other organizations. A number of projects are conducted in collaboration with the College of Staten Island Center for Environmental Science. It should be noted that IEC's laboratory is available to conduct sampling and analyses for the environmental agencies of not only our member States, but for other agencies, as well.

IEC continued its operations as requested by its member States this year. The Commission now inspects pump stations as well as wastewater treatment plants. We continue to stress the importance of nitrogen reduction as well as Combined Sewer Overflows in the region. In these matters, as in other areas, IEC works to assist agencies with compliance as requested as well as to schedule reconnaissance inspections in an effort to maximize resources for everyone. The Commission continued its involvement with the Long Island Sound Study and the New York-New Jersey Harbor Estuary Program and conducted surveys in support of those programs.

IEC completed monitoring the western portion of Long Island Sound and the upper East River to document dissolved oxygen conditions. Results are posted on the Commission's website and a final report was also released.

The Commission completed its tenth year of monitoring for pathogens in the New York-New Jersey Harbor Complex and its fifteenth year of sampling shellfish harvesting waters in the New Jersey portion of western Raritan Bay. IEC expanded its parameters for sampling in compliance investigations at facilities that discharge wastewater into the Hudson River, Upper Bay, Arthur Kill, Kill Van Kull and Newark Bay. In addition to participating in these programs, IEC works on a daily basis with the scientists and the United States Environmental Protection Agency and the environmental agencies of our member States.

IEC continues to be a presence in the environmental community and conducts education and outreach programs. Examples of such outreach in 2011 include water quality monitoring workshops with Staten Island junior and high school students. Our staff has been involved with mentoring College of Staten Island graduate students and assisting them with their thesis projects in addition to giving them an opportunity to participate in environmental work both in our laboratory and in the field.

STATEMENT FROM THE CHAIRPERSON, Cont'd

This year, IEC has been involved in a number of cutting edge studies utilizing green technology and Geographic Information Systems. IEC is completing the administration of projects funded by the New York State Department of Environmental Conservation pursuant to the American Recovery and Reinvestment Act of 2009 (federal stimulus funds) within the meaning of Section 604 (b) of the Clean Water Act. These projects include modeling and monitoring of the Byram River, Long Island Sound Municipal Separate Storm Sewer Systems (MS4s) phase 2 monitoring, and an MS4 survey of the Croton-Kensico watershed.

In partnership with the College of Staten Island Center for Environmental Science, the Commission has also been awarded a grant through the Newtown Creek Fund of the New York City Environmental Fund, which is administered by the Hudson River Foundation. IEC will conduct water quality monitoring surveys in wet and dry weather conditions to further assess stormwater impacts and determine the parts of the creek most susceptible to stormwater pollution.

IEC has played an important role in the tri-state area as a focal point for scientific sampling, monitoring and the study of contaminants that negatively affect the quality of water. The Commission's laboratory and its extensive scientific database are resources for those activities.

Byram River

The Commission will continue to place its extensive data in national databases accessible to our member State agencies, scientists, researchers and members of the public.

With all of the success we have had this year, IEC must, nevertheless, actively seek grants to supplement our traditional State and Federal funding. It is no secret that fiscal priorities in both State and Federal funding have had a negative impact on IEC funding. In order to be able to continue the important work we do as an interstate entity, we are hopeful that those funding our agency will realize that the investment they make to the IEC will be repaid to them at an exponentially higher value.

This Annual Report offers a review of the scope of IEC's programs and activities. I invite you to visit IEC's website www.iec-nynjct.org for continuing reports, back issues of the Annual Report as well as news and information relating to IEC and its activities.

As Chair of the Commission, I would like to take this opportunity to thank my fellow Commissioners and IEC staff for their hard work, dedication and commitment during this past year. As Commissioners, we have had difficult decisions to make and our staff, understanding the gravity of budget cuts, has been dedicated to our mission and has worked as a team through all of the fiscal difficulties in a professional and exemplary manner. Thank you all.

Judith L. Baron,

Chairperson

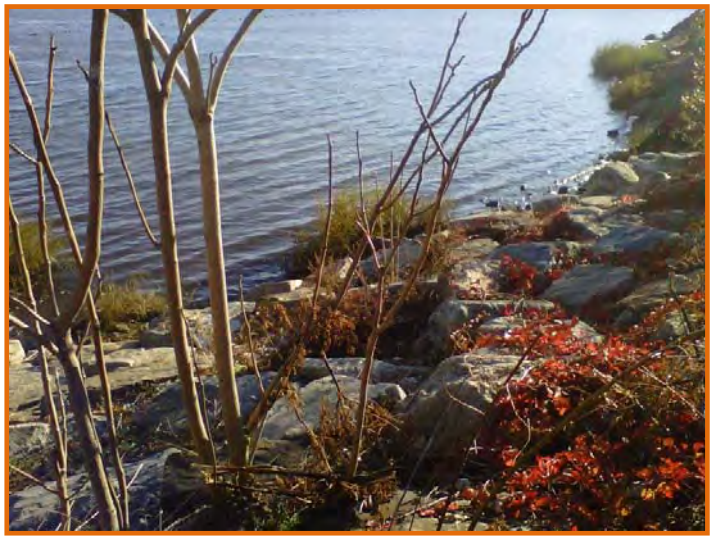
From the Desk of

Ross Brady, Esq.
Acting Administrator

IEC celebrated 75 years of service to the environment and to its member States this past year and looks ahead to the future as committed as ever to its mandate and mission as a tri-state water and air pollution control agency. IEC is unique in taking a regional approach to pollution abatement serving our member States of New York, New Jersey and Connecticut, as well as the nation. The IEC is proud to work collaboratively with member State agencies and the US Environmental Protection Agency (EPA) at cost-effective, resource driven environmental protection. Now, more than ever, the IEC is needed to fulfill the needs of the States and the citizens and is a nimble and professional force continuing that mission. The IEC predates the environmental agencies of the States, as well as the US EPA. IEC predates the Clean Water and Clean Air Acts. IEC regulations, and more importantly our monitoring, information gathering and analyses, are heavily relied upon.

The IEC's mission is to protect and enhance environmental quality through cooperation, regulation, coordination, and mutual dialogue between government and citizens in the Tri-State Region. The Commission strives for interstate cooperation and coordination and to harmonize water quality standards, regulations and requirements throughout its District. The IEC has also embarked on important monitoring projects and research vital to the environment, always maintaining strict quality control measures.

Getting ready to sail



Brooklyn Shoreline

The IEC is a valuable resource during emergencies. This year brought emergencies including a fire at the North River wastewater treatment plant that closed the plant and caused millions of gallons of raw, untreated sewage to enter the waters. IEC was available for services, contacted the regional bypass workgroup and various agencies and offered assistance during and after the event. The New York City Department of Health and Mental Hygiene (NYC DOHMH) requested that IEC perform analysis of beach samples following the event. When hurricane Irene passed through the area, the IEC was on call and sampled in sensitive areas after the storm. Once again, IEC as always was on hand to offer help to all agencies and again the NYC DOHMH utilized our laboratory to perform beach sample analyses. The IEC has been an asset for 75 years and continues to be an asset during emergencies and all throughout the year.

The IEC's laboratory, located on the campus of the College of Staten Island (CSI), is a nationally accredited environmental facility, certified by the New Jersey Department of Environmental Protection, New York State Department of Health and Connecticut Department of Public Health, and also under the National Environmental Laboratory Accreditation Program. In addition, IEC follows US Food and Drug Administration procedures for sampling in shellfish waters. IEC monitors vital shellfish beds, particularly in New Jersey and actively monitors the Long Island Sound. IEC carries out important monitoring operations and analysis of effluent from wastewater treatment plants, monitors pump station performance, and performs ambient water sampling. Directors and staff are hard at work researching emerging pollutants and assessing the needs of our partners at State environmental and health agencies as well as the US EPA.

Following a summer-long monitoring effort, the IEC printed its findings in a report on hypoxia in the Western Long Island Sound, information from which is included in this annual report. The IEC continues to update its website and put forth a quality product.

The Commission plays an active role within environmental organizations and workgroups including, but not limited to the Long Island Sound Study and the NY-NJ Harbor Estuary Program, New York Water Environment Association and Water Environment Federation (WEF).

The IEC performs public outreach and participates in educational programs such as World Water Monitoring Day. IEC also seeks opportunities to offer students life and educational experiences by developing programs and internships. In the past year, IEC was able to work with the College of Staten Island's Center for Environmental Science to help the water quality monitoring effort at Newtown Creek and assist students in their master's level research.

IEC's archives have largely been moved to the library of the College of Staten Island where generations of researchers and the public can obtain water quality and other valuable information.

IEC's legal activities are focused on protecting the waters of the Commission's District, fostering cooperation among member-states and environmental stakeholders, and ensuring compliance with IEC regulations within the meaning of the Tri-State Compact.

The Interstate Environmental Commission remains the guardian of the waters of our environmental District.

IEC Commissioners and professional staff are dedicated to upholding the highest quality research, monitoring and analyses, providing valuable resources for our member States, our region and the nation. Water and air quality monitoring and pollution abatement are our priorities and hypoxia in our waters, combined sewer overflows and emerging contaminants continue to need attention and solutions. IEC has been and will be a beacon for research, analysis and solutions that ensure precious water quality.

The IEC stands as an independent authority. It is more important than ever for the IEC to continue its mission. To that end, the IEC has prepared work plans to ensure that resources are used efficiently.

Water quality monitoring workshops with Staten Island junior and high school students

IEC is able to fill gaps where member State agencies need assistance. IEC remains an integral partner and resource for environmental protection as much now as ever.

IEC looks forward to providing quality service with support of our member-States for years to come. State appropriations, as requested in our budget, are essential to maintaining the service to the States and throughout the region. We look forward to the support of the States in carrying out important environmental work.

LIS Execution Rocks Lighthouse

The Commission's Laboratory

The Interstate Environmental Commission's laboratory is located on the campus of the College of Staten Island (CSI). Its role is to provide data of the highest quality to be used in decision making by environmental managers and researchers.

The Commission's laboratory is dedicated to producing technically and legally defensible data through sound science and nationally accepted quality assurance practices

The IEC's laboratory is recognized by the Commission's member states as a nationally accredited environmental facility. The laboratory is certified by the National Environmental Laboratory Accreditation Program (NELAP) through the New York State Department of Health (NYS DOH) and the New Jersey Department of Environmental Protection (NJ DEP). NELAP, sponsored by the U.S. Environmental Protection Agency (EPA), focuses on the technical competence of the entity monitoring the environment.

Having its permanent facility in New York, the IEC's laboratory sought and received primary NELAP accreditation from the NYS DOH (Lab ID: 10437, www.health.state.ny.us). To ensure confidence and quality in the entire spectrum of its environmental testing, the laboratory also received primary NELAP accreditation from the NJ DEP for those parameters that the NYS DOH does not provide primary accreditation (Lab ID: NY240, www.nj.gov/dep/oqa). Furthermore, the laboratory received secondary NELAP accreditation from the NJ DEP and Connecticut Department of Public Health (Lab ID: PH 0320, www.ct.gov/dph) for those parameters already certified by the NYS DOH.

The laboratory successfully participates every year, as required by NELAP, in two rounds of proficiency testing administered by the NYS DOH and also, in two voluntary proficiency rounds administered internally. The laboratory is subject to biennial auditing by the NJ DEP's Office of Quality Assurance and the NYS DOH's Environmental Laboratory Approval Program (ELAP), as well as annual lab and field internal auditing.

A group of experienced and highly qualified professionals makes up the Commission's laboratory. The staff is involved in a wide range of activities that include, but are not limited to:

- investigating industrial and municipal facilities year-round to ensure compliance with applicable IEC regulations and State Pollutant Discharge Elimination System (SPDES) effluent limits. The laboratory has begun final effluent analyses for nutrient and enterococcus at specific plants as part of an expanded monitoring program funded by the U.S. EPA;
- conducting ambient water quality sampling and analyses to document hypoxic conditions, assess the sanitary conditions of state and interstate shellfish beds, track down pathogens and calibrate or verify models used in Total Maximum Daily Load (TMDL) development;

Sampling at Newtown Creek Water Pollution Control Plant

- conducting field inspections of Combined Sewer Overflows (CSOs), Sanitary Sewer Overflows (SSOs) and Municipal Separate Storm Sewer Systems (MS4s) during dry weather to discover illicit discharges and take steps to have them remediated
- conducting analyses as required by funded projects such as the American Recovery and Reinvestment Act (ARRA) grants and the Newtown Creek Fund grant.
- emergency sampling and analyses as required due to environmental crises, sewage spills, or as requested to assist member states or local agencies and organizations.

Ambient water quality monitoring & laboratory analyses

In addition to the day-to-day analyses performed at the laboratory, the Commission, both on its own and in conjunction with the Center for Environmental Science (CSE) at CSI, submits proposals for research projects whose results will benefit the environment and the citizens throughout the tri-state region. Laboratory staff continually have research papers and articles published, make presentations at prestigious environmental forums and advise students enrolled in the CSI's Master of Environmental Science program.

The Center for Environmental Science at CSI

The North River Fire

On Wednesday July 20, 2011, a four-alarm fire in the engine room at the North River Wastewater Treatment Plant (WWTP) caused the entire plant to shutdown. The plant began bypassing at 5:18 pm and the Regional Bypass Workgroup was notified at 8:33 pm. The North River WWTP would remain offline for a few days and bypassing continued until 9:30 pm on July 22, 2011. A total of over 450 MG was estimated to have bypassed during this incident. A second fire in the Con Ed electrical feeder that provided power to the plant occurred overnight on July 22, 2011, which limited the amount the plant could pump. There was a second bypass from 5:00 am to 3:15 pm on July 23, 2011. A total of 10 MG was bypassed. On July 21, 2011, IEC contacted regulating agencies to offer its services of sampling and analyzing samples in its lab. Some of the agencies contacted included the New York City Department of Environmental Protection (NYC DEP), New York City Department of Health and Mental Hygiene (NYC DOHMH), New York State Department of Environmental Conservation (including shellfisheries) and New Jersey Department of Environmental Protection (NJ DEP).

Coincidently, IEC performed a routine inspection and sampling at North River Treatment Plant on July 19, 2011. The plant was in compliance as all the parameters were below permit limits. On July 22, 2011, IEC conducted its weekly dissolved oxygen monitoring run in Long Island Sound as part of the Long Island Sound Study. In light of the spill at the North River WWTP, beginning July 21, 2011, IEC collected additional samples at its 5 westernmost stations for enterococcus analyses. All results were below bathing beach criteria.

Advisory sign after North River spill

On July 26, 2011, IEC field personnel went back to North River Treatment Plant to take a round of samples for fecal coliform and enterococcus analyses. The results were below the permit limits and the bathing beach standards, respectively. IEC also took a Total Residual Chlorine (TRC) reading. The TRC reading was 2.2 mg/l, which is slightly above the permit limit of 2.0 mg/l.

Because of the sampling and analyses overload due to the bypass event, the NYC DOHMH needed IEC's help to analyze samples for fecal coliform and enterococcus. On July 26, 2011, the NYC DOHMH delivered 15 samples to the IEC Laboratory that were collected earlier that day from beaches in Brooklyn and Staten Island. Those beaches included Seagate, Coney Island, South Beach, Midland Beach and Cedar Grove.

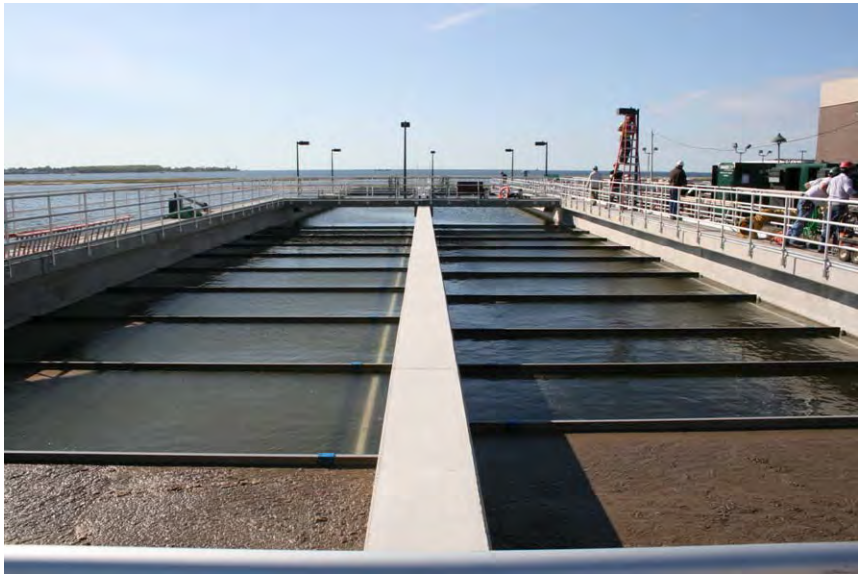
Hurricane Irene

Prior to Hurricane Irene, IEC contacted local regulating agencies to offer its services. Because of excess sampling requirements due to Hurricane Irene, and due to the NYC DOHMH laboratory's proximity to the evacuation zone, the NYC DOHMH asked IEC to be on standby. From August 29th through September 1st, 2011, NYC DOHMH delivered a total of 51 samples to the IEC Laboratory for enterococococcus analyses. These samples were collected from beaches in Staten Island, including South Beach, Midland Beach, Wolfes Pond Park and Cedar Grove.

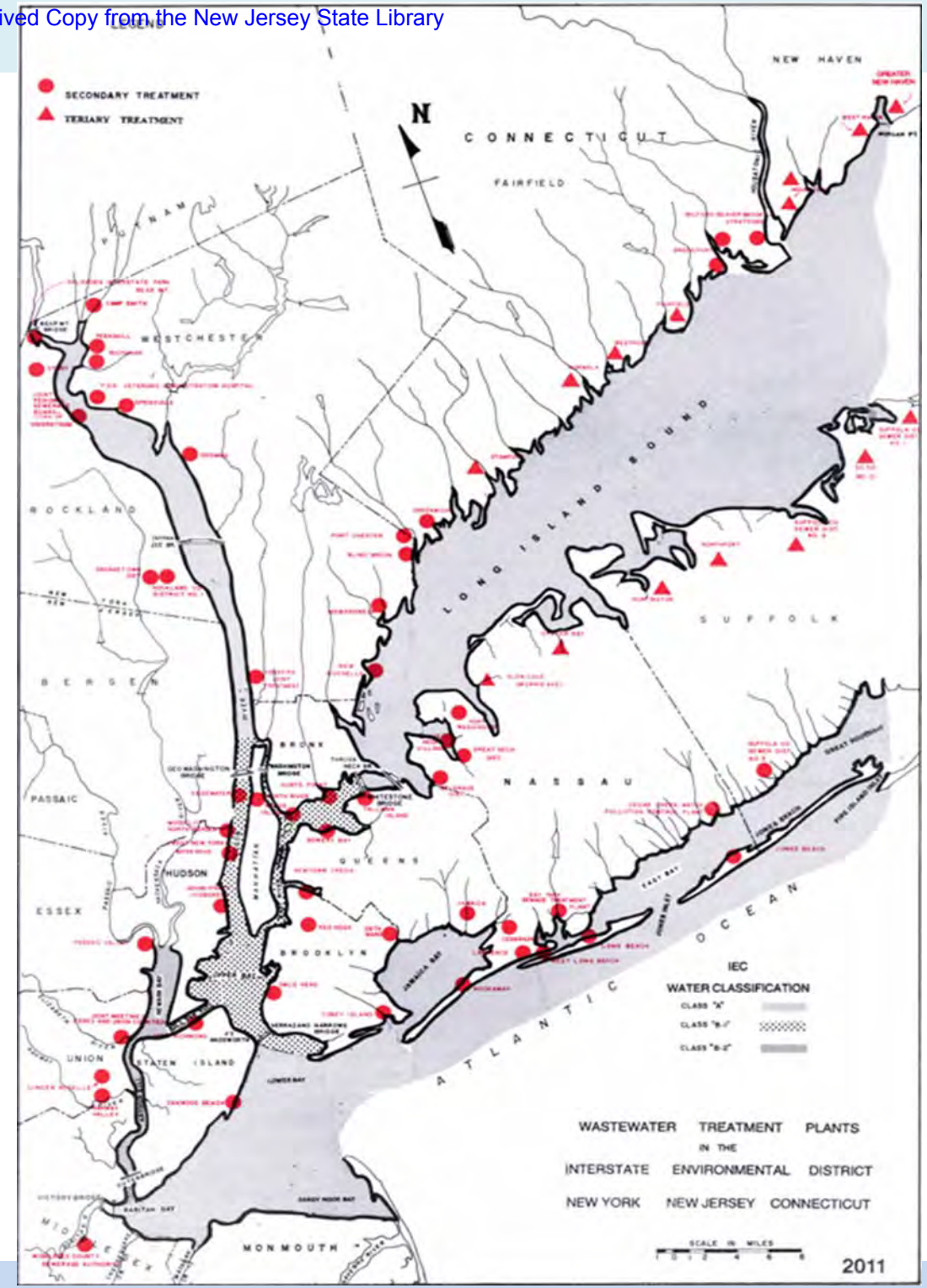
Water Pollution Control

The Interstate Environmental Commission obtained information on water pollution control projects from sewerage authorities, consulting engineering firms, and national depositories of water quality data and industrial/municipal effluent data. That information is presented in Appendix A.

With secondary treatment virtually in place throughout the Interstate Environmental District since 1994, control of the Region's combined sewer overflows, stormwater runoff, and municipal separate storm sewer systems is vital in order to achieve further significant water quality improvements. Adequate infrastructure is also a necessity for maintaining and improving receiving water quality, as well as for minimizing use impairments. Substantial expenditures on infrastructure have resulted in significant water quality improvements throughout the District over these past years.



West Haven Water Pollution Control Facility Upgrades: 2 new secondary settling tanks (225 feet long, 20 feet wide and 15 feet deep) having as much volume capacity as the existing 6 secondary clarifiers.



Compliance Investigations at Municipal and Industrial Wastewater Treatment Facilities

Municipal Facility Investigations

The Interstate Environmental Commission has an ongoing program conducting facility inspections and effluent sampling at municipal, state and federal wastewater treatment facilities in the Interstate Environmental District (IED). Facilities are selected in coordination with the environmental departments of the Commission's member states to ensure that priorities are met and duplication of work is avoided. The purpose of the investigations is to ensure compliance with IEC's and state regulations. There are currently 71 such facilities in the IED.

These unannounced investigations involve an interview with plant supervisors to review major treatment processes, equipment conditions, short-term or long-term equipment maintenance or facility construction issues, staffing, flow capacity issues and complaints. Over, normally, a six hour sampling period, samples are collected from the plant's final disinfected effluent for fecal coliform, biological oxygen demand, total suspended solids, chlorides, turbidity and settleable solids analyses. Field staff records onsite hourly measurements of pH, temperature, residual chlorine and flow, and also, documents visual observations of the effluent and the receiving waters for evidence of oil and grease, floating solids, scum, foam or discoloration. The Commission remains flexible and makes the necessary adjustments to its inspection plans, such as further sampling and/or analyses, in order to address specific U.S. EPA, state or local agency interests or needs.

A total of 105 such investigations were conducted at wastewater treatment plants in 2011, 61 of which were in New York, 20 in New Jersey, and 24 in Connecticut. Reports of wastewater treatment plant inspections, including analytical results, are transmitted to the facility, the relevant state agency (e.g. the NYS Department of Environmental Conservation, NJ Department of Environmental Protection, CT Department of Energy and Environmental Protection) as well as the U.S. EPA. Any non-compliance detected during IEC's inspections or as a result of analysis of samples collected during such inspections is reported to the appropriate state agency for possible enforcement action.

This year, in coordination with the U.S. EPA, IEC developed an expanded parameter sampling program to be executed at 18 water pollution control plants discharging into the Hudson River, Upper New York Bay, the Kill Van Kull and the Arthur Kill. In addition to the parameters discussed above, samples are taken for enterococcus, total phosphorus and total nitrogen analyses. These areas have been targeted to address low dissolved oxygen concentrations stemming from nutrient rich discharges and elevated pathogen levels related to the discharge of enterococcus. Larger facilities and facilities in New Jersey with no nitrogen sampling requirements are sampled twice a year. Smaller facilities upstream in the Hudson or those already analyzing for nitrogen are sampled once a year. Data from this undertaking will be necessary for permitting and compliance determinations.

Industrial Facility Investigations

The Commission conducts investigations at industrial facilities throughout the IED. As with municipal investigations, facilities are selected in coordination with the environmental departments of the Commission's member states to ensure that priorities are met and duplication of work is avoided. The purpose of the investigations is to ensure compliance with IEC's and state regulations.

The types of facilities inspected include, but are not limited to: power plants, oil refineries and other types of refineries. A list of candidates for IEC compliance monitoring is produced annually and prioritized in conjunction with staff from regional offices of state environmental agencies. Many of these industrial facilities operate on a seasonal or as needed basis, frequently only when the weather requires it (e.g. extreme heat or cold) or when other facilities are shut down for planned or unplanned maintenance. Additionally, entering many of these facilities requires advance health, safety and security orientations. Therefore, advance coordination is usually required. In 2011, after discussions with state agencies, the length of these inspections was shortened from 24 hours (or a day's production) to 6 hours. As of December 1st of 2011, 5 industrial inspections were conducted: 3 in New York and 2 in New Jersey. As with wastewater treatment plant inspections, the results of such inspections and sampling are reported to the facility, the appropriate state agency and the U.S. EPA.

CSO/MS4 Inspection Program

The Interstate Environmental Commission continues to conduct dry-weather inspections of stormwater outfalls throughout the tri-state area to identify and eliminate illicit discharges. This is being accomplished via both initial and follow-up outfall inventory inspections, which are prioritized based on complaints or feedback received from the public, or any request put forth by the U.S. EPA and/or by an agency from the Commission's member states. All incidences are investigated, recorded, and tracked in the IEC's Outfall Reconnaissance Inventory (ORI) database. All monitoring and fieldwork activities are documented in the database and subsequently, reported and forwarded to the appropriate state and the U.S. EPA in a timely manner.

The Interstate Environmental Commission is currently revising its Dry Weather Combined Sewer Overflow/Municipal Separate Storm Sewer System (CSO/MS4) Inspection Program. A new monitoring protocol has been developed based on the Center for Watershed Protection's Illicit Discharge Detection and Elimination (IDDE): A Guidance Manual and additional documented strategies established by IEC's member states and the U.S. EPA.

Specific efforts have been made to ensure that field survey, data collection and reporting protocols are up-to-date and methodologies are compatible with CSO/MS4 regulations of the Commission's member states and the U.S. EPA. In particular, advancements have been made in the application and incorporation of Global Positioning Systems (GPS) and Geographic Information Systems (GIS) in the collection, integration, and analysis of data. In addition to recording the location and structural characteristics of the outfall features (shape, size, material, condition, etc.), IEC has implemented field observations and sample collection procedures for reporting any incidence of flowing or standing water observed during dry weather outfall inspections.

Ultimately, with improved protocols, IEC will be able to successfully and efficiently interpret geospatial data, and thereby, more effectively assist in Illicit Detection and Discharge Elimination efforts. The IEC has also expanded the geographic extent of the program in response to citizen complaints within the Gerritsen Beach and Coney Island area of Brooklyn, New York.

Furthermore, IEC continues to work with state and federal entities to address regional municipal concerns in areas of Long Island and Westchester County. The Commission assists and seeks input from the U.S. EPA and member states regarding identification of additional focus areas that are in need of attention due to noncompliance or IDDE concerns.

Stormwater Outfall

From the Commission's Gerritsen Beach Investigation: Neglected Waterfront and Boat Graveyard in Shell Bank Creek

Pump Station Inspections

The Interstate Environmental Commission continuously strives to align its monitoring and compliance inspections with priorities of regional environmental agencies. In July 2010, IEC met with representatives from NYS DEC regional offices within the Interstate Environmental District (IED) at the DEC Region 3 office in White Plains, NY to discuss how IEC could best use its resources to assist NYS DEC in completing some of these priorities. As a result of this meeting and follow-up discussions, it became apparent that there was a need in the region for IEC to expand the scope of its inspections to include pump stations.

Pump stations in sewage collection systems, also called lift stations, are normally designed to handle raw sewage that is fed from underground gravity-fed pipelines. Sewage is directed into and stored in an underground pit, or wet well, until the level of sewage rises to a predetermined level, at which point a pump automatically starts to lift the sewage into a force main where it proceeds to either another pump station or a treatment plant. In the case of high sewage flow into the wet well (during peak flow or due to stormwater infiltration), or pump station failure, a backup in the sewer can occur, resulting in the discharge of raw sewage into the environment. For this reason, the proper functioning, maintenance and inspection of pump stations and their equipment is as vital to the wastewater treatment process as the treatment plant itself.

IEC's pump station inspection program commenced in the summer of 2011. The IEC procured specific location, contact information, and GIS maps for pump stations in several sewer districts in Nassau County from New York State Department of Environmental Conservation (NYS DEC) Region 1. Inspections of five (5) pump stations in the Great Neck Water Pollution Control District were completed in 2011. Each inspection consisted of a walkthrough of the stations, inspecting pump status (in use or on standby), capacity, alarm panel status and alarm history, power and back-up generator status including testing schedule, pump log record review, maintenance record review and review of upgrade schedules, if applicable.

As a requirement of the Great Neck Water Pollution Control District's Consent Order with the NYS DEC, the District is putting together a Sanitary Sewer Overflow Abatement Plan, estimated to be submitted to the NYS DEC by the end of 2011.

IEC plans to continue pump station inspections in 2012 in Nassau and Suffolk Counties, and, pending receipt of location and contact information, will expand the program to sewer districts in NYS DEC Region 3, where such inspections have been identified as a priority.

AERIAL VIEW OF BCUA EDGEWATER WPCF

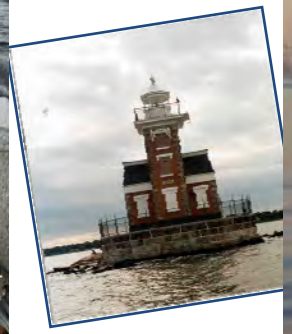
2011 Hypoxia Monitoring In Western Long Island Sound

In support of the National Estuary Program's Long Island Sound Study (LISS), the Interstate Environmental Commission joined a multi-agency effort to document hypoxia in western Long Island Sound and upper East River. Hypoxia occurs when the content of oxygen in the water falls below 3 mg/l. In Long Island Sound, the habitat to a diverse marine community and the center of intense recreational and commercial activities that have profound socioeconomic impacts, hypoxia has been identified as the most pressing priority.

This year marks the 21st consecutive summer season that the Commission participates in this collaborative monitoring study. Twelve weekly ambient water quality monitoring trips were conducted from June 30th to September 15th, 2011. Twenty two stations were visited in each trip and in situ measurements were made for pH, temperature, salinity, water clarity (Secchi depth) and dissolved oxygen (DO). Measurements were taken one meter below the surface, at mid-depth, and one meter above the bottom. For stations deeper than 15 meters, measurements were taken at 5 depths — the two additional depths being one equidistant between the surface and mid-depth, and one equidistant from mid-depth and bottom. Samples for chlorophyll a, a pigment found in aquatic plants and used as an indicator of algal production, were collected at all stations one meter below the surface on alternate runs.

When all twelve monitoring runs were completed, the Commission published a separate report, entitled: Hypoxia in Western Long Island Sound and Upper East River – 2011, analyzing dissolved oxygen data with emphasis on episodic hypoxia and DO standards compliance. The report can be downloaded directly from the Commission's website (www.iec-nynjct.org/publications.htm). Long Island Sound data and other ambient water quality data generated by IEC can be retrieved from the Commission's office and, within reasonable timeframes, from STORET (STOrage and RETrieval), the US EPA's national database.

This season, with funds provided by the Long Island Sound Study, the IEC obtained access to new multi-parameter YSI Dissolved Oxygen meters which enhanced the accuracy of in-situ water quality measurements. At the conclusion of each monitoring excursion, IEC staff disseminated all data and pertinent information to collaborating organizations as well as numerous other interested groups.



Western Long Island Sound (LIS) monitoring (left) – Stepping Stones Lighthouse (mid) – Large floatable debris in LIS following Hurricane Irene (above)

2011 Hypoxia Monitoring In Western Long Island Sound, Cont'd

Dissolved oxygen is a measure of the ecological health of a waterbody. Low levels of oxygen can be fatal to aquatic life. The impact to marine organisms is dependent upon the frequency, duration and spatial extent of hypoxia, as well as the water temperature, salinity and the distribution and behavioral patterns of resident species. A dissolved oxygen concentration of at least 5 mg/l—the IEC's dissolved oxygen standard for "Class A" waters—is considered to be protective of most marine aquatic life.

Readings of DO concentrations acquired in 2010 and 2011 in both surface and bottom waters are separated and grouped into the following three categories:

- DO concentrations that are less than 3 mg/l reflect hypoxic conditions. Under such conditions, very few types of juvenile fish can survive, many adult types of fish will avoid or leave the area, and those organisms not free to move will die. DO readings below 3 mg/l do not comply with NY's "Never Less Than 3 mg/l" standard.
- DO concentrations which are greater than or equal to 3 mg/l and less than 5 mg/l; marine organisms surviving in this range are at threshold levels for reduced growth and abundance.
- DO concentrations at or above 5 mg/l are considered to be protective of most marine aquatic life. Measurements at this range satisfy the IEC's DO standard of "Never Less Than 5 mg/l" for Class A waters. All others don't.

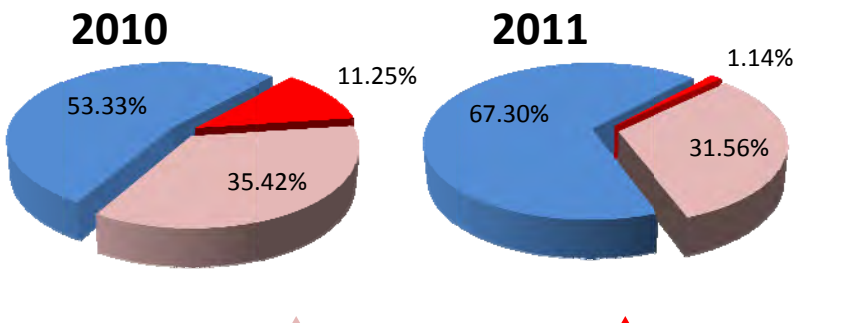
As shown on the accompanying pie charts depicting 2010 and 2011 monitoring data, the condition of surface waters was significantly better in 2011 than 2010. In 2010, the percentage of 2010 surface water DO measurements in the categories of Greater Than 5 mg/l, Between 3 and 5 mg/l, and Less Than 3 mg/l were 53.33%, 35.42% and 11.25%, respectively. In the same category order, the results of the 2011 survey were 67.30%, 31.56% and 1.14%, respectively. Compared to 2010, more DO readings in 2011 were above 5 mg/l and significantly fewer readings were below 3 mg/l.

Based on the percentage of hypoxic readings, the bottom waters of the Sound were slightly better in 2011 as compared to 2010.

The percentage of DO measurements in 2010 in the categories of Greater Than 5 mg/l, Between 3 and 5 mg/l and Less Than 3 mg/l were 19.66%, 52.13% and 28.21%, respectively. In the same category order, the bottom DO distribution in 2011 was 19.92%, 56.70% and 23.38%, respectively. The DO in bottom waters ranged from 1.2 (August 11th) to 10.3 mg/l (June 30th), with very low values representing extreme hypoxia and, in times, anoxia. A variety of natural and anthropogenic factors, including water pollution, municipal water pollution control, weather, circulation patterns, proliferation or lack of algal blooms, etc., contribute to hypoxia and year-to-year variability.

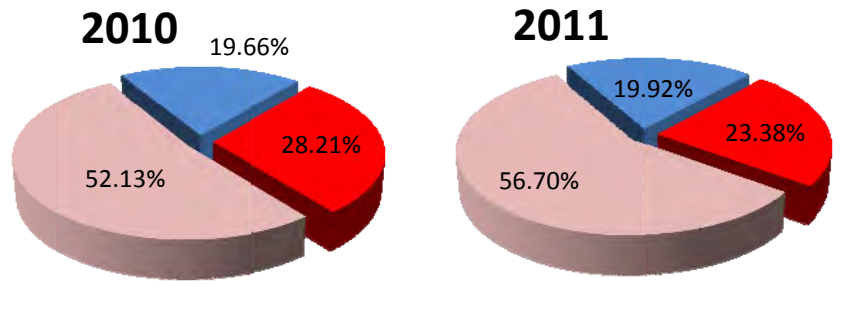
DO Monitoring in Western LIS

SURFACE WATERS



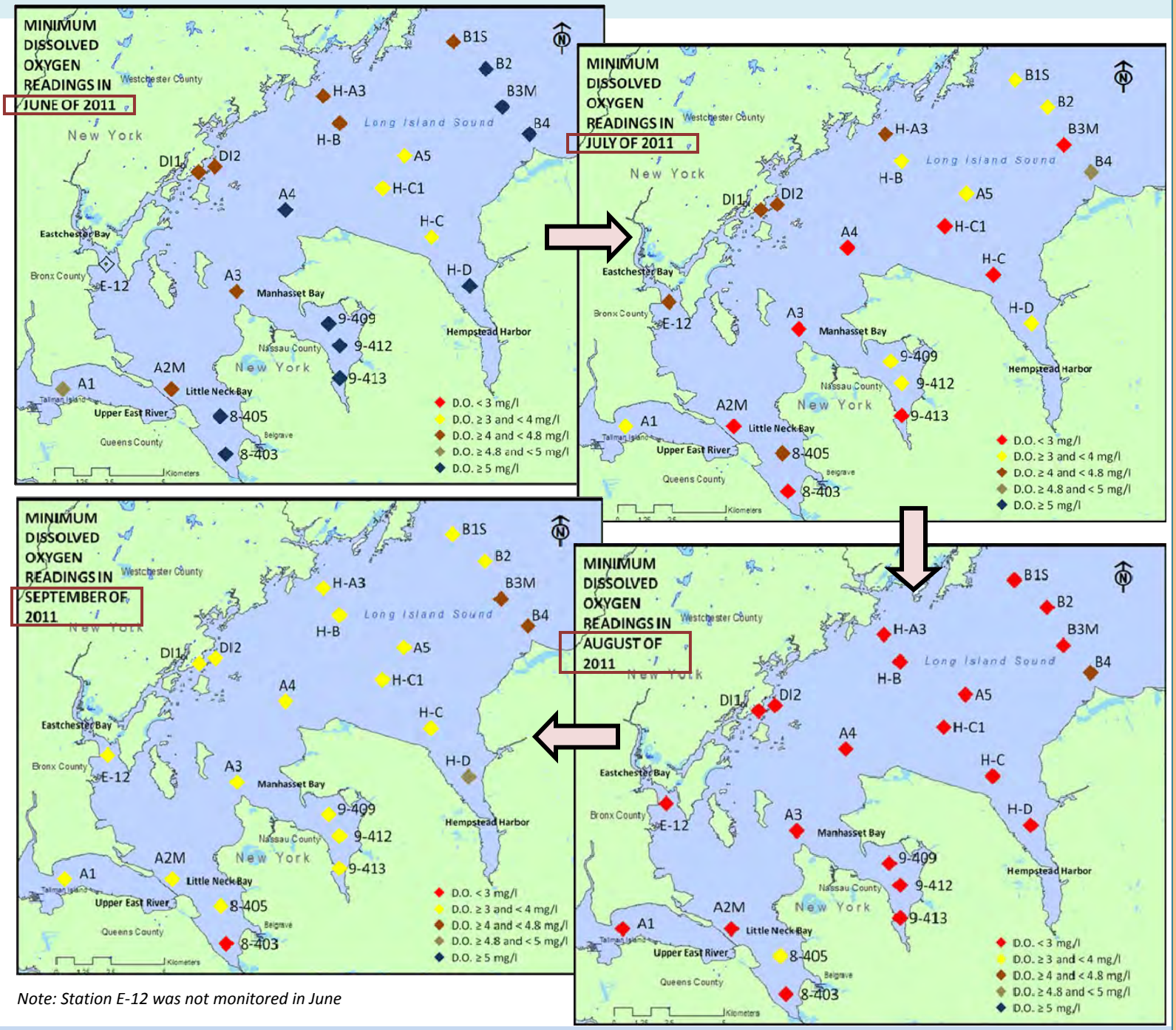
DO Monitoring in Western LIS

BOTTOM WATERS



2011 Hypoxia Monitoring In Western Long Island Sound, Cont'd

Hypoxia was observed predominantly in Bottom-Waters (one meter above the sediment). Just a few hypoxic readings were recorded in Surface-Waters (one meter below the water's surface). Hypoxia appeared more frequently in inner Little Neck Bay, in Hempstead Harbor and in the waters along the middle of the Sound compared to the rest of the study sites. From the perspective of duration, hypoxia was least severe in Eastchester Bay where only one reading of 2.8 mg/l was recorded. Continued incidences of hypoxia were limited to mid-Sound waters where readings below 3 mg/l were obtained from the middle of July until the end of August. Hypoxia occurred intermittently in all other areas. Furthermore, the most severe instances of hypoxia were observed in the middle of the Sound where nine DO readings of less than 2 mg/l and several just above 2 mg/l were recorded in the Bottom-Waters. Following hurricane Irene (August 26-28, 2011), hypoxic conditions were noted only in inner Little Neck Bay.



Note: Station E-12 was not monitored in June

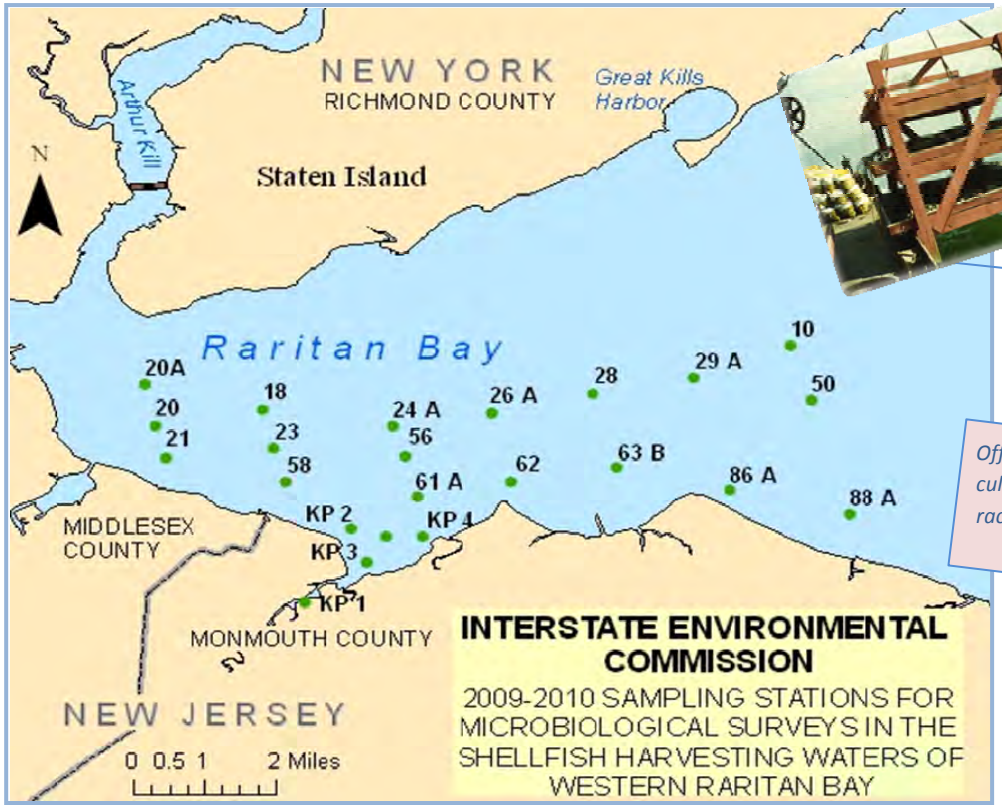
2010-2011 Microbiological Surveys in the Shellfish Harvesting Waters of Western Raritan Bay

The New Jersey Department of Environmental Protection (NJ DEP), Bureau of Marine Water Classification and Analysis (BMWCA), regularly conducts ambient water quality monitoring of the State's shellfish harvesting beds. The NJ DEP monitors, classifies and enforces shellfish regulations in 425,830 acres of estuarine beds and 295,857 acres of ocean beds. For the 16th consecutive year, the BMWCA asked IEC to assist with sample collection in western Raritan Bay during the 2010-11 winter and spring seasons.

Sampling runs were performed to collect data and assess the sanitary quality of shellfish waters. Sample collection, storage and delivery adhered to protocols established by the US Food and Drug Administration's National Shellfish Sanitation Program and the NJ DEP Field Sampling Procedures Manual. The surveys were triggered by storm events with an intensity of at least 0.2" of rain.

During December 2010, the Commission's R/V Natale Colosi was moved to Raritan Bay and from January 2011 to April 15, 2011, two survey runs were completed. All samples were collected within 48 hours subsequent to rain to provide ample time to document the effects of runoff. Samples were collected from surface waters at 22 sampling stations. In conjunction with the NJ DEP/US EPA Performance Partnership Agreement, all samples were transported by IEC to the U.S. EPA's Edison, NJ, laboratory to be analyzed for fecal and total coliform bacteria. The IEC is currently in discussions with NJ DEP to determine whether these survey runs will continue in 2012, or whether the resources should be allocated to other ambient water quality monitoring surveys that impact New Jersey.

In July 2011, a fire at the North River Water Pollution Control Plant in upper Manhattan resulted in raw sewage being spilled into the Hudson River. The NJ DEP closely monitored waters in Raritan and Sandy Hook Bays and concluded that, although higher than normal levels of bacteria were found in the Hudson River and Upper NY Bay, the raw sewage discharge did not deteriorate the quality of NJ's shellfish beds. The IEC arranged for a charter boat and a captain to be on standby and reached out to state agencies during and after the spill offering logistical, sampling and/or analytical assistance.



Off-bottom culture racks

In contrast, NJ shellfish beds were affected by the passage of Hurricane Irene. In a precautionary measure, all ocean and estuarine shellfish beds in the State of New Jersey, totaling more than 720,000 acres, were closed to commercial and recreational harvesting on August 27th, 2011, as Hurricane Irene approached the region. Testing by the NJ DEP in the aftermath of the hurricane indicated that bacteria levels had indeed exceeded the federal criteria set to protect the public from shellfish consumption. The ban applied to clams, oysters, mussels, and scallops but not to crustaceans, such as crabs. Once closed, the process by which shellfish beds are reopened involves waiting for at least seven days subsequent to meeting federal standards and then testing shellfish tissue to ensure that bacteria have been flushed from the shellfish. Pursuant to this process, the majority of NJ's shellfish beds were re-opened on September 6th, 2011. These included ocean shellfish beds from Sandy Hook to Cape May Point and estuarine shellfish beds from the Metedeconk River to Cape May Point. By September 9th, 2011 all ocean and estuarine beds from Raritan Bay to Cape May Point were returned to the harvest classification status that was in effect prior to the passage of the hurricane.

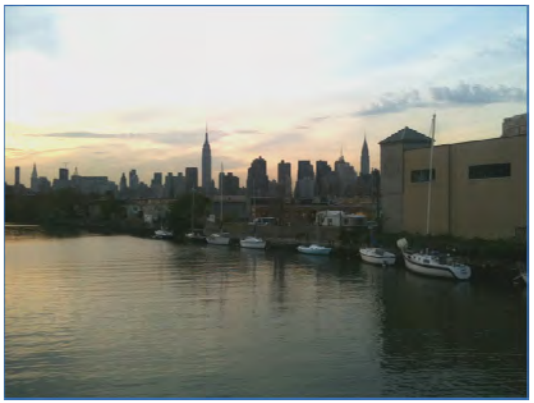
Newtown Creek Water Quality Monitoring Project

The Interstate Environmental Commission, in partnership with the Center for Environmental Science at the College of Staten Island, CUNY, began work pursuant to a grant by the Hudson River Foundation. The project entitled "*The Newtown Creek Community Education and Involvement Initiative: Stormwater Monitoring and Modeling"* was funded through the Newtown Creek Fund of the New York City Environmental Benefits Program.

PROJECT AREA

Newtown Creek, a waterway spanning three and a half miles eastward from the East River along the border of Western Queens and Northern Brooklyn, has a long industrial and maritime history. Once the busiest industrial port, the Newtown Creek is now one of the most heavily contaminated waterways in the Northeast. In September 2010, the U.S. EPA designated Newtown Creek a Superfund site. Resources, oversight and enforcement will be devoted to the remediation of contaminated Newtown Creek sediments.

The creek receives approximately 3 billion gallons of raw sewage annually when storm events overwhelm the capacities of nearby Water Pollution Control Plants (WPCPs) such as the Newtown Creek WPCP as well as the Bowery Bay WPCP. Although Newtown Creek is subject to continuous industrial and stormwater pollution, remediation projects are underway to improve its health. In concert with these remediation efforts, community groups, such as the Newtown Creek Alliance, seek to expand safe access to Newtown Creek for recreational activities like canoeing, kayaking, boat cruising, and fishing. Waterfront access points, such as the Newtown Creek Nature Walk, the park at the end of Manhattan Avenue and the Department of Transportation's bike paths have increased the number of people that access or traverse the creek for recreation.



NYC Skyline from Newtown Creek

The Long Island Expressway over Dutch Kills

Newtown Creek and Nature Walk

PROJECT WORKPLAN

The project involves stormwater monitoring, sampling and modeling of Newtown Creek. The Interstate Environmental Commission, along with graduate students from the College of Staten Island's Master of Science program in Environmental Science will collect samples along Newtown Creek. In addition to assessing the quality of the waters at Newtown Creek and how that quality is impacted by stormwater, the data resulting from this collaborative effort will be used to identify parts of the creek that are most susceptible to stormwater pollution. The project will expand the scope of current monitoring on Newtown Creek while promoting community involvement and participation through collaboration with the Newtown Creek Alliance.

Each monitoring event will include field measurements and collection of samples at a depth of one meter below the water's surface. Sampling points along Newtown Creek were selected based on their proximity to the creek's access points and combined or separate sewer outfalls. Temperature, pH, salinity, conductivity, and dissolved oxygen will be measured in the field. Upon collection, samples will be transported to the Commission's laboratory where they will be analyzed for a suite of water quality parameters, including metals, turbidity and indicator bacteria (Enterococci, E.coli, and fecal coliform), which serve as proxies for pathogens (known agents of infection or disease).

Combined Sewer Overflow near the Hunter's Point Ave. over the Bridge and Dutch Kills tributary

The project will consist of two phases. In the first phase, two dry-weather (no rainfall in the previous 24 hours) and two wet-weather (within 24 hours of at least 0.25" of precipitation) monitoring excursions will be performed. In the second phase, one dry-weather and one wet-weather monitoring trips will be performed. Data from the first and second phases of the project will be used to calibrate and verify, respectively, a water quality model.

Ultimately, sampling and modeling will provide important data to assess future local development impacts, establish necessary management strategies and set goals and evaluation criteria for watershed improvements. The information obtained will improve understanding of the impacts of stormwater on water quality in Newtown Creek, its watershed and the East River. A central objective of the project is to provide and clearly communicate sound, unbiased scientific data to enhance the public's knowledge of current water quality and stormwater issues related to Newtown Creek. Integral to the project's goals is local community involvement in the data collection process and dissemination of results to the public via community groups. The project also aims to identify and prioritize sites or regions of the creek that are particularly susceptible to stormwater-related pollution. This would allow the community to possibly target such impacted sites for future green infrastructure initiatives.

Sampling began in the fall of 2011 and will continue through the spring of 2012. IEC hopes to be able to continue this work beyond the current grant.

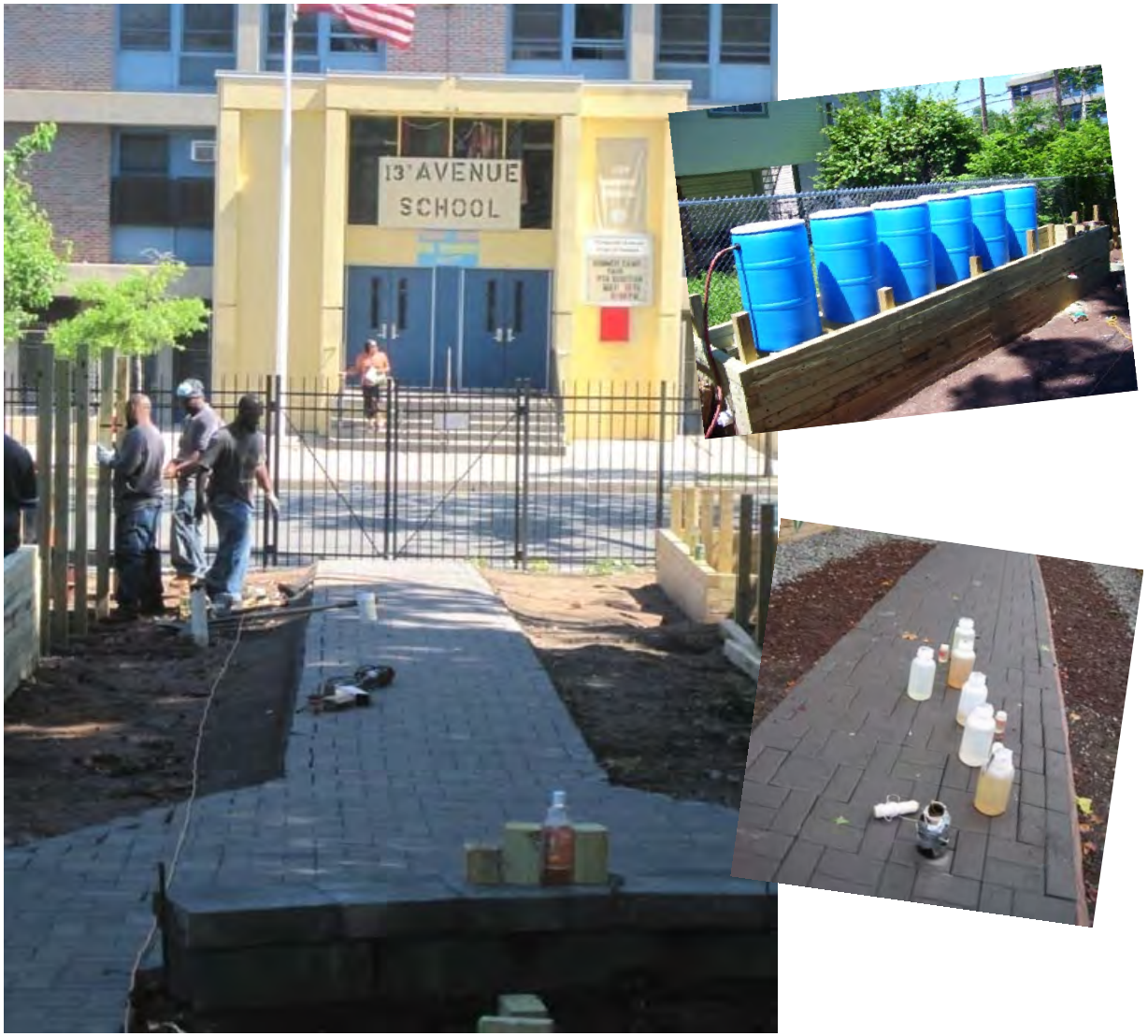
Green Infrastructure Technologies in Reducing CSOs in Newark, NJ

The Interstate Environmental Commission (IEC), in collaboration with eDesign Dynamics (EDD), the New York-New Jersey Harbor Estuary Program (NY-NJ HEP), the New England Interstate Water Pollution Control Commission (NEIWPCC), the NY-NJ Baykeeper, the Greater Newark Conservancy (GNC), and the City of Newark, completed a project entitled, "Implementation and Assessing the Effectiveness of the Green Infrastructure Technology." This study involved installation and successive water quantity and quality field monitoring of multiple green infrastructure (GI) technologies or alternatively low impact development (LID) technologies on a city lot in Newark, New Jersey.

Discharges from Combined Sewer Overflows (CSOs) during rain events can be detrimental to the health of ambient waters that surround a community. Thereby, the goals of this project involved the construction and monitoring of a "green" stormwater management system that reduces urban runoff through engineered infiltration, detention, reuse and evapotranspiration functions. Runoff reductions achieved on this site through this design increase the likelihood of reducing the frequency of CSOs to the Passaic River by replicating this design across Newark's urban watershed. The project team met this objective via stormwater collection from precipitation falling directly on the project site, but also via harvest of runoff from adjacent roof areas.

Construction took place at 368 13th Avenue in Newark on a city-owned vacant lot across from the Thirteenth Avenue School in the residential-urban West Ward neighborhood. EDD collaborated with GNC to develop a landscape plan and stormwater management system that can store these inflows and simultaneously provide irrigation water for garden areas within the formerly vacant lot.

The stormwater management system is configured to capture and redirect rainwater from adjacent properties for storage and reuse. When the storage capacity of the GI system is reached, overflows are directed first to an infiltration leach field, and finally back to the existing sewer system as a failsafe mechanism. The system utilizes a number of GI practices resulting in stormwater detention, retention, infiltration and irrigation reuse.



Clockwise from left: Stormwater management system construction activities– Water retention using rain barrels – Sampling for subsequent analyses

Green Infrastructure Technologies in Reducing CSOs in Newark, NJ, Cont'd

The system was designed to perform two key functions: 1) to divert stormwater away from the City's combined sewer system for management within the site boundaries, and 2) to store and deliver water to irrigate the garden spaces. In order to quantify the success of these functions, EDD installed water level monitoring devices at three points within the system. The stormwater management system captures rainwater from 135 m^2 of adjacent roof areas and 25 m^2 pervious bluestone paving, diverting a portion of it from the existing combined sewer system. Depending on individual storm characteristics and antecedent irrigation practices and dry period duration, this GI facility can reduce stormwater runoff generated from this site by 5-64%. During the monitoring period, approximately 13% of the total captured storm volume was prevented from reaching the sewer system and contributing to combined sewer overflows. However, this figure is an underestimation because construction was completed late in the growing season when there was little demand for irrigation water and thereby, a reduction in overall efficiency. Secondly, a breach in the subsurface connections with the infiltration gallery appears to have caused extensive sediment buildup within the gallery, thus reducing the infiltration capacity of the leach field. Despite these uncertainties, the stormwater management system appears to operate as designed, providing water for irrigation of the gardens and reducing runoff from the site, a precursor to reducing local combined sewer overflows.

"Play" Pump

Crops

Project performance goals were to provide water for irrigation and to detain water from reaching the combined sewer system. The results of the water quality and water volume monitoring demonstrate that the system more directly influenced discharge volume than water quality. Although fundamental components of the study were to construct and evaluate a network of GI measures to reduce urban runoff from the site during wet weather, the system was not designed to treat water flowing through the system by chemical or physical means. Therefore, it is not surprising that there was little change in the majority of the water quality results. Comparative assessments of physicochemical parameters show a few differences between sampling locations that suggest spatial and temporal variability. Overall, the collated field data did not demonstrate any substantial correlation between water quality measured in the system and water volume and flows through the system. Future designs could include treatment/filtration components that improve water quality prior to discharge. This would increase demand on project space and cost.

The design team sought to maximize detention, retention (reuse) and infiltration to the greatest extent possible while maintaining a community oriented design and providing training and educational opportunities. As with any community-oriented project, there is a universal issue of balance between a broad base of stakeholders and meeting technical goals. The project was highly successful in involving students, staff and parents from the public school across the street as well as unaffiliated neighbors. Ultimately, the project team has worked together to design and construct the community garden to study strategies that reduce CSOs but, additional goals of the project were to create a vibrant space for the community, build a "Living Lab" for students, and use the site as a demonstration for other vacant lots in Newark as well as in other cities.

American Recovery and Reinvestment Act (ARRA) and Clean Water Act Section 604(b) Projects

The IEC received three grant awards from the New York State Department of Environmental Conservation (NYS DEC) to support three water quality planning projects, as part of the Clean Water Act (CWA) Section 604(b) funds made available when President Obama signed the American Recovery and Reinvestment Act (ARRA) into law. The ARRA provides $17.025 billion nationwide ($1.7 million to NY State) to protect infrastructure, create new jobs through green infrastructure developments, remediate hazardous waste sites, protect air and water quality through comprehensive management activities and ensure safety against natural disasters.

Water Quality Monitoring and Modeling of the Byram River

This study commenced in December 2009 and will end December 31, 2011 with an award of $87,171. The Byram River is an approximately 13-mile interstate waterway running between New York and Connecticut, with Port Chester, Westchester County, New York, on the west bank and Greenwich, Fairfield County, Connecticut, on the east. The river empties into Port Chester Harbor and has a confluence with the Long Island Sound.

From 2002 to 2009, IEC, in conjunction with a multi-agency workgroup, conducted pathogen track down on the navigable portion of the lower Byram River.

A study on another portion of the Byram River was initiated by IEC to assess the water quality of the river and its watershed. In the first part of the study, the Commission performed four ambient water quality monitoring trips. In each of those trips, 10 mid-stream stations were visited. Two of the four trips were conducted during dry weather (July 6 and August 3, 2010) and the other two during wet weather (July 19 and August 16, 2010). An event was considered wet weather when greater than 0.25" of rain were recorded in the previous 24 hours.

At each of the 10 mid-stream locations, IEC staff collected samples that were delivered to the Commission's laboratory and subsequently analyzed for pathogens (bacteria and viruses that cause infection or disease), metals, settleable solids, turbidity and chlorides. While in the field, IEC staff measured the water's temperature, pH, salinity, conductivity, as well as its dissolved oxygen content.

Data sets generated by the study were used by a subcontractor in 2011 to develop and calibrate a water quality model for the Byram River watershed. To validate the model, IEC sampled twice more, once during wet weather (September 8, 2011) and once during dry weather (September 20, 2011). The model will be run as a geographic information system (GIS)-based watershed planning tool. Its implementation will help design specific flow and water quality monitoring programs; prioritize sub-basins that contribute significant nutrient and pathogen loads; and identify green infrastructure projects for funding recommendations. A report will be submitted to the New York State Department of Environmental Conservation by December 31, 2011.

Water Quality Monitoring Activities in Byram River

American Recovery and Reinvestment Act (ARRA) and Clean Water Act Section 604(b) Projects, Cont'd

MS4 Survey of the Croton-Kensico Watershed, Westchester County, New York

Under the auspices of the New York State Department of Environmental Conservation (NYS DEC), another ARRA project involves IEC's collaboration with the Croton-Kensico Watershed Intermunicipal Coalition (CKWIC). This project developed a GIS-based stormwater system map, which inventories and illustrates the location of municipal separate storm sewer system (MS4) components within the Croton River North Basins sub-watershed. Project deliverables will provide up-to-date information and future management capabilities for the Town of Somers' stormwater data. Mapping of the conveyance system, specifically within the Purdy Lake community, will be used to implement the municipality's illicit discharge, detection, and elimination (IDDE) program, as well as to assist with the routine maintenance of the Town's stormwater drainage system and intermunicipal MS4 connections. This project serves as a practicable model for CKWIC MS4s to consider in implementation of IDDE field mapping and inspections.

The identification and mapping of MS4 components and the creation of a subwatershed map are part of MS4 General Permit compliance for a complete IDDE program. This work will enable source trackdown of any suspected illicit discharges identified either at outfalls or within stream systems.

Project deliverables will also be instrumental in the detection and elimination of illicit connections within the MS4 system, which will ultimately ameliorate the environmental quality of receiving waterways. The regional map is intended to assist with maintenance requirements of each stormwater conveyance system and with the identification of projects related to the CKWIC's retrofit program.

Maintenance of the conveyance system and implementation of retrofit projects will in turn reduce the water quality impacts of sediment, phosphorus and other pollutants that tend to collect within the conveyance system components.

The CKWIC watersheds drain into reservoirs that comprise part of the New York City water supply system. This system supplies drinking water to over nine million people. While the New York City's Catskill-Delaware System supplies most of the City's drinking water needs, the Croton System is used to augment the supply, especially in times of drought and/or increased demand and can supply on average 10% of the City's drinking water demand.

American Recovery and Reinvestment Act (ARRA) and Clean Water Act Section 604(b) Projects, Cont'd

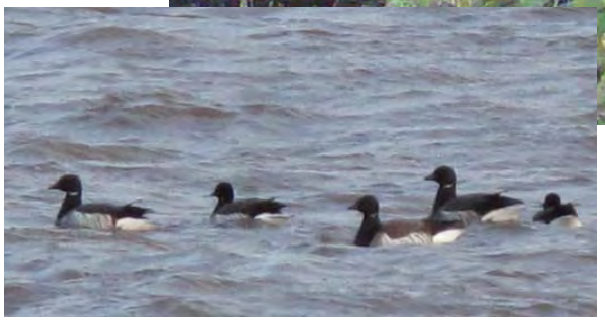
MS4 Survey of the Croton-Kensico Watershed, Westchester County, New York, Cont'd

New York State Department of Environmental Conservation General Stormwater Permit conditions aim to reduce phosphorus from all municipal separate storm sewer systems (MS4s) within the NYC East of Hudson Watershed (Croton and Kensico in Westchester County) in order to meet the allotted waste load allocations of a phosphorus Total Maximum Daily Load (TMDL). The TMDL, developed for the Croton Watershed, contains several waterbodies that have been included in the NYS's 303(d) list of impaired waterbodies. New Croton Reservoir, Upper New Croton/Muscoot Reservoir, Amawalk Reservoir, Titicus Reservoir and Cross River Reservoir were each listed for phosphorus pollution resulting from urban runoff. Hallocks Mill Brook, Lower, was listed for ammonia pollution from municipal sources. The entire East of Hudson watershed was identified as an area in need of phosphorus reductions through the phosphorus TMDL issued by the NYS DEC.

The central focus of this project was Purdy Lake, an older residential community situated in the Town of Somers. The study area is within the Croton River North Basins subwatershed, which is part of the Muscoot Watershed Basin, and is currently under a phosphorus restriction. Subwatersheds with high phosphorus levels may be indicative of illicit activities. For example, a proximal commercial office complex has been identified as a potential source of stormwater pollutants. It is noteworthy that areas with older developments may be more likely to have illicit discharges because, unlike current and recent development projects, project review considerations were not applicable to permitting processes for older development projects.

Along with the primary objective, which was to gather and update municipal separate storm sewer system (MS4) component information to create a GIS storm sewer map, underlying goals also achieved included outfall reconnaissance field inspections to identify the condition of structural MS4 components and potential illicit discharges.

In the more urbanized village and hamlet areas in the Croton Watershed, there are networks of pipes that serve as in-ground stormwater conveyance systems, whereas, in the less developed areas of the watershed, drainage channels and stormwater basins are prevalent. An in-ground conveyance system mainly handles residential drainage and street runoff in the Purdy Lake community. However, open system components, including engineered ditches and vegetated swales, together with natural drainage channels and stream corridors complement closed storm water inlet and outlet structures (i.e. catch basins, storm sewer pipes and outfalls).



American Recovery and Reinvestment Act (ARRA) and Clean Water Act Section 604(b) Projects, Cont'd

The New York Sea Grant Long Island MS4 Planning Project

The water quality of Long Island's rich water resources has been impaired by stormwater runoff. The inability of a number of the Island's waterbodies to consistently support designated uses such as shellfishing and bathing has resulted in regional economic consequences. To date, pathogen Total Maximum Daily Loads (TMDLs) have been adopted for 27 waterbodies on the Island's north and south shores, for 25 Peconic Estuary waterbodies, and for Oyster Bay Harbor/Mill Neck Creek. Nitrogen TMDLs have been adopted for 3 Peconic Estuary waterbodies and their tributaries. Currently, there are 14 Long Island waterbodies on New York State's 303(d) List of "Individual Waterbody Segments with Impairments Requiring TMDL Development." Further, there are 17 Long Island waterbodies on the 303(d) List of "Multiple Segment/Categorical Waterbody Impairments Requiring TMDL Development (Shellfishing)." All of the above listed waterbodies are impaired due to stormwater runoff.

Long Island's municipalities fulfill a vital role in restoring and protecting the Island's estuarine resources. Nearly all (over 100) are regulated by the EPA Phase II stormwater regulations, which came into effect in 2003 when New York's first Municipal Separate Storm Sewer System (MS4) and Construction Phase II Stormwater General Permits were issued.

In 2008, municipal stormwater regulations advanced in scope when second-term Stormwater General Permits were issued. Specifically, the complexity and cost of MS4 requirements increased, mandatory Better Management Practices (BMPs) were adopted, and three Towns and two Villages on the Island's east end were additionally designated as regulated MS4s. On Long Island, MS4 stormwater programs are now one of the primary vehicles for achieving TMDL implementation. Challenged by increasing development, mounting MS4 requirements, and severe fiscal limitations, Long Island's MS4s require technical assistance in planning and developing stormwater management activities that ensure cost-effective optimal resource protection.

The Interstate Environmental Commission obtained funding on behalf of New York Sea Grant to provide Island-wide MS4 stormwater management planning assistance. Using a combination of workshops, presentations, site visits, workgroups, and in-depth consultations, the New York Sea Grant LI-MS4 Planning Program has used an integrated MS4 planning framework to support MS4 TMDL planning, water quality management planning, and green infrastructure planning, thereby simultaneously advancing multiple New York State Department of Environmental Conservation (NYS DEC) 604(b) priorities. By presenting NYS DEC's 604(b) priorities to municipalities within the context of MS4 requirements, Long Island-MS4 (LI-MS4) Planning highlighted their feasibility, their benefits, and their value from an MS4 perspective.

American Recovery and Reinvestment Act (ARRA) and Clean Water Act Section 604(b) Projects, Cont'd

The New York Sea Grant Long Island MS4 Planning Project, Cont'd

Further, LI-MS4 Planning assisted in planning municipal practices, policies, and programs that strengthened linkages to Long Island's three estuary management programs (Long Island Sound Study, Peconic Estuary Program and South Shore Estuary Reserve) and are consistent with the estuary programs' management priorities. Acting as liaison between MS4s, LI-MS4 Planning increased cooperative efforts and promoted cost-effective MS4 initiatives. With a priority focus on MS4s discharging to Long Island shellfishing areas, the LI-MS4 Planning Program has been instrumental in providing comprehensive stormwater management planning support through site visits, in-depth consultations, presentations, workgroups, the Long Island MS4 listserv, written feedback on stormwater program reports, and assistance with development of funding proposals.

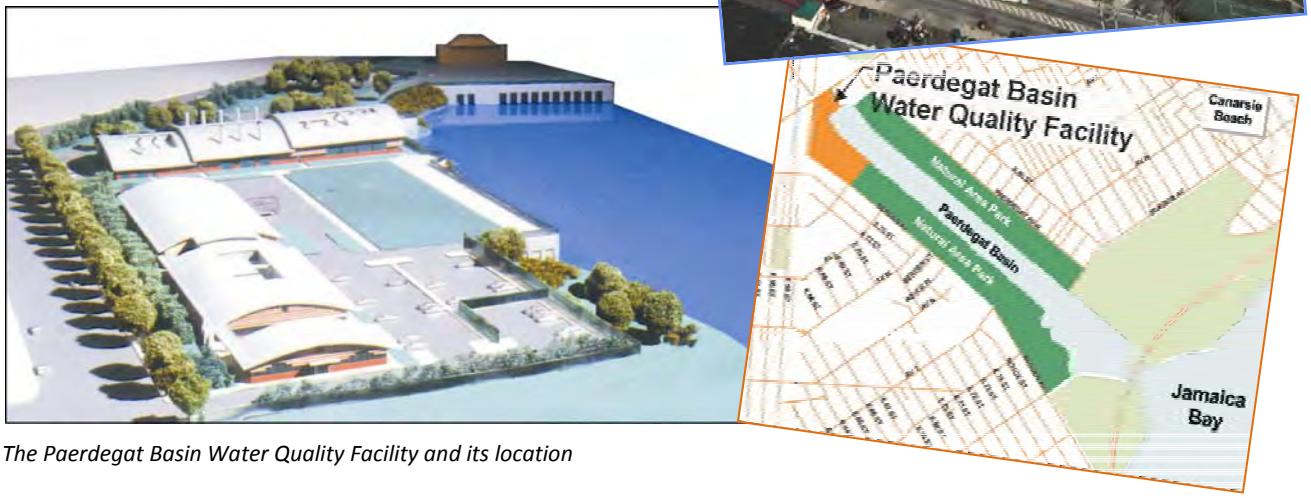
Over the course of the project, the LI-MS4 Planning Program provided Island-wide support to over 100 municipalities and assisted them in planning, implementing, evaluating, and documenting their stormwater management programs. A number of inter-municipal stormwater programs, including the Nassau County Stormwater Coalition, and partnerships undertaken in the Oyster Bay and Peconic drainage areas, increase the cost-effectiveness of municipal stormwater initiatives. In 2007, the establishment of the Phase II LI listserv, which now serves a subscriber base of over 200 municipal stormwater contacts, fosters communication within the Long Island municipal stormwater management community. The listserv also includes an accompanying website with important guidance and reference information. The demonstrable success of the LI-MS4 Planning Program includes the insight gained and information disseminated, which has prompted the revision and/or adoption of new local land use policies and procedures and identification of areas in need of strengthened onsite oversight.

MS4 Inspection

The Paerdegat Basin Water Quality Facility

The Paerdegat Basin water quality facility aims to improve and protect the water quality of Paerdegat Basin and Jamaica Bay by capturing 60% of combined sewer overflows (CSOs) and reducing the discharge of Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) by 70% and 80%, respectively. Furthermore, the New York City Department of Environmental Protection (NYC DEP) seeks to improve compliance with New York State Department of Environmental Conservation (NYS DEC) water quality standards for dissolved oxygen and coliform bacteria. The existing Paerdegat Basin pumping station will be rehabilitated and a natural area park will be created. Major components of the CSO facility include: influent channels, CSO retention tanks, screenings building, pump back building, odor control building, crew facility with space for Community Board 18 and restored Paerdegat Basin wetland areas. Regular community meetings were held during the planning and preliminary design stages of the project. Presently, the project is under construction and Community Board 18 is notified in writing if major issues arise.

Phase I	Paerdegat Pumping Station Improvements	Completed	$ 14 mil
Phase IA	CSO Influent Channels	Completed	$ 13 mil
Phase II	CSO Facility Foundations	Completed	$131 mil
Phase III	CSO Facility Structures and Equipment	Completed: 8/5/11	$230 mil
Phase IV	Natural Area Park	Anticipated Completion: 5/21/13	$ 37 mil



The Paerdegat Basin Water Quality Facility and its location

Bronx River Floatables Control Facilities Project

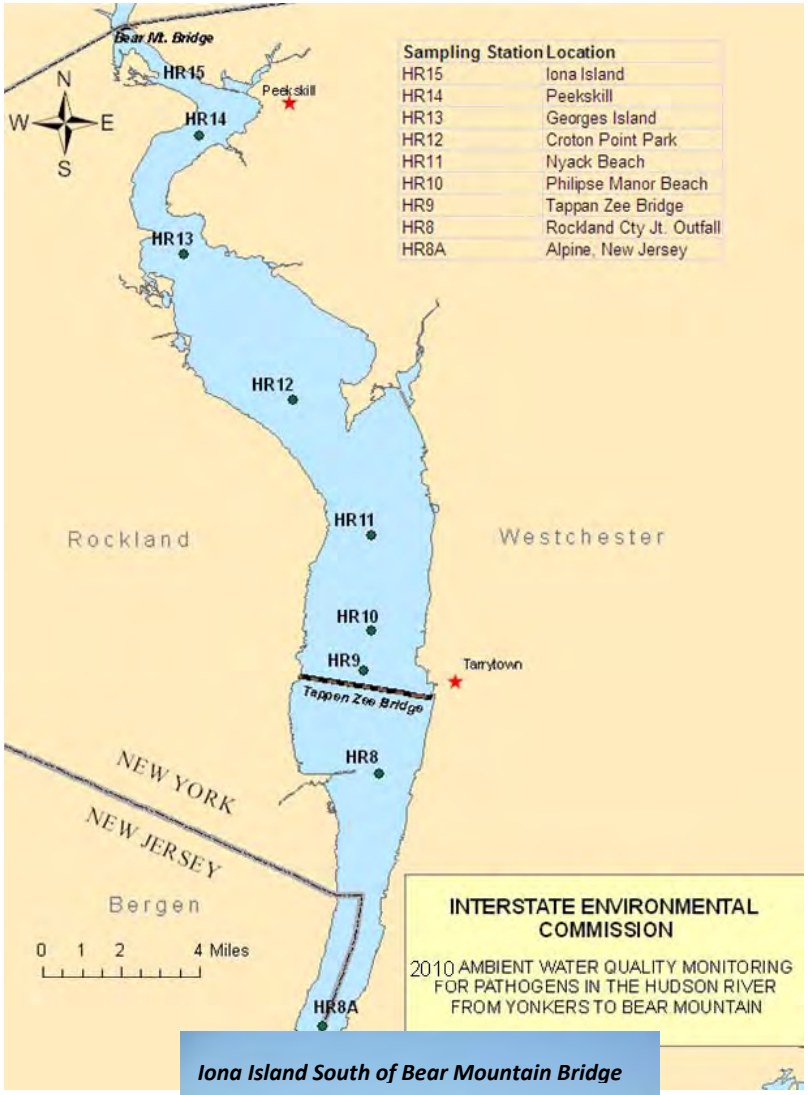
In March 2004, the NYC DEP submitted a modified Bronx River facilities plan to the NYS DEC entitled "The Bronx River Waterbody/Watershed Facility Plan." The modified facilities plan, which was prepared by HydroQual, Inc., states that the previous recommendation to construct a 4 MG off-line storage facility at Outfall HP-007 on the Bronx River will provide limited benefits to the improvement of water quality conditions in the tidal Bronx River. In lieu of the 4 MG storage facility, the modified facilities plan recommends that floatables control facilities be provided at Outfalls HP-004, HP-007 and HP-009 to minimize the discharge of unsightly floatable material into the Bronx River.

Presently, the proposed facilities are under construction under a single construction contract from December 2009 through June 2012. Currently, construction work is roughly 86% complete and will ultimately cost $28 million. The water quality in the Bronx River will improve as a result of the decrease in the discharge of floatables to the River. The quantity and diversity of marine life in the River will also increase, and opportunities for public recreation and enjoyment in the River will be enhanced.

2010 Ambient Water Quality Monitoring for Pathogens in the Hudson River from Yonkers to Bear Mountain

Several recreational beaches, as well as many productive shellfish beds within the Interstate Environmental District (IED) have been frequently closed (some areas closed since the 1920s), primarily due to pathogens contamination from combined sewer overflows and stormwater runoff. As a result, surveys leading to a better understanding of the association between pathogens levels and point and non-point source runoff, as well as pathogens distribution in receiving waterbodies have gained priority.

While most of the waters in the IED have been recently sampled by IEC or other agencies for bacterial analyses, there is still limited monitoring of pathogens for the portion of the Hudson River between Yonkers and Bear Mountain. Recognizing this data gap, the Interstate Environmental Commission, in cooperation with the NYS Dept. of Environmental Conservation's Hudson River Estuary Management Program, and local county health departments, developed a pathogens monitoring program for the aforementioned portion of the river. Results will create a database for fecal coliform, total coliform, enterococcus and E. coli.




Iona Island South of Bear Mountain Bridge

Sampling began in 2006. The number of stations visited during a trip and the number of trips increased by one in late 2007. Funding logistics for the continuation of the project and QAPP approvals were completed late in 2009. In 2010, due to frequent rain events and minimal mechanical setbacks, IEC successfully completed a fourth year of ambient sampling on the Hudson River—4 dry and 4 wet weather events.

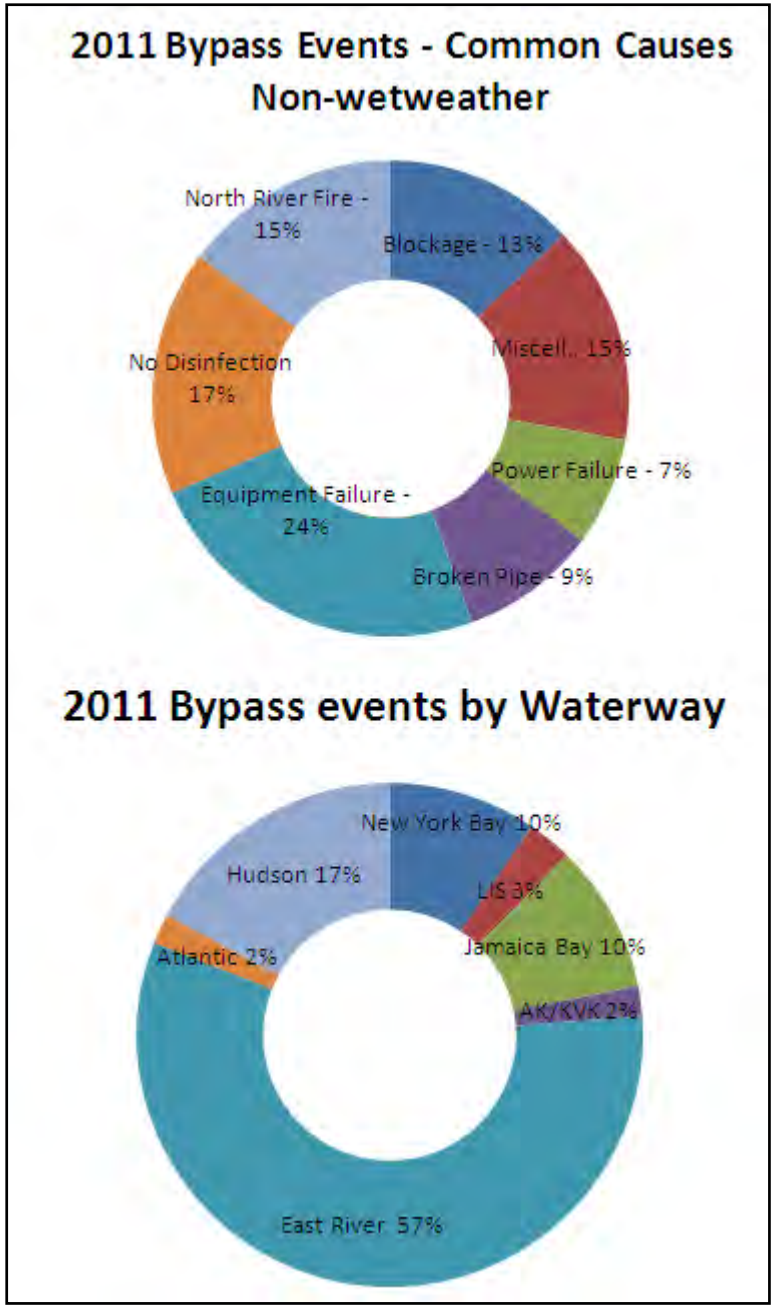
Mid–river samples were taken at nine pre-determined locations that span from Iona Island (just south of the Bear Mountain Bridge) to a mid-river location by Alpine, NJ, and Yonkers, NY. All samples were transferred to the IEC laboratory and analyzed for pathogens, including enterococcus, fecal and total coliform and E. coli. Temperature, salinity, dissolved oxygen, conductivity, pH and water clarity (Secchi depth) were also measured at each site.


Stormwater Outfall

Regional Bypass Workgroup

The Regional Bypass Workgroup (RBWG) was formed in 1997 to address the issue of unplanned bypasses of raw and partially treated sewage. The Interstate Environmental Commission has chaired the RBWG since its inception. The RBWG has members from the environmental and health departments of the Commission's three member states, the IEC, National Park Service, New Jersey Harbor Dischargers Group, New York City Department of Environmental Protection, US Environmental Protection Agency, US Food and Drug Administration, US Coast Guard, and county health officials.

The Workgroup has been using the Regional Bypass Model (RBM); upgraded in 2008, the RBM v2.0 is a mathematical tool developed to predict which areas may be affected by a particular bypass. Specifically, the model's quick predictions can determine whether a discharge occurring at a certain point will affect another area, and if there should be concern as to whether a beach or a shellfish area should be closed. The RBM takes into account times of discharge, tidal cycles and temperatures and it is useful throughout IEC's environmental District. Some of the upgrades to the new model include but are not limited to: use of calibrated enterococci and total/fecal coliform kinetics; a spatial domain encompassing NY Harbor, Long Island Sound, the NJ coastline south to Cape May and the Passaic/Hackensack/Raritan Rivers; multiple discharges; and specific duration and quantity. In addition, regional notification protocols were put in place and are updated annually.



The majority of New York City and northern New Jersey collection systems are comprised of combined sewers. When there is rain, the flows to wastewater treatment plants increase. If the flow is greater than the plant's design flow, part of the flow bypasses all or certain treatment steps. The most notable bypass events of 2011 included discharges of raw sewage, wastewater with primary treatment and secondary effluent with no disinfection.

For the first 12 years (1998 to 2009), the IEC received between 93 and 275 bypass event notifications. Originally, the focus was on raw sewage, but it was expanded to address any type of spill, i.e., chemical, oil, fuel, sludge and treatment reductions. From January 1 to November 30, 2011, 105 bypass events were reported to the IEC. This is the lowest it has been in years.

This year a fire at the North River Wastewater Treatment Plant caused the plant to shut down for a few days. This caused a major bypass of sewage into the Hudson River. The RBWG and RBM were used as tool by many to disseminate information first about the bypass and then the affect it was having on the area's waters. In 2011, during the critical time of the year when the majority of the public is recreating on local waters and beaches (Memorial Day weekend to Labor Day), there were 28 releases, or 26% of the total (down from 2010's 68 releases and 30% of the total).

Clean Water Act Section 305(b) Water Quality Assessment

Under Section 305(b) of the federal Clean Water Act, States, Territories, the District of Columbia, Interstate Water Commissions, and participating American Indian Tribes must assess and report on the quality of their waters. The results of 305(b) assessments are not raw data, but rather, statements of the degree to which each waterbody supports the uses designated by water quality standards. While Section 305(b) of the federal Clean Water Act requires assessments of water quality, Section 303(d) of the same Act requires that those waterbodies deemed impaired in 305 (b) assessments be prioritized in terms of their degree of impairment and how necessary it is to implement pollution controls. Whereas two separate reports were required prior to 2010, each participating organization now aggregates these assessments and priority listings, as well as other extensive programmatic information, into an Integrated Report.

Integrated Reports are submitted to the US EPA on April 1st of every even year. The IEC has made submissions since the inception of this requirement (1984). The US EPA combines all this information to create the biennial National Water Quality Inventory Report (NWQIR). The NWQIR is transmitted to Congress to describe the condition of the nation's waters and to help its members allocate certain Clean Water Act funds among states. EPA's NWQIR is also used as a tool to inform the general public about the condition of the nation's waters.

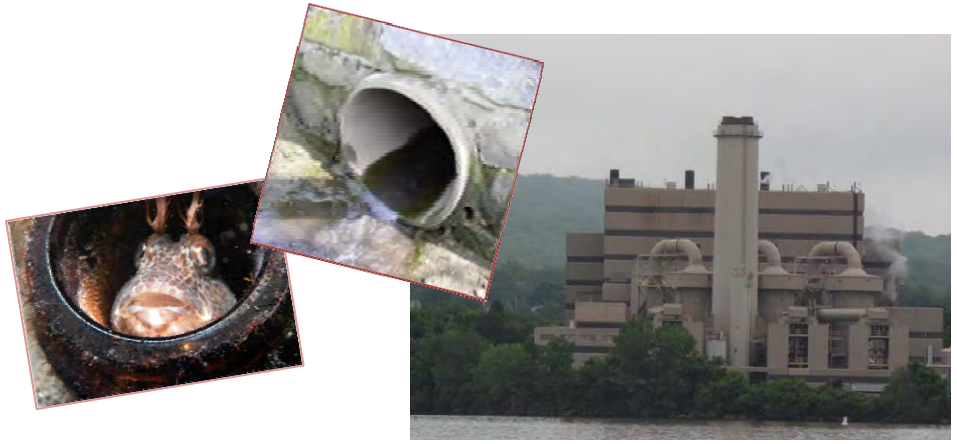
As per US EPA Guidance, the Commission's report includes its assessment methodology and a great deal of other important information. The assessment of the Commission's nearly 797 square miles of estuarine waters is based on data collected from the Commission's ambient and effluent monitoring programs. It is supplemented with water quality data and information on health advisories, fish kills, shellfish closures, and beach closings from the Commission's member states' environmental and health departments. The Commission's latest report can be retrieved from its website, www.iec-nynjct.org.

STORET

Since its beginning, the IEC has amassed a huge database of ambient and effluent water quality data and has always been an advocate of water quality data collection, analyses and dissemination for the Tri-State Region.

STORET (STOrage & RETrieval) is a national database that contains biological, chemical, and physical data that have been collected by federal, state and local agencies, Indian tribes, volunteer groups, academia, and others (www.epa.gov/storet). The IEC's first input to this data depository dates back to 1970. Since then, the Commission has been a steady contributor. All data sets generated by the Commission that are suitable for input have been entered into STORET. Parameters recorded include dissolved oxygen, temperature, salinity, Secchi depth, chlorophyll a, fecal and total coliform, fecal streptococcus and enterococcus bacteria. Ancillary information such as climatological and tidal data, type of monitoring instrumentation and visual observations, has also been submitted.

The IEC's data can be retrieved on the Internet from two separate databases, the STORET Legacy Data Center (LDC) and the more current, Modernized STORET system. In both systems, the IEC's organization code is 31ISC2RS. In contrast to the LDC, which is a static, archived database, the Modernized STORET is an operational system, actively being populated with water quality data. The Commission's data sets supplied to US EPA prior to 1999 were all placed in the Legacy Data Center, whereas those supplied since January 1, 1999, reside in the Modernized STORET System.



Estuarine Water Quality Monitoring Student Workshops

In May 2011, the Interstate Environmental Commission partnered with the Center for Environmental Science (CES) at the College of Staten Island, CUNY, in a collaborative public education and outreach program funded by a grant from Con Edison. The grant enabled IEC and CES to design unique, multi-disciplinary workshops that gave underserved high school and junior high school students opportunities to explore the multitude of factors that affect water quality and learn data collection, analysis and interpretation methods. Students from Curtis High School and Intermediate School 49, both in Staten Island, NY, participated in multiple estuarine water quality monitoring workshops, in which they traveled, along with IEC laboratory staff, to Great Kills Park, part of the National Park Service's Gateway National Recreation Area. At Great Kills Park, the students worked in three groups, with each group collecting field data and samples from three sites along Great Kills Harbor.

The students measured dissolved oxygen, salinity, pH, temperature, and conductivity in the field and each group recorded their field data, including pertinent meteorological data such as precipitation, cloud cover and air temperature. A variety of sampling techniques were demonstrated and students collected samples to be transported to the IEC's laboratory, located on the campus of the College of Staten Island, to be analyzed for enterococcus, a microbiological parameter used as a beach closure indicator organism.

On the bus to and from Great Kills Park, IEC staff explained the role and mission of the Interstate Environmental Commission, discussed the importance of the parameters they measured, and how each parameter specifically related to the health of the harbor. Also discussed was the role stormwater runoff plays in water pollution, how combined sewers work, the importance of dissolved oxygen for estuary health and how nutrients such as nitrogen in runoff can result in oxygen depletion. The students were enthusiastic, engaged and proved to be very capable of carrying out and enjoyed the fieldwork, despite the fact that the workshops occurred during rain that was quite heavy at times!

Water quality monitoring at Great Kills Park – Field Component

At the conclusion of the field component, the students traveled back to the College of Staten Island, along with IEC staff, and visited the IEC's Laboratory. In the laboratory, they were instructed in sterile technique, as well as the importance of quality control procedures and documentation by the Commission's Senior Environmental Chemist. The students were able to assist in the processing of the samples they collected by filtering and incubating their samples, and saw what typical results looked like after 24 hours of incubation. Again, the students impressed the IEC laboratory staff members with their enthusiasm, curiosity, participation, and careful adherence to the discussed protocols.

Finally, students were led to a Geographic Information System (GIS) workshop led by Dr. Alan Benimoff of the College of Staten Island, in which, principles of GIS and spatial data analyses were discussed. Students were able to see their input into GIS maps and compare data across different sites and groups.

The IEC hopes to be able to continue and expand this educational outreach program to involve students from additional schools and incorporate different site visits. This is just one example of how the IEC laboratory's location on the College of Staten Island campus and association with the Center for Environmental Science enables such collaborative, multi-disciplinary educational outreach programs.

Water quality monitoring workshops with Staten Island junior and high school students – Classroom Component

World Water Monitoring Day

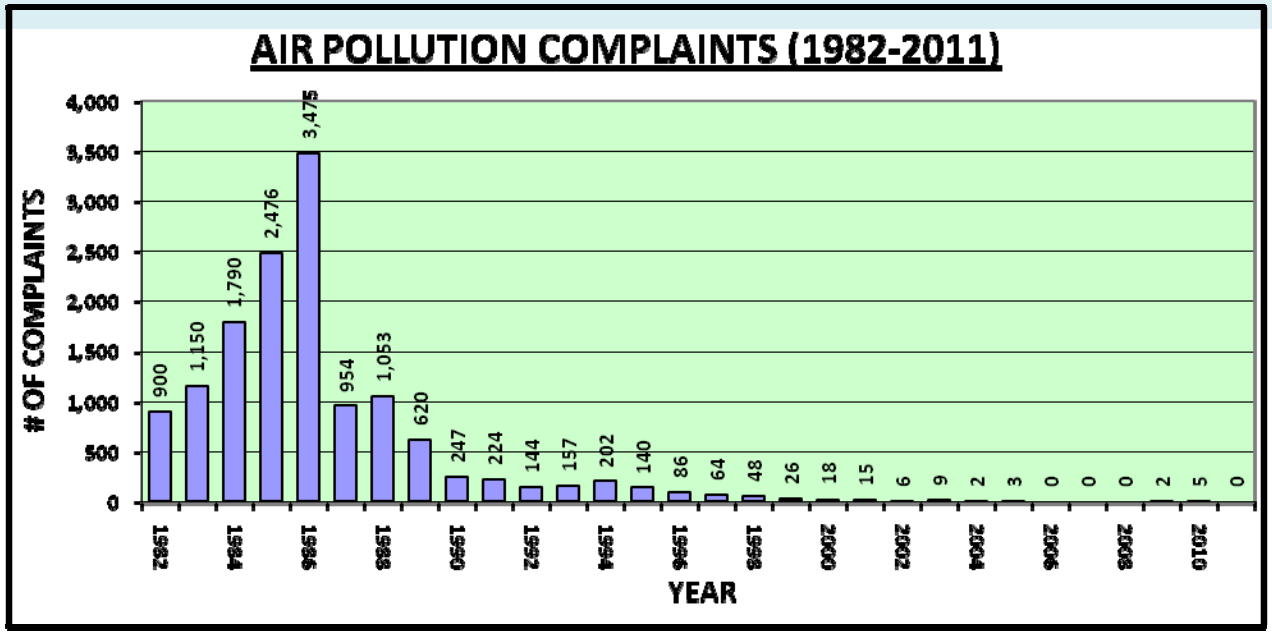
World Water Monitoring Day (WWMD) is an international education and outreach program that strives to build public awareness and involvement in protecting water resources around the world by encouraging citizens to perform basic water quality monitoring of their local water bodies. Coordinated by the Water Environment Federation (WEF) and the International Water Association (IWA) and with multiple government and corporate sponsors, WWMD is officially celebrated on September 18th; however, since 2009 the monitoring window has been extended to span from March 22 until December 31. The data collected during estuarine water quality workshops provided an excellent example of local citizens, in this case junior and senior high school students, monitoring waterbodies in their community. Data from the three sites at Great Kills Harbor-the Marina, the fishing walkway and the boat launch, visited on May 4th and May 17th were entered into the WWMD database on WWMD's website and will be incorporated in the WWMD 2011 annual report.

Air Pollution

The Commission's air program was initiated in 1962. To aid the primary control agencies in the solution of air quality problems of interstate nature, the Commission maintained two mobile vans and fixed-site monitoring stations capable of tracing airborne pollutants. In 1964, the first Air Pollution Warning System was put into operation and, through coordination by the Commission with its member states, it has been periodically updated and strengthened as new information became available. In April 1970, the Commission was designated as the coordinating agency for the NJ-NY-CT Air Quality Control Region under the federal Air Quality Act. Pollutant values and meteorological conditions did not warrant activation of the system during 2011.

The Commission has maintained round-the-clock response for air pollution complaints since the late 1960s. A field office, established on Staten Island in 1982, was especially important during 1986 when odor complaints reported to the Commission peaked at nearly 3,500 complaints affecting 63 different neighborhoods throughout Staten Island. Over the last 20 years, Staten Island was the source of more citizens' complaints than any other area in the Commission's jurisdiction; mainly due to the Fresh Kills Landfill. However, since the landfill's closure in 2001, complaints have been minimal. No garbage odors were reported to the Commission for the elenth consecutive year.

IEC's Staten Island field office was closed in 1989 due to budgetary restraints, but the Commission still maintains a 24-hour-a-day, 7-day-a-week answering service (718-761-5677) to receive complaints. The IEC contacts and works closely with the appropriate enforcement agencies and health departments in NY and NJ to perform follow-up.



Ozone Health Message System

For the 23rd consecutive year, the Ozone Health Message System was activated to alert the public of unhealthy levels of ozone in the atmosphere of the Metropolitan Region. The system was developed as a cooperative effort by the IEC and environmental and health representatives from the States of NJ, NY and CT; New York City; and the US EPA. It serves as a central source of precautionary advice on ozone during the warm weather months (May to October) when higher concentrations of ozone occur.

The number of advisories and temporal span were considerably less than past years. During 2011, it was not necessary for IEC to issue a region-wide Ozone Health Message.

Regional Air Pollution Warning System

The IEC is the coordinator of the NJ-NY-CT Air Quality Control Region's High Air Pollution Alert and Warning System. Based on high pollutant concentrations or stagnation advisory reports, the Commission may activate this system. The pollutant levels and stagnation advisory reports did not warrant activation of the system during this past year.

Legal Activities

The IEC's Legal Counsel advances the mission of the Commission in regulation and compliance, as well as outreach and examination of factors affecting the tri-state environmental District. The Commission is counseled on State and federal regulations and case law, and provides risk assessments both of the ramifications of member actions, as well as the cost and/or benefits to the District and to the Commission. IEC's Legal Counsel proactively assures compliance with IEC regulations, to recover damages from polluters and ensure accountability and remediation, and counsels IEC's staff and Commissioners on matters including insurance, ethics, contracts, personnel, labor and management issues.

IEC's Legal Counsel also synthesizes and analyzes proposed legislation, regulatory changes and local issues in the member States, which may affect the IEC's District. This includes assisting with or delivering testimony upon the request of the Commission, updating legislators seeking information and reviewing agency and interagency policies and memoranda, as well as ensuring IEC's regulations are incorporated into permits.

An administrative decision was issued by the New York State Department of Environmental Conservation (NYS DEC) Commissioner on June 10, 2010, concerning nitrogen remediation and problems of combined sewer overflows (CSOs), as well as permit language for New York City's 14 municipal wastewater treatment plants. The Commission was an amicus party in the nitrogen remediation litigation, for which the Commissioner held that a 2005 Consent Order must be attached to State Pollutant Discharge Elimination System (SPDES) permit renewals. While the decision holds that narrative water quality regulations are not necessary given reference to applicable law and attachment of the Consent Order, NYS DEC retained mention of the Water Quality Regulations of the IEC on the first page and footnotes concerning IEC Water Quality Regulations in the reissued permits. NYS DEC issued the SPDES permits valid through 2015.

The last barge taken to Fresh Kills landfill

NYS DEC and New York City Department of Environmental Protection (NYC DEP) have reached consent orders in 2009 and 2011 to remediate CSOs, set guidelines and milestones for CSO abatement and build green and "grey" infrastructure within the environmental district. The IEC will continue to monitor developments.

IEC continues to monitor development plans for the Fresh Kills Landfill, which closed in 2001. IEC had intervened in an ongoing proceeding in 1986 to protect the environment from debris released and leachate from the landfill, eventually evolving into an agreement for a barge system. The case remains dormant and intermittent discussion has occurred among elected officials and stakeholders concerning development at the site. Once parties agree upon a plan and resolve any remaining issues, New York State would have to approve the plan. The landfill itself has been closed and opened only to assist with remnants of the attack on September 11, 2001.

Appendix A: Projects & Expenditures

NEW YORK – Wastewater Treatment Plant Projects & Expenditures

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Bay Park	• Permanent Site-Wide Lighting; Installation of lighting to enhance plant safety and security. • Dechlorination Facility; In order to comply with a NYSDEC mandate, a dechlorination, system using sodium bisulfite, was being constructed. • DAF Pump Station; In order to enhance the operation of the facility's sludge thickening system a dedicated pump station was constructed.	2,655,728.91 4,114,077.16 2,900,000.00	• Modifications to Influent Pumping System; The facility's raw influent sewage pumps and ancillaries are being modified and improved. (Started on 12/21/2009, Currently 30% complete) • Improvements and Replacements to Various Process Equipment and Building Modifications; Problematic areas of the facility (including effluent water screening and emergency generator cooling system) are being addressed. (Started on 09/12/2011, Currently 0% complete) • Primary Settling Tank Rehabilitation; The operational equipment within the facility's primary sedimentation tanks are being replaced. (Started on 08/01/2011, Currently 10% complete)	7,693,000 2,557,000 10,484,000	• Interim Sludge Thickening Facility: removal of DAF equipment and installation of gravity belt thickeners in existing building. • Sludge Thickening Facility Improvements: installation of new ancillary systems for gravity belt thickeners and miscellaneous modifications to existing building. • Improvements to Influent Screening Facility: modifications include replacement of bar screens and improvements to odor control system.	Not Reported Not Reported Not Reported
Bear Mountain	None	—	None	—	None	—
Belgrave Water Pollution Control District	None	—	• Screenings Building (Started on 12/01/2011, Currently 80% complete) • Final Clarifier (Started on 12/01/2011, Currently 80% complete) • Denitrification (Started on 12/01/2011, Currently 80% complete) • Ultraviolet Disinfection (Started on 12/01/2011, Currently 80% complete) • Screenings Building (Started on 12/01/2011, Currently 80% complete)	Unavailable Unavailable Unavailable Unavailable Unavailable	None	—
Blind Brook Wastewater Treatment Plant	None	—	• Performance Maintenance (Started on 11/09/2011, Currently 73% complete)	5,200,000	None	—
Bowery Bay	BB-57: Interim Plant Upgrade Phase 1, Start Date: 11/28/2000, Completion Date: 4/28/2011, Estimated Operational Date: 4/28/2011	214,200,000	BB-59: BNR Upgrade, Start Date: 11/28/2000, Completion Date: 4/28/2011, Estimated Operational Date: 4/28/2011, % Complete 84	283,200,000	BB-205: Replacement / Updated CBS/PBS Tanks, Start Date: 12/7/2011, Completion Date: 12/7/2013, Estimated Operational Date: 12/7/2013	7,600,000

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Bowery Bay, Cont'd	• BB-58: Gravity Thickener Upgrade, Start Date: 2/21/05, Completion Date: 5/31/2010, Estimated Operational Date: 5/31/2010 • BB-62: Emergency Cable Replacement	36,400,000 4,600,000			• BB-61: Main Sewage Pump Replacement, Start Date: 11/30/2012, Completion Date: 11/29/2014, Estimated Operational Date: 11/29/2014 • BB-63: Bowery Bay Carbon Addition, Start Date: 1/23/2014, Completion Date: 7/6/2016, Estimated Operational Date: 7/6/2016	5,500,000 23,300,000
Cedar Creek	None	—	None	—	• Replacement of existing bar screens (4-units), including structural modifications to the existing building as well as electrical & HVAC. • Rehabilitation of the existing grit system with complete replacement of the HVAC system, as well as some modification to the electrical that services the process area. The construction is still in the design phase. • Rehabilitation or replacement of the final. There is not a definitive scope as of yet, and the construction costs have not been developed.	$16.1 million 7.0 million —
Cedarhurst WWTP	None	—	Consolidation with Nassau County. On January 2012, the County of Nassau is taking over all operations of the Cedarhurst village sewer collection system. On or about 2013, the village treatment plant will be decommissioned and closed. Wastewater will flow directly to the Nassau County Bay Park treatment plant. Estimated Operational Date: Summer 2012, Complete: 80 %	12 mil	None	—
Coachlight Square on the Hudson	The sewage treatment plant was completed in 1993	—	None	—	None	—
Greater Atlantic Beach Water Reclamation District	None	—	None	—	Phase II, Facility Improvement Nitrification & Total Residual Chlorine Reduction, Start-Up Date: Fall 2011, Completion Date: Summer 2012, Estimated Operational Date: Summer 2012, Complete: 0 %	3.2 million
Glen Cove Wastewater Treatment Plant	None	—	None	—	Septage Receiving Upgrade Start-Up Date: September-2011 Completion Date: November-2011, Estimated Operational Date: November 2011, Complete: 0 %	72,723

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Great Neck Water Pollution Control District	None	—	The Great Neck Water Pollution Control District (GNWPCD) is constructing an upgrade and expansion to its existing wastewater treatment plant to: 1) comply with the effluent limits set by the NYSDEC per the recommendations of the Long Island Sound Study and 2) provide increased hydraulic capacity sufficient to accommodate the consolidated wastewater flow from both the GNWPCD and Village of Great Neck collection systems, thereby allowing the Village of Great Neck to decommission its existing wastewater treatment plant. Start-up Date: 06/2010, Completion Date: 06/2014, Estimated Operational Date: 12/2013	—	None	—
Huntington Sewer District	None	—	Replace Hill Place Sewer. Start-up Date: 03/2011, Completion Date: 12/2011, Estimated Operational Date: 12/2011, Complete: 33%.	427,000	Repairs to Sanitary Sewer to reduce infiltration. Start-up Date: Spring 2012, Completion Date: Summer 2012, Estimated Operational Date: Summer 2012	—
Inc. Village of Great Neck	None	—	• Pilot testing to meet the proposed total residual chlorine limitation of 0.5 mg/l, Start Date: On-going • Grit Chamber Improvements, Start Date: Winter 2011, Completion Date: Spring 2012 • Construction is ongoing to upgrade the Great Neck Water Pollution Control District (GNWPCD) treatment facility to accommodate the Village of Great Neck wastewater flow and to provide nitrogen removal.	—	Sewer Rehabilitation. Start Date: Spring 2012, Completion Date: Spring 2012, Estimated Operational Date: Spring 2012	$315,000
Joint Regional Sewerage Board	• Bar Screen Replacement, Start-up Date: 4/2011, Completion Date: 9/2011, Estimated Operational Date: 9/2011 • Grit Removal System Upgrade, Start-up Date: 4/2011, Completion Date: 9/2011, Estimated Operational Date: 9/2011 • Girling Pump Station Upgrade , Start-up Date: 5/2011, Completion Date: 9/2011, Estimated Operational Date: 9/2011	450,000 400,000 550,000	None	—	Thickener Upgrade, Start-up Date: 9/2012, Completion Date: 6/2013, Estimated Operational Date: 6/2013	1,200,000
Jones Beach State Park WWTP	None	—	Tying Jones Beach effluent into Cedar Creek discharge, Estimated Operational Date: 12/31/2011, % Complete: 50	—	None	—

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Mamaroneck Wastewater Treatment Plant	None	—	• BNR Upgrade, Start Date: 12/30/09, Completion Date: 9/30/12, Estimated Operational Date: 12/31/12, % Complete: 61 • Screen & Grit Upgrade, Start Date 1/4/11, Completion Date: 5/3/12, Estimated Operational Date: 5/3/12, % Complete: 32	45.9M 2.1M	• Outfall Jetty Rehab, Design Date: Spring 2012, Completion Date: 12/31/12 • Administration Roof/Tower Rehab, Design Date: 4/8/11, Completion Date: 12/11/12 • Primary, Secondary Heating & Chemical Upgrade, Design Date: 7/28/11, Completion Date: 8/2/12 • East & West Basin & Edgewater Point Pump Stations, Design Date: Spring 2012, Completion Date: 12/31/12 • Sewer System Rehab, Design Date: Dec. 11, Completion Date: Dec. 2012	$5.5M $2.5M $800K $6.4M $674,800
New Rochelle Wastewater Treatment Plant	None	—	• Plant Expansion and Performance Upgrade, Start Date: 06/10, Completion Date: 02/13, Approx. Operational Date: 02/13, % Complete: 40	$151M $140M $2.8M	Sewer System Rehabilitation, Start Up Date: 12/11, Completion Date: 12/12	20,000
Oyster Bay Sewer District	• Replace 18 building doors and hardware, Start Date: April 2010, Completion Date: Feb. 2011, Estimated Operational Date: February 2011 • Paving at Sewage Treatment Plant, Start Date: Nov. 2010, Completion Date: Jan. 2011, Estimated Operational Date: January 2011 • Installation of Surge Protector on an electric service to treatment plant, Start Date: May 2011, Completion Date: July 2011, Estimated Operational Date: June 2011	86,565 51,215 11,495	• Replacement of variable frequency drives for 3 influent pumps, Start Date: June 2011, Completion Date: Nov. 2011, Estimated Operational Date: Nov. 2011, % Complete 67 • Effluent Pump Station Improvements, Start Date: Sept. 2010, Completion Date: March 2012, Estimated Operational Date: March 2012 • Clean and televise 8,500 LF of sewer, Start Date: June 2011, Completion Date: Sept. 2011, Estimated Operational Date: Sept. 2011, % Complete 100,	22,420 102,500 17,880	Repairs to Sanitary Sewer, Start Date: Spring 2012, Completion Date: Summer 2012, Estimated Operational Date: Summer 2012	—
Peekskill Wastewater Treatment Plant	• Aeration System Upgrade, Start Date: 6/12/09, Completion Date: 12/31/11 • Mill Street Pump Station, Start Date: 4/15/09, Completion Date: 2/1/11	$3.8M $2.9M	• Electrical System Upgrade, Start Date: 9/7/10, Completion Date: 12/2/11, % Complete 70 • TRC Reduction, Start Date: 8/3/11, Completion Date: 4/8/12, Estimated Operational Date: 4/18/12, % Complete 30	$5.3M $5.7M	• Highland Avenue Pump Station, Start Date: Summer 2012, Completion Date: Summer 2013 • Mechanical Sludge Handling Upgrade Start Date: Spring 2012, Completion Date: Spring 2013 • Sewer System Rehab Start Date: December 2011, Completion Date: December 2012	$3.3M $2.7M $20,000
Port Chester Wastewater Treatment Plant	None	—	Primary Building Roof Replacement, Start Date: December 2011, Completion Date: Summer 2012, % Complete 0	$120K	Bulkhead Rehabilitation Study, Start Date: Spring 2012, Completion Date: Fall 2012	$100K

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Port Washington Water Pollution Control District	Installed mechanical screens in headworks, Start Date: 08/11, Completion Date: 09/11, Estimated Operational Date: 09/11	$265,000	Replace 12 inch force main from Pump Station "C" (Smull Place) to STP, Start Date: 09/11, Completion Date: 12/11, Estimated Operational Date: 12/11, % Complete: 50	$750,000	• Rehabilitation of Sludge Processing Facilities, Start Date: 01/12, Completion Date: 09/12, Estimated Operational Date: 09/12 • Replace gravity thickener mechanisms, install tank cover, and odor control system, Start Date: 01/12, Completion Date: 03/12, Estimated Operational Date: 03/12	$2,500,000 $500,000
Suffolk County Sewer County District # 1 – Port Jefferson WWTP	None	—	None	—	Sewer rehabilitation and lift station in lower Port Jefferson, Start Date: Jan. 2013, Completion Date: May 2013, Estimated Operational Date: June 2013	$1.5M
Suffolk County Sewer County District # 3 – Southwest (Bergen Point) WWTP	Emergency Shoreline Repair, Start Date: 09/03/11, Completion Date: 09/30/2011	—	Kime Ave. Sewer Interceptor Repair, Start Date: 08/08/11, Completion Date: 04/15/12, Estimated Operational Date: 04/15/12, % Complete: 20	900,000	• Grit facilities improvement project, Start Date: June 2012, Completion Date: Jan 2015, Estimated Operational Date: Feb. 2015 • Outfall Work, Start Date: June 2015, Completion Date: June 2018, Estimated Operational Date: June 2018 • Odor Control, Start Date: 03/20/2012, Completion Date: 03/20/2013, Estimated Operational Date: 03/20/2013 • Plant Expansion, Start Date: 06/12/2012, Completion Date: 06/20/2015, Estimated Operational Date: 06/20/ 2015 • Final Effluent Pump Station Upgrade, Start Date: Sept. 2012, Completion Date: Sept. 2014, Estimated Operational Date: Sept. 2014 • Extraneous Flow Reduction, Start Date: 2014, Completion Date: 2016, Estimated Operational Date: 2016 • Ultra Violate Disinfection, Start Date: 03/20/12, Completion Date: 02/2014, Estimated Operational Date: Feb. 2014	$25M $210M $2.5M $80M $25M $8M $15M
Suffolk County Sewer County District # 6 – Kings Park WWTP	None	—	None	—	Sewering of downtown Smithtown and Kings Park, pump station improvements, plant expansion to 1.2 MGD and groundwater discharge, Start Date: 2014, Completion Date: 2016, Estimated Operational Date: 2016	$80M
Suffolk County Sewer County District # 21 – SUNY WWTP	None	—	None	—	• Plant expansion of 0.15 MGD, Start Date: Oct. 2012, Completion Date: 07/20/2014, Estimated Operational Date: 07/2014 • Diversion of partial flow to groundwater (if required)	$18M $20M

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Town of Stony Point WWTP	Replacement of Belt Filter Press with Andritz Centrifuge, Start Date: 11/10, Completion Date: 02/2011	416,950	None	—	None	—
Wards Island WPCP	◆WI-74: Thickener and Digester Gas Upgrades, Start Date: 06/23/05, Completion Date: 11/15/2010, Estimated Operational Date: 11/15/2010 ◆WI-5F: Primary Substation and Fifth Feeder Improvements, Start Date: 06/02/08, Completion Date: 11/19/2010, Estimated Operational Date: 11/19/2010	55,200,000 8,500,000	◆WI-270: Chemical and Petroleum Bulk Storage Upgrade, Start Date: 08/11/08, Completion Date: 5/5/2012, Estimated Operational Date: 5/5/2012, % Complete: 66 ◆WI-78: Bronx and Manhattan Grit Chamber Upgrade, Start Date: 09/01/02, Completion Date: 3/6/2013, Estimated Operational Date: 3/6/2013, % Complete: 78 ◆WI-79: BNR Treatment and Miscellaneous Improvements, Start Date: 04/04/06, Completion Date: 1/2/2013, Estimated Operational Date: 1/2/2013, % Complete: 77 ◆WI-79A: Primary Sludge System Reconstruction, Start Date: 12/29/09, Completion Date: 12/29/12, Estimated Operational Date: 12/29/12, % Complete: 65	13,600,000 127,200,000 231,100,000 20,000,000	◆WI-80: Carbon Addition Facility, Start Date: 02/18/14, Completion Date: 08/06/16, Estimated Operational Date: 08/06/16 ◆WI-279: Emergency Generators, Start Date: 01/01/14, Completion Date: 12/23/17, Estimated Operational Date: 12/31/17	28,200,000 69,000,000
Westport WPCF	None	—	None	—	None	—
Yonkers Joint Wastewater Treatment Plant	None	—	◆Secondary Auto Skimmer Replacement, Start Date: 03/09, Completion Date: 12/11, % Complete: 99 ◆Primary Digester Roof Replacement & Upgrades, Start Date: 10/08, Completion Date: 12/11, % Complete: 98 ◆Dewatering Building Upgrades, Start Date: 03/09, Completion Date: 12/11, % Complete: 99	$3.7M $4.1M $1.0M	◆Cellular Bulkhead Rehabilitation Phase II, Start Date: Spring 2012, Completion Date: Summer 2012 ◆Emergency Generator Replacement, Start Date: 02/12, Completion Date: 08/13 ◆ADG Engine Generator Installation, Start Date: 01/12, Completion Date: 07/13 ◆54 inch Force Main Surge Chamber, Start Date: 08/10, Completion Date: 01/12 ◆Alexander Street Influent Structure Rehab, Start Date: 05/11, Completion Date: 03/12 ◆HVAC Upgrade Phase II, Start Date: 02/11, Completion Date: 02/12 ◆Tarrytown Force Main Replacement, Start Date: Spring 2012, Completion Date: Summer 2013 ◆HVAC Upgrade Phase I, Start Date: 01/12, Completion Date: Summer 2013	$4.0M $9.9M $9.9M $3.1M $2.8M $9.8M $2.0M $6.9M

NEW YORK – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Yonkers Joint Wastewater Treatment Plant, Cont'd	None	—	◆CL2 Tank and ADG Piping Upgrade, Start Date: 10/10, Completion Date: Summer 2012, % Complete: 30 ◆Additional Water Service, Start Date: 02/11, Completion Date: 01/12, % Complete: 95 ◆CSO Building Roof Replacement, Start Date: 10/10, Completion Date: Summer 2012, % Complete: 5	$2.7M $1.0M $765K	◆Tarrytown Pump Station Rehab, Start Date: 01/12, Completion Date: 01/13 ◆Sewer System Rehab, Start Date: 12/11, Completion Date: 12/12	$700K $470K
26 Ward	26W-11G, Start Date: 05/02/05, Completion Date: 4/1/2010, Estimated Operational Date: 4/1/2010	19,233,442	◆26W-12, Start Date: 10/24/05, Completion Date: 2/26/2014, Estimated Operational Date: 3/27/2014, % Complete: 80 ◆26W-13, Start Date: 01/18/10, Completion Date: 10/12/2012, Estimated Operational Date: 11/13/2012, % Complete: 51 ◆26W-14 - R1 Regulator Reconstruction, Start Date: 12/28/10, Completion Date: 8/29/2012, Estimated Operational Date: 9/30/2012, % Complete: 44	136.3M 34.3M 14.M	◆26W-18 Permanent Caustic System, Start Date: 12/11/12, Completion Date: 12/12/2014, Estimated Operational Date: 1/13/2015 ◆26W-20 Preliminary Treatment Reliability Improvements, Start Date: 7/1/14, Completion Date: 6/5/2020, Estimated Operational Date: 7/6/2020 ◆26W-142 Ammonia Removal Process System(general const. demo and rehab.), Start Date: 9/12/12, Completion Date: 6/5/2014, Estimated Operational Date: 7/6/2014	4.6M 122.7M 19.6M

NEW JERSEY – Wastewater Treatment Plant Projects & Expenditures

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Bergen County Utilities Authority - Edgewater Water Pollution Control Facility	SCADA System & Security Improvements	2,710,289	None	—	• Improvements to various mechanical equipment • Extend 42” Dia. Outfall Pipe	6,300,000 10,000,000
Joint Meeting Of Essex and Union Counties	Cogeneration Facility, Operational Start-up Date: 9/09 In 2011, the NACWA awarded the plant the Platinum Award for outstanding compliance to the NPDES permit limits and for achieving Gold Awards for 5 or more consecutive years.	—	• Site Improvements (new parking lot, guard house, receiving shed) • Pump & Valve Replacement Project • Service Water Upgrade (install membrane filtration to reduce city water consumption by using plant effluent) Percent Complete 30 – 75, Approximate Operational Start-up Date: 2012	— — —	• SCADA System • Iron Sponge installation (digester gas treatment) • Digester Rehabilitation and Cleaning • Upgrade of Primary Electrical System All expected to start during 2012	8,000,000 — — —
Linden Roselle Sewerage Authority	Sludge Storage Tank Cover, Start Up Date: 10/10, Completion Date: 07/11	600,000	Liquid End Plant Upgrade, Start Up Date: 11/11, Completion Date: 01/13	12,000,000	None	—
Middlesex County Utilities Authority	Auxiliary Regenerative Thermal Oxidizer, Start Up Date: 01/10, Completion Date: 11/11	3,100,000	• Generators and Main Electrical Switchgear Upgrade, Start Up Date: 01/10, Completion Date: 01/12, Approximate Operational Date: 03/12, % Complete: 60 • Main Flow Meter and Redundant Primary Tank Influent Line, Start Up Date: 06/10, Completion Date: 08/12, Approximate Operational Date: 04/12, % Complete: 50 • Dryer Vapor Condensate System, Start Up Date: 06/10, Completion Date: 02/12, Approximate Operational Date: 05/11, % Complete: 65 • Dewatered Sludge Cake Pumps, Start Up Date: 06/10, Completion Date: 02/12, Approximate Operational Date: 05/11, % Complete: 70 • Rehabilitation and Upgrade of the Sayreville Pump Station, Start Up Date: 08/11, Completion Date: 12/12, Approximate Operational Date: 09/12, % Complete: 10	12,500,000 7,000,000 2,000,000 2,200,000 12,000,000	• Primary, Secondary Clarifiers Mechanical Equipment Rehab. Replacement, Start Up Date: 03/12, Completion Date: 2016, Approximate Operational Date: 2012-2016 • Electrical Substation Replacement, Start Up Date: 05/12, Completion Date: 2015, Approximate Operational Date: 2012-2015 • South Bay Interceptor Repair, Start Up Date: 12/11, Completion Date: 12/12, Approximate Operational Date: 2012 • Trunk Line Rehab, Start Up Date: 05/11, Completion Date: 06/17, Approximate Operational Date: 2012-2017 • Sayreville Force Main Upgrades, Start Up Date: 04/12, Completion Date: 10/12, Approximate Operational Date: 2012 • Meter Chamber Upgrades Phase 1, Start Up Date: 01/12, Completion Date: 12/12, Approximate Operational Date: 2012	10,700,000 7,500,000 1,400,000 60,000,000 1,200,000 1,200,000

NEW JERSEY – Wastewater Treatment Plant Projects & Expenditures, Cont'd

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Township of Middletown Sewerage Authority	• Treatment Plant Modifications, Start Up Date: 03/09, Completion Date: 07/10, Approximate Operational Date: 07/10 • Basin 12 Manhole Repairs, Start Up Date: 03/11, Completion Date: 07/11, Approximate Operational Date: 07/11 • Sanitary Sewer Spot Repairs, Start Up Date: 06/11, Completion Date: 08/11, Approximate Operational Date: 12/11 • Plant Paving, Start Up Date: 07/11, Completion Date: 07/11, Approximate Operational Date: 07/11	15.8 mil 24,000 123,000 140,000	• Preliminary Engineering - Digester Gas to Energy Project • Energy Project, Start Up Date: 12/10, Completion Date: 10/11, Approximate Operational Date: 10/11, % Complete: 90 • Solar Energy Investigation, Start Up Date: 07/11, % Complete: 0	— 65,000 17,500	• Digester Gas Energy Project • Solar Energy Project	— —
Passaic Valley Sewerage Commissioners	• A645 Final Clarifiers Polymer Feed System, Start Date: 09/09, Completion Date: 02/11, Estimated Operational Date: 03/11 • A719 Heat Treatment Plant Supernatant Return (HTPSR) Phase II Improvements, Start Date: 11/09, Completion Date: 11/10, Estimated Operational Date: 12/10	$2,118,400 $3,428,700	• A600 Forebay Improvements, Start Date: 05/10, Completion Date: 08/12, Estimated Operational Date: 08/12, % Complete: 55 • A473 Final Clarifier Electrical, Start Date: 09/10, Completion Date: 11/11, Estimated Operational Date: 11/11, % Complete: 70 • A727 Oxygenation Tanks Phase 2A Improvements, Start Date: 01/10, Completion Date: 08/11, Estimated Operational Date: 09/11, % Complete: 95	$7,133,500 $3,898,831 $6,479,562	A733 Final Clarifiers Phase IV, Start Date: 08/11, Completion Date: 08/15, Estimated Operational Date: 08/15	$17,715,500
Rahway Valley Sewerage Authority	None	—	Biogas Line to Boilers, Start Date: 08/11, Completion Date: 12/11, Estimated Operational Date: 12/11, % Complete: 0	$380,000	None	—

CONNECTICUT – Wastewater Treatment Plant Projects & Expenditures

	COMPLETED PROJECTS		CURRENT PROJECTS		FUTURE PROJECTS	
Plant	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**	**Description**	**Estimated Cost, $**
Bridgeport EASTSIDE WWTP	• East Side Wastewater Dechlorination Project. Operational Start-up Date 5/2011, Actual Completion Date 5/2011 ENGINEERING STUDIES: • Long Term Control Plan, submitted to CT DEEP 9/20/10 • Evaluation of Sludge Processing, current, start date 7/30/2009, completion date 9/30/2011 • Low Level Nitrogen Removal Study, current start date 7/30/2009, completion date 10/30/2011 • CSO Contract H Design, Current, start date 8/2007, completion 1/2012	997,000 1,200,000 348,000 299,228 2,620,000	• River Street Pump Station and interconnect construction/inspection. Started 3/20/2011, ending 6/2012, Percent Complete 10%. Approximate Operational Start-up Date 6/2012. • CSO H1 Phase A lining. Construction start 5/2011, completion 12/2011, 25% complete. • Lake Forest & Sequoia Road Pump Stations. Bid 4/2011, completion 12/2011, 60% complete. • CSO H2 Phase A lining. Bid date 5/26/2011, start 8/2011 finish 12/31/2011.	$8,000,000 1,500,000 1,000,000 1,261,000	• CSO IMPROVEMENT PROGRAM PHASE I & II. Phase I is complete, Phase II is in design. Operational Start-up Date for PHASE II: 2018, % Completed: PHASE I-99%, PHASE II-0% • CSO Sewer Construction Projects, Approximate Construction Start-up Date 5/31/10, Approximate Operational Start-up Date: 20-30 years. CSO H1 Phase B pipe replacement, bid 8/20/11, estimated price $2,300,000. Congress Street Siphon relining, start 9/2011, complete 1/2012 Cost $450,000	PHASE I-$32M PHASE II-$80M 4,000,000
Bridgeport-WEST SIDE WWTP	Completed Projects: None Engineering Studies: See Bridgeport EASTSIDE WWTP Report Update	—	See Bridgeport EASTSIDE WWTP Report Update	—	See Bridgeport EASTSIDE WWTP Report Update	—
Grass Island Wastewater Treatment Plant, Greenwich	Aeration Tank Gate Automation Project, Start-up Date: July 2011 (System start up), Completion Date: Pending, Estimated Operational Date: July 2011	389,800 (Contract Amount, Final Cost Pending)	Pump Upgrades (RAS, WAS, FE Pumps), Complete: 0 %	3,001,854.50 (Bid Amount)	Aeration System Upgrades	—
Town of New Canaan WPCF	None	—	None	—	None	—
West Haven Water Pollution Control Facility	None	—	West Haven Water Pollution Control Facility upgrade, Start Date: 05/12, Completion Date: 07/12, Estimated Operational Date: 05/12, % Complete: 60	$42,000,000	None	—

Appendix B

Financial Statement FY 2011

The Commission's accounting records are maintained on a cash basis and are audited annually. The following is a statement of cash receipts and disbursements for fiscal year July 1, 2010 to June 30, 2011:

CASH BOOK BALANCE AS OF JUNE 30, 2010		$	421,911.61
RECEIPTS			
Connecticut - FY'10	$ 19,513.00		
Connecticut - FY'11	$ 48,783.00		
New York - FY'11	15,000.00		
New Jersey - FY'11	383,000.00		
EPA - FY'10	242,600.00		
EPA - FY'11	394,597.00		
Section 604(b) ARRA Funds:			
Water QM & Modeling of the Byram River	19,087.22		
MS4 Survey of the Croton-Kensico Watershed, Westchester, NY	18,167.30		
Long Island MS4 Phase II Planning Program	72,506.29		
Assesing the Effectiveness of Green Infrastructure Technologies	25,000.00		
Interest	493.75		
Miscellaneous Receipts	9,509.46		
TOTAL RECEIPTS			1,247,257.02
	Sub-Total	$	1,670,168.63
DISBURSEMENTS			
TOTAL DISBURSEMENTS			1,350,357.26
CASH BOOK BALANCE ON JUNE 30, 2011		$	319,811.37

U.S. Treasury Bills	$0.00
Insured Money Market Accounts	279,670.14
Checking Accounts	40,141.23
	$319,811.37

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