

# JAMAICA BAY WETLANDS FELLOWSHIP

2023



Jamaica Bay -  
Rockaway Parks  
Conservancy



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## Letter from the Executive Director

The Jamaica Bay-Rockaway Parks Conservancy (JBRPC) team works to improve the 10,000+ acres of public parklands, 18,000 acres of open water and marshlands, and 11 miles of beaches around Jamaica Bay and the Rockaway peninsula for residents and visitors alike. Wetlands are Jamaica Bay's most valuable ecosystem and are among the most productive natural systems in the world – along with rainforests and coral reefs; yet more than half of Jamaica Bay's marshlands have disappeared over the last century due to human activity and climate change-related sea level rise. In partnership with government agencies and local communities, JBRPC is committed to the continued restoration of marsh islands and tidal fringe marshes to help change the pattern of decline in Jamaica Bay.

While billions of dollars have been invested in Jamaica Bay's restoration, scant resources have supported workforce training and local jobs focused on managing and maintaining these systems over the long term. JBRPC launched the Jamaica Bay Wetlands Fellowship to address this critical need.

In the program's first year, Fellows maintained, monitored, and adaptively-managed new wetland restoration projects alongside city, state, and federal agencies to better understand what these sites need to flourish now and help plan for the future wetlands of Jamaica Bay. In the 6-month program, 8 Fellows removed over 6 tons of marine debris, planted more than 70,000 native plants, and restored 50 acres of habitat.

The impact made in 2023 is just the beginning. JBRPC is doubling down on the Wetlands Fellowship program to sustain the wetlands and parklands that make Jamaica Bay the special place we all love; develop career pathways for wetlands and other nature-based solutions; and integrate the knowledge of scientists and local stakeholders with government agencies to ensure Jamaica Bay's health is restored and enjoyed for generations to come.

### **Terri Carta**

Executive Director

Jamaica Bay-Rockaway Parks Conservancy



# WETLANDS FELLOWSHIP

## Introduction

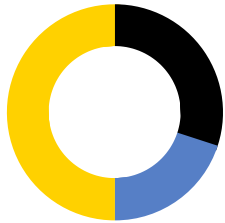
Jamaica Bay is New York City’s largest open space – an unparalleled oasis of nature comprising 26 square miles of tidal wetlands, marsh islands, and coastal habitats that protect people and wildlife, offer unique recreation and education opportunities, and provide vital waterfront and open space access for all New Yorkers.

Jamaica Bay is also at the heart of the climate crisis in New York City. Despite its vast natural resources, surrounding frontline communities experience poor air quality, underemployment, flooding and erosion, insufficient transit options, and lack of waterfront and open space access. Wetlands are among the most productive ecosystems in the world – along with rainforests and coral reefs; yet more than half of Jamaica Bay’s marshlands have disappeared over the last century as a direct result of human activity. While there have been vast multi-million dollar investments to restore Jamaica Bay marshlands and other wetland habitats to address climate-related issues, there isn’t sufficient funding or a trained workforce focused on managing and maintaining these systems over the long term.

## Advancing nature-based jobs and a wetlands-focused workforce within the Jamaica Bay watershed

The Jamaica Bay Wetlands Fellowship is a 6-month paid workforce development and job training program for young adults (ages 18–25) focused on skills related to wetlands maintenance, monitoring, and restoration. The curriculum values both technical and stakeholder experience in building comprehensive knowledge and approaches toward nature-based solutions while building local leadership for the future. The Fellowship is based at Floyd Bennett Field within Gateway National Recreation Area, with projects taking place in city, state, and national park jurisdictions around Jamaica Bay and the Rockaways. Fellows participate in a series of professional development activities, presentations and other experiences to gain knowledge of key challenges and opportunities for nature-based solutions, wetlands assessment criteria and indicators, and valuable hands-on experience restoring one of NYC’s and the region’s most important and dynamic ecosystems—Jamaica Bay.

# PROGRAM STRUCTURE



- **30% Public Engagement**  
Community cleanups, planting events, school group activities, nature walks educational recreation tours
- **20% Professional Development**  
Career workshops, job skill training, academic conferences, community presentations
- **50% Stewardship**  
Wetlands maintenance, planting, shoreline cleanups, monitoring and adaptive management for restoration activities, trail preservation, invasive plant removal

## FELLOWSHIP GOALS



### 01 Train Leadership Skills

Develop a local workforce of young adults with the technical and leadership skills to maintain and manage high-value tidal wetlands and nature-based restoration projects



### 02 Improve Wetlands

Use wetlands, one of the world's most productive ecosystems, to foster critical, ecological thinking that informs adaptive management techniques for nature-based solutions



### 03 Honor Local Knowledge

Integrate local stakeholder knowledge and community values to form a holistic understanding of conservation and restoration needs and potential solutions



### 04 Build Resilient Communities

Invest in communities most impacted by climate change, increasing their resilience through equitable opportunities for education and employment



### 05 Develop Career Pathways

Demonstrate the value of wetlands maintenance for long-term project success to drive additional investments and policy that creates and sustains these vital nature-based jobs



The Wetlands Fellowship is a collaborative, stakeholder-driven response to an immediate need: a local workforce with the skills and capacity to maintain, monitor, and manage wetland restoration projects. Designed to complement other programs focused on science and research, the Wetlands Fellowship is specifically built to meet the demand for a “diverse, equitable workforce skilled in building nature-based solutions,” one of five strategic areas for action in the Biden-Harris Administration’s [Nature-Based Solutions Roadmap](#).



## MEASURING PROGRESS - 50 ACRES RESTORED

### 70,000+ PLANTS

over **27 acres** to restore native wetland vegetation, prevent erosion, attract and protect wildlife, protect against flooding, and increase community resilience.

### 6 TONS OF DEBRIS

removed from **18 acres** of shorelines, parklands, and bayside fringe marshes.

### 5 ACRES OF INVASIVES

removed from **5 acres** of meadows, and trails, restored to increase native plant biodiversity, and preserve open spaces for recreation.

Over 45 applicants with qualifications ranging from post graduate degrees to recent high school graduates applied to the Wetlands Fellowship Program. Eight individuals from diverse backgrounds with a range of skills and interests who resided within the Jamaica Bay watershed were selected to be Fellows. The majority had no prior experience working in natural areas, yet each shared a desire to become advocates for Jamaica Bay wetlands and learn about their maintenance, restoration, and long-term care.

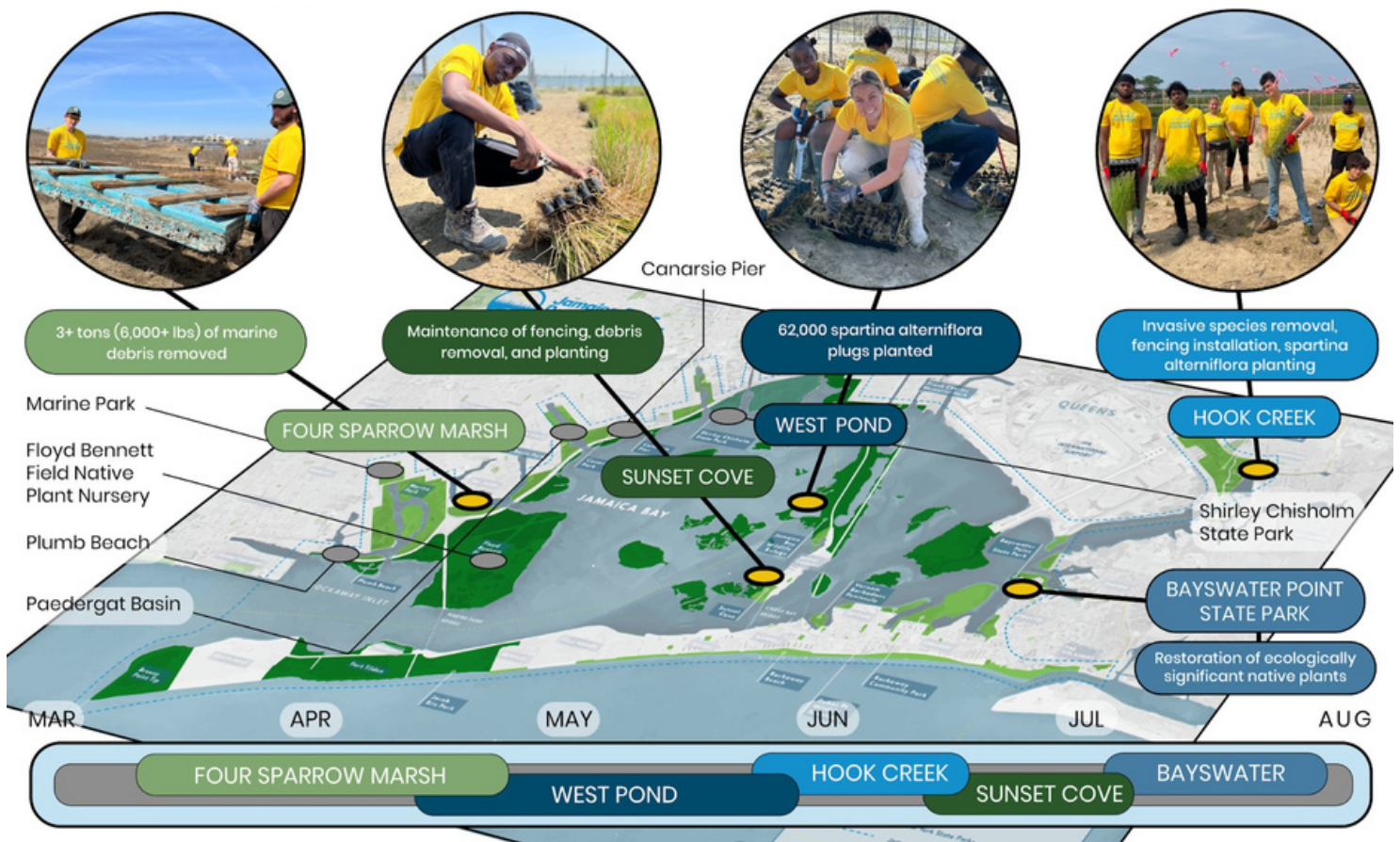
The Wetlands Fellowship pursued three main goals: stewardship of natural areas, community and public engagement, and workforce development. Fellows learned to provide critical, but often neglected, maintenance for newly restored parks and natural areas, including high-value wetlands. They helped present educational events for the local community, led field trips and guided tours, and facilitated volunteer events. Their direct public interaction helped establish relationships with local stakeholders, raise community awareness, and build support for the long-term care of these vital ecosystems. Fellows participated in a series of structured activities, conferences, and workshops to boost professional skills, gain knowledge, and develop attributes that will provide benefits well into their futures. These experiences will enhance the employability of Fellows by teaching leadership skills, natural areas knowledge, and overall personal growth.

## 8 FELLOWS

01 STEWARDSHIP OF NATURAL AREAS

02 COMMUNITY AND PUBLIC ENGAGEMENT

03 WORKFORCE DEVELOPMENT



## IMPACT IN JAMAICA BAY

- Conducted comprehensive assessments of pre- and post-restoration sites
- Removed debris and wrack from beaches, marshes, shorelines, and parklands
- Maintained plant beds and harvested beach grass at NYC Plant Nurseries
- Installed and maintained wildlife mitigation fencing
- Removed porcelain berry, mile-a-minute, Japanese Hops, phragmites, and other invasives from trails, coastal forests, and upland areas
- Monitored wetlands and used adaptive management to construct wave breaks and implement planting techniques to promote sediment capture
- Surveyed for wildlife including the Red Knot, Salt Marsh Sparrow, Horseshoe Crab, Diamondback Terrapin, and the Eastern Mud Turtle
- Reforested Canarsie Community Garden by planting native shrubs and trees
- Helped expand Garden by the Bay community garden with ADA compliant pathways and accessible garden plots
- Conducted upkeep activities at recently planted restoration sites

**JBRPC knows first-hand that maintenance is essential for the success of nature-based wetlands projects on a long-term basis.**



# CHANGING THE STATUS QUO

While billions of dollars have been invested in water quality improvements and marshland restoration in Jamaica Bay, resource allocations for natural resource maintenance and management have been practically nonexistent. Surrounding frontline communities also suffer from systemic underinvestment in educational attainment, workforce training, transit, open space access and improvements, and other social mobility and community resilience initiatives. Further, the diversity of neighborhoods around Jamaica Bay is not reflected in the professions charged with its restoration and long-term care.

Addressing these issues head on, Wetlands Fellows participated in structured activities and informal learning opportunities aimed at building essential skills, knowledge, and personal and professional attributes to benefit their careers and continued growth. By exposing the Fellows to nature-based skills and career opportunities, we intend to challenge the status quo and bring more young people from underrepresented communities into these careers in Jamaica Bay and beyond. At the conclusion of the program, JBRPC continues to provide job opportunities and assistance to help Fellows secure positions with partner organizations and agencies.

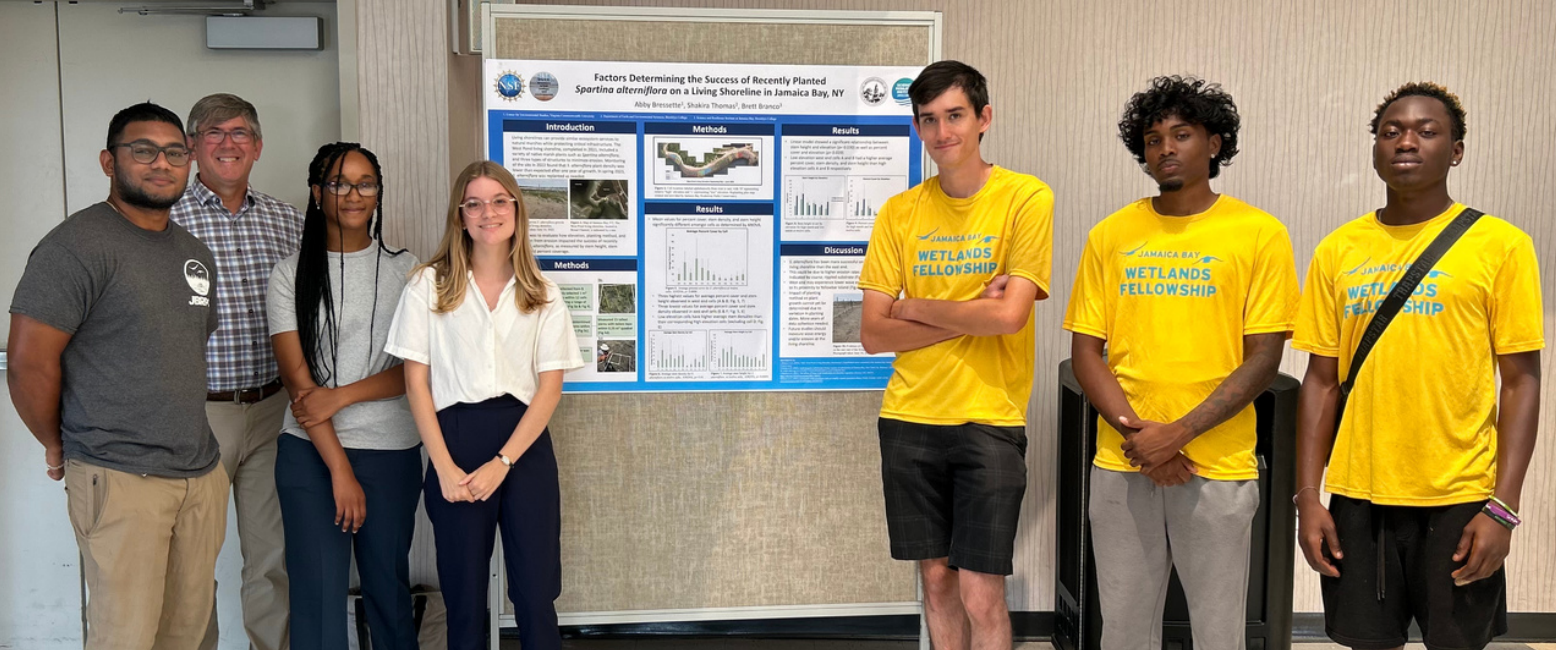
## COLLABORATION

Collaboration with city, state, and federal agencies, community stakeholders, and restoration specialists played a crucial role during the Wetlands Fellowship. These relationships allowed Fellows to work on a variety of projects, crossing traditional boundaries of jurisdiction, sector, and discipline. Fellows met with experts in wetlands management and conservation to foster an understanding of these dynamic ecosystems. They were able to access restricted restoration sites, working alongside experienced scientists, ecologists, and naturalists. The Fellows proved to be a small and nimble workforce, demonstrating the ability to source materials, reach remote locations, and work quickly and decisively to adaptively manage restoration sites. The adaptability of the Fellows became an essential part of the working relationship with the governing agencies - enhancing the overall effectiveness and impact of wetland conservation initiatives in Jamaica Bay.

## COMMUNITY AND PUBLIC ENGAGEMENT

- Nature walks with school groups
- Public presentations and talks
- Partner with local organizations
- Social media and online outreach
- Community workshops and education
- Field trips and guided tours
- Volunteer programs
- Community surveys and feedback





# PROFESSIONAL SKILLS

Training the next generation of wetlands managers, building skills, and defining a career path for young people within the diverse vibrant communities surrounding Jamaica Bay.

# 54 HOURS

of training tailored to the specific needs, interests, and aspirations of each Fellow

- 1 Job Skills Training
- 2 Career Exploration
- 3 Resume Building and Interview Skills
- 4 Self-Confidence and Self-Esteem Building
- 5 Networking Skills
- 6 Goal Setting and Career Planning
- 7 Community Service and Volunteering
- 8 Holistic Mindfulness and Meditation
- 9 Workshops and Seminars





## Four Sparrow Marsh

NYC Parks Nature Preserve



Four Sparrow Marsh is one of the last remaining salt marsh meadows in Jamaica Bay. The park's distance from residential areas and difficulty to access has allowed its natural habitat to flourish, and its flora and fauna to exist undisturbed. The park's relative isolation has also caused it to be badly impacted by major marine debris that is challenging to remove. Previous attempts using trucks and payloaders caused irreparable damage to the wetlands. By approaching the preserve from the water's edge, the Fellows were able to use a light, *no impact* approach to debris removal. The large docks, bulkheads, and boat parts were dismantled by hand and staged at the shoreline. The Fellows assembled a "barge" out of dock remnants and floated the debris out by water. The resulting pile of debris filled a 40-foot shipping container.

**4 TONS**

of debris removed

**5 ACRES**

of mudflat, shoreline and wetland cleaned

**1 MARSH MEADOW**

preserved, a critical habitat for the Salt Marsh Sparrow, a priority species



# Four Sparrow Marsh





## West Pond Living Shoreline



Jamaica Bay Wildlife Refuge

The West Pond Living Shoreline is a nature-based restoration project completed in 2021. Many of the first year wetland plantings did not survive the winter season. The Fellows, led by JBRPC and working with multiple government agencies and partners, planned and executed a rapid replanting plan that incorporated diverse perspectives and skill sets: sediment testing, elevation and hydrology monitoring, habitat protection, landscape design and engineering, and regulatory limitations on adaptive solutions. Within 13 days, the Fellows planted 62,000 plugs of *Spartina alterniflora*, piloted a cluster planting solution to encourage sediment accumulation and stabilization, and modified wildlife protection fencing to allow passage for nesting turtles and Horseshoe Crabs. To combat winter winds and reduce wave energy, the Fellows installed fascine breakwater structures created from salvaged “Mulch Fest” Christmas trees.

**62,000**

plugs of *Spartina alterniflora* planted

**23 ACRES**

of wetlands restored

**30 FEET**

of breakwater constructed from recycled Christmas trees





## Hook Creek

NYC Parks Idlewild Park Preserve



Idlewild Park is identified as the wetland complex most at risk of drowning under rising seas out of all NYC's marshes, putting the surrounding low-lying houses and infrastructure at increased risk of regular tidal flooding and inundation from storm surges. The Wetlands Fellows assisted in the restoration of Hook Creek, an Idlewild Park tidal tributary. NYC Parks' restoration placed a thin layer of sediment on existing wetlands to restore fragmented marshes and encourage wetland expansion and create habitat for breeding birds. The Fellows helped plant native species, remove phragmites and debris, and installed wildlife mitigation fencing. The restoration is an innovative pilot project that serves as a model for future restorations of fringe marshes in Jamaica Bay.

**2,000 FEET**

of fencing with 250 wooden fence posts

**1,000 FEET**

of goose prevention flags installed

**1,200**

plugs of *Spartina alterniflora* planted

**300 LBS**

of debris removed





## Bayswater Point State Park

### Lowland Floodplain Meadow

Bayswater Point State Park is a 12-acre park that includes a diverse array of foliage - upland species, salt marsh, lowland floodplain meadow, and coastal forest. The park, serving as a sanctuary for many of the region's native pollinators and year-round wildlife, is vulnerable to common urban park stresses including severe coastal erosion and proliferation of invasive species. Working with NY State Parks' Stewardship team, the Fellows helped clear Phragmites, porcelain berry, multiflora rose, and other invasive plant species from over 1 acre of parkland, helping to restore biodiversity and allow for natural recruitment of native plants.



New York State  
Parks, Recreation and  
Historic Preservation

**1 ACRE**

cleared of invasive  
plants

**100 LBS**

of debris removed over  
300 Feet of shoreline



# REFLECTIONS



“ This fellowship has allowed me to gain a deeper understanding on how vulnerable and unpredictable our urban ecosystem can be, especially within wetland areas. Consistent erosion and loss of vegetation not only affects the people who harbor the land but the unprotected wildlife as well – which is why it’s so important that we don’t continue to neglect these natural areas around NYC and attempt to maintain or give back to the earth any chance we have. ”

**Chyna**  
*Jamaica, NY*



“ I’m most passionate about conserving and restoring natural areas, not just for the sake of people but for the wildlife and the health of the environment as well. That’s the kind of work that the Wetlands Fellowship is focused on, which is why I was so excited to join the team back in March. What I enjoy the most about working in the wetlands is having the pleasure to see amazing wildlife every day like ospreys, terrapins and all the different kinds of migratory shorebirds. ”

**Liam**  
*Flushing, NY*



“ Maintaining wetlands requires a lot of work and dedication. Wetlands are essential to these bodies of water because they are homes to much marine and bird life; they regulate water quality, slow erosion, and help prevent flooding for vulnerable communities. I’ve enjoyed setting up the fencing of the entire site [at Hook Creek], planting, and overall taking on the responsibility of maintaining it. ”

**Sommer**  
*Hamilton Beach, NY*



“ I’ve gained valuable insights, discovered new interests, and even developed some new skills. I opened myself up to personal growth, learning, and discovering exciting things I may never encounter again. ”

**Issa**  
*Far Rockaway, NY*

# PARTNERS AND SUPPORTERS



JBRPC is proud to partner with the government agencies that collectively manage more than 10,000 acres of public parklands, 18,000 acres of open water and wetland areas, and 11 miles of Atlantic Ocean beaches throughout our Jamaica Bay-Rockaway catchment area. We are grateful for the opportunity to collaborate on the Jamaica Bay Wetlands Fellowship.

National Park Service at Gateway National Recreation Area  
New York State Office of Parks, Recreation, and Historic Preservation  
New York City Department of Parks and Recreation

We are thankful for the community organizations, elected officials, corporate partners, and generous funders who help make the Wetlands Fellowship possible. Their unwavering commitment to local workforce and youth development, the well-being of our communities, and the long-term sustainability of Jamaica Bay and Rockaway parks and wetlands plays a pivotal role in program success.




American Littoral Society  
Bloomberg Philanthropies  
Bolton-St. Johns  
Brooklyn Borough President Antonio Reynoso  
Canarsie Neighborhood Alliance  
Community Boathouse  
Con Edison  
CUNY / Science & Resilience Institute at Jamaica Bay  
Dana Archer-Rosenthal Consulting LLC  
Edgemere Alliance / Garden by the Bay  
Estée Lauder Companies, Travel Retail  
Far Rockaway-Arverne Nonprofit Coalition  
Fresh Creek Association  
Galvin Brothers, Inc.  
Health & Harmony Wellness Center  
Hudson River Foundation  
Jamaica Bay Ecowatchers  
Jamaica Bay Guardian  
JFK International Air Terminal  
Marine Park Alliance  
National Audubon Society  
National Parks Conservation Association  
Natural Areas Conservancy

NY Assembly Speaker Carl E. Heastie  
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NYC Department of Environmental Protection  
NYC Ferry, operated by Hornblower  
NYC Mayor's Office of Climate & Environmental Justice  
NYS Department of Environmental Conservation  
Queens Borough President Donovan Richards, Jr.  
Secunda Family Foundation  
Shiseido Americas  
The Rockaway Hotel  
Tishman Speyer  
U.S. Army Corps of Engineers  
U.S. Naval Sea Cadets Corps  
Waterfront Alliance

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