

NEW YORK / NEW JERSEY HARBOR & ESTUARY PROGRAM

# Lessons Learned for a Changing Future 2019 Restoration Conference



HUDSON  
RIVER  
FOUNDATION

NY/NJ  
HARBOR  
& ESTUARY  
PROGRAM

## Director's Note

Welcome! Thanks to the work of the people in this room, restoration of the New York – New Jersey Harbor Estuary continues to advance. The progress report released today summarizes benefits from the more than 40 projects and \$290 million of expenditures completed in the past three years. We have made significant advancements, especially in restoring maritime forests, conserving land, and improving aquatic connectivity for migratory fish.

We celebrate these achievements knowing that climate change is posing critical questions about the future. Seven years after Hurricane Sandy came ashore, some innovative answers are emerging. Natural and nature-based solutions, like building living shorelines, enhancing tidal wetlands, and conserving vulnerable floodplains, are becoming recognized by policy makers. The ability of our highly productive wetlands to sequester carbon and the importance of retaining that carbon in place, is discussed as a climate change mitigation strategy. But the policies and community of practice for implementing these techniques on the ground are still emerging.

Climate change is also demanding that we reconsider traditional restoration and management practices. In a rapidly changing ecosystem, how do we manage an invasive species like Phragmites? Can we continue to make progress on restoring oysters and improving water quality? Do we need to consider new policy frameworks for wetlands and the coastal zone?

Lessons Learned for a Changing Future seeks to improve our ability to deliver quality answers to those questions. To help us, we are fortunate to have the leaders of critical federal and state agencies with us today, to share how their agencies are tackling these issues. We also have a terrific series of afternoon workshops and panels where we can dive deeper into some of the key topics. Most importantly, we have designed the entire day to engage you and the other experts in this room in this crucial conversation.

Robert Pirani

**Conference Wifi**  
Network: SI- Event  
Password: learn@SI

**NY-NJ Harbor & Estuary Program: @harborestuary**  
**#RestoreOurEstuary**

**Dining-ware at this year's conference is nearly all compostable. Please use the compost bins provided courtesy of Earth Matter.**

# Agenda

## Morning Plenary

9:00 **Registration and Breakfast**  
Basement Lobby

9:30 **Welcome and Introduction**  
Auditorium  
Robert Pirani, Program Director, NY-NJ HEP  
Peter Lopez, Administrator, USEPA Region 2

10:00 **Disruptive Imagination: Reframing our Restoration Work**  
David Maddox, Founder and Executive Director of The Nature of Cities

10:30 **Restoration Progress in the Hudson Raritan Estuary**  
Looking back over 10 years of restoration since the adoption of the Comprehensive Restoration Plan and plans for fulfillment of our region's restoration goals.  
Isabelle Stinnette, Restoration Manager, NY-NJ HEP  
Colonel Thomas D. Asbery, Commander, NY District, USACE

11:00 **Break**  
Basement Lobby

11:15 **Restoration for Adaptation: Perspectives from the States**  
Auditorium  
Representatives from the States of New Jersey and New York will discuss how habitat restoration and conservation are being recognized as the answer to new questions. Both states have launched new initiatives for deploying natural and nature-based solutions as critical tools for managing coastal resiliency, shoreline protection, carbon sequestration, and stormwater management, while also delivering habitat restoration and species protection.  
Catherine McCabe, Commissioner, NJDEP  
Sean Mahar, Chief of Staff, NYSDEC  
Moderator: Christopher Daggett, Chair, HEP Policy Committee

12:15 **Plenary Closing Remarks and Lunch**  
Clay Hiles, Executive Director, Hudson River Foundation

# Agenda

## Afternoon Breakout Session 1: Choose one

**1:15**  
**Room 1** **The Yin and Yang of Estuarine Phragmites Management**  
Restoration practitioners discuss lessons learned over many years of combating invasive species, including how sea level rise is changing minds and techniques. Come prepared with your questions to ask the experts!

Terry Doss, NJSEA  
Christiana Pollack, Princeton Hydro  
Kip Stein, NYC Parks  
Judith Weis, Rutgers University  
Moderator: Lisa Baron, USACE

**Room 2** **Restoration for Water Quality and Stormwater Management**  
Panelists will provide case studies and explore how habitat restoration techniques are increasingly being proposed and tested as a means of improving water quality. Learn about the state of practice for managing a variety of landscapes and pollutants.

John Butler, Van Cortlandt Park Alliance  
Tobiah Horton, Rutgers University  
John McLaughlin, NYCDEP  
Beth Roessler, HR Estuary Program, NYSDEC  
Moderator: Shino Tanikawa, NYC Soil and Water Conservation District, SWIM Coalition

**Naval Officers**  
**Room**  
**Third Floor** **Envisioning Future Shorelines**  
Join the NYC Department of City Planning in an exercise to envision the future of NYC's 520 miles of waterfront. We will discuss the most pressing issues facing the city's shorelines and the strategies that we can use to address them. Feedback from this session will inform the city's next Comprehensive Waterfront Plan, which will be released in 2020. The plan provides a framework for how NYC will manage its waterfront in the next decade and beyond.

Marit Larson, NYC Parks  
Cory Mann, NYC DCP  
Michael Marrella, NYC DCP  
Adam Parris, Mayor's Office of Resiliency NYC  
Brendan Pillar, NYC DCP

**2:30** **Transition to Next Session**

## Afternoon Breakout Session 2: Choose one

2:45  
Room 1

### **Next Steps in Harbor Oyster Restoration**

Panelists will discuss the status of oyster restoration in the Harbor, and current challenges and opportunities. Discuss the how best to advance restoration past the piloting stage.

Meredith Comi, NY-NJ Baykeeper

James Lodge, Hudson River Foundation

Katie Mosher, Billion Oyster Project

Moderator: Mike McCann, The Nature Conservancy

Auditorium

### **Monitoring Shorelines for Ecological, Structural, and Social Resiliency**

Panelists will present and discuss the results of Measuring Success, an ambitious project to create a framework for monitoring shorelines throughout New York. Offer your feedback and priorities for the next round of monitoring sites.

Novem Auyeung, NYC Parks

Pippa Brashear, SCAPE

Dylan Corbett, Arcadis

Carolyn Fraioli, NYSDOS

Katharhy G., Brooklyn College

Katie Graziano, SRIJB

Lindsey Strehlau-Howay, NY-NJ HEP

Naval Officers  
Room  
Third Floor

### **Accelerating Blue Carbon Sequestration in Tidal Wetlands**

Panelists will lead us through the state of the science and policies for wetland restoration and preservation as a means of storing carbon. Help identify next steps for advancing this work here in the Estuary.

Riobart Breen, NYSDEC

Tim Dillingham, American Littoral Society

Stuart Findlay, Cary Institute of Ecosystem Studies

Chester Zarnoch, Baruch College

Moderator: Kristin Marcell, NYSDEC

4:00 **Conference Concludes**

Please join us to continue the conversation at Pier A Harbor House, 22 Battery Pl, New York, NY 10004

# Presenters

## **Thomas Asbery**

### **US Army Corps of Engineers**

Colonel Thomas D. Asbery assumed command of the New York District of the U.S. Army Corps of Engineers on June 8, 2017. He is responsible for the Corps' water resource development, navigation, and regulatory activities in northeastern New Jersey, eastern and south-central New York State, including the New York and New Jersey Harbor and Long Island, as well as areas of Vermont, Massachusetts, and Connecticut. Colonel Asbery oversees the design and construction at U.S. Army and U.S. Air Force installations in New Jersey, New York, and Greenland. Colonel Asbery holds the title of Supervisor of the New York and New Jersey Harbor. Most recently, Col. Asbery oversaw the completion of various coastal restoration projects along New Jersey and Long Island, including emergency maintenance dredging in Moriches Inlet. High visibility coastal endeavors under his leadership include the completion of New York City's East Rockaway Inlet to Rockaway Inlet & Jamaica Bay, NY and the full design efforts currently underway for the South Shore of Staten Island, New York.

## **Novem Auyeung**

### **NYC Parks**

As a senior scientist, Novem guides conservation, research, and monitoring priorities for the Forestry, Horticulture, and Natural Resources Division. She leads a team of

ecologists who are tasked with monitoring and assessing NYC Parks' natural resources; advising on natural resources protection and conservation; and using research and monitoring to inform adaptive management. She is also a part of the New York City Urban Field Station and has worked with the U.S. Forest Service on a variety of ecological and social science research projects. Her background is in community and ecosystem ecology, with a focus on climate change, soil biogeochemistry, and microbial ecology. Novem holds a B.S. in Environmental Science from Brown University and a Ph.D. in Forestry and Natural Resources from Purdue University.

## **Lisa Baron**

### **US Army Corps of Engineers**

Lisa Baron is a Project Manager with the U.S. Army Corps of Engineers-NY District, Civil Works Branch. She has 28 years of experience which includes ecosystem restoration initiatives, dredged material management, environmental dredging, remedial investigations and ecological risk assessment. Lisa manages the New York District's large scale restoration program for the NY/NJ Harbor Estuary and the Upper Hudson River. Lisa has served as the Restoration Work Group Chair of the NY/NJ Harbor Estuary Program since 2010. Lisa served as Chief of the Harbor Programs Branch, responsible for the execution of the ecosystem restoration and deepening program for the NY/NJ Harbor. Prior to



joining the NY District, Lisa was a Project Manager with NJDOT's Office of Maritime Resources and the Division of Environmental Resources, private consulting and Oak Ridge National Laboratory. Lisa earned an MS degree in Biology from Indiana University of Pennsylvania and a BS in Biology/Marine Biology from Bloomsburg University.

## **Pippa Brashear**

### **SCAPE**

As Planning Principle, Pippa works with planning, engineering and design teams to integrate landscape strategies that are sustainable and resilient, and that balance environment, infrastructure, development, and community quality of life needs. Pippa is currently managing the implementation of SCAPE's Living Breakwater's project. Other recent work includes developing coastal protection strategies for New York City's Strategic Initiative for Rebuilding and Resilience (SIRR); working with community planning committees as part of the New York Rising Community Reconstruction Program; and serving as a key team member in the development of the Hudson River RBD project with Dewberry and OMA. Pippa holds a Master in Landscape Architecture and Master in Urban Planning with Distinction from the Harvard University Graduate School of Design, and a Bachelor of Arts, cum laude, in Environmental Science and Public Policy from Harvard College.

## **Riobart Breen**

### **NYS DEC**

Rob Breen, Ph.D. is a climate policy analyst for the New York State Department of Environmental Conservation's Office of Climate Change, where he is responsible for adaptation and resilience policy and planning, and for coordinating climate change communications. He has extensive environmental and natural resources policy and planning experience with local, state, federal and tribal governments, non-profit agencies and academia, and focuses his efforts on climate change adaptation, resilience thinking, behavioral insights, collaborative adaptive governance, ecosystem-based adaptation and policy implementation. He has a B.A. from the State University of New York at Geneseo in social science and humanities, and M.A. and Ph.D. degrees in environmental and natural resources policy and administration from Northern Arizona University. Breen is also a lecturer in the Biodiversity, Conservation and Policy Program at the University at Albany (SUNY). He lives with his family on a regenerative homestead and small goat farm transitioning to sustainability and resilience in Albany County, New York, and in his spare time has been developing EarthQuest, a crowdsourced climate change scenario and simulation game for young people.

# Presenters

## **John Butler**

### **Van Cortlandt Park Alliance**

As project manager, Mr. Butler oversees stewardship projects throughout the park, along its trails and natural areas. In 2015, he developed a monitoring program of Tibbetts Brook, engaging community members and students to assist in water quality data collection. The program has grown since then to currently include metals and bacteria sampling and a biodiversity study across the length of the Brook. John conducts a water chestnut removal project from Van Cortlandt Lake during the summer months and manages a restoration project along 16 acres of floodplain forest of Tibbetts Brook. He received a B.S. in Wildlife and Fisheries Biology from the University of Vermont and is currently pursuing his M.S. in Geographic Information Sciences at CUNY (Lehman College).

## **Meredith Comi**

### **NY/NJ Baykeeper**

Meredith Comi is the Restoration Program Director at NY/NJ Baykeeper. She oversees all aspects of the Restoration Program, including managing the aquaculture facility, implementing oyster reef and living shoreline projects, and conducting monitoring and research. Mrs. Comi has previous experience from time spent working at Haskin Shellfish Research Lab, Rutgers University Institute of Marine and Coastal Sciences. She was previously a staff ecologist for National Oceanic and Atmo-

spheric Administration. She sits on the Harbor and Estuary Program Citizens Advisory Committee and is the NJ Co-chair for the Oyster Subgroup of the Harbor and Estuary Program.

## **Dylan Corbett**

### **ARCADIS**

Dylan Corbett is an Environmental Scientist at Arcadis, currently working on a range of groundwater and soil remediation projects on Long Island and throughout the Tri-State area. His experience at Arcadis includes site investigations, field sampling, and regulatory research. Dylan's responsibilities also include leading various field operations to support delineation efforts for legacy and emerging contaminants. In addition to working at Arcadis, Dylan is currently a Research Fellow for the Science and Resilience Institute at Jamaica Bay, collaborating on its grant project, Measuring Success: Monitoring Natural and Nature Based Shoreline Features in New York State. Dylan is a graduate of Hobart College with a degree in Environmental Studies and Biology. He is currently pursuing a master's degree in Marine Conservation and Policy at Stony Brook's School of Marine and Atmospheric Sciences, with a focus on coastal management issues. Previously, Dylan worked in outdoor education and environmental advocacy in New England.



## **Chris Daggett**

### **NY-NJ HEP**

Former President and CEO of the Geraldine R. Dodge Foundation, Chris Daggett is a respected leader in New Jersey's nonprofit sector, currently serving on the boards of Hudson River Foundation, Schumann Fund for New Jersey, President's Advisory Council of Stevens Institute of Technology, New Jersey State Chamber of Commerce, and ArtYard. He recently chaired a statewide task force on lead in drinking water. Chris is the Policy Committee chair of the NY-NJ Harbor & Estuary Program. Previously, he served as Deputy Chief of Staff to Governor Tom Kean, USEPA Regional Administrator, and NJDEP Commissioner. He has extensive experience in private investment, brownfields development, and environmental consulting. In 2009, Chris ran as an independent candidate for governor. He holds a B.A., with Honors, from UNC - Chapel Hill, and an Ed.D. from UMass - Amherst.

## **Tim Dillingham**

### **American Littoral Society**

Tim Dillingham serves as the Executive Director of the American Littoral Society, a membership based coastal conservation organization, headquartered in Highlands, New Jersey. The Littoral Society's mission is to promote the study and conservation of marine life and its habitats, defend the coast from harm, and empower others to do the same. The Littoral Society actively

restores coastal habitats in New Jersey and Jamaica Bay, NYC, including tidal marshes. In addition to the direct habitat and resiliency benefits of this work, the Society promotes the restoration of tidal marshes as a climate mitigation strategy. This work has included successful advocacy to include tidal marsh stewardship as a strategy supported by NJ's Global Warming Solutions Act, which dedicates proceeds from RGGI toward a variety of climate mitigation actions.

## **Terry Doss**

### **NJ Sports and Exposition Authority**

Terry Doss CERP is a restoration ecologist, who has served as a local leader in restoring the natural areas located within urban wildlands. Over the past 30 years, Terry has managed restoration projects with a focus on nature-based solutions for improving resiliency in coastal communities. For the past ten years, Terry led Biohabitats' NY/NJ Bioregion office. But Terry recently returned to her roots, restoring wetlands within the New Jersey Meadowlands, and now serves as the Director of the Natural Resources Management Department for the New Jersey Sports and Exposition Authority. Terry received a BS in Agricultural Sciences, and later received a Master of Marine Policy, from the University of Delaware. In 2003, Terry studied Earth Sciences as part of a Ph.D. program at Lehigh University. Terry sits on the Board of Directors for the NY/NJ Baykeeper, and is actively involved with the Society of

# Presenters

Wetland Scientists, Ecological Society of America, and the Society for Ecological Restoration. Terry was certified as an Ecological Restoration Practitioner by SER in 2018.

## **Stuart Findlay**

### **Cary Institute of Ecosystem Studies**

Dr. Stuart Findlay is a Senior Scientist at the Cary Institute in Millbrook, NY. He received his Ph.D. from the University of Georgia. Dr. Findlay has conducted research on a wide variety of aquatic ecosystems including streams, lakes, large rivers and wetlands with a specific focus on the Hudson River. In the Hudson, he helped implement the Hudson River Environmental Observing System, a network of real-time water quality sensors. He currently serves on several Advisory Committees including the Hudson River Estuary Management Committee for the New York State Department of Environmental Conservation and the EPA's Long Island Sound Science and Technical Advisory Committee. He is currently a member of the Board of Directors for the Society of Freshwater Science and he is the Editor-in-Chief for Aquatic Sciences. He has a strong interest in extending his own research to practitioners and multiple stakeholders and frequently participates in workshops addressing specific real-world problems.

## **Carolyn Fraioli**

### **NYS Department of State**

Carolyn Fraioli is a Coastal Resources Specialist at the NYSDOS's Office of Planning, Development & Community Infrastructure. She works within the Climate Change and Resilience Unit and provides technical assistance to communities, as well as agency staff, on topics such as coastal processes, natural hazards, shoreline management techniques, and risk assessment. Carolyn serves the Department on resilience initiatives such as the Community Risk and Resiliency Act, and sits on several advisory committees related to resilience planning and adaptation. She has degrees in Marine Biology and Environmental Management from the University of North Carolina at Wilmington and Duke University, respectively.

## **Katharhy G.**

### **Brooklyn College**

Born and raised between the Andes and Amazon, Katharhy challenged his indigenous social history. He earned the first higher education degree and pioneered a career path in the STEM field in his native nation. He co-founded the Andes Youth Development Program in indigenous communities of Ecuador, and his active leadership role earned him the Youth Ambassador Fellowship in the U.S., 2008. Katharhy has received local and international recognition for his work in environmental remediation, environmental monitoring, agriculture education and engagement, native-land cartography, and agroecosystem investigation. He holds two

bachelors' degrees, one in science from Brooklyn College and the other in arts from ITCA, Ecuador. He is pursuing a Master of Science degree at Lehman College. Currently, Katharhy is an adjunct faculty at Brooklyn College, co-principal investigator, Carbon Sequestration Project, at Advanced Science Research Center, urban agriculture entrepreneur technician at Cornell Small Farms Programs, B2P, and president of K'allam'p Inc.

### **Katie Graziano**

#### **SRIJB**

Katie is the Project Scientist at the Science and Resilience Institute at Jamaica Bay, working on projects that focus on urban watershed management, coastal community engagement, and socio-ecological assessment in New York City and State. Currently, those include "Measuring Success: Monitoring Natural and Nature-Based Features in NYS," and "Cycles of Resilience" in Canarsie, Brooklyn. Before the Institute, she worked with local government in the Commonwealth of the Northern Mariana Islands to implement community-based watershed restoration projects. She has a B.S. in Natural Resources from Cornell University and a Master's in Marine and Environmental Affairs from the University of Washington.

### **Tobiah Horton**

#### **Rutgers Cooperative Extension**

Tobiah Horton is Senior Research Project Manager at the Rutgers Cooperative

Extension's Water Resources Program. He designs and builds bioswales, rain gardens and other forms of green infrastructure to address problems of water quality and quantity in New Jersey's developed areas. In his work, reuse of water, materials, sites aligns with an ecological design that is inspired by the full lifecycle of living things; from seed to compost. His most satisfying projects entail the deconstruction of a structure, the harvest of valued materials, and the holistic redevelopment of the site with a balance between human programming and environmental performance. He is currently engaged in integrating deconstruction and reuse of abandoned structures with the planning and design of reclaimed floodplain areas.

### **Marit Larson**

#### **NYC Parks**

Marit Larson, Chief of Natural Resource at NYC Parks' Division of Forestry, Horticulture and Natural Resources, is an environmental scientist with a background in stream and wetlands restoration. She has over 25 years of experience managing wetland restoration design, protection, and monitoring projects. At NYC Parks, she oversees teams conducting forest and wetlands restoration, native plant propagation, natural resource stewardship, green infrastructure design and construction, and the monitoring, assessment and management of over 10,000 acres of natural areas in New York City.

# Presenters

## **Jim Lodge**

### **Hudson River Foundation**

Mr. Lodge is a senior scientist with the Hudson River Foundation for Science and Environmental Research. Mr. Lodge holds a Master of Science degree in Marine Environmental Management from the Marine Science Research Center at Stony Brook. Prior to joining the Hudson River Foundation, Mr. Lodge was an oceanographer with the New York District, U.S. Army Corps of Engineers. Mr. Lodge has more than 20 years of experience leading research, planning and restoration projects in the NY/NJ Estuary. Mr. Lodge is currently managing the second phase of the Contamination Assessment and Reduction Project (CARP) and leading research teams monitoring the 2018 Tappan Zee oyster mitigation project, the 2016 Jamaica Bay oyster research project and the third phase of oyster restoration activities at Soundview Park, Bronx, NY.

## **Pete Lopez**

### **US EPA**

Pete Lopez serves as the Regional Administrator for EPA Region 2. His responsibilities include overseeing the states of New Jersey and New York, Commonwealth of Puerto Rico and the US Virgin Islands, and eight tribal nations. Prior to joining EPA, Mr. Lopez worked for 21 years on staff policy and program development in the New York State Senate and Assembly and served 6 terms as a Member of the New York State

Assembly. Prior to his term as Assemblyman, Pete also served 15 years in elected local offices in Schoharie, NY, including Village Trustee, Town Councilman and Town Supervisor/County Legislature and Schoharie County Clerk. Pete graduated with honors from the State University of New York (SUNY) Cobleskill, and SUNY Albany. He holds a bachelor's degree in public affairs with a concentration in environmental studies and a master's degree in public administration.

## **David Maddox**

### **The Nature of Cities**

David Maddox is committed to the creation of sustainable, resilient, livable, and just cities. After earning a Ph.D. in ecology and statistics at Cornell, he spent 10 years with The Nature Conservancy working on climate change and stewardship. In 2012, David founded The Nature of Cities and remains its Executive Director. TNOC is a transdisciplinary essay and discussion site—with 700+ writers from around the world, from scientists to activists, designers to artists—on cities as ecosystems of people, nature, and infrastructure. He is also a composer, playwright, and theatre artist. He lives in New York City.

## **Cory Mann**

### **NYC DCP**

Cory is a Waterfront Planner for the NYC Department of City Planning. He manages projects in the Bronx and is currently

leading a study of Flushing Creek in Queens. Originally from California, Cory received his Master of Regional Planning degree from Cornell University with a focus on water resource management. Prior to his career in planning, Cory worked in science publishing, where he managed two peer-reviewed journals for the Public Library of Science.

### **Kristin Marcell**

#### **NYS DEC**

As the Climate Resilience Program Coordinator, Kristin coordinates and facilitates regional efforts to plan for and address the effects of climate change for the New York State Department of Environmental Conservation's (DEC) Hudson River Estuary Program and Cornell Water Resources Institute. The Estuary Program is a regional partnership to restore and conserve the Hudson River and its watershed. Kristin works with partners on solutions for shoreline communities to adapt to flooding, heat and drought that both promote vibrant waterfront communities and conserve the vital benefits of natural systems in the Hudson River watershed.

### **Michael Marrella**

#### **NYC DCP**

Michael is the Director of Waterfront and Open Space Planning for the New York City Department of City Planning where he is responsible for directing waterfront policy for the agency and oversees the agency's resiliency planning portfolio. Michael is

the chief administrator of the City's Waterfront Revitalization Program, the City's coastal zone management program and serves as Chair of the Waterfront Management Advisory Board.

### **Catherine McCabe**

#### **NJ DEP**

Catherine R. McCabe, a long-time federal environmental leader, assumed her duties as Commissioner of the New Jersey Department of Environmental Protection in January 2018. Commissioner McCabe comes to the DEP with a distinguished career in government service, both in environmental law and science. Most recently, Commissioner McCabe served as U.S. EPA Deputy Region 2 Administrator in New York City. In that position, Commissioner McCabe assisted the regional administration in overseeing operations and implementation of all EPA programs in New Jersey, New York, Puerto Rico and the U.S. Virgin Islands. Commissioner McCabe previously served as a judge on the EPA's Environmental Appeals Board, as Deputy Assistant Administrator of EPA's Office of Enforcement and Compliance Assurance, spent 22 years with the U.S. Department of Justice, and was an Assistant Attorney General for the State of New York. Commissioner McCabe earned a law degree from Columbia Law School and a bachelor's degree in environmental science from Barnard College. She also studied environmental science at Columbia University's Graduate School of Arts and Sciences.

# Presenters

## **Mike McCann**

### **The Nature Conservancy**

Mike is passionate about using science to solve complex environmental problems. Harbor cities are his passion, but he is fascinated by all types of social-ecological systems. Raised in the Hudson Valley of New York, Mike completed his B.S. in Environmental Science at the University of Notre Dame, then returned to the East Coast to pursue his Ph.D. in Ecology & Evolution at Stony Brook University. In 2015, Mike joined the Department of Marine & Coastal Sciences at Rutgers University as a Postdoctoral Research Associate. Since 2016, Mike has led The Nature Conservancy's work in New York Harbor as an Urban Marine Ecologist. His work contributes to the Conservancy's goal of a clean, accessible, and resilient Harbor for nature and all New Yorkers. Mike has published several peer-reviewed scientific articles and is the author of the Restoring Oysters to Urban Waters report.

## **John McLaughlin**

### **NYC DEP**

John McLaughlin is the Managing Director of the Office of Ecosystem Services, Green Infrastructure and Research with the New York City Department of Environmental Protection (DEP). The Managing Director is the Bureau Director's senior advisor on the design and implementation of citywide ecosystem restoration projects and NYC Parks onsite green infrastructure projects. John has been in the ecological restoration

field for 31-years, 27 of those years with DEP. Prior to coming to DEP, he worked at the New York City Department of Sanitation and was part of a team of professionals charged with the ecosystem rehabilitation and lost environmental function of Fresh Kills Landfill. He has developed, and collaborated on many large-scale ecological designs for inactive landfills, wetlands, coastal woodlands and grasslands. He also manages the updates to the ecological and water quality strategies of the Department's Jamaica Bay Watershed Protection Plan. John holds degrees in Ornamental Horticulture and Biology.

## **Katie Mosher**

### **Billion Oyster Project**

Katie Mosher is the Director of Restoration at the Billion Oyster Project, whose mission is to restore oyster reefs to New York Harbor through public education initiatives. Katie's team develops and implements oyster restoration projects throughout NY Harbor, frequently working alongside students from the New York Harbor School's Career and Technical Education Program. Together they have collaborated with dozens of project partners to restore over 30 million oysters and 7 acres of reefs date, with the goal of restoring 100 acres of oyster reef habitat to NY Harbor by 2035.



## **Adam Parris**

### **NYC Mayor's Office of Resiliency**

For over 15 years, Adam Parris has been working with scientists, governments, and communities to advance climate resilience and adaptation. Currently, he is the Deputy Director of Climate Science and Risk Communication at the Mayor's Office of Resiliency in New York. Previously, he led the Science and Resilience Institute at Jamaica Bay, a partnership aimed at improving resilience in an ecologically and culturally rich, yet vulnerable part of New York City. Adam has supported coastal planning for Federal agencies, as well as the states of California, Maryland, New York, and New Jersey. Mr. Parris also directed NOAA's Regional Integrated Sciences and Assessments program, a network that helps expand the nation's capacity to prepare for and adapt to climate. He holds a Bachelor's degree in English Literature and Environmental Geology from Bucknell University and a Master of Science in Geology from the University of Vermont.

## **Brendan Pillar**

### **NYC DCP**

Brendan is the deputy director of the Waterfront and Open Space Planning Division of the New York City Department of City Planning (DCP). Prior to this appointment, Brendan was in DCP's Queens office, leading various initiatives including the Downtown Far Rockaway neighborhood plan and the resilient neighborhood

studies of Broad Channel and Hamilton Beach. In his current role, Brendan helps guide the City's coastal flood resiliency efforts and the next Comprehensive Waterfront Plan, due out by the end of 2020. He lives just outside the 0.2 percent annual chance floodplain in Astoria with his wife and two young children.

## **Robert Pirani**

### **NY-NJ HEP**

Robert Pirani is the program director for the New York--New Jersey Harbor & Estuary Program at the Hudson River Foundation. HEP is a collaboration of government, scientists and the civic sector that helps protect and restore the harbor's waters and habitat. It is one of 28 such programs around the country authorized under the Clean Water Act. Prior to joining the Foundation in 2014, Mr. Pirani was vice president for energy and environment at Regional Plan Association and executive director of the Governors Island Alliance. Mr. Pirani has received awards from the Environmental Advocates of New York, National Trust for Historic Preservation, and The New York Harbor School Foundation. Mr. Pirani has served as a founding board member of the four--state Highlands Coalition, Governors Island Alliance, and Brooklyn Greenway Initiative. Mr. Pirani holds a master's degree in regional planning from Cornell University and B.A. in Environmental Studies from Hampshire College.

# Presenters

## **Christiana L. Pollack**

### **Princeton Hydro**

Christiana has nearly 15 years of expertise in ecological restoration and hydrologic modeling, with a focus on non-tidal and tidal habitats, living shorelines using natural and nature-based features, spatial analysis, and environmental mapping. As a Certified Floodplain Manager and GIS Professional, she performs flood mitigation and wetland hydrology modelling in riverine and coastal systems and incorporates projected changes in sea level rise, precipitation, and temperature. Christiana is experienced with evaluating the impacts of climate change by identifying vulnerable communities, both ecological and urban, and providing restoration and mitigation opportunities. As a Senior Project Manager, she oversees numerous ecological design and geospatial projects, including vulnerability assessments, invasive species removal, and hazard mitigation planning. Additionally, Christiana manages several large-scale wetland restoration projects in the Mid-Atlantic region, with a focus on the NY-NJ Harbor Estuary, that provide ecosystem services to mitigate flood risks, enhance native habitat, improve water quality, and strengthen storm resiliency.

## **Beth Roessler**

### **NYS DEC**

Beth Roessler, Stream Buffer Coordinator, Hudson River Estuary Program at the New York State Department of Environmental Conservation in collaboration with New

York State Water Resources Institute at Cornell University. Beth provides outreach focused on stream corridor restoration and protection. She coordinates the Hudson Estuary Trees for Tribes program, working with non-profits, municipalities, private landowners and volunteers on streamside tree plantings and other projects aimed at protecting the water quality in the tributary streams of the Hudson River Estuary. Beth has a master's degree in Environmental Science and Policy from Clark University in Massachusetts.

## **Basil Seggos**

### **NYS DEC**

Basil Seggos was appointed DEC Commissioner by Governor Andrew Cuomo, and has served in this role since 2015, leading an agency of nearly 3,000 professionals. As Commissioner, he oversees programs that promote a clean, healthy and accessible environment, including: protecting and restoring New York's air, lands and waters, combatting climate change, enforcing State environmental laws and regulations, responding to natural and man-made disasters, and supporting world-class outdoor recreation on state lands and waters, including hunting, fishing, hiking and paddling. Prior to becoming DEC Commissioner, Seggos served as the Deputy Secretary for the Environment for the Governor. Before his career in State government, Seggos served as Vice President of Business Development at Hugo Neu Corporation, a clean tech private equity company; Chief Investigator and Attorney

for Riverkeeper; Associate at the Natural Resources Defense Council (NRDC); and legal clerk at the White House. Seggos graduated with a B.A. from Trinity College in 1996, and earned his law degree from Pace University in 2001. He is a Captain in the U.S. Army Reserve.

### **Kip Stein** NYC Parks

Kip Stein began his career in natural resource management by working on trail building and invasive species projects throughout California and the Southwest. He received his Master's degree in Forestry from Northern Arizona University and has since worked on wildland fire and ecological restoration field crews across the country before moving to New York to begin working at NYC Parks in 2013. As Senior Forester for the DPR Natural Resources Group, he manages a team of foresters who oversee Capital forest restoration contracts in natural areas citywide and provides technical assistance to other divisions of the Agency with contracts working in forested areas.

### **Isabelle Stinnette** NY-NJ HEP

Isabelle Stinnette is the Restoration Manager at the New York/New Jersey Harbor & Estuary Program, where she runs the inter-agency restoration work group, tracks restoration progress in NJ and NY, and works with partner agencies to further

restoration progress. Prior to joining HEP, she worked for the NYS Department of Environmental Conservation as a Restoration Biologist where she aided restoration planning through research and mapping, and worked with conservation organizations to make use of small grants for restoration. She also aided and expedited storm recovery and resiliency projects. Isabelle has a M.S. from the School of Marine and Atmospheric Science at Stony Brook University and a B.A. from St. Lawrence University.

### **Lindsey Strehlau-Howay** NY-NJ HEP

Lindsey has been a key research assistant in multiple collaborative research projects including work with the U.S. Forest Service, Pace University, Billion Oyster Project, and HEP. As a part of the NNBF project, she was the socioeconomic lead for the SRIJB field team and assisted other leads in ecological function and hazard mitigation protocols. She is able to use her eclectic background in anthropology, English and photography to inform and facilitate her work in the environmental field, as do her years of experience coordinating and training persons about regulations, sustainability and environmental health and safety within the food industry. Lindsey is currently working as an intern at HEP assisting the restoration and water quality managers and outreach coordinator in various projects.

# Presenters

## **Shino Tanikawa**

### **NYC Soil & Water Conservation District**

Shino Tanikawa is the Executive Director of the New York City Soil & Water Conservation District. She has a Master of Science degree in Marine Environmental Sciences from the Marine Sciences Research Center at Stony Brook University. As the Executive Director, she oversees the District's stormwater, environmental education, and urban soils programs. She currently serves on the Steering Committee of the Stormwater Infrastructure Matters (SWIM) Coalition. She has been a longtime supporter of the NY/NJ Harbor & Estuary Program and has served as Alternate to NY Co-Chair on the Citizens Advisory Committee. She is also one of the founding members of the NYC Urban Soils Institute.

## **Judith Weis**

### **Rutgers University**

Dr. Judith S. Weis is Professor Emerita of Biological Sciences at Rutgers University, Newark. Her research is on estuarine ecology and ecotoxicology. She has published over 200 refereed scientific papers, as well as books for the general public on salt marshes, fish, crabs, and marine pollution, and technical books on marine pollution and on biological invasions and animal behavior. She is interested in stresses in estuaries and their effects on organisms, populations and communities. She is on the editorial board for BioScience,

is a Fellow of the American Association for the Advancement of Science (AAAS) and was a Fulbright Fellow in Indonesia. She served on advisory committees for EPA, NOAA and NAS, serves on the Waterfront Management Advisory Board, and chairs the Science Advisory Board of NJ DEP. She chaired the Biology Section of AAAS and was president of the American Institute of Biological Sciences (AIBS). She received the Merit Award from the Society of Wetland Scientists.

## **Chester Zarnoch**

### **Baruch College**

Chester B. Zarnoch is a Professor of Environmental Studies and Biology at Baruch College, City University of New York (CUNY) and is Graduate Faculty in the Biology Program at CUNY's Graduate Center. He has been an active researcher in marine ecology and aquaculture since 2001 and has published papers on shellfish biology, sediment nitrogen cycling, and intensive aquaculture. His current research aims to describe the biological and physical processes that influence ecosystem services derived from restored habitats in eutrophic estuaries. Zarnoch holds a Ph.D. in Biology (The Graduate Center - CUNY, 2006).

NY-NJ Harbor & Estuary Program would like to thank the volunteers and our partners who help make this conference possible and continue to fight for restoration progress in the time of climate adaptation.



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