

**Estuarine Sanctuary Management Plan for Hudson River Park:
Progress Report & Action Agenda 2021-2030**

**Summary of Responses to Comments
September 2021**

Overview

On May 27, 2021, pursuant to the Hudson River Park Act (Act), the Hudson River Park Trust (Trust) issued a public notice (Notice) inviting public review and comment regarding the draft Estuarine Sanctuary Management Plan for Hudson River Park: Progress Report & 2021-2030 Action Agenda (Draft Plan). The Draft Plan is a foundational management document that guides the Trust and its partners in protecting and conserving critical aquatic habitat while also facilitating access to the Hudson River and fostering awareness and public education about this vital natural resource.

The Draft Plan was posted on the Trust's website and made publicly available throughout the public comment period. The Notice was published in the following places: the Trust's website; the City Record Online; the New York State Register; the New York Post; and AM New York. Additionally, the Notice was circulated to Community Boards 1, 2 and 4; to the Hudson River Park Board of Directors, Advisory Council, and ESMP Technical Advisory Council; and to elected officials representing communities neighboring the Park.

The public comment period ran from May 27 through August 9, 2021. The Trust held a public hearing on June 29, 2021 at 4:30PM both virtually and in-person at Pier 40, 353 West Street, New York, New York. Ten people provided oral testimony during the June 29th public hearing and the Trust received 15 written comments.

List of Commenters

Oral Comments Made at June 29, 2021 Hearing:

1. Paul Gallay, Riverkeeper
2. Katie Mosher, Billion Oyster Project
3. Margie Turrin, Lamont-Doherty Earth Observatory
4. Leonard Rodberg, Natural Resources Protective Association
5. Eric Stiller, Manhattan Kayak Company
6. Shay Saleem, Intrepid Sea, Air & Space Museum
7. Robert Pirani, NY-NJ Harbor & Estuary Program, Hudson River Foundation
8. Graeme Birchall, Downtown Boathouse
9. William Benesh, Community Board 2
10. Mike Petite, Manhattan Community Boathouse

Written Comments:

1. New York State Senator Brad Hoylman
2. Manhattan Community Board 1 (received after August 9, 2021)
3. Robert Pirani, New York-New Jersey Harbor & Estuary Program, Hudson River Foundation
4. Katie Mosher, Billion Oyster Project
5. Graeme Birchall, Downtown Boathouse
6. Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay
7. Dan Shapley, Riverkeeper

8. Richard Corman, The River Project
9. Deborah Osborne, PS 11 Programs
10. Dr. Allison Fitzgerald, New Jersey City University
11. Jessica Ochoa Hendrix, Killer Snails
12. Chi Fai Yuen, University Settlement at the Houston Street Center
13. Michael Wiggins, Little Island
14. Naima Freitas, City as School
15. Corinne Brenner

General Support

Comment 1: I commend the Hudson River Park Trust and its management partners for the last twenty years of work and growth; delivering environmental education programming to nearly 30,000 children and adults in 2019, new piers that both promote estuary restoration and management, but that also serve as educational and recreational tools, and working diligently to bring the Hudson River back to the thriving ecosystem it once was. The park has served as a refuge for our constituents, especially during the pandemic. I applaud the Trust and the Technical Advisory Committee on an exceptional, comprehensive plan for the next ten years. **(State Senator Brad Hoylman)**

Comment 2: Congratulations on pulling together an impressive draft document and, more importantly, on identifying an ambitious and realistic set of actions that will measurably improve conditions in the Hudson River Park Estuarine Sanctuary. The creation of the Plan highlights the benefits of a transparent and open process for adaptive management of the Sanctuary, recognizes the importance of continuing community partnership, including engaging independent scientists to undertake research or otherwise advise the Trust as you move forward on this challenging task. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Comment 3: I've been involved in Hudson River Park from all the way back from 1996 starting at the Chelsea Piers and all way through to now being at Pier 84 and couldn't be happier about what Hudson River Park Trust has provided to everyone, to the world but to New York and so forth, providing a green way and a blue way all in one -- in one fell swoop is spectacular. **(Eric Stiller, Manhattan Kayak Company)**

Comment 4: Little Island has reviewed the ESMP from our position as a stakeholder, community member, and waterfront partner. We are a member of the Hudson River Park Advisory Council with a vested interest in the way the park is managed both in the day to day, and the long term. We offer our emphatic support of the ESMP's long term vision and are especially enthusiastic about the goals outlined in the Action Agenda for Environmental Education, Research & Habitat Enhancement, and Public Access & Resource Management. We welcome the opportunity to continue to partner with our colleagues at Hudson River Park Trust to offer learning opportunities, foster community, and promote sustainability. **(Michael Wiggins, Little Island)**

Comment 5: I write to express my support of Hudson River Park's draft Estuarine Sanctuary Management Plan for 2022-2030. I have reviewed the plan and am impressed with how thorough, forward-thinking, and collaborative the goals and actions are. The park staff and trustees are proactive in including science and management goals which will keep up with climate change, sea level rise, and development in NYC. **(Dr. Allison Fitzgerald, New Jersey City University)**

Comment 6: I am writing as a member of the public to support Hudson River Park's Draft Estuarine Sanctuary Management Plan for Hudson River Park: Progress Report & 2021–2030 Action Agenda. This 10-year plan provides a vision for science, restoration, education and management of the Park's 400-acre Estuarine Sanctuary. I have worked closely with the Hudson River Park staff to develop an educational app about how humans affect waterways, and water affects people. I believe the scope of this plan will further the Park's research, habitat enhancement and STEM goals, especially through partnerships like the one we've developed together. **(Corinne Brenner)**

***Response:** Comments 1 to 6 noted. The Trust is enthusiastic about reaching this milestone and appreciates the engagement and involvement of its Technical Advisory Committee (TAC), the Advisory Council and others who have helped advance planning to date.*

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General Opposition

Comment 7: I call on leaders to reject this ESMP and stop implementing this 2021-2030 Action Agenda now. Genuine environmental protection and truly effective adaptation to climate change demand a very different path forward from the one assumed in the ESMP. Calling the river a park and other misleading terms cannot alter the physical reality. The water area under the Trust's jurisdiction is not only a high-risk hurricane evacuation zone that will face increasing danger of repeated catastrophic hurricanes as the ocean warms, but is an environmentally critical marine habitat where preservation is essential for sustaining coastal fisheries. Implementing HRPT's undesirable Action Agenda would put many more people in harm's way and the rich, productive habitat doesn't need restoration, it needs to be left alone. **(Leonard Rodberg, Natural Resources Protective Association)**

***Response:** Comment noted. The New York State Legislature has authorized the construction and operation of Hudson River Park, and in recognition of the ecological importance of the lower Hudson Estuary within and beyond the Park's boundaries, the Act also charged the Trust with creating a sanctuary management plan to guide Park development and operations in and along the Hudson River within the Park's boundaries. The Act further specifies that the plan should provide for: conservation of marine resources found in this area, with special consideration for habitat values, environmental education and research, public recreational use of the water, including for boating, fishing and swimming; and authorized commercial maritime uses and other water dependent uses. Construction of Park elements including environmental enhancements has been subject to the requirements of the State Environmental Quality Review Act (SEQRA) and numerous regulatory requirements since inception, including review pursuant to the New York City Waterfront Revitalization Program (WRP) which includes considerations to minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and to increase resilience to future conditions created by climate change. Such reviews will continue to be required as additional construction is considered.*

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Environmental Education (EE) Management Area

Comment 8: As a member of the TAC Education Committee, I feel really positive about the way that this plan was put together. The TAC Education subcommittee was interested in incorporating multiple modes of learning with different ages and different interests and I think the plan really does capture all of that. The Draft Plan has a really strong spread across different ages as well as having the learners represent really the makeup of the New York City boroughs and really brings in the diversity that is so rich in our community. There's a focus on both indoor and outdoor education, students, teachers, the general public, so it's really nicely situated in a variety of different areas. There's a strong focus on climate change adaptation, climate change in general, sustainability and really embracing that and trying to make that a centerpiece in education is critical. You're in a wonderful position to be able to create the change that we all need, so I really appreciate that that has become such a strong focus of the plan. **(Margie Turin, Lamont-Doherty Earth Observatory)**

Comment 9: What is great about our partnership with the Hudson River Park Trust through the GOALS Program is that it offers inner-city students an opportunity to expand, increase and engage in marine science activities such as water quality testing, checking out the cool aquatic organisms that live in the Hudson River and to understand the human impacts between us and the water systems like the Hudson. These students that come from Brooklyn, Queens, Manhattan, Staten Island and the Bronx continue to have opportunities with Hudson River Park staff through engaging in plankton and water quality experiments, opportunities that they wouldn't otherwise have that give them an understanding that Hudson River Park and the Hudson River itself gives us an insight into climate change and into understanding our habitats. What's really great about Hudson River Park staff is that they are able to pivot. We all know the devastation of Covid as well as the quick pivot that we had to do as educators, informal educators and teachers to virtual learning. The GOALS girls were so excited to be provided with virtual learning opportunities with the Hudson River Park including providing Facebook Live and Instagram Live opportunities and this just showcases the great flexibility of Hudson River Park and their dedication to the public and to educational learning. **(Shay Saleem, Intrepid Sea, Air & Space Museum)**

Comment 10: We applaud the broad efforts that have been undertaken by the Park staff to educate and introduce to the diverse communities that reside throughout New York City to the natural world. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Comment 11: We are educators and informal educators that have collaborated with Hudson River Park's River Project by bringing out students to Hudson River Park's environmental education programs. We appreciate the Park's Sanctuary Management Plan's focus on hands-on environmental education and STEM leadership opportunities for NYC students. The Park's plan is truly essential in supporting youth development and I believe it will allow for students to become future leaders. This resource is so valuable for bringing access and understanding of ecology of the Hudson River to students who typically lack access to natural areas. **(Chi Fai Yuen, University Settlement at the Houston Street Center; Deborah Osborne, PS 11 Programs; Naima Freitas, City as School)**

Comment 12: As an enthusiastic supporter of Hudson River Park and a partner to the Hudson River Park River Project's Education group, I'm writing to advocate for this plan to further the Park's research, habitat enhancement and STEM goals. The Trust's Education department has been an outstanding partner to our small business, Killer Snails, and has worked with us to win a Small Business Innovation Grant from the National Institutes of Health. Our work together is

creating an augmented reality science curriculum supplement for grades 3-5 to learn more about waterways and has already been piloted with students from four New York City public schools. We are continuing our partnership with Hudson River Park over the next two years and consider ourselves extremely fortunate to have such knowledgeable, expert partners in developing aquatic learning resources. The proposed management plan will enable the education department to continue its excellent work and to thrive in the coming decade. **(Jessica Ochoa Hendrix, Killer Snails)**

***Response:** Comments 8 to 12 noted. As reflected in numerous projects defined in the Environmental Education Action Agenda, the Trust expects to continue serving students and the general public with formal and informal educational opportunities that foster connections to and knowledge about the Estuarine Sanctuary.*

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Comment 13: The Action Agenda’s Environmental Education Vision Statement which reads: “to increase knowledge of the Estuarine Sanctuary and foster dedication to the Hudson River by expanding and improving environmental education in the Park, New York City and the region” should be expanded to include language regarding the preservation and restoration of the river and its ecosystem. **(Richard Corman, The River Project)**

***Response:** Comment noted. The Trust and its TAC crafted vision statements focused on each management area. The Trust supports the Commenter’s expressed opinion regarding the value of teaching about preservation and restoration and several Actions in the Education Management Area of the AA and in particular Research & Habitat Enhancement Management Area 3.2(a) (“In Park education facilities, incorporate scientific displays to communicate Sanctuary Research”) incorporate this goal. The Trust believes that the existing language for the environmental education vision statement encompasses the Commenter’s opinion with overarching goals of environmental education and therefore no change to the text is necessary.*

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Comment 14: In Goal 3 of the Environmental Education Action Agenda, consider adding language regarding internship opportunities to support college and graduate Marine Science and other STEM programs. **(Richard Corman, The River Project)**

***Response:** Comment noted. Hudson River Park agrees that internships for college and graduate level internships are important to the development of the next generation of River stewards. The Trust currently offers several internships focused on environmental education and local research for college and recent graduates, and the Trust conducts extensive outreach to local universities to promote these opportunities. As stated in EE 3.3(B), the Trust has also identified opportunities for local scientists, including graduate level students, to conduct research focused on the Sanctuary. Recognizing the importance of creating this space for internship programs, a proposed new project has been added as EE 3.1(C).*

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Comment 15: The Park’s lack of physical access to the river is an impediment to the ESMP’s environmental education goals of empowering current and future Hudson River Stewards and building positive environmental behaviors in the Park and beyond. **(Graeme Birchall, Downtown Boathouse)**

***Response:** Comment noted. In accordance with the original Park vision analyzed in Hudson River Park’s 1998 Environmental Impact Statement, Hudson River Park has expanded public access to the Hudson River, promoted water-based recreation, and enhanced the natural, cultural and historic aspects of the Hudson River through the creation of non-motorized boathouses, docks, mooring fields, expansion of locations for historic vessels, river’s edge programming, in-water programming, and more. Continuing construction of currently unfinished sections of the Park will create additional opportunities to engage directly with the River. The Trust supports the Commenter’s goal of continuing to build River stewardship and education and will continue to explore opportunities for doing so.*

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Comment 16: I congratulate the park on its exceptional educational programming for students and visitors to the park and encourage the park to expand its self-guided education in the park through placards notifying visitors of research projects happening below the water. As made clear by the draft plan, there is significant research being done in the estuary. I encourage the park to make the data and results of studies conducted public and easily accessible on the Park’s website and through Open Data NYC, so that scientists can collectively benefit from the information gathered by the park and its partners, and use it to inform further research and conservation efforts. **(State Senator Brad Hoylman)**

***Response:** Comment noted. The Trust shares the goal of making Sanctuary research broadly accessible and has been working to update its website to reflect current and past research (see (<https://hudsonriverpark.org/the-park/parks-river-project/science/current-research/>) and <https://hudsonriverpark.org/the-park/river-sanctuary/past-research/>). Through the many projects outlined in EE Goals 1 and 2 and elsewhere in the Action Agenda, the Trust will also explore opportunities to add its research projects to Open Data NYC and other appropriate data sharing sites and will seek other ways to share research and restoration projects with Park visitors, such as through informational signage within the Park.*

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Comment 17: I commend the park on the Parks over Plastics program, and encourage the park to expand its work on microplastics to its public education programs to help visitors understand how they can reduce microplastics on a personal level. **(State Senator Brad Hoylman)**

***Response:** Comment noted. The Trust agrees that it is important to build on current efforts to educate the public about reducing reliance on plastics, including products that create microplastics in local waters. To help build public understanding of these issues, the Trust has created several lessons focused on plastics as part of its “STEM Activity of the Week” series, including the “Plastic Rapid Survey” and “Plastics in the Water Column” activities. These publicly-accessible and free lessons aim to build a better understanding of personal plastic consumption and its connected impacts on the Hudson*

River Estuary. Additionally, plastic pollution and education is a focus at many of the Trust's public programs including the SUBMERGE Marine Science Festival and Science Saturdays. The Trust expects to continue expanding both in-park and virtual programs as the Park Over Plastic initiative continues to grow in the coming years.

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Comment 18: I would appreciate a breakdown of how the Trust is integrating climate change and environmental justice into its educational programming. I would also like to know if there is an environmental justice expert on staff, and if not, to recommend that the Trust prioritize that in future hires for educational staff. **(State Senator Brad Hoylman)**

Response: *Comment noted. The Trust agrees that climate change and environmental justice are two critical areas for public education and outreach initiatives. As such, EE 1.1(C) calls for Trust staff to continue to develop and offer programs focused on climate change and environmental justice into its education programs.*

The Trust's Vice President of Estuary and Environment holds a Master of Science in both Aquatic Science and Environmental Justice, and both she and the Senior Director of Education and Outreach have prioritized initiatives and programming that advance the Park's environmental justice and diversity, equity, inclusion and justice goals. Since 2018, the Trust has hosted an annual summer high school and college research internship called INCLUDES, a program aligned with a National Science Foundation initiative to serve students from communities underrepresented in STEM. This program provides career stepping stones for students to learn field and lab science skills while also developing as STEM leaders under a tiered mentorship model. Additionally, the Trust has created dedicated educational programming centered on environmental justice, such as "Community Conversations," a field trip modeled on a town hall meeting, at which students role play to discuss issues connected to civic engagement, environmental justice and NYC's wastewater treatment system.

Climate change is also a priority education topic, and the Trust currently offers the "Climate and our Coast" program in which students investigate the impacts of climate change on the atmosphere and shoreline in order to discuss solutions and engineer their own models of sea-level rise adaptations. The Trust also trains its seasonal staff in climate change communications techniques in order to prepare them for climate-focused conversations with both students and members of the general public.

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Comment 19: We are grateful for your leadership in HEP's Hudson and Harbor Educators Work Group and Citizen's Advisory Committee group and you should reference this in the document as a way that the Trust is sharing its expertise and capacity with other, and often smaller and less well funded, environmental education programs. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Response: *Comment noted. Collaboration with NY-NJ HEP and NYSDEC on launching and facilitating the Hudson and Harbor Educators Work Group has been a rewarding and mutually beneficial partnership and the Action Agenda calls for staff to continue such engagement through EE 1.2(D).*

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Research & Habitat Enhancement (R&HE) Management Area

Comment 20: I have been an active participant in the Hudson River Park Trust's ESMP Technical Advisory Committee (TAC) since 2018. As members of New York's restoration and scientific community, with expertise specifically in the field of oyster restoration, our role has been to collaborate with other regional practitioners on the TAC to review and respond to the long term draft action agenda during its development, and to provide feedback on developing strategies to improve the sanctuary's long term ecological health. We appreciate that HRPT has assembled a committee of experts with a range of knowledge and experience managing threats to ecosystem health such as habitat loss, sewage and chemical pollution, and the increasing threat of storm damage. The Trust has developed a strong restoration strategy by encouraging an open dialogue around specialized techniques for responding to habitat threats and the creation of ecological enhancements. **(Katie Mosher, Billion Oyster Project)**

Comment 21: As a marine scientist, I have worked closely with HRPT's River Project staff on several experiments and observations on the pile fields and oyster wraps. I have been involved in the Tribeca oyster project meetings and keep myself up to date and informed on other scientific research happening in the park. The goals set forth in the ESMP will not only study the natural fauna and flora of the park, but actively engage students and visitors in environmental education, as well as study new living shoreline designs to increase biodiversity in the park. The goals also offer ample opportunity for collaboration with local academic researchers and students (graduate, undergraduate, high school), providing an in-situ look at multiple estuarine processes and field of study. **(Dr. Allison Fitzgerald, New Jersey City University)**

Comment 22: HRPT's Estuarine Sanctuary is an important recognition and conservation of a particularly important piece of the Hudson River Estuary. Because of location, history, public investment, and HRPT expertise, it is also a unique place to develop, test, measure progress, and engage the public in the ecological enhancement of urban shorelines. This opportunity is now described in the new ESMP Action Agenda. We have been happy to have worked with you on the process in developing those recommendations as a member of the TAC and to be a partner on some of the initial work on benthic monitoring and assessment. As noted in the plan, Sanctuary research and habitat enhancement is a focus for this updated plan and Action Agenda. We appreciate this emphasis and the work you are doing to advance this work. The Foundation and HEP are committed to continuing to work with you on that process including HRECOS, advancing pathogen monitoring, habitat research, and other efforts. The Park is and should remain a regional and national leader and key long-term ecological research station for enhancing urban shallow water and shorelines. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Comment 23: As a member of the TAC focused on R&HE, I can attest to the care you took to ensure this plan was informed by our perspectives and collective experience. You listened carefully to the feedback we provided during different stages of draft development. **(Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay)**

Response: *Comments 20 to 23 noted. The Trust appreciates the engagement and commitment of its TAC members, and is keenly aware that accomplishing the ambitious goals and actions reflected in the Action Agenda will depend on the continued support and engagement of many partners.*

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Comment 24: Over the long term, HRPT is promoting an adaptive approach to ecological habitat restoration, including oyster habitat restoration that will result in learning applicable and available to restoration practitioners working beyond the park’s footprint. This will result in environmental benefits to all New Yorkers. For these reasons, we remain enthusiastic participants in both the TAC process and the pilot phase of construction for the Tribeca Habitat Enhancement Project that will allow for the implementation and evaluation of techniques specific to oyster habitat restoration in the urban environment. **(Katie Mosher, Billion Oyster Project)**

Comment 25: The restoration efforts in the Draft Plan focus on sound ecological objectives paired with the establishment of a biotic index as baseline for research and monitoring. We appreciate that the Action Agenda is considered a living document designed to inspire and drive progress toward Sanctuary goals while also being flexible enough to take advantage of new opportunities when warranted. Understanding how the Sanctuary can better support this aquatic community and the larger estuary environment through research, adaptive enhancements and advocacy must remain an important Sanctuary goal. We also support the goals of the 2021–2030 Action Agenda aims in establishing a foundation for collecting and synthesizing biological and physical data about the Sanctuary and for piloting scalable habitat enhancements within Park waters that can become the basis for future restoration initiatives. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comments 24 and 25 noted. Adaptive management and the collection of baseline data are cornerstones of the Research & Habitat Enhancement management area – an approach informed in partnership with Commenters and other members of the TAC. The Trust agrees that this approach to research and habitat enhancement will provide a strong foundation and framework for the coming decade.

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Comment 26: The focus on “baseline” data collection on marine life and environmental conditions is absolutely necessary if we want to understand how habitat restoration and enhancement, climate change and water quality management actions impact future conditions. I think it’s important to emphasize that “baseline” in this context means present conditions against which change will be measured, rather than some previous condition that existed prior to the changes wrought by human society over the last few centuries. **(Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay)**

Response: Comment noted. The definition of baseline conditions in R&HE Goal 1 has been modified to reflect the Commenter’s suggestion.

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Comment 27: The Trust is well-positioned to continue growing relationships with research partners, including the many colleges and universities in New York City. I was the partner from Brooklyn College that collaborated on the microplastics research resulting in the publication in the Marine Pollution Bulletin. The two factors that made this collaboration work so effectively were: (1) the professionalism and effort of the staff at HRPT that ensured the research was well designed and executed, and (2) the mutually beneficial nature of the relationship. There should be many more opportunities to collaborate with other researchers, and the Trust should actively seek opportunities to connect with them. Use the TAC to help figure out how. Consider hosting a research workshop (virtual and/or in person), when the final action agenda is released and

explain to researchers what your action agenda priorities are, and how to engage in collaborations. **(Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay)**

Response: Comment noted. The Trust agrees that increasing the number and extent of research partnerships with local colleges and universities will support realization of many Action Agenda goals. As described in the Action Agenda Introduction chapter, the Trust has also committed to host an annual sanctuary research and habitat enhancement meeting with the science community to promote the Action Agenda, share research and strategize on priorities and opportunities for collaboration.

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Comment 28: The ESMP highlights the benefits of a transparent and open process for adaptive management of the Sanctuary. It recognizes the importance of continuing community partnership, including engaging independent scientists to undertake research or otherwise advise the Trust as they move forward on this challenging task. HRF and HEP would be pleased to partner with you in this process, including assisting as appropriate with convening “an annual meeting of scientists and steward for the purpose of reviewing relevant data and research findings for the Park and comparable waterways to inform continuing Sanctuary decision-making and to expand awareness of the Sanctuary within the science community. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Response: Comment noted. The Trust agrees that achieving the full research vision identified in the Action Agenda will require the engagement of a broadened network of academic and other science research partners. As the Commenters suggest, staff plans to work with the TAC and others in its growing network to identify ways to promote opportunities and priorities for research and habitat enhancement including through an annual meeting. See response to Comment 27 above.

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Comment 29: Regarding Research & Habitat Enhancement (R&HE) 1.8(A) (Collect and review data on common climate change indicators such as warming waters and rising sea levels), it could be difficult to establish cause and effect between HRECOS time series and climate change over the 10 years of this action agenda due to annual and decadal climate variability. However, the long-term data set HRECOS offers is invaluable and should be the focus of trend analysis. Similarly, R&HE 1.8(C), Algae blooms and plankton communities will be affected by a variety of factors beyond water temperature including nutrient loading. You definitely want to keep track of regional research on this topic but it might not be an action agenda item that the Trust can take on. **(Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay)**

Response: Comment noted. While data from HRECOS helps inform both the scientific community and the general public about real-time hydrological and metrological conditions, this data set alone does not provide answers to how climate change is affecting the Hudson River. While the Trust is committed to maintaining the existing HRECOS stations at Pier 25 and Pier 84, other research will be needed in partnership with university and other partners, both locally and regionally. For example, in Fall 2021, the Trust is supporting a USGS project to study algae and harmful algal blooms (HABs)

through direct sample collection, analysis of HRECOS water chemistry data, fluorometric sensors and remote sensing.

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Comment 30: Monitoring the effectiveness of habitat restoration post-construction is really important, not just for the Trust, but for the larger national and international audience of researchers and practitioners. I'm really pleased to see this emphasized in R&HE 3.1. **(Brett Branco, CUNY Brooklyn, Science and Resilience Institute at Jamaica Bay)**

Response: *Comment noted. As detailed in the R&HE management area, monitoring is an important element of the adaptive management model that is planned as the Trust works to enhance habitat within the Sanctuary.*

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Comment 31: We applaud the Park for broadly expanding methods to introduce oysters with various partners into the Sanctuary. We believe that the re-establishment of oyster reefs, mussel beds, and salt marshes are likely the greatest biological enhancements that can be made to the Park at this time. Three dimensionality and niche space are foundational ecosystem structuring and the implementation of the oyster reefs, mussel beds, and salt marshes are some of the most effective ways to enhance estuarine habitat. Riverkeeper is pleased to see the actual implementation of these projects coming to fruition. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: *Comment noted. The Trust agrees that the incorporation of live animals including oysters and mussels into habitat enhancement projects and the creation of varied shorelines where possible has great potential to increase species diversity. The Trust will continue to advance planning for the expansion of such efforts through the adaptive management approach detailed in the ESMP. The Trust will also continue to use the expertise of its TAC members including but not limited to Riverkeeper to plan such projects.*

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Comment 32: With regard to oyster wraps. What material is utilized in the creation of the mesh? If it is marine grade plastic (polypropylene), going forward we suggest the use of sturdy natural twines for the netting to reduce microplastic pollution as the nets degrade. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: *Comment noted. The Trust secured regulatory approvals for oyster wraps at the Pier 32 pile field in 2017, prior to current discussions about bio-based enhancement measures. At that time, regulatory agencies were concerned about the wraps' longevity and wanted to ensure that oyster poaching would not occur. The selected marine grade plastic aquaculture bags satisfied the agencies' concerns, and the installed project demonstrated low biofouling, oyster growth and material rigor over the three-year project term. The current permits for Pier 32 thus specify the continuation of marine grade plastic for the 10 wraps. To the extent the Trust considers additional oyster wraps at other locations, staff would have an interest in exploring whether any bio-based materials would be approved by regulatory agencies and meet other requirements.*

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Comment 33: The Trust is proceeding to wrap the wooden piles for oyster establishment. What results have been observed? Is there any data to support the idea that the wraps are better for oysters or any other marine organisms than the pilings being left alone? **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comment noted. The Trust has posted the results of the oyster wrap monitoring project on its website:

https://hudsonriverpark.org/app/uploads/2020/07/oyster_report_final_final.pdf.

The results show that oysters in the Pier 32 pile field grew and thrived over the three-year research term. Separately, the Trust also commissioned an epibenthic survey that surveyed multiple pier locations, including Pier 32, with respect to prevalence of encrusting organisms. The selected pier locations were distributed throughout the Park's footprint and included piles constructed of different materials: wood, concrete and steel. All piers, including Pier 32, showed similar diversity of organisms, with Pier 84 having the highest concentration of oysters. That study is available here:

https://hudsonriverpark.org/app/uploads/2020/07/Fitzgerald_2020_HRP_Piles_Colonizing_Organisms_Report.pdf.

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Comment 34: Because the pile field has been shown to have habitat value in this area, the addition of oyster wraps seems unnecessary and a disturbance; it would be more useful to deploy these where habitat is truly sparse, such as on steel-sheathed piles elsewhere. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comment noted. The oyster wrap project in Pier 32 built off of previous data collected by the Trust and The River Project, Inc. While the Trust acknowledges that the existing pile fields already provide habitat value, the oyster wraps enhanced and increased habitat diversity of the Pier 32 pile field. Nevertheless, the Trust is also seeking to expand habitat enhancement in areas beyond pile fields including the river bottom and on piles beneath other piers.

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Comment 35: Based on the on-going monitoring of fish populations/abundance/diversity/health in the nearshore areas, how does 2020-2021 compare with previous years? Has the year-round monitoring of fish populations and benthic sampling methods been considered to assess the seasonal usage of the Sanctuary? **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comment noted. The 33-year-old fish ecology survey started by The River Project, Inc. is a unique dataset for the Lower Hudson River Estuary in that it captures fish abundance and diversity over a long temporal period and with relatively high resolution of multiple sampling days per week. This survey already occurs year-round. Preliminary analyses of the relative abundance of the most commonly occurring fish species, including data collected in 2020 and 2021, show a significant drop in evenness after the early 2000s, with some species such as oyster toadfish (*O. tau*) and tautogs (*T. onitis*) seemingly expanding in abundance to fill in gaps left by a decline in cunner (*T. adspersus*), tomcod (*M. tomcod*), and other smaller, more environmentally sensitive

species. The Trust hopes to expand the data collection to include other year-round sampling, beyond the fish survey, as funding and staff safety both allow.

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Comment 36: With regard to the Tribeca Habitat Enhancement project, have platforms been implemented in an effort to reduce the subsidence of oyster castles and gabions and test the results with those without platforms. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comment noted. Design of the Tribeca Habitat Enhancement project included a baseline hydrographic survey profiling the river's floor between Pier 34 and Pier 26 and revealed the presence of hard substrate (i.e., wood and concrete) remnants from previous piers in this embayment, creating shallower channels extending from the bulkhead to near the United States Pierhead Line in some cases. In consultation with the Research & Habitat Enhancement TAC Subcommittee, the Trust advanced a design that included placing habitat enhancement features in both soft bottom and hard bottom areas. Thus, no marine platforms were planned for this area. The Trust has committed to monitor the performance of the structures in both locations and will review and share results with the TAC and others.

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Comment 37: Why do some pilings promote greater oyster growth? Assuming random chance without evidence is not valid. Further research needs to be conducted to understand why certain piling promote greater oyster growth. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: Comment noted. The Trust agrees that more research is needed to better understand the variables influencing greater oyster growth and health within the Sanctuary. The Trust commissioned a survey in 2019 to compare presence and health of oysters at representative pier locations in the Park. This study was then expanded in 2020 to inform baseline monitoring for the Tribeca Habitat Enhancement project. More information is available here:
https://hudsonriverpark.org/app/uploads/2020/07/Fitzgerald_2020_HRP_Piles_Colonizing_Organisms_Report.pdf and <https://hudsonriverpark.org/app/uploads/2021/07/HRPT-Addendum-Final-Report-March-2021.pdf>.

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Comment 38: The R&HE management area of the Action Agenda includes a project to construct habitat in inter-pier areas in a phased and adaptive manner for the purpose of studying and promoting spawning, nursery areas and refuge for cover-seeking fishes. So far, the only inter-pier area chosen for habitat enhancements is the area between Piers 26 and 34 which includes the embayment that is used by The Downtown Boathouse. This unnecessarily created a conflict between people and oysters. **(Graeme Birchall, Downtown Boathouse)**

Response: Comment noted. As Commenter points out, the Tribeca Habitat Enhancement project outlined in the Research & Restoration Management area involves installing marine wildlife habitat structures such as reef balls and gabions on the river bottom in the area between Piers 26 and 34. This area was chosen because the 2002 ESMP identified this area as a "reserve" – an area "primarily devoted to marine habitat preservation, enhancement, education, and research [that] encompass ecological piers,

pile fields, and extended areas of marine benthic habitat.” This zone was established as a reserve because the original River Project was once located on Pier 26 along with the Downtown Boathouse. Because of these two uses, the Park’s various planning documents have long called for this area to support both non-motorized boating and environmental activities. For this reason, the reserve designation continues in the currently proposed ESMP Draft Plan. The Trust staff has presented the Tribeca Habitat Enhancement project publicly in several meetings, and has discussed the Commenter’s safety concerns with Trust staff, NYSDEC staff, and members of the TAC. While the Trust does not believe that the in-water ecological structures will create a conflict with the non-motorized boating activities in this area, the Trust has installed buoys at the shallowest nearshore location where kayaking occurs in consultation with the Downtown Boathouse. The Trust has committed to work with non-motorized boating communities during project planning in the future as the Action Agenda calls for additional environmental enhancements within the Sanctuary as well as non-motorized boating.

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Comment 39: It is clear that one of the major hindrances to estuary recovery is the impact of the CSOs. I appreciate that the Trust has considered the CSOs in the Action Agenda and will engage with NYCDEP to prioritize and implement CSO long-term control plans. I recognize that the Trust cannot mitigate the impact of the CSOs on its own, and appreciate that the park will continue to advocate for being a priority location for trialing CSO mitigation. **(State Senator Brad Hoylman)**

Comment 40: While it is understood that the network of CSOs and sewage treatment plants throughout New York City predate the Park, and the Trust does not control that infrastructure, the environmental community has long recognized sewage loading is one of the most pressing issues that needs to be addressed if New York City expects cleaner waters and healthy aquatic ecosystems...We appreciate that the Park Trust has considered in its Action Agenda the impact of large volumes of CSOs and MS4s... We recognize that the Park Trust cannot solve these problems on its own, and yet we appreciate the useful measures that can be taken now short of constructing large capture tanks. These measures include the installation of floatable controls, as proposed by the Park Trust, and developing green infrastructure in and around the park. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Response: *Comments 39 and 40 noted. The Trust agrees that contamination from CSOs is one of the most pressing issues to address as New York continues its progress toward achieving cleaner waters. While New York City and others have invested heavily in measures to improve water quality, eliminating CSO pollution is one of the costliest and most difficult issues to address in the Harbor. Within the Park’s boundaries there are 32 CSOs that contribute untreated sewage into the Hudson River during certain wet weather events. These CSOs are part of a much larger network of CSOs throughout New York City. As the Commenters point out, the Trust does not control this infrastructure, yet will continue to advocate for measures that contribute to solutions. As indicated in the Draft Plan, the Trust will continue to develop monitoring projects to track pathogens within the Sanctuary, leverage community scientists and partner with governmental agencies to mitigate CSO and municipal separate storm sewer system (MS4) impacts, and advocate for the Sanctuary to be a priority location for trialing solutions that can mitigate CSO’s harmful effects.*

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Public Access & Resource Management (PA & RM) Management Area

Comment 41: I encourage the Trust to build off of the Marine Debris survey to understand where waste gathers in the park and design solutions to effectively gather the waste at those locations and remove it from the estuary. One such place that floating debris regularly gathers waste is the bow notch between Piers 45 and 46. **(State Senator Brad Hoylman)**

***Response:** Comment noted. The Trust appreciates the Commenter's acknowledgement of the Park's efforts to collect and track marine debris, especially plastic debris. While the Trust has long been aware of locations where such marine debris collects throughout the Sanctuary, recovering such materials is challenging, because of tide cycles, access and disposal issues, the weight of some materials, and safety considerations. In years past, the Trust attempted to collect the floating debris waste that gathers at the bow notch between Piers 45 and 46 with long handled nets (pool skimmers) but stopped this activity because of safety concerns. More recently, staff has investigated robotic technologies to determine whether they could be deployed in certain Sanctuary locations. The Trust will continue to pursue such solutions.*

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Comment 42: As the Park noted pharmaceutical waste as a cause for concern in the estuary, I encourage the Park to hold pharmaceutical collection events or set up a permanent pharmaceutical collection in coordination with the NYC Department of Sanitation. **(State Senator Brad Hoylman)**

***Response:** Comment noted. The Trust agrees that one of the concerning aspects of CSO discharges is the deposit of pharmaceutical waste into the waterways. Educating the public about the dangers of dumping pharmaceuticals down the drain and creating opportunities for expired and unused pharmaceuticals to be safely discarded are strategies for reducing the concentrations of these toxins in local waterways. The Trust will work with the Department of Sanitation to explore this recommendation further.*

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Comment 43: I believe that designing for estuary protection and revitalization must be intertwined with using the estuary and the park to build coastal resilience and prevent flooding in the neighboring communities. I encourage the Trust to build resilience and flood protection into all future planning. I believe that this can also be woven into some of the existing proposals such as proposing resiliency features from studying impact of flooding, habitat enhancements that focus on resilience, and including a focus on coastal flood protection in the piloting of techniques to enhance ecosystem services of the Hudson River Park Historic Bulkhead. **(State Senator Brad Hoylman)**

Comment 44: The Trust should aid in the advocacy of a resiliency infrastructure plan, which is increasingly crucial each year that extreme weather events intensify and become more frequent. **(Manhattan Community Board 1)**

***Response:** Comments 47 and 48 noted. Given the Park's location in and within the floodplain, as well as the realities of climate change, the Trust takes seriously its responsibilities related to building for improved coastal resiliency. After Superstorm*

Sandy in 2012, the Trust participated in planning at the federal, state, and local levels related to exploring how inland communities could be better protected during future storms. Original plans that once addressed neighboring Westside communities like the “Big U” were eventually narrowed in scope and scale, with other areas of the City prioritized for first phases of planning and construction. Meanwhile, the Trust undertook its own measures within the Park to elevate critical electrical and mechanical infrastructure where feasible. As new Park areas are planned, such as the current Gansevoort Peninsula project and the new building at Pier 97, landscape and structure heights are being elevated where feasible as well.

Plans from other governmental agencies may ultimately necessitate use of Park property, waters or areas adjacent to the Park to protect inland communities, and the Trust will work with such agencies to support such planning. To the extent that there is a decision by other governmental entities that altering or eliminating some existing park uses to build berms or other features that serve a purpose broader than the Park, the Trust understands that such tradeoffs may be required.

Finally, with regard to incorporating natural ecological elements, like living breakwaters, into the Sanctuary, the Trust will follow the lead of agencies with the knowledge to determine whether and where such projects could have a measurable impact on reducing flooding to inland communities along the Manhattan’s Westside. The Trust will continue to monitor emerging science and technology as it evolves, and will also continue to examine such measures separately for their potential to support habitat goals.

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Comment 45: Just as the estuary and park can be a barrier to prevent flooding to the neighboring communities, the park can also serve as a tool to prevent harmful runoff from the city to the estuary. The Trust should examine opportunities for runoff management in new development and landscaping design. **(State Senator Brad Hoylman)**

Response: *Comment noted. The Trust agrees that it can and should help reduce storm water runoff from entering Sanctuary waters, such as through the continued replacement of paved, impervious surfaces with pervious surfaces and through planting trees.*

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Comment 46: Beyond reducing the sale of single-use plastics, what other sustainability initiatives have been implemented? **(Dan Shapley and Paul Gallay, Riverkeeper)**

Comment 47: HRPT should establish targets to achieve zero emissions or better in the park. **(Richard Corman, The River Project)**

Response: *Comments 46 and 47 noted. Over the past five years, the Trust has implemented multiple initiatives related to sustainability. In 2017, the Park began its Community Compost Program to divert horticultural waste from landfills and lower the Park’s carbon footprint. The Trust now manages 10 locations throughout the Park footprint where the public can drop off food scraps. The community has strongly embraced this program, with food scrap contributions continuing to grow and the Trust*

now diverting over 400,000 pounds of organic waste annually. As the Commenter notes, the Trust also operates the Park Over Plastic initiative.

To reduce energy consumption, the Trust has been converting metal halide light fixtures to be able to accommodate energy efficient LED bulbs. Solar lights are now being deployed in certain locations as well. The Trust's vehicle fleet is 70% electric, and the Trust is looking for ways to continue increasing electric vehicle use. To conserve water use, the Trust updated its irrigation system, utilizes low-flow equipment in public restrooms and recently installed an energy-efficient premium boiler system at Pier 40. In 2019, the Trust conducted a comprehensive energy audit with New York Power Authority (NYPA). NYPA reviewed each building and facility that the Trust operates and provided a list of recommendations of upgrades for each building to improve overall energy and water consumption and efficiency. The Trust has already made improvements in response to this audit and is planning to make additional advancements to improve overall energy and water consumption and efficiency throughout the Park over the next several years. Old infrastructure, such as that at Pier 40, will be more challenging and costly to convert absent a more comprehensive redevelopment, though as noted above improvements, such as the recently installed new boiler at Pier 40, will be implemented as feasible.

New park buildings being constructed at the Gansevoort Peninsula, Chelsea Waterside Park and Pier 97 have all been designed to meet NYC's Energy Conservation Code. The new Chelsea Waterside comfort station and Pier 97 park building will both have solar panels and the Gansevoort Peninsula will feature a green roof in addition to achieving higher standards for water usage and thermal transmission. Designs for new park areas also focus on reusing existing materials where possible. At Chelsea Waterside Park, the comfort station exterior cladding will consist of repurposed stone from existing granite located on-site, making use of material that would have otherwise been discarded. At Gansevoort, existing rocks and old bulkhead stone is also being salvaged for onsite reuse. Lights on the sports field at Chelsea Waterside will be converted to LED lights over the next year as well.

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Comment 48: In PA&RM 2. 2(C) regarding waterborne transportation opportunities, the Trust should also be mindful of the animal and other ecological impacts. **(Richard Corman, The River Project)**

Response: Comment noted. PA&RM 2.2(C) has been updated and now reads: "Work with New York City and other partners to provide waterborne transportation opportunities such as water taxis and ferries at appropriate pier locations within the Park while educating such agencies and partners to be mindful of safety, estuary wildlife and ecology and infrastructure concerns as expansion of such services is planned."

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Comment 49: The Trust says it's using Integrated Pest Management (IPM) for horticulture management, is there any feedback on how that is working, and what if any pesticides are still being used (and possibly running off into the river)? **(Dan Shapley and Paul Gallay, Riverkeeper)**

Comment 50: I understand that the Trust is mostly using Integrated Pest Management (IPM). How far along are these efforts and what, if any, pesticides are still being used? If pesticides that have potentially harmful estuarine impacts are still being used, I encourage the Trust to include a phasing out of these pesticides over the next few years. If it has not already been done, I would encourage the park to undergo an assessment of the products used for plant and insect management to understand the potential impacts of the runoff on the estuary. **(State Senator Brad Hoylman)**

***Response:** Comments 49 and 50 noted. The Park has used Integrated Pest Management (IPM) techniques to control pests and weeds found within the Park since inception. IPM is a pest control strategy that uses biological and physical procedures to remove pests to minimize risks to health and the environment. With the IPM approach, chemical treatments are not used on a predetermined schedule and rather are only implemented when thorough monitoring has indicated that a pest will cause significant damage and when all other control methods have failed. The Trust's Senior Director of Horticulture is the only member of staff authorized to determine instances when pesticide treatments are necessary and in such cases, establishes operating protocols for environmental and health safety. To minimize potential for runoff into the river, only localized, spot treatment application is permitted. Instead of chemicals, frequent soil testing is performed to ascertain, on a localized basis, where and when changes to the soil might be needed. In cases where changes to the soil are needed, only organic materials, primarily from the Trust's own extensive composting program, are used. Stormwater management measures incorporated into the pier design also minimize the potential for discharge of nutrients into the Hudson River. In the rare instances when pesticides have been necessary to protect other plant life, products are selected after review against NYSDEC's product list.*

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Comment 51: I appreciate that the majority of plants and trees in the Park are classified as native to the region, but would encourage the Trust to set a goal for the 2021-2030 management plan to have all plants be native. **(State Senator Brad Hoylman)**

***Response:** Comment noted. The 2002 ESMP specifically promoted using native plants for landscaping and to attract wildlife, and the vast majority of plants and trees found throughout the Park are classified as native to this region. The Trust is unlikely to remove mature, healthy trees solely to replant them with native trees, but to the extent there is plant die-off, the Trust would look to replace any non-native trees with native trees in the future.*

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Comment 52: Manhattan Community District 1 (CD1) south of Canal Street is surrounded by water on three sides, but there are very few opportunities for residents and visitors to actually engage with the water. CD1 urges that HRPT continue towards ensuring a harmonious balance between conservation and recreation. **(Manhattan Community Board 1)**

***Response:** Comment noted. Since the Park's conception, creating direct access to the Sanctuary has been a key priority. The Trust has already constructed four permanent, non-motorized boathouses, the highest density in a New York City Park, and there is currently also a fifth non-motorized boathouse at Pier 40. Within Community Board 1,*

aside from the Pier 26 boathouse and its dock, there is also a mooring field, Pier 25 town dock for touch and go boating, multiple berths for historic vessels and a new dock for environmental education activities at Pier 26. Other park areas also provide direct access to the Sanctuary for small boaters: the Pier 40 mooring field, Pier 66A mooring field, Pier 66 non-motorized boathouse and floating dock, Pier 66 mooring field, Pier 84 non-motorized boathouse and floating dock, and Pier 96 non-motorized boathouse and floating dock. The Trust's commitment to supporting water-based recreation and access to the river continues with the construction of Gansevoort Peninsula, which will include a ramp designed for non-motorized vessels to access to the River. Through programming, the Trust also creates many other ways for visitors and schoolchildren to engage with the River and will continue to prioritize providing such access.

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Comment 53: The definition of "Water Play" which exists in the 2002 ESMP and refers to the areas in the park that prioritize human-powered boating. This definition has been modified in the 2021 ESMP draft and it should be changed back. The 2021 definition removes reference to clean water act goals, adds working to allow motorized boating, Further the definition itself should be changed from "Water Play" to "Recreation zone" **(Graeme Birchall, Downtown Boathouse)**

Comment 54: There is concern that an allowance for motorized boating may conflict with the non-motorized water play areas at and around Pier 26; and further that not enough water play access has been designated. We urge HRPT to limit motorized boating for uses like the support of swim operations, and to encourage or increase the amount of recreational [non-]motorized boating **(Manhattan Community Board 1)**

Response: Comments 57 and 58 noted. The Trust has modified the definition of Water Play as suggested by the Commenters and has renamed this zone as suggested to Water Recreation.

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Comment 55: Most of the water in Hudson River Park is clean enough for swimming most of the time, yet the Trust has no plan to enable swimming by building a waterfront that enables people to go swimming. Nor has the Trust analyzed the demand for affordable swimming by local residents. The ESMP should provide details on how Hudson River Park will comply with the goals of the Clean Water Act as they relate to enabling people to actually go swimming - preferably in large numbers, and also for free. **(Graeme Birchall, Downtown Boathouse)**

Response: Comment noted. Other governmental agencies monitor water quality and determine where public swimming may occur. As noted by the Commenter, water quality in New York City's Hudson River has not been deemed safe for this use except during certain controlled events. For this reason, the Trust has not devoted resources to researching interest in swimming in local waters. When water quality health improves sufficiently, the Trust will study whether swimming zones can be established in the Park, and if so, what design modifications would be needed to safely allow this activity. Nevertheless, acknowledging that future demand for in-water recreation will likely continue to increase in the coming years, the Trust has proposed a new project in PA&RM 4.2 (D) to review and inventory access points to the Sanctuary to determine opportunities for increasing capacity and safety of water recreation activities.

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Comment 56: The Draft Plan has a lot of good points but I feel that there are two key problems with it. One problem is that the plan does not a plan for additional recreational use in the Park on the water and the second is that there is no proposed beach. The Plan does not calculate for the growth of recreational uses in the Park over time based on the Park's proximity to the over 8 million people that reside in NYC plus tourists. **(Graeme Birchall, Downtown Boathouse)**

Response: *Comment noted. The Trust has been working to complete the original Park vision established by the Hudson River Park Act, and, as noted in the response to Comment 56 above, has already built many facilities that have enabled the growth of recreational use of the water. Current projects, such as the Gansevoort Peninsula, will increase such opportunities. The Trust acknowledges that the type of beach being built at Gansevoort is not the type of beach desired by the Commenter. Nevertheless, planning for Gansevoort, as with other park areas, involved a number of public meetings and many members of the public do support the type of beach that was approved at that location as evidenced from public feedback during the design process.*

While the Trust agrees with the Commenter that interest in recreational use of New York City's waters will continue to grow, Hudson River Park – like all locations – must balance unique engineering and other conditions. Aside from the historic bulkhead that runs along the Park's length, regulatory restrictions govern the amount of fill that may be installed within a regulated water body such as the Hudson River. The Trust must further design for resiliency. Further, the Act contemplates a wide range of recreational uses beyond in-water recreation, and the Park plans that were developed endeavor to balance such uses.

Notwithstanding the above, the Trust does continue to consider new ideas and opportunities to increase recreational use within the Sanctuary. As an example, staff worked closely to support planning for Plus Pool; while that independent project ultimately elected to pursue a different location if it is approved, it is referenced as an example of the Trust's continued interest in advancing the Sanctuary's potential for direct recreational use. Furthermore, we agree with Commenter, that demand for in-water recreation will seemingly continue to increase in the future, as such, we have added project PA&RM 4.2(D) to inventory and review all the access points to the Sanctuary to see how we can increase capacity and safety of water recreation activities.

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Comment 57: Why are you proposing rezoning of area between Pier 94 and Pier 97 on water use map? The south side of Pier 97 was previously promised not be used for motorized vessels and now proposal has historic vessel on south side. **(Mike Petite, Manhattan Community Boathouse)**

Response: *Comment noted. Plans for Hudson River Park that were approved in the 1990s and early 2000s included historic vessels at Pier 97, a water taxi landing at Pier 97, as well as non-motorized boating at Pier 96. Had the Trust had sufficient funding to construct Pier 97 at the same time as it did Pier 96, both uses would currently co-exist. Thus, there is no change to the originally approved plans. With that said, as with other Park locations, the Trust recognizes the need for operating parameters to address safety and other concerns once Pier 97 is constructed.*

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Other Comments

Comment 58: In general, we appreciate the Trust’s recognition of the pioneering work of Cathy Drew and The River Project and in particular the inclusion of her long standing vision of creating an estuarium as a singular flagship of estuary exploration. We are hopeful that this particular part of the plan can move forward expeditiously. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Comment 59: What is the status of the Estuarium – building, interior and exterior spaces, facilities in place/planned? **(Dan Shapley and Paul Gallay, Riverkeeper)**

***Response:** Comments 58 and 59 noted. As described in the Progress Report section of the Draft Plan, in 2020, the Trust’s Environment and Education department adopted the River Project name and expanded its scientific and educational programming as part of the Trust’s commitment to continue the pioneering work of Cathy Drew and the original River Project.*

The Estuarium has been a planned component for the Tribeca section since park planning began in the 1990s. For many years, the Trust endeavored to find an academic, science or cultural partner to operate the facility. With the continued growth of its River Project staff, the Trust now expects to operate the facility directly, though it will continue to invite partnerships for programming and research.

The Trust has endeavored to secure the funding for this important Park component from both public and private sources for many years. To date, the Trust has identified \$14.6 million out of the total estimated cost of \$30 million for the facility. The Trust will continue to prioritize seeking funding for this important aspect of the overall Park.

In 2020, using a grant secured from NYSDEC, the Trust hired expert firm Cambridge Seven to undertake further study of the technical aspects of the future associated with the aquaria exhibits for live fish. Cambridge Seven and its team worked closely with Trust staff including former River Project staff now employed at the Trust to determine spatial requirements and operational needs of aquaria tanks and systems to inform continued planning. The work included developing preliminary tank and species lists, exhibit themes and stories, and sizing tank life support systems and other building components on a conceptual basis.

While the Trust still does not have sufficient funding to begin construction of the Estuarium, staff expects to issue a Request for Proposals for a design team for the building in early 2022. The team will use the information from the Cambridge Seven study to inform the design. Staff hopes that having design will facilitate additional fundraising. Staff will also work with New York State on the possibility of securing funds if the proposed NY State Restore Mother Nature Bond Act proceeds.

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Comment 60: Daylighting underneath the piers is a subject that should be explored. We believe that introducing natural light under the piers would benefit marine life in the sanctuary. Has

the Park explored the possibility of glass construction materials or open areas for use on the piers? **(Dan Shapley and Paul Gallay, Riverkeeper)**

***Response:** Comment noted. In addition to being a regulatory agency, NYSDEC is a member of the Trust's Board of Directors, and members of NYSDEC's staff have been working with the Trust and its design team to plan aspects of the built park, including reconstruction of public piers. At this time, the originally planned park piers have been reconstructed, and removing existing decking and substructure to introduce "skylights" would be a major engineering and cost challenge. Moreover, because most of the Park's piers are narrow, typically ranging from 100 to 130 feet wide, and also relatively close to the water surface because they need to meet the elevation of the Park's historic bulkhead, NYSDEC's staff did not historically believe that daylighting beneath piers would have an appreciable benefit, particularly given some accessibility issues related to certain of these solutions – for example, glass can get very slippery and grates can pose tripping hazards. Daylighting was introduced as part of the design of Pier 55/Little Island, however.*

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Comment 61: Is the Trust doing anything to offset the ecological disturbance of the Pier 55 installation at that location? Such as wrapping the new concrete piles with oyster mesh? What sustainability measures were incorporated in the construction of the pier? **(Dan Shapley and Paul Gallay, Riverkeeper)**

***Response:** Comment noted. The Environmental Assessment for Pier 55 examined in detail the potential for the then proposed Pier 55 project to affect nature and wildlife and found no significant adverse impacts to natural resources. While not required for mitigation, the Trust is currently constructing a salt marsh and a variety of submerged habitat enhancing features in close proximity to Pier 55 on the north side of Gansevoort and the Trust expects to enrich habitat diversity as a result. Future projects in this or other areas of the Sanctuary would be considered as described in the Action Agenda.*

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Comment 62: Funding allocated for the Estuarine Sanctuary needs to be spent on new and unique habitat enhancement projects and the attendant research. The invitation to Riverkeeper to join the TAC in May 2018 described \$30.7 million in planned funding for estuary-related improvements, including \$11.7 million in new spending for shoreline habitat restoration, creation of oyster habitat and other underwater habitat improvements to the Park's pilings and bulkheads, and also threw the state's support behind a bold proposal by the Hudson River Foundation to implement \$134 million in additional restoration and research projects in the Park Sanctuary in future years. State officials have told us that adoption of the Draft Plan now under review will be a key milestone in providing for the full funding of the projects proposed by the Hudson River Foundation and those like them in the Draft Plan. Now that the Draft Plan is on the verge of completion, we are counting on the swift and full implementation of the Plan's restoration and research projects consistent with the comments we've offered above in a written testimony and the previously referenced commitment to carry out such projects made by the state of New York in May of 2018. **(Dan Shapley and Paul Gallay, Riverkeeper)**

Comment 63: During the public hearing commenters referred to \$134 Million in restoration and research projects for the Park Sanctuary. Why were these Commenters referring to this amount as it is not specifically referenced in the Draft Plan? **(William Benesh, Community Board 2)**

Response: *Comments 62 and 63 noted. The Commenters are referring to correspondence directly between Riverkeeper and the Office of former Governor Andrew Cuomo in 2018 which references \$30.7 million in capital spending for specific estuary-related improvements planned for the Gansevoort Peninsula, Pier 26, Estuarium and oyster and other habitat restoration. In addition, the correspondence also refers to a 2017 proposal developed by the Hudson River Foundation (HRF) to support discussions between then Governor Cuomo's office, Riverkeeper and various parties involved in discussions at the time related to disputes regarding Pier 55, now called Little island. The letter from the Governor's office to Riverkeeper "propose[s] to formalize the incorporation of HRF's recommendations ... into the ESMP update process through the TAC" and ultimately into the final ESMP. HRF's proposal estimated the cost of the suite of recommendations for research and restoration projects at approximately \$134 million with the costliest proposals being for green infrastructure improvements associated with nine CSOs discharging into priority areas within and beyond the boundaries of Hudson River Park and moving CSO discharge pipes from the bulkhead to pierhead line.*

While the Trust was not a participant in any of these discussions, staff subsequently worked with its TAC to review each of the projects recommended in the HRF proposal, and the Draft Action Agenda includes projects in all of the recommended areas. With respect to the identified capital projects totaling \$30.7 million in the Riverkeeper letter, as of August 2021, all but the Estuarium are either completed (Pier 26 Ecological Pier, now called the "Tide Deck") or are funded and under construction. As identified in the Action Agenda of the Draft Plan, the Trust does not yet have sufficient funding for the Estuarium, but it does have plans to commence a design process for the Estuarium later this fiscal year. The Trust will continue to seek funds to ensure completion of this important project including potentially through the proposed Environmental Bond Act if that passes.

With respect to the research projects proposed in the HRF proposal, all of the research goals have been incorporated into the Action Agenda of the Draft Plan, but as discussed with the TAC, the Draft Plan often describes alternative ways/ projects to pursue the same research goals that could cost more or less than the preliminary estimates provided by HRF in its matrix. To achieve all ESMP goals and projects, the Trust will need additional financial and institutional support from the State, City, the research community, other agencies and many other partners.

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Comment 64: In the Progress Report Funding Section of the Draft Plan, it states that the Trust included cost estimates for restoration and enhancement projects and for other capital construction projects associated directly with the Sanctuary in the Action Agenda where feasible and that the Trust makes such information public on an annual basis as part of its financial statements. We appreciate the Trust's commitment to create preliminary budgets for restoration and enhancement projects pursuant to the planning strategy outlined in the Draft Plan and ask that cost estimates for additional restoration and enhancement activities continue to be detailed in the Trust's annual statements going forward. We appreciate the Trust's commitment to work with its partners to seek funding for such initiatives, including working with the Trust Board and

elected officials to secure capital funding for such project. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Response: Comment noted. As noted by the Commenter, the Trust has committed to continue to work with its TAC and others to develop additional proposals for restoring habitat through an adaptive management approach informed by science, as outlined in the Draft Plan. The Trust will provide preliminary budgets for such proposals in the Trust's annual Financing Plan and, as noted, will work with the Trust Board, elected officials and others to advocate for such funding.

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Comment 65: To the Education Action Agenda and other areas as appropriate, I believe the Trust should develop annual achievement targets and report and evaluate success. **(Richard Corman, The River Project)**

Response: Comment noted. The Action Agenda includes a commitment that Trust staff will implement an annual review of progress towards defined goals and actions for the overall ESMP Action Agenda in conjunction with both the TAC and Trust Board of Directors. This annual review will also include identifying Action Agenda priorities and funding targets and opportunities for accomplishing Action Agenda goals for the coming year. In addition, evaluation and monitoring are built-in components of many individual Action Agenda goals and actions. For example, EE 1.5 includes projects to regularly evaluate Park program content and impact and ensure programming metrics are publicly accessible through the Park's website.

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Comment 66: In the Background section of the Draft Plan there is a sentence that reads: "The Hudson River Estuary is often considered to be one of the most significant estuarine habitats in the United States and as such was designated by NYS Department of State as a Significant Coastal Fish and Wildlife Habitat." From this sentence consider removing the phrase "often considered" and add that it is also recognized under the National Estuary Program. **(Robert Pirani, Hudson River Foundation, NY-NJ Harbor & Estuary Program)**

Response: Comment noted. This change has been incorporated.

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