



PARK
OVER PLASTIC
HUDSON RIVER PK

Park Over Plastic®

Findings from an Initiative to Reduce Plastic Use in Hudson River Park

January 8, 2021

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Knology

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Cover Photo A visitor uses a Hudson River Park water bottle refill station.
Credit: Max Guliani of Hudson River Park.

OPENING LETTER

Hudson River Park is a 550-acre, park extending four-miles from just north of Chambers Street to 59th Street along Manhattan's West side. Its lawns, playgrounds, boathouses, gardens, sports fields and other attractions and amenities have made it one of the most heavily visited open spaces in New York City, attracting over 20 million visits annually.

Hudson River Park's environmental mission is unique among New York City's parks. Within the Park is a 400-acre legislatively-designated Estuarine Sanctuary, a natural resource of national importance and the backbone for the Park's robust science and education programs which reach over 25,000 people annually. The ecological abundance it supports (including more than 70 species of fish) forms the backbone of a robust environmental education program offering both structured classes and interactive, educational experiences for general park patrons.

The Estuarine Sanctuary also galvanizes the Park's commitment to protect and restore the Hudson River. The Park's work on the Hudson River Estuary over the past twenty years has revealed a clear and difficult growing challenge that, while global in scale, also creates daily harmful impacts on local water quality and wildlife: **plastic pollution**.

As managers, educators, scientists and stewards of the Estuarine Sanctuary, Hudson River Park has made a Park- and agency-wide commitment to meet this challenge:

- Volunteers at marine debris shoreline cleanups have removed over 29,000 plastic pieces since 2015, data that contributes to NOAA's Marine Debris Program.
- Since 2016, the Park has also conducted the longest running Hudson River microplastic research project in partnership with CUNY Brooklyn College to help increase scientific understanding about the prevalence of microplastics with the Estuarine Sanctuary.
- The Park's plastic pollution curriculum, community science projects and public enrichment programs invite New Yorkers of all ages to consider their relationship with plastic, learn how to reduce plastic consumption, and find alternatives, especially to single-use plastics.

In 2019, Hudson River Park launched "Park Over Plastic®," to further elevate this mission to combat plastic pollution. Park Over Plastic is a park-wide initiative focused on motivating Park staff, tenants and community members to reduce the use of single-use plastic in the Park through phased plastic reductions, complemented by strategic messaging, education and research. With meaningful progress achieved in its first two years, the Park now hopes to expand Park Over Plastic through growing partnerships and community involvement.

Evaluation and shareable data are key pillars of the initiative, both to assess success and to document progress. The Park was fortunate to work with Knology throughout this process, and staff is grateful to their team for sharing their expertise in program assessment.

Collective action is needed to meet the scale of our plastic problem in New York City and beyond.

Hudson River Park hopes that the Park Over Plastic story inspires other parks and organizations to create comprehensive and sustainable plastic reduction programs in their businesses and communities.

Sincerely,

Madelyn Wils

President & CEO

Hudson River Park Trust

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OVERVIEW

In 2019, Hudson River Park (henceforth, the Park) launched the Park Over Plastic® (POP) initiative. POP aims to educate Park staff, tenants and visitors about the impacts of plastics in the Hudson River Estuary and to reduce plastic consumption in the Park as part of a broader effort to support a healthy river ecosystem. POP uses a two-pronged strategy that focuses on: 1) Building an alliance of stakeholders in support of the initiative, and 2) Developing an evidence-based understanding of plastic use in the Park by stakeholders. Partnership and data collection efforts are integral to each other, and to the initiative's overarching goal of engaging a motivated community to change the culture of plastic use and fortify the Park's natural resources.

Situated on the western edge of four miles of Manhattan's Hudson River, the Park crosses a range of neighborhoods, offering multiple recreational and educational activities for local residents and city visitors. It also plays an important role in protecting the Park's 400-acres of Estuarine Sanctuary waters.

Hudson River Park is both a regional park and a local park. Within the four-mile expanse are many piers and park areas, each of which has a unique design. Geographic and programming diversity within the Park results, to a degree, in different user patterns and audiences at the various locations. For example, Pier 84 at West 44th Street is located between two of New York City's largest tourist attractions: The Intrepid Sea-Air-Space Museum and Circle Line. While the pier includes amenities that are widely used by nearby residents, this location also attracts many visitors from beyond New York City.

At the southern end of the Park, Pier 25 in Tribeca teems with opportunities for active recreation, including a destination playground, mini golf, beach volleyball and a sports court. This pier is enormously popular with local residents but is also in close proximity to corporate headquarters for Citi and Goldman Sachs and to the 9/11 Museum. Between these piers are Chelsea Waterside and 14th Street Park, two inland locations attracting nearby residents and workers primarily. Differences in audiences at the different park locations is one of several factors suggesting that site-specific approaches to messaging and outreach may be helpful as the Park continues to advance this initiative.

Careful attention to the specific needs of the Park's diverse constituents and providing multifaceted resources and services has and will continue to be important for the progress of POP's goals. Park staff, tenants and visitors all play a role in building a culture of sustainability within the Park community. And their contributions to POP initiatives are vital. This report describes the POP initiatives that have been undertaken to date and concludes with recommendations on additional actions that could be considered in the future.

A HISTORY OF ENVIRONMENTAL LEADERSHIP

Hudson River Park has a long history of implementing sustainability best practices, including composting and recycling strategies to reduce its carbon footprint. In 2020 alone, the Park composted nearly 400,000 lbs. of food scraps and horticultural waste. Through environmental education programs and activities, the Park also works to transform the way people think about the urban waters that surround New York City.

Scientists around the world are studying the environmental and health impacts of plastics. As committed stewards of the Sanctuary, the Park created two research projects to monitor the impacts that plastics have on our local waterways. The Park has been a leading voice in researching and educating the public about macroplastics (plastic debris larger than 1 inch) and microplastics (plastic pieces 5 millimeters or less). Marine debris cleanups and microplastic research provide meaningful opportunities for members of the public and local college students respectively to become stewards of our local waterways and participate in local estuarine research. This research has shown increasing synthetic plastic production and poor management of waste plastic in New York City. Plastics increasingly enter our local waterways through sewers during combined sewer overflow events and waste transport to often overburdened landfills.

Hudson River Park's River Project (<https://hudsonriverpark.org/the-park/parks-river-project/>) has taken a leading role in exploring the impact of plastics on the Hudson River Estuary. Since 2015, the Park has engaged in rigorous shoreline cleanups using the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program's protocol. Volunteers and Park staff have categorized over 29,000 pieces of plastic marine debris, collectively weighing over 2,300 pounds (<https://hudsonriverpark.org/the-park/parks-river-project/current-research/marine-plastics/>). These shoreline cleanups have advanced the Park's understanding of the impact of plastic pollution in the Hudson River Estuary and meaningfully include community members in local plastics science and stewardship.



Figure 1. Park staff and volunteers participating in a marine debris shoreline cleanup in the Hudson River Park (Max Guliani).

To continue assessing the impact and presence of plastics in the Hudson River Estuary, the Park also began a collaborative study in 2016 with Brooklyn College to research microplastic concentrations. The study described how the prevalence of microplastics in the Estuary indicates that larger plastics are not disposed of properly and degrade into microplastics due to sun and salt exposure. These plastics often end up in local waterways as a result of combined sewer overflow events triggered by rainfall.

The most common type of microplastic identified from 2016 - 2019 were fragments, likely broken down from larger plastics followed by pieces of foam. By monitoring annual fluctuations in microplastic concentration in the Hudson River Estuary, the Park tracks how natural and human impacts alter the conditions of the Estuary. According to the study, understanding how plastics end up in the waterways is crucial for an overarching understanding of the health of rivers. Full documentation of microplastics in the Estuary and the associated research can be found on the Park's website (<https://hudsonriverpark.org/the-park/parks-river-project/current-research/microplastics/>).

THE BEGINNING OF PARK OVER PLASTIC®

With the data from the marine debris survey and microplastic research in hand, the Park identified the need for action to reduce its single-use plastic footprint. In 2019, the Park launched POP to achieve this goal. The POP team is comprised of the River Project, Operations, Facilities, Legal, Design and Construction, Marketing and Events, Real Estate and Property Management, Public Programs, Communications and the Park's Executive team.

The POP Team envisioned a comprehensive effort focused on strategies for reducing plastic consumption in the Park, and on educating Park visitors and tenants about the impacts of plastics.

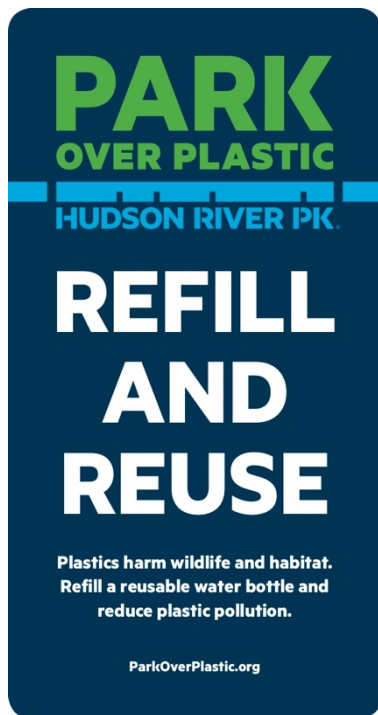


Figure 2. One of the signs for the POP initiative.

As an early step, the Park made internal changes that exemplified its own commitment to the cause. Specifically, the Park ceased nearly all purchasing and use of single-use plastics at its offices and operational areas. It also vetted suitable green alternatives for frequently used products, which were compiled in a free resource called the *Green Resource Guide*. The Park also provided staff members with reusable Hudson River Park branded metal water bottles.

The POP team also worked with various Park tenants, which are for-profit and non-profit businesses authorized to conduct certain business at specific Park locations through leases, permits or licenses. Starting in 2019, the Park began asking tenants to sign a Green Partnership Agreement voluntarily, which stipulated that the tenant or occupant will discontinue the distribution and sale of single-use plastic bottles, straws, stirrers and flatware and use green products instead. Plastic reduction commitments are now integrated into the Park's standard leases and permits. So far, 14 of the 26 tenants have signed the Green Partnership Agreement. The Park is

continuing to work with other tenants to help them sign on as Green Partners, and the Agreement is now part of all new leases, permits and licenses.

Park visitors use the Park's space for recreation, social interactions, education, environmental restoration, events and other activities. Many Park visitors have historically brought single-use plastics with them in the form of water bottles, take-out containers and plastic bags. The Park encourages visitors to reduce plastics consumption through direct communications about how plastics harm the Park environment and wildlife, and by investing in over 40 refillable water stations in lieu of traditional water fountains.

The Park used signs to prompt visitors to reduce plastic and recycle and ran digital campaigns on its website and social media channels that provided tips and guidelines for more sustainable living. The POP team has also created an educational curriculum on plastic pollution for school groups and hosts free public education programs on plastic pollution and reduction at programs like Big City Fishing, Open Field Lab and Ask A Scientist. The Park has modeled the behavior changes it wishes to convey to Park visitors by removing single-use plastics from all Park-hosted events and by providing event attendees and volunteers with reusable water bottles.

Beyond bottle filler stations, the Park has installed new recycling bins branded with informational signage about POP. Additionally, portable hydration stations were purchased and are placed in key areas and during Park-led volunteer events and cultural programming to promote the use of reusable water bottles. The Park has also served as a pilot site for a new product: canned still water. These more sustainable water cans have replaced single-use plastic water bottles in vending machines throughout the Park. As of 2020, all single-use plastic soda and water bottles have been removed from Park vending machines.

Evaluation and data collection have been central to POP efforts since the beginning. In 2019, the Park partnered with Knology, a social science research organization located in New York City, to study best practices for assessing how the initiative is building a community of mission-aligned allies while also monitoring plastic use at the Park. Knology is a collective of scientists, writers and educators that study complex social issues with an eye towards producing practical social science for a better world. Knology was well suited to support an initiative like POP because of some of its previous work with partners such as the New England Aquarium, National Network for Ocean and Climate Change Interpretation, Waterfront Alliance, The Nature Conservancy and the National Park Foundation. Knology researchers study the intersection between society and environmental issues such as climate change, community resilience, environmental workforce development and equity in the environmental sector.

The current evaluation project with Knology has two components. One component involved performing an audit of single-use plastic waste. The proposed deliverables were a series of research instruments and detailed data on plastic waste in the Park from 2019 – 2020. Park staff, with Knology’s support, collected and measured plastic waste at representative locations in the Park. For the second component, Knology and River Project staff developed a set of tools to assess Park staff, tenants and visitors’ attitudes, actions and motivations about POP, as well as their single-use plastic consumption.

“We love the park, we love our planet and we love working together as a community in our own little ecosphere within HRP to do the best we can for our neighbors as well as our globe.”– Park Tenant

When the project began, no one could have foreseen the impacts from the COVID-19 pandemic and how this would change the Park’s engagement with visitors and tenants. Various organized events, fitness activities and group sports leagues were postponed or cancelled in the Spring and Summer of 2020. Park staff re-imagined programs and conducted many planned

educational programs and public events virtually, to offer fun ways for New York City to learn, laugh and move from the safety of their homes.

The Park and its tenants worked doggedly to meet new and changing public health measures to stem the spread of COVID-19. In particular, restaurants and other destination activities were either required to close completely or experienced severe reductions in capacity and business in the interests of public safety. For months, outdoor and indoor dining were suspended at restaurants throughout New York City, including in the Park. As restaurants subsisted on take-out and delivery orders city wide, public use of plastics rose. Both dining options returned with capacity restrictions during different phases of New York City’s re-opening. Through the re-opening phases, restaurants in the Park have worked with Park staff to find alternatives to single-use plastics in take-out and delivery orders.

Though the pandemic has taken a toll, it has not diminished the Park’s commitment to reducing single-use plastics. As programs, events, sports, dining and recreation come back, the Park’s River Project team will continue to study fluctuations and concentrations of plastic debris in the Hudson River. Further engaging the Park community is a significant element in

the future success of POP. Specifically, tenants are invited to participate in an annual **working group** to share best practices and products while Park visitors will be able to participate in interactive education programs as virtual experiences to continue engagement and inspire River stewardship.

The balance of this report provides detail about the two Knology studies that explored how Park staff, tenants and visitors have engaged with the POP initiative and describes the positive program effects it has achieved so far. Knology has also recommended ways to engage various constituency groups in ensuring POP's expansion and success.

BUILDING AN ALLIANCE

The Park's River Project conducts research and offers hands-on environmental education and scientific programming focused on the ecological importance of the Park's 400-acre Estuarine Sanctuary. The POP initiative aims to protect the Estuary by drawing in different Park stakeholders to work collaboratively to reduce plastic waste in the Park. The list of stakeholders includes Park staff, tenants and visitors in all departments. These individuals are the Park's allies in the effort to build a culture of support around reducing plastic use.

Data from two studies highlight how the Park has engaged these stakeholders to date and recommends the next steps to support this initiative's growth. A baseline study indicated that Park staff, visitors and tenants overwhelmingly support the goals and aims of the POP initiative. Many tenants were already working to reduce plastic use in their businesses, and this initiative reinforces and expands on those efforts. Their experiences with efforts to reduce plastic waste, and the benefits to the Park shorelines and waterways are a useful resource for tenants who are newer to the process.

Park staff are the primary group of stakeholders who are critical to the success of the initiative. They are the ones with boots on the ground interacting with both tenants and visitors, managing Park waste streams and conducting the scientific research needed to assess the abundance and impacts of plastics. Even staff whose professional roles do not directly intersect with the work of the initiative have much to contribute. POP was envisioned as a Park-wide initiative by the Park's President & CEO, who was inspired by the research and education performed by the Park's River Project. With continued involvement from the Park's Executive team, the River Project has assumed day-to-day responsibility for coordinating and tracking POP, with support from other Park departments. A survey done with Park staff during the baseline phase in 2019 and a follow-up workshop in 2020 showed increased engagement from across the Park.

The 2020 workshop brought staff together from different departments to talk through their roles in the POP initiative. These conversations are important because building the alliance involves thinking through how different individuals and departments can use their skills, observations and available resources to support POP's work. As the initiative grows, it will be important to maintain open communication channels between departments to ensure the Park is fully availing itself of internal expertise across sectors. It may take some creativity to figure out how to manifest genuine and compelling opportunities for all the Park's departments to contribute. However, the enthusiasm of staff in general suggest they are open to participating in the process and are invested in the Park.

The second group of stakeholders are the visitors, who are important external partners who can directly improve the health of the Park through their behavior when visiting. Getting visitors to participate in the POP initiative relies, at least in part, on understanding what motivates people to behave in environmentally responsible ways. Data from this evaluation showed that primary motivations for reducing single-use plastic use in the Park include a desire to protect the environment, support the POP initiative and protect personal health.



Figure 3. Map of Hudson River Park.

alternatives. Furthermore, some tenants have contracts with third-party vendors that use single-use plastics that preclude them from signing on the POP initiative even though they support its goals.

Reaching Park visitors required a well-thought-out educational communication strategy. In 2020, the Park intended to test the effects of newly created POP signage on visitor behavior. The realities of the COVID-19 pandemic made it impossible to explore this in-person. The most feasible alternative was to share screenshots of in-Park messaging with the public through a survey designed to collect feedback on what aspects of the messaging were most compelling. The survey was shared through the Park's social media, website and during virtual events. Respondents said that the signs made them more aware of the Park's efforts and reminded visitors of the harm plastics cause to river ecosystems. Most people said that signs reinforced things they already knew about the importance of reducing plastic use.

The third group of stakeholders are Park tenants. Data collected from tenants as part of the 2019 study indicated that most support the Park's action to reduce single-use plastics. Many already had initiatives to reduce plastic waste as part of their businesses, and they saw POP as an opportunity to build on work that they were already doing. Several tenants suggested that the Park could support them by doing things like providing biodegradable trash bags, and more recycling bins throughout the Park. Many tenants mentioned a financial cost to replacing single-use plastics with more environmentally friendly

The COVID-19 pandemic affected tenants' businesses in 2020. However, responses to a survey sent out in the spring found that in spite of the challenges, Park tenants are still motivated to reduce plastic use. Several tenants have concrete plans to ensure that they use resources more sustainably, and they are continuing to seek out alternatives to single use plastics in their businesses.

Reducing single-use plastics is a community effort and stakeholder involvement in POP brings something unique to the alliance. An important task is to continue to empower these change agents – Park staff, visitors and tenants – to bring their knowledge, skills and expertise to mitigate the problem of single use plastics. Accomplishing this requires communication between Park departments, between Park staff and tenants and between Park staff, tenants and visitors. Continuing to build a strong community will ensure the success and sustainability of POP's mission.

GAINING AN UNDERSTANDING OF WASTE STREAMS

Part of the POP initiative was to understand the common waste streams in the Park and how to best help Park visitors recycle properly. The Park undertook a waste audit in 2019 and 2020. The audit included development of a waste audit tracking guide, protocols and procedures document and an inventory of the contents from multiple waste bins and recycling bins throughout the Park including levels of waste stream contamination in each bin. For landfill bags, contamination is considered mainstream recyclables, including single-use bottles and take-out food packaging, glass and metal cans. Not all types of plastics are considered recyclables in New York City. For example, plastic bags are not accepted in regular plastic stream recycling. To understand the full landscape of plastics, additional documentation captures other non-recyclable forms of plastic, such as single-use plastic straws, films from food wrappers and plastic bags.

In Summer of 2019, the Park conducted three days of waste collection. The first day was considered a pilot test run to ensure a shared understanding about the process of conducting the audit among participants. The subsequent two dates were considered full audits. These audits reviewed the content of Park bins in several key locations including staff bins, public access bins and tenant bins. Additional factors considered were time of year and whether any special events had occurred in the previous day that could affect bin composition.

In the full audits conducted in 2019, recycling bags at two locations returned over 50% of contaminants by weight – a contaminant was considered any non-recyclable, including non-recyclable plastics such as bags and straws. One such example was Pier 84, located off 42nd Street in midtown Manhattan. The Park found that non-recyclables made up 62% of the recycling bag. At Chelsea Waterside Park (CWP), non-recyclables made up 75% of the recycling bag that was audited. Overall, the average recycling bag audited had 32% contaminants by weight. Knology identified Pier 84 and Chelsea Waterside Park as priority locations for testing the effects of targeted signage aimed at decreasing waste stream contamination and/or for additional waste audits.

In Summer 2020, the Park conducted two days of waste collection. For the 2020 audits, the Park and Knology refined the data collection tool and developed a procedure guide that documents the tools and supplies for conducting a waste audit efficiently and safely. The procedure guide is intended for future training of volunteers and staff as the Park intends to continue conducting waste audits as part of POP.

The Park audited landfill bags and recycling bags in a range of locations similar to 2019. Unlike in 2019, landfill bags and recycling bags did not come from post-event locations, as events were suspended in the park due to the COVID-19 pandemic. Safety procedures, personal protective equipment and social distancing practices were followed to keep staff safe during the waste audit.



Figure 4. Hudson River Park's River Project staff identifying recycling number on plastic lids during a Waste Audit (Carrie Roble).

The waste audit from 2020 had only one landfill bag (Pier 25) with over 50% recyclables by weight, which indicates a relatively high propensity for Park visitors to utilize the proper recycling bin for plastic waste. This is not surprising because Pier 25 is located near residential neighborhoods and offers recreational amenities like playgrounds and ball fields that likely encourage regular use of the Park, and perhaps prompt Pier users to be most invested in the health of the Park. Pier 84 is located near attractions that invite high numbers of tourists who may not be as invested or are less familiar with local recycling practices.

Pier 84 and CWP continue to be areas where the Park can improve visitor understanding and capacity to recycle. In both cases, non-recyclables made up over 50% of the recycling bag's weight - (Pier 84 = 58%, CWP = 81%). The continued use of signage in these locations will help Park visitors understand the importance of separating landfill waste from recycling waste.

The Park's River Project staff and Knology had planned to coordinate visitor intercept surveys at waste audit locations during the 2020 study. Researchers would have been able to observe visitor behavior at those locations and target specific respondents for the surveys based on what they saw. Due to the COVID-19 pandemic this coordination was not ultimately considered as part of the study.

ENGAGING THE ALLIANCE

The Park evaluated how staff, tenants and visitors thought about and engaged with the POP initiative in both 2019 and 2020. These studies used evaluation tools jointly built by Knology and River Project staff to assess how these stakeholders use and dispose of plastic products, and how they believe they can support POP in meaningful ways that align with their needs and interests.

This section describes the early outcomes of the POP initiative from the perspective of allies based on data from both the 2019 and 2020 studies. It examines stakeholders' knowledge of POP, their understanding of the initiative's goals and ways that they could support it. We also document the initiative's progress in that time period. What is clear from both the 2019 and 2020 evaluations of the initiative is that each stakeholder group remains invested in plastic waste reduction plans and committed to being allies in efforts to protect the Hudson River Estuary. It will be important to equip each with the tools and resources to champion the initiative and accomplish its goals.

As noted elsewhere in this document, the COVID-19 pandemic upended many planned activities, left businesses struggling and restricted face-to-face interactions. As a result, the Park's engagement with stakeholders had to be revised. The research methods were also modified so that the evaluation could meaningfully capture stakeholders' perspectives in this new reality. For this reason, our story about the initiative describes the progress the Park has made on the POP initiative since May 2019.

PARK STAFF

Data from a 2019 survey of Park staff indicated that most were well aware of why the POP initiative was launched and the benefits to the Park's environment. They were aware of current efforts to educate the public, conduct research on plastic pollution and replace single-use plastics from vending machines. Staff also spoke about working with tenants and visitors towards reducing plastic consumption. Many staff also described personal actions that they take to reduce their individual plastic use.

Feedback from staff about the barriers to reducing plastic use at the Park focused largely on creating an enabling physical environment to carry out POP's goals. For example, in 2019, before the vending machine plastic products were substituted for aluminum, several staff brought up the Park's partnership with Coca-Cola noting that vending machines are a source of single-use plastics. Others suggested increasing the number of recycling bins throughout the Park to encourage staff, tenants and visitors to recycle, and purchasing items from companies that limit the plastic packaging used to ship their products. Staff also suggested ways that the Park could reduce plastic use in their shared office space including supplying reusable dishes and utensils in kitchen areas.

In 2020, evaluation prioritized understanding Park staff's continued relationship to POP. A virtual capacity-building workshop was held in May 2020, just before the first anniversary

of the POP initiative. The workshop was held in place of a follow-up survey that was cancelled due to the COVID-19 pandemic. It was intended to help the Park's River Project team identify staff needs and provide resources and tools to the different Park departments. The workshop used a method known as "SWOT" to facilitate inter- and intra-departmental conversations around POP. SWOT-based workshops use guided questions to understand a group's feelings about the Strengths (S), Weaknesses (W), Opportunities (O) and Threats (T) to a specific topic. This method captured reflections of staff from various departments, with differing levels of engagement with POP to date. To reflect the tone and focus of the responses during the exercise, we framed weaknesses and threats as concerns and resources.



Figure 5. Resulting themes from the SWOT exercise conducted in 2020 with HRPT staff.

The workshop showed that Park staff are motivated to support POP, but acknowledge that efforts in the pandemic required greater flexibility and responsiveness to changing conditions. They also recognized that many Park tenants are struggling and that their engagement with the initiative might look different from what was envisioned in 2019. Key takeaways from the workshop centered on greater communication between Park departments, refining POP-related messaging, education for staff, tenants and the public and identifying ways that staff could support POP through their existing job responsibilities. Park staff were also interested in building relationships with additional partners to support the initiative.

PARK TENANTS

Baseline data was collected from interviews with 10 Park tenants in 2019, six of whom had already signed on to the Park's Green Partnership Agreement. Most tenants support action to reduce single-use plastics, and several were already taking steps to reduce their plastic waste. For example, some tenants had begun trying to eliminate plastic water bottles by

offering alternative sources of drinking water to visitors before the POP initiative began. They are now building on work that they were already doing, alongside a collective of people who are committed to the health and wellbeing of the Hudson River Estuary. Furthermore, most tenants were motivated to take specific actions beyond their previously established environmental goals. For example, one tenant expanded their plastic reduction efforts beyond single-use water bottles to stop buying plastic utensils for events. Suggestions that tenants had for how the Park could support their efforts included providing biodegradable trash bags, as well as signs signaling their support for POP that they could post publicly. Some also suggested that the Park expand its sustainability efforts to focus on more than just plastic.

Almost all tenants mentioned a financial cost to replacing single-use plastics with more environmentally friendly alternatives, which are typically more expensive. But a few tenants noted that this could change as the demand for alternative products grows and more products are commercially available at favorable or competitive costs. Others were concerned about visitors being unprepared with reusable water bottles during their visits to the Park. Some have existing contracts with third-party vendors that use single-use plastics

“Currently, all of our utensils, receptacles and packaging are made from paper or plant-based materials rather than plastic. We use cans, bottles and boxes for beverages rather than plastic bottles. So, we feel good about what we have been doing! In 2020, we are hoping to find more vendors that also adhere to environmentally friendly solutions.”

– Park Tenant

that preclude them from signing on the POP initiative at this juncture even though they support its goals. Another tenant noted that their business is quite far from Park recycling areas.

New challenges arose in 2020, with the rise of the COVID-19 pandemic. A survey was deployed in the spring to capture how Park

tenants were thinking about the POP initiative as they adapted to “new normal”. The survey found that in spite of the challenges, Park tenants are still motivated to reduce their plastic use. In fact, several have concrete plans to make sure their businesses use resources more sustainably and to find alternatives to plastic. They also continued to highlight areas where the Park could support them including increasing the number of recycling bins. Tenants’ interest and role remained similar in Fall 2020. These conversations reinforced the need to think about new plastic reduction strategies for businesses particularly as the demand for take-out and food delivery has increased.

PARK VISITORS

The 2019 baseline study was conducted through an intercept survey with Park visitors. Park staff and volunteers, along with Knology staff, deployed over 240 surveys at events and popular locations, like lawns or pier entrances, throughout the Park. The surveys aimed to capture both “regular” Park users as well as tourists and people coming specifically for events and programs. The data from the surveys showed that most visitors to the Park already take actions in their personal lives to reduce plastic waste. While most were not necessarily aware of the Park’s initiative to reduce plastic use, they were interested in supporting POP once they heard about it.

Park visitors’ motivations to reduce plastic use were similar across the years, even though the 2020 survey was conducted virtually due to the COVID-19 pandemic. The Park will need to continue studying visitors in the future, to see how stable these motivations are over time. Respondents from both years were similar in terms of age, gender, race, ethnicity and proximity to the Park.

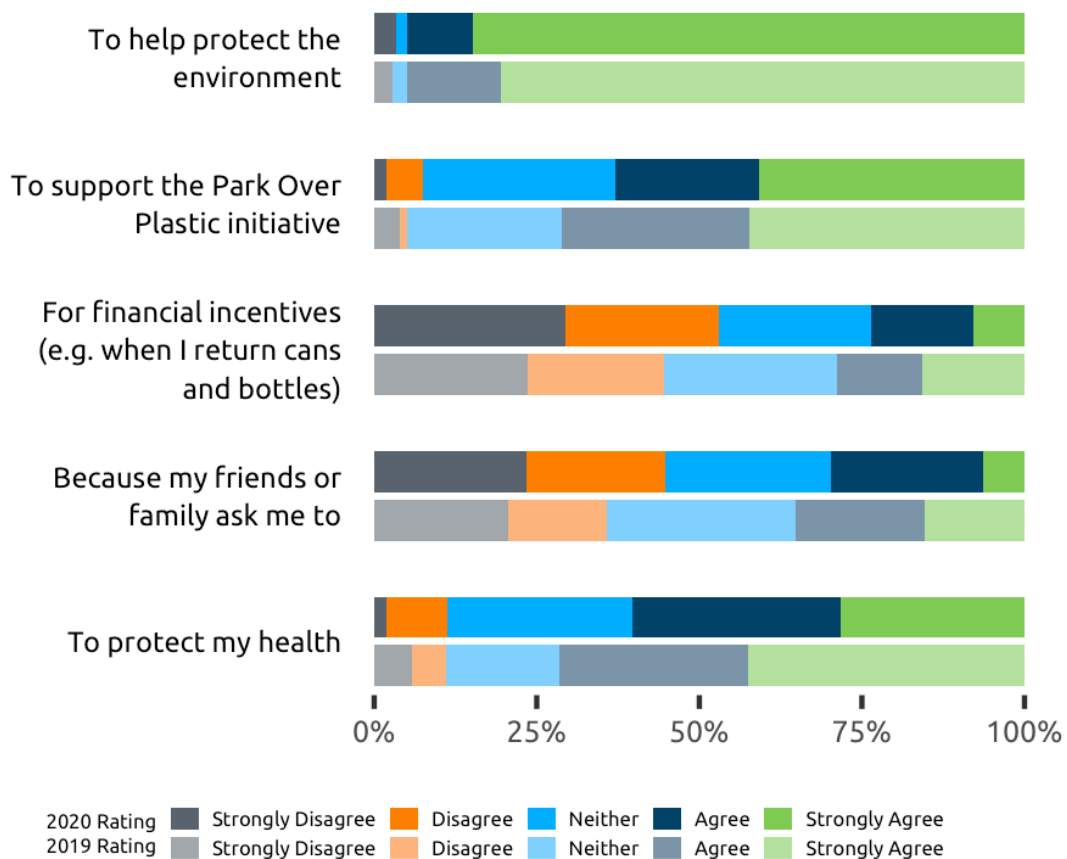


Figure 6. Results from the question: *In general, tell us about the reasons you choose to reduce your plastic use. Indicate your agreement or disagreement with the following statements.*

People who live near the Park and visit frequently, were more aware of POP because they had seen signs and online resources describing the initiative. They had some early ideas for

how to support the initiative including placing more recycling bins and water fountains throughout the Park. The baseline data also suggested that subgroups of visitors might have different motivations for supporting the initiative. Specifically, younger visitors - adults under 25 - are more influenced to take environmental action when nudged by family or friends. Older groups - adults 65 and older - are motivated by financial incentives. This was important information because it suggested that there may be opportunities to design different signage targeting subgroups of visitors

A follow up intercept survey approach would have been deployed in 2020, if it hadn't been for the COVID-19 pandemic. General health and safety regulations prohibited an intercept survey approach. Ultimately, it was adapted to an online format and disseminated through the Park's website, social media and virtual events.

Another goal for 2020 was to test different iterations of POP-related signs in the Park to see which aspects helped visitors engage with the initiative. Park visitors were asked to respond to screenshots of signs currently displayed in the Park as part of the online survey. Overall, visitors understood how the messaging related to the POP initiative and how the actions that the signs described would reduce plastic use.

The sign that appeared to resonate most with visitors emphasized an environmental motivation (concern about the negative impacts of plastic on the Hudson River Estuary). Respondents also suggested changes to the language and framing of some of the signs. They also suggested adding more information to some signs for example, including details about the benefits of reusable water bottles in a sign focused on drinking fountains. Respondents also suggested replacing plastic pet waste bags with paper bags, installing solar-powered water fountains and supporting the efforts of businesses in the Park to use fewer plastic products.

The results indicate that the survey respondents were a motivated group eager to learn more about reducing use of plastic and support the Park's efforts. However, given that the audience respondents were a self-selected group electing to respond to social media outreach and other attempts to get feedback, it is likely that the people who took the survey already have a vested interest in reducing plastic use. In other words, they were likely paying attention to the Park's social media accounts and noticed the repeated prompts. Despite the differences in survey format and recruitment, the demographics of the respondents were similar to previous years suggesting that the Park is drawing in similar visitors. The Park aims to do additional on-site testing with visitors in future to study how stable their motivations are over time, how they interact with new signs and to get a broader sampling of opinions from traditional intercept surveys.

NEXT STEPS FOR PARK OVER PLASTIC®

Based on the progress of the initiative across the two years, priorities for POP moving forward are as follows:

- 1. Establish internal mechanisms and structures to help staff support the initiative. This could happen through:**
 - 1.1. Developing greater communication channels between the Park's Executive team and departments to share information about the initiative
 - 1.2. Creating accountability by defining responsibilities for staff to advance POP goals and by setting organizational-level goals to track the progress on the project. Also providing progress updates on the project to help staff learn and grow.
 - 1.3. Borrowing ideas from other sustainability programs, such as the Community Compost Program at the Park, to complement and inform POP activities.
 - 1.4. Growing volunteer capacity to support the initiative across departments and projects.
 - 1.5. Building evaluation capacity among staff, for example, by creating an evaluation team that uses the instruments co-developed with Knology to continue learning from stakeholders, sharing the findings with a larger group of staff and leading collaborative interpretation of findings.
- 2. Continue to support the tenants' roles in the initiative by:**
 - 2.1. Holding regular meetings (as appropriate) with the tenant working group to have open discussions with Park staff about strategies to reduce plastic use. This is also a good way for the Park to learn more about new sustainability initiatives that tenants may be involved in.
 - 2.2. Keeping open lines of communication with tenants. Reinforcing the idea that this is a partnership will likely lead to longer-term buy-in and investment in proposed sustainability initiatives, even in difficult circumstances such the COVID-19 pandemic.
- 3. Develop additional messaging for testing at the Park:**
 - 3.1. Recommendations from the baseline study suggested that people have various reasons for reducing plastic use (e.g., social, financial reasons). A viable next step could be varying the language in Park signs to target different groups. For example, a sign stating that *"82% of Park visitors like you are committed to recycling plastic containers. Join the Hudson River Park to be part of this community"* could activate a social norm to reduce plastic use.
 - 3.2. Sites such as Chelsea Waterside Park are high volume areas with many recreational sports leagues. Signs in this area could focus on these users to raise awareness about POP and encourage them to adopt sustainable practices during their visit.

4. **Involve residents of the neighborhoods near the Park:** Local residents use the Park frequently and can contribute to conversations about recycling and potential locations for water fountains. They may also have other ideas for plastic reduction that staff have not been considered yet.
5. **Devise a communication strategy for talking about POP with new sponsors:** The Park has already worked to remove single-use plastic soda and water bottles from vending machines. It would be helpful to have a list of talking points for presenting POP to other current and new sponsors that explain the importance of reducing plastic use.
6. **Utilize the tools developed to continue tracking POP's progress:** this includes conducting waste audits of landfill and recycling bins around the Park on a semi-regular basis.
 - 6.1. **Waste Audit** – Conduct waste audits in key locations in the park, such as Pier 84 and Chelsea Waterside park. This could be done as an intensive, week-long audit of key locations where bags are collected daily. Another approach could be a monthly audit of landfill and recycling bins during peak season.
 - 6.2. **Visitor Intercept Survey** – The River Project can continue to conduct these surveys when new signs are installed. We suggest purposefully selecting the locations for the installation of signage, the intercept surveys and waste audits to create an experimental test to see if signage is working.
 - 6.3. **Tenant Interview Script** – The Interview script is designed to be semi-structured and used on a 6-month or yearly basis. As new tenants sign on to the Park's Green Partnership Agreement, we recommend frequent check-in interviews to gauge their support of the Initiative and to get their thoughts on any new activities and support that the Park provides.
 - 6.4. **Staff Workshop** – The SWOT exercise can be used annually to gauge how Park staff feel about the POP initiative. This will help the Park's River Project and Executive teams understand the strengths, weaknesses, opportunities and threats of the POP initiation as felt by Park staff organization-wide.

REFERENCES

Opfer, S., Arthur, C., & Lippiatt, S. (2012). NOAA Marine Debris Shoreline Survey Field Guide. United States Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service. Retrieved from <https://marinedebris.noaa.gov/sites/default/files/publications-files/ShorelineFieldGuide2012.pdf>



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