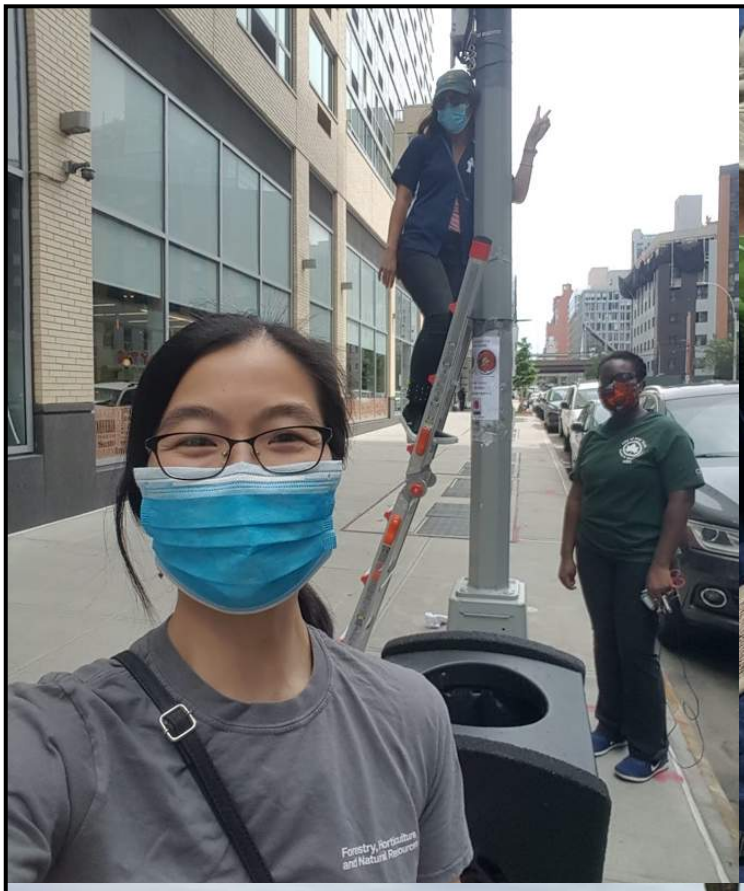

New York City Urban Field Station

2020 Annual Report

NYC Parks USDA Forest Service Natural Areas Conservancy

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Cover Photos

Top-right: Novem Auyeung, Erika Andujar, and Lauren Smalls-Mantey (left to right) downloading data from a weather station in Queens.
Image Credit: Novem Auyeung

Top-left: Fortifying fencing protection at the Rockaway Beach Endangered Species Nesting Area, a highly-used natural area, during COVID.
Image Credit: Carla Garcia

Bottom: Coastal tree planting at Pugsley Creek Park as part of a 5 acres tidal wetland and coastal adjacent area mitigation and restoration.
Image Credit: Kjirsten Alexander

The New York City Urban Field Station

The New York City Urban Field Station (NYC UFS) aims to improve the quality of life in urban areas by conducting, communicating, and supporting research about social-ecological systems and natural resource management. We are sustained through a core partnership between the NYC Department of Parks and Recreation (NYC Parks), the US Department of Agriculture Forest Service (USDA FS), and the non-profit Natural Areas Conservancy (NAC).

The NYC UFS is an important part of an evolving network of urban field stations across the country, including Philadelphia, Baltimore, Chicago, San Juan, Los Angeles, and Denver. Since its founding in 2006, the NYC UFS has actively created networks and collaboration with nonprofits, academic institutions, local stewards, the private sector, and government partners to support land management and sustainability initiatives in NYC.

Adapting in Crisis

The NYC UFS is both a network of relationships among scientists, land managers, practitioners, artists, community members, and designers, as well as a physical place to conduct research, facilitate discussions, and provide housing for visiting researchers. Although we began 2020 as any other year — providing workspace for staff and partners, hosting Brown Bag Seminars, and housing researchers — the NYC UFS facility closed in March with exception of essential staff.

As with the rest of the world, we adapted in the face of crisis and our work carried on: research plans pivoted to capture how parks and urban green spaces were being utilized and managed in new and unexpected ways; our partnerships and network of practitioners were as valuable as ever to share best practices for conducting safe fieldwork in the time of Covid-19; the Partnership, Opportunity, and Research Tracking (PORT) Database was created to consolidate all the people and programs we collaborate with; and we learned along with the rest of the world how to transition to a virtual setting for meetings, social engagements, and events. The summer brought on extra challenges from unprecedented park visitation rates and storm damage from Tropical Storm Isaias. Nonetheless, our resilient team of land managers, ecologists, social scientists, and science communicators continues to adapt and find new ways to work through challenging times - sometimes apart, but always together.

Snapshot of NYC UFS staff and partners from our November NYC UFS Meeting. Not pictured: Rich Hallett and Helen Forgione.
Image Credit: Caitlin Boas/ Zoom

Informing Best Practice

Monitoring Natural and Nature-Based Shorelines Features in New York State

This was the final year of the project led by the Science and Resilience Institute at Jamaica Bay (SRIJB) to develop a monitoring framework for shorelines features across New York State. A final report of the monitoring framework was released earlier this year and includes protocols for monitoring how shoreline projects meet ecological function, structural integrity, hazard mitigation, and socio-economic objectives; data from one year of pilot monitoring at 16 sites evenly distributed across four regions — NYC, Long Island, Hudson River, and Great Lakes; and lessons learned from developing and implementing the framework. A database containing the pilot monitoring data was also created, and a peer-reviewed manuscript documenting the process of creating the framework was submitted to Ecology & Society and is currently undergoing revisions. Although the funding for this phase of the project has concluded, several partners of this project (e.g., Harbor Estuary Program, NYS Department of State) have secured funding to continue implementing and refining the framework for use in other locations in New York State.

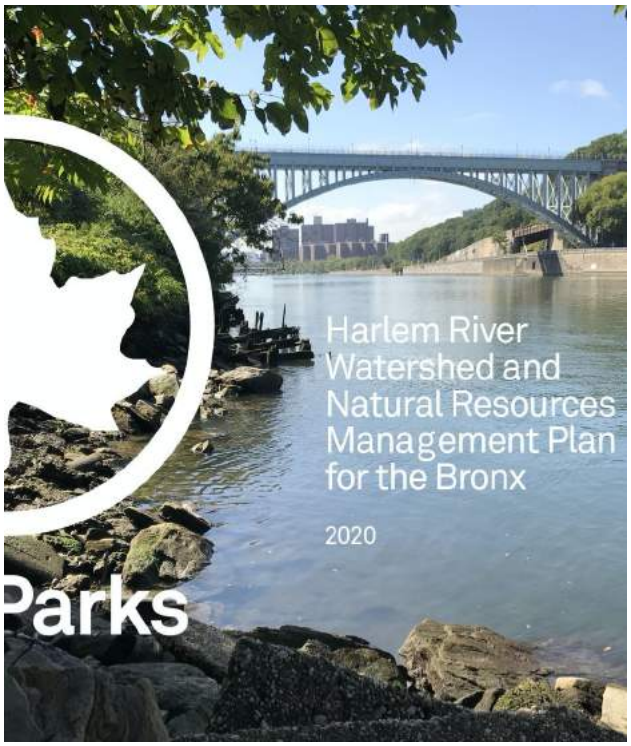
NYC UFS Core Partners: *NYC Parks, USDA FS*
External Partners: *SRIJB, Scape, New School, CUNY, ARCADIS, NYS Department of Environmental Conservation, NY/NJ Harbor Estuary Program, Consensus Building Institute, NY Sea Grant, NYS Department of State, NYS Energy Research and Development Authority*
Key personnel: *Novem Auyeung, Chris Haight, Marit Larson (NYC Parks); Erika Svendsen (USDA FS)*

A volunteer from Randall's Island Park Alliance at the restored salt marsh and rock sill of the Bronx Kill on Randall's Island - one of the sixteen pilot monitoring sites.
Image Credit: Chris Haight

Harlem River Watershed Plan

NYC Parks and partners finalized the Harlem River Watershed and Natural Resources Management Plan for the Bronx. The plan is intended to serve as a roadmap to achieve these goals: 1) restore and enhance natural resources, 2) manage stormwater, 3) improve waterfront access and connectivity, and 4) increase community engagement and education. Development of the plan involved a series of community meetings and consultation with members of the Watershed Advisory Committee, composed of 16 City, State, and Federal agencies and local NGOs, including the USDA FS. To address watershed goals, the Plan provides 14 broad strategies, 77 watershed-wide management recommendations, and 97 site-specific recommended actions. The final Plan was released at the annual Urban Waters Federal Partnership meeting in December 2020, with a Spanish-language version available in spring of 2021. One-pagers covering priority projects will also be published to facilitate further awareness and funding for the Plan's recommendations.

NYC UFS Core Partners: *NYC Parks*
External Partners: *Urban Waters Federal Partnership, Bronx Council for Environmental Quality, NY/NJ Harbor Estuary Program, NYS Dept of State*
Key personnel: *Katie Friedman, Sara Powell, Jamie Ong, Rebecca Swadek (NYC Parks)*



Cover of the Harlem River Watershed Plan, of the Harlem River looking south towards the High Bridge. Taken along the shoreline in the Bronx, south of Bridge Park.
Image Credit: Sara Powell

Habitat Connectivity Project

NYC Parks is studying how environmentally friendly features in road design can mitigate their negative impacts on salt marsh ecosystems. The reconstruction and raising of Travis Ave, which cuts through William T. Davis Wildlife Refuge in Staten Island, will include ecopassages for wildlife as well as additional culverts. Since 2019, NYC Parks has been studying hydrologic connectivity, road mortality, and the movement and population characteristics of diamondback terrapins and estuarine fishes, in order to compare conditions before and after the road raising to evaluate the benefits of these environmentally friendly features. We are also monitoring conditions at another saltmarsh site bisected by a road -- Idlewild Park, Queens. This information will be used to inform future road-raising projects in New York City marshland. In the two field seasons completed to date, we have captured 64 diamondback terrapins, 10 species of estuarine fish, and monitored tidal fluctuation in water levels for twelve months.

NYC UFS Core Partners: *NYC Parks*
External Partners: *Hudson River Foundation, NYS DEC*
Key personnel: *Georgina Cullman, Carla Garcia, Emily Stephan, Heather Platt, Ellery Vaughan (NYC Parks)*

A young diamondback terrapin at the William T. Davis Wildlife Refuge in Staten Island.
Image Credit: Georgina Cullman

Forest in Cities

The NAC's Forest in Cities program was created to promote and advance healthy forested natural areas in cities across the U.S. through science, management, partnerships, and communications. Overall, our Forest in Cities program is growing, and we have continued to work with the 12 city teams around next steps in three general categories: 1) nurturing and growing a national network of experts, 2) advancing urban forest science and practice, and 3) inform ways to support research and practices for urban forests. Articles communicating the importance and value of urban forested natural areas and the emerging Forest in Cities network have been published on several platforms including The Nature of Cities, Meeting of the Minds, and City Lab.

In 2020, Forest in Cities has released two major reports. In response to the COVID-19 pandemic, the program leveraged our 12 city network to document and release a report on the impacts of the COVID-19 crisis on visitation to urban natural areas and changes in the resources for management. Among our key findings, we found that there has been an increase in use of urban natural areas across the country despite an overall cut to budgets and resources. Also, this program advanced our understanding of the role urban natural areas play as a natural climate solution. In February 2020, we released a report on carbon accounting for NYC's natural areas. We found that the majority of carbon stored in New York City's trees are found in natural area forests, despite being just 25% of the total tree canopy.

NYC UFS Core Partners: *NYC Parks, NAC, USDA FS*
External Partners: *Yale University, American Forests, Cities4Forests*
Key personnel: *Clara Pregitzer, Sophie Plitt, Sarah Charlop-Powers, and Helen Forgione (NAC); Rich Hallett (USDA FS); Novem Auyeung, Kristy King, Marit Larson, Jennifer Greenfeld, and Nichole Henderson-Roy (NYC Parks)*

Planting trees during a pandemic from the Impacts of COVID-19 on America's Urban Natural Areas Report. McCormick Bird Sanctuary, Chicago, IL.
Image Credit: Chicago Park District

STEW-MAP: Across the Country

Although first established by NYC UFS researchers for New York City, the Stewardship Mapping and Assessment Project (STEW-MAP) has been and is currently being applied in a variety of settings — from rural to urban landscapes and from small to large communities. This year, we brought on a new staff member, Sophie Plitt, as National Partnerships Coordinator with the expressed goal of supporting applications of STEW-MAP across the country and have supported three major STEW-MAP undertakings in locations across the country:

1. **Bridger-Teton National Forest, Wyoming**
   The Bridger-Teton National Forest is located in Western Wyoming and comprises over 3.4 million acres of public land. The Bridger-Teton Planning team was exploring different methodologies for partnership tracking and came upon STEW-MAP and reached out to the NYC UFS team to build a partnership. In early 2020, the Bridger-Teton team sent out a preliminary internal survey to all forest staff to gather information on what partners each of these employees currently work with and who within the agency is responsible for maintaining these relationships. The first phase of the survey is a useful step in the process as it builds buy-in from staff for an external survey and also supplies data that will inform that sampling frame. Thanks to the success of the partnership survey, the Bridger-Teton team, with support from the Northern Research Station and the Washington Office, is now moving forward with a full STEW-MAP survey in December, 2020. Both the process and outcomes of this pilot effort are informing the development of guidelines and a web platform that will allow other National Forests or other federal, state, or mosaic landscapes to use STEW-MAP to increase capacity and improve outcomes for the public with which they engage and serve, for the benefit of current and future generations.

Community programming at Bridger-Teton National Forest.
Image Credit: Bridger-Teton Planning Team

2. **Springfield, Massachusetts**
   In 2017, the City of Springfield developed a Climate Action Resilience Plan which in turn spurred interest in better understanding the landscape of local environmental stewards. Springfield identified STEW-MAP as a tool that could both engage the local community and expand USDA FS research efforts in Springfield to compliment the Climate Action Plan. STEW-MAP Springfield Launched in Summer of 2020. The Springfield STEW-MAP team focused on creating a streamlined version of the data collection methodology that could be replicated with other STEW-MAP projects across the country and world. This includes testing new digital data collection tools such as ArcGIS' Survey123 application.

3. **Southern New England**
   The South East New England Program (SNEP) Network is a collaboration between universities, non-profit organizations and consultants whose mission is to empower communities to achieve healthy watersheds, sustainable financing, and long-term climate resilience through management of stormwater and restoration projects in Rhode Island and southeastern Massachusetts. Growing local interest in understanding among environmental social networks, along with a funding opportunity from SNEP catalyzed a partnership between RISD, Brown University, EPA's Atlantic Coastal Environmental Sciences Division through the ORISE fellowship program, and thirteen other members of the SNEP Network, led by the New England Environmental Finance Center at the University of Southern Maine to implement STEW-MAP in the Southern New England region. The Southern New England STEW-MAP launched their survey in Fall 2020 and will collect and analyze data through early 2021. This team is also building upon the work of STEW-MAP Springfield to refine online data collection methods such as ArcGIS Survey123, which could be adapted for future STEW-MAP efforts.

Beyond supporting these three new STEW-MAP ventures, we have also hosted quarterly webinars for all national and international STEW-MAP practitioners, presented and planned with several locations for potential future applications such as co-writing a grant for a STEW-MAP project along with Sustainable Jersey City. We are also working to further standardize methodology and tools so that they can be adapted for localized needs, including National Forests.

NYC UFS Core Partners: *USDA FS, NAC*
Key personnel: *Sophie Plitt (NAC); Erika Svendsen, Lindsay Campbell, and Michelle Johnson (USDA FS)*

SESYNC Changing Urban Woodlands

Starting in November 2018, the National Socio-Environmental Synthesis Center (SESYNC) Changing Urban Woodlands project is a multi-workshop project that has brought together experts in urban ecology, social science, forest ecology, and remote sensing with managers of urban forest patches for four metropolitan regions: Baltimore/DC, Chicago, New York City, and Philadelphia. The team has integrated multiple datasets describing biodiversity and ecological conditions of urban, suburban, and rural forest patches along multiple urban-to-rural gradients with social drivers of forest change, such as management and stewardship actions, land ownership patterns, socioeconomic demographics, housing values, and other urbanization metrics to identify the strength and direction of each driver in contributing to urban forest patch dynamics. Initially, we developed a conceptual model of social-ecological drivers of urban forest patch condition (Johnson et al. 2020). This year, the team has focused on two tracks of work: a case study approach unpacking urban forest patch governance structures and processes in the core cities of the study area (Morzillo et al. in review) and standardizing forest patch vegetation data to examine effects of urbanization and management on urban forest patch condition across the study area (analysis in progress). At the start of 2020, our team met in person for a workshop in Annapolis, Maryland and later in a virtual workshop during July 2020. Our virtual team science efforts have become a model for other SESYNC teams as they continue to work virtually. Going forward, we will finalize quantitative papers examining urban forest patch conditions across the urban-rural continuum, as well as develop a paper that summarizes our findings across papers and their implications for urban forest patch governance and management.

NYC UFS Core Partners: *NYC Parks, NAC, USDA FS*
External Partners: *SESYNC*
Key personnel: *Michelle Johnson and Lindsay Campbell (USDA FS); Kristy King (NYC Parks); Clara Pregitzer (NAC)*

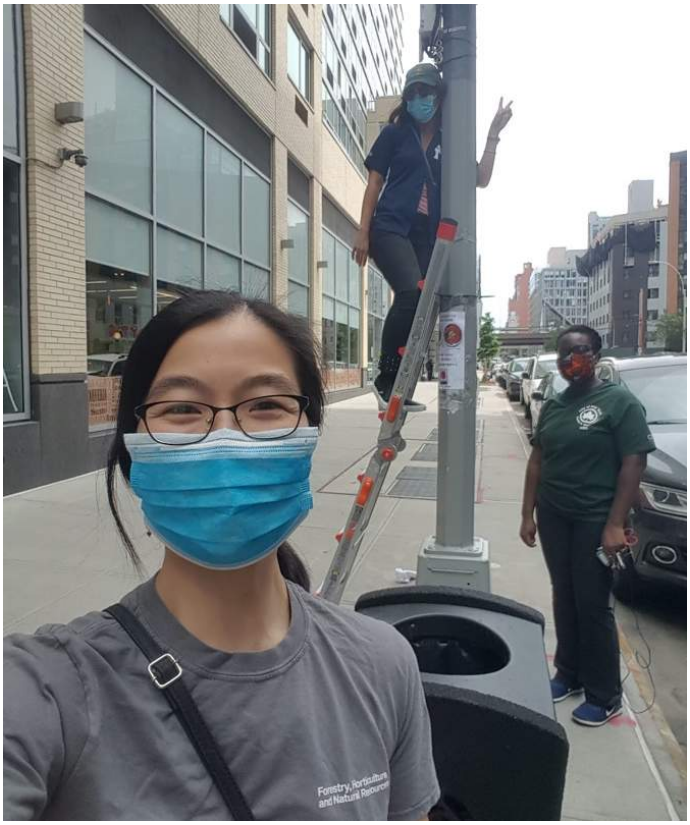
Changing Urban Woodlands Pursuit team at SESYNC workshop, January 2020 (not pictured: Vince D'Amico, Matt Baker, Ashley Bowers, Tedward Erker, Katie Lauter, Ted Martello, Stephanie Pincetl, Luke Rhodes).
Image Credit: Sabrina Purdy, SESYNC

Research and Analytics

Cool Neighborhoods NYC

Cool Neighborhoods NYC was launched in 2017 to address rising temperatures resulting from climate change. The initiative was created to advance heat adaptation and mitigation strategies, such as tree planting, in neighborhoods the Department of Health and Mental Hygiene (DOHMH) has designated as most exposed to heat-related health impacts or high Heat Vulnerability Index neighborhoods. In 2020, the project team did an internal presentation on the results of multiple research collaborations between DOHMH, NYC Parks, Mayor's Office of Resiliency (MOR), USDA FS, and NYC Housing Authority (NYCHA) using data collected from 2018-2019 from nearly 500 air temperature sensors that were installed on street trees and light poles, tree health data from 2015-2019, various remote sensing data products, and others. The project team found that tree canopy and shrub/grass cover were both strongly correlated with air temperatures, suggesting that lawn / gardens may have a role to play in mitigating urban heat island effects in addition to trees.

NYC UFS Core Partners: *NYC Parks*
External Partners: *NYC DOHMH*
Key personnel: *Lauren Smalls-Mantey (NYC DOHMH); Erika Andujar and Novem Auyeung (NYC Parks)*



From left: Novem Auyeung, Erika Andujar, and Lauren Smalls-Mantey downloading data from a weather station in Queens.
Image Credit: Novem Auyeung

NYCHA Tree Inventory and Social Assessment

This past fall, we partnered with the NYCHA to conduct a tree inventory and social assessment of green spaces for 18 campuses in high heat vulnerability neighborhoods: Brownsville/ East New York, East Harlem, and the South Bronx. NYCHA, in partnership with The Nature Conservancy (TNC), the USDA FS, and NYC Parks, worked together to pilot a green jobs training program for the Green City Force field staff to inventory trees and discover resident's attitudes towards trees. They collected inventory data using the Healthy Trees, Healthy Cities app. This work enables NYCHA to quantify ecological and social benefits of trees and green space. In addition, NYCHA will identify challenges, and on-the-ground management concerns related to its trees and open spaces. The Green City Force field staff (all current or former NYCHA residents) that inventoried over 3,000 trees for this project enjoyed learning about trees in the city and some are hoping to pursue more green jobs training in pursuit of possible environmental careers. The results from this effort will be included in NYCHA's forthcoming climate adaptation plan.

NYC UFS Core Partners: *USDA FS*
External Partners: *Siobhan Watson, Delma Palma, Vaidehi Mody, Asia-Mae Somboonlakana (NYCHA); Rachel Holmes (TNC); Green City Force*
Key personnel: *Rich Hallett, Lindsay Campbell, and Erika Svendsen (USDA FS)*

Understanding and strengthening environmental governance networks during the COVID-19 pandemic

In addition to the devastating impacts on human health and the global economy, COVID-19 is changing the way humans interact with open space and natural resources. Natural resource managers are having to adapt practices in real-time to our new and changing reality. As this crisis deepens and spreads, the impacts on how land managers and their partners steward natural resources will continue to unfold. Given this context, we pose the overarching research question: How resilient or adaptable are environmental groups and governance networks to the COVID-19 disturbance in their social-ecological stewardship? Building upon prior databases and interviews conducted via STEW-MAP network analyses, this study used interview-based methods to advance knowledge about environmental governance networks and social-ecological resilience, while also generating policy-relevant applied knowledge for public land managers and their partners across sectors. By documenting how organizations and their partners respond to this crisis, this study will build understanding of how learning and

adaptation can strengthen resilience to future disturbances. This work will build upon prior scholarship that has examined stewardship of nature in the wake of both acute and chronic disturbances — presses and pulses, including September 11th, hurricanes, floods, wildfires, and pest invasions (see, e.g. Campbell et al. 2019).

NYC UFS Core Partners: *USDA FS, NAC*
External Partners: *Rutgers University*
Key personnel: *Lindsay Campbell, Erika Svendsen, and Michelle Johnson (USDA FS); Sophie Plitt (NAC), Laura Landau (Rutgers University)*

Social assessments of the use and meaning of urban waterfronts: Coney Island Creek and Passaic River

Overall, 37% of the nearly 1,600 miles of waterfront in the NY-NJ Harbor Estuary are accessible to the public, but these parks and public spaces are not evenly distributed across the estuary. Improving public access and the quality of experience at existing public spaces in these areas is of great importance in order to reconnect communities to their open space resources.

In order to understand how community members use and value their local available open spaces, the HEP, Lower Passaic River Urban Waters Federal Partnership and USDA Forest Service partnered to create *Connecting Passaic to the River: Dundee Island Waterfront Park and Community Engagement Profile*. This social assessment study adapted previously existing protocols for a waterfront context. It was conducted with the City of Passaic, New Jersey, to better understand how higher-need waterfront communities use and value their closest available open space resources such as urban waterways. The study also identified the types of programs and public access opportunities that will best engage waterfront community members to the nearest and most accessible open space.

A second pilot study of the use, value, and meaning of Coney Island Creek was led by Anne Toomey of Pace University in collaboration with USDA FS. The research illustrates the wide array of activities that people engage in along this waterway. Findings suggest that in spite of the creek's reputation as being one of the most polluted water bodies in the city, many local users of the creek do not share the perception that the water is dirty. This raises interesting questions with regard to how polluted urban waterways are perceived by local communities, especially if these water bodies support activities that they deem important to their well-being. This research was presented as a white paper, a NYC UFS Science of the Living City Virtual Brown Bag, and a manuscript is currently under review for publication.

Drawing upon both of these pilots, the project team is developing toolkits to share methods, protocols, and best practices with a goal of supporting future community-led research on urban waterfront use, value, and meaning.

NYC UFS Core Partners: *USDA FS*
External Partners: *Anne Toomey (Pace University); Elizabeth Balladers and Rob Pirani (NY/NJ HEP); field researchers Lindsey Strehlau and Olivia LeWarn*
Key personnel: *Lindsay Campbell, Erika Svendsen, and Michelle Johnson (USDA FS)*

Dundee Island Park Zone, showing diverse areas to zone including open field, soccer field, pathway, and river shoreline.
Image Credit: Lindsey Strehlau-Howay and Olivia LeWarn

Flood Watch Social Impacts Research

The Community Flood Watch (Flood Watch) Social Impacts projects, comprised of MOR, SRIJB, NYSG and social science researchers at the USDA FS, was formed to understand the scope of physical, social, and economic impacts of tidal flooding on the communities and delivery of city services in high-flood-risk neighborhoods. This pilot research developed and tested a methodology for gathering qualitative accounts of the impacts of tidal flooding and the ways in which communities have adapted to living with water, while gaining insights into the experiences of participants in two select communities (Hamilton Beach/ Howard Beach and the Eastern Rockaways, both in Queens) to inform further program development in other coastal New York City communities. Participants were asked to describe and map the locations within their community where they had personally observed flooding events. The interview transcripts contain rich details about the timing, sequence, intensity, and impacts of these flooding observations, reflecting the importance of gathering qualitative data about the lived experience of flooding.

This study represents a first step in the creation of a baseline dataset to track current conditions in the City's lowest-lying neighborhoods and measure future changes due to sea level rise. The project team has created a briefing paper, companion slide deck, and is preparing a manuscript for submission to a peer-reviewed, open-access journal to share insights and lessons learned more widely. The project team is also collaborating on a number of proposals to continue to build upon this pilot research as part of Flood Watch and its expansion to additional neighborhoods.

NYC UFS Core Partners: *USDA FS*
External Partners: *NYC Mayor's Office of Resilience, NY Sea Grant, SRIJB*
Key personnel: *Lindsay Campbell and Erika Svendsen (USDA FS); Dana Kochnower (MOR); Kathy Bunting-Howarth (NY Sea Grant)*

Beach 84th Street in Rockaway, Queens, NY 11693 (top image) and First Street in Hamilton Beach, Queens, NY 11414 (bottom image).
Image Credit: Community Flood Watch Project NYSG and SRIJB

Consensus Building and Engagement

Nature Goals

Nature Goals made a few significant changes and advances this past year. NAC, which had been administrating and fund-raising for the initiative, shifted roles and is now an active partner in the coalition. A Leadership Team was formed of nine organizational representatives, including NAC, USDA FS, and NYC Parks. The Leadership Team is responsible for planning and overseeing quarterly plenary meetings, discussing and advancing initiatives, and communicating with the coalition. The formation of the team represents an anticipated goal of Nature Goals as the coalition was intended to be led collectively. Nature Goals also formed a NYC Nature Summit Team, composed of 10 organizational representatives, to plan, fundraise, oversee, and execute a summit to celebrate NYC nature and to advance the coalition's goals and targets.

NYC UFS Core Partners: *NAC*
External Partners: *Nature Goals Coalition*
Key personnel: *Bram Gunther (NAC)*

NYC Urban Forest Task Force

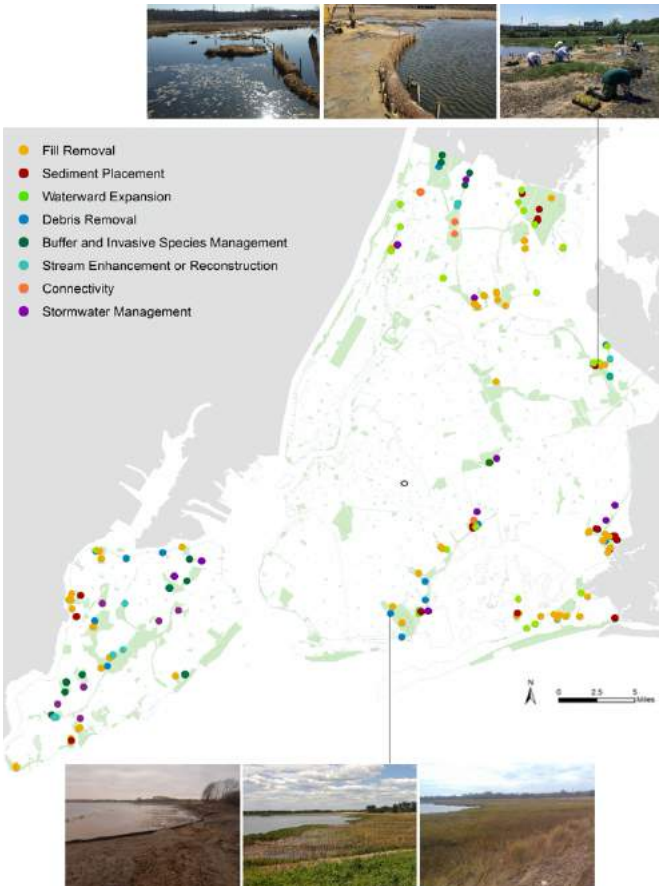
The NYC Urban Forest Task Force was established by The Nature Conservancy in 2019 with the goal of developing an Urban Forest Agenda that includes specific recommendations for how to improve and enhance New York City's urban forest through: planning, stewardship and policy; local action by the public; and increased investments in trees across public and private lands. The task force is composed of participants representing 50 organizations, which include all three core partners of NYC UFS, who participated in one of four major work groups: 1) building an urban forest movement; 2) research, monitoring, and evaluation; 3) funding/ investments, advocacy & policy; and 4) tree management through its life cycles. NYC UFS staff also provided feedback and technical advice on the State of the NY Forest report, to be released in 2021.

NYC UFS Core Partners: *NYC Parks, NAC, USDA FS*
External Partners: *The Nature Conservancy*
Key personnel: *Sarah Charlop-Powers (NAC); Rich Hallett, Lindsay Campbell, and Erika Svendsen (USDA FS); Novem Auyeung (NYC Parks); Lauren Smalls-Mantey (NYC DOHMH)*

Wetlands Management Framework Workshops & Public Meetings

NYC Parks and the NAC finalized a Wetlands Management Framework (WMF) for NYC, a 30-year roadmap for the preservation, restoration, and management of all wetlands and streams in the city with particular focus on those under the care of NYC Parks. This framework outlines steps that will protect and improve the health of wetlands and streams, create new wetlands and allow space for wetlands to migrate, fund wetland management and protection, and expand public access and engagement. To achieve these goals, the WMF calls for increased investment in wetlands restoration and management as well as funding for land acquisition for conservation. The framework identifies a variety of actions and dozens of potential projects that would increase the footprint of wetlands in NYC and bring 7,000 acres of wetlands and surrounding area into active management.

NYC UFS Core Partners: *NYC Parks, NAC*
Key personnel: *Rebecca Swadek, Marit Larson, Georgina Cullman, Kristy King, Jennifer Greenfeld, Jamie Ong, and Caitlin Boas (NYC Parks); Sarah Charlop-Powers (NAC)*



Examples of Potential Restoration Opportunities on Parkland.
Image Credit: NYC Parks, Natural Areas Conservancy

CUNY Queens College, Department of Urban Studies: Service-Learning Internship

Emily Liang, who graduated from Queen's College in May 2020, completed a one semester service-learning internship with the NYC UFS during the spring semester. Emily's culminating project was the creation of a StoryMap that details an ecological, cultural and geographical history of NYC. The map provides background context for participants in the USDA FS' International Seminar on Urban Forestry and Community Engagement and other visitors to the NYC UFS. In addition to that primary project, Emily also provided support to collect and analyze local government ordinances that can affect trees and urban forest patches in 4 metropolitan areas: her role was to collect and systematically log and store these local ordinances. She also assisted on a citywide plant database that will inform protection, conservation and restoration within NYC Parks and outside partners.

NYC UFS Core Partners: *USDA FS, NYC Parks*
External Partners: *CUNY Queens College-*
Key Personnel: *Jennifer Smith and Michelle Johnson (USDA FS); Brady Simmons (NYC Parks)*

CUNY Research Scholars Program

Ashley Mercado, from the CUNY Research Scholars Program (CRSP) at Queensborough Community College, analyzed urban bird populations through eBird, an online database of bird observations providing scientists, researchers, and civic scientists with real-time data about bird distribution and abundance. CRSP provides qualified students with a stipend and research mentor to develop a research project in a yearlong fellowship. There were many changes to the program this year with virtual learning in place. She worked remotely with guidance from NYC Parks to develop eBird datasets for each park with occurrences, species lists for parks that have over 200 observations, gap analysis which highlights parks that do not appear on eBird platform, and an annotated bibliography that explains the uses and limitations of working with eBird data. All CRSP students voted from all the pre-recorded presentations, and out of the 200 prepared, Ashley was one of the 10 selected to present live at the virtual CRSP symposium on December 4th.

NYC UFS Core Partners: *NYC Parks*
External Partners: *Joan Petersen (Queensborough Community College)*
Key personnel: *Brady Simmons (NYC Parks)*

NAC's CUNY Internship Program

For the 2020 summer program, NAC hired twelve talented CUNY interns and successfully pivoted to providing a virtual internship experience while the COVID-19 pandemic prevented in-person field work. The students completed over 30 reports characterizing the historical, current, and predictive ecological profile of approximately 40 acres of past planted sites and developed a first-ever prioritization framework for directing management efforts to those sites. The interns and NAC staff also partnered with the USDA FS to conduct over 60 social assessment interviews in five natural area parks to document changes in use and perception of parks during COVID-19. The students also conducted literature reviews for STEW-MAP and the Forest in Cities network. Two of the interns, Carolina Salane and Aldrin Ador, were hired for the fall as part of NAC's new year-round internship program.

NYC UFS Core Partners: *NYC Parks, USDA FS, NAC*
External Partners: *CUNY*
Key personnel: *Jessica Hoch and Elizabeth Jaeger (NAC)*

CUNY students during their 2020 NAC internship.
Image Credit: NAC

Science of the Living City

The primary way in which the NYC UFS conducts research incubation and science communication is through the Science of the Living City (SoLC) program. In previous years, this has included workshops, seminars, fellows and scholars program, brown bag lunches at the field station, as well as the NYC UFS Artist in Residence program. In 2020, many of these programs were put on hold as they hinge on live in-person engagement. We were, however, able to pivot some of the programs to a virtual setting in which they were able to adapt and thrive.

2020 Brown Bag Series

In early 2020, we successfully hosted two in-person Brown Bags at the field station. By mid-March, however, we embraced the online setting and launched the 2020 Virtual Brown Bag Series. This pivot allowed us to host speakers from all over the country. Attendance skyrocketed as more people were able to join virtually from the comfort of their homes- ultimately increasing the accessibility of SoLC's research incubation and science communication initiatives.

Fine Scale Heterogeneity of Urban Soils
Jason Smith, New York Restoration Project

Making Trees Infrastructure: Stewardship and Care in New York City
Megan Maurer, Columbia University

Place-making, place-breaking, and place-keeping of urban blue spaces: use, stewardship, and governance of Coney Island Creek, NYC
Anne Toomey, Pace University

Brown Bag Roundtable: Safe Fieldwork in the Time of Covid-19*
Elizabeth Jaeger, NAC; Simon Skinner, New York Restoration Project; Kip Stein, Emily Kelderhouse, and Joe Fernandez, NYC Parks; Tanasia Swift, Billion Oyster Project

Spatial Modeling for Contemporary Urban Ecological Research*
Scott Beck, US Geological Survey

Dynamics, impacts and solutions to jumping worm invasions in NYC green spaces*
Annise Dobson, Yale School of Environment

Eco-epidemiology of ticks, their hosts and tick-borne diseases on Staten Island, NYC*
Maria Diuk-Wasser, Meredith VanAcker, Pilar Fernandez, Danielle Tufts, Laura Plimpton, and Olivia Card, Columbia University

Mitigation of Thermal Loads on Building Envelopes using Passive Radiative Cooling Strategies*
Arvind Srinivasan, Columbia University

From Moon Arrow to Here GOES Radiotelescope*
Heidi Neilson, 2018 NYC UFS Artist in Residence

Understanding & strengthening environmental governance networks during COVID-19*
Sophie Plitt, NAC; Lindsay Campbell, Erika Svendsen, Michelle Johnson, USDA FS; Laura Landau, Rutgers University

Lessons Learned on Diversity, Equity & Inclusion from the Environmental Leadership Program
Novem Auyeung, NYC Parks

What is Women of Color Collective in Sustainability?*
Jordana Vasquez, Co-Founder of Women of Color Collective in Sustainability, WOC/SC

**Brown Bag was recorded and can be provided upon request.*

Slide from the NAC's presentation for the Brown Bag Roundtable: Safe Fieldwork in the Time of Covid-19.
Image Credit: Elizabeth Jaeger

Urban Field Station Artist in Residence Program

In partnership with The Nature of Cities, the Urban Field Station Artist in Residence Program supports artistic expression through creative collaborations between artists, scientists, and land managers in the creation of works of imagination in the urban environment. The program provides paid residencies for selected artists who, during their period of residency, engage with scientists and practitioners associated with the NYC UFS to create artistic works that explore new creative visions of ecological urbanism. The residency also creates regular public engagements around the ideas that emerge from the works, including seminars, exhibits, and dialogues that are specifically designed to explore transdisciplinary creativity in ecological urbanism.

Now entering our fourth year, the Urban Field Station Artist in Residence program is focused on curating creative relationships between artists and scientists/practitioners. With a newly formed Advisory Group composed of those at the intersection of arts, culture, and urban ecological systems, we released a call with the theme of *Connectivity* and prepared for a virtual residency to evolve as Covid-19 permits. We have also expanded across the UFS network to include locations beyond NYC, with plans to continue expansion in future years. A subset of the Advisory Group joined the Selection Panel who, out of 104 applications, selected four artists for the 2021 cohort: Cecile Chong, Nikki Lindt, Sharon Heitzenroder, and Kilia Llano.

Everyday Ecologies

Everyday Ecologies: A Four Part Conversation was a series of discussions held in partnership with City College of New York and the Gowanus Canal Conservancy. Each of these conversations invited speakers to reflect on a "zombie" idea or theory that they contest through design, planning, or projective research. Through this collective project, Everyday Ecologies aims to establish footholds from which to launch a new approach to design and planning discourse: boundless non-human and human communities — a cocktail of cultures crossing economic and class strata with overlapping gender, racial, and spiritual identities — that complement but also compete with each other for rights and means to perpetuate their needs and desires. All four conversations can be viewed on the Everyday Ecologies YouTube channel.

October 22 | Moderator: Thaisa Way
Andrea Johnson, Amy Lerner, Sierra Bainbridge, and Lindsay Campbell

October 29 | Moderator: Thaisa Way
Kate Orff, Elizabeth Hénaff, Andrea Parker, and Erika Svendsen

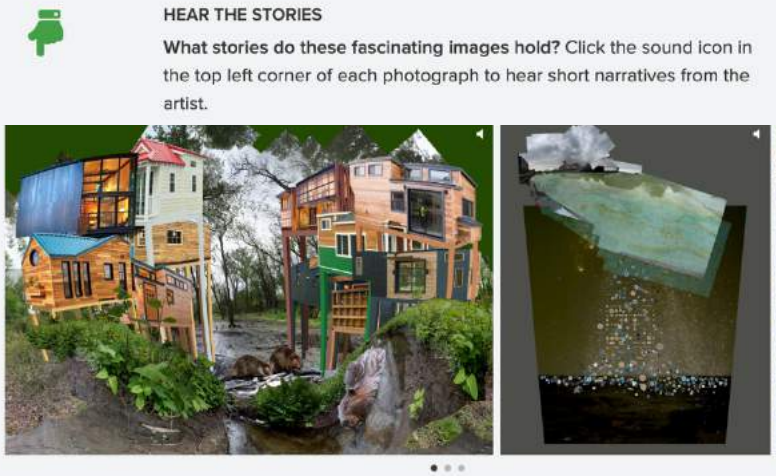
November 5 | Moderator: Tim Maly
Maria Villalobos, Cassie Fennell, Heather McMillen, and Denise Hoffman Brandt

November 12 | Moderator: Denise Hoffman Brandt
Liz Barry, Ana Maria Duran, Matthew Seibert, and Julia Czerniak

Who Takes Care of New York: Online Exhibition

Originally on exhibition at the Queens Museum in 2019, *Who Takes Care of New York?* has been adapted to an online format through a collaborative partnership with The Nature of Cities and the Forum for Radical Imagination on Environmental Cultures. This interactive exhibition highlights the stories, geographies, and impacts of diverse civic stewards across New York through art, maps, and storytelling.

This exhibit draws upon the USDA FS' Stewardship Mapping and Assessment Project (STEW-MAP), which is a dataset of thousands of civic stewardship groups' organizational capacity, geographic territories, and social networks, and also features artists whose work aligns with the themes of community-based stewardship, civic engagement, and social infrastructure: Magali Duzant, Matthew Jensen, Jodie Lyn-Kee-Chow, and Julia Oldham.



An excerpt of the online exhibition, featuring the images of Julia Oldham (2018 UFS Artist in Residency) with audio about her work.
Image Credit: The Nature of Cities; Julia Oldham

Comings and Goings

Sophie Plitt

Sophie Plitt joined the NYC UFS working between the USDA FS and NAC. With the USDA FS she is focusing on advancing the adaptation and replication of the STEW-MAP in various locations as well as conducting social-ecological research on the management and stewardship of public lands. With the NAC, she is working with the Forests in Cities program to grow and support a national network of urban forest practitioners in order to advance collective knowledge and advocacy for urban forested areas. She began this new role after completing an MS in Social-Ecological Resilience Research at the Stockholm Resilience Centre. Prior to this role, she worked with NYC Parks, the New York Tree Trust, NYRP, and TreeKIT planning and implementing green infrastructure projects with the goal of deepening human-nature connections. In her free time, she loves taking long bike rides, discovering great new books, playing music, knitting, and cooking.

Erika Andujar

Erika Andujar joined NYC Parks in February this year as a Data Analyst for the Cool Neighborhoods Program. Her spatial statistical and analytical skills helped us validate data from 300+ air temperature sensors spread across the city and better understand how vegetation plays a role in mitigating heat in high Heat Vulnerable Index (HVI) neighborhoods. We'll miss her cheerful attitude and ability to wrangle large datasets into tidy graphs and figures. After funding from her position ended in September, she moved on to work for the Westchester Department of Health.

Carly Connolly

Carly Connolly began this year as the new Shorekeeper Assistant for the NYC Parks Stewardship Team. She assisted Stewardship with wetland focused outreach programs and engaging new and former volunteers for our events. Primary events included horseshoe crab surveys, beach clean ups and marsh grass plantings. Carly received an undergraduate degree in Biology from Stony Brook University, and went on to pursue her Masters in Environmental Policy at Drexel University. During her studies she focused on wetland mitigation work within major North American metropolitan areas. Though Carly's grant ended, she is committed to continuing her passion for natural resource management and education while interacting with fellow New Yorkers who share her enthusiasm.

Caitlin Boas

Caitlin Boas joined NYC Parks two years ago as the Program Coordinator for the NYC UFS. In this role, she oversaw the comings and goings of residents, assisted in administrative work, and developed programming for Science of the Living City. Previously, she worked with the American Museum of Natural History and the Smithsonian Institute as an invertebrate paleontologist and later as an educator and science outreach liaison at UC Berkeley. Caitlin holds a degree in Geology from Brooklyn College and an MPA in Environmental Science and Policy from Columbia University. After eight years navigating the intersection of research, policy, and science communication, she is building upon this knowledge to begin an environmental law program at Elisabeth Haub School of Law and expects to graduate with a JD and LLM in spring of 2023.

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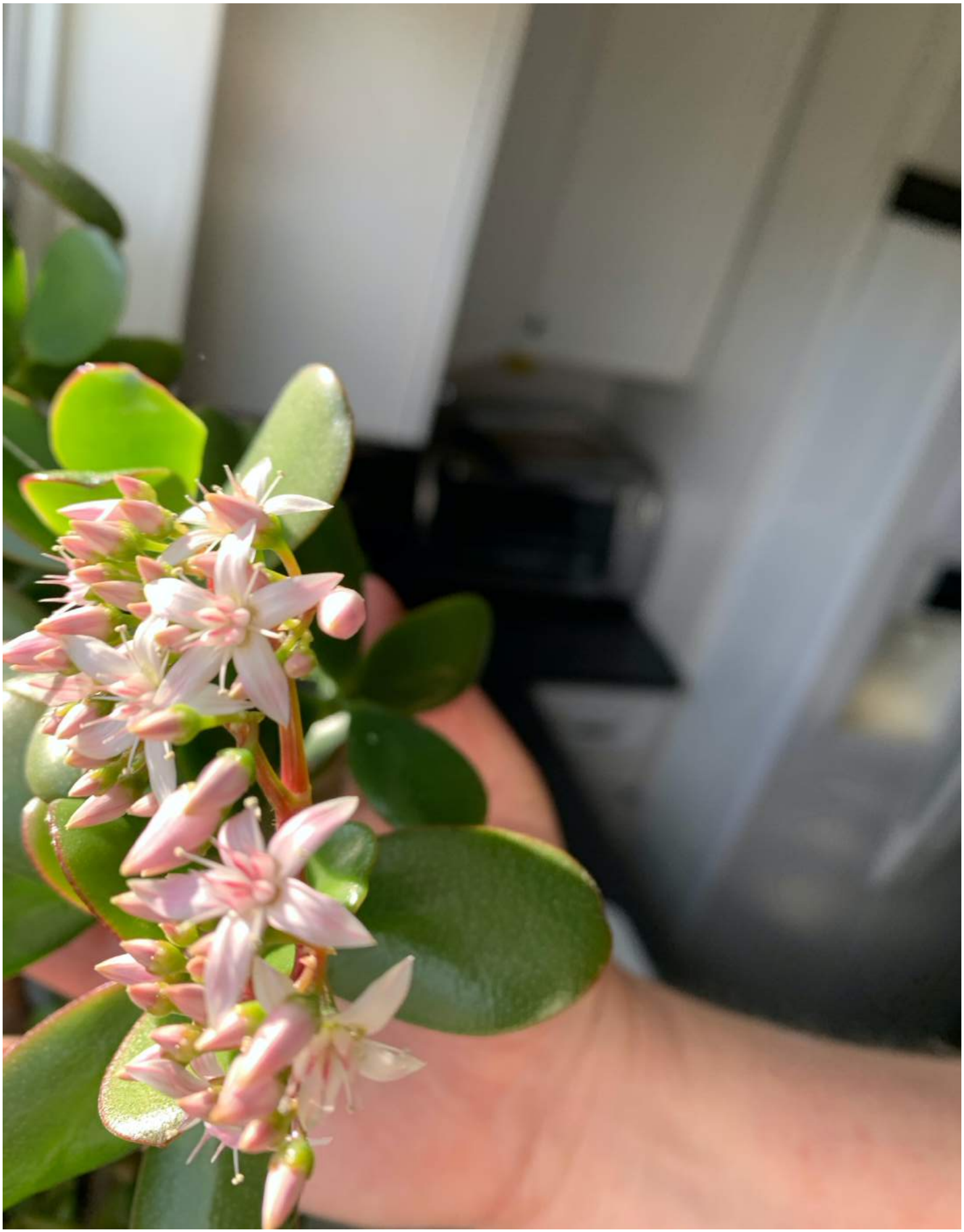

Closing out the year of 2020, we were met with a blooming jade at the NYC UFS.
Image Credit: Brady Simmons

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