



New York City Urban Field Station 2019 Annual Progress Report

Table of Contents

| | |
|--|-----------|
| The New York City Urban Field Station | 3 |
| Who Takes Care of New York? | 4 |
| Consensus Building and Engagement | 6 |
| NYC Nature Goals..... | 6 |
| International Seminar of Urban Forestry & Community Engagement | 6 |
| Forests in Cities: A National Workshop | 7 |
| CUNY Internship Program..... | 7 |
| NYC Nature Map | 8 |
| Leon Levy Native Plant Preserve Exchange Program | 8 |
| Informing Best Practice | 9 |
| Wetland Connectivity Project..... | 9 |
| Managing Emerald Ash Borer in NYC | 9 |
| Selecting Climate Adapted Species for Restoration Projects..... | 9 |
| Monitoring Nature and Nature-Based Shoreline Features in New York State..... | 10 |
| Harlem River Watershed Plan | 10 |
| Research and Analytics | 11 |
| Healthy Trees Healthy City Initiative | 11 |
| Learning from the River Bank | 11 |
| Flood Watch | 11 |
| Cool Neighborhoods NYC | 12 |
| STEW-MAP Maps and Application | 12 |
| Urban Forested Natural Areas Management | 13 |
| Science of the Living City | 14 |
| Seminars | 14 |
| Brown Bags | 15 |
| America Adapts: Resilient New York | 15 |
| Artists in Residence | 16 |
| Visiting Researchers | 17 |
| Transitions | 18 |
| NYC Urban Field Station Staff | 19 |
| Appendix | 20 |

Cover image created by Pratt Institute's Spatial Analysis and Visualization Initiative for *Who Takes Care of New York?*

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.

The NYC UFS is both a physical place to conduct research, facilitate discussions, and provide housing for visiting researchers, as well as a network of relationships among scientists, land managers, practitioners, artists, community members, and designers. 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 New York City.



NYC Urban Field Station staff. *Top row from left:* Rich Hallett, Ben Mertz, Brady Simmons, Bram Gunther, Caitlin Boas, Lauren Smalls-Mantey, Jamie Ong, Laura Landau; *Bottom row from left:* Jennifer Smith, Novem Auyeung, Michelle Johnson, Erika Svendsen; *Not pictured:* Lindsay Campbell, Helen Forgione, Clara Pregitzer.
Photo credit: NYC Parks

Who Takes Care of New York?

[Who Takes Care of New York?](#) was an exhibition held at the Queens Museum Community Partnership Gallery from Sept 12-20, 2019 organized by the NYC UFS, the Pratt SAVI Lab, and Independent Curator, Christina Freeman. The exhibition brought the Stewardship Mapping and Assessment Project (STEW-MAP) data to life through an exploration of the variety of civic groups that exist and thrive in NYC, and the ways that they care for and support their local environments.

Civic leaders and community members regularly put time and energy into caring and advocating for the environment. We call these acts of care *stewardship*. Beyond improving the green and blue spaces in our city, stewardship can also lead to other types of civic action. Local stewardship groups can strengthen social trust within a neighborhood. People who come together around the shared love of a garden or park steward not just that space, but also their relationships to one another--making them poised to organize around any number of issues affecting their community. This exhibition highlighted the stories, geographies, and impacts of diverse civic stewards across New York through art, maps, and storytelling.

The show featured artists whose work aligns with the themes of community-based stewardship, civic engagement, and social infrastructure: Magali Duzant, Jodie Lyn-Kee-Chow, and two NYC UFS Artists in Residence: Julia Oldham and Matthew Jensen. Through photography, drawing, book arts, and performance, these artists reflect upon, amplify, and interpret the work of stewards and the landscapes and neighborhoods with which they work.

There were a number of events throughout the show, including a curator-led tour, a virtual tour featured on NYC Parks' social media (reaching an audience of over 3000!), and an opening night reception which was attended by nearly 200 guests. The exhibition programming also included the seminar "How We See Stewardship" featuring a panel of the artists, researchers, and designers who brought the show to life. More information on the exhibition and programming, along with comments and discussion from the curation team, can be found in the [Who Takes Care of New York? essay](#) for The Nature of Cities.



The "Who Takes Care of New York?" exhibition team at the opening reception.
 Photo Credit: Malcolm Pinkney, NYC Parks



Clockwise from top left: Jodi Lyn-Kee-Chow performing “Harvest of the STEW” | Photo Credit: Christina Freeman; Visitors sharing their own stewardship stories | Photo Credit: Catherine Grau; First Deputy Commissioner of NYC Parks, Liam Kavanagh, admiring images of tree stewardship captured by artist Matt Jensen | Photo Credit: Malcolm Pinkney, NYC Parks; Museum-goers interacting with the exhibition maps derived from STEW-MAP data | Photo Credit: Malcolm Pinkney NYC Parks; Panelists from the seminar “How We See Stewardship” from left: Can Sucuoglu of Pratt SAVI, Pamela Pettyjohn of the Coney Island Beautification Project; Artist Magali Duzant, and Lindsay Campbell of the USDA FS | Photo Credit: Catherine Grau; “How We See Stewardship” Curator lead tour | Photo Credit: Catherine Grau

Consensus Building & Engagement

NYC Nature Goals 2050

[NYC Nature Goals 2050](#) (NYC2050) is a coalition of 78 environmental organizations, spearheaded by the NAC. Its purpose is to connect NYC environmental groups with each other and to facilitate activities that lead to partnerships and collaboration to achieve Nature Goals' 25 targets by 2050. The coalition developed shared goals, a Declaration of Rights to NYC Nature, and a set of 25 actionable and measurable targets. In 2019, NYC2050 formed a working group of nine coalition members to develop two Science of the Living City events framed around a subset of targets, which are highlighted later in this report. Nature Goals was included in the most current version of [One NYC](#). We also celebrated the inclusion of Nature Goals into OneNYC and the coalition itself at a party at REI SoHo, a sponsor of Nature Goals, on April 18th, with hundreds of people in attendance. An Op-Ed was published about Nature Goals in the [Daily News](#).

Key Personnel: Bram Gunther

Partners: NAC, Nature Goals 2050 Coalition

Funders: The J.M. Kaplan Fund; REI

International Seminar on Urban Forestry & Community Engagement

The International Seminar on Urban Forestry and Community Engagement is one of eleven annual seminars on various topics in natural resource management that are organized by the USDA FS Office of International Programs. In June 2019, 22 participants representing 17 countries convened in New York City and Chicago with USDA FS staff and partners to discuss urban resource management best practices. The key themes for the 2019 seminar were: engaging communities where they live; fostering creative partnerships; improving urban planning, participatory processes, and governance; and increasing access to food, education, and green spaces in urban areas around the globe. More information on International Programs can be found [here](#), and eleven annual seminars can be found [here](#).

Key Personnel: Jennifer Smith, with participants Erika Svendsen, Lindsay Campbell, Michelle Johnson, Rich Hallett, Caitlin Boas, Sarah Charlop-Powers, Bram Gunther

Partners: USDA FS International Programs



Bram Gunther presenting Nature Goals' inclusion into OneNYC at REI SoHo event in April.

Photo Credit: Jesse Krauss

Forests in Cities: A National Workshop

The Natural Areas Conservancy hosted its first-ever national workshop of urban natural areas leaders in October 2019. This workshop titled "Forests in Cities: A National Workshop" included leaders from 12 American cities (Austin, Baltimore, Billings, Houston, Indianapolis, Miami, New York City, St. Louis, Seattle, Tampa-Hillsborough County, and The Twin Cities). Over four days, teams from each city presented around eight themes relating to nuts-and-bolts forest management as well as cross cutting themes such as policy and regulation, climate change adaptation and community engagement. The goals of this workshop include: 1) Increasing awareness of urban forested natural areas 2) Improving management and 3) Contributing to a community of practice. Direct outcomes include 24 published case studies (forthcoming in the journal *Cities and the Environment*). Along with the 12 cities, there was representation from the USDA FS, American Forests and Cities for Forests. As cities understand the need for "green infrastructure" in all its forms, forested natural areas can provide greater benefits compared to other green spaces such as street trees and gardens. For example, forested natural areas can store and sequester more carbon per area, large patches of forest can have a significant impact on city cooling and capturing stormwater, all while offering unique opportunities for people to access and connect to local nature. These natural areas are an important form of "nearby nature" for 64 million people.

Key Personnel: Clara Pregitzer, Sophie Plitt, Sarah Charlop-Powers, Bram Gunther

Funders: The JPB Foundation, The J.M. Kaplan Fund, Ittleson Foundation

Attending NYC team: Jennifer Greenfeld, Marit Larson, Kristy King, Novem Auyeung, Nichole Henderson-Roy, Helen Forgione; with UFS Participants Rich Hallett, Nancy Sonti

CUNY Internship Program

In summer 2019, the NAC trained 15 CUNY students in field research protocols, botany, biology, and data management. Four of those students had interned for the NAC in previous summers and received promotions to crew leaders for the 2019 season. This paid eight-week program creates a pipeline of trained young professionals prepared for careers in urban ecology while supporting NYC Parks' restoration work through ecological assessment. 2019 also represented the most academically diverse group yet, coming from seven degree fields and seven CUNY schools. This year, five field crews assessed 175 acres of forest across 12 parks, and students participated in wetland verification and terrapin monitoring activities, as well. NYC Parks will use this information to prioritize and plan forest restoration projects. Students also received professional development opportunities with the Billion Oyster Project and New York Botanical Garden. The NAC has trained over 60 CUNY student interns since 2016.

Key Personnel: Jessica Hoch, Leila Mougoui Bakhtiari

Partners: NAC, CUNY, Leon Levy Native Plant Preserve

Funders: Jerome Levy Foundation, Leon Levy Foundation, Lise Strickler, Jamaica Bay Rockaway Parks Conservancy



2019 CUNY Interns at Freshkills Park in Staten Island

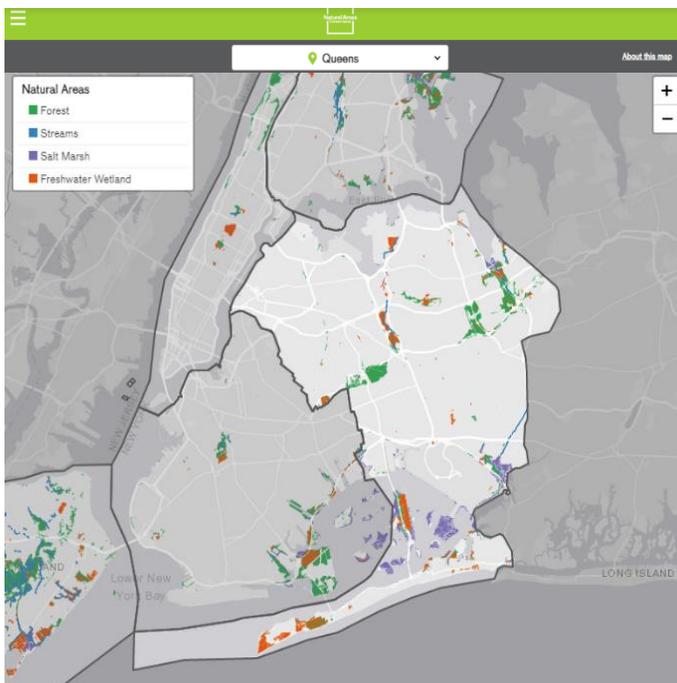
Photo Credit: Leila Mougoui Bakhtiari

NYC Nature Map

NYC Nature Map lets New Yorkers explore the condition and investment in their local natural areas. The NAC and NYC Parks generated [this interactive webmap](#) so New Yorkers can learn about the location, size, and condition of natural resources in New York City’s public lands. The map also provides information about previous improvement projects and the potential for future restoration and management of these important spaces. NYC Nature Map will be updated periodically as we learn more and do more to improve the health of natural areas. Team members from NAC and NYC Parks presented at a “Mappy Hour” at Arc’teryx SoHo to guide local mapping and data enthusiasts in exploring their local nature.

Key Personnel: Leila Mougoui Bakhtiari, Kristy King, Crystal Crown

Funders: Doris Duke Charitable Foundation, The New York Community Trust, Ittleson Foundation



NYC Nature Map showing natural areas across Queens.
Image Credit: NYC Nature Map Online

Leon Levy Native Plant Preserve Exchange Program

As part of the CUNY internship program, the NAC hosts an exchange with the Leon Levy Native Plant Preserve in Eleuthera, Bahamas (one week in Eleuthera and one week in New York City). In 2019, five CUNY students and three students from the Bahamas participated in the exchange program. The NYC UFS hosted the Bahamian students, who learned about local conservation efforts in NYC, assisted the CUNY interns with forest assessments, and participated in NYC Parks’ marsh restoration at Sunset Cove.

Key Personnel: Jessica Hoch, Leila Mougoui Bakhtiari

Partners: NAC, CUNY, Leon Levy Native Plant Preserve

Funders: Jerome Levy Foundation, Leon Levy Foundation



Anlisa Outar (CUNY intern) and Jenny Morris (Leon Levy Native Plant Preserve intern) identifying plants at Alley Pond Park

Photo Credit: Santiago Serrano

Informing Best Practice

Wetland Connectivity Project

NYC Parks was awarded a grant from the Hudson River Foundation to study environmentally friendly features in road design that can mitigate some of the 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 to increase opportunities for fish passage. We are studying fish, diamondback terrapins, and hydrology in WT Davis and Idlewild in order to understand how these environmentally friendly features can mitigate the impacts of road barriers across wetlands.

Key Personnel: Georgina Cullman, Carla Garcia, Brady Simmons

Funder: Hudson River Foundation



NYC UFS ecologists Carla Garcia (left) and Ellen Pehak (right) measuring the carapace of a diamondback terrapin at William T. Davis Wildlife Refuge.

Photo Credit: NYC Parks Conservation Team

Managing Emerald Ash Borer in NYC

Efforts to survey, remove, and protect ash trees on NYC streets continued in 2019. New infestations were found in Manhattan and the Bronx, confirming that EAB is present in all five boroughs. Based on street tree infestation, we expect many ash populations in the SI greenbelt to be infested. Using historic entitation data, we have located the most likely areas for infestations and included these in a pending treatment permit. Most of these parks are on Staten Island and include William T. Davis Wildlife Refuge, Blood Root Valley, Willowbrook Park (infestation is confirmed in the northern part), and Reed's Basket Willow Swamp. Plans to treat rare ash species in the Bronx and ash within Willowbrook Park will move forward in 2020, once a wetland permit is in place.

Key Personnel: Ben Osborne, Kristy King, Danielle Gift, Clara Holmes, Adam Thornbrough, Tony Rho, Marie Roe, Shawn Ganz

Selecting Climate Adapted Species for Restoration Projects

The NAC has developed a web-based tool called [Forest Identification and Restoration Selection Tool](#) (FIRST). This tool allows users to answer key questions to identify the forest community type of a particular site and/or identify a palette of climate adapted species suitable for that particular community type. This tool has been adopted by NYC Parks' Forest Restoration team and is included in Conservancy Engagement and NAC's CUNY intern program training. Using data from the NAC's Ecological Assessment, as well as the USDA FS Climate Change Tree Atlas, the NAC developed planting lists for 36 unique forest types that can be found in New York City. Each list is comprised of native tree and shrub species that are both ecologically appropriate for the site they are applied to and resilient to future climate conditions.

Key Personnel: Justin Bowers, Helen Forjone

Funder: Wildlife Conservation Society Climate Adaptation Fund

Monitoring Nature and Nature-Based Shoreline Features in New York State

This is a 2-year project led by the Science and Resilience Institute at Jamaica Bay and funded by NYS Department of State, with funds from the National Oceanic and Atmospheric Administration, and NYS Energy Research and Development Authority to develop a monitoring framework for shoreline features across New York State. This year, we piloted the monitoring framework at 16 sites evenly distributed across 4 regions: NYC, Long Island, Hudson River, Great Lakes. The funding will be ending in January 2020 and the final products of the grant include: a final report, a database with data from pilot monitoring, a final webinar, and a manuscript to be submitted to a peer-reviewed journal. The long term goal of the project is to better understand how shoreline projects designed with natural or nature based features function to meet ecological, structural, hazard mitigation, and social objectives.

Key Personnel: Erika Svendsen, Marit Larson, Novem Auyeung, Chris Haight, Yi Wang (intern)

Partners: CUNY, NYS Department of State, NYC Energy Research and Development Authority, SCAPE, SRIJB, Harbor Estuary Program, Consensus Building Institute, NYS DEC, ARCADIS

Harlem River Watershed Plan

NYC Parks and partners continued development of a 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 consultation with members of the Watershed Advisory Committee, comprised of 16 City, State, and Federal agencies and local NGOs, including the USDA FS. To address watershed goals, the Plan provides 14 broad strategies, 78 watershed-wide management recommendations, and 102 site-specific recommended actions. In 2019, NYC Parks addressed 147 comments from 15 organizations, agencies, and individuals. The final Plan will be completed by Spring 2020. One-pagers covering priority projects will also be published to facilitate further awareness and funding for the Plan's recommendations.

Key Personnel: Jamie Ong, Katie Friedman, Sara Powell

Partners: Bronx Council for Environmental Quality, Van Cortland Park Alliance, NYC DEP, Urban Waters Federal Partnership

Funders: NYS Department of State under Title 11 of the Environmental Protection Fund



Bronx schoolchildren canoeing on the Harlem River, many for the first time. Reopened in 2015, the High Bridge in the background is one of the few pedestrian connections between Manhattan and the Bronx. Greater on-water access and improved connectivity is one of the goals of the Harlem River Watershed Plan for the Bronx.

Photo Credit: Wilderness Inquiry

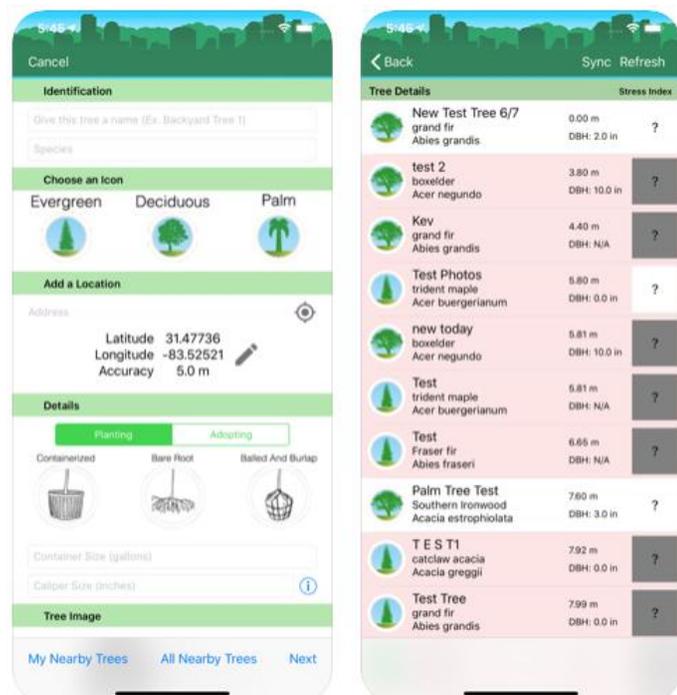
Research and Analytics

Healthy Trees Healthy Cities Initiative

The partnership between the NYC UFS and The Nature Conservancy completed its 5th year. An [online dashboard](#) was deployed and tested. The dashboard provides project management and data download capabilities. We also moved to a “train the trainer” model allowing us to deploy our tree health assessment methodology to an additional 11 cities. We are focused on partnering with civic groups or researchers in cities that have an interest in learning more about the health of their local trees. Examples include working with the NYC Housing Authority (NYCHA) to conduct a preliminary assessment of tree health on NYCHA campuses or adding a tree health assessment component to Louisville’s Green Heart project. [Click here](#) to download the Healthy Trees, Healthy Cities app.

Key Personnel: Rich Hallett, Michelle Johnson, Ben Mertz

Partners: NYCHA, The Nature Conservancy



Screenshots of the Healthy Trees Healthy Cities app with various resources and content for users.

Image Credit: Healthy Trees Healthy Cities

Learning from the Riverbank: A Social Ecological Assessment of Dundee Island Park, Passaic, NJ

Researchers from the USDA FS worked with the NY/NJ Harbor Estuary Program and Pace University in conducting a social assessment of Dundee Island Park along the Lower Passaic River in New Jersey. The Lower Passaic River, a 17-mile tidal stretch from Dundee Dam in Clifton, NJ, to Newark Bay, is one of the 19 Designated Urban Waters Locations and part of the Urban Waters Federal Partnership. This partnership is made up of federal agencies and NGOs, including the New York – New Jersey Harbor & Estuary Program (NY/NJ HEP), who collaboratively seek to reconnect urban communities, particularly those that are overburdened or economically distressed, with their waterways. This project used observation, interviews, surveys, and focus groups to engage communities regarding the use, meaning and potential stewardship of Dundee Island Park and the surrounding urban waterways. Fieldwork is now complete, data are being analyzed, and the results will be shared with local and regional stakeholders in early 2020.

Key Personnel: Erika Svendsen, Lindsay Campbell, Michelle Johnson

Partners: NY/NJ HEP: Rob Pirani, Elizabeth Balladares, Lindsey Strehlau, Olivia Le Warn; Pace University, Anne Toomey

Flood Watch – Documenting Social and Economic Impacts of Tidal Flooding on Coastal Communities

Coastal communities face challenges in understanding, preparing for, and recovering from both extreme weather events as well as chronic stressors, such as monthly spring tides and heavy rainfall. The Mayor’s Office of Resiliency (MOR), the Science and Resilience Institute at Jamaica Bay (SRIJB), New York Sea Grant (NYSG), and the USDA FS seek to understand the scope of biophysical, social, and economic impacts of tidal flooding on communities and delivery of city

services in high-flood-risk neighborhoods. This study addresses the following research questions in two pilot coastal communities in New York City: *What are the social impacts of living with semi-regular flooding? How can these impacts be documented? What adaptation strategies-including natural and nature-based features-can the city and community use to limit these impacts?* The project uses semi-structured interviews with Flood Watch participants and focus groups with residents living in affected low-lying neighborhoods to collect data on social impacts. We are collecting testimonies and stories about how tidal flooding is affecting residents' lives, including economic impacts of cleaning and repairing homes, disruptions to routines and additional potential deterioration of quality of life, as well as the ways in which residents are already adapting to changing conditions.

Key Personnel: Lindsay Campbell and Erika Svendsen
Partners: Dana Kochnowier (NYC MOR), Phoebe Wapnitsky (NYC MOR Fellow), Helen Cheng (SRIJB / NYSG), Kathy Bunting-Howarth (NYSG)

Cool Neighborhoods NYC

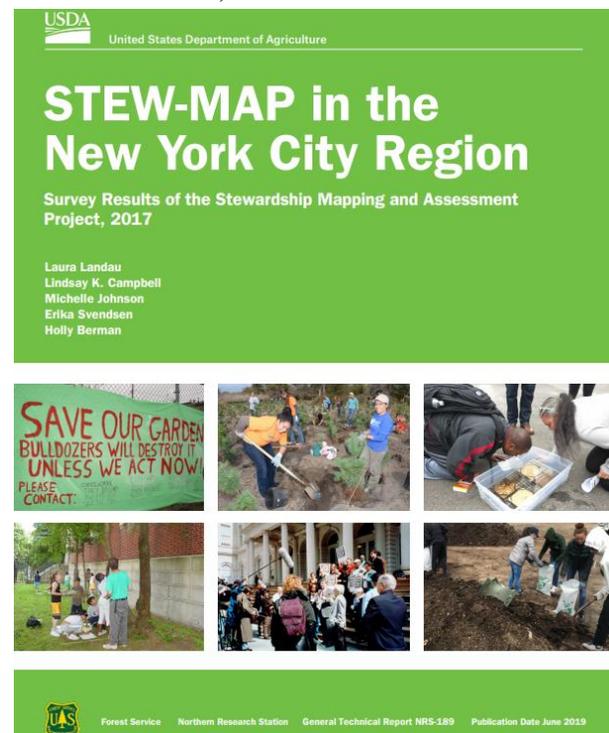
The City of New York funded Cool Neighborhoods NYC initiative for a second year of monitoring. This will include measurements of indoor and outdoor air temperature as well as home air conditioning energy use. Analysis conducted in partnership with the Dept. of Health and Mental Hygiene, MOR, and NYC Parks is exploring how land use and the presence of street trees influences local air temperature. Given that street trees can play a significant role in cooling neighborhoods we set out to determine which species are better adapted to high temperature environments and whether certain species are better at cooling than others. We also partnered with The Nature Conservancy to assess the health of trees instrumented with temperature sensors in several high heat vulnerability index neighborhoods throughout NYC.

Key Personnel: Lauren Smalls-Mantey, Rich Hallett
Partners: Department of Health and Mental Hygiene, MOR, The Nature Conservancy

STEW-MAP Maps and Application

The Stewardship Mapping and Assessment Project (STEW-MAP) is a spatial map, database, and set of tools for better understanding and visualizing civic stewardship. In 2019, [a new white paper](#) was released summarizing the updated STEW-MAP NYC Region results. The NYC team continues to consult with other locations interested in developing new projects, spanning from large cities to more rural regions across the globe. The team continued collecting Stewardship Stories from the public, local to global and mapping them on a new ArcGIS Online Map. In June 2019, the team traveled to The Nature of Cities Summit in Paris, to facilitate the activity for a global audience in a skill session entitled "Talk, Map, Act." The Stewardship Storytelling exercise is also used with USDA FS International Programs' Urban Forestry and Community Engagement seminar as a training and engagement tool. Add your story at this [link](#).

Key Personnel: Erika Svendsen, Lindsay Campbell, Michelle Johnson, Laura Landau



Recently published white paper on application and study of STEW-MAP in the NYC Region.

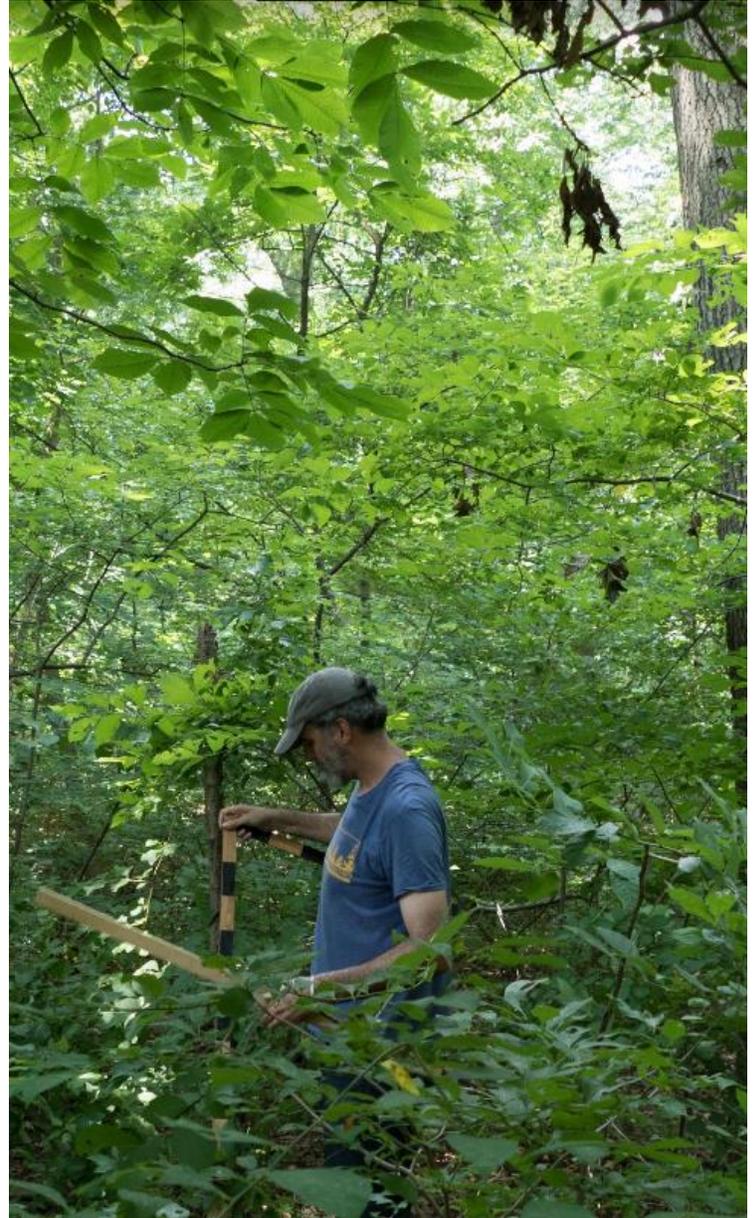
Image Credit: USDA FS

Urban Forested Natural Area Management

The urban forest can be broken down into sub-categories of site types that range in structure and management approach, including but not limited to street trees, landscaped park and yard trees, and urban forested natural areas. These natural areas have been the focus of NAC's ecological assessment work. Graduate students from Yale, Rutgers and the University of Maryland have focused their dissertations on understanding the ecology of these urban green spaces. Danica Doroski (Yale Ph.D. Candidate) studied regeneration dynamics in a young forested natural area. Dr. Max Piana (Rutgers Ph.D. 2019) also studied the urban forest's ability to naturally regenerate. Clara Pregitzer (Yale Ph.D. Candidate) published two papers showing that urban forested natural areas are dominated by native overstory species, similar to their rural cousins, and that the way in which urban forest inventories are designed (i.e., non-stratified by site type vs. stratified by site type) is important for informing appropriate management strategies and policy goals for forests in the city. Dr. Nancy Sonti (University of Maryland Ph.D. 2019) compared the ecology and growth of trees in urban and rural forests. Eli Ward (Yale Ph.D. Candidate) published on the ecological impact of invasive vines on urban forested natural areas. A full list of these publications can be found in the appendix of this report. Taken together, the work by these young scientists will help inform urban forested natural area management and policy.

Key Personnel: Rich Hallett, Clara Pregitzer, Sarah Charlop-Powers

Partners: Danica Doroski, Max Piana, Nancy Sonti, Eli Ward



Urban forested natural area plot using NAC's rapid assessment protocol to inform forest management in the city.
Photo Credit: Rich Hallett

Science of the Living City

The principle way in which the NYC UFS conducts science communication and research incubation is through the Science of the Living City program, which was developed to support partnership engagement, advance knowledge, and inform the general public about the environmental work being done in NYC. This program takes a number of forms including public facing seminars, large scale special events, the NYC UFS Artist in Residency program, internal workshops, and research fellows. In 2019, SoLC events attracted over 800 people and represented partnerships by more than 25 unique organizations.

Seminars

Science of the Living City hosted a record four public facing seminars this year. Held in partnership with JM Kaplan, we kicked off the year with the two part series, [Caring for NYC's Forest: Stories of Research, Community, and Inspiration](#), held on May 16th and June 17th. These events featured panelists from NYC Parks, the USDA FS, NAC, Trees NY, as well as artists and authors. Part 1 of the series, moderated by NYC Parks First Deputy Commissioner Liam Kavanagh, focused on the urban forest while part 2, moderated by USDA FS research ecologist Michelle Johnson, focused on street trees and stewardship. Held at JM Kaplan, both events were standing room only and attended by nearly 140 guests.

The two seminars held in the fall were guided by the Nature Goals x Science of the Living City Working Group who identified a number of Nature Goals Targets for which to frame each event.

Held at the CUNY School of Law in partnership with the Center for Urban Environmental Reform, [Can Development and Conservation Coexist in NYC and How?](#) discussed ways in which development can be used to foster conservation efforts and advance nature rather than replace or fracture it. Moderated by NYC Council Member Justin Brannan, this seminar featured panelists from the New York Botanical Garden, the NYC Department of City Planning, the NYC Environmental Justice



Moderator Liam Kavanagh with panelists at Part One of Caring for NYC's Forests at JM Kaplan.
Photo Credit: Caitlin Boas

Alliance, and Terrapin Bright Green. Held on September 24th, this seminar was also an official event of Climate Week NYC, which in addition to helping with promotion, offset the carbon footprint of the entire event!

The final seminar of the year, [Pathways to Inspiration: Nature, Art, and Education in NYC](#), was held on November 19th at The New School's Parsons School of Design and was a lively discussion on how these three areas intersect and promote meaningful connections with our local environment. The event was moderated by the legendary Mary Miss from City as Living Laboratory and included a meditative mindfulness exercise as the introduction led by Urban Wilderness explorer and author Jean Gardner. [A short video of highlights from this event can be accessed here.](#)



2019's Science of the Living City Seminar Series

Brown Bags

Brown Bags provide a forum for a diversity of experts and projects from our broad community of practice, which supports continuing education for staff as well as an opportunity to give early feedback on projects. Highlights from 2019 include a presentation from State University of New York College of Environmental Science and Forestry (SUNY-ESF) graduate students, Alex Cook and Alison Kocek, on the salt marsh sparrow research they have been conducting through the NYC UFS for half a decade, as well as Kyle McKay from the US Army Corp of Engineers sharing his research on socio-ecological problems through the lens of ecosystem restoration. The entire 2019 Brown Bag series can be found in the appendix of this report.

America Adapts: Resilient New York

The NYC UFS was the home base for podcaster Doug Parsons this summer as we took him on a whirlwind of interviews for the America Adapts episode “Resilient New York: Urban Forestry, Shared Stewardship, and Climate Adaptation”. From a powerhouse trio interview with the senior staff of our core partners, to traversing through restored forests in Pelham Bay Park, to recording the sounds of both birds and buses in Central Park’s North Woods, this episode is a deep dive into the world of urban forestry in the face of climate change. It is also the third most listened to episode of the podcast! Listen to the [full episode here](#).



America Adapts’ podcaster Doug Parsons interviewing NYC Parks’ forester Peter Lechnir at Pelham Bay Park.
 Photo Credit: Caitlin Boas

Artists in Residence

The NYC UFS Artist in Residence program aims to support artistic expression on the form of creative collaborations between artists, scientists, and land managers in the creation of works of imagination in the urban environment. The 2019 Artists in Residence were Julia Oldham of Eugene, Oregon, and Dylan Gauthier, of Brooklyn, New York.

Julia Oldham completed a triptych of digital prints called *Undiscovered City* in 2019. Oldham reached out to 40 New York City stewards, including scientists, rangers and volunteers, and asked them about their reflections on the future of the city, especially in regard to its natural areas. Using the stories she gathered, she digitally altered a series of 360-degree photos of NYC sites to create visions of a future city. She is now beginning a new project based on her research at the NYC UFS, which will be an animation project in collaboration with the Eugene Symphony and the Jordan Schnitzer Museum of Art in Eugene, OR. This project will explore mysteries of wetlands and waterways in New York City, and will be presented in Spring, 2020.



“Beaver Village”, 2019. From the series “Undiscovered City: showcased at *Who Takes Care of New York?*”
Image credit: Julia Oldham

Dylan Gauthier is a Brooklyn-based artist and curator, who works through a research-based and collaborative practice centered on experiences of urban ecology, architecture, landscape, and social change. His project for the 2019 residency is focused on Forever Wild sites across NYC, for which he is using virtual reality to spur wanderlust and exploration of green spaces and parkland in the urban setting. He intends to launch a multimedia publication series, inspired by field guides and comprised of inter related works, taking the form of printed handbooks, 360 degree videos, web-text, maps, interactive events, and installations.



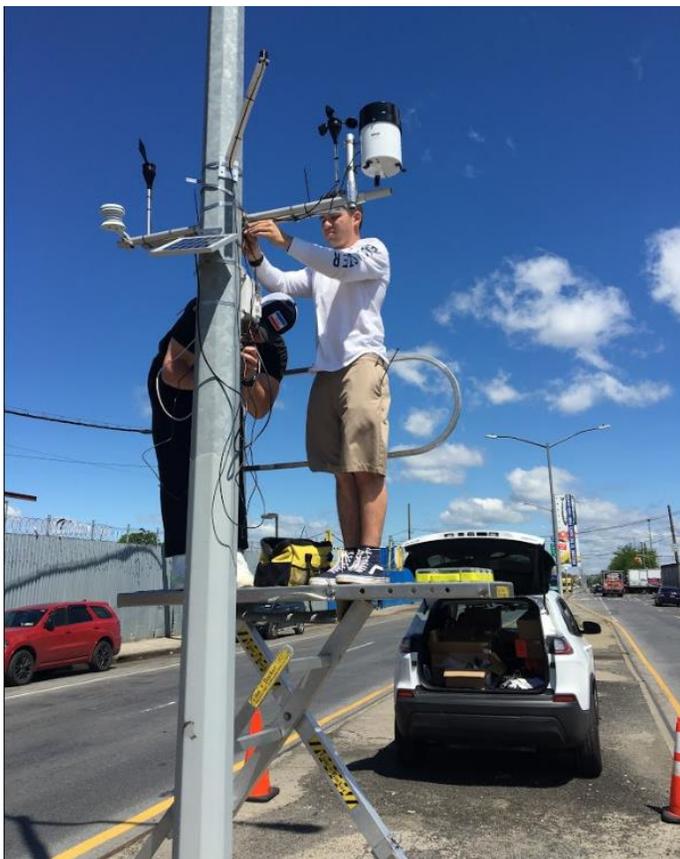
Dylan Gauthier speaking at Science of the Living City Panel “Pathways to Inspiration”
Photo Credit: Isabella Vento

Visiting Researchers

The NYC UFS hosts visiting researchers and students from all over the country and often internationally. These researchers use the lab and living space to conduct research in NYC. In 2019, the field station housed 59 visitors, representing more than 20 organizations.

A few highlights include Kate Zidar and Julian Stolper (Drexel University), who studied green infrastructure across the city; Matt Hare (Cornell University), a repeat visitor who brings his students to study native oyster communities in NYC’s waterways, and a group of Bahamian students who visited NYC as part of an internship exchange with CUNY funded by the Leon Levy Foundation and Jerome Levy Foundation.

Finally, for the fourth year in a row, two West Point cadets joined the NYC UFS for a two week summer internship that focused on urban forestry research, monitoring, and management of natural resources. This year’s cadets were Alex Mohler and Max Cordua who had a busy two weeks assisting with the Freshkills Afforestation Project, conducting real-time kinematic (RTK) surveys in the basins of the Ridgewood Reservoir, and installing urban heat island sensors all across NYC. You can read more on our summer residents in our [2019 Summer Resident Report](#).



Clockwise from left: West Point Cadets Mc Cordua and Alex Mohler installing urban heat island sensors as part of the Cool Neighborhoods initiative | *Photo Credit: Lauren Smalls-Mantey*; From left to right: Anna Peel, Alex Cook, Stephanie Hale, and Victoria Stover of the SUNY ESF Salt Marsh Sparrows team outside the NYC UFS | *Photo Credit: Alex Cook*; A sample of the wild oyster population collected from the Hudson River Estuary | *Photo Credit: Matt Hare*

Transitions



Bram Gunther

Bram Gunther worked for NYC Parks for 28 years. Starting as an Urban Park Ranger in Van Cortlandt Park, Bram eventually became the Director of the Urban Park Rangers. Tasked with starting a community beautification program called Greenstreets, he moved to the division of Central Forestry, eventually turning Greenstreets into the city's first green infrastructure storm water management program. As Deputy Chief of the division, he oversaw its growth into Forestry, Horticulture, and Natural Resources, including the integration of the Native Plant Center, and where its jurisdiction was over 10,000 acres of green spaces within NYC Parks. As Chief of the division he oversaw the MillionTrees campaign as well as the continued growth of the division. In 2011, he co-founded the NAC, a public private partnership focused on the conservation and restoration of NYC's forests and wetlands and was its President. He was the Co-director of NYC UFS until he retired in November 2019. He is currently the Senior Advisor at NAC and a novelist working on a book about life in the age of climate change.



Jesse Krauss

Jesse began his career switch from education to the environmental field as an intern at the NYC UFS. While here, he worked on the Science of the Living City event series and learned a tremendous amount about the unique challenges of managing land in a city as large and as varied as NYC. He found a community of intensely motivated professionals (and friends!) who helped give him a sense of belonging and purpose in a new career. He currently works in development and communications at the NAC.



Laura Landau

After two and a half years with NYC UFS, Laura has moved on to return to grad school. Laura began working with the Field Station as a research assistant, and then served as the Project Manager for STEW-MAP 2017. Her work culminated with the publication of the STEW-MAP USDA FS Report: [STEW-MAP in the New York City region: survey results of the Stewardship Mapping and Assessment Project](#). Laura is currently pursuing a PhD in geography at Rutgers University. She continues to collaborate with NYC UFS researchers and is co-authoring publications building off the STEW-MAP data.



Ben Mertz

Ben completed a one-year position as the Conservation Coordinator for the Healthy Trees Healthy Cities initiative. Ben developed training materials and conducted training sessions in multiple cities throughout the U.S. He also oversaw the development of an online dashboard to accompany the Healthy Trees Healthy Cities tree health assessment app.



Lauren Smalls-Mantey

Lauren Smalls-Mantey transitioned from the Program Manager for the Cool Neighborhoods Heat Resilience Initiative at NYC Parks to an Urban Systems Analyst at the NYC Department of Health. She remains an Urban Heat Resilience Fellow at NYC UFS where she continues to explore the influence of vegetation and land use characteristics on air temperature in heat-vulnerable neighborhoods in NYC.



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Appendix

2019 Publications

- Campbell, Lindsay K.; McMillen, Heather; Svendsen, Erika S. 2019. The Written Park: Reading Multiple Urban Park Subjectivities Through Signage, Writing, and Graffiti. *Space and Culture*
- Campbell, Lindsay K.; Svendsen, Erika; Sonti, Nancy Falxa; Hines, Sarah J.; Maddox, David. 2019. Green Readiness, Response, and Recovery: A Collaborative Synthesis
- Doroski, Danica A.; Felson, Alexander J.; Bradford, Mark A.; et al. 2018. Factors driving natural regeneration beneath a planted urban forest. *Urban For Urban Green* 29: 238–47.
- Piana, Max R.; Aronson, Myla F.; Pickett, Steward T.; and Handel, Steven N. 2019. Plants in the city: understanding recruitment dynamics in urban landscapes. *Front Ecol Environ*: 455–63.
- Hines, Sarah J.; Campbell, Lindsay K.; Sonti, Nancy Falxa; Svendsen, Erika; Maddox, David 2019. Epilogue: Tracing the lines between storytelling, science, and recovery outcomes. In: Campbell, Lindsay K.; Svendsen, Erika; Sonti, Nancy Falxa; Hines, Sarah J.; Maddox, David, eds. *Green readiness, response, and recovery: A collaborative synthesis*. Gen. Tech. Rep. NRS-P-185. Newtown Square, PA: U.S. Department of Agriculture, Forest Service: 340-343.
- Jasny, Lorien; Johnson, Michelle L.; Campbell, Lindsay K.; Svendsen, Erika; Redmond, Josh 2019. Working together: the roles of geographic proximity, homophilic organizational characteristics, and neighborhood context in civic stewardship collaboration networks in Philadelphia and New York City. *Ecology and Society*
- Johnson, Michelle L.; Campbell, Lindsay K.; Svendsen, Erika S.; McMillen, Heather L. 2019. Mapping Urban Park Cultural Ecosystem Services: A Comparison of Twitter and Semi-Structured Interview Methods. *Sustainability*
- Johnson, Michelle L.; Locke, Dexter H.; Svendsen, Erika; Campbell, Lindsay K.; Westphal, Lynne M.; Romolini, Michele ; Grove, J. Morgan. 2019. Context matters: influence of organizational, environmental, and social factors on civic environmental stewardship group intensity. *Ecology and Society*
- Johnson, Michelle L.; Novem Auyeung, D.S.; Sonti, Nancy F.; Pregitzer, Clara C.; McMillen, Heather L.; Hallett, Richard ; Campbell, Lindsay K.; Forgione, Helen M.; Kim, Mina ; Charlop-Powers, Sarah ; Svendsen, Erika S. 2019. Social-ecological research in urban natural areas: an emergent process for integration. *Urban Ecosystems*
- Landau, Laura; Campbell, Lindsay K.; Johnson, Michelle; Svendsen, Erika; Berman, Holly 2019. STEW-MAP in the New York City region: survey results of the Stewardship Mapping and Assessment Project. Gen. Tech. Rep. NRS-189. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 69 p.
- Marshall, Victoria; Reynolds, Renae 2019. Codesigning a workshop garden. In: Campbell, Lindsay K.; Svendsen, Erika; Sonti, Nancy Falxa; Hines, Sarah J.; Maddox, David, eds. *Green readiness, response, and recovery: A collaborative synthesis*. Gen. Tech. Rep. NRS-P-185. Newtown Square, PA: U.S. Department of Agriculture, Forest Service: 58-73.

- McMillen, Heather; Campbell, Lindsay K.; Svendsen, Erika S. 2019. Weighing values and risks of beloved invasive species: The case of the survivor tree and conflict management in urban green infrastructure. *Urban Forestry & Urban Greening*
- Nyelele, Charity; Kroll, Charles N.; Nowak, David J. 2019. Present and future ecosystem services of trees in the Bronx, NY. *Urban Forestry & Urban Greening*
- Pregitzer, Clara C.; Charlop-Powers, Sarah; Bibbo, Silvia; Forgione, Helen M.; Gunther, Bram; Hallett, Richard A.; Bradford, Mark A. 2019. A city-scale assessment reveals that native forest types and overstory species dominate New York City forests. *Ecological Applications*
- Pregitzer, Clara C.; Ashton, Mark S.; Charlop-Powers, Sarah; et al. 2019. Defining and Assessing Urban Forests to Inform Management and Policy. *Environ Res Lett* 14: 1–27.
- Sonti, Nancy F.; Hallett, Richard A.; Griffin, Kevin L.; and Sullivan, Joe H. 2019. Forest Ecology and Management White oak and red maple tree ring analysis reveals enhanced productivity in urban forest patches. *For Ecol Manage* 453.
- Ward, Elisabeth B.; Pregitzer, Clara C.; Kuebbing, Sara E.; and Bradford, Mark A. 2019. Invasive lianas are drivers of and passengers to altered soil nutrient availability in urban forests. *Biol Invasions* 2

2019 Brown Bag Series

Kyle McKay, US Army Core of Engineers

Studying Messy Socio-ecological Problems through the Lens of Ecosystem Restoration in the US ACE

Anita Morzillo and Bob Fahey, University of Connecticut

Understanding & Promoting Resilience of Forest Socio-ecological Systems across the Urban-exurban Spectrum

Roisin Commane, Lamont Doherty Earth Observatory

Interactions between Energy and Environment: Measuring Air Quality and GHG's in NYC

Matt Baker, University of Maryland, Baltimore County

Mapping the Forest for the Trees: Socio-Ecological Character of Baltimore's Urban Woodlands

Leslie Brandt, USDA Forest Service

Adapting Urban Natural Areas to Climate Change

Alex Cook and Alison Kocek, SUNY ESF

Implications for Conservation of Tidal Marsh Sparrows in an Urban Environment

Yi Wang, SUNY ESF

Identifying Priority Buy-Out Properties for Wetland Restoration in NYC

Rich Hallett and Lauren Smalls-Mantey, NYC UFS

Cool Neighborhoods NYC Initiative

Novem Auyeung, NYC UFS

Sampling Design Implications for Management: A Case Study of NYC's Urban Forest