# Research Permits Report

## 2017 Annual Report

City of New York Parks & Recreation
Bill de Blasio, Mayor
Mitchell J. Silver, FAICP, Commissioner

NYC Parks

# Introduction

The mission of the Forestry, Horticulture, and Natural Resources Division (FHNR) is to protect, restore, expand, and manage New York City's natural spaces to maximize their benefits for environmental and community health and resilience. The mission of the NYC Urban Field Station (UFS) is to improve the quality of life in urban areas by conducting and supporting research about socio-ecological systems and natural resource management.

Each year, research permits are reviewed and issued by NYC Parks staff via the NYC UFS to researchers outside of the agency who are interested in conducting scientific research on NYC Parks properties.

## Program Overview

In 2017, 92 permits[1] were issued citywide. A majority of the permit holders were from academic institutions (49%), with non-profit organizations, like NYC Audubon and Billion Oyster Project, conducting 22% of the projects citywide. The Urban Barcode Project (UBP) was the foundation for most of the secondary education permits. NYC Parks has been playing an active role, through UBP, in teaching students about field collection as well as the role of permitting in research. Permits for the social sciences have increased and topics range from human health to ethnographic research. Historically, these programs have not been included in permitting, but increased interest in urban research has raised the need to track these types of projects and how researchers are interacting with park patrons.

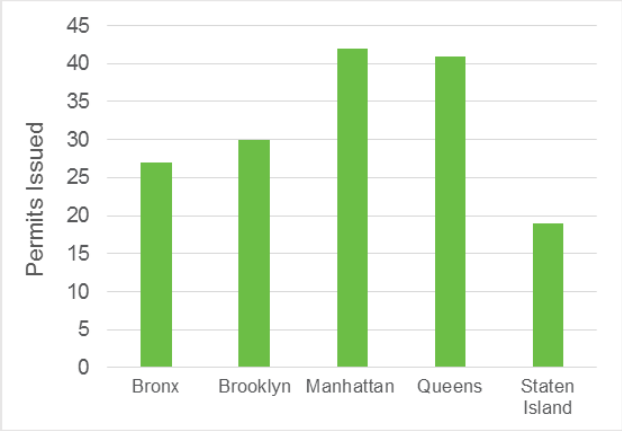


**Figure 1**. Boroughs where research occurred

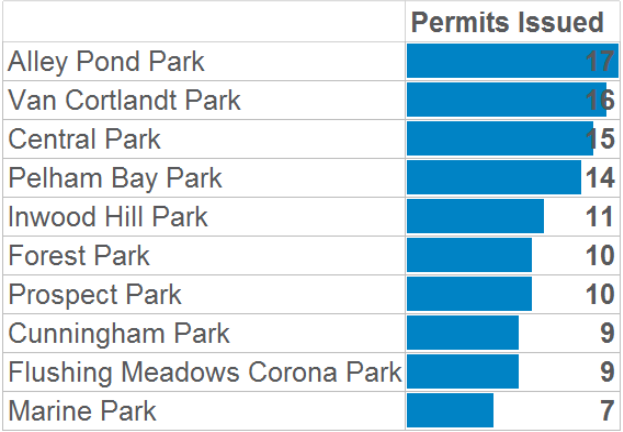


**Figure 2**. Top 10 parks with most permits issued

[1] In addition to the 92 permits issued, additional projects were tracked by the research permits program because it is also a means of notifying and gathering feedback from NYC Parks staff regarding natural resources management required by federal or state agencies, such as the Animal and Plant Health Inspection Service's (APHIS) Wildlife Damage Management programs around airports and the NYS Department of Environmental Conservation's statewide kudzu control program.

**Cover photo**: Black-crowned night heron chicks in Hoffman Island, Staten Island
**Photo credit**: Ellen Pehek, 2017

A majority of research projects occurred in Manhattan, followed by Queens (Figure 1). Many projects took place in multiple boroughs, so the same permit may have been tallied multiple times, once for each borough included in the study. Alley Pond Park was the most frequently studied park, followed by Van Cortlandt Park (Figure 2). In addition to the 10 parks, 252 other NYC Parks properties or study sites (e.g., some research permits involved street trees, which are located in the right-of-way and not a specific NYC Parks property) were also included in research permits.

## 2017 Program Highlights

- More permits were issued for new projects than existing ones (62% to 38%), with academic institutions leading most new projects.
- NYC Parks research permits program has seen an 18% increase in applications since 2009.

**Reporting**

The NYC Parks Research Permit Program has grown since permitting began in 2009 (Figure 3). In the past, we have emailed individual permit annual reports to applicable reviewers. With the addition of NYC Parks intranet sharepoint system, we will be adding all permit information to an easily shared spreadsheet that will allow us link all the annual reports for the different projects.

- NYC Parks intranet sharepoint – Current research permits are listed with annual reports attached. Permits can be filtered by Park name, Institution and/or Research Topic.
- Google Drive folder for outside reviewers – Conservancy staff that cannot access the NYC Parks intranet can download annual reports specific to their park.

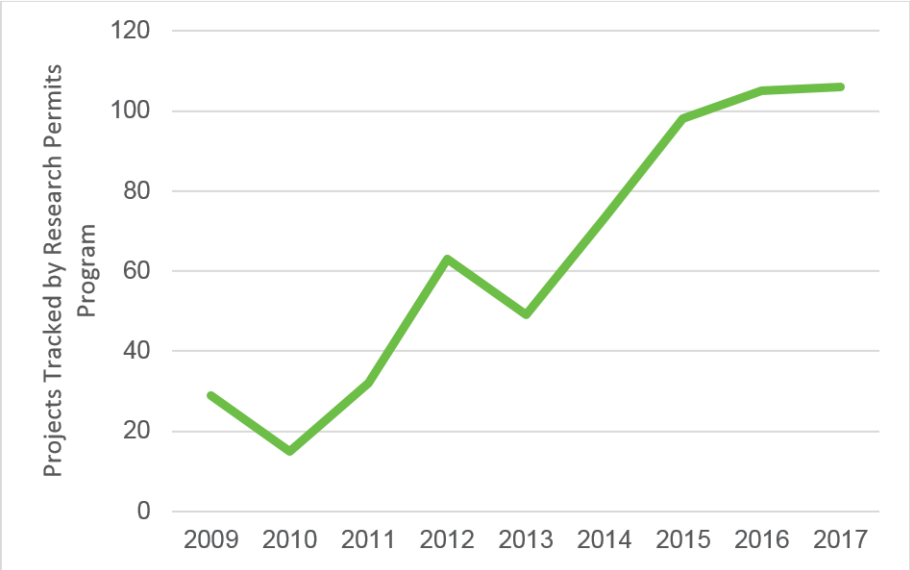


**Figure 3.** NYC Parks Research Permit Program growth over 8 years. The total number of projects tracked includes denied/withdrawn permits and natural resources management required by federal or state agencies.

## Research Topics

Research permits continue to diversify, so new research topic categories were added to track all of the work (Figure 4). Most of the new categories were used to track the level of taxonomic specificity some permits had compared to others. For example, many permits had a broad taxonomic focus on all plants (26 permits) while others were narrowly focused on only algae or bryophytes (3 permits), and some researchers were broadly interested in all invertebrate species (12 permits) while many others were focused on specific invertebrate taxa. Permits studying urban systems were focused on air quality or temperature and other environmental variables related to built infrastructure (3 permits). Similar to previous years, vegetation monitoring topped the list again as the most studied research topic across the five boroughs.

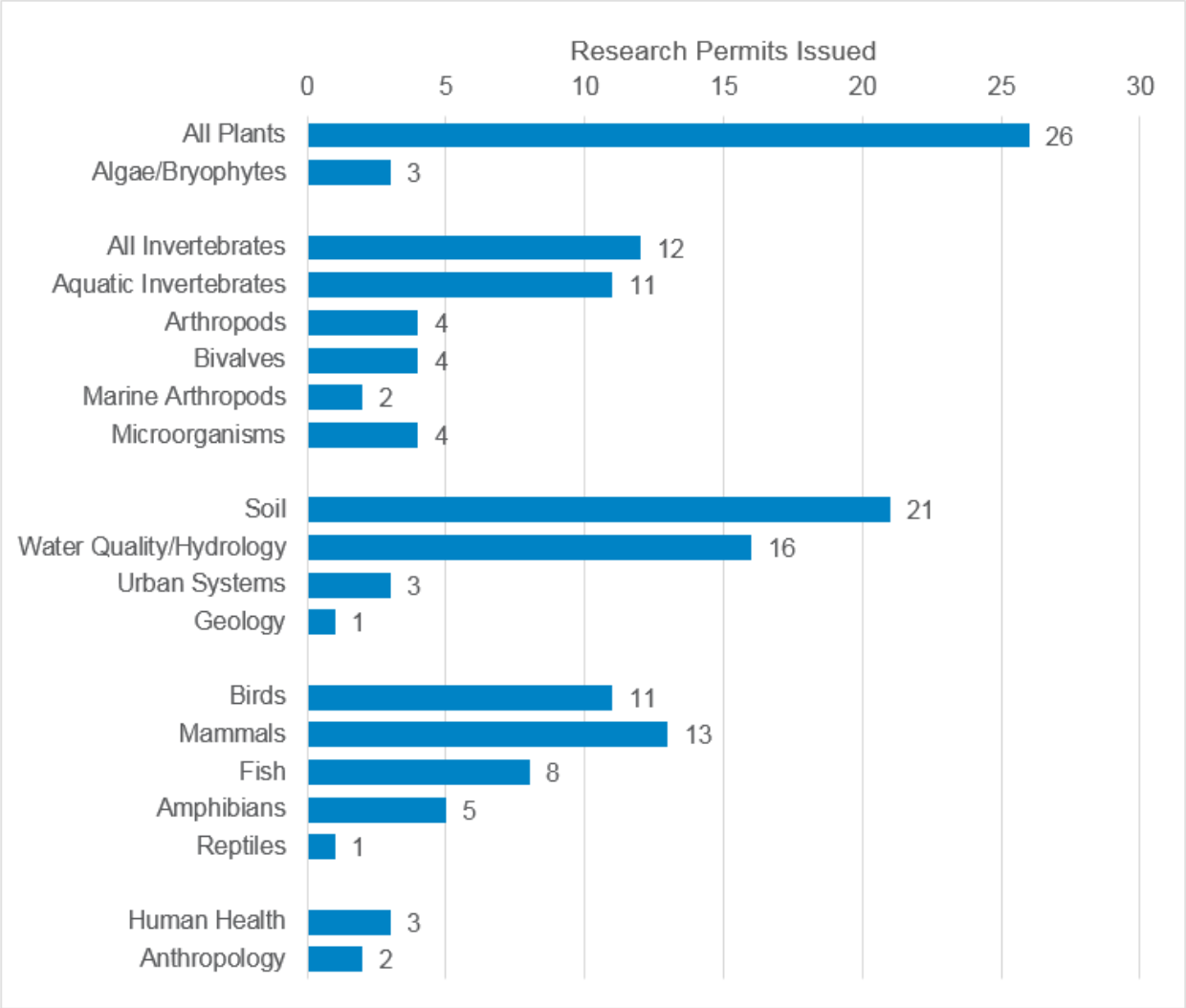


**Figure 4.** 2017 Research permits by topic.

# Affiliations of Researchers

**Universities**
Barnard College
Baruch College
Brooklyn College
City College of New York
College of Staten Island
Columbia University
Cornell University
Drexel University
Fordham University
Hofstra University
Hunter College
John Jay College
Macaulay Honors College
Mt. Sinai School of Medicine
New York University
North Carolina State University
Queens College
Queensborough Community College
Rockefeller University
Rutgers University
Rutgers University - Camden
St. John's College
St. Joseph's College
Stony Brook University
Touro University
University of Aarhus
University of Maryland
University of Wollongong, NSW
Yale University
York College

**Other Government Agencies**
New York City Department of Health
NYS Department of Environmental Conservation
USDA Forest Service

**K-12 Schools**
Academy for Young Writers
Bard High School Early College
Francis Lewis High School
New York Harbor School
PS 277
Regis High School
Seaford High School
Sunset Park High School
Tenafly High School
The Queens School of Inquiry
Wadleigh Secondary School

**Environmental Consultants**
AKRF, Inc.
Biohabitats
Independent - Botanical consultant
O'Brien & Gere
White Buffalo Inc.

**Non-Profit Organizations**
American Museum of Natural History
BioBus
El Puente
Friends of Van Cortlandt Park
Natural Areas Conservancy
New York Botanical Garden
New York Restoration Project
NY Harbor Foundation
NY/NJ Baykeeper
NYC Audubon
Protectors of Pine Oak Woods
Rocking the Boat
Trout Unlimited
Staten Island Zoo
Wildlife Conservation Society

# Publications on Permitted Research

The following are publications related to past research permits that researchers have shared with us.


Atha, D. 2017. Hydrocotyle sibthorpioides and H. batrachium (Araliaceae) new for New York State. Phytoneuron 2017-46: 1–6 Published 21 August 2017. ISSN 2153 733X

Botton, ML, CP Colon, J Rowden, S Elbin, D Kriensky, K McKown, M Sclafani and R Madden. 2017. Effects of a Beach Nourishment Project in Jamaica Bay, New York, on Horseshoe Crab (*Limulus polyphemus*) Spawning Activity and Egg Deposition. Estuaries and Coasts. 40(2). 1-14. ISSN 1559-2731

Fecht, S. 2017. High Levels of Lead Contaminate Many Backyards in Brooklyn Neighborhood. Columbia University State of the Planet (blog). http://blogs.ei.columbia.edu/2017/10/09/many-backyards-in-brooklyn-neighborhood-are-contaminated-with-high-levels-of-lead/

Nagy, C, M Weckel, J Monzon, N Duncan, MR Rosenthal. 2017. Initial colonization of Long Island, New York by the eastern coyote, Canis latrans (Carnivora, Canidae), including first record of breeding. Check List 13(6): 901-907

Winston, T. 2017. New York City Audubon's Harbor Herons Project: 2017 Nesting Survey Report. New York City Audubon, New York, NY.

# Tables of All Research Projects

## Ongoing Projects

| Name(s) | Year Started | Organization(s) | Project Name |
|---|---|---|---|
| **Susan Elbin** | 1982 | NYC Audubon | Birds of New York City |
| **Melissa Cohen** | 1996 | NYS Department of Environmental Conservation | Fisheries surveys of NYC freshwater lakes and ponds |
| **Jason Grabosky** | 1997 | Rutgers University | Year 20 McCarren Park |
| **Franco Montalto** | 2011 | Drexel University | Green Infrastructure Monitoring |
| **Mark Weckel** | 2011 | American Museum of Natural History | Mapping coyote habitat and dispersal corridors in the greater NYC metropolitan area |
| **Samuel Janis** | 2011 | New York Harbor School | BOP Oyster Gardening Program |
| **Allison Fitzgerald** | 2012 | NY/NJ Baykeeper | Soundview Community Oyster Reef |
| **Mark Botton** | 2012 | Fordham University | Effects of a beach nourishment project on horseshoe crab (Limulus polyphemus) spawning activity, egg deposition, and juvenile habitat use |
| **Ayse Aydemir** | 2013 | Bard High School Early College | Using DNA barcoding to identify invertebrates in soil samples from NYC Parks (East River Park) |
| **Jason Munshi-South** | 2013 | Fordham University | Cityscape Genomics of Rats (Rattus norvegicus) in New York City |
| **Elle Barnes** | 2014 | Fordham University | The Role of Urbanization on the Microbial Defense Mechanisms of Plethodon cinereus |
| **Lea Johnson** | 2014 | University of Maryland | Three decades of ecological change along an urban-rural gradient |
| **Marguerite Burke** | 2014 | PS 277 | Salt marsh wetlands |
| **Regina Alvarez** | 2014 | Queensborough Community College | The Flora of Central Park |
| **Susan Elbin & Debra Kriensky** | 2014 | NYC Audubon | The Urban Oasis in McGolrick Park |
| **Angelique Corthals** | 2015 | John Jay College | Forensic Anthropology Exercise - Recovery of Remains |
| **Courtney Singleton** | 2015 | Columbia University | Homeless encampment archaeology project |
| **Irina Khadinovich** | 2015 | College of Staten Island | Soil Survey |
| **Jason Aloisio** | 2015 | Wildlife Conservation Society | Project TRUE, Teens Researching Urban Ecology |
| **Jennifer Rosati** | 2015 | John Jay College | Biodiversity of Forensically Important Insects in Manhattan Region |
| **Jessica Hoch** | 2015 | Columbia University | Soil microbial assemblages and plant-microbial feedbacks on urban green roofs |
| **John Butler** | 2015 | Friends of Van Cortlandt Park | Wetland Stewardship for a Healthier Bronx |
| **Mark Stoeckle** | 2015 | Rockefeller University | Aquatic eDNA detection of fish in NYC habitats |
| **Nancy Sonti** | 2015 | USDA Forest Service | Urban-Rural Tree Ecophysiology |
| **Patricia Kenyon** | 2015 | City College of New York | Electrical Resistivity Imaging of Tidal Forcing of the Water Table in Heterogeneous Sediment |
| **Steven Handel** | 2015 | Rutgers University | Jamaica Bay Fringing Habitats: Restoration Experiment - Maritime Uplands |
| **Susan Elbin** | 2015 | NYC Audubon | Life Track Egret |
| **Anthony DeNicola** | 2016 | White Buffalo Inc. | Demographic and Behavioral Impacts of an Intensive Male Sterilization Program for Freeranging Whitetailed Deer on Staten Island, New York |
| **Georgia Silvera Seamans** | 2016 | New York University | Observing Wildlife Longitudinally in Washington Square Park |
| **Jason Smith** | 2016 | NYS Department of Environmental Conservation | Shore bird point counts |
| **Kestrel Perez** | 2016 | St Joseph's College | Measurement of size distribution and abundance of Invasive Asian Shore Crabs |
| **Max Piana** | 2016 | Rutgers University | Native Tree Recruitment in Urban Forests |
| **Nicholas Tailby** | 2016 | American Museum of Natural History | Geological mapping of outcrops in Riverside and Central Park |
| **Susan Elbin** | 2016 | NYC Audubon | Black Skimmer Banding at Arverne |

## New Projects

| Name(s) | Organization(s) | Project Name |
|---|---|---|
| **Christopher Aigner** | Trout Unlimited | Alley Creek Habitat Improvement |
| **Liz Alter** | York College | Environmental DNA analysis of restored oyster reef communities |
| **Jose Anadon** | Queens College | The effects of urbanization on scavenger behavior |
| **Daniel Atha** | New York Botanical Garden | Documenting the Native and Naturalized Flora of New York City |
| **Eric Bae** | Tenafly High School | The Tolerance to SO2 of Different Bryophytes and its Effects on Coloration |
| **Laura Bigler** | Cornell University | Wildlife Rabies Vaccination Program |
| **Russell Burke** | Hofstra University | Dwarfism in Fowler's Toads |
| **John Butler & Parker Gambino** | Friends of Van Cortlandt Park | Benthic Macroinvertebrates of the Tibbetts Brook Watershed |
| **Neeya Byrd** | Academy for Young Writers | Hendrix Creek water and soil sampling |
| **Elizabeth Carlen** | Fordham University | Population Genomics and Evolution in Feral Pigeons (Columba livia) in New York City |
| **Melanie Cohen** | American Museum of Natural History | Water quality sampling workshop for educators - Central Park |
| **Sandy Collins** | AKRF Inc. | Living Breakwaters Data Collection |
| **Jane Corbett** | City College of New York | Investigating Carbon Flux and Reactivity from Pelham Bay Marsh |
| **Peter Crawford** | University of Aarhus, DNK | Tompkins Square Dog Run |
| **Teresa Doss** | Biohabitats | Mariners & Arlington Marsh Master Plan |
| **Kristine Erskine** | Brooklyn College | A geospatial Habitat Suitability Model to predict the spatial and temporal variability in Jamaica Bay |
| **Myron Floyd** | North Carolina State University | Park Use and Physical Activity among Children in Low Income and Racial and Ethnic Minority Communities |
| **Helen Forgione** | Natural Areas Conservancy | Citywide Ecological Assessment of NYC Parks Natural Areas |
| **Deshauna Fraser** | Touro University | Restorative Effects of Natural Environments in Reducing Stress Among Urban City Dwellers |
| **Robert Frawley** | BioBus | Hudson River Flora and Fauna Monitoring |
| **Sarah Hamylton** | University of Wollongong, NSW | Aerial drone survey of Mau Mau Island (White Island) in Marine Park, Brooklyn |
| **Steven Handel** | Rutgers University | Long Term Transect Study |
| **Sarah Johnson** | New York City Department of Health | Cool Neighborhoods NYC: Temperature monitoring initiative |
| **Yelyzaveta Kalinichenko** | Wadleigh Secondary School | Plant Biodiversity at Morningside Lake |
| **Sarrah Kaye** | Staten Island Zoo | SI Zoo Bioblitz 2017 |
| **Franziska Landes** | Columbia University | Soil Sampling to test a new field kit in NYC |
| **Paul Lederer** | Protectors of Pine Oak Woods | Tagging monarch butterflies |
| **Raymund Lee** | Mt. Sinai School of Medicine | Presence of Algae in NYC Bodies of Water: Its Correlation with Wildlife |
| **Henry Lee** | Regis High School | The harmful effects of algae on Oakland Lake's ecosystem |
| **Christopher Mangels** | Independent - Botanical consultant | Re-survey of sedge flora of Vernam-Barbadoes site, Rockaway Peninsula |
| **Shaadi Mehr** | American Museum of Natural History | Bronx River microbiome profiling |
| **Duncan Menge** | Columbia University | What is the nitrogen fixation strategy of Elaeagnus angustifolia? |
| **Sabrina Miller** | Academy for Young Writers | East New York Ant Biodiversity Study |
| **Jesse Moore** | AKRF, Inc. | Threatened and Endangered Species Survey |
| **Katie Mosher-Smith** | NY Harbor Foundation | Billion Oyster Project |

## New Projects (continued)

| Name(s) | Organization(s) | Project Name |
|---|---|---|
| **Jason Munshi-South** | Fordham University | Molecular Investigation of Diet and Microbiomes in Urban White-footed Mice |
| **Kelly O'Donnell** | Macaulay Honors College | Alley Pond Bioblitz |
| **Ethan Park** | Tenafly High School | Effects of Pollution on Biodiversity of Algae in Bodies of Water in Central Park and Northern New Jersey |
| **Joseph Pasqualicchio** | Francis Lewis High School | The Use of DNA Barcoding Techinques to Determine Biodiversity of Ants in Kissena Park, Fresh Meadows, New York |
| **Lisa Prowant** | Stony Brook University | Incorporating Biotic Interactions into Species Distribution Models for Improved Conservation Planning |
| **Andrew Reinmann** | Hunter College | Recruitment and Regeneration in Forests of NYC |
| **Matthew Rhodes** | Barnard College | Comparison of soil microbial communities in native versus Sedum green roofs |
| **Mario Rivera Benito** | Rutgers University - Camden | Influence of water scarcity on urban ant food choices |
| **Cindy Roter** | The Queens School of Inquiry | Biodiveristy of invertebrates across habitat gradient |
| **Zachary Russo** | O'Brien & Gere | Detection of Chlorinated Solvents using Street Trees as proxy for testing ground wells along Bragg St. and Avenue W Site Characterization |
| **Eric Schneider** | Seaford High School | How boating affects biodiversity |
| **Laura Schramm** | St. John's College | Seasonal changes to metal composition in soil at public parks |
| **Jamie Smith** | Rocking the Boat | Suspended Intertidal Wetlands |
| **Jason Smith** | New York Restoration Project | Highbridge Park Soil Sampling |
| **Annie Stoeth** | Yale University | Dirty Soils in the City An Examination of Plastic Waste Concentrations on Urban Soil Health, as Measured through Invertebrate Functional Diversity |
| **Ana Traverso-Krejcarek** | El Puente | Urban Lab for Open Spaces |
| **Meredith VanAcker** | Columbia University | Ixodes scapularis vector dispersal in New York City |
| **Megan Wallner** | Sunset Park High School | Invertebrates and Plants in Prospect Park and Bush Terminal Park |
| **Helen Wang** | Francis Lewis High School | DNA Barcoding the Biodiversity of Invertebrates in the Eutrophic Meadow-Willow Lake System |
| **Elisabeth Ward** | Yale University | Restoring New York's Urban Forests: Effects of Invasive Vines on Tree Health and Carbon and Nitrogen Dynamics |
| **Mark Weckel** | American Museum of Natural History | Opportunistic GPS Telemetry of Relocated Coyotes in New York City |
| **Alice Wu** | Columbia University | Assessing the invasive potential of goldfish (Carassius auratus) by investigating propagule pressure and population ecology in lakes in New York City and Long Island |
| **Chester Zarnoch** | Baruch College | Quantifying the ecosystem services of nitrogen removal and carbon sequestration in restored urban tidal wetlands |

# For More Information

Research Permits Manager: Brady Simmons, brady.simmons@parks.nyc.gov

NYC Parks research permits program website: https://www.nycgovparks.org/permits/research/

NYC UFS website: http://www.nrs.fs.fed.us/nyc/

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