WCS Education is committed to inspiring a diverse and inclusive movement of conservation advocates and STEM professionals. Our work with youth is a centerpiece of this mission. Each year, over 1,400 youth ages 14 to 24 years old participate in enrichment, volunteer, internship, and employment opportunities across our five parks. The majority of these opportunities are at the Bronx Zoo, making WCS the largest employer of young adults in the Bronx. The WCS Career Lattice is our integrated careers pathway program through which youth from historically marginalized communities gain expanded entry points to opportunities at our parks and equal access to a suite of professional services and supports.

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## Table of Contents

**Executive Summary** .................................................. 4

**Impact** ................................................................. 6

**Volunteers** ............................................................. 10

**Interns** ................................................................. 14
Interns at WCS ............................................................ 14
WCS Systems: Recruitment and Selection, Onboarding, Support, Offboarding ............................................. 16
SCI Network NYC .......................................................... 22

**Part-Time Employees** ................................................ 29

**Looking Ahead** ....................................................... 42

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Wild Careers Institute .................................................. 33
WCS Youth JIVE ........................................................... 35
Webinars & Skill Building Series ........................................ 37
Understanding NYC’s Offshore Wind Career Landscape .................. 38
Community Connections: High Schools & Universities .................. 39
Community Connections: Community Based Organizations & Local Networks ........................................... 41
WCS is committed to building a diverse and inclusive movement of conservation advocates and STEM professionals. We work towards this goal through our integrated career pathways program, the WCS Career Lattice, a unique program that focuses on part-time employees, interns, and volunteers. The career lattice supports young people growing up in historically marginalized New York City communities in gaining expanded access to opportunities at our parks and a suite of professional services and supports. Informed by the Career Ready NYC Framework, the WCS Career Lattice is part of our commitment to ensure that young New Yorkers have the tools they need to shape their futures.

THE WCS CAREER LATTICE SUPPORTS YOUNG PEOPLE USING A THREE-PRONGED APPROACH:

**CONNECT** and recruit in local, historically marginalized communities through outreach and partnerships

**DEVELOP** through workshops, support services, programming, work experiences, and skill-building while at WCS

**ADVANCE** their professional journeys through leadership training and tiered professional opportunities

Look for Connect, Develop, and Advance icons throughout the report to see examples of these strategies in action

Our work to connect, develop, and advance youth is customized based on developmental level. The WCS Career Lattice builds career awareness early, creating opportunities for middle school students to learn about a careers and interact with STEM professionals. We support high school and college-aged youth in career exploration and preparation through skill-building workshops and work-based learning experiences. As they prepare to enter the workforce, WCS youth build social capital through networking events, identify career pathways through career counseling, and hone essential workplace skills.
### Impact

**Since April 2021, we reached 2,500 youth ages 14 to 24 who participated in enrichment, volunteering, internship, and employment opportunities across our five parks.*

- **59%** of WCS youth are part-time employees
- **25%** are volunteers and **16%** are interns

Volunteer & intern roles are often entry points for youth to then move into employment.

**Since we began tracking in 2018,**

- **459** WCS youth have moved into new roles at WCS, including advancing into elevated positions within one department and exploring new opportunities in different departments. We call this "latticing in action."

- **WCS youth earn $5 million annually from our parks**

- **97%** of youth felt welcome at WCS.

- **80%** of youth would like to work for WCS in the future.

- **60%** of youth reported improvement in their essential career skills, including teamwork and workplace communication.

- **84%** of youth reported they planned to pursue a STEM career.

*This number includes Spring 2022 youth who began working with us in April 2022.*
We conduct ongoing evaluation to understand youth program experience, improve our practice, and measure the impact of the WCS Career Lattice in connecting, developing, and advancing young people in their professional journeys. Now in our fourth year of data collection, we are able to look longitudinally to understand how this initiative has changed over time and track hundreds of WCS youth as they advance into new positions within the organization. Our research and evaluation efforts are described in more detail on our [website](#).

We conducted an exit survey of over 400 youth to understand their WCS experience and career plans. Responses are primarily from volunteers and interns and we plan to expand this survey effort to ensure broader representation of part-time employees.

**OVERALL EXPERIENCE & INCLUSION**

**75% OF YOUTH RATED THEIR 2021 EXPERIENCE AS SUPERIOR OR EXCELLENT.**

After falling from 80% for 2019 in-person programs to 71% in 2020 during the abrupt move to virtual programs, youth overall experience is improving. This is likely due to a stronger virtual program in 2021 that capitalized on a year of experience building youth connections and learning online.

97% agreed or strongly agreed that they felt welcomed at WCS

94% agreed or strongly agreed that they felt appreciated at WCS

Contributing to this positive overall experience is the welcoming, inclusive, and youth-focused environment fostered in our programming. Indeed, youth reported that they felt welcome and appreciated at WCS, with nearly all selecting Agree or Strongly Agree.

"FUE UNA EXPERIENCIA DIVERTIDA Y AL MISMO TIEMPO INTERESANTE Y CADA TEMA [DEL PROGRAMA] ME AYUDÓ A DESARROLLAR AUN MÁS MIS CONOCIMIENTOS Y PODER ENSEÑARLES A MIS COMPAÑEROS LA IMPORTANCIA DE SABER TEMAS QUE NOS AFECTAN COMO ADOLECENTES."

"IT WAS BOTH A FUN AND INTERESTING EXPERIENCE AND EVERY [PROGRAM] TOPIC HELPED ME DEVELOP MY UNDERSTANDING EVEN MORE AND TEACH MY PEERS THE IMPORTANCE OF KNOWING ABOUT TOPICS THAT AFFECT US AS TEENS."

-YOUTH PROGRAM PARTICIPANT
**KNOWLEDGE DEVELOPMENT**

Youth enter WCS volunteer and internship programs because they’re passionate about animals and conservation. They brought existing knowledge about environmental science and wildlife to their programs, but also reported that the programs helped them to learn more about each of these topics. As in previous years, youth came to WCS knowing relatively little about zoo and aquarium practices or WCS conservation work.

They reported significant knowledge gains in these areas, likely strengthening their appreciation of WCS’s role in protecting wildlife and wild places in New York City and around the world.

**ESSENTIAL SKILL DEVELOPMENT**

WCS is a place to hone essential workplace skills like teamwork and communication. While many entered WCS programs feeling proficient in these areas, there was an increase in their reported skills after the program, suggesting that learning and practicing essential skills with their peers and mentors was valuable. Additionally, *57% of youth noted an improvement in their resume and interview skills.*

> "I BELIEVE OTHER TEENAGERS MY AGE COULD DEFINITELY BENEFIT FROM THIS [PROGRAM]. EVEN IF THEY ARE NOT NECESSARILY INTERESTED IN SCIENCE, THEY DEFINITELY DEVELOP KEY SKILLS BY DOING THE TASKS WE DID THIS SEASON."
**PEER CONNECTIONS**

WCS is a place to meet like-minded peers. 82% of youth reported that they met people with similar interests. Additionally, despite the fact that most programs were facilitated online in 2021, 80% reported that they felt connected to WCS youth at their park.

> "I REALLY LOVED THIS EXPERIENCE. THIS WAS MY FIRST TIME WORKING WITH ANYTHING WILDLIFE/CONSERVATION WHICH IS SOMETHING I AM PASSIONATE ABOUT. SO TO MEET PEOPLE WITH THE SAME PASSION AS I WAS GREAT AND I LOOK FORWARD TO WORKING WITH WCS IN THE FUTURE!"

Many youth expressed excitement about participating in-person in the future, which they felt would make them feel even more connected to their peers.

**CAREERS & FUTURE AT WCS**

- **84%** of youth reported they planned to pursue a STEM career.
- **21%** were interested in an environmental or conservation-focused career in research, policy, law, or communications.
- **18%** were interested in becoming a veterinarian, including a vet at a zoo or aquarium.

Surprisingly, only seven youth (2%) noted that they want to be an animal keeper, a substantial decrease from previous years, suggesting that career panels that highlighted a variety of WCS professions may have expanded youths’ perceptions of zoo and aquarium careers.

“[I WOULD LIKE] AN ENVIRONMENTAL AND COMMUNICATIONS CAREER! WORKING AT EITHER AN ORGANIZATION SUCH AS WCS TO EXTEND A MESSAGE OF SUSTAINABILITY WOULD BE AMAZING.”

**YOUTH SPOTLIGHT: LATTICING IN ACTION**

**Vanessa Song**

Brooklyn, NY 11214

“When I first started my role, I remember my main goal was to become a zookeeper and I believed that was the only way of making a difference in conservation. I soon realized that there are plenty of other ways of supporting wildlife conservation.”

“I HOPE TO CONTINUE TO STAY INVOLVED. WORKING WITH WCS HAS HONESTLY BEEN A LIFELONG DREAM OF MINE, EVER SINCE I STARTED RUNNING IN THE RUN FOR THE WILD WHEN I WAS 8. THANK YOU SO MUCH!”

- BZ Quest Leader, 2017
- BZ Youth Employee Advisory Council, 2017
- NYA Conservation Camp Counselor, 2018
- NYA Birthday Party Coordinator, 2019
- NYA Admissions Associate, 2020
- WCS Education Registrar (full-time), 2021
- WCS Education Admin Coordinator (full-time), 2022
CAREER SUPPORT SERVICES

Youth at WCS have a wide array of interests, and the Career Lattice provides them with the opportunity to try out different opportunities through which they can develop new skills and experiences. We provide support as they advance and diversify their positions by advertising opportunities in our monthly youth newsletter and posting opportunities in communal digital spaces like Discord.

We also provide individualized case management to hundreds of youth each year, highlighting new opportunities to engage with WCS, determining next steps for career advancement, and reaching out to hiring managers to provide references.

YOUTH SPOTLIGHT: LATTICING IN ACTION

Ilana Morris

- BZ Quest Leader, 2019
- Youth Employee Advisory Council Intern, 2019 – 2020
- BZ Advanced Quest Leader, 2019
- BZ Reptile Volunteer, 2019-2020
- BZ Mobile Crew, 2020-2021
- BZ Reptile Associate, 2021
- BZ Visitor Engagement Assistant, 2021

“When I first got hired I could not believe that I was working at THE Bronx Zoo! It held such a special place in my childhood and I would honestly brag a little bit whenever someone asked where I worked (and still do). My goal has always been to work with animals, but I felt that Education would be a great foot in the door of a wonderful organization, and I was so right, because here I am assisting part-time in the herpetology department! Eventually, I would like to work full time with animals.”
Science communication is at the heart of our work at WCS, and it is a foundational skill for any STEM professional. Yet, science communication and public engagement are rarely taught in academic settings, with many people advancing into STEM careers without learning how to talk about science with a variety of audiences. Our commitment to building the next generation of science communicators is exemplified by our Discovery Guide volunteer program, which trains 400 youth annually to engage zoo and aquarium visitors in interactive conservation learning. The program centers communication skills in all aspects of training and practice, from teamwork and peer interactions to live interpretation and visitor engagement.

We believe that building science communication skills among young people will have an outsized impact on future generations. They will be better prepared to collaborate, teach, and lead, ensuring that their voices shape the science landscape. Additionally, building a diverse cohort of science communicators will lead to messages that are meaningful for many audiences, thereby building broad awareness of science and conservation work. WCS visitors come from a variety of cultural backgrounds and our frontline science communicators – youth Discovery Guides – also reflect those backgrounds, ensuring that our interpretation is simultaneously accessible to all and tailored to the needs of specific audiences.

The Discovery Guide program is the earliest entry point to the WCS Career Lattice. 85% of participants were 14 to 17 years old.
OF 2021 & SPRING 2022 DISCOVERY GUIDES LIVED IN ZIP CODES WITH A MEDIAN HOUSEHOLD INCOME LESS THAN 1.5 TIMES THE NYC POVERTY LINE, WHICH IS CONSIDERED AT RISK OF FALLING INTO POVERTY.

Most Discovery Guides were local: 89% lived in New York City. As in previous years, participants were spread across all five boroughs, albeit unevenly, with 41% and 33% living in Queens and Brooklyn respectively. The large percentage of Queens residents occurs because unlike the other parks, almost all participants in the Queens Zoo Discovery Guide program are Queens youth. Additionally, the borough’s location provides easy access to all five parks, meaning that Queens youth are well-represented in all Discovery Guide programs. The large percentage of Brooklyn residents is because two of our parks are located in Brooklyn.

Discovery Guides represented a variety of cultural and linguistic backgrounds. 77% were BIPOC (Black, Indigenous, and People of Color) 13% were born outside the US, and 59% spoke a language other than English at home, collectively speaking a total of 39 languages. These demographics represent a meaningful change from 2020; this year, youth were less likely to identify as white (-8%) and more likely to identify as Asian (+14%) and speak Mandarin or Cantonese at home (+7%).

Seventy percent used female pronouns, 23% used male pronouns, and 7% used other or multiple pronouns. Of the 38 youth who were 18 and older, 15 (39%) identified as LGBTQIA+

Race/ethnicity of Discovery Guide Program participants

97% OF DISCOVERY GUIDES PLAN TO GO TO COLLEGE AND 37% WILL BE FIRST GENERATION COLLEGE STUDENTS
In 2021, our Discovery Guide programs remained virtual and we created new opportunities for youth to build their science communication skills and connect with peers. With digital resources becoming a more important part of the visitor experience, we trained Discovery Guides to produce simple online games shared with zoo and aquarium visitors via QR codes. 179 Discovery Guides produced 115 new MobileQuests products, which had more than 31,000 views in Summer 2021. Mobile Quests' reach was broadened further through in-park engagement, with live interpretation staff using the games with over 160,000 visitors.

With a number of youth returning for the summer 2021 program, we continued to find new and exciting ways to engage our Discovery Guides in conservation education - this time by taking on the world. We asked the Summer Discovery Guides to create a family-friendly interpretive experience that focused entirely on WCS’s global conservation work. 202 Discovery Guides created GlobalQuests, 200 unique digital assets featuring 27 countries. Adding a new twist, the Discovery Guides gamified the experience with a virtual passport and stamps that visitors collected along their journey.

Languages Discovery Guides spoke at home, with size corresponding to frequency. Some volunteers used their skills to create multilingual experiences for in park visitors.

"THE GROUP PROJECT DAYS WERE THE BEST...WE HAVE ALL GROWN CLOSE...AND I BELIEVE THAT THERE WAS A LOT OF CHEMISTRY AMONG ALL OF US. OVERALL, THE ENTIRE DG COMMUNITY WAS PROBABLY ONE OF THE BEST COMMUNITIES I HAVE BEEN A PART OF, AND I WOULD HONESTLY CALL THIS MY PERSONAL HOME."
- 2021 VIRTUAL DISCOVERY GUIDE

Avatars created by Discovery Guides. These characters were used in educational games, videos, and other digital resources.
MobileQuests and GlobalQuests activities reflected youth voice and their creators’ identities. Discovery Guides selected their topics, chose the types of games and images, recorded narration for their videos, and even built avatars that looked like them.

Participants reported that they strengthened their science communication skills through the Discovery Guide program. Not only did they feel better able to teach people about science and conservation, but they also felt prepared to inspire people to take action to help the environment. Additionally, 70% indicated that the program strengthened their ability to use digital communication tools.

"I WOULD LIKE TO BECOME A GRAPHIC DESIGNER OF SOME SORT BECAUSE I LOVE TO DRAW AND I LOVE TO PLAY AROUND WITH DESIGNING WORK ON CANVA. I THINK GRAPHIC DESIGN...IS HEAVILY NEEDED IN MULTIPLE OTHER FIELDS LIKE BUSINESS OR CONSERVATION WORK. I WOULD LOVE TO MAKE DESIGNS FOR CONSERVATION WORK, WHETHER THEY BE INSTAGRAM POSTS OR A WEBSITE OR POSTERS TO GET COMMUNITIES ENGAGED AND LEARNING."

-2021 DISCOVERY GUIDE

Activities from the Brazil, Tanzania, and Mongolia pages of the GlobalQuests website

We recognize the importance of in-person engagement for building interpretive skills and connections and are pleased to bring the Discovery Guides back to our zoos and aquarium in Spring 2022. Discovery Guides will be stationed around our parks leading educational activities designed to connect visitors with nature.
Many youth gain their first work experiences through internships. These coveted positions provide entry-level exposure to a particular field, skills-based training, and opportunities to network with professionals. In today’s competitive job market, internships are an increasingly necessary component of youths’ resumes, and many full-time positions at cultural institutions require the specific types of experience that internships provide. Despite their importance in ensuring future career options, securing an internship is not straightforward and inequity is rampant. Many positions, especially those at non-profits, are unpaid and remain out of reach for youth who lack financial resources, while others are accessible only by those with high social capital who can use connections to identify and secure positions.

We are committed to diversity, equity, and inclusion, we recognize the value of incorporating youths’ diverse voices and experiences into the fabric of our organization. We are leading a two-pronged effort to increase internship equity at WCS and create a citywide system that will support young New Yorkers seeking to enter the STEM and cultural institution workforce.

Interns at WCS

Each year, WCS hosts over 300 interns across our five parks. Prior to 2021, each WCS department operated independently to recruit, onboard, and train interns, a dispersed system that was neither accessible nor inclusive. WCS recognized this disparity and in 2021, launched the WCS Internship Initiative, a consolidated program that connects New York City youth with high-quality work experiences, professional development, and careers at our zoos and aquarium.
barriers to internships

FOR INTERNS

$ Most opportunities are unpaid

Lock Lack of transparency & access

Gears Lack of social capital

FOR ORGANIZATIONS

Clock Large time investment in training

Person Lack of confidence in hiring someone who is learning and/or supporting a young adult

Magnifying Glass Recruitment (especially in attracting diverse candidate pools)

Laptop Logistics (forms, onboarding, etc.)

THE INTERNSHIP INITIATIVE HAS FOUR MAIN ACTIVITIES TO OVERCOME THESE BARRIERS:

**Standardize the WCS Internship Experience:** We are ensuring that all youth can participate in WCS internships, regardless of financial background. We compiled a cross-departmental database of internship opportunities and are collaborating with supervisors to ensure that all internships meet a standardized set of program design criteria, including compensation.

**Ensure Inclusive Recruitment and Screening Practices:** We updated our protocols to elevate DEI best practices and reduce reliance on social capital to secure a position. We disseminate information about internships through strategic partnerships and are building an internship website to share the full suite of opportunities with the public.

**Building Staff Capacity:** Internship supervisors are responsible for fostering a supportive environment that ensures that all interns learn and grow during their time with us. We are developing training modules to equip supervisors with best practices in mentoring and youth development and have access to a coach with this expertise.

**Cultivate Community and Foster Intern Growth:** We will ensure that all interns have access to our series of professional development resources, including skill-building workshops, career talks, peer-to-peer networking, connections to employment opportunities, and personalized career support. We will invest in our interns and by doing so, encourage them to continue their career journeys with WCS and at other cultural institutions.
In order to create an inclusive internship program, we had to address the fact that WCS does not have a centralized internship department with the administrative processes and procedures that exist for employees. We developed a multi-department team composed of leaders in Education, Human Resources, Office of General Council, Payroll, Finance, Information Technology, and Diversity, Equity, and Inclusion. This team enthusiastically embraced the task of developing systemic changes that addressed everything from internship definitions and compensation standards to common application, supervisor training, and intern tracking. This collaboration has led to a suite of system changes that will have a lasting impact on how interns are recruited, supported, and advanced at WCS for years to come. Since July 2021 we have:

- Defined a WCS internship, ensuring alignment with the US Fair Labor Standards Act, US Department of Labor and IRS guidelines, and New York State criteria.
- Created a process for departments to apply to create an internship with set activities, learning objectives, and a mentoring plan.
- Developed standard operating procedures for recruitment, including leveraging strategic partnerships and creating a publicly accessible internship website (see "Connect" box on page 17).
- Built a centralized application portal for all WCS internships.
- Established onboarding and offboarding systems, including digital forms, common training modules for all interns, and feedback systems to ensure intern experiences continue to improve.
- Produced an internship supervisor handbook and training module that describes strategies for mentoring youth and links to external resources.
- Created tracking systems to automate the collection of longitudinal data that allows us to understand youth pathways – including advancement into elevated positions.
- Pilot tested all systems with more than 50 interns who were onboarded into spring 2022 positions.
Prior to this initiative, a young person seeking an internship at WCS had no centralized place to look. Opportunities were posted on standalone webpages or not at all, decreasing access and transparency. We are pleased to showcase our new internship website, which provides a landing page to view the diverse array of opportunities, profiles of former interns, and links to application materials. We also built an intranet site on OurWCS where internal stakeholders, including internship supervisors, can find policies, trainings, and resources. These two communication efforts form a central pillar of our strategy to democratize access to information about internships.

Youth Spotlight: Latticing in Action

Samantha Santisteban
Queens, NY 11355

- Virtual CUNY Cultural Corps Intern 2020-21
- BZ Conservation Camp Counselor, Summer 2021
- BZ Visitor Research Associate, Winter 2021

"After interning remotely for a year, it was amazing to work at the Bronx Zoo in person! Being surrounded by wildlife and nature all summer and working with kids, it was such a great experience. Thanks to my supervisors, I’ve grown both professionally and as a person which will help me with my future career path!"
NEW VOICES IN SCIENCE RESEARCH:

PROJECT TRUE

Project TRUE (Teens Researching Urban Ecology) is a summer research mentoring program designed to engage new voices in ecology research and empower youth with an understanding of the threats to NYC’s precious green spaces and how to address these threats.

Each summer, Project TRUE supports 20 Bronx-based high school juniors from backgrounds underrepresented in STEM as they design and conduct ecology research projects under the mentorship of five undergraduates. The undergraduates - all of whom are part of Fordham University’s Collegiate Science and Technology Entry Program (CSTEP) - are mentored by WCS staff, informal educators, and Fordham University biology faculty.

In June, undergraduates completed one month of training in mentorship and science research and developed their urban ecology research projects. At the beginning of July, high school students joined the program and selected the projects that they wanted to pursue, creating their own research questions nested within the broader topics. All projects intentionally created space for personalization and this year, Project TRUE youth were excited to incorporate social and environmental justice issues into their projects. For example, one group studied differential vulnerability to flooding across NYC neighborhoods.

Project TRUE was primarily virtual in 2021, with all team-building and science training taking place online. Youth had the option of joining for in-person activities during the three weeks of data collection. Three research teams collected data in-person at the Bronx Zoo and one team conducted their work online using open-source or historical ecology data sets and social surveys. The summer culminated with youth developing scientific posters describing their findings, which they presented at the Science Research Mentoring Consortium’s 3rd Annual Summer Symposium, sharing their research with family and friends.

Our Summer 2022 program will be fully in-person, with youth gathering at the Bronx Zoo for learning, socializing, and conducting hands-on science research.

“I considered myself more of an amateur scientist, I had already been working in another lab, but I hadn’t conducted my own research. After participating in Project TRUE, I now know that I am capable of doing great things, and am a more experienced scientist!”

- Brigitte Gibbs (Undergraduate Mentor, Project TRUE 2021)
Check out the 2021 videos here and read the research posters:

- The Effects of Air and Noise Pollution on Small Mammals in the Bronx
- Comparing and Determining Water Quality of the Bronx River Through the Lens of Climate Change
- Coastal Vulnerability and Ecosystem Risk Factors
- Effects of Managed Green Spaces on Small Urban Mammal Species
- The Effects of Urbanization on Bird Species Richness, Abundance, and Behavior at the Bronx Zoo

INFORMING OUR COMMUNITY OF PRACTICE

Our National Science Foundation-funded research on the impact of Project TRUE on alumni as they transition to college was published in the Journal of Experiential Education in November 2021. Using a longitudinal approach that tracked youth over four years, this study explored the impact of Project TRUE’s hands-on field research experience and mentoring as unique factors impacting STEM outcomes among youth historically underrepresented in the sciences.

We found that authentic research experiences were related to increased science interest and pursuit of STEM majors, even after youth’s transition to college. Mentorship had a more indirect impact on STEM academic intentions, with positive mentorship experiences impacting youths’ reports of social connection.
The 2020–2021 virtual cohort of Youth Ocean Advocates was passionate about urban environmentalism and the NYC seascape. During their time together, the team researched a range of ocean conservation issues and created advocacy videos for World Ocean Day that were shared across WCS social media platforms. Their work culminated in a 45-minute webinar on local marine conservation efforts that the youth presented through the Ocean Project’s Rise Up webinar series.

The 2021–2022 15 member YOA cohort kicked off the program in October 2021, with weekly virtual meetings and monthly in-person meetings at the New York Aquarium. This year’s big projects include a cleanup for It’s My Estuary Day in May and organizing events for World Oceans Day in June. The group will also create content for WCS Social Media channels to inspire peers to take action for the environment including oceans and waterways.

Sharks and Dolphins!
Recent regulations protecting local fish populations have maintained food sources for predators like whales and dolphins!
Species recovery has also been aided by the Marine Mammals Protection Act and the Endangered Species Act.
The New York Bight contains more than fifteen whales, dolphins and porpoises.

“The fact that the ideas we bounce around during brainstorming sessions are actually sprouting into fruition...is truly exciting and has been the most impactful for me. From applying to grants and permits, to planning the specifics of event activities and prizes, a sense of real-world professionalism is mixed with passionate collaboration in a brand new way for me!”

- Brian Caballo (Youth Ocean Advocate, 2021)
Zoos and aquariums are training grounds for animal care professionals. Animal care interns at our five parks work alongside WCS staff to learn the daily husbandry, care, and training routines for a variety of species, while building an appreciation for the role that zoos and aquariums play in conservation. These internships provide the foundational experience required for successfully securing an entry-level animal care position.

“I have really enjoyed being a part of a community that advocates for wildlife and the environment keeps me determined and hopeful for the future. I always knew I would work in conservation. Whether that would be through education, research, or animal care was the tricky part. Ideally, I would love to do all three! Through this internship I’ve seen that it’s possible to work with animals, educate the general public, and contribute to research. Once my internship ends, I would love to continue my career within WCS.”

Maria Rodriguez (NY Aquarium Sea Cliffs Intern)

“For many years I have dreamed about removing the economic barriers to enter into the zoological field. By providing stipends to our interns, we are removing the traditional gatekeeping to our field, and setting the zoo and aquarium industry to be more representative for years to come. It is extremely important that all people see themselves in the work that we do here at the WCS parks in NYC and in our global initiatives. By creating the most diverse and inclusive zoos and aquariums here in NYC, we allow more people to connect with wildlife and see themselves in our work. I am excited to see our workforce continue to become more and more representative of the city around us, and have all people become environmentalists who try and save species.”

John Scott, NY Aquarium Keeper & Sea Cliffs Internship Supervisor
New York City is a world-class cultural hub and leader in science education. At the forefront of these efforts are 8 science-based cultural institutions in 12 locations across all 5 NYC boroughs: American Museum of Natural History (AMNH), Brooklyn Botanic Garden (BBG), New York Botanical Garden (NYBG), New York Hall of Science (NYSCI), Queens Botanical Garden (QBG), Staten Island Zoo, Wave Hill, and the Wildlife Conservation Society, which includes Bronx Zoo (BZ), New York Aquarium (NYA), Central Park Zoo (CPZ), Prospect Park Zoo (PPZ) and Queens Zoo (QZ). Together we act as STEM career development centers.

Realizing our collective impact on STEM career development for youth, WCS led the effort to bring these institutions together, forming the SCINetworkNYC. Funding from the New York City Speaker has enabled us to create a community of practice composed of leaders and youth development professionals from across the eight institutions. The SCINetworkNYC has three main goals:

- Develop systems to connect interns with employment opportunities across institutions.
- Develop a partnership-wide plan to leverage New York City’s Summer Youth Employment Program into benefits for our interns and institutions.
- Demonstrate our collective impact on the science intern landscape through evaluation, storytelling, and advocacy.
Through 60 internship opportunities, the eight organizations collectively host 1,100 interns each year, covering a variety of specialties, such as science research, education, live interpretation, animal care, and horticulture. Internships serve youth from high school through graduate school, with about half designed for college students. Half are concentrated summer programs, while others are longer and overlap with the school year. Thanks in part to SCI Network NYC funding, all internships are compensated.

**YOUTH SPOTLIGHT: LATTICING IN ACTION**

**Neena Mir**
Queens, NY (11104)

- Discovery Guide, WCS, 2018-2020
- Discovery Guide Leader, WCS, 2019
- Saltz Intern, AMNH, 2019-20
- Science Research Mentoring Program, AMNH, 2020
- Quest Leader, WCS, 2021
- Conservation Camp Counselor, WCS, 2021

“At both AMNH and WCS, I was able to meet like-minded individuals who have helped me expand the way that I think about both research and conservation and the importance of learning to communicate about the environment to the public.”
ELEVATING YOUTH VOICE: YOUTH INTERNSHIP ADVISORY COUNCIL

Elevating youth voice is a critical component of our work with interns and we recruited a group of 10 past, current, and future interns to form a Youth Internship Advisory Council. Council members share their experiences and take action to ensure that internships at SCI Network institutions are accessible, inclusive, and contribute to meaningful skill development and careers for New York City youth.

Feedback sessions to date have focused on intern recruitment, topics for skill-building sessions, and systems for staying in touch with youth as they advance in their careers. Reflecting our commitment to ensuring that all internships are compensated, Council members receive a stipend for their participation.

"The future growth of New York is linked to our collective ability to ensure a scientifically literate workforce. WCS is at the forefront of nurturing those future leaders by harnessing the energy of our science based cultural institutions. Our leadership will help pave the way for a more inclusive and educated workforce in the years ahead."

- JOHN CALVELLI - EXECUTIVE VICE PRESIDENT OF PUBLIC AFFAIRS, WCS

Youth from AMNH (above) and NYSCI (below)
The Summer Youth Employment Program (SYEP) is the nation’s largest youth employment program. This city-funded initiative provides stipends to NYC youth engaged in structured work-based opportunities at sites all over the city, including at SCI Network NYC partners. We’ve identified several barriers for employers, including the inability to match individual youth with available positions, timing that does not align with cultural institutions’ busy season, and the lack of digital infrastructure for tracking participants.

We are working as a network alongside NYC Council Members to identify changes that will increase SYEP placements in SCI Network NYC internships. For example, we are considering the potential for SCI Network NYC to become a sector-based provider as well as funding for a dedicated staff person to oversee placements and communication between host sites and the city.

**SYEP AT WCS**

WCS is a large SYEP employer. We welcomed 67 youth into SYEP roles in summer 2021, with participants joining the Restaurants, Education, and Merchandise Departments across all five of our parks. We hope to return to pre-pandemic participation levels in 2022 (up to 200 placements), including partnering with NYC CareerREADY schools and expand opportunities to additional WCS departments.

**SYEP AT QUEENS BOTANIC GARDEN**

Queens Botanical Garden (QBG) supports 120 to 150 interns each year, many of whom come through SYEP because of the Garden’s deep partnerships with local providers. QBG’s success leveraging SYEP as consistent support for internships has made them an important collaborator in the series of listening sessions we have hosted with SYEP providers. During these sessions, we explore barriers and propose solutions to enable SCI Network partners to more effectively connect with youth through SYEP.
Almost all partner institutions collected demographic data from their interns in 2021, which we compiled and standardized to understand our collective youth audience. These data reflect demographics for 546 interns across seven institutions.

**Baseline Demographics**

<table>
<thead>
<tr>
<th>Color</th>
<th># of Youth</th>
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<tbody>
<tr>
<td></td>
<td>0</td>
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<tr>
<td></td>
<td>1-3</td>
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<td></td>
<td>4-6</td>
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<td>7-9</td>
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<td></td>
<td>10-12</td>
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<td>13+</td>
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About half of the interns were 17 and younger, and likely in high school, with the remaining half spanning a wide range of ages and educational levels.

93% of interns lived in NYC.

They represented more than 63% of ZIP codes with a high concentration in Queens.

**Age of Interns**

- 13: <1%
- 14: 1%
- 15: 4%
- 16: 17%
- 17: 26%
- 18: 8%
- 19: 5%
- 20: 7%
- 21: 4%
- 22: 4%
- 23: 4%
- 24: 3%
- 25: 1%
- 26: 1%
- 27+: 27%
The SCI Network NYC serves a racially and ethnically diverse group of interns. Relative to New York City residents, interns who identified as Asian and Two or More racial and ethnic groups were overrepresented, while interns who identified as white, Hispanic or Latinx, and Black or African American were underrepresented.

SCI Network NYC youth were also linguistically diverse, with 57% speaking a language other than English and a collective total of 48 languages spoken at home. Queens is one of the most linguistically diverse locations in the US, with an estimated 138 languages spoken. The many languages spoken by our youth may reflect the fact that nearly half of them called Queens home.
PEER-TO-PEER NETWORKING

On April 23rd, more than 30 youth interns and alumni from the eight partner institutions will convene at the Queens Botanical Garden for a day of networking, career support, and fun. This first annual SCI Network NYC Spring Social will support the growth of youth social capital by facilitating peer-to-peer connections across institutions.

High school and college-aged youth will practice networking with a group of like-minded peers and a panel of youth alumni will share their experiences finding mentors in college. Youth and their guests will be able to visit all three Queens-based SCI Network partners during their visit, with the Queens Zoo and New York Hall of Science located a short walk away.

EVALUATION: UNDERSTANDING OUR COLLECTIVE IMPACT

We have established a multi-institutional evaluation strategy to understand the Network’s collective reach and impact. All eight partners are collecting standardized demographic data from interns and facilitating a exit survey to understand interns’ participation in SCI Network NYC professional development opportunities and other ways that we can support youth career development. We look forward to sharing those results in a future report.
WCS is the largest employer of youth in the Bronx, with over 900 youth working in our zoos and aquarium each year. We recognize that part-time jobs are often young people’s first entry into the workforce, and these positions offer various benefits, including an income, opportunity to develop essential workplace skills, and as some studies have shown, higher wages over the course of a career. WCS is well-situated to support young people at the beginning of their career journeys, ensuring that they have the skills and social capital necessary to advance into full-time positions at WCS and other organizations.

Most of our part-time employees work on a temporary basis during the peak visitation season from March to November. Between 60 and 70 percent of our part-time temporary workforce is comprised of youth, many of whom are in their first job. In 2021, WCS employed 943 youth in part-time temporary positions. So far, in 2022, we have hired 629 youth into these positions, with those numbers expected to grow as the busy season gets underway. These youth were spread across visitor-facing departments at all five parks. Most (85%) were associates in the Business Services department, which oversees Admissions, Restaurants, Merchandise, and Rides and Parking.

![Distribution of part-time/temporary youth employees at WCS by park (left) and by department (right).]
WCS employed an additional 57 youth in part-time year-round positions. These youth were concentrated in the Animal, Global Conservation, and Education Departments, where staffing needs are more consistent throughout the year.

![Part-time, permanent employees by department]

**Youth Spotlight: Latticing in Action**

**Rania Taib**
Queens, NY 11418

- Digital Discovery Guide, Spring 2021
- BZ Restaurant Associate, Summer - Winter 2021

"After the [Discovery Guide] program ended, I knew that I didn’t want to part ways with WCS yet...so I applied to different positions and managed to get an interview as a Restaurant Associate at the Dancing Crane. I had absolutely no experience with working with food or cash but my awesome managers and supervisors were very patient and answered every question I had. I learned that the money earned from the food we sold all went back to the animals and making sure that they get the best care possible."
Since I graduated early from high school, I always ran into one form of rejection or another mishap that kept me from furthering my education in the field I wanted. Even though I was nervous to apply to college, all of [my supervisors and coworkers] wanted to help. Finally after all the paperwork, I was happy to announce I got in… it was an exciting day for sure I almost didn’t believe it happened.

Almost all (91%) youth part-time employees were 18 and older. This group is generally slightly older than youth interns and volunteers, though they are still early in their careers.

71% of our part-time youth employees identified as Hispanic or Black. This percentage is twice that of WCS interns and nearly four times that of WCS volunteers. We recognize these differences and are working to increase the diversity of interns and volunteers by reimagining our recruitment and support services.
57% of youth part-time employees identified as female and 43% as male. Our current demographic data collection includes only these two groups, so we do not have data on the number of youth who identify as non-binary or a gender other than female or male. We are hoping to revise these systems in the future.

95% of our youth part-time employees lived in New York City. For four of our parks, the large majority of employees live in the same borough, with many living in the ZIP codes immediately surrounding the park where they work. 65% of part-time youth employees lived in ZIP codes with a median income less than 1.5 times the New York City poverty line, which are considered at risk of falling into poverty.

**OUR EMPLOYEES ARE HYPER LOCAL**

84% of Bronx Zoo part-time employees lived in the Bronx

81% of Queens Zoo part-time employees live in Queens

73% of Prospect Park Zoo part-time employees lived in Brooklyn

80% of New York Aquarium part-time employees lived in Brooklyn

**YOUTH SPOTLIGHT: LATTICING IN ACTION**

**Maria Guanga**

Manhattan, NY 10031

- NYA Discovery Guide, 2019
- BZ Mobile Crew, Spring – Fall 2021
- BZ Visitor Research Associate, Summer – Fall 2021

“When I started as a [volunteer] at NY Aquarium, I was nervous and excited because I was working in an aquarium for the first time and I did not have any background in education or knowledge of ocean animals. It was a challenging opportunity for me. Now, as a Mobile Crew member, I still have the same goal…which is to learn, inspire and be involved in wildlife conservation to protect our mother earth and its species.”
Preparing young people for careers starts early - even before they enter their first volunteer position - and we aim to foster awareness among youth who are just beginning to make the connections between their education and career opportunities.

To advance this goal, in 2021, we launched our Wild Careers Institute, which reached 3,400 NYC middle and high school students through virtual workshops and STEM career panels. These interactive virtual workshops introduce students to a variety of STEM careers that conserve wild animals and wild places.

We recruited student and teachers through our partnerships with NYC public schools, many of which were unable to send school groups to our parts in person because of district restrictions related to Covid-19. Instead, we brought STEM to their classrooms with live-streamed educator-led programs that included interactive STEM activities and a Q&A session with WCS staff based all over the world. Career panels featured WCS and STEM professionals from many cultural backgrounds and in a variety of jobs: conservation scientists working in our priority regions around the globe, health professionals who provide medical care of our animals in our zoos and aquarium, keepers who take care of the animals on a daily basis, and educators, designers, and communication experts who share our conservation messages. After the program, teachers received our innovative Conservation Heroes curriculum, which profiles nine conservation leaders at WCS and includes suggestions for how to continue conversations about careers with their students.

“LOVED IT. I FEEL THAT STUDENTS NEED TO SEE HOW MANY TYPES OF PEOPLE ARE NEEDED FOR THE MANY CAREERS IN WILDLIFE.”

- TEACHER PARTICIPANT
We recorded the career panels and made them available for free to teachers who submitted a request on our website. These recordings broadened our reach, allowing teachers to bring wildlife career content to over 2,500 students in a way that worked with their schedules.

Teachers universally praised the Wild Careers series, with all rating their program as Excellent or Superior. All felt that their students were engaged and that the program increased their awareness of STEM careers. Teachers also felt that their students could relate to WCS staff in STEM careers and valued how the sessions highlighted the experiences of real people.

This work allows us to continue to build connections with our local schools, broaden students’ conceptions of STEM professionals, and more deeply engage New York’s diverse student body in science learning. Additionally, these programs support our Career Lattice by fostering excitement among students about working with WCS in the future.

We delivered **12 STEM career panels** designed for diverse age groups and covering a variety of topics.
Every year, WCS kicks off the recruitment season with the Job, Internship, and Volunteering Expo (JIVE) at the Bronx Zoo. This day-long event provides a forum for youth to learn about a variety of WCS opportunities, spruce up their resumes and interview skills, and connect with hiring managers. JIVE provides a welcoming and inclusive space for young people to build skills and connections that are essential for professional success and launching their careers.

In 2022, this event was held virtually, capitalizing on 2021’s custom-built website that simulates an in-person career fair. We hosted a record-breaking 1,010 attendees who tuned into 9 skill-building and informational workshops, including an overview of WCS and our career pathways, resume and interview assistance, and a career panel showcasing employees from WCS’s Black Leadership Advancement Consortium (BLAC). Attendees were also able to enter more than 10 virtual hiring rooms where they connected directly with hiring managers to learn about opportunities and get tips on applying.

For the first time ever, we featured opportunities outside of WCS such as those through our partner institutions in the SCI Network NYC (see page 22). Staff from New York Botanical Garden, Wave Hill, and the Staten Island Zoo met with JIVE participants to showcase their opportunities.
We piloted a small post-JIVE interview fair with 4 different departments targeting JIVE attendees which resulted in 28 job offers to youth, a 63% hiring rate.

To date, 83 youth from the JIVE event have been hired into paid jobs and 47 youth have been hired into volunteer or intern positions.

"I love the variety of programs that were shown. I also loved how interactive the meeting was for us students."

"Thank you so much for this great opportunity! It was great to get information and answers and speak directly to the staff."

-JIVE Attendees
Career Lattice youth have access to professional development supports during their time at WCS. During 2021, more than 1,600 youth tuned into 12 live career webinars and 16 skill-building workshops. The career talks featured 12 STEM professionals from across the globe, including a financial accountant for WCS Uganda, a conservation biologist for WCS Brazil, a climate scientist, and a diversity, equity, and inclusion officer. The speakers highlighted the range of careers available in STEM and conservation. Each one-hour webinar included 20 minutes for questions, including day-to-day aspects of panelists’ jobs, their favorite moments, personal career journeys, and what youth can do to prepare for that type of career.

The virtual skill-building workshops were 90-minute sessions that covered eight different topics, including financial literacy, social media do's & don'ts, online interviewing, and a new workshop: “How to Hustle, Network, and Get Yourself Out There.” Staff ensured the sessions were interactive by building in live trivia, chats, breakout room discussions, and a variety of presentation media. The session on financial literacy was particularly well-attended, with many youth voicing that they had never been taught life skills like understanding loans, credit, and basic taxes - all of which could have real repercussions in their lives.

We shared a calendar with recordings of webinars and workshops for youth who could not attend the live session.

“The skill building workshop focused on verbal and non-verbal communication was so helpful! It helped me understand certain mannerisms and silent cues like body language. It has been very interesting to apply these lessons to both digital and non-digital workplaces.”
- 2021 Discovery Guide Volunteer

“Previous to this program, I often felt unsure, and anxious even, about my future with career pursuits. While I often receive reassurance from my peers and family, there’s always a sense of doubt of one’s own ability, especially when the future is so unclear. However, with the first [webinar] with Cora Kim, I was able to be exposed to some great information on moving through life, and how falsely limited it may seem.”
- Jason Lu, 2021 Discovery Guide
The rapid expansion of offshore wind in NYC is creating a new workforce charged with delivering on New York’s commitment to a healthy ocean ecosystem and thriving ocean-based economy. Youth are central to this work and WCS believes that integrating career exploration into STEM education will support equitable career pathways and a more inclusive economy.

We are collaborating with Resolve Conservation, a women and minority-owned consulting firm, to assess the landscape of ecological jobs connected to offshore wind. This work, which will culminate in a virtual convening of experts to discuss findings in Spring 2022, will inform the structure of WCS’s career pathways program supporting NYC youth. We look forward to sharing the white paper later this spring.

The baseline understanding of workforce needs, qualifications, and education opportunities generated through this landscape assessment will be critical in tailoring WCS’s workforce development efforts. This initiative continues our commitment to providing young New Yorkers with a competitive advantage in pursuing new STEM careers and ensuring a healthy and productive marine ecosystem for all.
We leverage our partnerships with youth-serving organizations in New York City to share expertise and support recruitment for volunteer, internship, and employment opportunities. Our partners are diverse and include formal and informal education institutions, community-based organizations, and citywide networks.

HIGH SCHOOLS:
Our long-standing relationships with guidance counselors and administrators at high schools across the city allow us to share information about youth opportunities at WCS. This outreach enables us to reach hundreds of youth at their schools, provide guidance as they identify opportunities that align with their interests, and support them during the application process.

We also build relationships with CareerREADY schools, which are select NYC public high schools that are part of the Summer Youth Employment Program (SYEP) and provide academic learning and career exploration year-round. The partnerships developed between CareerREADY schools, SYEP providers, and worksites serves to build more equitable access to opportunities to build skills, gain experience, and explore potential careers that will help all New Yorkers to contribute to our city’s vibrant economy. We are currently identifying CareerREADY schools for partnership in 2022 to support our recruitment efforts.

UNIVERSITIES:
The City University of New York (CUNY) is a strong recruitment partner and the type of social mobility and community development driver that WCS values. Three-quarters of CUNY students are from New York City and over half come from homes with an income of less than $20,000 per year. Additionally, 81% of CUNY graduates stay in New York. CUNY Culture and Service Corps programs are a pipeline for WCS internships and since 2013, we have hosted 15 to 25 CUNY interns annually.
At the conclusion of the internships, we work to place interns into paid positions at WCS. In Summer 2021, we placed five interns into part-time positions in the Education and Admissions departments. We are committed to enhancing our partnership this year to ensure a lasting place for CUNY students in the WCS Career Lattice.

The Collegiate Science and Technology Entry Program (CSTEP) program is a statewide undergraduate scholars program designed to prepare students from historically underrepresented and economically disadvantaged backgrounds for STEM careers. We work with the CSTEP program at Fordham University to select undergraduates for our Project TRUE (Teens Researching Urban Ecology) internship. **Since 2014, we have hosted over 100 Fordham University undergraduate interns - the majority of whom were CSTEP students.**

In this internship, undergraduates develop an urban ecology research project under the mentorship of graduate students and conservation educators, while simultaneously serving as near-peer mentors for several high school students. Our research found significant positive gains in undergraduates’ research and mentoring skills immediately after the program and follow-up interviews more than a year later indicated lasting impacts on science and STEM career interest and broader professional skills.
COMMUNITY CONNECTIONS

COMMUNITY BASED ORGANIZATION & LOCAL NETWORKS

We leverage our partnerships with youth-serving organizations in New York City to share expertise and support recruitment for volunteer, internship, and employment opportunities. Our partners are diverse and include formal and informal education institutions, community based organizations, and city-wide networks.

COMMUNITY BASED ORGANIZATIONS:

WCS benefits greatly from partnerships with community based organizations (CBOs). In the Bronx, our reach is significantly amplified through relationships with The Children’s Aid Society, Children’s Arts & Science Workshops, Inc., Good Shepherd Services, and Phipps Neighborhood. Collectively these CBOs facilitate the Career READY Student Youth Employment program at 11 Bronx high schools representing over 5,000 students. They provide enhanced opportunities for youth to explore career options, develop work readiness skills and serve as a vital conduit for recruiting and placing students in summer work-based learning opportunities at WCS zoos and aquarium.

LOCAL NETWORKS:

WCS is a member of several New York City networks supporting youth in science, which allow us to connect with other youth development experts and reach young people who are actively seeking opportunities at institutions like ours. We are active participants in the Science Research Mentoring Consortium, a group of over 20 partner programs that provide authentic science research experiences and mentorship to New York City youth. Our monthly meetings allow program leaders to share experiences and expertise, facilitate cross-promotion of our opportunities, and create shared resources supporting youth advancement in STEM.

We also lead the SCI Network NYC, which includes eight science-based cultural institutions focused on increasing internship equity and movement of youth across our organizations. For more on the SCI Network NYC see page 22.
Diverse perspectives and voices are vital to successful conservation efforts. In order to ensure that future conservation and STEM professionals develop effective and relevant strategies to address the complex challenges we all face, it is imperative that they represent the people and communities most impacted by environmental degradation. We are committed to actively addressing the systems that limit the science and conservation career opportunities for a diverse cadre of people from our local communities. We recognize that systemic inequalities exist, and have developed a comprehensive strategy to address these at our organization and in the communities we serve. While we recognize that this is a monumental undertaking, so is our mission. WCS has been in the field of wildlife conservation for over 125 years and we recognize the value of a long-term investment in our future. We will build on the efforts described here and look forward to cultivating them to bring about real and lasting change.
The mission of the WCS Education Department is to inspire a diverse, inclusive movement of conservation advocates. We do this by sparking connections with animals and nature, enhancing scientific literacy through hands-on investigation, and engaging constituents in stewardship and action to conserve wildlife and wild places. WCS Education is headquartered at the Bronx Zoo, and has teams that operate out of each of our four zoos and aquarium in New York City.