To address the lack of diversity that exists within the fields of wildlife and conservation science, the Wildlife Conservation Society (WCS) developed Bridging the Gap (BTG), a three-year National Science Foundation (NSF) funded Innovative Technology Experiences for Students and Teachers (I-TEST) initiative for underrepresented minority New York City high school students. Over the course of three cohorts, Bridging the Gap has served 150 students and their parents. Selected participants engaged in a host of activities including college readiness seminars, zoo and aquarium internships, and career planning workshops. The implementation of a community mentoring program, in particular, contributed to BTG’s overall success.

The Need for Diversity and Understanding
For years, zoos and aquariums have acknowledged the low number of minority science professionals in their field. A diverse workforce allows zoos and aquariums the opportunity to draw on diverse perspectives and cultures to be more relevant and more successful in reaching their conservation goals.

This commitment by wildlife science professionals to be more inclusive is evidenced by the numerous articles, papers, and conference presentations that have addressed this issue (Taylor, 2014).

However, according to U.S. News & World Report, African Americans, Hispanics, American Indians and Alaska Natives (“historically underrepresented racial and ethnic groups,” as described in the report) accounted for 10 percent of U.S. workers in science and engineering in 2010 — up slightly from 7 percent in 1993, but still a far smaller proportion than their share of the general population, which was 26 percent. Generating greater numbers of university graduates who are prepared for occupations in science has become a priority in America as tertiary education continues to play a critical role in establishing strong interest in STEM (Science, Technology, Engineering, and Math) education and careers (Neuhauser, 2014). However, America’s higher education system frequently loses many potential STEM graduates—especially candidates of colour (Chen, 2009).
WCS addressed this need by developing a program that provides underrepresented minority students with career guidance in conservation and wildlife science. From providing university readiness training and internships with wildlife science professionals, WCS has created an effective model for increasing diversity in the zoo and aquarium STEM career workforce. This effort was recently acknowledged by the Association of Zoos and Aquariums. In 2014, BTG received the Angela Peterson Excellence in Diversity Award, given to organizations who demonstrate a commitment to reaching diverse audiences through programming or staff development.

The Bridging the Gap Program
For most young people who are nearing the end of their high school education, selecting a career that fits their interests and goals is a major area of concern (Aud, Fox, & KewalRamani, 2010). BTG recruited high school students between the ages of fifteen and eighteen who identify as an underrepresented minority. Sophomores (tenth grade), juniors (eleventh grade), and seniors (twelfth grade) were eligible to apply. Participants were selected from over forty public and private high schools within the five boroughs of New York City (Brooklyn, Bronx, Manhattan, Queens, and Staten Island) via a process which included an application, essay, and in-person interview with WCS staff.

Once selected, students were assigned to take part in the program at the New York Aquarium, Bronx Zoo, Central Park Zoo, Prospect Park Zoo, and Queens Zoo–WCS’s five sites in New York City. Students attended full day, weekly sessions for nine weeks, as well as two after-school sessions, during which WCS professionals gave talks that shed light on their life and career journey. Full day sessions focused on various elements of STEM careers in zoos and aquariums and were immersive, hands-on, and inquiry-based. BTG’s curriculum was consistent across all five sites.

To give students insight into the university admissions process, BTG students participated in a two-day “College Bootcamp.” They learned the details of the university admissions process, set long-term and short-term goals, researched prospective universities, learned advocacy skills, and conducted a financial aid and scholarship search. This process provided a strong platform for student success. To date, 88% of the BTG students that are eligible to attend university are either currently enrolled or preparing to attend university in fall 2015. We expect these numbers to grow as acceptance letters continue to arrive and the younger BTG students become eligible to attend university.

During the three years of the program, WCS collaborated with social service agency Good Shepherd Services. The guidance offered by Good Shepherd Services was provided on a monthly basis in an effort to strengthen the areas that were out of WCS’s scope of practice (i.e. social work, mental health, and family counseling). Parents and guardians of students were also engaged through informative workshops and regular phone contact. During the parent workshops, attendees engaged with program staff, joined a BTG activity with program staff and students, and discussed university-related topics such as where to attend school, financial aid, and how to acquire scholarships. WCS was committed to keeping parents abreast of BTG’s rules/obligations and to engage parents early in the program so that they understood the importance of the project. This allowed for a deeper program/parent connection that would in turn reduce attrition rates and heighten parental interest in supporting their student as s/he pursued a possible STEM career at a zoo or aquarium.

Creating Effective and Sustainable Mentoring Relationships
To further enhance the program’s effectiveness and to ensure that students were on-track for program completion, BTG included a mentoring component. In developing a mentoring series that would provide students with solid professional contacts and relationships in the field, the Primary Person Model (which involves connecting a student with an advisor who offers ongoing coaching, guidance, and career advice) was utilized for the first year of the program (cohort 1). Staff members interested in becoming a
mentor participated in a training class to learn about mentoring best practices. As often as possible, students were paired with professionals who had similar career goals, interests, and hobbies. Matches were made through the use of a modified personality survey that was administered to both students and mentors online. Some examples of questions included: “What are your hobbies?” “Where do you see yourself in 10 years?” “What are your career goals?” “What were your career goals when you were in high school?” Once linked, students and mentors were encouraged to communicate through email, phone calls, text message, and to schedule mentor meet ups.

Bridging the Gap’s year 1 evaluation indicated that students benefited greatly from the mentoring program, with a mean rating of 4.2 out of 5 for the statement “Overall the mentorship assistance was helpful,” and 4.4 out of 5 for “My mentor(s) is willing to give me advice and answer my questions.” However, when probed about the status of the mentoring program and their relationship with their assigned student, some mentors did not share the same sentiments. Although this approach seemed the most promising for the needs of the program, cultivating a natural mentor/mentee relationship proved difficult through this method as communication style, comfort level, available resources, and/or time varied from one participant to the next. Some mentors felt as if their relationship was one-sided, with the mentor frequently initiating conversation and then waiting for a timely response from their mentee. Others believed they lacked the ability to find common ground, and, as a result, interactions with mentees felt forced and uncomfortable. Additionally, since the program did not require regular in-person interactions, some mentors felt out of touch with their mentees.

With this in mind, WCS adopted a community-centered mentoring model that eliminated the need for a one-on-one mentor/mentee assignment. With this model, both professionals and students had the opportunity to interact with each other in a group setting, with scheduled in-person mentor sessions held at the zoo afterschool. Through the use of hands-on activities and discussion topics that were designed to strengthen the bond between students and professionals, the pressure on any one party to force a relationship that would not have developed organically given different circumstances disappeared. As a result, both mentors and students were able to build relationships with all participants instead of a select few.

The community mentoring sessions were conducted once a month during after-school hours at the Bronx Zoo, Central Park Zoo, Prospect Park Zoo, Queens Zoo, and the New York Aquarium (eight times per site and cohort for ninety minutes). On average, four to seven mentors and ten to twenty mentees participated. Students from Cohorts 1 and 2 were also invited to attend. Group activities during the eight sessions included creating vision boards (collages with images that represent long-term and short-term goals), discussing future career plans, and participating in role playing sessions with WCS professionals to learn valuable interviewing skills.
Evaluation data for the second year displayed a slight rise in student approval with a mean rating of 4.5 out of 5 for the statement, “Overall the mentorship assistance was helpful,” and 4.6 out of 5 for, “My mentor(s) are willing to give me advice and answer my questions.” Despite these improvements, staff feedback suggested that the activities felt too structured and did not allow for a natural flow of conversation between the mentors and students. They indicated a need for more conversation and less activity-based engagement.

During BTG’s third and final cohort, the curriculum was amended to allow time for small group discussions and relationship strengthening. There were fewer planned activities and more time for conversation to flow between mentors and mentees. Final evaluation data was not available at the time of this publication. However, students appeared to be engaged during sessions and a large number of students from all three cohorts participated in mentoring sessions. Additionally, staff satisfaction with the Community Mentoring Model is high. Some staff members who have participated in all three BTG cohorts have expressed that this model works well for them. They indicated having a higher level of satisfaction in terms of what they could offer the students and also felt that this model allowed them to rely on others, who had diverse experiences, in order to effectively meet the varied needs of the students.

Moving Forward
Deploying a community mentoring program that seeks to change in the lives of underrepresented high school students not only requires careful planning but also demands flexibility, understanding, dialogue, and focus from all involved. The adaptation of a Community Mentoring Model, with an emphasis on dialogue, has allowed WCS to best use the strength of our professional staff to support Bridging the Gap students in a way that takes into account the unique needs of this population.

References

