



NEIWPC Final Report

Title of Project: *COMMUNITY ARTS+MEDIA for TRASH FREE WATERS (CAM4TFW)*

NEI Job Code: 0323-003

Project Code: 2016-027

Contractor: FUND FOR THE CITY OF NEW YORK/ CAFETERIA CULTURE PROJECT

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Project Period: 09/8/16 – 1/9/18

COMMUNITY ARTS+MEDIA for TRASH FREE WATERS (CAM4TFW) Final Report

Synopsis of overall project

COMMUNITY ARTS+MEDIA for TRASH FREE WATERS (CAM4TFW) is a school-community partnership and demonstration project, during the 2016-17 school year in three low-income, urban communities of color. The project goal is to reduce plastic street litter and increase recycling via youth-led, community-designed education and engagement campaigns that focus on the negative environmental and health impacts of land-based plastic marine pollution. Each school functions as a project hub, where students take on leadership roles in their own community and work with intergenerational teams to conduct litter characterization studies and clean ups, pilot and promote reward systems with local businesses, and design creative messaging including, giant puppets, short videos, and social media campaigns. The project videos are promoted citywide and nationally [via CafCu's YouTube channel](#), inspiring other low-income, public housing, and immigrant communities to replicate similar initiatives.

Date Submitted: January 3rd, 2018

Date Approved: [February 2018]

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This is a New England Interstate Water Pollution Control Commission (NEIWPC) and the US Environmental Protection Agency (EPA)funded project

This project was funded by an agreement awarded by the United States Environmental Protection Agency to the New England Interstate Water Pollution Control Commission (NEIWPC) in partnership with FUND FOR THE CITY OF NEW YORK/ CAFETERIA CULTURE PROJECT.

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Executive Summary

Since 2012, Cafeteria Culture (CafCu) has been teaching unique environmental education programs in over 20 New York City (NYC) public schools, primarily located in low-income communities. The three school communities that we partnered with for this project, had previously participated with Cafcu in programming related to:

- student leadership - working towards zero waste schools;
- arts and media curriculum resulting in urban youth-messaging and outreach;
- civic participation - plastic-free legislation;
- citizen science activities - students collect data via waste audits and litter surveys.

CafCu's focus on plastic marine litter was heightened due to participation in the Trash Free Water Partnership, a US Environmental Protection Agency (EPA) Region 2 initiative, and our United Nations presentation in 2016 at the 17th Meeting on Oceans and the Law of the Sea (ICP-17) - Marine Debris. Additionally, Quirk had directed an award-winning documentary on marine plastic pollution in Japan.

Through our school programming, we observed unique cultural practices and attitudes towards consumption, recycling, and littering within different school communities. We also piloted programs where creative, youth-driven solutions for waste reduction had inspired community-wide change.

Prior to applying for this grant opportunity, the Cafeteria Culture team had been approached by educators and organizations, asking us if we were planning to develop and share trash free waters curriculum. We were inspired to build upon our curriculum development of the previous years and to take our plastic marine litter programming to the next level.

The *Community Arts and Media for Trash Free Waters (CAM 4 TFW)* program took place in the Brooklyn communities of Red Hook (PS15) and East Flatbush (MS246), and in Manhattan's Alphabet City (PS34). The three partner schools all service low-income students with significant populations living in public housing and shelters. New York City Housing Authority (NYCHA), which houses 400,000 city residents, has only in recent years provided basic recycling infrastructure. Litter on school, NYCHA, and neighboring streets is a common problem within all three communities.

There is a deep connection to climate change in all three partner communities. Red Hook and Alphabet City were seriously impacted by Superstorm Sandy and East Flatbush has a large Caribbean immigrant population with strong ties to island cultures and the threats of climate change.

The primary objective of CAM4TFW was to reduce local street litter by the following methods:

- Develop and teach hands-on environmental education with a plastic marine litter focus;
- Empower students as leaders within their communities;
- Utilize youth citizen science to collect needed local litter data;
- Integrate Media and Arts education with Science to propel student-led outreach for engaging communities on the urgency of the problem;
- Build community around plastic litter awareness and action.

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The CAM4TFW program was segmented into 3 focus areas with the following actions:

- **Classroom Education:**
 - Teach basic knowledge of plastic marine litter, Combined Sewer Overflow (CSO), and plastic litter impacts on ocean, wildlife and human health;
 - Socratic discussions on legislation, neighborhood observation, video production, storytelling, 2D, 3D and video messaging, problem solving, and promotion of youth messaging.
- **Citizen Science:** street and beach litter data collection, analysis, and presentations;
- **Advocacy and Outreach:**
 - Student-led**
 - Presentations to community, parents, leaders, and government;
 - One-on-one communication with neighbors;
 - Convened meetings with businesses, community, government, and NYCHA staff;
 - Cafcu Team-led**
 - QAPP development and ongoing project planning, and reporting;
 - Meetings with all project partners, NYCHA, community stakeholders and government officials;
 - Social Media campaigns with a reach beyond the community.

The CAM4TFW program was aligned with the 2016-17 school year, beginning in September 2016 with final completion of tasks in January 2018.

List of Abbreviations

CSO: Combined Sewer Overflow
JBWR: Jamaica Bay Wildlife Refuge
LEGC: Lower Eastside Girls Club
NYCHA: New York City Housing Authority
TFW: Trash Free Waters

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1 Project Synopsis

In response to the ever-growing and unacceptable amounts of plastic litter in the aquatic environment, the majority of which originates from land-based sources, Cafeteria Culture (CafCu) has conceived and piloted the *Community Arts and Media for Trash Free Waters (CAM4TFW)* program based in three New York City (NYC) public school communities. Since 2012, CafCu has been teaching unique, interdisciplinary environmental education in NYC public schools, including the 3 school communities in which we partnered with for this project.

The key purpose of the 2016 - 2017 project is to reduce local plastic street litter which becomes harmful marine debris by deepening youth understanding of issues surrounding marine plastic litter and providing them with the opportunities to take on leadership roles within their communities to test out their own upstream solutions to this problem through education, engagement, and advocacy for urgently needed change. Core to CafCu philosophy is that by educating and empowering young people with “essential skills for success in today’s world, such as critical thinking, problem solving, communication, and collaboration,”¹ youth can benefit their own communities, partake in local action for global impact, and gain skills and confidence for ongoing civic participation.

The CAM4TFW program has three components: classroom education, citizen science, and advocacy and outreach. Classroom education provides students with basic concepts and knowledge relevant to project topics, builds a range of skills, and develops student engagement with an intention to captivate the attention of students with a wide range of special needs, including English as Second Language (ESL), behavioral issues, and learning disabilities. Citizen science involves students in data collection and analysis of the origins of plastic street litter, as well as observation of their neighborhoods and behavior patterns associated with littering. Building on classroom education and citizen science, students develop skits, design signage, build 3-dimensional messaging (masks, puppets, and wearables inspired by marine wildlife), produce short videos, interview and present to community members, and give away reusable bags in findorder to advocate for behavior change and increased awareness about the origins and dangers of marine plastic litter. Through the diverse facets of this project, CafCu seeks to foster a sense of agency and vision in students at partner schools for a more sustainable and equitable future, in both our communities and our oceans.

2 Tasks Completed

Tasks are categorized into 6 groups, so as to more easily grasp the project scope and understand the outcome.

[Class Teaching Tasks](#)

Please see Appendix C for Banner images and photos

Lesson Plan Development

PD for teachers and staff

TFW lessons and messaging WS #1-#8

¹ Partnership for 21st Century Skills Vision for student success in the new global economy
http://www.p21.org/storage/documents/P21_Framework.pdf

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The CafCu team developed lessons collaboratively with partner teachers, focusing on the desired trajectory of student understanding and engagement. CafCu-led Professional Development sessions at each of the partner schools supplemented our classroom lessons and successfully engaged teachers in the project's early stages.

The CafCu team partnered with and taught multiple classes at each partner school. At PS 15, we worked primarily with 84 students: one fifth grade class with 15 students; two fourth grade classes with 28 students in each class respectively; and one Upper ACES class for students in grades 3-5 with intellectual disabilities with 13 students. At PS 34, we worked primarily with 28 students: one fifth grade class of 14 students and one fourth grade class of 14 students, both that were ICT classes (30-40% of students need some kind of extra learning support). At MS 246, we worked primarily with 33 students: one seventh grade class of 24 students and 9 more students from another seventh grade class. In total, CafCu collaborated primarily with over six classes of students with a total of 145 students. There were additional lessons and activities with 17 other students in two separate after school programs: we taught 12 more students in the PS 34 community at the Lower Eastside Girls Club after school workshops, and 5 MS 246 students who participated in the CAMBA after school program.

The rate at which we were able to accomplish our classroom teaching goals varied greatly from school to school. At PS 15, we were met with great success when working with the fifth grade class, where we started with a unit that was arts and performance based. Students and the teacher were very engaged from the project start and the teacher allowed us a good deal of additional classroom time, which we took advantage of during the fall months. Similarly, the students in the PS15 fourth grade class were highly engaged at the project start, which can be attributed in part to additional funding for an earlier marine litter project with this class that was funded by the Tokyo Metropolitan Government. That partnership project connected students in this fourth grade class with students of the same age in a school in Tokyo, Japan. Because we had previously developed a relationship with the students and the teachers from this class and the students had already learned the basics about both local and global marine litter issues, transitioning into the CAM4TFW project was easy. A trusting relationship between the CafCu team, the students, and the teachers was already well established. Additionally, the PS15 school administration was very supportive of the project from the get-go, which created a trickle down effect, allowing logistics, field trip planning, and scheduling changes to be easily and timely addressed. Teacher engagement was high with this class. Teachers often dedicated time within their regular class periods to teach material related to the CAM4TFW project.

At PS 34, holding the attention of both classes was considerably more challenging, despite CafCu's long term and positive relationship with the school and partner teachers. Both the fourth and fifth classes were ICT classes, which are made up of about 60 percent general education students with up to 40 percent of students who need some kind of extra support, be it for a learning difference, behavioral challenge or physical disability. School leadership was weak at the start of the project due to a change of principal in the middle of the school year. It often took students 10 minutes to settle down and focus before teaching, which resulted in lost class time. We addressed this issue by increasing the ratio of teachers to students and dividing up the class into small groups on a regular basis. In the fall, we regularly split the class into 2 groups, taking one group to a beautiful art studio at Lower East Side Girls Club for an arts-focused unit, while the other group took part in video production lessons. In this split scenario, many students demonstrated focus and skills, but this required Cafcu to financially supplement the program. Due to the change in school administration, there were ongoing complications with the scheduling and securing permission slips for "walking field trips", which reduced the number of community engagement activities. Finally, the weather was not on our side and we needed to reschedule many of the planned neighborhood activities.

At MS 246, securing student engagement was slow-going at first, but not unexpected, we knew from our partner teachers that there were many ESL students and some students with behavioral issues in class 702. As is the case with many of CafCu school programs, we welcomed this challenge. It allowed us to create a program that is realistically scalable for a wide range of students and classroom situations. It also provides opportunities for students, who may have few outstanding academic moments, to truly shine within our program! This was the exactly the positive outcome of leading

CAM4TFW at MS246 (See the video: <https://www.youtube.com/watch?v=DU8MzrRTRs8&t=18s>) which portrays this shift of student engagement from the start to finish of project).

Scheduling and securing parent-signed walking field trips forms was also initially challenging at MS246, but this became easier as students were more engaged in the project. Students demonstrated commendable skills and focus during community engagement activities, litter characterizations, and presentations. Once these students were fully engaged in the project, it was inspiring to witness their accomplishments, growth in skills, and most noticeable, a surge in self-confidence due to their effective interactions with community and positive feedback they received from the public.

Lesson plan development

The CafCu team met with lead project class teachers at each school to schedule and collaboratively develop project Lesson Plans and Activities.

At PS15, the CafCu team first met with teachers of the 5th grade and ACES (grades 3-5) classes. After leading the first few classes, we adapted some of the original plans to better fit the skills and rhythm of each class. We later added the 4th grade class to this project, which was a seamless transition, as we had just completed a related Tokyo-NYC sister school project with this class that was funded separately.

At PS 34, the CafCu team met with project partner teacher, Ms. DeGrazia (grade 5 teacher; lead project class) and planned consecutive weekly project lessons of double periods. Lessons overlapped topics covered in a separately funded environmental education program, also taught by Cafcu at the school, including topics of zero waste, urban design and benefits of community gardens. Also consideration was an effort to align certain lesson plans, when possible, with classroom curriculum.

At MS 246, the CafCu team met with project partner teachers Ms. Wilson (7th grade ELA- English Language Arts), Mr. Adams (7th grade Science), and Mr. Thornhill (8th grade ELA and CAMBA after school teacher mentor). We determined a lead class (702) and decided to meet with these students in both ELA and Science classes, starting on 11/14/16. The lessons taught in Ms. Wilson's ELA class were planned to overlap with current ELA themes, including reading of the book, "A Long Walk to Water" and an Argument and Persuasive Writing unit. We planned to teach additional lessons and certain project activities with students from a few other classes and from the CAMBA after school program.

PD for teachers and staff

Cafeteria Culture led one Professional Development (PD) session at each of the partner schools, presenting first on each school's progress towards reducing garbage, then celebrating student environmental leadership to date. We then segued into a marine litter overview by asking, "What possible leadership roles can students take on next to address the most pressing environmental issues?" This helped to engage the entire school community, a necessary step towards achieving our project goals.

PS 15

On November 7, after school, the CafCu Team led a 90 minute PD for teachers and staff (about 65), which included a large number of paraprofessionals, who assist teachers with special needs students. The training began with a presentation of the school progress towards reducing garbage and achieving a near to zero waste school (PS 15 is a city designated Zero Waste School). We segued into the overview of marine litter issues then, led a hands-on activity, taking the teachers outside to conduct a practice litter characterization. We piloted a new version of the Litter Characterization Sheet and received valuable feedback from teachers involved.

PS 34

On November 8, Cohen led a 90-minute PD for all teachers, some staff (about 40) and the school's new principal, who had started her position there only a few weeks before. Part 1 of the presentation highlighted the amazing advocacy and civic

action of current students and alumni over the past 3 years as part of past Cafcu programs, including students advocating for the passage of the NYC Council polystyrene ban bill (2013) and bag fee bill (2015). Surprisingly, most teachers knew little of these efforts. We segued into our presentation on plastic litter and marine debris and received very positive feedback from many in attendance, as well as interest to participate in the project.

MS 246

On December 12, Cohen led a 40-minute PD for all teachers and some staff (about 35- 40 in total). Cohen learned after the presentation that there was a controversial union issues waiting to be discussed at this same meeting. Despite the intense discussion to follow, teachers were sincerely interested the Trash Free Waters issues, asked excellent questions, and making suggestions for how the program could link to their specific subjects, including art and social studies. The following week, we were approached by 5-6 teachers with very positive feedback on the PD, most saying that they has previously known little of the issues and were particularly excited about the student leadership component of the project.

Gateway National Recreation Area, National Park Service

Additionally (not included in our proposal), Quirk and Greenberg led a segment of a PD for teachers at Jamaica Bay Wildlife Refuge Visitor Center on November 8, hosted by National Park Service about citizen science. Attendees were science teachers from elementary schools to high schools (about 15). We were able to test out yet another revised version of the Litter Characterization Sheet with teachers in attendance at North Channel Beach in Jamaica Bay and get valuable feedback from teachers.

TFW lessons and Messaging WS #1 - #8

PS 15

5th grade class (14 students, Regular education class)

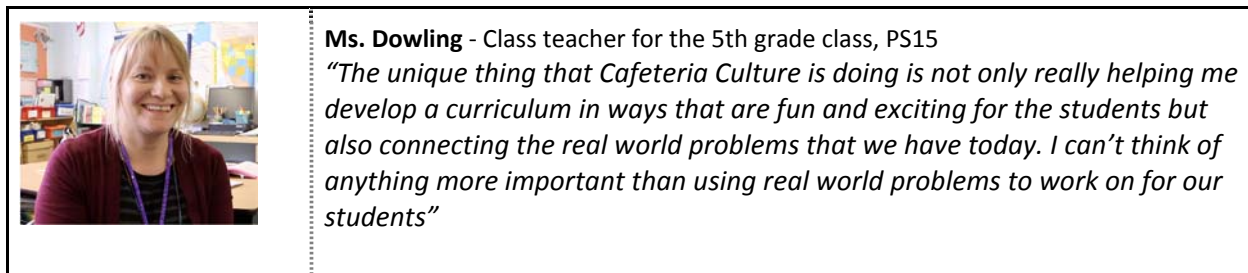
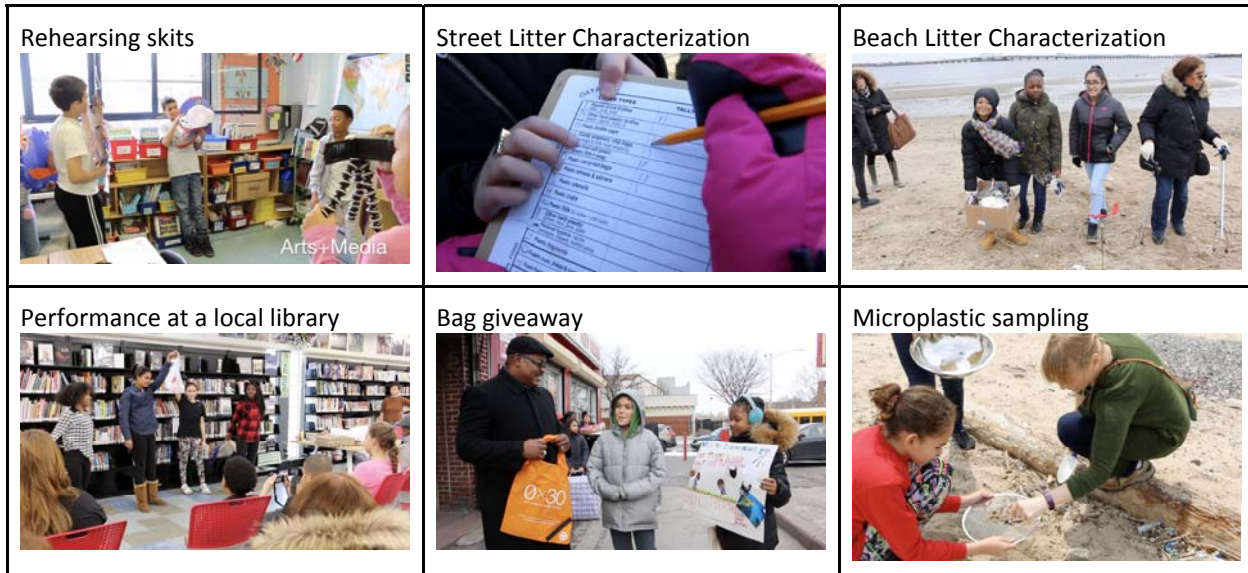
Over the course of the year, the CafCu team taught 18 lessons, among them: neighborhood observation, an introduction to Trash Free Waters, developing narratives on the topic. Students in this class participated in a number of litter characterizations, including unofficial characterizations that supported iterative development of the data sheet and characterization process. The class attended the school’s trip to Jamaica Bay Beach, where they participated in the beach litter characterization, as well as sampling microplastics.

Many weeks of discussion about the impact of plastic marine ecosystems culminated in students creating their own marine animal - human hybrid characters, and making of masks of these characters out of recycled plastic and cardboard. Once students had made the masks and were connected with their characters, they worked in small groups to write a total of three skits illustrating the journey of single-use plastic from use to disposal to marine environments. They spread their message by performing these skits to audiences at a local senior center and library. Continuing their community outreach, 5th graders gave away reusable bags that were provided by Department of Sanitation during their performances and at a local deli. Video production skills were interwoven into each lesson; much of the video footage of this class was taken by members of the class.

After the completion of this unit, we taught an introduction to microplastics lesson, and brought students to Valentino Pier, where they sampled sand and water for microplastics.

Ms. Dowling’s 5th grade class

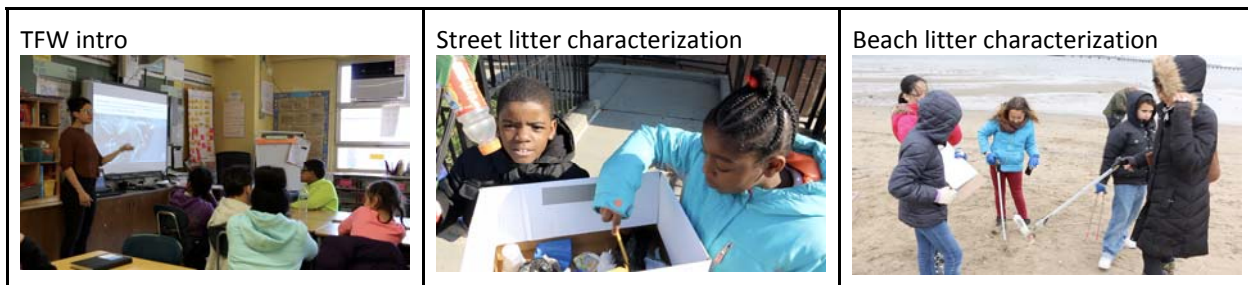




4th grade classes (28 students in each class, both ICT classes*2)

CafCu worked with two fourth grade classes at PS 15 at different degrees of engagement. With one class (**Ms. Dugan and Ms. Dolan’s class**), we taught the intro to Trash Free Waters (TFW) lesson, prepared students for a number of street litter characterizations and the beach litter characterization at Jamaica Bay Beach, and facilitated their participation in those characterizations.

Ms. Dugan and Ms. Dolan’s 4th grade class



In the other fourth grade class (**Ms. Donahue and Ms. Barzyz’s class**), we began Trash Free Waters curriculum after completing an international project in collaboration with students from an elementary school in Tokyo, funded by the Tokyo Metropolitan Government. During this project with Tokyo, CafCu taught 8 lessons including TFW intro, neighborhood observations, microplastic sampling, looking at microplastics with microscopes, socratic discussion on NYC’s 5-cent bag fee bill. Thus, we had already established rapport with students and teachers, which allowed us to move more

² *ICT Class - ICT classes are made up of about 60 percent general education students with up to 40 percent of kids who need some kind of extra support, be it for a learning difference, behavioral challenge or physical disability. To reach such a wide range of learners, ICT classrooms have two teachers who work together, and one has a certification in special education.” Inside Schools <https://insideschools.org/news-&-views/inside-ict-separating-fact-from-fiction>

quickly through the microplastics material. The CafCu team taught a number of preparatory lessons for street and beach litter characterizations, after which the class conducted street litter characterizations and attended the school’s trip to Jamaica Bay Beach for beach litter characterization.

After participating in these litter characterizations, teachers devoted time from their regular class periods to prepare students for data visualization lessons. After the students analyzed the data, finding that more than half of the litter they surveyed was recyclable, teachers facilitated student letter-writing to the Department of Sanitation (DSNY) to request recycling bins in their neighborhood. Students also made an in-person presentation to the DSNY about their findings from the litter characterizations.

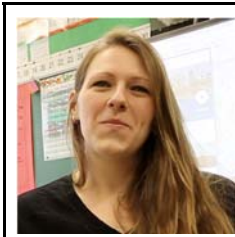
These same fourth grade students also made reusable bags from donated t-shirts, attached hand-made notes, then distributed them to community members. Their community outreach experience inspired their final project: a set of banners illustrated with student artwork and messages about reducing single-use plastics and explanations on how street litter becomes dangerous marine litter. With support from the school’s art teacher, students first designed mini-posters that integrated visuals and text, which the CafCu team combined in a layout for printing on durable, outside banners. The students hung the banners on NYCHA property fences, on the same blocks where they had conducted their litter characterizations. Their artwork were also exhibited in the local library for 2 month in the summer of 2017 and promoted on social media.

Ms. Donahue and Ms. Barzyz’s 4th grade class





Ms. Jen Kline, Schools Research Specialist at NYC Department of Sanitation (DSNY)
"I was really impressed by the level of details that the students put into the survey and the information what they knew about the effects of litter. They started thinking about the solutions which is also amazing. Hopefully connecting outside of the school and how that can affect the policy in the city is really amazing."



Ms. Suzanne Barzyz, 4th grade teacher, PS15
"It was really cool that they were able to put something that they had hands-on, put it on paper, then actually analyze it and come up with solutions, that was very impactful."

ACES class (self-contained special needs class, students with intellectual disability or multiple disabilities, grades 3-5)

Because of teacher engagement, the CafCu team was also able to collaborate with the ACES class, an upper-elementary group of students with intellectual disabilities. The CafCu team taught 2 double period classes including a TFW introduction and discussion, and co-taught a second lesson, in which students created a plastic bottle sea-like installation. The class participated in street litter characterization #1, as well as the field trip to Jamaica Bay for beach litter characterization. This ACES class had 4 adults at all times to support the students, which became an advantage for litter characterization activities with efficient adult supervision. Ms. Cavanagh, the ACES class teacher, arranged for her students to partner with one of the participating 4th grade classes, so fourth grade students could mentor her students for street litter characterizations. The school's art teacher also worked together with CafCu and this class too on banner designs.

ACES Class



Ms. Cavanagh - ACES class teacher, PS15
"For our students, academics is one part of our work but essential skills are another part of our work so to see them be actively engaged in the way that focuses on their essential skills expands their ideas for what's possible for themselves, it grows their independence, gives them a sense of empowerment."

(Field trip to Newtown Creek - see bottom of this section, page 14)

PS34

5th grade class (15 students, ICT class*)

We taught over eight classroom lessons, including neighborhood observation, an introduction to Trash Free Waters (TFW) - problems and solutions, and an overview of storytelling techniques. Students were split into 2 groups for the storytelling lessons. One group developed narratives around Trash Free Waters issues alongside learning video production, including interview and camera techniques. The second group, created jewelry and accessories using NYC estuary marine wildlife as inspiration and working with wire and plastic bag strips woven into “plarn” (yarn-like balls), then using their “wearables” as a springboard for telling stories about the connection of plastic litter and marine wildlife.

In the winter, the class participated in a Socratic discussion about NYC Council’s proposed 5-cent bag fee bill. Motivated by this activity, students made reusable bags from donated t-shirts and cards with personalized notes about marine pollution that they attached to each bag. A neighborhood bag-giveaway was scheduled, but did not happen until later in the spring due to recurring inclement weather and state testing.

In March, the CafCu Team taught an introduction to the street litter characterization activity, during which we piloted a new hands-on method. This method involves bringing all the “props” (litter, tongs, gloves, etc) and supplies into the classroom and staging the activities on the floor with groups of students leading the mock characterization in the classroom.

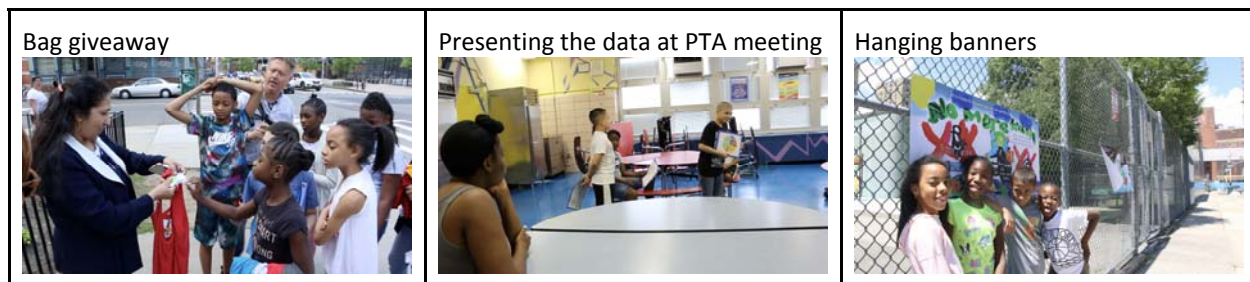
5th grade class

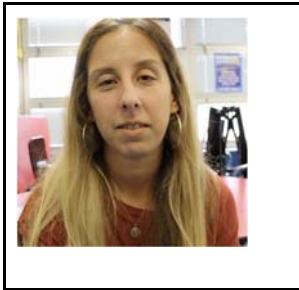


4th grade class (14 students, ICT class*)

The CafCu team taught 6 lessons in one 4th grade class including the TFW intro, street litter characterization how-to, reusable bag making, banner making, bag giveaway, messaging for the bag-giveaway, presentation prep, and the presentation to PTA. The class also participated in street litter characterizations, and Jamaica Bay beach litter characterization. Some of the students became very passionate about the issue, giving away bags to the principal and staff in the school, while sharing details on the issues of plastic marine litter.

4th grade class



	<p>Ms. Stephanie Kytoski, 4th grade teacher PS34 <i>“The program really brought out some of the kid’s special qualities and gave them something to look forward to, and helped bring the community together.”</i></p>
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Lower Eastside Girls Club (afterschool program and facility for middle school girls near PS34)

CafCu expanded program lessons to an after school workshop in collaboration with the partnering organization, the Lower Eastside Girls Club (LESGC). The workshop was taught by Cohen and CafCu team on consecutive Mondays, starting on May 1, from 4 - 6:15 PM for 6 weeks with an additional Community Workshop Day that took place for 4 hours during the day on June 12, a no-school day. Students learned about the Combined Sewer Overflows, NYC estuary wildlife, and how plastic street litter can harm marine wildlife. Next, working in teams, students designed small wire sculptures of NYC estuary marine wildlife, then scaled-up their artwork to build several large pole puppets, including an osprey and a bottlenose dolphin that were constructed of formed chicken wire and stuffed with plastic marine litter collected at Jamaica Bay. Students also created marine wildlife cardboard cut-out puppets that were painted with bright colors and patterns. Students distributed reusable bags from DSNY during the Community Workshop Day and the puppet parade on the neighborhood streets. Quirk led two PS34 6th graders, LEGC participants and CafCu program alumni, in the creation of a short, personal video about street litter in their community.



Field trips to Newtown Creek - PS 15 and PS 34

CafCu partnered with NYC Department of Environmental Protection (DEP), which facilitated 2 separate field trips to the Newtown Creek Wastewater Treatment Plant Visitor Center in Greenpoint, Brooklyn for students from PS15 and PS34. These tours served as in-kind donations to this program from DEP. The Visitor Center at Newtown Creek is the only facility within the five boroughs where the public can experience NYC’s water infrastructure.

The PS15 5th grade class and Ms. Donahue and Ms. Barzyz’s 4th grade class learned the details about NYC water infrastructure from source to purification to tap. They also learned about our sewer system in a Question & Answer style presentation. Students shared what they had learned from the CAM4TFW program. The introductory presentation was followed by a guided tour of the actual functioning wastewater treatment plant, where students wore hardhats and observed machinery and systems that clean our waste water before releasing it into the waterways.

The PS34 5th grade and 4th grade classes also learned about the journey of our drinking water. Before their tour, PS 34 students had a chance to shine by sharing their knowledge on NYC’s Combined Sewer Overflow systems. Students interacted with hands-on displays that demonstrated the mechanics of the operations at the facility.

MS 246

Working closely with one seventh grade class, the CafCu team taught 14 lessons during English (ELA) class double periods, and four lessons during their science class. These lessons included neighborhood observation and an introduction to TFW

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materials; Socratic Discussion on the pros and cons of the NYC 5 cent bag bill, which was due to soon go into effect; observation of local Water Samples, microbeads, and microplastics under the microscopes; in-depth development of student videos and production techniques; community outreach in conjunction with bag giveaways; and presentation preparation leading to a community presentation. During the neighborhood interviews, some students interacted with neighbors in Haitian Creole.

Additionally, the CafCu team taught two lessons to a group of students in an after school program and three Trash Free Waters introductory lessons to students in other classes, including another seventh grade class that participated in the litter characterizations both in the neighborhood and at Jamaica Bay Beach.

Students from the two seventh grade classes prepared for and conducted the street and beach litter characterizations. During the beach characterization at Jamaica Bay, a park ranger from National Park Service, Mr. Dan Meharg, gave the students an extensive lecture about how the street litter particularly affects the wildlife in Jamaica Bay Wildlife Refuge and the importance of salt marsh.

Seventh grade students in class 702 each edited their own videos, and critiqued each other's work. Students conducted interviews with community members inside and out of the school, and gave away reusable bags to people on the streets. A few students visited a local deli and family shelter and spread their message about reducing single-use plastic with additional bag giveaways. Much of the spring was devoted to developing, practicing, and delivering a group presentation at the local library where community stakeholders were in attendance. In concert with the preparation for their presentation, students created original artwork to message to share their messages with neighbors, which CafCu printed on durable banners and students hung on fences around their school.

MS246 Class 702

<p>Looking at microplastics</p> 	<p>Socratic discussion</p> 	<p>Neighbor interviews</p> 
<p>Street litter characterization</p> 	<p>Ranger's talk at Jamaica Bay</p> 	<p>Bag giveaway</p> 
<p>Video editing</p> 	<p>Hanging banners</p> 	<p>Presentation in the community</p> 