

KIDS for the BAY



In Spring 2019, KIDS for the BAY received a \$5,000 grant from the Alameda County Fish and Wildlife Propagation Fund to support our Watershed Action Program (WAP) in four Oakland elementary school classes: two fourth grade classes from Fruitvale Elementary School and two fourth and fifth grade classes from Emerson Elementary School .

For each class, the WAP included four two-hour Classroom Lessons, a creek or bay Field Trip, a neighborhood clean-up, and a service-learning Environmental Action Project.



Thanks to the support from the Alameda County Fish and Wildlife Propagation Fund, KIDS for the BAY achieved the following goals:

- **110 students** increased their knowledge of watershed science in the classroom and in the field and became stewards of their local watershed.
- **110 families** increased their understanding of their watershed environment and learned how to reduce storm drain pollution to the watershed.
- **Four teachers** increased their confidence in using the local watershed as an educational resource and empowered students to become environmental stewards.
- The WAP was integrated into the curricula and culture of partner schools .

"I have never seen my students this engaged and excited before, especially during science!"

Gino Castillo, Fourth Grade Teacher, Fruitvale Elementary School,

Visit www.kidsforthebay.org for more information!

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Final Report to Alameda County Fish and Game Commission, December 2019

KIDS for the BAY (KftB) is pleased to share the following success stories from our Oakland Schools Watershed Action Program (WAP) during the 2018-19 school year. 110 students and four teachers in Oakland participated in hands-on Classroom Lessons, environmental community stewardship Action Projects, and exciting Field Trips to local creek, bay and ocean habitats. Grant funding helped KftB provide programs for students including 75% students of color and 66% low-income students. From Oakland Schools, two fourth grade classes from Fruitvale Elementary School and two fourth and fifth grade classes from Emerson Elementary School participated in the WAP in the 2018-2019 school year.

Campus and Neighborhood Clean-Ups

After learning about how pollution impacts the local watershed environment students were energized to take direct action to reduce pollution. Students from Fruitvale Elementary in Oakland were excited to do a trash clean up on their school campus. Focusing on the recreation yard behind the school and the school garden, students used a class period to pick up trash. Students realized that because they usually have their snacks out in the recreation yard there was a considerable amount of trash in the area. They observed the most trash located next to or under the fences or portable classrooms. Students discovered that the trash came from scraps from wrappers and plastic waste, and that they were getting caught near the fences and the periphery of the playground. In total, the students collected 1,245 pieces of trash, the majority of which was plastic.

During the trash clean-up, the class also walked to Frog Park, which is a green space about half a mile from their school. A creek runs through the park, and though the creek was dry at the time, students could see where storm drains would empty water into the creek bed. At the park they collected almost 900 pieces of trash. Fourth grader Ericka noticed that, "It's good that we're finding so much, but it's bad because that means this trash is out in our watershed."

After the trash clean-up students went back to their school to talk to other classes about the problem of single use plastic and how to reduce trash. Students were inspired to use reusable containers, pick up after themselves, and teach their friends better practices.

Environmental Action Projects

As a crucial part of KftB programs students choose, plan, and implement Environmental Action Projects, with guidance from their classroom teacher and KftB Instructor. Action Projects are empowering because they give students the opportunity to take a leadership role and share their new knowledge with their families and community.

Groundwater Pollution Model

Students from Emerson Elementary in Oakland constructed models to observe how pollutants impact our watershed. This lesson built on previous lessons about how trash and pesticides leach harmful chemicals into the local watershed.

To perform this hands-on experiment teams of student scientists created miniature farms within glass tanks. Gravel formed the land on one side of the container and the other side was filled with water to simulate the San Francisco Bay. Students placed a miniature house, animals and crops to complete the scene. Several drops of dye were added to the crops to represent pesticides. Students created a rain storm by sprinkling water over the crops. Students were shocked by what they observed. Fifth grader Dominic described the scene: “The pesticides spread everywhere, into the ground and then into the water. The chemicals would affect the plants and animals that live in and around the bay.” Antonio also made a significant connection: “It is important that we do not use these chemical pesticides (like Round Up) in our lawns because sometime pets eat the grass and could get sick. My dog eats grass sometime and I don’t want him to eat these chemicals.”

Students learned that chemical pesticides are used prolifically in industrial agricultural and how the runoff from the fields washes into local creeks and leaches into groundwater. Connecting the harmful impact on insects, fish, and birds to harmful impacts on people students were inspired to make changes. They created an environmentally pesticide friendly spray made of jalapeno peppers, garlic, and water. Students learned that unlike chemicals, if natural pesticides leach into the groundwater they are harmless to the ecosystem.

Fourth grader Joshua from Fruitvale Elementary School shared, “I have seen Round-Up Weed Killer in my garage at home.” After the lesson, Joshua was excited to take his natural pesticide home for his family so they can use this instead and reduce their negative environmental impact.

In addition to lessons on pesticides, students learned about impactful activists throughout history, with a focus on local activists, including Cesar Chavez and his work in environmental justice. Students were excited to learn that he worked to ban harmful pesticides and increase consumer awareness. Equipped with this knowledge, Maria and fellow Fruitvale Elementary students completed a letter writing campaign for their friends and families to inspire them to use safe alternatives to harmful pesticides!

Exploring Tide Pools at Muir Beach

Students and teachers loved the opportunity to explore and learn about Muir Beach. Using the beach as an outdoor classroom students learned about different types of seaweed, analyzed sand particles, and explored the tide pools full of fascinating organisms. Additionally, students completed a beach clean-up and took a hike through the marshes of Redwood Creek, which flows into the ocean at Muir Beach.

Most of the fourth and fifth grade students from Emerson Elementary School in Oakland had never been to an ocean beach before. The class was so excited to feel the sand, see the ocean, and touch some of the organisms that were living in the tide pools. They had the opportunity to take their shoes off and feel the sand between their toes and fingers. Allowing time for sensory exploration of the environment takes into account multiple learning styles, and gives students more time to process the new environment and acclimate to the exciting beach habitat.

Our fourth grade scientists had the opportunity to explore the tide pools, fully equipped with information about respecting nature and leaving a minimal impact. They were surprised to find so many animals down by the rocks and tide pools. Students found many sand crabs, green sea anemones, and blue mussels. It was particularly exciting because students were able to identify the organisms and discuss their adaptations because of previous bay animal classroom lessons! Fourth grader Julian exclaimed, "I can't believe there are so many animals living on one rock!"

After fully exploring the tide pools, the class went on a hike in the hills behind Muir Beach. Still excited to learn about the local area, students identified a lush freshwater marsh along Redwood Creek. They also noticed many birds in the shrubs lining the trail, and they also observed some soaring overhead. "Wow, look over there!" exclaimed Kamari. "I see a large black bird in the sky. I think it's a raven." Faisal noticed, "I hear more birds than I can see. They must be hiding or they are camouflaged in the trees and plants."

Quotes from Student and Teacher Participants

"My students were able to learn new vocabulary, and participate in academic discussions. They were able to learn new concepts that were engaging. They were motivated to participate every time we had a WAP lesson. The students were very excited and anxious to learn more. They continuously expressed how important it is to clean up our environment and how they wanted to go back to the beach to clean up and learn more."

Lilia Martin, Fourth Grade Teacher, Fruitvale Elementary School, Oakland

"This is my first time seeing the ocean and being at the beach. It's so beautiful!"

Mark, Fourth Grade Student, Fruitvale Elementary School, Oakland
