

Plaster Creek Stewards – Urban Habitat Restoration with Green Team

Jia Luchs, Clare Doss, Rachel Warners, Dr. Dave Warners, Deanna Geelhoed - Calvin University, Grand Rapids, Michigan



Introduction

Plaster Creek, though its watershed is home to many potential stewards in Grand Rapids, is the most polluted creek in West Michigan. The Green Team, a branch of Plaster Creek Stewards, is a group of students that work during the summer with a focus on research, education, and working directly to restore the Plaster Creek Watershed. The Green Team works toward this goal through urban green infrastructure, utilizing native plants to manage stormwater. Two Calvin students, Jia Luchs and Clare Doss, and twenty high school students living in the Plaster Creek watershed were hired by Plaster Creek Stewards this summer to work, learn, and grow together. The group was mentored by Rachel Warners, a Calvin University graduate.



Green Team students and college mentors at the finale celebration with paper plate awards and native plants.

Our Work

We worked alongside the high school students of the Green Team with our mentor Rachel Warners on various Plaster Creek Projects. We joined PCS in restoring our watershed through native landscaping, meeting community leaders, learning about environmental injustice, hearing about careers in the environmental field, and learning in the classroom about watershed ecology and reconciliation. A key focus of our work is to develop personal relationships with the students and to be an open and relatable resource of what college life is like and our vocational journeys to get there.

During our days together we learned about each other's diverse backgrounds, cultural variations, passions, preferences, dreams, and plans for the future. Days were split between classroom learning, field application, and practical implementation of knowledge.

To conclude each session, photos and stories articulating the experience and the importance of our work were presented at a finale celebration for the students and their friends and families. Students received fun plate awards and plants highlighting and affirming their unique personal characteristics.

Projects

Seed Collections and Native Plant Identification

Seed collecting is the first step to plant propagation. The students learn how to identify native plants and how to harvest their seeds. The collected seeds will then go through stratification over the winter, germination in the spring and then grown at Calvin the next year for future restoration projects within the watershed.

Rain Gardens and Bioswales

Rain gardens and bioswales are methods of green infrastructure which are designed to collect stormwater within a bowl-shaped basin planted with Michigan native plants. With the collection of the water, the native plants can filter the water and slowly return through the ground. Together with the community, we work on planting and maintaining these gardens.

Research Shadow Day

For one day each session, the students are matched with Calvin researchers to learn the process of research in college and to participate with the other research projects.

Catalyst Partners

Catalyst Partners is an environmental consulting business located in downtown Grand Rapids. Catalyst Partners works with local business as well as business around the world to integrate a healthier and greener building space. During our visit, we participate in a tour of the most highly LEED-certified building from president, Keith Winn. In return, the students help perform maintenance on the native landscaping around Catalyst.



Green Team students at Leisure Creek Condominium Floodplain Restoration Project.



Green Team tree climbers.

Leisure Creek

Leisure Creek is an upstream floodplain restoration project that PCS (and project funding from Michigan EGLE and the EPA) to recreate a floodplain bench. This quarter-mile long flood bench helps stormwater by protecting the channel and our downstream neighbors. There will be 200 trees and roughly over 60,000 native plants in this restoration site.

Green Team Student Reflections

“Something that really stuck out to me was a new meaning to community and what community means. Also, how there are many different backgrounds, but we all have a common interest and share a common passion.”

- Natalie 2022 GT Student

“I usually was more of an animal person, so I haven't really built my knowledge around plants even though they go hand in hand. So, it is really, really cool to learn about the plants and now I can point out plants.”

- Ryn 2022 GT Student

“It was good to reconnect back with our watershed and to see all the place again. It's been a while since I drove around these parts of town.”

- YenTran 2022 GT Student



Left: Jia showing Green Team students a garter snake. Right: Green Team students planting a native plant project.

“I really enjoyed talking to people that really care about the environment and getting to hear from experts who are leading the way in restoring and reconciling with the environment. There was just a lot of love of nature among us.”

- Sophia 2022 GT Student

“I learned from the Green Team about the Grand Rapids environment and how fragile it is. This has impacted me to take action at my own house. I am grateful to have had this opportunity to be on the Green Team!”

- Daniel 2022 GT Student

“Throughout these three weeks I have learned a lot and it's been a super insightful experience. We learned all these things and how even small things among us can affect the environment..”

- Matthew 2022 GT Student

Concluding Thoughts

“We believe that through this work we were able to lead by example and to learn alongside the students. We hope that the students leave this amazing experience with a better understanding of ecological restoration and reconciliation, self-pride in their positive environmental impacts and the confidence to pursue college and possibly an environmentally conscious career in the future.”



Green Team and Friends of Grand Rapids Parks collaborate in garden maintenance at Sherman Street Church.

Calvin Mentor Reflections

“Participating and leading the Green Team for a second year has been such an incredible opportunity. I love that I can create these deep relationships with the students in such a short time and learn from all of their unique perspectives in how nature plays a crucial role within their lives. Through this position, it allowed for me to educate myself, but also the students on important aspects like environmental justice and environmental racism.”

Jia, 2022, Senior at Calvin

“Working with the Green Team this summer was an incredible experience. I loved getting to work and learn in the watershed with a group of students with whom I share a common passion. I loved teaching students about practical ways they can reduce stormwater runoff, getting a lot of meaningful work done and watching the individual students from all over the watershed quickly grow into a team and form some amazing friendships.”

Rachel, 2022, Calvin Graduate

“To have the tools and knowledge to educate in the field of ecological restoration is invaluable. This experience has been one of intense learning for me—from memorizing plant names to engaging with members of the community. Working with high school-aged students and encouraging them to connect with the world around them has been a lesson in perseverance and hope. Our team works intensely in challenging weather, but they love it—for the sake of building friendships and becoming good stewards of the earth.”

Clare, 2022, Senior at Calvin

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