

POLLINATORS ON GREEN ROOFS

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PROJECT INTRODUCTION

Green roofs benefit urban areas by reducing heat island effects, improving air quality, and managing stormwater runoff. They also provide habitat for pollinators and increase green space for urban communities.



We sowed a seed mix of 34 different species on three green roofs in Denver, Colorado. We are looking at establishment and germination of forb, shrub and grass species to understand how the manipulation of initial seeding densities affects the quality of habitat for pollinators over time.

INTERNSHIP GOALS

- Engage in outreach and extension work by participating in community events and building communication skills related to pollinator education and green roof horticulture.
- Learn data collection methods, learn more about pollinators and native plants in CO.

HOW DOES THIS APPLY TO MY EDUCATION

As a student with a minor in Horticulture and Botany, this internship allows me to explore urban horticulture and implement skills like seedling identification and weed identification to assist my learning in the classroom.

With my major, Plant Biotechnology, this internship gives a hands-on opportunity to understand why the plants I study in the classroom are being bred for more urban environments, including urban agriculture.

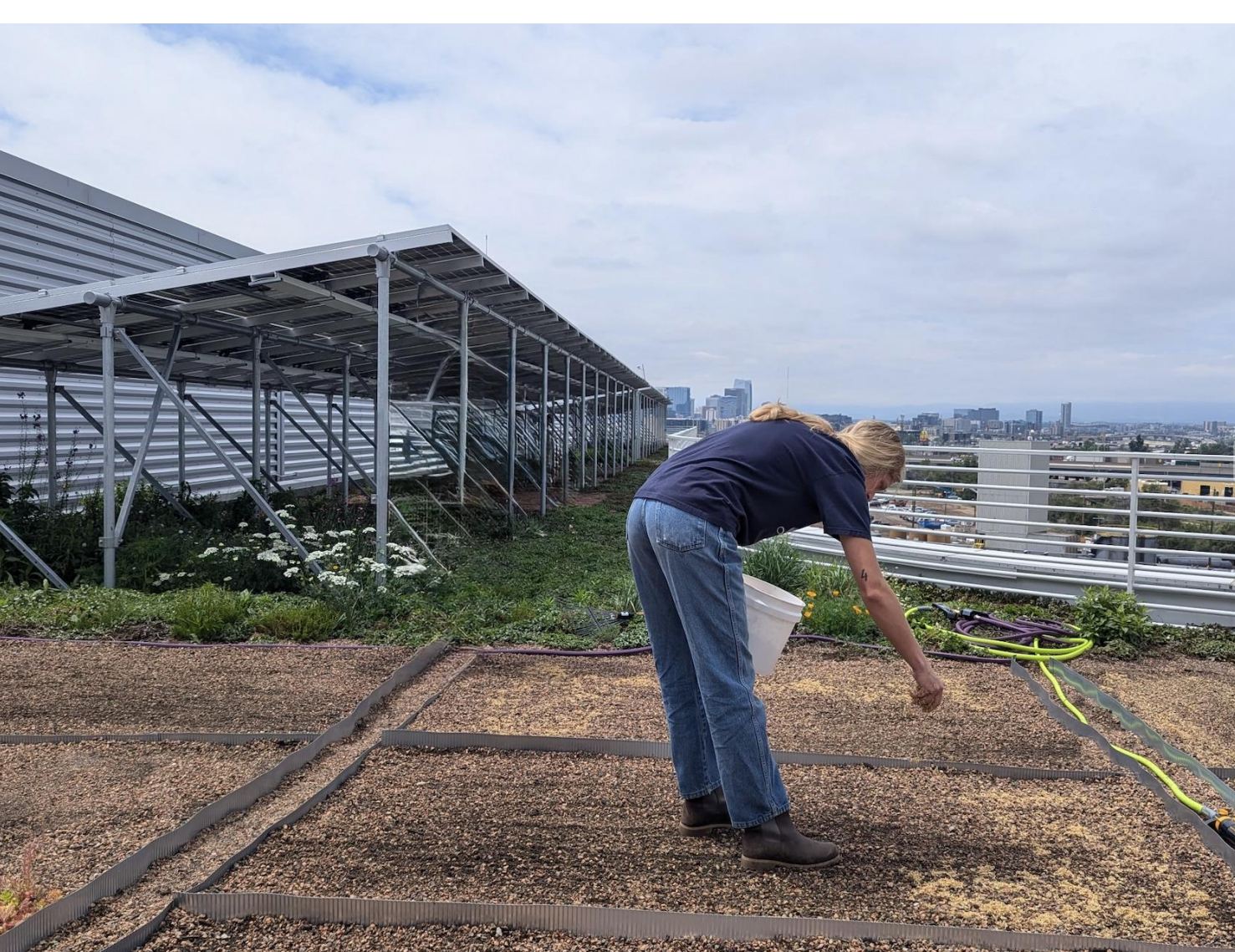
WHAT I DID

Prepared the plots for sowing: Included removing previous plant material, flattening out the plots, measuring and marking out the plots and installing irrigation.

Weed identification and removal: Learned to identify common Colorado weeds in order to determine if they were annual or perennial, to be weighed and recorded.

Seedling identification and demography counts: Learned to identify over 34 different species of plants from germination to maturity to record demography and recognize patterns.

Extension opportunities: Engaged with the community at Denver Botanic Garden's Big Day of Bugs, gave a presentation to the Master Gardener's of El Paso County about the Native Bee Watch Protocol, shadowed a beekeeper with the Butterfly Pavillion.



WHAT I LEARNED

I gained valuable insights into the realities of applied field research, learning that no matter how much you prepare, Mother Nature with her wind, rain, and heat, often has the final say.

I developed skills in engaging with community members and translating complex scientific concepts into accessible language for a general audience.



My experience deepened my understanding of native pollinators and their essential role in ecosystem health, as well as my ability to identify seedlings from germination through maturity. Most importantly, I discovered a newfound passion for urban horticulture through hands-on work with urban green roofs.

NEXT STEPS

Plant data collection will continue into next summer to identify trends over time, and pollinator data collection next summer once plants are established.

Future research on green roofs in other climates across Colorado would be relevant to this project in order to identify patterns and develop concrete data that can be used by other researchers and hobby green roofers alike.