

WILDLIFE HABITAT REPORT

Our wildlife habitat module was intended to broaden the students' perception of the landscape regarding its ecological function and how it can enhance the human experience. Using strategies of applied learning and participatory design, we were able to engage the students by promoting environmental stewardship. We used the campus as a precedent to understand local and urban wildlife ecologies, resulting in a collaborative design which retrofits the underutilized lawn space at the entrance of the school into an experiential wetland habitat.



MAGGIE FRYKE + ERIN HAUER

Day 1 · INTRO TO URBAN WILDLIFE

After gardening with the rest of the class, we were able to briefly introduce and discuss the topics of urban wildlife and ecosystems. To do so, we presented a map illustrating Boulder's native ecosystems, calling out select species. Then, we used a map of Casey's campus to place species based on the more natural areas that could support them. After placing species that we provided, the students identified on post-it notes other species that they recognized as native to Boulder.

BOULDER's natural ecosystems are HABITAT for native species

Montane Woodlands
Odocoileus hemionus **BLACK BEAR**
Sciurus endemic **ABERT'S SQUIRREL**

Foothill Shrublands & Woodlands
Aquila chrysaetos **GOLDEN EAGLE**
Odocoileus hemionus **MULE DEER**
Sciurus endemic **ABERT'S SQUIRREL**

Mixed Grass Prairie
Lontra canadensis **BLACK-TAILED PRAIRIE DOG**
Aquila chrysaetos **GOLDEN EAGLE**
Odocoileus hemionus **MULE DEER**

Wetlands
Ardea herodias **GREAT BLUE HERON**
Fulica americana **AMERICAN COOT**
Ambystoma tigrinum **TIGER SALAMANDER**

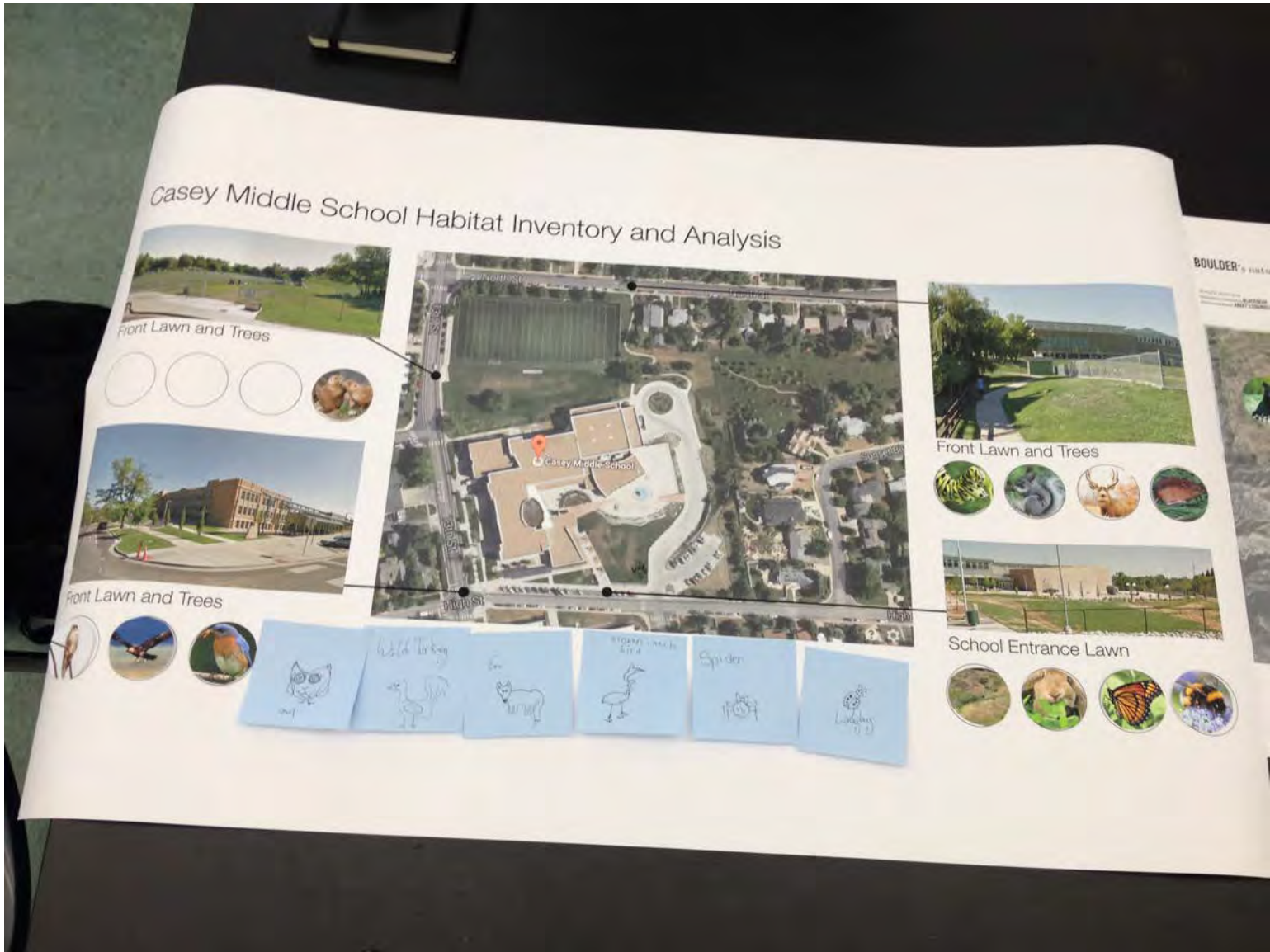
Riparian Areas
Ardea herodias **GREAT BLUE HERON**
Ambystoma tigrinum **TIGER SALAMANDER**
Lontra canadensis **NORTH AMERICAN RIVER OTTER**

Mixed Grass Prairie & Riparian Areas
Falco mexicanus **PRAIRIE FALCON**
Zapus hudsonius preblei **PREBLE'S MEADOW JUMPING MOUSE**
Aquila chrysaetos **GOLDEN EAGLE**
Lontra canadensis **BLACK-TAILED PRAIRIE DOG**

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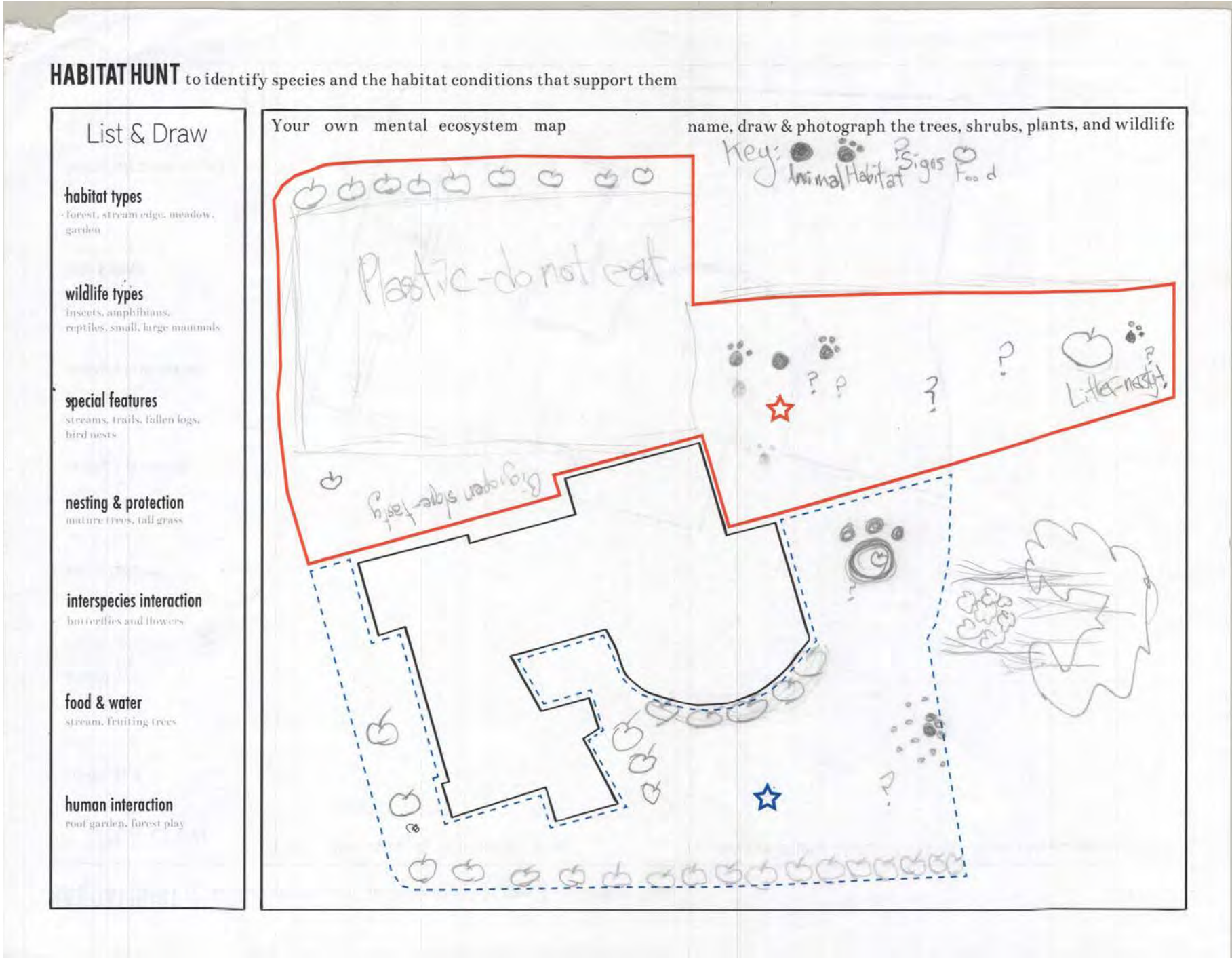


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Patty and Lucy got along and (almost always) gave us their full attention. A little scuffle was to be expected between Walker and Roberto, but once they were focused, we could usually count on their cooperation.

Day 2 HABITAT HUNT

We started class by recapping Boulder’s native ecosystems, using the posters from the previous class. We then spent the rest of the class period outside completing our Habitat Hunt activity in two designated areas to survey Casey’s potential for habitat. The students were able to document this information by taking pictures, illustrating, or writing what they saw on their base maps. To conclude class, we had a group discussion to compare their expected and desired species (that they identified on post-it notes) versus the clues of and actual species they spotted on the hunt.



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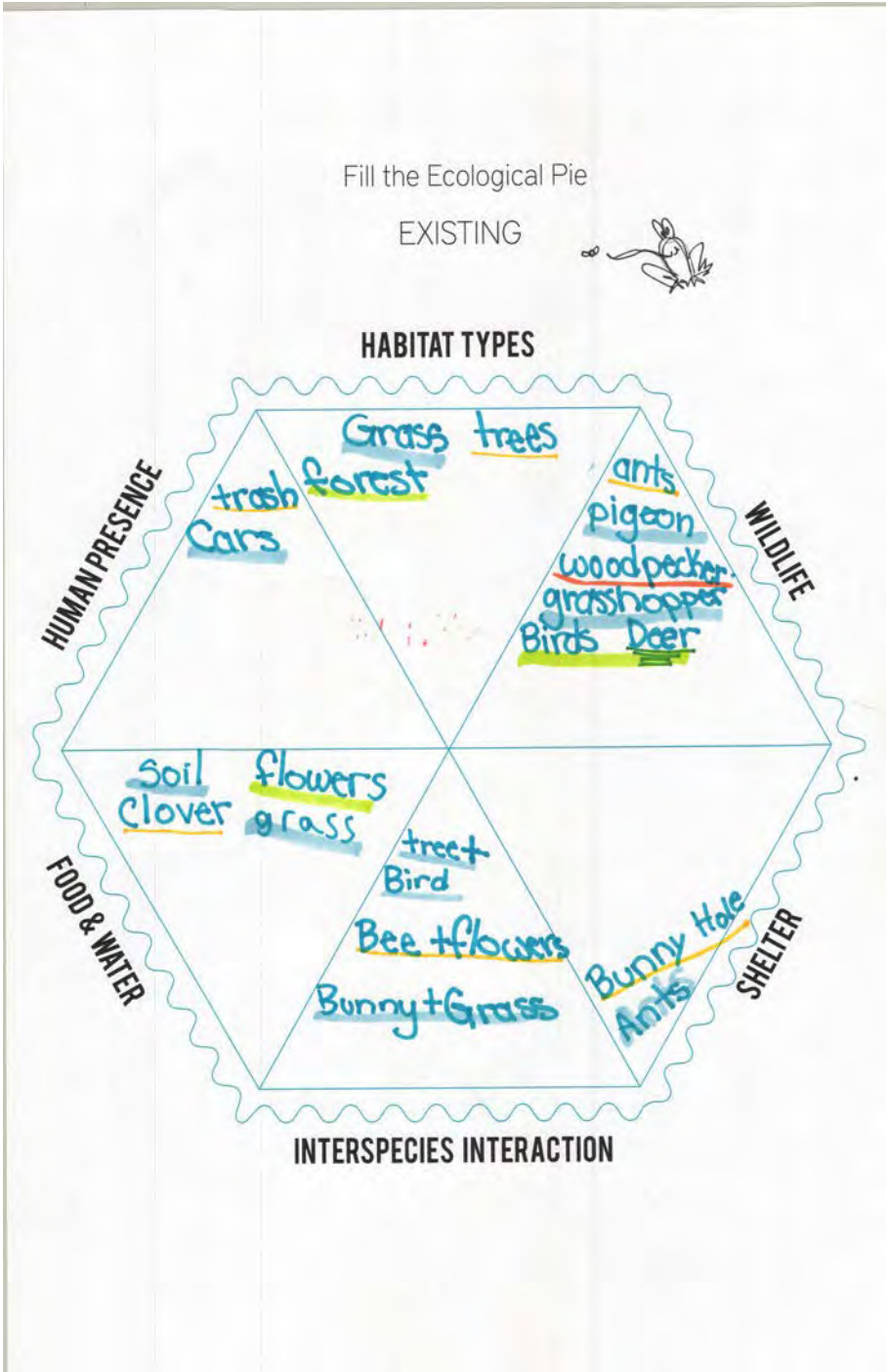
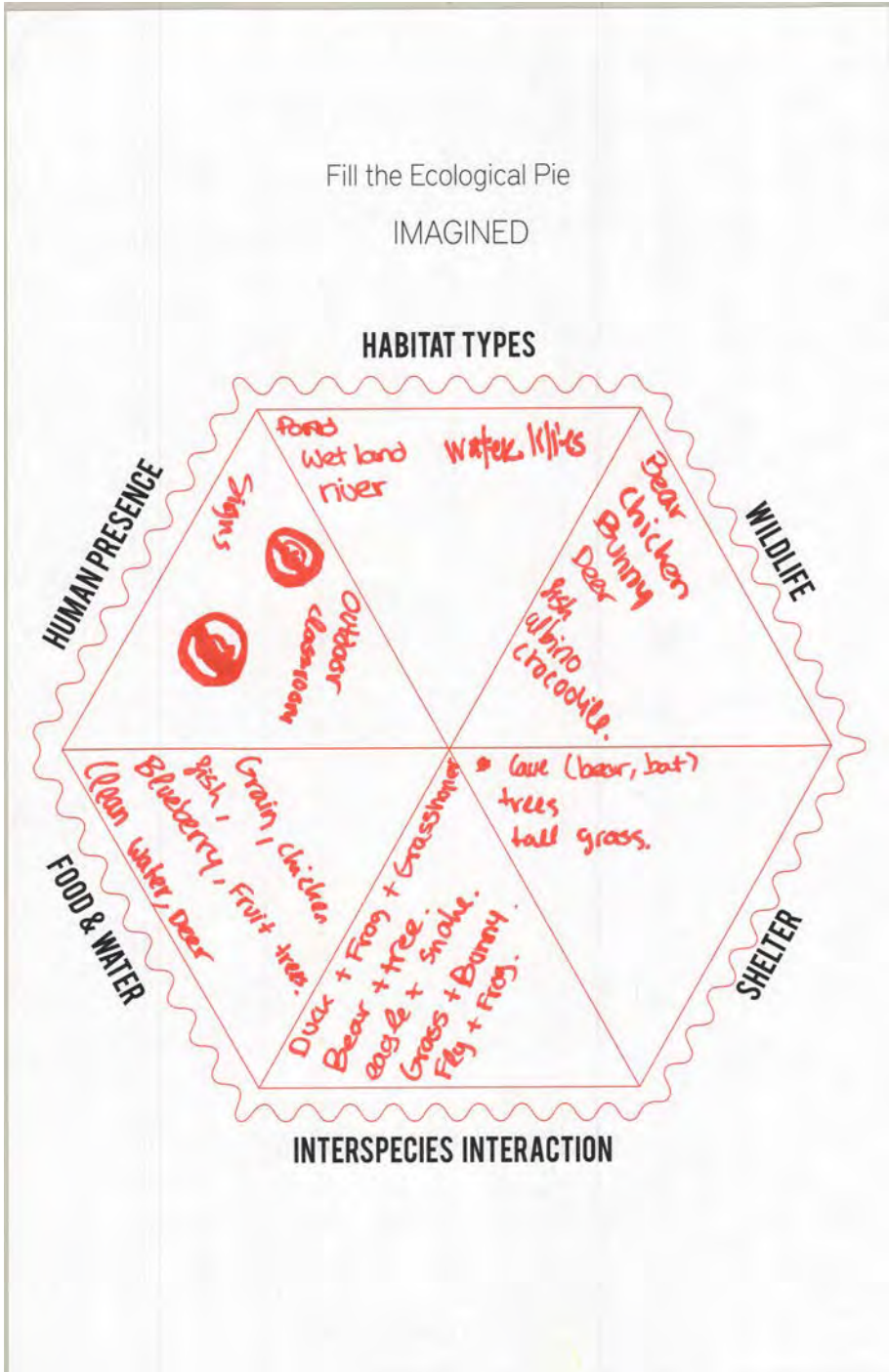
It seemed like our group was more interested in discussing what we saw, rather than individually documenting things. They responded better when we asked them questions about different aspects of the space, which is why we filled in spots on the habitat hunt page with prompts to get them thinking. They started to be more excited about our topic from this day on. Patty was especially engaged on this day, because her voice was heard both in her pictures and one-on-one discussions. Roberto also found his voice while taking pictures of wildlife, but took a more independent approach not requiring supervision or probing to grasp the day’s concepts. It was obvious to us that even on day two, he had an understanding of the landscape at an beyond the scale of Casey’s campus.

Day 3 CO DESIGN PART 1

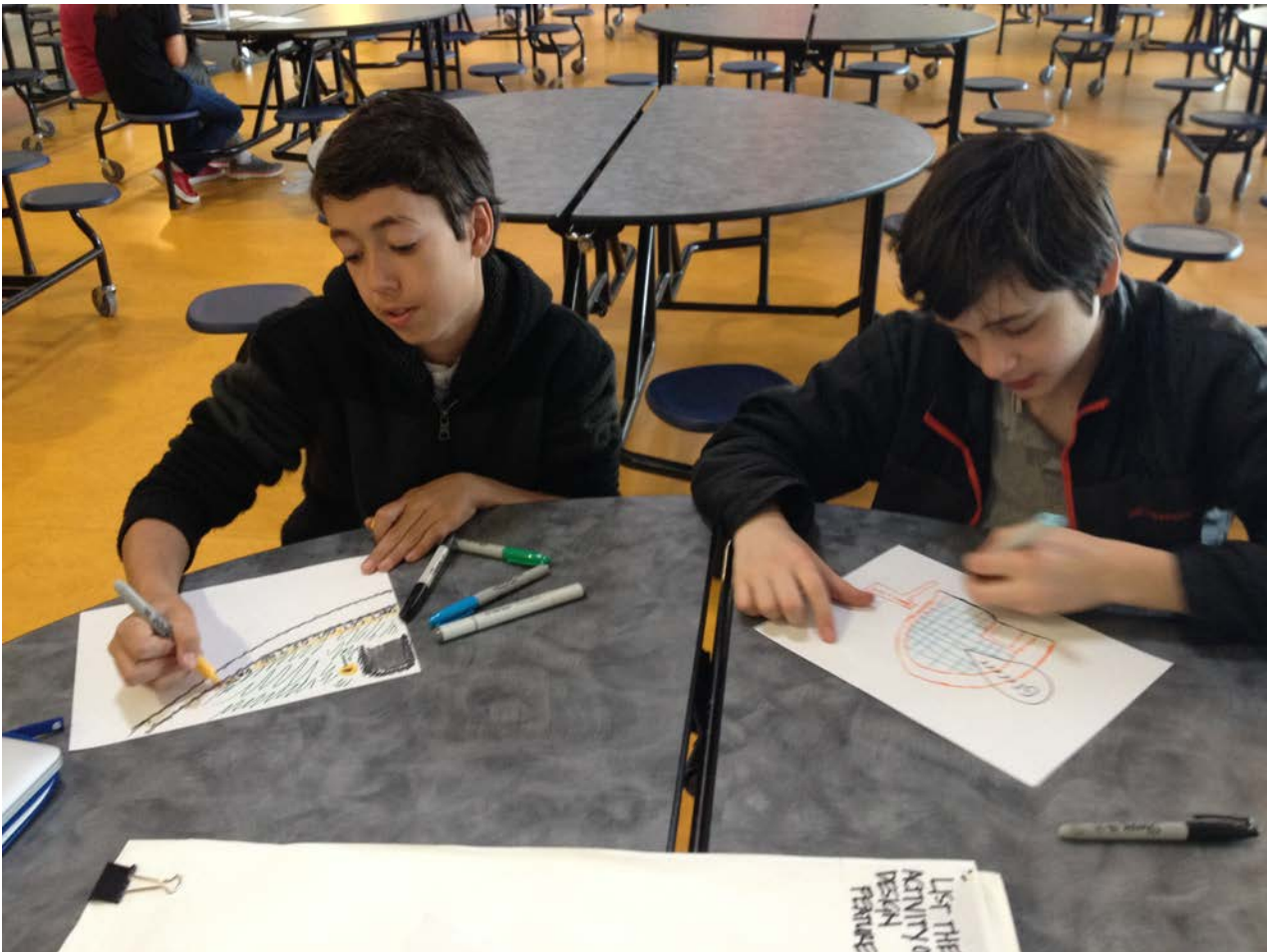
The objective for day three was to take the previous classes inventory and analysis work and adapt it into a visual idea of what Casey's campus could be. To do this, we spent the first half of class outside reviewing the pictures from the previous class and cataloging the information they found in the Ecological Pie. The idea behind the ecological pie derived from the ecological matrix used in Erin's honors thesis. We completed two pies, one to contextualize Casey based on the habitat hunt's findings, followed by one to imagine Casey's potential.

The second half of class was dedicated to visualizing the potential for Casey. To do so, we began by having the students draw what Casey could look like with an ecological intervention. We then came together, as a group, and began to synthesize their individual ideas into one cohesive ecosystem. Utilizing the Co-Design visualization process, we facilitated their imaginations by graphically communicating their thoughts into one conceptual rendering. Through this process, we identified that the front of Casey campus had the most potential to provide wildlife habitat, connect students to the landscape, and provide educational opportunities. As part of our design, we created a wetland and raised boardwalk to bridge the gap between students and a native ecosystem.

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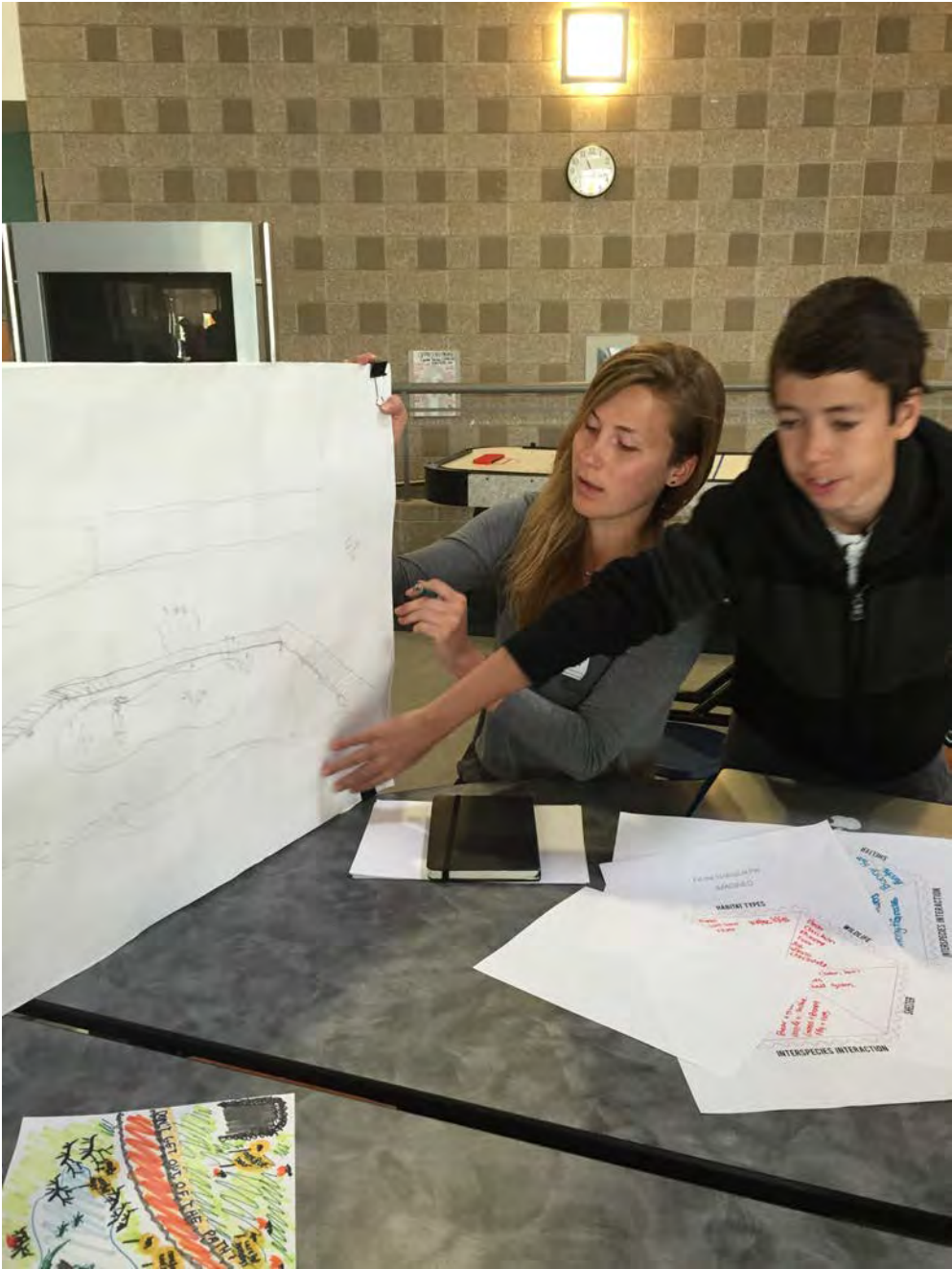


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We were pleasantly surprised with the amount of detail and species diversity that they included in their drawings. This was a drawing exercise that they actually enjoyed. This was the first day that everyone was present.

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Looking back, we could have had them do some of the drawing so that it was more interactive. Lucy attempted multiple times to engage in the drawing process. Another strategy could have been splitting into two smaller groups for a comparison of separate designs within our group.

Day 4

ADAPTATION THROUGH CODESIGN PART 2

In our initial lesson planning, we had planned to discuss interspecies interactions as our main focus. However, after the first three classes, we realized that we would be able to achieve more each class. Upon revising our original plan, we decided to work through the co-design process a second time to make it a more comprehensive design.

To begin class, we reviewed the boardwalk and wetland design and listed the main components before sharing the design with each group to gather opinions and feedback. The thought provoking feedback and adamant questions helped reveal details that we hadn't previously considered. Using the main design elements as a framework, we questioned and surveyed each group to make value decisions on what needed refinement and what was successful. After collecting this data, we regrouped to create a new conceptual rendering that incorporated the opinions and comments from each group as well as disparities within our own group. Following class, we approached Mrs. Esler to discuss next steps in taking these ideas and translating them into reality. Her response was less than ideal and somewhat discouraging about the potential for change or integration of natural areas. We concluded that her comments were based on the existing program of the lawn space and the administrations reluctance to alter an already planned space.



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For this presentation, our group didn't really take ownership for the design, and needed constant probing to help facilitate the conversation. The other groups did have a lot of feedback to share with us. They focused on elements that they did or did not like, rather than embracing the concept of the design as a whole.



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At first, Walker was against the idea of a boardwalk because he didn't see the point of it. He began to show interest after we explained how students could use the space to learn about and interact with nature. He liked this idea very much. The second round of the codesign process was much more successful than the first, in terms of their willingness to propose different improvements or new elements to the design. Therefore, we feel as though this day of class went exactly as planned, and doesn't require any adaptations of the lesson plan.

Day 5 ENVIRONMENTAL STEWARDSHIP & FINAL DESIGN PRESENTATION

We intended our concluding class to be a planting day in which we created a habitat and unveiled species on to the campus. Instead, we focused on the process of ecological intervention by writing letters to the administration concerning the student's interest in wildlife habits at Casey. We ended the class as environmental activists, throwing seed bombs to promote the growth of native flowers.

Our last day at Casey was intended to conclude the major themes of ecological landscapes and citizenship. To accomplish this, we began class by having each student write a short summary paragraph addressed to the Casey administration about why an ecological restoration of the front lawn should take place. This was a very revealing process as the student were very passionate and thorough in their responses, collectively highlighting educational opportunities, student responsibility potentials and beautification of the schools main entrance. Our group also spoke about the benefits of supporting Boulder's local ecologies, and even went as far as volunteering to lead the 'Eyes on the Pond' student group. Our seed bomb activity promoted environmental stewardship by showing how easy and fun improving the natural landscape can be. On the last day, we did the best at breaking the barrier between student and teacher, engaging in conversations on a more personal level. It was apparent that there was interest in pursuing this project further, outside of the classroom setting.

We were so proud of how well Patty, Walker, Roberto, and Lucy expressed exactly what we had hoped for in their reflections. We left them inspired by the idea of ecological intervention and the potentials for underutilized spaces both at Casey and around Boulder. This day was especially significant for Walker, as we finally

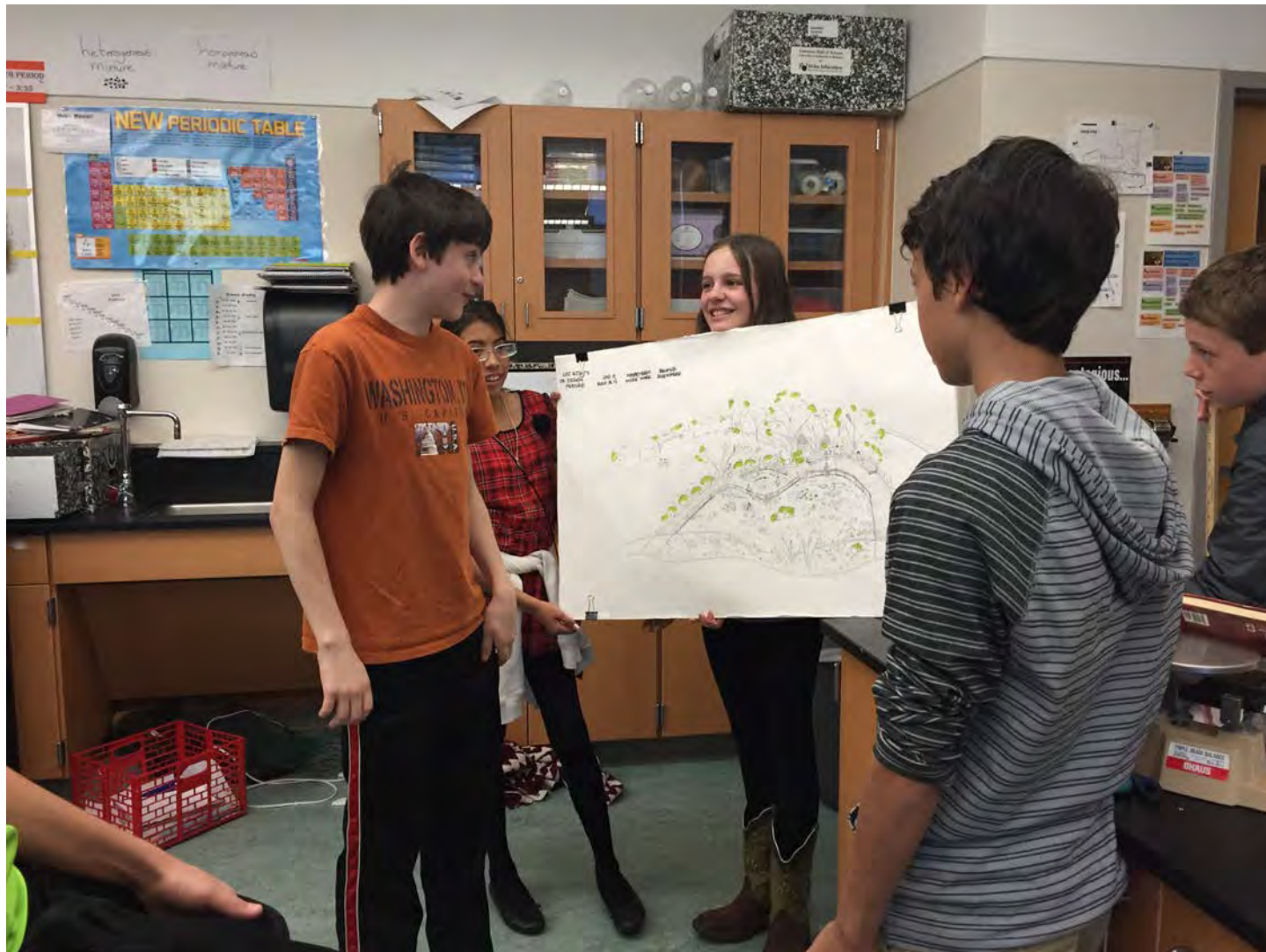
A1 provided him an outlet for his energy by throwing the seed bombs.



A2



A3



A4

This time, Walker, Lucy, Patty and Roberto did all of the talking. Their enthusiasm was apparent as they shared our second iteration of the wetland concept. It seemed like they felt more ownership after having gone through the design thinking process multiple times. This day was also important for Lucy, as she was able to express her true feeling about the conceptual design and her role as an 'Eyes on the Pond' monitor. She was excited with the idea of the pond as an opportunity for students to practice respect and responsibility for the natural environment.