

# Wild in the City

*The importance of urban environmental exploration for students and teachers*



Emily Stoeth

By **Emily Stoeth**

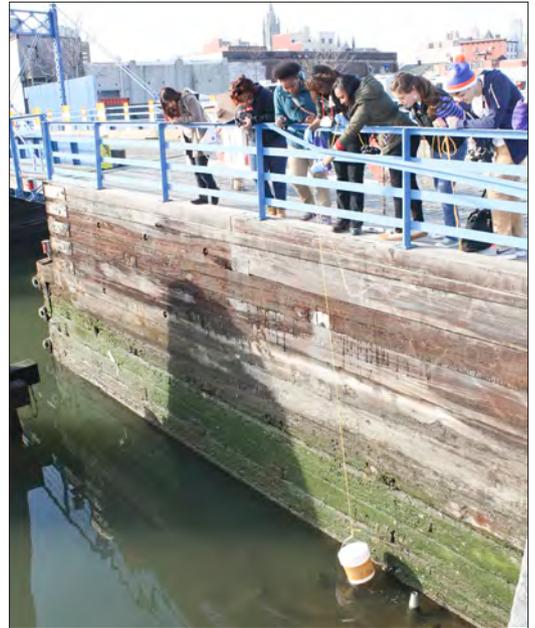
**S**O YOU'RE THINKING of taking your inner-city class on a field trip to study ecology or natural spaces? I'll bet you're planning to travel outside of the city—perhaps to a large forest or preserve? Have you considered staying local instead? There has long been a trend in urban environmental education (EE) to take students from urban areas into suburban or rural areas to experience “real nature.” But all this practice does is send the message that urban areas do not have enough nature to warrant study.<sup>1</sup> We do not need to take city kids far away in order to teach them about nature and ecology.

As urbanization increases, it is all the more important that we as educators turn our focus to exploring the future of ecology—the unique biodiversity that thrives in metropolitan areas. Students in urban areas should learn about nature that is relevant to them in their everyday lives rather than what exists only in far-away places. Not only is urban EE less expensive, but more importantly, it can increase a student's connection to their environment and ultimately their sense of environmental stewardship. Let's stop taking kids out of the city for nature field trips and shift our outdoor exploration focus towards city ecosystems. In this article, I hope to provide you with the essential tools to facilitate this type of unique learning with your students.

## Why study ecology in urban areas?

Though environmental-based education is not a new concept,<sup>2</sup> a focus on urban EE is a somewhat more recent trend. The term itself first appeared around the 1970's, though urban EE was likely occurring 30-60 years before the term was widely used.<sup>3</sup> Urban EE fully embraces humans as part of the ecosystem and considers their role and impact on the environment as essential. It allows the classroom to shift from the blackboard and brick and mortar buildings to a schoolyard, parking lot, park, river, pond, or patch of grass and incorporates opportunities for real-world student-initiated investigation.<sup>4</sup> Through urban EE, students can see nature in the world directly around them—rather than miles and miles away. It is precisely young children's experiences in nature, coupled with outdoor enthusiast role models, that ultimately produces environmentally-minded adults.<sup>5</sup> Urban teachers who can incorporate EE into their curriculum are perfectly poised to fill this role, thereby fostering many life-long nature lovers.

Inquiry, investigation, and environmental stewardship are all key elements of urban EE.<sup>6</sup> When students study their own environment, curiosity is natural; when this curiosity drives experimentation, the resulting investigations are even more interesting to the students.<sup>7</sup> Studies suggest that urban EE can actually *increase* environmental stewardship and environmentally responsible behaviors. When urban



Photographs: Left, Emily Stoeth; Right, Amanda Makkey

students engage in hands-on, inquiry driven, place-based education, they can begin to see themselves as part of their city’s ecosystem.<sup>8</sup> As a result, students are more inclined to take actions benefitting the environment, such as organizing a local cleanup or planting a wildflower garden to attract butterflies. Moreover, they share those results with others—which is a fundamental component of science.

### Making it relevant

Urban ecological science provides an ideal venue for students to make observations and use inquiry to study the world around them; as opposed to simply going through the motions to conduct an experiment which has no relevance to them.

Let’s say that flooding is a big problem on your school grounds; perhaps students can investigate what infrastructure (or lack thereof) is causing this problem. Are there solutions they can implement to reduce the water accumulation? The first time I implemented a similar lesson, students made a diorama of a shoreline community that was flooded by an extra high tide. You could see the excitement and the empowerment in the students’ faces when we installed “sponge” marshes that stemmed the flooding for the next high tide. These types of connections to real world problems can increase a desire for involvement and potentially create life-

long defenders of natural vegetation surfaces and wild areas within metropolitan regions. Research that is relevant to the students’ personal experiences holds greater purpose and will provide deeper connections to their lives; it will demonstrate that certain urban ecological practices affect human health, social and economic policies—and vice versa.

### Overcoming Challenges

#### Who’s got the time or the money?

While time and money are often concerns when it comes to field trips, one of the many great aspects of urban EE is that you do not have to go far at all; in fact, you do not even have to leave school property in many cases. Similarly, urban EE experiences do not have to be incredibly time consuming. While long-term studies can certainly be beneficial, short investigations can still be very valuable. See if there’s somewhere you can take your students that is in walking distance. Remember that science can happen in the schoolyard, football field, or even out the window. From locations like these, opportunities for investigation are endless. You could conduct a behavior study of pigeons or squirrels or measure the diversity of plants, invertebrates, or birds. If you’re staying local, costs should be relatively low (maybe even free).

### Encourage Exploration in Your School’s Backyard.

Ask students the following questions to help facilitate outdoor exploration:

- What species do you notice? How many kinds of insects/birds/mammals/plants are there?
- What are the differences between species living in location a versus location b?
  - Diversity, size, behavior etc.
- What signs can we see that animals have been around?
- Are there changes in these sightings when the weather gets cold or from morning to afternoon?
- What human designed elements may make it more difficult for species to move or find food? Is there anything we can change to make the environment less challenging?
- Are there species that might be especially well suited for life in the city? Why? What are the adaptations they have?
- What plants are growing from the cracks in the sidewalk? Do the plants change between asphalt and concrete? Are there areas without plants growing—why might that be?

## I don't know enough about ecology!

There are tons of resources out there that can provide content expertise for your investigations. However, this may not always be necessary. If your group can travel a short distance to an urban park, for instance, reach out to local nature centers or park rangers to get personnel support, or ask if they can come to you. Look for a citizen science project that your students could contribute to—many citizen science projects are perfect for the city—and some even focus on school environments. National Geographic<sup>9</sup> is a great resource for citizen science opportunities—many of these projects are perfect to do with your students, as there are detailed instructions for the layperson. Contact your local college or university to see if there is a professor or graduate student who is conducting research in the area. Often times, they are thrilled to hear there is interest in their project.

You could even conduct a BioBlitz<sup>10</sup>, a biological census of a small area (like a schoolyard) with the help of volunteers, students and often scientist overseers. BioBlitzes focus on identifying as many species as possible over a short period of time. If this is something you are truly passionate about, look for more professional development or training in this area—Project WILD<sup>11</sup> and Project Learning Tree<sup>12</sup> are great places to start. Both of these organizations provide educator trainings as well as curriculum resources. You could also develop a partnership between your school and community partners who could lead and facilitate projects. Lastly, consider connecting ecological investigations in an interdisciplinary manner so that multiple periods could be utilized for student exploration—while you may not be as comfortable with the subject matter, perhaps a colleague has more experience. Remember that not knowing all of the answers is a part of the inquiry adventure—you can discover right alongside your students!

## What about behavior management?

Lay out the ground rules for students before leaving the school and make sure they know what is expected of them. Students engaged in outdoor fieldwork are actually incredibly well behaved; it is also beneficial when students understand that their outdoor exploration has an impact on their grade.<sup>13</sup> If behavior management is truly a concern, bring extra chaperones or stay very close to the school so there is support nearby if needed.

## Urban is the new Ecology

Instead of rejecting hands-on EE as superfluous, educators should pull this innovative and student-centered curriculum into the learning process as a crucial tool to help students navigate and maintain the relevancy of science in their lives. As Louv reminds us, “School isn’t supposed to be a polite form of incarceration, but a portal to the wider world.” If we forget this, then we forget that we should use the most hands-on and relevant aspects of school education to showcase the most exciting and meaningful parts of our world. As urbanization continues to increase, educating youth to see cities as ecosystems will become the new face of EE. So, the next time you think about taking a nature field trip, cancel the busses and simply step outside and let urban nature become your classroom.

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### Notes

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