



# The Naturing Environment

by Cliff Hauptman

There is a distinct advantage to a school's being located on thirty-five acres of fields and woods when its teachers strive to incorporate place-based learning into the science curriculum.

A Pike student who attends the school for all ten grades will go off to secondary school having significant knowledge of birds, seasons, seeds and plants, spiders, bears, butterflies and moths, owls, bats, endangered animals, watersheds, ecosystems, salmon, ducks, ecology, soil, structures of life, landforms, tide pools, and climate. And most of that learning will have occurred through hands-on experiences somewhere between the front and rear gates of campus. Add to that the resources of nearby Newburyport's Plum Island, Andover's Goldsmith Woodlands, West Boxford's Witch Hollow Farm, and Nashua's National Fish Hatchery, and you have the makings of an experience that, among other things, inspires deep affinity for the locale, an interest in its natural history, and a concern for its future.

Like the Upper School's "Math Walk," from which students get a grounded, real-life appreciation of the value of their quantitative skills by visiting local businesses and professionals and seeing how math is used on a routine, daily basis, the interdisciplinary study of nature throughout the curriculum reveals the reality and immediacy of the natural environment. The school property, the backyard, the town, and the world cease to be simply a backdrop upon which one's life takes place; they become subjects worthy of closer examination, where exciting and wondrous things are happening all the time.

Any doubt about the richness of Pike's biosphere is quickly dispelled by a visit to the wildlife blog "Look and See." (You can reach the blog from Pike's Web site, [www.pikeschool.org](http://www.pikeschool.org), by clicking on "Look and See" in the Quick Links drop-down menu on the Home page.) Photographs taken by students and a motion-sensitive camera set up on Pike property reveal an otherwise unseen abundance of wildlife passing through on a daily basis. Everything from a herd of at least seven deer to raccoons, a red fox, a coyote, and an elusive fisher make their homes and leave their signs in these woods and wetlands, and Pike students start to learn to read those signs and value the environment much the way they do a good book.



There is no more convincing way to spark an interest in one's natural surroundings than to set out a handful of sunflower seeds and watch chickadees, titmice, nuthatches, cardinals, and bluejays flock to your offerings. Pre-K students are introduced to that instantly rewarding experience early in the winter. Once attracted, the birds themselves provide lessons in observation, as students identify the differences in the shapes of beaks, the colors of feathers, and the preferences in diet of their visitors. Later in the spring, students find sunflower sprouts under the bird feeders, pushing through the soil from fallen seeds and providing a perfect segue to a unit on seeds and plants.

The integration of these nature studies into other areas of study is widespread. In Kindergarten, a comprehensive study of

bears and how each species adapts to its distinct environment lends itself to projects in graphing, mapping, and language arts. A unit on moths and butterflies leads to an awareness of symmetry. The Second Grade unit on owls engages the students in measurement projects. And the list goes on throughout the grades, integrating the study of the local environment with math, language arts, social studies, and other areas of science, all while providing Pike students with unusually keen observational skills and a lasting knowledge of their natural surroundings.

Kindergarteners will eagerly tell you how spiders differ from insects, the life cycle of butterflies and moths, and which bears are herbivores and which are carnivores. First Graders know the six species of owls found in New England—saw whet, screech, barred, great horned, barn, great gray, and snowy—and have seen them, live, in their classrooms, during

visits by an owl expert and her feathered companions. They have investigated the owls' castings—regurgitated packets of indigestible furs, feathers, and bones—and identified the skulls of the local prey species found therein. Second Graders appreciate the plight of endangered species, which animals face extinction, and why. They also know the importance of local bats in the control of insect populations, learn about echolocation, and become aware of ways to provide habitats for bats. Third Graders raise Atlantic salmon from eggs, watch them grow, learn their life cycle, and release them into the wild as part of a unit on watersheds, specifically that of the Merrimack River. They can expound on the importance of wetlands and the human influence on the survival rates of other organisms. Fourth Graders are steeped in the relationship of form and function in the lives of plants and animals, establishing up-close-and-personal associations with crayfish (see “Cheeseburger Eddie”) among other local creatures. Fifth Graders literally and figuratively learn the lay of the land, studying landforms, creating topographical models, designing stream table investigations, and observing human effects on landforms in their locale. They study tidepools, too, exploring at the shore and sketching the denizens of that unique environment.

Throughout the extensive range of nature study in the Lower and Middle Schools, art plays an integral part. Whether instigated by the classroom teachers or by Vanessa Hynes in the art room, age-appropriate art projects related to the curriculum provide the dominant visual enhancements to the rooms and hallways of Pike. From the fashioning of fanciful insects from papier mache, pipe cleaners, and feathers; to designing dioramas of bat habitats from cardboard boxes; to originating owls from paper bags and cut paper; or elucidating ecosystems with drawings of their distinctive flora and fauna, these nature-related projects add yet another bond between the children and their natural environment. That bond helps create citizens whose priorities are shaped, even in an age of absorbing electronic gadgetry, by a deep attachment to their natural surroundings, to the local plants and animals in their varied forms, their life cycles, infinite connections, and wondrous workings, and by a deep-rooted sense of stewardship. 🌱



Photos by Cliff Hauptman



**Top: Owl expert Marcia Wilson introduces the First Grade to a snowy owl. Right: Third Graders visit the Nashua National Fish Hatchery to study Atlantic salmon. Below: Examples from an insect art project. Below left: A Third Grader searches for aquatic life in New Hampshire's Souhegan River. Far right: Second Graders enjoying the lessons of the Pike woods.**



