



HOME

[Out of The Box](#) | [Into the Woods](#) | [CASEL Builder](#)

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FEATURES

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EDITOR LETTER

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Into the Woods

New Trier Township High School biology students experience science in the “wild” in a new science curriculum that takes the classroom outside.

BY ABIGAIL FOERSTNER | PHOTO BY TAO ZHANG

Christine Lee, Gabe Blesius and Lizzie Meara sift through a patch of prairie encircled by a Hula Hoop.

They shouldered this skimpy plastic research tool and a meter stick into the woods, leaving behind them New Trier High School’s Northfield campus and a honeycomb of state-of-the-art science facilities. But Christine, Gabe and Lizzie soon transform their simple gear into a laser-sharp revelation — that a small circle of earth opens the door to a whole universe in nature.



“Hey look, a cicada shell,” says Gabe, pointing to a branch. Following up on this good omen, his group surveys the haven marked by their Hula hoop on the ground nearby. The area within it seems quiet and peaceful at first, little more than a bed of fallen leaves and twigs.

Then they turn over a creviced rock and the underside shields a teeming neighborhood of insects. And the mud flattened by the rock shows grayish veins of clay threading through black topsoil. An animal has tunneled deep into the ground within the circle, leaving his doorway visible. Roly polys, those tireless little organic gardeners, zigzag across the scene.

The three freshman tally, draw and describe this microcosm on data sheets as teams of other classmates work on other patches for Robyn Ward’s biology class at Watersmeet Woods.

“I’m thinking a lot more about my surroundings.”

“I’m learning to know life as a metamorphosis.”

Such comments echo a plaintive note of reverie as the students explore the sanctuary that nature unfolds in places almost as close as their own backyards. Watersmeet is such a place, a Cook County forest preserve just west of the high school’s parking lots. Many kids already know about the bike trails that trace through here, fewer about the marshy ponds full of toads and frogs and the prairies bursting with goldenrod and purple asters.

Even the humble mosses have a job to do in the cycles of life the students are unraveling. “Look what I’m doing,” says Ward, New Trier science department coordinator. “Ordinarily you couldn’t break a piece of tree trunk open like this, but the moss and the moisture make everything so soft.” Fallen branches and bark decay, and the nutrients in it go back to the dirt, she says. “It’s like fertilizer.”

Some 600 biology and geoscience students are heading through the wilderness areas of Watersmeet and the Skokie Lagoons this academic year as part of New Trier’s Science Curricula in nature, which was launched this fall in collaboration with the BackYard Nature Center. Winnetka educator and leadership-development consultant Daniel Kielson founded the center that initiated and funded the curriculum program. He and naturalists led faculty-planning sessions over the summer and, of course, a

workshop in the woods.

The Skokie River and the Middle Fork of the North Branch of the Chicago River converge at Watersmeet, channels of ancient water highways navigated by the tribes that settled in Northern Illinois after the last glaciers retreated. Launch a kayak off the banks of the North Branch and you can paddle south along the Chicago River, eventually connecting to the Des Plaines, Illinois and Mississippi rivers.

"You can sail from here to the Gulf of Mexico," Kielson likes to point out.

But many of the New Trier students are finding at Watersmeet a paradox of natural beauty amid an all-out assault of invasive species — garlic mustard in spring, white and yellow sweet clover in summer and buckthorn, canarygrass and Canadian thistle still on the prowl in fall.

For science teacher Marissa Fullenkamp's class, freshmen Will Francke, Livvie Avrick and Paige Eckensberger find native grasses and flowers but invasive plants as well. "These things we found here in the ground are also in here," says Will, comparing characteristics of real plants against the laminated displays in a study guide.

A chickadee chirps, Canadian geese fly overhead and students notice the flattened grasses where deer probably tread. But nothing is carving its way through Watersmeet as relentlessly as buckthorn, a tree and shrub that came from Europe. It's little more than a spindly stalk in many places, but eventually the innocent-looking upstart chokes off other plants as it takes root from the seeds birds eliminate after devouring the plant's sweet, pearly black berries.

Dan Daly's class comes to the area with 10-meter lengths of string, meter sticks and rulers to estimate the pesky buckthorn population. "My hope is that the field work will give everyone an understanding of what ecology is," Daly says. "If intervention is necessary, let's make it as minimal as possible."

The students hike their way through Indian grass topped by seeds and soft silky tassels that often rise above their heads. A light drizzle glazes the flowers and leaves, making everything as glossy as the buckthorn on the second day of the class's inventory. But the invader is still unmistakable.

"The leaves are teathed on the edges, with three to five veins (curving across them)," says Jordan Rubin-McGregor. "And the bark is silvery and brownish," says Teagan Robinson.

They spot small stalks sprouting here and there — stalks measuring 0.5 meter, 0.6 meters and 0.7 meters in height. Teagan measures with the help of classmate Katie Gelber while Jordan, who hopes to become a neurobiologist or psychologist, records the data.

"Some of the buckthorn seemed really sick," Teagan noted later, and students observed that the field had fewer flowers, less buckthorn, and taller grasses than the area they visited previously. "So maybe there's a connection between the buckthorn and the tall grasses," Daly says. "Those are some of the things we'll be sorting out."

But the overriding message is clear and disconcerting. "Something like this can grow really fast and take over really quickly," says Menley Denham.

Volunteers in the struggle pick away at the invaders and replenish indigenous plants. "Fall is the highlight of the prairie," says Eileen Sutter, the volunteer forest preserve master steward for Watersmeet. She leads teams of volunteers in collecting seeds here every week of fall, a task repeated by other stewards and other volunteers throughout the Cook County Forest Preserve District so the seeds can be planted and prairies restored with big blue-stem and little blue-stem among a host of native grasses and flowers.

"I'm excited people from New Trier are using the site as a classroom," she says.

"Every educated person will say it's important to travel and see new things and expand horizons," Kielson notes. "And you can apply that to nature — that's another horizon and its right next door. You don't have to climb Mount Everest or go kayaking in Belize. Those are wonderful things to do, but you can develop your own backyard into a beautiful peaceful area."

Kielson spearheaded the not-for-profit BackYard Nature Center, incorporated in 2007, to connect children and adults with experiences in nature. Grants from Chicago Wilderness and outdoors outfitter L. L. Bean helped support the mission to promote education, stewardship, family activities and the joys of just romping in nature's playgrounds.

"We connected all of the eighth-graders in the Glencoe schools — 160 eighth-graders — and spent a day

with them planting prairie flowers” at the Chicago Botanic Garden and the Skokie Lagoons, Kielson says. Now Glencoe schools are interested in a science curriculum similar to the one developed in partnership with New Trier.

Backyard nature starts at home for Kielson. He and his wife, Marie-Eve, replaced the classic suburban lawn in their own backyard with a primeval forest of bushes and trees, a popular haven for cardinals, orioles, hummingbirds, woodpeckers, sparrows, starlings and their friends. They swoop by the Kielsons’ kitchen window and sing a greeting en route to their favorite feeders. When the Cooper’s Hawk flies in, of course, everyone else falls utterly silent until the big bully of the neighborhood eats and leaves.

But Kielson has extended his concept of the backyard well beyond home through the nature center that now includes programs involving forest preserve district sites at the Skokie Lagoons and Watersmeet, New Trier Township community park districts and the Chicago Botanic Garden.

Kielson has loved nature since childhood when he played in a forested park going to and from school every day in Rochester, N.Y. He moved to Winnetka 34 years ago to take the position of vice president of student affairs at Northeastern Illinois University in Chicago. Currently, he runs Visions Unlimited, a consulting firm that offers leadership development. And he is a volunteer master steward for the Skokie Lagoons.

Each year, he meets former steward Jerry Garden for a canoeing trip in Alaska where, this year, high winds and waves stranded the pair on a remote island for several days. But that’s another story.

Back home, he joins in on the classes in nature. Circling the bend at close of Fullenkamps’ class, the veil of the prairie drops away and a frog greets Kielson and returning students as New Trier comes into view. But the woods and prairie have seeped inside.

“I’ll be more aware of nature all around me now,” Paige says on the walk back.

‘Now I’ll be looking at these things anywhere I go,’ says Livvie.

And that makes the world their backyard.

Programs and volunteer opportunities abound in nature. Find the BackYard Nature Center at www.backyardnaturecenter.org, the Cook County Forest Preserve District at <http://fpdcc.org>, and the North Branch of the Chicago River restoration programs at www.northbranchrestoration.org.

[Back to top](#)