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Students Peer Into the Life of the White River

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Rochester, Vt. — They'd gathered in the White River to discover aquatic life, but students from Prosper Valley School took a moment to marvel at a soaring raptor just prior to lunch during a field trip last Thursday.

"It's a bald eagle," said Chris Mattrick, a Green Mountain National Forest district ranger. "Good eyes."

Mattrick was complimenting fifth-grader Asher Hewitt, who also made a significant discovery in the water during a freshwater snorkeling outing run by the White River Partnership and the national forest.

"I saw a rainbow trout — it was this big!" Hewitt said, extending his hands about a foot from either side of his head. "It looked right at me!"

Off of Vermont Route 73, about three miles west of its junction with Route 100, students from White River Valley-area schools have been taking to the West Branch to find — and, program leaders hope, appreciate — the wonders of life in the river, from small insects like the damselfly and riffle beetle to sizable trout like the one found by Hewitt.

On Thursday, fourth- and fifth-graders from Prosper Valley School in Pomfret and seventh- and eighth-graders from The Sharon Academy Middle School were among the participants. The program continues through Thursday.

Students from Prosper Valley School, which serves Bridgewater and Pomfret, took to the wetsuits and snorkel gear first, plunging into a rare deep section of the third branch following the region's relatively dry summer. They searched for fish such as brook and rainbow trout, sculpin and chub that prefer to dwell in shady depths.

The water here is deep by design. Ravaged seven years ago by flooding from Tropical Storm Irene, this short stretch of the river underwent extensive restoration. Giant logs now sit along the area's south bank, helping to create a deep pool and maintain water flow.

"This was an island here with no water running through," said Mattrick, who lives in Rochester. "Some of the gravel was taken to rebuild part of Route 73 that was washed out during Irene. It was just a wide, flat area with no habitat whatsoever, so it's come a long way to look like this."

Meanwhile, Sharon Academy students were in a shallower area scouring for macroinvertebrates — aquatic insects such as the caddisfly, stonefly and riffle beetle that make up a cornerstone of the river's food chain.

"When you think of freshwater rivers, the first thing most people think about are the fish," Mattrick said. "Nobody thinks of the macroinvertebrate, but there are more than double the number of them than there are fish in the water. It's really cool to expose the students to some of these species and show them that there's more than just fish in the river."

Students discovered plenty. With a set of diagrams and Vermont Fish & Wildlife biological technician Joe Cahill on hand to help identify species, students used nets to retrieve insects, or just carried over entire rocks with undersides that were peppered with creatures. Caddisflies were easy to identify because of the double-pronged hooks extending from their backs, while the slender damselflies were distinguishable by their resemblance to small dragonflies.

"These insects are the backbone of the ecosystem in this river, so it's a really good indicator that there are so many of them," Cahill said. "It means that it's high-quality water that isn't polluted."

Students marveled at the insects, sometimes using magnifying lenses for a closer look. There was an extra burst of excitement when the group found a baby fish slithering through the rocks.

"Fish! We've got a fish coming through!" said Sharon Academy eighth-grader Jason Pratte while helping to transport a minnow soon identified by Cahill as a longnose dace.

TSA Middle School science teacher Claire Smith said the field trip fits with the school's curriculum, which this fall is centered in part on what makes Vermont unique. For science class, that means a lot of up-close looks at Vermont's forests and rivers.

"This is a great opportunity to point out vegetation buffers near streams and to talk about how they help control runoff from roads and farms," Smith said. "Vegetation overhang on rivers also provides shade and keeps the water cool, improving habitat and the oxygen levels in the water."

Students also spent some time with Brooke Warrington, a natural resource specialist from the Virginia-based Center for Aquatic Technology Transfer, which introduced the program to the Green Mountain National Forest and White River Partnership last year.

Among other subjects, Warrington stressed the implications of downstream water flow.

"Whatever we do upstream has an impact on the people and wildlife downstream," she said. "It's up to us to protect it."

The message reminded Mattrick of the Weeks Act, which in 1911 allowed the federal government to purchase land for the purpose of protecting the headwaters of rivers and watersheds, leading eventually to the creation of the eastern national forests.

"At the turn of the century, erosion from all of the industry upstream was having a dramatic effect on water quality, so (Massachusetts congressman) John Weeks introduced the legislation," Mattrick said. "This program kind of brings us back to the original intent of the forests, to protect water quality."

Students from Randolph Elementary School, White River Valley Middle School and Elementary School, in Bethel, are scheduled to take part in the program this week.

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