

Clifton teachers get environmental lesson

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Educators, two of them from Clifton High School, learned valuable environmental lessons with the help of a workshop and a tour of the Passaic River by the Passaic Valley Sewerage Commission.

CLIFTON — Passaic County teachers learned not only what a watershed is, but how to protect it using "green" solutions on Monday.

"It's really just all the land that drains to a water body," said Christopher Obropta, an associate professor at Rutgers University.

More than 40 teachers from across northern New Jersey gathered at Passaic Valley Sewerage Commission (PVSC) in Newark, the "back-end" of the water works, for a workshop on green infrastructure.

Two Clifton teachers were in attendance. The City's School District recently enrolled in Sustainable Jersey for Schools, a certificate program to help schools "go green."

Michelle Christie and Donna Ploch, environmental science teachers at Clifton High School, said the workshop gave them "a lot" of ideas.

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"I want to take the students to the [City] well to taste the water to see how different it is," said Christie. She said her colleague Ploch, challenged students to identify bottled and tap water in a taste test last year.

The teachers said they discovered the workshop after they contacted PVSC to speak to CHS' Conservation and Aquatic Conservation clubs last month.

Storm water runoff into drains can cause overflow in subterranean drainage pipes. Rosana DaSilva, Rutgers graduate student, noted two major ways to reduce runoff: reduce impervious surfaces, which rainwater cannot penetrate, and by harvesting rainwater.

Of total groundcover in New Jersey, 12 percent is considered "impervious," said Obropta. Examples of impervious groundcover include sidewalks, parking lots, driveways, and building roofs. Water cannot penetrate these surfaces and run into storm drains, which in the case of heavy rainfall can cause flooding.

Sheeting rain also picks up pollutants on its way into the drains, which pollutes groundwater and ultimately the watershed. The water must be treated at sewage plants such as PVSC to remove the waste chemicals.

To reduce impervious surfaces and groundwater pollution, collecting rainfall in a water barrel for reuse, replacing impervious surfaces with grass or permeable alternatives, and establishing rain gardens to slow water flow can help establish more green infrastructure and maintain water quality, said DaSilva.

"These are engineered solutions to problems. Since we live in these collective societies... we need to come up with solutions together and we need them to be engineered solutions," said Ellen Shultz, keynote speaker for the morning.

Shultz is the director of education at Fairmount Water Works in Philadelphia, who helped develop a six-unit curriculum guide aligned to Common Core standards for students in kindergarten through grade eight. Teachers received a copy of the curriculum guide and additional resources for educating students, which speakers said will help inform parents.

Later, teachers toured the treatment facility and sat in on a mini-workshop for designing a rain garden.

"It's interesting to see when you go places what is involved," said Christie on touring the facility.

As a part of the afternoon activities, teachers also took a boat ride along the Passaic River to see firsthand the impact of indiscriminately contaminating waters.

"A lot of times the students say 'when am I going to use this?' This is a real world application," said Ploch.

Hugh Carola, program director of Hackensack RiverKeeper, which handled the tour, pointed out old factory sites such as Diamond Alkali, a former chemical company on the river whose footprint was declared a Superfund Site in 1984 due to the dumping of the herbicide, Agent Orange.

From the boat, no waste was seen in the waters, but "the sediments of the lower Passaic River and Newark Bay are contaminated with a variety of hazardous substances, including dioxin, PCBs, mercury, DDT, pesticides and heavy metals," according the Environmental Protection Agency's webpage on the Diamond Alkali site.

The site "remains the worst," said Carola. "It can never be reused."

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