



Wequetequock Cove becomes lesson for Avery Point students



Students from UConn Avery Point's Measurements and Analysis in Coastal Ecosystems class take water samples on Wequetequock Cove in Stonington for analysis Tuesday, Nov. 10, 2015. (Tim Cook/The Day)

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By Judy Benson (/apps/pbcs.dll/personalia?ID=j.benson)

Stonington — Real-world problems in Wequetequock Cove that have been one of the challenges taken on by the citizen science group CUSH, or Clean Up Sound and Harbors (<https://www.facebook.com/CUSHinc/>), this fall turned into an opportunity for some marine science students.

CUSH, an all-volunteer organization concerned with pollution in local marine waters, began monitoring estuaries in Stonington and Mystic six years ago.

The monitoring is part of CUSH's efforts to call attention to the problems and educate the public about how they can help, said Chris Freeman, president of CUSH's board.

"We want to be advocates and teachers of what everyone can do to affect water quality health," he said Wednesday.

CUSH's latest findings — a 2014 report that will be presented at the group's annual meeting Friday — document degraded conditions in the Mystic River, Pequotsepos Cove and Wequetequock Cove, as well as good water quality in Stonington Harbor and Sandy Point.

High nitrogen levels and low dissolved oxygen levels harmful to aquatic life were the main problems found in

samples from three estuaries with fair or poor water quality.

CUSH volunteers collect samples from spring through fall from 11 locations, then send them to the University of Rhode Island for analysis.

Their results over the last six years show that Wequetequock Cove, a picturesque narrow inlet on the western end of Little Narragansett Bay, has the poorest water quality of all the sites monitored.

“It’s the most degraded estuary we monitor,” Freeman said.

Like other areas of Little Narragansett Bay, the cove is being choked with nuisance algae, cladophora (<https://en.wikipedia.org/wiki/Cladophora>), that proliferates as nitrogen-rich nutrients from fertilizers and storm runoff pour in unchecked from lawns, fields and pavement.

Now, a class from the University of Connecticut’s Avery Point campus, working in collaboration with CUSH, has made the cove its semester-long project.

“They’re involved in a real-world problem,” said Julie Granger, assistant professor of marine sciences at UConn. “It’s made a world of difference in motivating the students.”

Granger said her students were able to draw on the six years of data collected by CUSH, giving their results a meaningful context otherwise impossible in the course of a semester.

“It’s much easier to teach this class in the context of what CUSH has already done,” she said.

This is the first year students in her Measurements and Analysis in Coastal Ecosystems Class are researching a troubled local waterway specifically to make a contribution to a community group’s efforts, she said.

Throughout the fall semester, they have been collecting samples of water, sediment and the nuisance algae from the cove, and testing not only for nitrogen and oxygen levels, but also incubating the samples to determine how much the algae is contributing to low oxygen levels.

The algae, they found, consumes large amounts of oxygen at night, she said.

On Tuesday, two groups from the class spent a rainy afternoon collecting more samples from the cove and a small freshwater pond that feeds it to test for E. coli bacteria, and conduct further analysis to determine if the main source of the bacteria is waterfowl or septic tank runoff.

“This is definitely the most hands-on class I’ve taken,” said student John Stingle of Granby, a senior majoring in marine science.

“We’re trying to figure out why Wequetequock Cove is the way it is,” added Zach Yommer of Salem, also a senior majoring in marine science.

As they spoke, classmate Melissa Cote of Groton, an oceanography graduate student, paddled her kayak across Wequetequock Pond back to shore after collecting two water samples and measuring oxygen, temperature and other parameters.

Downstream, where waters from the stream that flows out of the pond mix with the waters of the cove, Granger and five of her students were wrapped in raincoats as they gathered samples from a small open boat.

The boat had been launched from a dock at the home of Sally Cogan, one of the members of CUSH’s water quality team.

Claudia Koerting, academic assistant working with Granger, said building the course around Wequetequock Cove teaches students about a real-world project, from forming a hypothesis to planning a field experiment to doing the analysis.

“They have ownership of the project, and are making a contribution to the community,” she said.

Ultimately, Freeman said, CUSH hopes its findings will help town officials and the public better understand how the

problems with water quality in local estuaries can be reduced through better management of stormwater, reducing fertilizer use and other steps.

In addition, it is hoping to join forces with other local conservation groups to foster development and land management practices that would reduce runoff and improve water quality in the estuaries, he said.

“Our data supports what we’ve been saying all along, that what goes on the ground — the trash, the chemicals — ends up in the waterways,” he said.

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