Marine Trash Data Is The Basis For New Science Curricula

Media Contact: [Rebecca Zeiber](#)
603-749-1565
NH Sea Grant

Oct. 21, 2009

DURHAM, N.H. –Area students will soon be studying trash — specifically, marine debris — to learn more about science and statistics.

School teachers in New Hampshire and Maine are working closely with the University of New Hampshire and the Blue Ocean Society to incorporate information about marine debris into their lesson plans. Marine debris can include abandoned commercial fishing gear such as nets, trawl material or buoys and may end up floating farther offshore on the ocean surface, littering the bottom or washing up on beaches. Debris also includes human trash, from cigarette butts to plastic bags, that washes out to sea.

A group of 12 teachers from the Seacoast and further inland recently spent time on the UNH research vessel the Gulf Challenger learning how side-scan sonar can help detect marine debris. The boat towed a torpedo-shaped sonar device along the Portsmouth Harbor while the teachers watched the high-resolution visuals of the seabed on the onboard computer screen.

A follow-up workshop allowed those teachers to brainstorm ideas for how they could incorporate information collected about ocean pollution into their lesson plans.

"Using marine debris to help teach basic scientific principles is an effective and engaging way to interest students and help them perform at the level set by the state's educational standards," said Mark Wiley, marine educator for N.H. Sea Grant and UNH Cooperative Extension.

At the workshop, teachers worked in teams to formulate suggestions for science curricula revolving around marine debris. They worked with the web site www.nhmarinedebris.org, which offers tools such as GIS maps and data that allow the user to search by beach or debris type to learn about the type and quantity of pollution near the Seacoast. The web site also features video clips of marine debris taken from their recent nearby sonar tows.

"We want to increase the awareness of resources for marine debris lesson planning," Wiley said. "This subject will lend itself to math and statistics lessons quite well."

For example, teachers could use this program to help their students improve their math and statistics skills. One suggestion was for students to do a beach cleanup and note the amount of each trash type collected, according to Ken La Valley, commercial fisheries specialist for N.H. Sea Grant and UNH Cooperative Extension. Students can then upload the data onto the web site's database and use tools on the site to create maps, charts, and graphs to determine the rate of trash decomposition or percentage of debris that may represent a risk to human or animal wellbeing.

Younger students might use the information on the web site to simply make the connection between human activities and impacts on the ocean, Wiley added.

"It's exciting to see what creative curriculum ideas the teachers came up with," Wiley said. The finalized lesson plans will be available on the web site in the upcoming months.

This local effort is part of the Marine Debris to Energy Program, a nationwide program sponsored by the National Oceanic and Atmospheric Administration that takes derelict fishing gear and marine pollution and combusts it into energy. N.H. Sea Grant and UNH Cooperative Extension are collaborating with the non-profit organization the Blue Ocean Society to help facilitate the program's progress.

The program seeks a holistic approach to cleaning up the Gulf of Maine, La Valley explained. It incorporates recycling and waste-to-energy as part of the cleanup effort and has resulted in the collection of more than seven tons of debris thus far.

To learn more about the Marine Debris to Energy program, visit www.nhmarinedebris.org. For more information about the teaching curriculum, contact Mark Wiley at 603-749-1565 or mark.wiley@unh.edu.

The University of New Hampshire, founded in 1866, is a world-class public research university with the feel of a New England liberal arts college. A land, sea and space-grant university, UNH is the state's flagship public institution, enrolling 12,200 undergraduate and 2,200 graduate students.

-30-