



UNH Marine Debris Research Yields Results

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DURHAM, N.H. - New Hampshire has only 18 miles of coastline yet in 2006, more than 11,000 pounds of trash was collected during cleanups of area beaches, according to marine debris research done at the University of New Hampshire.

The biggest litter culprit was cigarette butts. From April 2005 through September 2006, nearly 52,000 cigarette butts were found on Hampton Beach alone. Plastic bottles and cans were the next largest offending group.

Marine debris research began at UNH in 2006 with grants from the NOAA Marine Debris Program. Researchers worked closely with Jen Kennedy of the Blue Ocean Society for Marine Conservation, and Ken LaValley of New Hampshire Sea Grant.

One of Marine Debris Research's first projects, done in cooperation with the Blue Ocean Society, was aimed at identifying and targeting sources of beach pollution so solutions could be found to counter the problem.

Blue Ocean had been monitoring New Hampshire beaches for about four years before the university formed the Marine Debris Research program. Blue Ocean had generated an annual report but it didn't include a multi-year trend analysis. That's where UNH came in.

During a three-to-five year period, volunteers from Blue Ocean Society's Adopt-a-Beach Program had collected litter and debris from 14 beaches that UNH researchers have since examined for trends. The waste was divided into three categories: land, ocean and general.

Among other things, land waste includes things beachgoers leave behind such as cigarette butts, six-pack rings, and balloons. Ocean debris can be lost fishing gear such as rope, nets, traps and buoys, as well as light bulbs, gloves and items from cruise ships that are lost overboard. General debris is classified as glass and plastic bottles, cans and plastic bags, and other litter that could have come from the land or the sea.

"For example, on Jenness Beach balloons used to be one of the top five debris sources but in 2005 they were replaced by plastic containers," says Jenna Jambeck, a UNH research assistant professor with the department of civil and environmental engineering who wrote the proposal for the marine debris research group in 2005.

Knowing that, and what the other lead pollutants are, can help define actions, she says.

"There is a finite amount of money," Jambeck says. "Once we can look at the data, we can decide what areas we should be targeting for mitigation."

An example is the direct action that came from the abundance of cigarette butts found on

Hampton Beach; a campaign called "Carry It Don't Bury It" was initiated by the N.H. Department of Environmental Services, the N.H. Coastal Program and the N.H. Division of Parks and Recreation, and 20 new cigarette butt receptacles were installed along the boardwalk.

At the same time, five new trash containers have been added near the Sea Shell as part of the "Catch the Wave - Keep Our Beaches Clean" campaign, aimed at inspiring people to take ownership of their beaches, Jambeck says. All the trash receptacles bear the UNH, NOAA and Blue Ocean logos.

Meanwhile, the university's Environmental Research Group and the Coastal Response Research Center (a NOAA/UNH partnership) are examining new technologies such as personal digital assistants to find better ways to collect data not only on debris but in the event of an emergency such as an oil spill.

"The projects we've done have shown ocean-based debris is a problem in New Hampshire; this directly lead to the start of a new project with UNH Sea Grant (see related story below) reaching out to fisherman and collected marine debris for energy," Jambeck says. "Now, we'll be able to see if what we're doing has an impact. That hasn't been done before. We can adjust what we do as we learn."

For more information on the Marine Debris Research at UNH:

<http://www.crrc.unh.edu/marine-debris/index.htm> or www.nhmarinedebris.org

For more information on volunteering for beach cleanups and Adopt-a-Beach Program go to: www.blueoceansociety.org.

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