



Environmental Studies in Woods Hole & at Sea

Sea Education Association | SEA Semester • P.O. Box 6 • Woods Hole, MA 02543 • 800.552.3633 • www.sea.edu

April 24, 2014

FOR IMMEDIATE RELEASE:

CONTACT: Jennica Deely,
Marketing Coordinator, SEA
jdeely@sea.edu | 508-540-3954 x523
www.sea.edu/pacific_plastic

SEA Semester® undergraduate collection efforts informing plastic “garbage patch” studies in Pacific Ocean.

Large-scale, long-term plastic garbage sampling is vital to make accurate estimation of plastic pollution in Pacific Ocean.

(Woods Hole, MA) An estimated 21,290 metric tons of plastic particles are currently floating in the North Pacific subtropical gyre, with a mass equivalent to 132 Boeing 747 airplanes or 120 blue whales. This estimate, the most complete and accurate evaluation of Pacific Ocean plastic pollution to date, comes from eleven years of plastic debris collection and the efforts of over 1,700 undergraduate students studying abroad with SEA Semester, operated by Sea Education Association (SEA) in Woods Hole, Massachusetts. SEA Semester faculty and scientists, Dr. Kara Lavender Law, Dr. Erik Zettler, Dr. Deb Goodwin, and Skye Moret- in collaboration with colleagues- have recently analyzed and compiled this data into a research paper entitled “Distribution of Surface Plastic Debris in the Eastern Pacific Ocean from an 11-Year Data Set”, published in *Environmental Science and Technology* (www.sea.edu/pacific_plastic) The paper is highlighted as an editor’s choice with the American Chemical Society today, 24 April 2014.

SEA Semester study abroad voyages have sailed repeated cruise tracks annually in the Pacific Ocean subtropical gyre since 2001. Every 6-8-week voyage includes twice-daily neuston net tows while the SSV *Robert C. Seamans* (SEA Semester’s tall sailing ship that operates in the Pacific Ocean) is under sail. Net tows brought in by SEA Semester undergraduate students recover an assortment of biological material, including marine organisms and plant material, as well as, increasingly, plastic fragments (typically smaller than the size of a pencil eraser). Plastic, a highly porous synthetic substrate, is known to absorb toxic chemicals (e.g. DDT, PCBs, PDBEs) from seawater, and may also contain toxic additives; this microplastic debris is accessible to a wide variety of marine organisms that may ingest and be exposed to these toxins. According to Dr. Kara Lavender Law, “over the course of the last fifty years, humans have fundamentally changed the ocean with the addition of this long-lasting man-made material. Everything from blue whales to organisms as small as microbes are affected, yet we still don’t fully understand the consequences of this pollution.”

Due to growing interest in ocean pollution and its environmental and human impacts, the science of ocean plastics is a rapidly evolving field, fast becoming an important topic in ocean environmental research. Sea Education Association possesses one of the most complete long-term data sets of plastic marine debris in the world. Since 1986, plastics data has been consistently collected by undergraduate students aboard SEA sailing school vessels in the same ocean locales throughout the North Atlantic Ocean and since 2001, in the Pacific Ocean. Unlike any other study abroad program, SEA Semester® (www.sea.edu/sea_semester) includes both on-shore and at-sea components, wherein students spend

the first portion of a semester on SEA's campus in Woods Hole, taking courses ranging from biological oceanography and ocean science to public policy, nautical science and maritime history. These on-shore courses prepare students for the next portion of the program: sailing aboard one of SEA's sailing school vessels, where, in addition to conducting hands-on, field-based research projects, they also work as members of the ship's crew. Rigorous academics combined with the adventure of sailing aboard a tall ship create a truly one-of-a-kind study abroad program. All SEA Semester programs are accredited through Boston University, so students may receive up to 18 semester credits in lower and upper division coursework. While the program is renowned for its excellence in the sciences, all SEA Semester programs are interdisciplinary and welcome students from any major. Students also gain valuable experience in other, less definable areas, such as leadership training, group dynamics, and team-building: all areas that help students develop into well-rounded, confident, open-minded and contributing members of society.

About Sea Education Association/SEA Semester®

Creating Ocean Scholars, Stewards & Leaders Since 1971

Sea Education Association (SEA) is an internationally recognized leader in undergraduate ocean education. For more than 40 years and over one million nautical miles sailed, SEA has educated students about the world's oceans through its fully accredited study abroad program, SEA Semester.

SEA Semester is the leading off-campus Environmental Studies program focused on the oceans. SEA Semester creates environmentally literate leaders who are prepared to address the defining issue of the twenty-first century: the human impact on the environment. SEA looks for motivated students of all majors who are passionate about learning, willing to seek out new challenges, and eager to become part of a unique learning community.

SEA/SEA Semester is based on Cape Cod in the oceanographic research community of Woods Hole, Massachusetts and has two research vessels: the SSV *Corwith Cramer*, operating in the Atlantic Ocean, and the SSV *Robert C. Seamans*, operating in the Pacific.

For more information on SEA Semester programs, please visit www.sea.edu/sea_semester, or contact one of our Admissions Counselors at 800-552-3633 x770 or admissions@sea.edu.

For more information and to schedule interviews, please contact:

Jennica Deely, Marketing Coordinator,

jdeely@sea.edu

508-540-3954 x523

www.sea.edu/pacific_garbage

###