Kids have fun aboard floating summer camp

By Abby Anthony

"You are the sonar operator for an oceanographic research ship. Your ship is searching for shipwrecks that have been reported to be located in 1,000 to 1,200 meters of water. Using sonar mapping and the formula Time x Speed/2 = Depth, calculate the depth of each location and advise the ship's captain where to search for the shipwrecks."

For most, this problem would trigger at best unpleasant memories of high school physics, and at worst clammy hands and cold sweats. For a small group of budding scientists, however, tackling this type of problem is part of their summer fun. Five students between the ages of 10 and 14 have joined Jason Project Argonaut John Langella, Captain Steve Moreau, and Cindy Moreau aboard the oceanographic vessel R/V Eastern Surveyor for the inaugural session of Ocean Odyssey Camp.

With a background in marine welding and metal fabrication Steve and Cindy Moreau purchased the 80-foot-long R/V Eastern Surveyor in 2003. The Moreaus equipped the ship with oceanographic tools and worked as contractors for agencies such as the U.S. Army Corps of Engineers conducting environmental evaluations and surveys.

Under the current federal administration, however, the Moreaus report that demand for environmental services has diminished. The Moreaus began brainstorming about different ways to utilize the ship and the resulting idea was to create a floating camp that would teach young people not only boating and navigational skills, but also expose them to marine biology, oceanography, and the history of Narragansett Bay.

Having hosted junior high science classes and scouting troops on the R/V Eastern Surveyor, Captain Moreau was confident that young people would be enthusiastic about learning in a hands-on environment, but he had no background in administering a summer camp. Thus, Moreau enlisted the help of Ocean State Scuba proprietor Dave Swain. Swain has several years of experience running scuba camps for young people and was eager to undertake the advertising and administration duties. Swain then recruited John Langella, an oceanology teacher at East Providence High School, to lead the daily lessons and experiments aboard the ship.

A line and a rope

On a foggy, still morning last week, the five students huddled around Captain Moreau on the aft deck of the R/V Eastern Surveyor, receiving a brief seamanship lesson before shoving off for the day. Having already learned which side of the ship is starboard, the difference between a line and a rope, and how to tie a bowline, the campers were ready to tackle navigation.

Studying a nautical chart of Narragansett Bay, the students determined where they were located on the chart and plotted a course to Beavertail by "walking the parallels." The students had to determine which side of the red and green buoys and channel markers to stay on. They also learned the difference between true north and magnetic north, and used the compass rose to plot the course.

The floating lab

Once the ship was underway, the students went into the cabin to set up the floating lab — readying droppers and slides to investigate water samples under the microscopes. Under Langella's guidance, the students collected diatoms, microscopic part-plant part-animal organisms, by dragging fine mesh nets behind the ship. The lab was reminiscent of a scene out of a Harry Potter book, decked out in lab coats and goggles, the young marine biologists expertly prepared slides and consulted texts to identify which microscopic species they had caught.

Langella and Captain Moreau then introduced the students to the grab-sampler, a claw-like contraption used to take samples of mud from the bottom of the bay. Langella explained that studying the bottom, or benthic, community is important because the presence and quantities of many worms, organisms, and pollutants are indicative of the overall health of the ecosystem.

Moreau elaborated, explaining how the grab-sampler was used to determine whether the sediment at the bottom of the Providence River was polluted. Over time, sediment accumulates at the bottoms of harbors and makes the channels too shallow, requiring dredging and the removal of the excess sediment. Using the grab-sampler, Moreau determined that large quantities of the sediment in the Providence River had been contaminated from hundreds of year's worth of heavy metal runoff from Providence's jewelry industry. While clean sediment from the Providence River can be deposited in Block Island Sound, the polluted sediment must be buried deep under the ocean floor and capped off with clean sediment.

A young camper weighs and measures a scup.

The students watched as the grab-sampler took a sample of the sediment off the south end of Dutch Island. When the sample was brought on board, the students looked a little disappointed. Although they now had enough guck to make a few rounds of mud pies, the sample did not appear to contain much else. Being young scientists, however, the students dutifully donned thick rubber gloves and went to work investigating the goop. Using sieves with different sizes of mesh, the students sorted through the sample to discover bottom dwelling creatures such as worms and snails.

A hag fish incident

Although the students now had plenty of wriggly specimens to observe under the digital microscope, Captain Moreau described how nothing could compare to the time he pulled up a hag fish in the grab-sampler.

The hag fish, also known as a "slimiest," is a creature that lives in the mud and is roughly the size of an eel. The hag fish's defense mechanism is to exude copious quantities of mucus from all over its body. While the students seemed utterly grossed out and fascinated by such a creature, Moreau explained that the hag fish is actually economically desirable — the skin is removed and worked until it resembles a type of leather that is shipped to Korea and used to make billfolds, wallets, and belts.

Although this year's students are benefiting from the small group size, the Moreaus and Swain hope to increase enrollment to about 15 campers next summer.

Swain explained that the Ocean Odyssey Camp offers something for every young person: the naval history of Narragansett Bay, hands-on science experiments, state-of- the-art technology, and seamanship skills that one might not learn at sailing school, such as how to dock an 80-foot-long ship. Most important, the camp directors want the students to develop an appreciation for our state's most valuable resource, Narragansett Bay.

"Our state nickname is the Ocean State," Swain noted, "but the majority of school-age children have no ocean experiences."

Anyone interested in learning more about the Ocean Odyssey Camp for next summer should call Ocean State Scuba at 423-1662 or go to www.oceanstates-cuba.com.

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