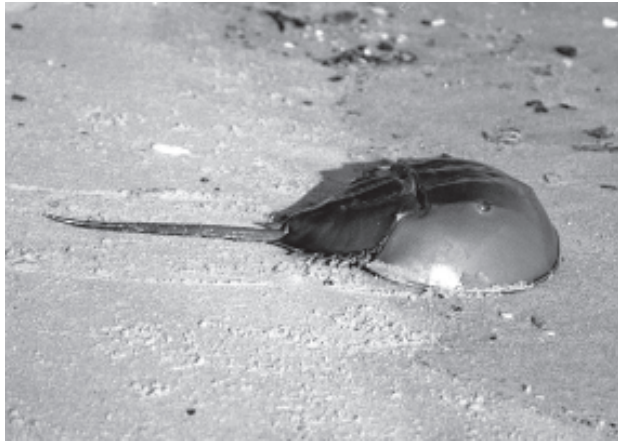


## Horseshoe Crab Research is Timely

By Sally Mills

A new study underway in the Marine Advisory Program is looking at ways to reduce impacts to the horseshoe crab - a preferred bait in widespread use among conch pot fishers. According to marine advisory specialist Bob Fisher, "It is widely known that the horseshoe crab population is down. This research hopefully will yield a conservation approach that will reduce human impacts on that population."



The research began in December 1999 aboard a 45-ft. commercial conch-potting vessel equipped with a hydraulic pot-puller. The traps used were traditional wooden traps currently used by commercial fishermen. The study was conducted 35 miles off Cape Henry, Virginia, in 24.4 to 30.4 m of water. From geological maps, the bottom type is considered to be fine to medium sand. Traps were set in lines running north to south along the continental shelf.

The objective of the study is to determine if reducing the amount of bait placed in a mesh bag will affect the number of conch caught per trap. It is hypothesized that, if scavenger animals are kept away from the bait through the use of mesh bags, less bait will be needed and the bait used will continue to attract conch during the full time that traps are in the water.

Whole crabs have been tested against crab halves, cut and placed in the mesh bags. One whole female or two whole males were used as the control groups for this study, which mimics traditional commercial use of crabs as conch bait.

Testing consisted of alternating control traps with treatment traps within various lines. Each line fished between 50-55 traps spaced approximately 215 feet apart.

Preliminary results from the Cape Henry study using 350 pots indicate no significant difference in catch between using a whole female or two whole males (which is standard commercial practice) versus a half-female or two halves of male crabs per bag. Results from other resource areas in Virginia are currently being evaluated to explore the potential of reducing the amount of bait used to one-third or one-fourth of a horseshoe crab per pot.



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research indicated that over the period from 1973 to 1980, boat ownership in the Commonwealth grew more rapidly than population — rising from 1 boat for every 43 citizens in 1973 to 1 for every 38 in 1980. The most recently available 1999 information indicates a boat registration to population ratio of 1 registered per every 34 citizens.<sup>2</sup>

Virginia's pleasure boat market reportedly recorded its best advance in over a decade during 1999. Industry and government consensus estimates indicate that boat-related retail sales were up 20% last year nationwide. According to the industry, new boating

participants entering the market and established boaters "trading up" fueled this growth. The increased spending in the boating market is tied to the eight-year-long general economic expansion and financial benefits accruing to those in the boat owning demographic profile. According to the Fifth District Federal Reserve, during 1999 all manner of economic measures in Virginia gained, including personal incomes, commercial bank deposits, residential building permits, and commercial and industrial lending. While the last quarter of the year reflected some slow-down in growth, by any measure the marine

## Students Teaching Students

Thanks to the Virginia Power Scholarship Fund, VIMS/SMS graduate students will soon hone their teaching skills while providing essential training to their fellow students. Four graduate students with exceptional knowledge of computer software and technologies won the Virginia Power Teaching Scholarships this year. They will apply their skills to teach courses this spring and summer on web site design, Visual Basic, computer-aided statistics, and geographic information systems.

Jennifer Rhode and Alessandra Sagasti shared their knowledge of computer programs for scientific data analysis in a one-week course in May. Also in May, Katie Farnsworth taught students to apply computer tools for visualizing spatial data. Such geographical information systems are

quickly becoming essential tools for coastal resource management. Paul Liu will teach two courses this summer. One will enhance student's skills in visual Basic programming and the second will provide much needed training in Web site design.

Support for these Teaching Scholarship Awards is provided by Virginia Power and is intended to foster teaching excellence of outstanding students while simultaneously providing essential training to students that would otherwise not be available from SMS graduate offerings. Awarded for the first time this year, the Virginia Power Teaching Scholarships will be conferred annually to deserving students who have identified an instructional need and possess the credentials to provide training in that area.



Ph.D. student Paul Liu teaching a summer course for SMS students.

recreational business *surged* into the new century.

Future issues of *The Crest* will explore the often challenging transitions in public access and use of the state's marine resources as well as their relationship to Virginia's goals of sustainable use of our valuable resource—the Chesapeake Bay.

Hopefully, the information summarized here will be useful in stimulating further discussion of Virginia's changing coastal communities.



<sup>1</sup> Source: U.S. Bureau of the Census, PPL-47, and Table 1.

<sup>2</sup> Saltwater License Data represents sales by the Virginia Department of Game and Inland Fisheries and none of the data includes VMRC "Non-Commercial Licenses" for charter boats, piers and rental boats or saltwater recreational crab licenses, or "Food Fish" licenses.

<sup>3</sup> "Saltwater Angling and its Economic Importance to Virginia." VIMS SRAMSOE NO.339 1997.

<sup>4</sup> "Recreational Boating in Virginia." VIMS SRAMSOE No. 251 1981.