

Musick Celebrates 35th Consecutive Roanoke Round-up

Dr. Jack Musick, Acuff Professor of Marine Science at VIMS, recently led 12 graduate students on his "Roanoke Round-up," an annual field trip to western Virginia to study fish evolution in Appalachian rivers and streams.

Musick has offered this trip, where he not only teaches but cooks all the meals, for 35 consecutive years.

"The Round-up is important because it allows students the opportunity to see evolution in action," says Musick. "The geology of the central Appalachians makes an ideal environment for learning how fish change and adapt for survival."

NOAA Honors VIMS Alumnus

The National Oceanic and Atmospheric Administration (NOAA) presented VIMS alum Thor Lassen (M.S. 1983) with an Environmental Hero Award on Earth Day for his outstanding efforts to promote grassroots environmental stewardship and habitat restoration in support of the NOAA Community-based Restoration Program (CRP).

Established in 1995 to commemorate the 25th anniversary of Earth Day, the Environmental Hero award is presented to individuals and organizations that volunteer their time and energy to help NOAA carry out its mission.

Lassen, who founded the grassroots conservation organization Ocean Trust in 1992, is working through Ocean Trust's partnership with the NOAA CRP to respond to a significant fisheries habitat restoration challenge at the Bahia Grande in south Texas. The project will restore tidal flow to approximately 11,000 acres of the historically productive shallow-water estuary, which was isolated from the Laguna Madre during construction of the Brownsville ship channel in the early 1930s. Bahia Grande has remained dry since that time, and the salty dust that blows out of the basin causes numerous industrial and health problems in the area.

Lassen has coordinated the restoration project with NOAA and other partners including the local commercial shrimping industry. To date, the partners have established a mangrove nursery to provide native plants for the restoration effort, and implemented educational programs to build community support for the project. Groundbreaking for construction of the channels that will restore

Streams in western Virginia flow through limestone mountains to reach major river systems throughout the middle and eastern United States. Some feed the Tennessee system west to the Mississippi, some flow to the Atlantic Ocean, and some feed into the Ohio. Fish in these rivers came from the same ancestral stock, but have evolved in isolation, resulting in new species with subtle yet distinct differences. When erosion causes the headwaters of one stream to cut through the limestone of a mountain ridge into the next valley (a process called stream piracy), the fish popula-

tions of one river system mix with those of another.

The mixing of closely related but previously isolated fish species raises the possibility of cross breeding, but the low survival rate of hybrid offspring has led to the evolution of mechanisms to facilitate mating within a species. Minnows and darters in the clear waters of Appalachian streams find mates of their own species in the same way as tropical fish and birds—by sight.

"Each spring, when it's time to mate, the males take on brilliant species-specific colors," says Musick. "So although closely related species have the same body and fin shape, individual species can be recognized by

the decoration of bright blues, reds, yellows, and oranges."

In the early years of the Round-up, Musick's group would camp in tents in collaboration with Roanoke College. Now the group stays in the University of Virginia's Mountain Lake Field Station. This venerable facility, originally built in the 1930s, now has modern kitchen facilities and electricity, allowing students to complete lab work in the evening in all types of weather.

"The rolling hills, redbuds and dogwoods in full bloom, and the gourmet meals (which only occasionally include fresh roadkill) are all just bonuses for the trip," Musick adds with a grin. "It's a very special event."

tidal flow to the Bahia Grande is scheduled for this summer.

Lassen grew up in Hampton and earned a M.S. degree from VIMS in 1983, where he studied striped bass management in Chesapeake Bay under Dr. Herb Austin and N. Bartlett Theberge, Jr. Since graduating from VIMS, Lassen has served as a Sea Grant fellow, a representative of the Atlantic States Marine Fisheries Commission, the Executive Secretary for the National Council of Fishing Vessels Safety and Insurance, and in a variety of capacities with the National Fisheries Institute, the National Fisheries Education and Research Foundation, and the East Coast Tuna Association.



Dr. Jack Musick and students collect species to study fish evolution.

WILLIAM & MARY
VIRGINIA INSTITUTE of MARINE SCIENCE

Web Update

Welcome
Research
Education
Advisory Services
Administration
Resources
News & Media

Real-Time Buoy Data

Water and air measurements from VIMS' recently deployed data buoy are now available on the web in near real-time. VIMS researchers are using these data to improve predictions of physical and biogeochemical phenomena in lower Chesapeake Bay. Accurate and timely forecasts of Bay dynamics can help government agencies better manage natural resources, plan for extreme events, facilitate maritime operations, and advance science and education. Visit www.vims.edu/realtime/ (as well as the article on page 8).

Alumni Pages

These pages help VIMS alumni stay connected to one another and to current VIMS students and events. An on-line directory lists the name, graduation date, major advisor(s), degree, and thesis or dissertation topic for 749 alumni of the School of Marine Science. Alumni are

encouraged to visit the on-line guestbook and sign in if they have not already done so. Visit www.vims.edu/alumni/

Non-native Oyster Trials

This site provides regular updates on VIMS' effort to monitor the Virginia Seafood Council (VSC) trial of sterile *C. ariakensis* oysters. The VIMS monitoring program, which is independently funded by NOAA, is designed to ensure that the VSC test meets the highest standards of science and biosecurity. Data on the web site track the status of the oysters at each of the eight commercial grow-out sites, and also provide updates on a parallel experiment with a sterile, disease-tolerant strain of the native oyster *C. virginica*. The Virginia Marine Resources Commission approved the VSC trial in February 2003 to help further explore the economic potential of this non-native species for aquaculture in Chesapeake Bay. Visit www.vims.edu/vsc/