

ABC Oyster Work Continues with Academy Validation

It's been a busy fall for oyster researchers at VIMS, following a mid-August validation of their work by a National Academy of Science committee tasked with evaluating the risks and benefits of introducing non-native oysters to Chesapeake Bay.

The Academy's highly anticipated report asserts that carefully regulated aquaculture of sterile Asian oysters could help the oyster industry and generate needed risk-assessment data, whereas any introduction of a reproductive population of the non-native oysters should be delayed until more is known about potential environmental risks.

The report's recommendations mirror those expressed in a position statement released by VIMS scientists

Anderson endorsed last February's decision by the Virginia Marine Resources Commission to allow a commercial trial of sterile Asian oysters by 10 Virginia Seafood Council (VSC) growers. They also noted "the process used so far is a model program for the rest of the coast."

The VSC trial began in late September with the deployment of about 250,000 sterile *ariakensis* oysters to 8 Virginia growers. The trial is designed to further explore the economic potential of this non-native species for aquaculture in Chesapeake Bay.

The sterile trial oysters were provided by a team of researchers in VIMS' Aquaculture Genetics and Breeding Technology Center led by Dr.

Stan Allen. Allen's group renders oysters sterile using a state-of-the-art genetic technique that is about 99.9% effective, giving growers and regulators the confidence to proceed with large-scale commercial trials under conditions of minimal risk.

Allen's team is now monitoring the status of the deployed oysters at each commercial grow-out site to ensure that the VSC test continues to meet the highest standards of science and biosecurity. In addition, they are conducting parallel experiments with a sterile, disease-resistant strain of the native oyster

Crassostrea virginica

to compare its performance to that of the non-native species.

The Academy report also validates efforts at VIMS to investigate the potential effects of *ariakensis* on Bay ecology. The report lists several issues that require further research, including the potential introduction of a new disease, competition with native oysters, dispersal of non-native oysters outside Chesapeake Bay, and market demand for non-native oysters. This additional research, says the report, will be needed before scientists can reassess the environmental risks of wider aquaculture of sterile non-native oysters or the introduction of reproductive ones.

VIMS researchers are active in each of the research areas promoted in the Academy report. Dr. Gene Burrenson and colleagues in the VIMS Shellfish Disease Laboratory are studying potential pathogens of *C. ariakensis* in its native range in China. Dr. Mark Luckenbach of VIMS' Eastern Shore Laboratory is conducting competition studies between *ariakensis* and *virginica*. Early marketing studies of *ariakensis* were conducted by scientists in VIMS' Virginia Sea Grant Marine Advisory program.

VIMS began exploring the use of non-native oysters for Bay aquaculture in 1995 at the request of the Virginia General Assembly, and began field trials with sterile *ariakensis* oysters in 1998. Those trials showed that *C. ariakensis* was faster growing than the native *virginica* oyster, better tolerated the oyster diseases MSX and Dermo, and compared favorably in taste tests.

To read the Academy report online, visit www.nap.edu/books/0309090520/html/. To learn more about Allen's VSC monitoring program, visit www.vims.edu/vsc/



ABC researchers Liz Walker, Karen Hudson, and Dr. Stan Allen prepare sterile *ariakensis* oysters for deployment to Virginia growers.

in fall 2002, and help validate their ongoing strategy for oyster research. The VIMS statement notes that carefully designed and monitored commercial trials can provide data on both the aquaculture potential and the ecological impacts of the non-native oyster *Crassostrea ariakensis*, and agrees that introducing reproductively capable *ariakensis* into Chesapeake Bay would be imprudent at the present time.

The Academy report was written by an 11-member committee of oyster experts from around the U.S. At a press conference to announce the report's release, Committee co-chairs Drs. Dennis Hedgecock and James

Newman wins SETAC Founders Award

VIMS professor Dr. Mike Newman has been selected to receive the Society of Environmental Toxicology and Chemistry's highest award in recognition of his career contributions to the environmental sciences.

SETAC North America's President Anne Fairbrother bestowed the 2003 Founders Award on Newman during the opening plenary session of the Society's Annual Meeting in Austin, Texas on November 10th. The award is given annually to a person with an outstanding career who has made clearly identifiable contributions in the environmental sciences consistent with the goals of SETAC.

Newman is a Professor of Marine Science in VIMS' Department of Environmental and Aquatic Animal Health. Department Chair Dr. Steve Kaattari notes that "this award is a real honor for Mike, and reflects on the exceptionally high quality of VIMS faculty."

During his 25-year research career, Newman has focused on quantitatively studying how contaminants such as mercury and polycyclic aromatic hydrocarbons affect populations of fish and invertebrates. He has authored or co-authored 94 peer-reviewed publications, written 4 books, edited 5 others, developed 4 software

programs for statistical analysis of toxicological data, and served as an editor for 11 different scientific publications, including *Environmental Toxicology and Chemistry*, *Risk Assessment*, and *Ecotoxicology*.

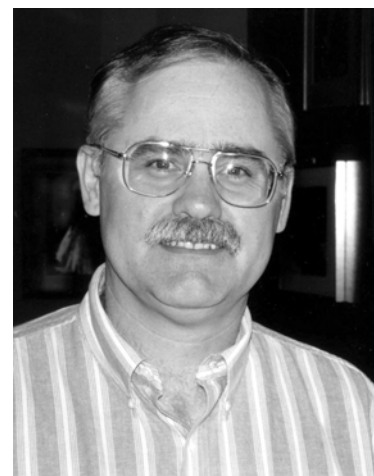
He has also served on many scientific advisory and steering groups, including the Scientific Advisory Board to EPA Administrator Christine

Whitman, numerous DOE and EPA Office of Pesticides advisory teams, the EPA Chesapeake Bay Toxics Advisory Committee, and has provided scientific review for numerous industry and government documents.

Newman is active in graduate education at VIMS, having served as Dean of Graduate Studies from 1999-2002 and teaching courses

on Quantitative Ecological Toxicology and Environmental Risk Assessment. He has taught these courses in Finland, England, Belgium, Australia, and at several U.S. universities.

SETAC is an independent, non-profit professional society for individuals and institutions engaged in the study of environmental issues, with a commitment to balance the interests of academia, business, and government. The international organization has more than 5,000 members from 50 U.S. states, 9 Canadian provinces, and more than 70 countries worldwide.



Dr. Mike Newman