

VIMS Environmental Scientists Spearheading New Research in USA

In a recent issue of *Nature* Dr. Rob Hale, Mark La Guardia, and other colleagues at the Virginia Institute of Marine Science reported on their recent work investigating BDEs (brominated diphenyl ethers), a class of environmentally persistent organic pollutants. BDEs are used in producing flame-retardant material. Currently, North America accounts for 98% of the world's demand for BDEs. BDEs are structurally related to PCBs and PBBs, which are no longer used in the U.S. Hale's group has detected BDEs in fish, sediments, and sewage sludges. They also detected these pollutants in high concentrations in "biosolids," sewage sludges used in agriculture, landscaping, and land reclamation. This finding is particularly noteworthy as millions of tons of sludge are

recycled in this manner each year and thus the practice may reintroduce BDEs to the environment. The lower brominated BDEs bioaccumulate in wildlife and have begun to be detected in humans. Limited toxicity studies have been conducted to date, mostly in Europe. Results suggest a possible interaction with the endocrine system.

While BDEs have been a concern in Europe for several years and will be banned there in 2003, research in the U.S. is just beginning. According to Hale, "Europeans have been particularly concerned over increasing concentrations of BDEs in human breast milk. We know about some of the effects of PCBs and PBBs. Since these compounds are related, we feel more information on their sources, effects, and fate are needed. In

addition, further attention to possible organic contaminants present in land-applied 'biosolids' is merited."

A paper documenting high concentrations of nonylphenols and related detergent-breakdown products in these same sludges, authored by La Guardia, Hale and coworkers, has also recently been accepted in *Environmental Science and Technology*. These findings further indicate the need to fully examine the chemical constituents of sludge and possible repercussions of their land application. The papers have been provided to the National Academy of Sciences review panel evaluating the current risk assessment underlying the regulations developed by the U.S. EPA pertaining to biosolids safety.



Dr. Rob Hale collecting biosolid samples from wastewater treatment plant.

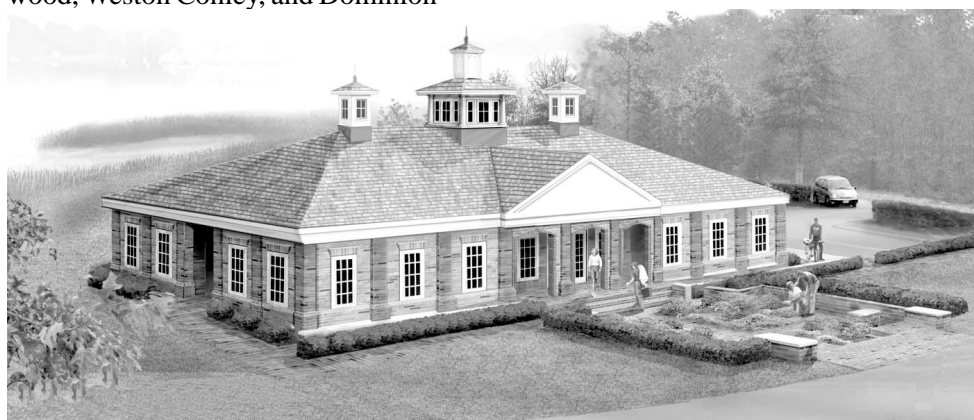
VIMS Capital Campaign for Kauffman Aquaculture Center Meets Its Goal

In April, VIMS launched a capital campaign to match a \$600,000 gift from Mr. and Mrs. Jack Kauffman to construct the Kauffman Aquaculture Center on the Topping Campus.

By September, the Institute had met its challenge. The facility will be the first building on the Topping Campus. "The level of support we have received reflects the importance of this kind of research to the Chesapeake Bay," said Jim Rogers, Chairman of the Campaign. "This is an excellent example of the kind of public/private partnership that can truly make a difference." Gifts include leadership commitments from the Elis Olsson Memorial Foundation, Smurfit-Stone Container Corporation, Tim Blackwood, Weston Conley, and Dominion

Virginia Power. Twenty-seven individuals, corporations, and foundations contributed to the campaign.

With these facilities at the Kauffman Aquaculture Center, VIMS will be uniquely positioned to lead the nation in the field of marine shellfish aquaculture. Techniques developed at the Center will have a wide array of applications worldwide in shellfish and finfish aquaculture. "The Kauffman's support provides an outstanding opportunity to advance research that has enormous ecological and economic importance not only in the Chesapeake Bay but also for shellfish worldwide," said Dr. Eugene Burreson, Director of Research and Advisory Service at VIMS.



Rendering of the proposed Kauffman Aquaculture Center in Middlesex County.

Dr. William Reay Named New Manager of the Chesapeake Bay National Research Reserve

VIMS recently announced the appointment of Dr. William G. Reay, Research Assistant Professor, as Manager of the Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERRVA). CBNERRVA is one of the 25 National Estuarine Research Reserves established through state-federal partnerships under the Coastal Zone Management Act.

A 1989 graduate of VIMS/SMS, Dr. Reay was awarded his Ph.D. in 1992 from the Virginia Polytechnic Institute and State University where he worked as a Research Scientist in the Department of Civil Engineering before joining the Institute in 1997 as a Research Coordinator with

CBNERRVA. He has also served as the Assistant Manager of CBNERRVA and was appointed as Acting Manager July 1, 2001 when Dr. Maurice Lynch

retired from the position. Dr. Reay will oversee a coordinated research, monitoring, stewardship, outreach education and advisory program focused on, but not limited to, the estuarine habitats managed by CBNERRVA. In addition, he will coordinate the activities of the CBNERRVA with the Virginia Estuarine and Coastal Research Reserve System, a state

designated system of estuarine and coastal protected areas. He is a member of the Department of Coastal and Ocean Policy.



Dr. William Reay

Fourth Annual VIMS Auction

Plans are underway for the VIMS Auction to be held on April 20, 2002. Auction Chair Carrie Garland said the event would benefit the VIMS Library again this year.

Volunteers, VIMS faculty, staff, and students, and area merchants have worked together to make the VIMS auction a huge success in the past. "This is always such a fun, well-received event - I hope everyone will mark their calendars," said Garland.

