

*Current Issues in
Coastal Ocean and
Estuarine Science*

The Crest

Construction Begins on New Buildings

General contractor W.M. Jordan and Company has begun construction on VIMS' Gloucester Point campus for two new buildings—Andrews Hall and the Seawater Research Laboratory.

Funding for the buildings comes from a higher education bond passed by Virginia voters in 2002.

Andrews Hall, named after Cynthia and the late Senator Hunter B. Andrews, is a 4-story research facility similar to Chesapeake Bay Hall. The 71,000-square-foot building will feature 39 laboratories, 25 faculty offices, and space for nearly 100 students, technicians, and visiting scientists.

The four-story structure will also include an electronics shop, distance-learning classroom, conference rooms, and the Aquaculture Genetics and Breeding Technology Center. It will consolidate programs from Biological, Physical, and Fisheries sciences by replacing three outdated laboratory build-

ings and numerous converted single-family dwellings.

The Seawater Research Laboratory (SRL) will provide approximately 46,000 square feet of open, multi-purpose space for setting up flow-through tanks for culturing fish, shellfish, and sea turtles. The plumbing system will provide 900 gallons per minute of seawater to support state-mandated research on finfish and shellfish. A high bay with a retractable garage door and ceiling-mounted crane will permit handling of large oceanographic instruments.

The SRL will also include a disease-challenge facility and a Level 2 Biological Safety Laboratory that will allow VIMS scientists to study moderately dangerous pathogens, such as the mycobacteriosis afflicting Chesapeake Bay striped bass. There will also be a Level 3 Biological Safety Laboratory for

Continued on page 2



Steel framing for VIMS' new Seawater Laboratory is now in place.

Warner Proposes \$2.9 M for VIMS to Monitor Bay Restoration Effort

Outgoing Virginia Gov. Mark Warner's proposed budget for the 2006-2008 biennium includes \$2.9 million for VIMS to monitor the Commonwealth's progress in meeting the 2010 Environmental Protection Agency deadline for the clean up of the Chesapeake Bay and its tributaries.

The former Governor's proposed budget is now being debated in the General Assembly. The amended budget will be sent to newly-elected Governor Tim Kaine for his review and signature after the legislature adjourns in mid-March.

VIMS Dean and Director John Wells says "We are very pleased to be part of the commitment of public funds that will be directed towards clean-up efforts in Chesapeake Bay. As the Commonwealth's scientific advisor on natural-resource issues, VIMS has a sig-

nificant role to play in gauging the success of the expenditure of public funds for Bay clean-up."

The VIMS funding was part of a proposed budget that includes \$242.5 million for drinking-water programs—the largest single investment in state history. William and Mary President Gene R. Nichol applauded the governor's budget proposal as well as the bipartisan support in the Bay recovery effort. The VIMS funding would be used primarily for monitoring water quality using state-of-the-art sensors and models.

"This is a tremendous commitment toward moving forward the Commonwealth's obligation to cleaning up the Chesapeake Bay," Nichol said. "We are delighted that VIMS will play a significant role in this recovery effort."

Continued on page 12



Workers prepare the footers to be poured for Andrews Hall.

VIMS Collaborates to Restore Lynnhaven

In 1607, England's Jamestown settlers made their first landing in Virginia near the mouth of a pristine Chesapeake tributary today known as the Lynnhaven River.

Now, 400 years on, VIMS scientists have joined a multi-institution effort to begin restoring the river's health, just in time for the quadricentennial of the colonists' landfall.

Modelers and ecologists at VIMS are partnering in the Lynnhaven restoration project with the U.S Army Corps of Engineers and the Virginia Beach City Government. VIMS oyster experts are working with NOAA, the Virginia Marine Resources Commission, the

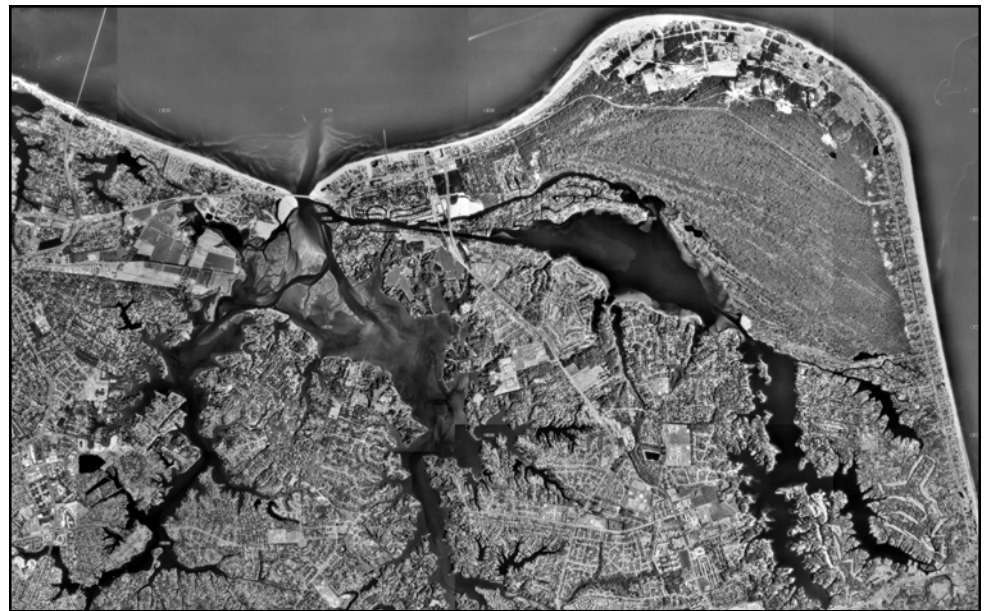
Chesapeake Bay Foundation, and the citizens group *Lynnhaven 2007*.

The Lynnhaven, whose watershed covers one-fourth the area of Virginia Beach, provides vital services to the City and its 400,000 residents—including boating, fishing, crabbing, and ecotourism. However, the river has become increasingly stressed as its watershed has urbanized.

As project lead, the Army Corps is collaborating with its state and federal partners to lessen these environmental stresses through a 5-year, \$3 million coordinated effort to identify and implement the most effective strategies for improving water quality, restoring oysters and bay grasses, and managing siltation.

VIMS' role in the restoration effort is multifaceted. A key component is a 3-year, \$600,000 grant from the Corps to researchers Harry Wang, Jian Shen, Mac Sisson, Albert Kuo, and Yuepeng Li. Their task is to refine the Institute's existing state-of-the-art computer model so that it can accurately simulate water flow and quality within the Lynnhaven's shallow waters. The Corps will use the model to identify the areas of the river where restoration efforts are most likely to succeed.

A unique aspect of the modeling project is a suite of related field studies (see sidebar on page 8) designed to identify and measure the biological and



The Lynnhaven River's three branches (Eastern, Western, and Broad Bay/Linkhorn Bay) cover about 65 square miles in the urbanized northern half of Virginia Beach, the commonwealth's largest city.

chemical processes that affect water quality in the river. Data from these studies will be used to both initiate and test the computer model.

Other VIMS teams, led by Drs. Stan Allen, Rom Lipcius, Mark Luckenbach, and Roger Mann, are working to restore the river's oyster populations. Funding for these efforts comes largely from NOAA.

Modeling

Other than a few boating channels,

most of the Lynnhaven River is only a meter or two deep. The river's shallowness, plus a convoluted shoreline that snakes more than 150 miles, makes modeling its circulation and water quality a real challenge.

VIMS' state-of-the-art "UnTRIM" model takes full advantage of modern computing power to simulate conditions within shallow, complex estuaries like the Lynnhaven. It does so by using a mesh of grid cells that are small enough to

Continued on page 8

The Crest

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New Construction

continued from page 1

working with aquatic pathogens that pose a more serious risk to human health. A toxics laboratory will permit analysis of the health impacts of waterborne pollutants. Benthic ecology and coral reef labs, a radiation room, and an entrance suite with offices and an exhibit/conference space complete the facility.

VIMS Facilities Manager Wendell Goodwin says that construction on the two buildings is progressing according to schedule.

"The underground utilities have all been installed for Andrews Hall, allowing construction to begin," says Goodwin. "Excavation for the first floor is now complete, and work on the wall footings has started. Underground utilities within the building pad can then be scheduled for installation. Once the first floor walls are completed, construction of the upper floors can go forward."

"For the seawater lab, most of the piping and electrical conduit has been installed, and pouring of the trench walls is in progress. The galvanized steel fram-

ing is in place, roof installation will commence in the next week or so, and then the first floor slab can be poured and construction of the walls and infrastructure will commence."

The project is scheduled for completion in March of 2007.

Virginia Secretary of Natural Resources W. Tayloe Murphy Jr., Cynthia Andrews, and W&M President Gene Nichol break ground for VIMS' new marine research complex during a September 30th ceremony in Gloucester Point. Numerous other dignitaries joined in the ceremony. When completed, the complex will feature a 46,000

square-foot seawater laboratory and the 71,000 square-foot Andrews Hall, named in honor of Cynthia Andrews and her late husband Hunter B. Andrews, a long-time Virginia senator and VIMS supporter.

