

Virginia Water Central

Virginia Water Resources Research Center Blacksburg, Virginia February 2006 (No. 37)



Bridges, dams, rivers, landscapes, and many other water-related issues were considered in the 2006 Virginia Assembly. *Water Central's* annual inventory of water-related bills starts on page 1. *Photo:* North Fork Rivanna River at Advance Mills, Albemarle County, December 2005; by Alan Raflo.

FEATURE ARTICLE 1

Water in the 2006 Virginia General Assembly

The 2006 Virginia General Assembly convened January 11 and was set to adjourn March 11, with a reconvened ("veto") session on April 19. The legislature considered 3051 measures; as of February 28, 782 measures had passed both houses, 1071 had failed, 317 had been carried over to 2007, and 881 were pending in this session. Among the most important business was development of the biennial state budget.

Beginning on the next page, *Water Central* lists 122 measures (including four state budget bills) related to water resources or to land activities with a relatively direct impact on water. The list omits some bills—such as those on energy conservation or land use planning—that may affect water resources indirectly.

The list comes from the Legislative Information Service (LIS) Web site, at leg1.state.va.us. The measures were located in the following LIS subject categories: Conservation; Drainage, Soil Conservation, Sanitation, and Public Facilities Districts; Energy Conservation and Resources; Fisheries and Habitat of Tidal Waters; Game, Inland Fisheries and Boating; Health; Highways, Bridges, and Ferries; Mines and Mining; Waste Disposal; Water and Sewer Systems; and Waters of the State, Ports and Harbors. *Water Central's* list of water-related bills is organized by the LIS categories (alphabetically), with some additional sub-headings for closely related bills. Unless otherwise noted, two or more bills mentioned as "companion," "identical," "incorporated," or "related" are listed under the same category.

ALSO IN THIS ISSUE

Teaching Water	13
Feature Article 2: Off-shore Gas and Oil Exploration Report	14
Water Status Report: Groundwater	18
In and <i>Out of</i> the News	19
State Meeting Notices	24
Other Notices	26
At the Water Center	27
For the Record: Coastal/Marine Info.	28
Guide to Past <i>Water Central</i> Articles	30
You Get the Last Word	32

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Virginia Water Central February 2006 (#37)

Within each category, bills are listed in order of their **bill number**, using the following abbreviations: **HB** = bill started in House of Delegates; **HJ** = joint resolution started in the House; **SB** = bill started in the Senate; and **SJ** = joint resolution started in the Senate.

Included in the list are LIS summaries of the bills as of February 27, 2006, and an indication of whether as of that date the bill had passed one or both houses, failed, or been carried over to 2007. In some cases we have edited the LIS summary for space, clarity, or emphasis.

To check a bill's current status, visit the LIS at leg1.state.va.us, or phone toll free, (888) 892-6948 (Senate) or (877) 391-FACT (House of Delegates). (If you are reading this article in an electronic format, you may find the bill numbers hyperlinked to the LIS site, depending on your computer's formatting.) To contact your legislator on General Assembly action, you may phone the **Constituent Hotline** at (800) 889-0225 (in Richmond, use 698-1990).

A table on page 13 lists bills that received the most media attention, according to *Water Central's* reading of several news sources.

Abbreviations for State Agencies and Other Terms

APCB = Virginia Air Pollution Control Board.

CAMR = Federal Clean Air Mercury Rule.

DCR = Virginia Department of Conservation and Recreation.

DEQ = Virginia Department of Environmental Quality.

DGIF = Virginia Department of Game and Inland Fisheries.

EPA = U.S. Environmental Protection Agency.

JLARC = Virginia Joint Legislative Audit and Review Commission.

SCC = State Corporation Commission.

SWCB = Virginia State Water Control Board.

VDOT = Virginia Department of Transportation.

VMRC = Virginia Marine Resources Commission.



BUDGET

HB 29 Budget Bill. Relating to the appropriation of funds for the *2004 - 06 biennium*.

SB 29 Budget Bill. Relating to the appropriation of funds for the *2004 - 06 biennium*.

HB 30 Budget Bill. Appropriations for *2006 - 2008 biennium*.

SB 30 Budget Bill. Appropriations for *2006 - 2008 biennium*.

CONSERVATION

Air Pollution Bills with Water Impacts

HB 1055 Clean Smokestack Act; phased schedule for electric generating units to reduce emissions.

PASSED HOUSE. Establishes a phased schedule for all electric generating units in Virginia to reduce their emissions of sulfur dioxide, nitrogen oxide, and mercury. The Air Pollution Control Board (APCB) is charged with promulgating the regulations that require specific numerical reductions in each pollutant. The bill also requires each electric generating unit that is located within 1,000 meters of an occupied dwelling or body of water to complete a modeling analysis assessing the effects of emissions from the facility on the surrounding area. This analysis is to be submitted to the Department of Environmental Quality (DEQ), which shall review each report. The DEQ is required to implement a strategy to achieve reductions in mercury emissions. The strategy is to be submitted by July 1, 2008, to the legislative oversight committees and the APCB. The DEQ also is to conduct an analysis of the issues related to development and implementation of standards and programs to control emissions of carbon dioxide (CO₂) from stationary sources; the analysis is to be submitted to legislative oversight committees and the APCB

by December 31, 2008. The companion Senate bill was SB 242, but that bill was incorporated, with changes, into SB 651.

HB 1471 Mercury emission controls. Incorporated into HB 1055. Prohibits the State APCB from imposing mercury-emission controls that (i) are more stringent than the federal Clean Air Mercury Rule or (ii) would be imposed earlier than necessary for Virginia to comply with the federal Rule; also prohibits the APCB from adopting any regulation or agreement that might restrict a facility's (source's) participation in the national mercury-trading program.

SB 242 Clean Smokestack Act. Incorporated into SB 651.

SB 651 Air emissions controls. PASSED SENATE. Establishes a phased schedule for all electric-generating units in Virginia to reduce their emissions of sulfur dioxide and nitrogen oxide and charges the APCB with promulgating the regulations that require specific numerical reductions in each pollutant. The bill allows regulated facilities to participate in the U.S. Environmental Protection Agency (EPA) administered cap-and-trade system to the fullest extent permitted by federal law, except that the APCB may prohibit electric-generating facilities located *within a non-attainment area* from meeting their NO_x and SO₂ compliance obligations through the purchase of allowances. This bill requires the APCB to adopt and submit to the EPA the model Clean Air Mercury Rule (CAMR) promulgated by the EPA, including full participation by Virginia electric-generating units in the EPA's national mercury trading program. The bill also requires the APCB to adopt a separate state-specific mercury rule that regulates mercury allowances; the separate state rule must not prohibit the banking or selling of allowances under the CAMR. Under the state specific rule, smaller electric generating units would be able to participate in the trading program. Medium-size systems (American Electric Power) would not be able to demonstrate compliance with the state-specific rule by purchasing credits, but would be allowed to obtain credits from facilities within their system and within 200 km of the Virginia border and to sell excess credits. Large systems (Dominion Resources) would not be able to demonstrate compliance under the state-specific rule by purchasing credits, but they would be able to sell excess credits and would be able to use credits from all Virginia facilities within their system to demonstrate compliance.

Land Conservation Bills

HB 449 Income tax, state; land preservation tax credit. FAILED. Would have expanded the land-preservation tax credit by removing the \$100,000 annual credit limit that a taxpayer may take for qualified donations of conservation easements and putting a cap of \$2.5 million or 50 percent of the fair market value, whichever is less, on each donated easement; however, the credit may exceed \$2.5 million, up to 50 percent of the fair market value of the donated interest, if (i) the taxpayer has submitted two qualified appraisals from two different qualified appraisers, and (ii) the Secretary of Natural Resources, who has the sole discretion, has determined that the qualified donation provides exceptional benefit to the Commonwealth by meeting standards adopted by the Virginia Land Conservation Foundation.

HB 450 Income tax, state; land preservation tax credit. PASSED HOUSE. Removes the \$100,000 annual credit limit that a taxpayer may take for qualified donations of conservation easements and requires the filing of a statement for less-than-fee interest donations that describes how such interest meets the requirements of IRC § 170(h).

HB 533 Income tax, state; land preservation tax credit, value of donation. Incorporated into HB 450. Requires that the value of the donated interest in land (i) be calculated using an amount that does not exceed the assessed value of the property for purposes of local property tax, and (ii) not exceed such assessed value.

HB 814 Uniform Environmental Covenants Act; created. FAILED. Would have authorized the DEQ to enter into environmental covenants with interest holders in real property that restrict the use of the real property.

HB 1328 Real estate; assessment of property devoted to water-dependent use. CARRIED OVER. Would establish and define, for special assessment for land preservation, real estate devoted to water-dependent use. Consistent with the Virginia constitutional mandate for establishing and defining such real estate, the bill provides that the General Assembly has determined that the classification of real estate devoted to water-dependent use is in the public interest for the preservation or conservation of such real estate. All provisions applicable to real estate devoted to agricultural, horticultural, forestal, and open-space uses apply equally to real estate devoted to water-dependent use.

HJ 133 Development rights; joint subcommittee to study funding sources for purchase thereof to preserve land. PASSED HOUSE. Establishes a joint subcommittee to study long-term funding sources for the purchase of development rights to preserve open-space land.

SB 93 Land Conservation Incentives Act; tax credit PASSED SENATE. Provides an aggregate limit of \$600,000 in tax credit for each parcel of land donated under the Virginia Land Conservation Incentives Act of 1999, which limit includes any transfer of unused tax credits. Under the bill, the value of any improvement to land shall not be considered for purposes of valuing land donations for tax credit. The fair market of the land must not exceed the highest and best use for which the property is adaptable, and must be supported by market evidence. The bill would restrict tax credit to land or interest in land that meets guidelines of objective criteria established by the Virginia Land Conservation Foundation or that the Secretary of Natural Resources has otherwise determined provides exceptional benefit to the Commonwealth. The bill would permit only one transfer of unused tax credits associated with donated property and would prohibit nonprofit organizations from transferring any tax credit, and it would allow as a credit against the estate tax any unused credit held by the decedent of the estate at the time of his death. Land dedicated as open space within a residential or commercial development; as open space in any real estate development plan; or dedicated to fulfill density requirements to obtain approvals for zoning, subdivision, site plan, or building permits would not qualify for purposes of the tax credit. The bill provides that no more than one donation can be made from the same parcel of land during a 15-year period, unless there is no affiliation between the persons or entities who already have been allowed credit with respect to the parcel and the persons or entities seeking credit. In cases in which the fair market value of a donation of property is being contested, the burden of proof would be on the taxpayer to show there is a reasonable probability that the property is physically adaptable for the highest and best use that is proposed in the appraisal and that there is a need or demand for such use in the reasonably near future.

SB 238 Land Conservation Fund; unrestricted funds to be allocated equally for certain uses. PASSED SENATE.

Changes the formula for allocating moneys from the Virginia Land Conservation Fund. Currently, 75 percent is allocated to four uses, with farmlands and forest preservation combined as one use and 25 percent is transferred to the Open-Space Lands Preservation Trust Fund. Under this bill, 90 percent would be allocated to five uses, with farmlands preservation and forest preservation being separate categories, and 10 percent would be transferred to the Open-Space Fund.

SB 243 Vehicle registration fees; additional fee to support Land Conservation Fund. CARRIED OVER.

Would impose an additional fee of \$1 per year on motor vehicle registrations, with the proceeds to be used to support the Virginia Land Conservation Fund.

SB 358 Real estate tax; exemption in redevelopment or conservation areas, etc. PASSED SENATE.

Authorizes localities to provide for partial exemption from taxation of (i) new structures located in redevelopment or conservation areas or rehabilitation districts or (ii) other improvements to real estate located in redevelopment or conservation areas or rehabilitation districts. The bill is contingent on a constitutional amendment authorizing the exemption.

SB 403 Land Conservation Incentives Act; tax credit. Incorporated into SB 93. Provides an aggregate limit of \$600,000 in tax credit for each parcel of land donated under the Virginia Land Conservation Incentives Act of 1999, which limit includes any transfer of unused tax credits. The bill provides that no more than one donation can be made from the same parcel of land during a 15-year period, unless there is no affiliation between the persons or entities who already have been allowed credit with respect to the parcel and the persons or entities seeking credit. The bill also includes provisions requiring donations after January 1, 2007, to be examined by a reviewer licensed by the Department of Taxation.

SB 409 Land Conservation Foundation; authorized to award moneys from Fund for purchases. PASSED BOTH HOUSES. Authorizes the Virginia Land Conservation Foundation to award moneys from the Virginia Land Conservation Fund for purchase of development rights programs.

Other Conservation Bills

HB 93 Environmental site assessments in subdivision and zoning ordinances. PASSED HOUSE. Clarifies the authority of local governing bodies to adopt ordinances to require environmental site assessments. Additional provisions allow localities to require disclosure and remediation of contamination prior to approval of subdivision and development plans. See similar SB 224.

HB 148 Stormwater management program; includes enlargement, improvement and maintenance of dams. PASSED AND APPROVED BY GOVERNOR. Provides that income derived from stormwater-control service charges shall be dedicated special revenue and may be used only to pay or recover costs for specified purposes, including the improvement or maintenance of dams, whether publicly or privately owned, that serve to control stormwater.

HB 268 Stormwater management program; includes maintenance of dams. Incorporated into HB 148.

HB 678 Publications tax; revenue shall be deposited into Water Quality Improvement Fund. FAILED.

Would have imposed a tax on newspapers, magazines, newsletters, or other publications at the rate of \$0.01 on every such publication delivered and sold in Virginia, with revenue generated to be deposited into the Water Quality Improvement Fund.

HB 804 Recreational Facilities Authority; reduces number of members that constitutes quorum. PASSED AND APPROVED BY GOVERNOR.

Reduces the number of members that constitutes a quorum for the Virginia Recreational Facilities Authority from 10 to seven. [One function of this Authority is to conservation of scenic and natural areas along the Roanoke River.]

HB 1454 Wetlands and stream restoration; companies to file erosion & sediment control specifications.

PASSED HOUSE. Allows any person who has created and operates an approved wetlands mitigation bank in multiple jurisdictions to file annually erosion and sediment control specifications for wetlands mitigation projects with the Virginia Soil and Water Conservation Board. Projects that are not covered by general specifications will have to comply with the local erosion and sediment control program. This bill will not become effective unless a specific appropriation has been approved in the general appropriation act to support this activity.

HJ 107 Urban Best Management Practices Cost-Share & Tax Credit Program; DOC to study, report.

FAILED. Would have requests the Department of Conservation and Recreation (DCR) to study whether an *Urban Best Management Practices Cost-Share and Tax Credit Program*, modeled after the *Agricultural Best Management Practices Cost-Share and Tax Credit Program*, would be beneficial and an economically efficient method for meeting the Chesapeake Bay Agreement goals to reduce nutrients and sediments.

SB 52 Occoneechee State Park; lease extended. PASSED BOTH HOUSES.

Provides a two-year extension for the authority granted to the DCR to amend a lease with the Secretary of the Army for the purpose of

providing additional facilities (not to be operated by the DCR) at Occoneechee State Park in Mecklenburg County. [The park is located on the John Kerr Reservoir/Buggs Island Lake, on the Roanoke River.]

SB 224 Environmental site assessments; localities to adopt ordinances requiring. PASSED SENATE.

Allows local subdivision or zoning ordinances to include provisions for requiring Phase I environmental site assessments based on the anticipated use of the property proposed for the subdivision or development, and Phase II environmental site assessments based on findings in the Phase I assessment. Such ordinances may also require disclosure and remediation of contamination and other adverse environmental conditions of the property prior to approval of subdivision and development plans. The bill also provides that the disclosure statement provided by the owner of residential real property to a purchaser disclose adverse environmental site conditions. See similar HB 93.

SB 236 Trees; certain local government ordinances requiring preservation thereof during development process. FAILED.

Would have allowed certain Northern Virginia localities to require development sites to meet tree canopy requirements in proportion to predevelopment canopy and to increase the amount of tree canopy required 20 years after development on residential sites.

SB 274 Stormwater management; certain localities required to adopt program related thereto. PASSED BOTH HOUSES.

Requires localities located in Tidewater (as defined by the Chesapeake Bay Preservation Act), and those that have a municipal separate storm sewer system (MS4) (under federal Clean Water Act regulations), to adopt a local stormwater management program between 12 and 18 months after the effective date of establishment by the Virginia Soil and Water Conservation Board of local program criteria and procedures (the bill *allows* other localities to do the same); under current law these localities are to adopt a program by July 1, 2006. The bill also increases the maximum fine for violation of the provisions of the stormwater law from \$25,000 to \$32,500.

SB 413 Recordation tax; collection to be transferred to Water Quality Improvement Fund. CARRIED OVER.

Provides that \$100 million of recordation taxes collected each year shall be transferred to the Virginia Water Quality Improvement Fund.

SB 644 Water Quality Improvement Fund; disbursement of grant moneys. PASSED BOTH HOUSES.

Allows new or expanding publicly owned treatment works that are not defined as significant dischargers, but are subject to the State Water Control Board's (SWCB) new nutrient control requirements and will have to install nutrient-removal technology, similar to the significant dischargers, to apply for matching grant moneys from the Water Quality Improvement Fund; currently, only those plants that are defined as significant dischargers are eligible to receive grants from the Fund. Other provisions address the uses to which funds can be applied.

SB 670 Residential Property Disclosure Act; disclosure of resource protection areas. PASSED SENATE.

Requires the owner of residential real property located in any resource protection areas (and other

environmentally protected zones subject to governmental regulation) to furnish to a purchaser a written disclosure stating that such property is located in such an area.

DRAINAGE, SOIL CONSERVATION, SANITATION, AND PUBLIC FACILITIES DISTRICTS

HB 684 Erosion & Sediment Control & Stormwater Management Acts; clarifies acceptable flow rates.

PASSED AND APPROVED BY GOVERNOR. Defines terms in the Erosion and Sediment Control and Stormwater Management Acts to clarify what are acceptable flow rates from storm runoff at sites where land development projects are occurring.

ENERGY

HB 1153 Virginia Energy Plan; created. FAILED. Would have established an energy policy of the Commonwealth and directed the Division of Energy of the Department of Mines, Minerals and Energy, in consultation with the State Corporation Commission, DEQ, and Virginia Center for Coal and Energy Research, to prepare a comprehensive Virginia Energy Plan to implement the policy. See related SB 262.

HB 1292 Virginia Energy Plan; created. Incorporated into nearly identical HB 1153.

SB 262 Virginia Energy Plan; created. PASSED SENATE. Establishes a state energy policy and directs the Department of Mines, Minerals and Energy, in consultation with the State Corporation Commission (SCC), DEQ, and the Virginia Center for Coal and Energy Research, to prepare, by July 1, 2007, a 10-year comprehensive Virginia Energy Plan to implement the state policy. The bill also does the following:

- Asks Virginia members of Congress to seek an exemption to the moratorium (until 2012) on exploration of potential natural gas deposits off Virginia's coast.
- Asks Virginia member of Congress to seek legislation to enable Virginia to exercise exclusive jurisdiction with respect to offshore wind energy resources.
- Directs royalties and other moneys paid by the federal government as a result of the development of offshore energy resources to be deposited in a State Offshore Energy Revenue Fund and allocated among the Virginia Water Quality Improvement Fund, the Transportation Trust Fund, clean coal technology research, a Coastal Energy Research Consortium and other alternative energy initiatives, and grants for producing and using clean and efficient energy.
- Directs all agencies, boards and commissions of the Commonwealth to ensure that any permits or approvals that are required for the exploration and production of hydrocarbons within federal jurisdictional areas off the Commonwealth's Atlantic shore provide that such exploration and production will be undertaken in a manner protective of the environment and public safety.
- Prohibits offshore drilling of any wells for natural gas or oil within 30 miles of the Virginia shoreline;
- Establishes a Clean Coal Technology Research Fund, to be administered by the Virginia Center for Coal and Energy Research.
- Requires designs for state buildings to incorporate reasonable cost-effective energy conservation measures and alternative energy systems.
- Directs the Commonwealth Transportation Board to encourage the use of biodiesel and other alternative fuels, to the extent practicable, in vehicles used to provide public transportation.
- Creates the Virginia Coastal Energy Research Consortium, to include Old Dominion University, the Virginia Institute of Marine Science, and Norfolk State University, to serve as an interdisciplinary study, research, and information resource on coastal energy issues, including wave or tidal action, currents, offshore winds, thermal differences, and methane hydrates.
- Sets state policy regarding solar power collection-device rules in homeowner associations.
- Asks Virginia members of Congress to seek federal legislation that uses tax credits, market incentives, and education to increase the Corporate Average Fuel Efficiency standards for automobiles.
- Directs the SCC to develop a system for scoring parcels for their suitability as wind energy facilities, liquefied natural gas facilities, nuclear energy facilities, and solar energy facilities, with parcels that are scored as being optimal sites for such low-emission energy facilities eligible to use a one-stop permitting process, as may be adopted by the General Assembly. Approvals granted through the one-stop permitting process would be deemed to satisfy local land use requirements. The existing Surry and North Anna nuclear plant sites and other sites determined through the U.S. Nuclear Regulatory Commission licensing

process to be suitable for development of new nuclear generating units would be deemed optimal sites without further proceedings.

- Provides grants for producing and using clean and efficient energy, including awards in the amount of 0.85 cents for each kilowatt hour of electricity produced by a corporation from certain renewable energy resources, and grants to individuals and corporations equal to 15 percent of the cost incurred in installing photovoltaic property, solar water heating property, or wind-powered electrical generators.
- Subject to reenactment by the 2007 Session, provides individual income tax deductions for 20 percent of the cost of certain appliances meeting federal energy-efficiency requirements; for heating and air-conditioning appliances meeting specified performance measures; and for sales and use taxes paid on motor vehicles using clean special fuel sources.
- Exempts from property taxation certified pollution-control equipment and facilities used in collecting, processing, and distributing landfill gas and other gas recovered from waste products.

SJ 80 Study of a comprehensive energy plan. Incorporated into SB 262. Requests the Secretary of Natural Resources to study the development of a comprehensive energy plan for the Commonwealth.

FISHERIES AND HABITAT OF TIDAL WATERS

Menhaden-related Bills

HB 252 Menhaden fishery; Marine Resources Commission may adopt regulations governing. FAILED.

Would have directed the Virginia Marine Resources Commission (VMRC) to adopt regulations to implement the Atlantic States Marine Fisheries Commission Fishery Management Plan for Atlantic Menhaden, stipulated that no regulation on menhaden fishing be more restrictive than that plan, required any moratorium on the fishery to be subject to legislative review, and repealed the Governor's authority to implement menhaden-management measures by proclamation.

HB 749 Menhaden; limits on amount harvested annually. FAILED. Would have limited to *105,783 metric tons* the amount of menhaden that could be harvested annually in the Chesapeake Bay and its tributaries from 2006 through 2010 (in accordance with the cap placed on the fishery by the Atlantic States Marine Fisheries Commission in its Atlantic Menhaden Fishery Management Plan). The companion Senate Bill was SB 84.

HB 1045 Menhaden fishing; prohibited in certain areas. FAILED. Would have placed an annual limit of *131,000 metric tons* on the taking of menhaden by purse nets in the Chesapeake Bay, directed the Secretary of Natural Resources is to develop a system for monitoring the catch and implementing the limit, and limited commercial menhaden fishing on weekend and holidays.

SB 84 Menhaden; limits on amount harvested annually. FAILED. See HB 749.

Other Tidal Waters Bills

HB 402 Invasive Species Council. FAILED. Would have extended the Virginia Invasive Species Council's "sunset date" (the date on which the Council ceases to exist) from July 1, 2006, to July 1, 2011.

HB 435 Horseshoe crabs; places a moratorium on landings and importation thereof. FAILED. Would have placed a moratorium on landings and importation of Horseshoe Crabs until nationwide populations of Horseshoe Crabs and Red Knots (a bird that feeds on Horseshoe Crab eggs) reached specified levels.

HB 651 Federal Aid in Sport Fish Restoration Act; gives authority to accept federal grant money. PASSED AND APPROVED BY GOVERNOR. Gives the VMRC the authority to accept federal grant money from the federal Wallop-Breaux Fund. See similar HB 981, in the "Game, Inland Fisheries, and Boating" section.

HB 652 Oysters; suspends imposition of inspection and replenishment taxes. PASSED BOTH HOUSES. Requires oyster taxes to be paid to the VMRC and put into the Public Oyster Rocks Replenishment Fund.

HB 940 Rappahannock River; Marine Resources Commission to convey fee simple title therein. PASSED BOTH HOUSES. Authorizes the VMRC to convey to a private party approximately 1.2 acres in the Rappahannock River.

SB 2 Crab pot buoys and floats; regulations. PASSED SENATE. Requires the VMRC to set regulations for crab pot buoys and floats to be marked with reflective material for visibility at night.

SB 634 Subaqueous permits for piers and platforms. PASSED SENATE. Exempts the following from VMRC permit requirements: finger piers of up to five feet in width, L or T head platforms and appurtenant floating dock platforms of up to 400 square feet, and open-sided shelter roofs and gazebo-type platforms if allowed by local ordinances.

GAME, INLAND FISHERIES, AND BOATING

Bills Relating to the Game and Inland Fisheries Board

HB 362 Game and Inland Fisheries, Board of; change in membership. **PASSED BOTH HOUSES.** Requires the Board of Game and Inland Fisheries to develop a Governance Manual that sets forth rules and procedures for the conduct of the Board's business; delineates the duties of the chairman of the Board; requires the Board to ensure that the Auditor of Public Accounts, or any agent of the Auditor, conducts an annual audit of the accounts and transactions of the Board; requires the Board to elect a new chairman and vice-chairman each year; and requires that the Director of the Department of Game and Inland Fisheries (DGIF) be subject to confirmation and reconfirmation by the General Assembly every four years.

HB 938 Game and Inland Fisheries; Board of; changes from a supervisory board to a policy board.

Incorporated into HB 362. Changes the Board from a supervisory board to a policy board, and gives the governor—not the Board—the authority to appoint the director of the DGIF.

HB 979 Executive branch supervisory boards; Attorney General to meet with members to explain duties, etc. Incorporated into HB 362. Requires the Attorney General to meet with all appointed members of executive branch boards, commissions, or councils, and explain to them their duties, responsibilities, and potential liabilities; requires the Board of Game and Inland Fisheries to develop a governance manual setting forth rules and procedures for the conduct of the Board's business; delineates the duties of the chairman of the Board, and requires an annual audit of DGIF's operations. The companion Senate bill was SB 564.

HB 1130 Game and Inland Fisheries, Board of. Incorporated into nearly identical HB 362.

HB 1131 Game and Inland Fisheries, Board of; annual audit. **Incorporated into HB 362.** Requires the Auditor of Public Accounts to conduct an annual audit of the accounts of the Board.

SB 564 Executive branch supervisory boards; Attorney General to meet with members to explain duties, etc. PASSED BOTH HOUSES. See HB 979.

Boating Safety Bills

HB 870 Boating safety course; required if convicted of violating boating law. **PASSED AND APPROVED BY GOVERNOR.** Requires any person convicted of violating a boating law that imposes a penalty of a Class 3 misdemeanor or greater to pass a National Association of State Boating Law Administrators approved boating safety course, accepted by the DGIF. This bill incorporated identical HB 1075.

HB 872 Mandatory boating safety course. **FAILED.** Would have made it a Class 4 misdemeanor for anyone to operate a motorboat without having completed an approved boating safety education course.

HB 1075 Boating safety course; required if convicted of violating boating law. **Incorporated into identical HB 870.**

HB 1076 Towing persons on the water; adds inflatable tube to list of devices used therefor. **FAILED.** Would have required vessels towing persons on water skis or other devices to carry an observer and required persons being towed to wear a life jacket.

HB 1078 Motorboats; sets maximum speed limit on Smith Mountain Lake. **CARRIED OVER.** Would establish a maximum speed limit of 35 miles per hour on Smith Mountain Lake between sunset and sunrise, with violators subject to a fine of up to \$250.

HB 1204 DUI of alcohol or drugs [including while boating]; term inference replaces presumption relating to alleged offense. **CARRIED OVER.** Would change the term "rebuttable presumption" to "inference" in DUI, drunk boating, and commercial DUI statutes. The companion Senate bill is SB 471.

SB 471 DUI of alcohol or drugs [including while boating]. **PASSED SENATE.** See HB 1204.

SB 528 Boating; requires safety course and sets maximum speed limit for Smith Mountain Lake. **PASSED SENATE.** Makes it a Class 4 misdemeanor for anyone to operate a motorboat on the waters of Smith Mountain Lake without having successfully completed an approved boating safety education course (this provision phased in by July 2015); alternative means of compliance are exemptions are identified. The bill also repeals the current law that requires at least one game warden to patrol Smith Mountain Lake during the boating season. *As introduced*, the bill also set a maximum speed limit of 25 miles per hour on Smith Mountain Lake between sunset and sunrise, this provision was removed in the passed version.

Other Game, Inland Fisheries, and Boating Bills

HB 5 Trout fishing; Department of Game and Inland Fisheries to issue special permits for handicapped.

PASSED AND APPROVED BY GOVERNOR. Authorizes the DGIF to issue permits to organized groups of

physically or mentally handicapped persons to fish on the second Saturday in May in designated waters stocked with trout, without having to obtain individual licenses. This companion Senate bill is SB 12.

HB 6 Military personnel; free hunting and fishing licenses. FAILED. Would have allowed every state resident who has served in an armed conflict or peacekeeping mission after September 11, 2001, to obtain all required DGIF hunting and fishing licenses (except special lifetime licenses) at no charge for one year.

HB 327 Personal property tax; classification of watercraft used for business purposes. PASSED HOUSE. Creates separate classes of personal property for rate purposes of watercraft based on the weight of the watercraft and whether it is used for business purposes.

HB 575 Trapping; exempts trappers using body grip traps that are completely submerged. PASSED AND APPROVED BY GOVERNOR. Authorizes the director of the DGIF to allow governmental employees and persons holding a commercial Nuisance Annual Permit to visit conibear-style traps *that are completely submerged* once every 72 hours (rather than the currently required once daily); private trappers would continue to be required to visit such traps every day. The companion Senate bill is SB 83.

HB 939 Game wardens; Director of Department of Game and Inland Fisheries given power to appoint.

FAILED. Removes the requirement that the director of the DGIF *must* hire from within the ranks of wardens if he is seeking to fill a law-enforcement position above the rank of game warden.

HB 981 Wildlife and fish restoration; Department of Game & Inland Fisheries to accept federal grant money. PASSED AND APPROVED BY GOVERNOR. Authorizes the DGIF to accept federal grant money related to the Pittman-Robinson Act (wildlife restoration) and the Wallop-Breaux Act (sport fish restoration). The Office of the Inspector General of the U.S. Department of the Interior has that its audit of these federal funds found that Virginia does not have the statutory authority within the *Code of Virginia* to accept these funds. See similar HB 651, in the "Fisheries and Habitat of Tidal Waters" section.

HB 1420 Compensation Board; considerations for fixing salaries and staffing levels for certain sheriffs.

CARRIED OVER. Would require the Compensation Board to include in its allocation formula the effect of additional enforcement and safety needs of localities that (i) have bodies of water of 20,000 acres or more located wholly or partially within their jurisdiction and (ii) provide boating enforcement pursuant to a cooperative enforcement agreement with the DGIF.

SB 12 Trout fishing; Department of Game and Inland Fisheries to issue special permits for handicapped.

PASSED BOTH HOUSES. See identical HB 5.

SB 83 Trapping; exempts trappers using body grip traps that are completely submerged. PASSED BOTH HOUSES. See HB 575.

SB 678 Motor fuels taxes; elimination of refunds for taxes on watercraft fuel. FAILED. Would have

eliminated the current refund of taxes on fuels used in operating recreational watercraft; revenues attributable to the repeal of the refund would have been deposited into the Game Protection Fund to be used for the benefit of the boating public.

SB 695 Boats; criterion for local ordinances. CARRIED OVER. Would provide that no locality or other political subdivision shall adopt or enforce any watercraft-operation ordinance, resolution, or motion other than those expressly authorized by statute.

HEALTH

HB 688 Sewage sludge; restrictions on land application thereof. FAILED. Would have prohibited land application of sewage sludge (or "biosolids") beginning January 1, 2007, unless the sewage sludge was applied in the same locality in which it is generated; required state departments that have oversight of the spreading of sewage sludge (the Department of Health and the DEQ) to certify that the sewage sludge was being applied in a manner that protects human health and the environment; and required the DCR to certify that nutrient-management plans for applying sewage sludge protect water quality.

HB 690 Sewage sludge; limit on storage time prior to land application. FAILED. Would have prohibited sewage sludge (or "biosolids") from being stored for more than three days at a land-application site.

HB 1134 Sewage sludge; regulations establishing fee imposed on permit holders. PASSED BOTH

HOUSES. As introduced, the bill would have required the Board of Health to promulgate regulations establishing a fee to be imposed upon holders of permits to land-apply treated sewage sludge ("biosolids"), *in an amount sufficient to pay* for the administration and management of the Department of Health's sewage sludge program. As passed, the bill requires the Board to impose a fee of \$5,000 to apply for a permit and \$1,000 for a permit modification. Currently, the Board may adopt regulations requiring permittees to pay a fee not to exceed \$2,500.

HIGHWAYS, BRIDGES, AND FERRIES

HB 640 Low-water bridge; Dickenson County to transfer ownership thereof in Town of Pound to VDOT.

FAILED. Would have required Dickenson County to transfer ownership of the low-water bridge in the Town of Pound to the Virginia Department of Transportation (VDOT).

HB 662 Chesapeake Bay Bridge-Tunnel Commission; authorization from GA required before undertaking construction, etc. PASSED HOUSE.

Requires the Chesapeake Bay Bridge and Tunnel Commission to obtain authorization from the General Assembly before undertaking construction and operation of any tunnel paralleling an existing tunnel or making provision for financing such a project.

HB 663 Chesapeake Bay Bridge & Tunnel Commission; may not issue any bonds not redeemable before maturity. PASSED HOUSE. Provides that the Commission shall not issue any bonds after June 30, 2006, that are not redeemable before maturity.

HJ 102 Chesapeake Bay Bridge-Tunnel; joint subcommittee to study selling or leasing to private operator.

CARRIED OVER. Would establish a joint subcommittee to study the desirability and feasibility of selling or leasing the Chesapeake Bay Bridge-Tunnel to a private operator.

SB 192 Chesapeake Bay Bridge and Tunnel Commission; change in composition and other provisions.

PASSED SENATE. Establishes the Hampton Roads Bridge and Tunnel Authority and transfers from VDOT to the Authority control of and responsibility for seven facilities in Hampton Roads. The bill allows the Authority to impose and collect tolls for the use of these facilities and provides for the eventual transfer to the Authority control of and responsibility for the Chesapeake Bay Bridge-Tunnel as well.

SB 512 Low-water bridge; VDOT to reimburse Dickenson County for expenses in reconstructing thereof.

FAILED. Would have required VDOT to reimburse Dickenson County for expenses incurred in reconstructing the low-water bridge in the Town of Pound.

WASTE DISPOSAL

HB 421 Solid waste management; permits for proposed facilities subject to analysis. PASSED BOTH HOUSES.

Requires that permits for proposed solid waste management facilities or facility expansions be subject to analysis by the DEQ for potential human health, environmental, transportation infrastructure, and transportation safety impacts and needs, including evaluation of comments by the host local government, other local governments, and interested persons. Applications for such permits must include certification from the locality that the new or expanded facility is consistent with the regional solid waste management plan or that the plan is in the process of being revised.

SB 82 Solid waste containers; requirements for carrying nonhazardous waste on State waters. PASSED SENATE.

Establishes specifications for the structural integrity of containers carrying non-hazardous solid waste on vessels operating in Virginia waters, including a specific water-tightness standard.

SB 106 Waste discharge permits; consent of local governing body required before Water Control Board issues. PASSED SENATE.

In localities where a local watershed-protection district was established prior to January 1, 2006, requires that, before the SWCB approves a new or modified stormwater-discharge permit from a municipal waste landfill or related facility into the local district, the local governing body must confirm that the proposed discharge is consistent with the local watershed-protection district ordinance.

SJ 57 Camden County, N.C. landfills; request to Congress. FAILED. Would have memorialized Congress to take action to prevent contamination of the waters of the United States and degradation of the Great Dismal Swamp National Wildlife Refuge by a landfill proposed for Camden County, North Carolina.

WATER AND SEWER SYSTEMS

HB 129 Public health; Board of Health may declare area hazardous thereto and require sewer services.

CARRIED OVER. Would allow the Board to declare an area a public-health hazard, and require that sewer service be offered, if sewer service is available within one-half mile and sufficient capacity exists.

HB 283 Water and sewer services; fees and charges. FAILED. Would have clarified that water services are treated the same as sewer services with regard to fees and charges.

HB 411 Reducing nutrient discharges; sewage treatment facilities to meet nutrient loading allocation.

FAILED. Would have required every publicly owned sewage-treatment facility serving 55,000 or more people to meet its nitrogen- and phosphorus-discharge limits by July 1, 2010, either by installing nutrient-treatment technology or by participating in the state's nutrient-credit exchange program.

HB 439 Sewage treatment facilities; establishing a governing board. PASSED BOTH HOUSES. Requires that certain entities that provide sewer services to residents of Virginia and to residents of another state be managed by a governing board that is comprised of an equal number of residents of Virginia and of the other state. The requirement applies to such entities that operate a sewage-treatment facility located in Virginia that has a capacity of at least five million gallons per day and was financed through the Virginia Revolving Loan Fund. The companion Senate bill is SB 507.

HB 535 Water and sewer liens; Manassas Park authorized to provide charges for service. PASSED BOTH HOUSES. Adds Manassas Park to those localities that have authority to provide that charges for water or sewer service may be a lien on the real estate served. The companion Senate bill is SB 479.

HB 1318 Subdivisions; adequate water resources. FAILED. Would have allowed localities to adopt provisions allowing denial or delay of subdivision approval, issuance of a building permit, or a rezoning request if the locality demonstrated that public facilities related to the provision of water were inadequate.

HB 1505 Coalfield Economic Development Authority tax; to include improvement of water & sewer systems. PASSED BOTH HOUSES. Clarifies that funds generated from this tax and deposited in the Coal and Gas Road Improvement Fund may be used for improvement of existing water and sewer systems and lines. See also very similar SB 506.

HB 1540 Waterworks; tampering with considered crime. PASSED BOTH HOUSES. Creates the crime of tampering with a waterworks.

HJ 101 Biosolids; study of impact on water quality. FAILED. Would have requested the DCR and DEQ to study the impact of the land application of biosolids on the quality of Virginia's waters.

SB 164 Waste and water authorities; operating capital. PASSED SENATE. Clarifies the term "cost," regarding operating capital, in law regarding the powers of waste and water authorities.

SB 479 Water and sewer liens; Manassas Park authorized to provide charges for service. PASSED SENATE. See HB 535.

SB 506 Coal and gas road improvement tax; localities to use revenue to repair existing water & sewer lines. PASSED SENATE. Allows localities to use revenue from their Coal and Gas Road Improvement Fund to repair or enhance existing water and sewer systems and lines. See also very similar HB 1505.

SB 507 Sewage treatment facilities; establishing a governing board. PASSED BOTH HOUSES. See HB 439.

SB 626 Water Quality Improvement Fund; revenues from lodging shall be deposited thereof. CARRIED OVER. Would establish a \$1 per day fee on hotel, motel, and similar rooms; the revenues, plus \$40 million annually in recordation tax revenues, would go to the Virginia Water Quality Improvement Fund.

SJ 82 Water systems; JLARC to study small community public water systems. PASSED SENATE. Directs the Joint Legislative Audit and Review Commission (JLARC) to study small community water systems in Virginia to determine whether the needs of Virginia's citizens are being met through the existing regulatory scheme with regard to water quality and to rates.

WATERS OF THE STATE, PORTS AND HARBORS

HB 104 Meherrin River; portion in Brunswick County designated as state scenic river. PASSED AND APPROVED BY GOVERNOR. Designates the 37-mile segment of the Meherrin River within Brunswick County as a state scenic river. The companion Senate bill is SB 527.

HB 524 Criminal history record information; dissemination thereof to shipyards. PASSED HOUSE. Provides for the dissemination of criminal-history record information to shipyards for the purpose of screening potential employees and other personnel seeking access to shipyard facilities.

HB 552 Regional water supply plans; town with adjacent county. PASSED AND APPROVED BY GOVERNOR. Allows a town to enter into a regional water supply plan with an adjacent county.

HB 596 Flood Prevention and Protection Assistance Fund. PASSED HOUSE. Reconstitutes the current Flood Prevention and Protection Assistance Fund into the new Dam Safety, Flood Prevention, and Protection Assistance Fund. The new fund will be used for loans and grants to local governments and loans to private entities to finance projects to prevent, reduce, or mitigate damages caused by flooding, to upgrade dams or impounding structures, and to fund flood prevention studies. The Virginia Resources Authority would administer and manage the fund. The language establishing the Fund is modeled after language creating the Virginia Resources Authority, the Virginia Water Facilities Revolving Fund, and the Virginia Water Supply Revolving Fund. The companion Senate bill is SB 624.

HB 597 Dam safety; penalties. PASSED BOTH HOUSES. Provides the Virginia Soil and Water Conservation Board and the DCR with enforcement tools regarding the safety of Virginia's dams, and

includes due process procedures to protect dam owners. The bill imposes a Class 3 misdemeanor penalty on an owner who knowingly operates, constructs, or alters a dam without the approval of the Department; or who obstructs, hinders, or prevents the Virginia Soil and Water Conservation Board, or its agents from performing their dam safety duties. The Board also has the option of imposing civil penalties, not to exceed \$25,000, for violations of the Dam Safety Act. Money collected from civil penalties will be deposited in the Flood Prevention and Protection Assistance Fund.

HB 1150 Chesapeake Bay Clean-up Authority and Chesapeake Bay Clean-up Revolving Fund; created.

PASSED HOUSE. As introduced, the bill would have established the Virginia Chesapeake Bay Clean-up Authority to develop, through the DEQ, the Chesapeake Bay Clean-up Strategic Plan and to oversee the execution of this plan by the DEQ; and created the Chesapeake Bay Clean-up Fund to be administered by the Virginia Resources Authority and used to fund the strategic clean-up plan, but a substitute bill eliminated funding provisions. The version passed by the House of Delegates, the “Chesapeake Bay and Virginia Waters Clean-Up And Oversight Act,” removes the provisions for an authority and a fund, but still would require the Secretary of Natural Resources to develop a strategic clean-up plan for the Chesapeake Bay and other Virginia's waters designated as impaired.

HB 1185 Agricultural facilities; exemption from water-use restrictions. PASSED HOUSE. Prohibits the requirement of a Virginia Water Protection Permit for privately owned and retained water located outside the path of regularly flowing surface water, or for any water withdrawal for livestock watering or crop production within maximum withdrawal limits to be set by the SWCB.

HB 1186 Legislative appointees; designates authorities to appoint legislators who serve on certain boards. PASSED HOUSE. Designates legislative appointing authorities to appoint legislators who serve on the Tourist Train Development Authority, the Chippokes Plantation Farm Foundation Board, and the Potomac River Basin Commission; currently, the governor makes these appointments. The companion Senate bill is SB 330.

HB 1193 Chesapeake Bay Preservation; impact fee authority to localities with designated areas. FAILED. Would have granted impact-fee authority to localities with designated Chesapeake Bay Preservation areas. The authority would have included fees for roads, schools, and public safety. “Impact fee” was defined as a charge or assessment imposed against new development in order to generate revenue to fund or recover the costs of public facilities necessitated by and attributable to the new development.

HB 1457 Impaired waters; attainability of meeting water-quality standards. PASSED BOTH HOUSES. As introduced, the bill would have *required* the SWCB, before developing or implementing a Total Maximum Daily Load (TMDL) for an impaired water, to evaluate the attainability of meeting water-quality standards in the impaired water, if the costs of improving the water quality were greater than the benefits to be derived. As passed, the bill allows an aggrieved party to conduct a use attainability analysis of whether attaining the designated use in an impaired water is feasible. This analysis would be reviewed by the SWCB, which would then determine whether to delay development or implementation of a TMDL.

HB 1496 Nontidal wetlands permits; eliminates requirement to obtain permits from state & federal government. CARRIED OVER. Would eliminate the requirement to obtain both state and federal permits for impacts to nontidal wetlands. The person would only have to obtain *either* the State Programmatic General Permit or a federal permit, depending on the type of project.

HB 1519 Perennial streams; certain localities to use U.S. Geological Survey's maps designating water bodies. FAILED. Would have required localities under the jurisdiction of the Virginia Chesapeake Bay Preservation Act to use the U.S. Geological Survey's designation of water bodies with perennial flow as the basis for delineating required components of Resource Protection Areas.

HB 1533 Elizabeth River; governor to convey subaqueous lands in City of Norfolk. PASSED HOUSE.

Authorizes the governor to convey about 2.4 acres of subaqueous lands in the Elizabeth River in Norfolk to Moon of Norfolk, L.L.C.

HJ 134 Perennial flow determination; DCR to study development, etc., thereof. FAILED. Would have requested the DCR to study the development and implementation of the perennial-flow determination required by regulations implementing the Virginia Chesapeake Bay Preservation Act.

SB 173 Port Authority; allows police thereof to provide security for private terminal operators. PASSED BOTH HOUSES. Allows the Authority to enter into agreements with private terminal operators to permit special police officers to provide and enforce safety and security on the operator's property.

SB 330 Legislative appointees on certain boards. PASSED BOTH HOUSES. See HB 1186.

SB 527 Meherrin River; designation as state scenic river. PASSED BOTH HOUSES. See HB 104.

SB 624 Flood Prevention and Protection Assistance Fund. PASSED BOTH HOUSES. See HB 596.

Table 1. Some Water-related Bills Covered by News Media During the 2006 Virginia General Assembly.

SUBJECT OF LEGISLATION	BILL NUMBER(s)	PRESS SOURCES* (legislation mentioned at least once)
Air Pollutants—nitrogen, sulfur, and mercury—with water impacts	HB 1055/SB 242 HB 1471/SB 651	AGP, DP, FLS, ROA, RTD, VP
Biosolids/Sewage Sludge	HB 698, HB 690, HB 1134, HJ 101	DP, FLS, GW, LNA
Boating Safety	HB 870, HB 872, HB 1076, HB 1078, HB 1420, SB 528,	LNA, ROA, RTD, VP
Chesapeake Bay Clean-up Funds	HB 30, SB 30	DP, FLS, RTD, VP
Energy Plan for the State (includes off-shore exploration)	HB 1153, SB 262, and HB 1292	DP, FLS, ROA, RTD, VP
Menhaden management	HB 749/SB 84, HB 1045	DP, RTD, VP, WP
Strategic Plan for Water Quality	HB 1150	FLS, RTD
Water Quality Improvement Fund (revenues from lodging fee)	SB 626	FLS; RTD

*Abbreviations for press sources:

AGP = *Alexandria Gazette Packet*; DP = *Daily Press* [Hampton Roads area]; GW = Greenwire Internet Site, www.eenews.net/Greenwire.php; FLS = *Fredericksburg Free Lance-Star*; LNA = *Lynchburg News & Advance*; ROA = *Roanoke Times*; RTD = *Richmond Times-Dispatch*; VP = *Norfolk Virginian-Pilot*; WP = *Washington Post*.

TEACHING WATER Especially for Virginia's K-12 teachers

This Issue and the Virginia Standards of Learning

Below are suggestions for Virginia Standards of Learning (SOLs) that may be supported by this issue's Feature articles, Water Status Report, and For the Record section. The SOLs listed below are from Virginia's 2003 Science SOLs and 2001 Social Studies SOLs. Abbreviations: BIO = biology; CE = civics and economics; ES=earth science; GOVT = Va. and U.S. government; LS=life science; WG = world geography.

Newsletter Section	Science SOLs	Social Studies SOLs
Feature 1 (2006 Virginia General Assembly)	6.5, 6.9, LS.12, ES.7, ES.9, ES.11	CE.7, GOVT.8, GOVT.9, GOVT.16
Feature 2 (Off-shore Gas/Oil Report)	6.9, ES.7, ES.11, LS.12, BIO.9	CE.6, CE.7, CE.9, WG.2, WG.7, WG.12, GOVT.5, GOVT.9, GOVT.16
Water Status (Groundwater)	ES.9	None
For the Record (Coastal/Marine Information Sources)	4.8, 6.5, 6.7, 6.9, LS.7, LS.10, ES.7, ES.11, BIO.9	WG.2, WG.7

FEATURE ARTICLE 2

OffShore Gas and Oil Exploration Report

"Thanks to developments at the state, regional, and national levels in recent weeks, development of oil and natural gas reserves on the Outer Continental Shelf has emerged as one of the thorniest and most pressing issues facing Virginians in the area of resource planning and management."—T.W. Johnson, *Water News*, March 1975

Oil and gas exploration on the Outer Continental Shelf (OCS), a lively issue in the 1970s, is once again a hot topic among legislators, scientists, environmental groups, oil and gas companies, and other stakeholders, both in Virginia and in Washington, D.C.

At the state level, House Document 22—a recent study prepared for Virginia General Assembly—concluded that renewed oil and gas exploration in this area should be considered under certain conditions. During the 2006 session, the General Assembly considered Senate Bill (SB) 262 and House Bill (HB) 1153, under which the state would seek an exemption from a federal moratorium on offshore oil and gas exploration and leasing activities that was first imposed in 1990. (In 2005, the General Assembly passed a similar bill, SB 1054F, but Governor Mark Warner vetoed it.) Governor Timothy Kaine has expressed support for surveying and mapping the area but has not yet taken a position on drilling.¹

At the national level, the 2005 Energy Policy Act authorized exploration of the OCS. In 2006, Congress is considering several bills related to OCS drilling (for example, S.1810 introduced by Senator John Warner of Virginia). The Bush administration has also indicated interest in scientific studies on potential oil and gas deposits.² On the other hand, certain environmental groups have expressed concern

¹ Scott Harper and Christina Nuckolls, *Virginian-Pilot*, "House Panel Passes Bill on Gas Exploration," February 11, 2006.

² Greg Edwards *et al.*, *Richmond Times-Dispatch*, "Q & A: Offshore Drilling," December 8, 2005; and Scott Harper, *Virginian-Pilot*, "Federal Officials' Stance on Coastal Drilling Shifts," February 10, 2006.

about a return to oil and gas exploration along the OCS.³

The OCS, located along the Atlantic, Pacific, Gulf of Mexico, and Alaskan coasts, is defined by the federal Minerals Management Service's Web site (www.gomr.mms.gov, as of 2/13/06) as "the submerged lands, subsoil, and seabed lying between the seaward extent of the States' jurisdiction and the seaward extent of Federal jurisdiction." According to HD 22, as the 1970s energy crisis created long lines at gas pumps, both state and federal legislators began reconsidering existing energy policies, searching for new ways to reduce America's dependence on foreign energy supplies. As a result, during this period the OCS received much attention as a potential source of domestic oil and gas deposits.

In 1975, the General Assembly passed the Outer Continental Shelf Act of Virginia (Senate Joint Resolution [SJR] 137), authorizing the State Corporation Commission to oversee gas and leasing activities related to oil and gas development on Virginia's OCS. Later that year, however, the U.S. Supreme Court ruled in *U.S. v. Maine* that coastal states' jurisdiction extended only three miles beyond their shores; this decision invalidated HJR 137, because the resolution depended on coastal states' jurisdiction extending up to 100 miles from shore.⁴ According to HD 22, federal jurisdiction begins after three miles and, for the purposes of "control and exploitation of natural resources," extends up to 200 miles.

In 1978, Congress approved various amendments to the U.S. Outer Continental Shelf Lands Act, a measure initially passed in 1953.⁵ Among other things, these amendments asserted that states would be able to participate in all policy decisions related to the OCS. During this

³Fred Carroll, *Daily Press* [Newport News], "Environmentalists, Others Worry About Offshore Drilling," February 11, 2006.

⁴ Information on SJR 137 comes from the March 1975 and April 1975 issues of *Water News*; for paper copies of back issues of *Water News*, contact the Virginia Water Center at (540) 231-5624 or water@vt.edu. SJR 137 never became part of the *Virginia Code* because of the Supreme Court ruling in *U.S. v. Maine*. The text of SJR 137 is in *Virginia Acts of Assembly* (1975), p. 1543. The 1975 *Virginia Acts of Assembly* is not available online, but it is available in print at larger Virginia libraries.

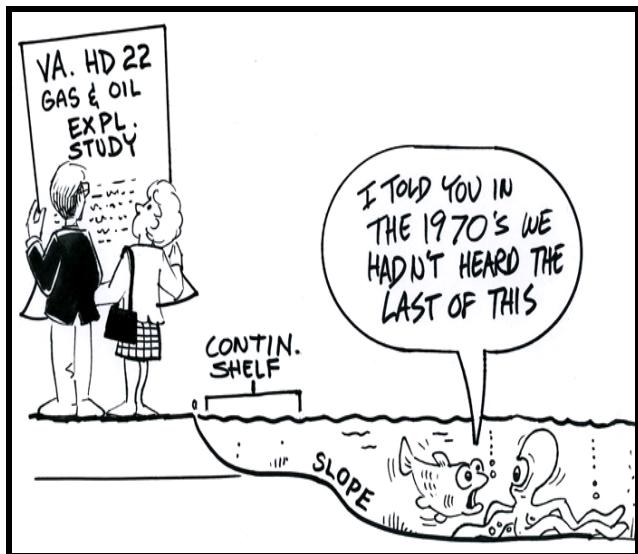
⁵ HD 22 is the source for the information and quotes in this paragraph.

period, several test wells were drilled off some Atlantic coastal states' shores, but no large oil or gas deposits were discovered. In the early 1980s, concern about oil spills led Congress to re-evaluate its previous decisions on oil and gas exploration on the OCS. In 1982, Congress issued a moratorium banning exploration and leasing activities on parts of California's shores, and by 1984, this "moratorium was expanded to include the North Atlantic and parts of the eastern Gulf of Mexico." In 1990, President G. H. W. Bush issued an executive order that prohibited "preleasing and leasing activity on the entire Outer Continental Shelf, except for certain parts of the Gulf of Mexico and Alaska." President Clinton extended the order's termination date to 2012.

HD 22 provides a timeline of relevant events, basic geographic and geological information, underlying legal issues, a discussion of potential impacts, and a list of the authors' conditions under which exploration and leasing should be conducted. The executive summary from HD 22 is presented below. The full report is available online at the Virginia General Assembly Web site (legis.state.va.us). For a paper copy, check at larger Virginia libraries or with your local General Assembly members.

—By Amanda Mullins

Amanda Mullins, an English and Political Science major at Virginia Tech, was an intern at the Water Center in Spring 2006.



Executive Summary of HD 22, "Study of the Possibility of Exploring for Natural Gas in the Coastal Areas of the Commonwealth," January 10, 2006

The Virginia General Assembly, in House Joint Resolution 625, directed the Secretary of Commerce and Trade to study the possibility of exploring for natural gas in the coastal areas of the Commonwealth. The Secretary convened an advisory group representing the natural gas industry, environmental advocacy groups, and the General Assembly to assist with this study. Although HJR 625 called for a study only of exploration for natural gas, the evidence presented to the advisory group made clear that if commercially recoverable reserves of natural gas or oil were found in the gas exploration process, then those reserves would in all likelihood be commercially developed. Accordingly, this report is written as if the Secretary was asked to study the possibility of the exploration, development, and production of natural gas and oil in the coastal areas of Virginia.

Natural Gas Supply and Demand

Development of offshore energy resources is being proposed to increase domestic supplies of natural gas and petroleum in response to demand growth and diminishing production in other areas. World and domestic demands for natural gas have grown steadily over the past few decades. Natural gas consumption is projected to increase by approximately 2-3 percent per year into the future. Supplies of natural gas have not grown on pace with demand. This has caused the price of natural gas to increase in the United States from around \$2-4 per thousand cubic feet during the 1990s to \$8-12 per thousand cubic feet today and into the near future. The price is expected to remain high until demand is lessened or supplies are increased.

These supply and demand problems should be addressed as part of a comprehensive energy policy for Virginia and the nation. Increased energy efficiency offers the only realistic short-term opportunity to bring supply and demand into better balance. In contrast, new offshore energy exploration will not yield additional energy supplies to Virginia or the nation for at least another decade, and probably longer. Nevertheless, the diversification of our energy supplies through development of new and enhanced sources of natural gas and other fossil fuels, and research and development of new clean and alternative energy supplies must be critical parts of our long-term approach to energy problems.

Virginia's Offshore Petroleum Resources

The areas in Virginia being considered for offshore development are on the outer continental shelf, continental slope and continental rise. The areas are located about 50 miles offshore and beyond in the federal Exclusive Economic Zone. The area is in the United States Minerals Management Service (MMS) Mid-Atlantic Planning Area. This area has been prohibited from development since 1990 through congressional and presidential moratoria. The Minerals Management Service manages outer continental shelf natural gas and oil development under 5-year leasing plans. The MMS is now developing the 2007-2012 leasing plan.

Virginia's outer continental shelf (OCS) areas have been subject to limited federal, state, and industry resource assessments. These studies show the geology in Virginia's OCS area to be gas prone, although the presence of economically recoverable supplies is not assured. In addition, the presence of oil cannot be ruled out. Further geophysical exploration and drilling will be necessary to determine affirmatively whether economically recoverable natural gas or oil exists. The federal MMS estimates that there may be 33.3 trillion cubic feet of natural gas and 3.5 billion barrels of oil (called undiscovered conventionally recoverable hydrocarbon resources) in the Atlantic OCS. On a *pro rata* basis, this would total to about 11.7 trillion cubic feet of gas and 1.2 billion barrels of oil in the mid-Atlantic area. Based on MMS' January 3, 2006, identification of offshore administrative boundaries, Virginia's OCS area makes up about 11% of the mid-Atlantic OCS prospective production area. This percentage is considerably less than the percentage of the OCS area that was anticipated during the advisory group discussions. Royalty estimates depend on the amount of resources recoverable and the cost of gas or oil. There could be from zero to over \$10 billion in total value of natural gas in the MMS's Virginia offshore administrative boundary areas.

The Offshore Development Process

Exploration and development of OCS resources takes place in four phases:

- five-year leasing program;
- individual lease sales;
- exploration plan;
- development and production plan.

Under current law, coastal states have the opportunity for input into each phase of the development process through the National Environmental Protection Act (NEPA) reviews and through Coastal Zone Management Act

consistency reviews. The public also has the opportunity for comment and involvement at each of the four phases of the development process. Each phase typically takes from one to two years to complete. There are proposals being considered in the federal Congress to allow states to opt out of the federal moratorium on offshore drilling and receive a percentage of federal revenues from any resulting development.

Environmental Impact of Offshore Exploration and Development

The Virginia Coastal Program agencies identified potential environmental impacts from natural gas exploration and development. Existing Virginia Coastal Program goals include providing for the appropriate extraction of energy and mineral resources consistent with proper environmental practices. Coastal Program agencies identified environmental issues related to exploration, offshore drilling and associated large vessel traffic, and new infrastructure and pipelines (offshore and onshore). They also identified state needs for assessment of the impact from development under the NEPA and Coastal Zone Management Act reviews. Lastly, the agencies identified data gaps to be addressed during any evaluation of offshore exploration and development.

Other Issues

Offshore exploration and development could spur increased economic activity in the Hampton Roads area. Local governments would have to address the effects of near and onshore development associated with the offshore activities, including potential impacts on tourism. Any development would need to account for impacts on civilian and military shipping. Virginia would need to be particularly careful that offshore development would not negatively affect military facilities in Hampton Roads.

Experience in Other Areas with Offshore Natural Gas Development

Analysis of experience with offshore hydrocarbon exploration and development in other areas may help Virginia assess potential impacts on the Commonwealth. In 1990, North Carolina completed an extensive environmental impact review of the Manteo, North Carolina proposed exploration well. North Carolina found the development to be inconsistent with its Coastal Zone Management Plan.

There is a mixed history of environmental protection and local economic impact from development in the U.S. Gulf of Mexico waters

and in other countries. In recent times, the industry has been able to operate safely in areas with harsh weather, such as the North Sea and Georges Bank, with a very low incidence of environmental impacts. There were only a limited number of incidents causing minor environmental damage from the 2004 and 2005 Gulf of Mexico hurricanes.

Conclusions and Recommendations

The current market conditions for natural gas show there is an imbalance between natural gas demand and the supplies needed to support Virginia's and the nation's economy. While this study finds that Virginia OCS offshore exploration of natural gas and, perhaps, other hydrocarbon resources can be safely undertaken with the proper controls, such activity must be one part of a comprehensive response to our energy needs. Improved energy efficiency—better and more prudent use of our existing energy resources—is our only viable short-term means of reducing our nation's need for new energy supplies. In the medium to long term, we must supplement our drive for greater efficiency with a continued effort to diversify and enhance our energy supplies through development of new environmentally responsible sources of and distribution infrastructure for natural gas, electricity and other fossil fuels, and the development of alternative energy sources that do not rely on fossil fuels.

Therefore, Virginia, if given the opportunity, should allow exploration of natural gas in its OCS areas contingent on the conditions set forth below being satisfied. This recommendation is being made in full recognition that recoverable reserves of gas and oil may never be found in Virginia's OCS areas. Accordingly, the Commonwealth should not have unrealistic expectations about the likelihood or the amount of potential revenue or economic activity to be derived from the development of such potential reserves.

Conditions for exploration:

- Virginia and the nation [should] develop a broad-based energy policy with energy efficiency as the backbone of our response to energy problems, coupled with increasing supplies of conventional and alternative energy resources.
- Ample opportunity is provided for public involvement in the environmental assessment process for offshore energy development. The environmental impact assessment process for the initial exploration efforts in Virginia OCS areas should follow the process used to evaluate environmental issues related to the Manteo,

North Carolina proposed exploration well to allow adequate time to evaluate issues related to such development. Any such environmental assessment should assume exploration and development of both natural gas and oil.

- If commercially recoverable reserves of oil are discovered, Virginia must more carefully consider the increased risk of a large oil spill. Therefore, additional environmental assessment, with appropriate opportunities for public involvement, of the potential for and consequences of oil spills and ways to mitigate the risk of spills must be completed. This should include assessment of the oil spills arising from Hurricanes Katrina and Rita and other incidents in the Gulf of Mexico and from offshore oil production in the North Sea, Australia, and Nova Scotia. This analysis should be an integral part of the environmental assessments in phase 4 of the OCS development process.
- The final decision whether to allow exploration and production of hydrocarbons in Virginia OCS areas must be contingent on the MMS and lease holders showing that the development will be undertaken in a manner protective of the environment and public safety.
- Any offshore operations must use best available technologies and practices to control operations and minimize risks to the environment and public safety.
- No wells should be drilled closer than 50 miles to the Virginia shoreline.
- Any development of pipelines or support facilities in state waters or onshore areas must be consistent with Virginia's Coastal Zone Program requirements.
- No onshore facilities should be located on Virginia's Eastern Shore.
- All facilities located on- or near-shore must be consistent with local zoning and land use plans and not conflict with other land uses near the facilities. Facilities should not be located to intrude on areas critical for tourism or military operations in the region.
- Revenue from OCS leases must be shared with the Commonwealth and affected localities. Revenues should support state response to other energy and environmental impacts, such as the cleanup of Chesapeake Bay and research into alternative energy sources.

VIRGINIA WATER STATUS REPORT

This section of *Water Central* presents recent and historical data on Virginia's precipitation, stream flow, and groundwater levels (one topic per issue, rotating among the three topics).

Groundwater Levels at Selected Virginia Wells, February 2006

The U.S. Geological Survey (USGS) and the Virginia Department of Environmental Quality monitor groundwater levels in about 350 observation wells in Virginia. For all the observation wells, the USGS publishes the measurements annually; the latest update is *Water Resources Data-Virginia-Water Year 2004, Volume 2* (available online at <http://pubs.usgs.gov/wdr/>). As of February 16, 2006, *real-time data* (updated every 15 minutes) were being recorded from 44 observation wells in 24 Virginia localities and were available online at waterdata.usgs.gov/va/nwis/current/?type=gw. The table below shows one February 16 measurement from 20 of the real-time observation wells. **All measurements are in feet below the land surface, rounded to the nearest 0.1 foot.** The table also shows the deepest value (driest condition) and shallowest value (wettest condition) recorded for each well during the well's period of record (these data also are available, with a bit of navigation, through the real-time-data Web site mentioned above). *Current* data (the February 16, 2005, readings) are *provisional* (i.e., subject to revision).

Well (Local #)	2/16/06 Level	Record Deepest	Record Shallowest	Period of Record
Accomack (66M 19 SOW 110S)	8.6	11.3 (Mar. 1981)	8.1 (Mar. 1987, Jan. 2004)	Since Sep. 1978
Buckingham (41H 3)	25.1	36.4 (Oct. 2002)	7.4 (Apr. 1973)	Since Mar. 1971
Clarke (46W 175)	34.4	45.3 (Feb. and Aug. 2002)	25.1 (Mar. 1994)	Since Mar. 1987
Fairfax (52V 2)	11.8	24.6 (Dec. 1998)	6.5 (Mar. 1984)	Since Oct. 1976
Frederick (46X 110)	37.7	42.3 (Nov. 2002)	18.2 (Sep. 2004)	Since Nov. 2002
Hanover (53K 19 SOW 080)	17.4	22.9 (Aug. 1984)	11.1 (Jan. 1978)	Since Jan. 1978
Loudoun (49Y 1 SOW 022)	58.0	61.5 (Nov. 1974)	52.0 (Nov. 1963)	Since Nov. 1963
Montgomery (27F 2 SOW 019)	3.9	7.3 (Dec. 1969)	0.0 (Mar. 1993)	Jul. 1953, then since Apr. 1969
Northampton (63H 6 SOW 103A)	4.4	10.0 (Oct. 2002)	0.9 (Oct. 1999)	Since Sep. 1977
Orange (45P 1 SOW 030)	23.1	39.0 (Aug. 2002)	11.8 (Apr. 1973)	Since Feb. 1965
Pr. William (49V 1)	7.9	12.3 (Jul. 1970)	7.0 (Oct. 2003)	Since Nov. 1968
Roanoke County (31G 1 SOW 008)	18.6	19.3 (Aug. 1968 and Jun. 1987)	14.2 (Nov. 1985)	Since Aug. 1966
Rockbridge (35K 1 SOW 063)	21.5	30.4 (Sep. 2002)	14.3 (Apr. 1987)	Since Feb. 1964
Rockingham (41Q 1)	69.0	99.0 (Oct. 2002)	57.7 (Feb. 1998)	Since Aug. 1970
Suffolk (58B 13)	7.6	13.4 (Jan. and Feb. 1981)	3.0 (May 1979)	Since Mar. 1975
Surry (57E 13 SOW 094C)	8.4	11.2 (Dec. 1981)	3.9 (May 1980)	Since Jul. 1978
Virginia Beach (62B 1 SOW 098A)	2.3	12.0 (Sep. 1980)	1.0 (Apr. 1991)	Since Jun. 1979
Warren (45V 3)	104.6	105.7 (Nov. 2005)	85.0 (Jan. 2005)	Since May 2004
Westmoreland (55P 9)	0.1	12.8 (Dec. 1998)	-0.4 (Feb. and Dec. 2003)	Since Jul. 1977
York (59F 74 SOW 184C)	2.6	14.1 (Jan. 2002)	1.2 (Oct. 1996)	Since Jun. 1990

IN AND OUT OF THE NEWS

Newsworthy Items You May Have Missed

The following summaries are based on information from the source(s) indicated in parentheses, usually at the end of each item. Selection of this issue's items ended February 23, 2006. Unless otherwise noted, the localities mentioned are in Virginia.

Abbreviations used for Virginia state agencies: DCR = Dept. of Conservation and Recreation; DEQ = Dept. of Environmental Quality; DGIF = Dept. of Game and Inland Fisheries; SWCB = State Water Control Board; VIMS = Virginia Institute of Marine Science; VMRC = Virginia Marine Resources Commission.

In Virginia

- The Virginia Port Authority's "Intermodal Park Concept" plan** foresees substantial growth for the Hampton Roads ports by 2030, according to a study released in August 2005. Estimates include 26,000 new jobs, a \$2.7-billion economic impact, and a need for 30 to 50 more import distribution centers—where cargo-ship containers are unloaded and the goods sent out for distribution—to handle expected increases in cargo entering Hampton Roads. The centers would be located 25-35 miles from the existing and planned marine terminals at the ports. One new terminal is opening in 2007 in Portsmouth and a second may be built by 2017 at Craney Island. (*Virginian-Pilot*, 8/27/05)

- Also at the ports—The **economic value of fish and shellfish landings at Hampton Roads in 2004** was \$100.6 million, up from \$78 million in 2003 and over three times the 1994 value. This placed Hampton Roads third in the nation on the National Marine Fisheries Service list of ports' seafood value, behind New Bedford, Massachusetts, and Dutch Harbor, Alaska. Scallops accounted for 90 percent of Hampton Roads' 2004 seafood value, due to rising prices for this shellfish. Reedville, with over 400 million pounds of menhaden worth \$26 million in 2004, ranked second in the nation for commercial-fish volume and 27th for economic value. (*Virginian-Pilot*, 11/16/06)

- More on **fish and money**—According to a December 2005 report from the Virginia Institute of Marine Science (VIMS), **recreational and commercial saltwater fishing in Virginia in 2004** generated \$1.23 billion in sales, \$717 million in income, and 13,015 jobs. Of these totals, the recreational sector accounted for \$824 million in sales, \$478 million in income, and over 9,090 jobs. The report documents changes in the commercial sector since 1994, including decreased sales overall and the rise of scallops (replacing crabs) as the top commercial species. The report, *Economic*

Contributions of Virginia's Commercial Seafood and Recreational Industries, is available online (as of 2/28/06) at the VIMS Advisory Reports page at www.vims.edu/newsmedia/advisory.html#seagrant.

- Between September 2005 and January 2006, the Virginia Department of Conservation and Recreation (DCR) announced **developments leading toward three future state parks**. In September, the national non-profit organization Trust for Public Land (TPL) purchased (on the state's behalf) 438 acres for a future park on the York River in Gloucester County; the purchase used \$3.9 million in general obligation bonds approved in the 2002 voter referendum. In October, the state dedicated the Seven Bends State Park, consisting of 1,066 acres and four miles of river frontage along the North Fork Shenandoah River in Shenandoah County. In January, the state used \$6.1 million in Virginia Public Building Bonds to purchase 1,100 acres of the "Widewater" peninsula between the Potomac River and Aquia Creek in Stafford County. The next step for the areas will be development of park master plans. (DCR news releases 9/20/05, 10/24/05, and 1/12/06, at www.dcr.virginia.gov)

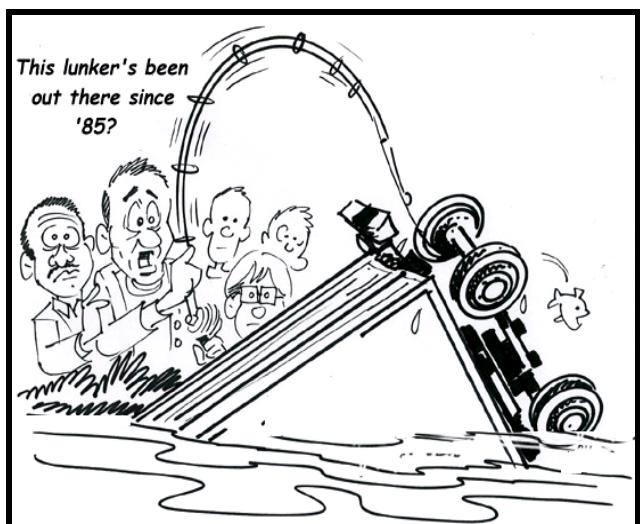
Meanwhile, in January the Virginia **Department of Game and Inland Fisheries (DGIF) announced the purchase of a 3,800-acre tract**, known as the Cavalier property, in the southern part of Chesapeake. Money for the \$4.1 million purchase came from the city, the Nature Conservancy, and the U.S. Fish and Wildlife Service. DGIF officials hope to return native Longleaf Pines and Atlantic White Cedars to the area, which will be open for hunting, hiking, and camping. (*Virginian-Pilot*, 1/31/06)

- Another Stafford County peninsula—**Crow's Nest, between Potomac Creek and Accokeek Creek**—is the subject of a preservation-or-development conflict. K&M Properties of McLean is working to get approval for a 688-home development on 3,230 acres of the peninsula. Over several years various groups, including the state and federal government, have tried to

purchase the land or find some other way to keep it from being developed. In December 2005, preservationists secured \$20 million for this purpose—including \$10 million from the Stafford County Board of Supervisors and \$9.5 million from the state—but the owner's asking price was reportedly between \$35 and \$50 million. On January 25, the county planning commission voted to recommend denial of the development proposal. (*Fredericksburg Free Lance-Star*, 12/2/05, 1/18/06, and 1/26/06)

- Next door to Stafford County, the City of Fredericksburg has been debating whether to put a **conservation easement on 4,232 acres of Rappahannock and Rapidan riverfront** (about 25 miles). Fredericksburg bought the property in the 1960s from the Virginia Electric and Power Company. Under the current (February 10, 2006) draft proposal (available online at www.fredericksburgva.gov), the city would sell development rights on the land to the Virginia Outdoors Foundation, the Nature Conservancy, and the Virginia DGIF. The city has been trying to develop an easement document that will address concerns in riverfront counties (Culpeper, Fauquier, Orange, Spotsylvania, and Stafford) about the easement's potential impacts on roads and utilities. A public hearing was to be held on March 9. (*Fredericksburg Free Lance-Star*, 12/30/05 and 2/23/06)

- In October 2005, Lynchburg businesses, city departments, and the Greater Lynchburg Environmental Network joined forces to remove a **40-foot railcar from the James River**, where it had been since the flood of November 5, 1985. The car was to be cut into pieces for recycling. (*Lynchburg News & Advance*, 10/22/05)



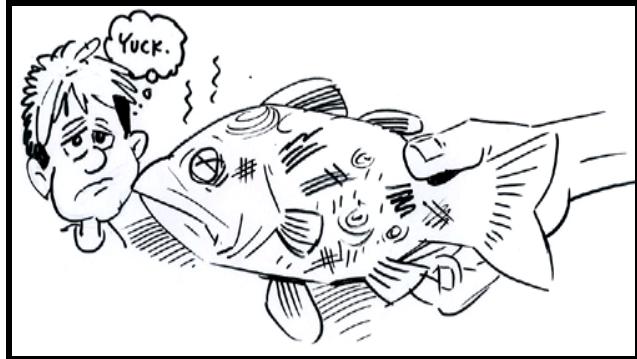
- In November 2005, a barge owned by Vane Line of Baltimore ran aground and spilled between **42,000 and 63,000 gallons of asphalt into the James River** five miles south of Richmond. The spilled asphalt—cooled and hardened by the river—reportedly was mostly recovered. In May 2005, another Vane Line barge spilled **24,000 gallons of heating fuel into the James** near Richmond. In February, the company agreed to pay a \$61,700 civil penalty for this spill. The fine, levied by the Virginia Department of Environmental Quality (DEQ), is subject to approval by the State Water Control Board (SWCB). (*Virginian-Pilot*, 11/30/05 and 2/18/06)

- In December, the James River Association (JRA) and Waste Management, Inc. agreed on a potential settlement of JRA's September 2003 lawsuit over state rules for **transporting solid waste by river barge**. The agreement calls for the General Assembly to set specifications to ensure that trash barges are watertight. The General Assembly still must agree to the settlement. (*Richmond Times-Dispatch*, 12/9/05. For a previous item, please see the April 2005 *Water Central*, p. 18.)

- More about **trash barges**—In January the Covanta Energy Corporation applied for a state permit to develop **a facility on the Elizabeth River in Portsmouth that would receive solid waste by barge** from New York City and elsewhere. The facility would process up to 2,500 tons of trash per day. (For comparison, in 2004 Virginia imported a daily average of over 21,300 tons of solid waste, according to the DEQ's annual solid waste report of June 2005.) About 500 tons/day could then be transferred to a waste-to-energy facility, with the remainder transferred to a regional landfill in Suffolk. The City of Chesapeake opposes the facility, which would lie just across the river from a proposed development in the city. (Associated Press, 1/14/06 and *Virginian-Pilot*, 1/16 and 2/23/06)

- In another southeastern Virginia solid waste issue, in November 2005 the **City of Chesapeake filed suit against a proposed large landfill** in Camden County, North Carolina. Several county residents are also plaintiffs in the suit. Black Bear LLC, a subsidiary of Waste Industries, would operate the 2.5-mile long landfill, which would receive 10,000 tons of trash daily from 20 states. Among other concerns, Chesapeake has claimed that landfill leaks could threaten Chesapeake's drinking-water supply from the Northwest River. (*Virginian-Pilot*, 11/8/05 and 1/23/06)

•Investigation continues into **widespread kills of Smallmouth Bass and Redbreast Sunfish in the Shenandoah River** in 2004 and 2005 and a similar kill in the South Branch Potomac River in West Virginia in 2002. The events share several features: impacts on *adult* fish only; the presence of bacteria-caused skin lesions on the fish; onset of fish deaths in early spring and continuing over two to three months; no evidence of a particular contamination event; and high nutrient levels in the watersheds. In December 2005, the Shenandoah River Fish Kill Task Force identified a \$500,000 research plan that would include two water-quality studies and two fish-health studies to be conducted by the Virginia DEQ and the U.S. Geological Survey. The task force hopes that the studies can begin in March 2006, but this depends on receiving funding. As of February 21, proposed budgets in the General Assembly included \$200,000 for the studies. (*Staunton News-Leader*, 1/4/06; Pure Water Forum's *The Source*, Nov. 2005; and *Virginia Game and Fish*, Feb. 2006)



•In January, the City of Virginia Beach announced plans to buy 38 acres (at a cost of \$5.1 million) for a **new animal care center for the Virginia Aquarium and Marine Science Center**. The animal care center, currently in an old warehouse, is the Aquarium's facility for housing animals used in exhibits and for nursing stranded or injured animals. Eventually the site may also have other research and education buildings and activities. (*Virginian-Pilot*, 1/9/06)

•Nestle Waters North America said in January that neither Alleghany County nor Botetourt County has a suitable **spring site to support a large bottled-water plant** for Nestle's Deer Park brand. The company said that it tested over 40 sites in the two counties but that stormwater effects on the sites would prevent them from meeting federal Food and Drug Administration requirements for spring water sources. Estimated economic impacts of the proposed plant were \$120

million in investments and 250 jobs. (*Roanoke Times*, 1/11/06)

•**Consol Energy is seeking a Virginia Department of Mines, Minerals and Energy (DMME) permit** to transport mine water about 20 miles from its Buchanan County No. 1 mine and discharge it into the **Levisa River near Grundy**. The coal-mining company has been putting such water into abandoned mine sites, but those sites are becoming filled. The mine water is high in chloride (6,700 milligrams per liter [mg/l], compared to the state standard of 250 mg/l). The company proposes to use a diffuser that would mix the discharge rapidly with river water. The Town of Grundy opposes the plan. (Associated Press, as printed in the *Richmond Times-Dispatch*, 2/11/06)

Chesapeake Bay Items

•At its November 21, 2005, meeting, the Virginia SWCB adopted rules setting **nutrient-discharge limits applicable in the James and York watersheds**. The board adopted equivalent rules on September 27, 2005, for the Eastern Shore, Rappahannock, and Shenandoah-Potomac basins. These actions complete establishment of regulations placing annual caps on how much nitrogen and phosphorus wastewater treatment plants and industries may discharge into Virginia's Chesapeake Bay tributaries. Implementation will take several years and an estimated \$1 billion. The state's next nutrient-management development will be creation of a nutrient-credit trading program. (*Virginian-Pilot*, 11/22/06. For a previous item, please see the Nov. 2005 *Water Central*, p. 18.)

•In December 2005, the Suffolk City Council voted to impose a **stormwater utility fee** on residents' real estate tax bills, beginning July 1, 2006. (Stormwater runoff is a major source of non-point source pollution in the Bay watershed.) All other large Hampton Roads jurisdictions have such a fee. Suffolk expects to raise about \$2.4 million per year for street sweeping, stormwater-collection ponds, and other services. Council member Linda Johnson summed up her support as follows: "I've never seen a street sweeper in my life. But this is something we need to do." (*Virginian-Pilot*, 12/22/05)

•At its November 28, 2005, annual meeting, the **Chesapeake Bay Executive Council** took the following actions: adopted a new strategy for reducing nutrient pollution due to animal wastes; committed to an ecosystem-level approach in

fisheries planning and decisions, rather than an individual-species approach; signed a new watershed-education agreement; pledged to seek funds for a study by the National Park Service on a proposed national water trail honoring Captain John Smith; and signed a letter to the U.S. Secretary of the Interior seeking \$3 million for the Chesapeake Bay Gateways Network and asking to make the network a permanent part of the National Park System. The Bay Executive Council includes the governors of Virginia, Maryland, and Pennsylvania; the mayor of the District of Columbia; the U.S. EPA administrator; and the chair of the Chesapeake Bay Commission.

Also during the November meeting, the National Geographic Society announced creation of a \$2-million Chesapeake Bay Geography Education Fund. (*Bay Journal*, Jan. 2006)

•An update on the investigation into the Chesapeake Bay impact crater: The attempt to drill down over 7,200 feet into the crater ended December 4, 2005, at 5,795 feet. Twenty-four-hour-per-day drilling had begun in September 2005. Rock samples are now being analyzed by over 118 scientists from various countries. One hoped-for result is a better understanding of the crater's impact on groundwater in the area. (*Virginian-Pilot*, 12/5/06. For a previous item, please see the Jan. 2005 *Water Central*, p. 9)

•Maryland's harvest of Blue Crabs from the Bay in the 2005 season (which ended December 15) was about 32.3 million pounds, an increase from 30.8 million pounds in 2004. The state's Bay crab harvests have increased for five straight years. (WBOC TV in Salisbury, Md., 12/27/06)

•Here are some oyster-related actions by the Virginia Marine Resources Commission (VMRC) at two recent meetings.

December 20, 2005, meeting:

••Voted to allow oyster harvesters to continue using "hand scrapes" (22-inch-wide, boat-pulled rakes) instead of tongs in four Potomac River tributaries through January 2006, when a previous ban was re-imposed.

January 24, 2006, meeting:

••Voted *not* to open to hand-scraping a large area of natural oyster reefs in the James River and in part of an oyster-restoration area in the Rappahannock River.

••Extended the season for market-sized oysters in the James River to February 28.

••Voted to hold a workshop by April to reexamine a 1990s "blue-ribbon" panel report on oyster replenishment.

••Set a public hearing for February 28 on the Virginia Seafood Council's request to continue aquaculture experiments on the non-native Asian oyster (*Crassostrea ariakensis*). This followed the Seafood Council's withdrawal in December of its request to put 10,000 sterile non-native oysters in the Piankatank River. (For a previous item on the Seafood Council's request, please see the Nov. 2005 *Water Central*, p. 18).

(Sources for VMRC meetings: *Daily Press*, 12/15, 12/20, and 12/21/05; *Virginian-Pilot*, 12/21/05 and 1/25/06; and minutes of the VMRC meeting, available online at www.mrc.state.va.us/calendar.shtml)

•Meanwhile, **Asian and native oysters are going "head-to-head"**—or shell-to-shell—in a study comparing the two species' growth and survival under natural conditions in Virginia's York and Machipongo rivers and Maryland's Patuxent and Severn rivers. The oysters in this study are sterile and are enclosed in metal cages. The study began in October 2005 and will run until late 2007. (*Bay Journal*, Jan. 2006)

Outside of Virginia

•Research on storm-caused debris flows (or "mud flows") in burned areas in California may eventually contribute to better predictions of such flows in non-burn situations, such as when heavy rains occur in the Appalachian Mountains. The National Oceanic and Atmospheric Administration and the U.S. Geological Survey recently published a report on debris flows and announced a project in southern California to try to improve the National Weather Service's ability to predict debris flows. According to the report, several scientific developments would be needed within the next 10 years to expand a prediction system to the Appalachians or other areas outside of California. The report, *NOAA-USGS Debris Flow Warning System—Final Report*, is available at pubs.usgs.gov/circ/2005/1283, or phone (888) ASK-USGS. (*Natural Hazards Observer*, Nov. 2005)

•In Massachusetts, the Cape Wind Associates company is proposing to build a large **wind-power complex** about 10 miles offshore from Cape Cod. The complex would include 130 turbines and cover about 24 square miles. The company first proposed the project in 2000 and expected a final decision by the U.S. Army Corps of Engineers in November 2005. But the federal Energy Policy Act of 2005 gave authority over offshore renewable energy projects to the U.S.

Minerals Management Service, and that agency plans to conduct a new environmental review of the proposal, which could take a year. The proposal has been controversial. ("On Point," 11/9/05, at www.eande.tv)

- In developments related to **climate change and global warming**: Some states and cities are taking steps to reduce their local emissions of carbon dioxide (CO₂), one of several natural and human-made "greenhouse gases" that absorb heat radiated from the earth's surface. At the state level, on December 20, 2005, the **Regional Greenhouse Gas Initiative Memorandum of Understanding** was signed by Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. The states agreed to limit power plants' CO₂ emissions to current levels from 2009 to 2015, then reduce emissions by 10 percent by 2019. Information on this initiative is available online at www.rggi.org. At the municipal level, as of January 30, 2006, 200 U.S. cities had joined in the **U.S. Mayors Climate Protection Agreement**. Begun by the mayor of Seattle in June 2005, the agreement calls for the cities to reduce their greenhouse gas emissions by 2012 to 93 percent of the amount released in 1990 (this is the reduction sought in the United States by the Kyoto Protocol agreement of December 1997). Information on the cities' agreement is available at www.ci.seattle.wa.us/mayor/climate. (Sources include Web sites listed plus "E&E News PM," 12/8/05, at www.eenews.net; and the UN Climate Change Convention Web site at unfccc.int/2860.php on 2/23/06.)

- Facing local opposition to land application of biosolids (solid material remaining after sewage treatment), **Los Angeles** is seeking U.S. EPA approval for a four-year demonstration project of **injecting biosolids 5,000 to 6,000 feet underground**. The consultants who developed the plan have also predicted that the buried material would generate methane that could be recovered as an energy source. (*Inside EPA's Water Policy Report*, 12/12/05. For a detailed article on biosolids, please see the Aug. 2005 *Water Central*, p. 7)

- Under the federal Energy Policy Act of 2005, states are now required to do **routine inspections of underground storage tanks** (USTs) every three years, and the U.S. EPA is to publish guidelines for inspectors' training. Leaking USTs can cause soil and groundwater pollution. Up till now, the average nationwide inspection frequency for USTs has been four to ten years. State officials have expressed concern

about how to pay for the new requirement. The federal UST trust fund, supported by 0.1 cent tax on each gallon of motor fuel sold nationwide, provides money for inspections, cleanups, and other operations; the fund currently takes in about \$70 million per year. (*Inside EPA's Water Policy Report*, 12/12/05; and the EPA's UST Web site, www.epa.gov/swerust1/, 2/23/06)

- On November 23, 2005, the U.S. Court of Appeals for the 4th Circuit (in Richmond) upheld the U.S. Army Corps of Engineers' use of a *general permit* (Nationwide Permit 21) in regulating **mountaintop mining** and disposal of dirt and rock debris in nearby streams. Previously (July 8, 2005), the U.S. District Court in southern West Virginia had ruled that the Corps' use of NWP 21 did not comply with section 404(e) of the federal Clean Water Act and required the Corps to use *individual permits* (a more involved process). The Appeals Court overturned that decision. The case is *Ohio Valley Environmental Coalition, et al. v. William Bulen*. (*Inside EPA's Water Policy Report*, 12/12/05. For a previous item, please see the Jan. 2005 *Water Central*, p. 13)

- As of February 21, 2006, the **U. S. Drought Monitor** showed "extreme" to "exceptional" drought conditions in large areas of Arizona, Oklahoma, and Texas and in smaller parts of Arkansas, Missouri, and New Mexico. The Drought Monitor, available online at www.drought.unl.edu/dm/monitor.html, is a weekly nationwide drought assessment by federal agencies and state climatological centers. The Drought Monitor's ratings, starting from the driest, are "exceptional," "extreme," "severe," "moderate," and "abnormally dry." Also as of February 21, severe drought affected parts of Illinois, Iowa, and Nebraska (where conditions had been even drier in December and January); conditions had improved in Kentucky, where moderate to severe conditions had affected much of the state in December and January; and abnormally dry to moderate drought conditions affected much of North Carolina and a small part of south central Virginia.

A Final Word

- "If you ride a boat below Hopewell, you have to work hard not to see an eagle."—Rex Springston, *Richmond Times-Dispatch* writer, in his February 14, 2006, article on the increase of eagle populations over the past 30 years in Virginia and throughout the lower 48 states.

—By Alan Raflo and Amanda Mullins

NOTICES

State Meeting Notices

This section presents a list of most water-related public meetings and hearings that occurred November 15, 2005 to February 21, 2006, as listed on the **Virginia Regulatory Town Hall** Web site, at www.townhall.state.va.us/Intro.cfm. The Town Hall site posts **agendas and minutes** of all public meetings by Virginia's boards, commissions, and departments. The list below includes the name of a contact person for further information. To find the e-mail address or phone number of the contact people, go to the Regulatory Town Hall Web site, click on Meetings (Future or Past), and then click on the particular event. You can also request state employee phone numbers by calling (800) 422-2319, and you can find the e-mail address of any state employee online at www.employees.state.va.us/directory-search.cfm.

If you would like to receive a weekly e-mail notification about *upcoming meetings related to water quality*, you may do so by joining the Virginia Water Monitoring Council. Contact Jane Walker at (540) 231-4159 or janewalk@vt.edu.

Total Maximum Daily Load (TMDL) Meetings

TMDL-related meetings were held regarding the following waters and water-quality impairment issues (listed alphabetically by localities). Information on the status of all TMDLs in Virginia is available online at <http://www.deq.state.va.us/tmdl>.

Accomack County—**Onancock Creek**

(Chesapeake Bay tributary) for low dissolved oxygen (Nov. 16). More information: Jennifer Howell.

Accomack County—**Shellfish waters** (six in Chesapeake Bay basin, one in Coastal basin) for bacteria (Dec. 7). More information: Chester Bigelow.

Buchanan County—**Knox and Pawpaw creeks** (Big Sandy River basin) for aquatic-life impairment and bacteria (Nov. 28 and Feb. 6). More information: Nancy Norton.

Campbell, Charlotte, Halifax, and Pittsylvania counties—**Staunton (Roanoke) River** for bacteria (Dec. 15 and Jan. 23). More information: Kelly Wills.

Campbell, Franklin, and Pittsylvania counties—**Pigg River watershed** (Roanoke River basin) for bacteria (Jan. 18). More information: Mary Dail.

Carroll and Grayson counties and City of Galax—**Chestnut Cree** (New River basin) for bacteria (Jan. 30). More information: Nancy Norton.

Fairfax, Fauquier, and Prince William counties—**Broad Run, Bull Run, Kettle Run, Little Bull Run, Popes Head Creek, Occoquan River (below Lake Jackson), and South Run** (all Potomac River basin), for bacteria and benthic impairment (Dec. 14). More information: Bryant Thomas.

Floyd County—**Dodd Creek** (New River basin) for bacteria (Feb. 9). More information: Theresa Carter.

Franklin County—**Lower Blackwater River, Maggodee Creek and Gills Creek** (Roanoke River basin) for bacteria (Dec. 6). More information: Jason Ericson.

Hanover, King William, Louisa, New Kent, Orange, and Spotsylvania counties—**Pamunkey River** and several tributaries (York River basin) for bacteria (Nov. 16 and Dec. 8). More information: Chris French.

Lancaster County—**Shellfish waters** (Rappahannock River basin) for bacteria (Jan. 5, Feb. 13, and Feb. 15). More information: Chris French.

Middlesex County—**Shellfish waters** (Piankatank and Rappahannock river basins) for bacteria (Nov. 21). More information: Chester Bigelow.

Northumberland County—**Shellfish waters** (Great Wicomico River and Potomac River basins) for bacteria (Nov. 30, Dec. 15, and Jan. 26). More information: Chris French.

Pulaski County—**Back Creek** (New River basin) for bacteria and benthic impairment (Jan. 12). More information: Jason Hill.

Richmond County—**Farnham Creek shellfish waters** (Rappahannock River basin) for bacteria (Dec. 12, Feb. 7, and Feb. 14). More information: Chris French.

Scott County—**Stock Creek** (Clinch River/Upper Tennessee River basin) for aquatic-life impairment (Jan. 17). More information: Nancy Norton.

Smyth and Washington counties—**North Fork Holston River** (Upper Tennessee River basin) for aquatic-life impairment (Jan. 23). More information: Nancy Norton.

Suffolk City—**Nansemond River shellfish waters** (Chesapeake Bay basin) for bacteria (Feb. 21). More information: Jennifer Howell.

Tazewell County—**Laurel Fork** (Clinch River/Upper Tennessee River basin) for aquatic-life and dissolved-oxygen impairments (Feb. 13). More information: Nancy Norton.

Westmoreland County—**Shellfish waters** (Potomac River basin) for bacteria (Jan. 10 and Feb. 15). More information: Chris French.

Westmoreland and King George counties—**Mattox Creek** (Potomac River basin) for bacteria (Feb. 7). More information: Chris French.

Other State Meetings and Hearings

(Items are listed alphabetically by agency or group, then by date.)

Chesapeake Bay Local Assistance Board, Soil and Water Conservation Board, and State Water Control Board—**Special joint planning meeting to explore strategies to help Virginia achieve its water-quality goals** (Nov. 21). More information: Cindy Berndt.

Department of Conservation and Recreation (DCR) **Ad Hoc Committee on Chesapeake Bay Preservation Act Guidance**, to discuss non-tidal wetland delineations (Dec. 1 and Jan. 4). More information: David Dowling.

DCR's Technical Advisory Committee for the **2007 Virginia Outdoors Plan** (Feb. 15; this was the committee's first meeting). More information: John R. Davy.

Department of Environmental Quality (DEQ) public hearing on proposed changes to the **regulatory definition of “volatile organic compound” (VOC)** (Nov. 17). More information: Karen Sabasteanski.

DEQ public hearing on the regulation establishing a **general discharge permit for car-wash facilities** (Nov. 23). More information: George Cosby.

Department of Health (VDH) **Sewage Handling and Disposal Regulations Advisory Committee** (Dec. 16). More information: Donald Alexander.

VDH Onsite Soil Evaluator Regulations Advisory Committee (Jan. 17). More information: Donna Tiller.

Department of Mines, Minerals and Energy (DMME) public meeting on the FY2006 **Abandoned Mine Land Consolidated Grant Application** to be submitted to the Federal Office of Surface Mining (Feb. 10). More information: Roger Williams.

Governor's Natural Resource Partnership meeting of all agencies in the Natural Resources Secretariat to review progress during the four years of the Warner Administration and discuss

the possible future of the partnership (Dec. 9).

More information: F. Scott Reed.

Invasive Species Council (Dec. 13). More information: David Dowling.

Outdoors Foundation Board of Trustees Policy Meeting (Jan. 17). More information: Trisha Cleary.

Soil and Water Conservation Board public meeting on the **Dam Safety Program** (Feb. 9). More information: David Dowling.

Soil and Water Conservation Board public meetings on **Stormwater Management Program Permit Regulations** (Feb. 16 and 17). More information: David Dowling.

State Water Control Board (SWCB) information meetings on a general permit for **point-source discharges of nitrogen and phosphorus and nutrient-credit trading** in the Chesapeake Bay watershed (Nov. 16, 28, and 29; Jan. 3—5). The SWCB Advisory Committee on this topic met Dec. 14 and Jan. 10. More information: Kyle Winter.

SWCB public hearing on proposed regulation establishing a **Virginia Water Protection general permit for surface water withdrawals** with “minimal individual and cumulative impact on instream beneficial uses” (Dec. 5; the advisory committee on this topic met Feb. 13). More information: Catherine Harold.

SWCB advisory committee meeting on regulations (including three general permits) for **wastewater reclamation and reuse** (Jan. 27). More information: Valerie Rourke.

SWCB public hearing on amendments to **four Virginia Water Protection General Permits**, covering the following: impacts less than one acre; utility and public service companies; linear transportation projects; and impacts from development activities (Feb. 6). More information: Catherine Harold.

Regular Meetings of Statewide Boards and Commissions

Chesapeake Bay Local Assistance Board—meets March, June, September, and December. The Board's Northern and Southern Area Review Committees, which review compliance by local Bay Preservation Area programs, meet in February, May, August, and October. More information: (800) CHESBAY; www.cblad.state.va.us.

Groundwater Protection Steering Committee—meets third Tuesday of odd-numbered months. More information: www.deq.virginia.gov/gwpsc/.

Land Conservation Foundation—meets about three times per year. More information: Dept. of Conservation and Recreation, (804) 786-3218; www.dcr.virginia.gov/vlcf/index.htm.

Marine Resources Commission—meets monthly. More information: (757) 247-2200, TDD (757) 247-2292; www.mrc.state.va.us.

Professional Soil Scientists and Wetland Professionals Board—meets quarterly. More information: Dept. of Professional and Occupational Regulation, (804) 367-8500, TDD (804) 367-9753; www.state.va.us/dpor/ssc_main.htm.

Scenic River Advisory Board—under the Dept. of Conservation and Recreation. For more information, phone (804) 786-8445 or the Dept. central office number, (804) 786-1712.

Soil and Water Conservation Board—meets bimonthly. More information: Dept. of Conservation and Recreation, (804) 786-1712; www.dcr.virginia.gov/sw/vs&wcb.htm.

State Water Control Board—meets March, June, September, and December. More information: Dept. of Environmental Quality, (800) 592-5482; www.deq.virginia.gov/cboards/homepage.html#water

Waste Management Board—meets about three times per year. More information: Dept. of Environmental Quality, (800) 592-5482; www.deq.virginia.gov/cboards/homepage.html#waste

Waterworks and Wastewater Works Operators Board—meets March, June, September, and December). More information: Dept. of Professional and Occupational Regulation, (804) 367-8500, TDD (804) 367-9753; www.state.va.us/dpor/www_main.htm.

Other Notices

Lakes/Watersheds Assoc. Scholarship

The Virginia Lakes and Watersheds Association is offering two Leo Bourassa Scholarship awards for 2006 to Virginia residents attending an accredited Virginia college or university. The purpose of the scholarships is to support and acknowledge student accomplishments in the field of water resources. Past scholarship awards have been approximately \$2,500. **The application deadline is May 31, 2006.** Eligible applicants must be a full-time undergraduate student, or a full-time or part-time graduate student, in a water-related curriculum. For more information, contact Shelly Frie at (757)399-6882 or shelly.frie@woolpert.com.

Proposed Nutrient Regulation Changes

The Virginia Department of Environmental Quality is seeking public comment until April 7, 2006, on proposed numerical and narrative criteria for nutrients lakes and reservoirs. A public hearing will be held March 23 in Glen Allen. To comment, or for information, contact Jean Gregory, Va. DEQ, 629 East Main Street, Richmond, VA 23219; phone (804) 698-4113; e-mail: jwggregory@deq.virginia.gov.

Proposed Horseshoe Crab Limits

The Atlantic States Marine Fisheries Commission has released several potential limits on harvest of Horseshoe Crabs, including a proposed two-year ban on harvesting the animals in Virginia and Maryland. The Commission will vote on the proposals in May 2006. The proposals, entitled "Draft Addendum IV to the Interstate Fishery Management Plan for Horseshoe Crab," should be available for public comment by mid-March at www.asmfc.org. For more information, contact Braddock Spear at (202) 289-6400 or bspear@asmfc.org.

Tidal James River Monitoring Program

In Spring 2006, the Virginia DEQ and VIMS will begin an intensive, three-year water-quality monitoring effort in the tidal portion of the James River basin, including the Appomattox and Chickahominy rivers. The data will be used to assess water-quality criteria for dissolved oxygen, water clarity, and chlorophyll (a plant pigment used as an indicator of water quality). For more information about the monitoring program, contact Rick Hoffman at DEQ (fahoffman@deq.virginia.gov) or Ken Moore at VIMS (moore@vims.edu).

"Water from Water" DVDs

This two-volume DVD set was developed by the National Water Research Institute (NWRI) to give the general public, decision makers, and professionals a broader understanding of current and projected issues in water science and technology. \$35 per volume or both for \$60. For more information, phone NIWR in California at (714) 378-2378, or visit www.nwri-usa.org.

Urban NPS Pollution Reduction Guide

In November 2005, the U.S. EPA's released *National Management Measures to Control Nonpoint Source Pollution from Urban Areas*, EPA 841-B-05-004. The document is available online at www.epa.gov/nps/urbanmm, or phone (202) 566-1729 to request a paper copy.

Upcoming Conferences and Workshops

In Virginia

- **Environment Virginia 2006.** April 18-20 in Lexington. Sponsored by the Virginia Military Institute. More information: Justin Spears, (540) 464-7750 or spearsja@vmi.edu; Web site: www.environmentva.org.

Elsewhere

- **International Conference on Hydrology and Management of Forested Wetlands.** April 8-12 in New Bern, N.C. Sponsored by American Society of Agricultural and Biological Engineers. More information: (269) 429-3000 or mcknight@asae.org; Web site: www.asabe.org/meetings/forest2006.

- **5th National Water Quality Monitoring Conference.** May 7-11 in San Jose, Calif. More information: (410) 356-8993 or nwqmc2006@tetrateach-ffx.com.

- **7th Coastal/Estuarine Shallow Water Management Conference.** May 11-15 in Atlantic City, N.J. Sponsored by the U.S. EPA Wetlands and Watersheds Work Group. More information: Frank Reilly, (540) 286-0072 or shallowwater@wetlandsworkgroup.org; Web site: www.wetlandsworkgroup.org.

- **14th International Conference on Aquatic Invasive Species.** May 14-19 in Key Biscayne, Fla. Sponsored by the U.S. Geological Survey. More information: E. Muckle-Jeffs, (800) 898-9776 or profedge@renc.igs.net; Web site: <http://icais.org>.

- **Challenges in Coastal Hydrology and Water Quality.** May 21-24, Baton Rouge, La. Sponsored by American Institute of Hydrology. More information: Y. Jun Xu, (225) 578-0897 or yjxu@lsu.edu; Web-site: www.aihydro.org/conference.htm.

Also Out There...

From the many water-related publications that arrive in the Water Center's mail and e-mail, here's information on a recent, detailed article:

- **"Net Losses"**—Decidedly opinionated on the current controversy over Menhaden harvesting in the Chesapeake Bay, this article nevertheless provides great background on the history of Menhaden fishing, the fish's huge schools, and its ecological roles as an algae-eater and as food for other valuable fish. *Mother Jones Magazine*, March/April 2006. San Francisco, phone (415) 321-1700; available online at www.motherjones.com/toc/2006/03/index.html.

AT THE VIRGINIA WATER CENTER

To reach the Virginia Water Resources Research Center: phone (540) 231-5624; FAX (540) 231-6673; e-mail water@vt.edu; Web site www.vwrrc.vt.edu.

New Publications

- *A Practical Guide to Natural Resource Stewardship Programs in Virginia*, by Nathan Mitchell *et al.*, Educational Report ER03-2006. Available on the Water Center's Web site in March 2006; limited paper copies are available.
- *Balancing Water Law and Science: Proceedings of the October 2005 Virginia Water Research Symposium*, T. Younos, ed. Available now at the Water Center's Web site.

Water Center's 2006 Symposium

The Virginia Water Research and Technology Symposium will be held October 23-25, 2006, in Blacksburg. The Water Center invites citizens, water-industry representatives, educators, government staff and officials, and anyone else interested in the science, law, policy, use, and management of Virginia's waters. **Abstracts for**

proposed presentations are due by March 31. For more information, contact the Water Center.

Grant Received

Nutrients in Lakes and Reservoirs—Literature Review (\$48,000 from the U.S. EPA). This study's goal is a comprehensive scientific literature review to help the Virginia develop nutrient criteria for regulations. For more information, contact Tamim Younos at (540) 231-8039 or tyounos@vt.edu.

Grant Application Deadline

March 31 is the deadline to apply for the Water Center's Undergraduate Research Fellowships, Walker Graduate Research Fellowship, Competitive Research Grants, and Seed Grants. For more information, see the Nov. 2005 *Water Central*, pp. 25-26, or contact Tamim Younos at (540) 231-8039 or tyounos@vt.edu.

FOR THE RECORD

Sources for Selected Water Resources Topics

Coastal and Marine Resources Information

[This section updates and adds to sources listed in the June 2001 *Water Central* (Issue #17), p. 19.]

Virginia has over 5,000 miles of coastline, several rivers with significant tidal portions, and two bays: Back Bay, located in Virginia Beach, and Chesapeake Bay, the nation's largest estuary (a unique area where freshwater and saltwater mix). These waters and the resources they support are important parts of Virginia's history, natural heritage, culture, and economy. This page identifies some key sources of information and data related to Virginia's coastal and marine resources. To access this issue or other previous issues of the newsletter, please visit www.vwrrc.vt.edu/central/virginia.htm or call (540) 231-5463.

Federal and Regional Agencies/Programs/Initiatives

National Oceanic and Atmospheric Administration (NOAA)—Main office in Washington, D.C.; phone: (202) 482-6090; Web site: www.noaa.gov. NOAA is a broad administrative agency managed by the U.S. Department of Commerce. Several programs and smaller agencies are part of NOAA, including the following:

NOAA/National Ocean Service (NOS)—Main office in Silver Spring, Maryland; phone (general public inquiries): (301) 713-3060; e-mail (general public inquiries): nos.info@noaa.gov; Web site: www.nos.noaa.gov. NOS provides information, data, photos, and maps on the nation's oceans, coasts, charting, and navigation. NOS also offers on-line tutorials for high school students and teachers.

Within the NOS, the **Office of Ocean and Coastal Resource Management** (coastalmanagement.noaa.gov) administers the federal Coastal Zone Management (CZM) Program and federal funding to state CZM Programs. Their Web site provides information on the various issues and policies influencing ocean/coastal management today, such as coastal hazards, habitat restoration, and polluted runoff.

NOAA/National Oceanic Data Center (NODC)—

Main office in Silver Spring, Maryland; phone: (301) 713-3277; e-mail: NODC.Services@noaa.gov; Web site: www.nodc.noaa.gov. NODC provides data on the world's coasts and oceans, including beach temperatures, coastal buoy data, global temperatures and salinities, photos, and a world ocean atlas.

NOAA/National Marine Fisheries Service—Main office in Gloucester, Maryland; phone: (statistics, general information) (978) 281-9300 (x. 6264); Web site: www.nero.nmfs.gov. This agency administers NOAA's marine resources programs, including the Fishery Statistics Office, which has analyses and reports on issues and trends in fisheries.

Atlantic States Marine Fisheries Commission (ASMFC)—Main office in Washington, D.C.; phone: (202) 289-6400; e-mail:

comments@asmfc.org; Web site: www.asmfc.org.

According to its Web site, the ASMFC is a cooperative effort among fifteen eastern states, including Virginia, Maryland, and North Carolina that "focuses on responsible stewardship of marine fisheries resources." Their Web site provides a list of fish species currently managed by ASMFC, research and statistics on various topics, links to the program's recent publications, and several forums for public input.

"Managing Virginia's Marine Fisheries," a June 2003 article by Virginia Sea Grant Communications (see below), discusses the ASMFC and other aspects of marine fishery management in Virginia waters, including fishery management plans, shellfish management and aquaculture, and multi-species management. The article also provides information on various agencies tasked with marine fishery management and identifies important policies relevant to this issue. An excerpt of this article can be found in the November 2003 issue of *Water Central* newsletter (Issue #28) at www.vwrrc.vt.edu/central/virginia.htm.

U.S. Environmental Protection Agency (EPA)/National Estuary Program (NEP)—

Main office in Washington, DC; phone: (Oceans and Coastal Protection Office) (202) 566-1200; Web site: www.epa.gov/owow/estuaries. NEP's Web site discusses estuaries as habitats, their

environmental and economic benefits, and typical estuarine problems. The site also provides a list of important U.S. estuaries and detailed descriptions of NEP's various programs.

Chesapeake Bay Program—Main office in Annapolis, Maryland; phone: (800) 968-7229; Web site: www.chesapeakebay.net. The Chesapeake Bay Program is a collaborative effort among various parties to restore the Chesapeake Bay. The Bay Program's Web site has information on Bay animals and plants, habitats, pollutants, and restoration, with links to publications, maps, and photos. The site includes specific pages for teachers, businesses, scientists, citizens, and other stakeholders.

State Programs

Virginia Coastal Zone Management Program (Virginia CZM)—Main office at the Virginia Department of Environmental Quality (DEQ), Richmond, Virginia; phone: (804) 698-4320; Web site: www.deq.virginia.gov/coastal. The Virginia CZM Program is a network of state agencies and local governments that administer the laws, regulations, and policies protecting Virginia's coastal resources. The DEQ serves as the lead agency of this network. The Program's Web site provides a comprehensive list of links to federal, state and other partners in coastal resource protection, management, education, and research; also, the site includes summaries of projects funded by the Virginia CZM.

Virginia Marine Resources Commission (VMRC)—Main office in Newport News, Virginia; phone: (757) 247-2200; e-mail: web.info@mrc.virginia.gov; Web site: www.mrc.state.va.us/index.shtm. The VMRC, a partner in the Virginia CZM Program, manages Virginia's marine fisheries and is also responsible for tidal bottomlands, wetlands, and dunes. The VMRC provides information on marine game-fish records, commercial fishing (including landings data), crabbing, fisheries biological data, recreational fisheries data, and commercial oyster production.

Virginia Institute of Marine Science (Fisheries Science and Biological Sciences departments)—Main office in Gloucester Point, Virginia; phone: (804) 684-7000; Web site: www.vims.edu. VIMS, also a partner in the Virginia CZM Program, is a good source for current research related to Virginia's marine and coastal environments.

Virginia Sea Grant—Main office in Charlottesville, Virginia; phone: (434) 924-5965; Web site: www.virginia.edu/virginia-sea-grant. Virginia Sea Grant is a part of the National Sea Grant Program. According to its Web site, the program "facilitates research, educational, and advisory activities promoting sustainable management of our State's marine resources." Its Web site provides resources for educators, scientists, and other interested individuals as well as links to its research and publications.

Virginia Sea Grant Marine Advisory Program—Main office in Gloucester Point, Virginia; phone: (804) 684-7170; Web site: www.vims.edu/adv. The Marine Advisory Program works with scientists, educators, local community leaders, seafood industries, and others interested in marine ecosystems. The program's Web site has tips on safe seafood preparation, a variety of resources and programs for K-12 teachers and their students, and links to publications. Those interested in the commercial fishing industry, aquaculture, tourism, or economic analyses of coastal communities may also find this Web site useful.

Virginia Naturally—Main office in Richmond, Virginia; phone: (804) 698-4235; e-mail (Nancy Drumheller): Nancy.Drumheller@deq.virginia.gov; Web site: www.vanaturally.com. Virginia Naturally, coordinated by the Office of Environmental Education at DEQ, is the state's official environmental education initiative. At this site, one can find links to many organizations that provide environmental education programs and services in Virginia. For coastal and marine education, specifically, Virginia Naturally has an excellent section on Virginia's bay and coastal regions, providing information on restoration projects, coastal wetlands, the Chesapeake Bay, and the animals and plants common to such areas.

—By Amanda Mullins and Alan Raflo

Water Central thanks Virginia Witmer, of the Virginia Department of Environmental Quality's Coastal Zone Management Program, for her assistance with this article.

Next "For the Record": Drinking Water Information Sources.

Please see the following page of this issue of *Water Central* for a list of previous "For the Record" topics.

Guide to Water Central Article Topics, June 1998—February 2006

The following lists topics in *Water Central* issues from June 1998 (the first issue) through February 2006 (issue #37). The list does not include items from the “In and Out of the News” or “Notices” sections of the newsletter. All issues of *Water Central* are available online at www.vwrrc.vt.edu; page numbers below refer to the two-column versions of each issue (a one-column version is also available online for issues since December 2001 [issue #19]). If you have questions or wish to request a paper copy of any issue, please phone (540) 231-5463 or e-mail araflo@vt.edu.

Feature Articles

- Coastal Conditions—Aug. 2004, p. 8
- Desalination—Jan. 2005, p. 1
- Disaster Preparedness and Response—Aug.-Sept. 2001, p. 2
- Drinking Water (including Safe Drinking Water Act and treatment issues)—Dec. 1998, p. 1; Feb. 1999, p. 1; Jan. 2001, p. 1
- Environmental Laboratory Certification Program—Aug. 2005, p. 1
- Groundwater—Oct. 2002, p. 1
- Impaired Waters and TMDLs—Oct. 1998, p. 1; Oct. 1999, p. 1; Dec. 1999, p. 1; Dec. 2001, p. 1
- Marine Fisheries—Nov. 2003, p. 2
- Market-based Water Quality Management—Aug. 2003, p. 2
- Non-tidal Wetlands—Nov. 2000, p. 1
- Nutrients—Jun. 2003, p. 2; Jan. 2004, p. 7
- Oceans—Aug. 2004, p. 1 (report of Oceans Commission)
- Off-shore Gas and Oil Exploration Report—Feb. 2006, p. 14
- Rappahannock River Water Resources Planning—Feb. 2002, p. 1
- Regional Water Authority (Roanoke area)—Aug. 2005, p. 7
- Urban Stormwater—Feb. 2000, p. 1
- Virginia General Assembly Water-related Legislation: Annual Inventory and Perspectives—Jun. 1998, p. 3; Aug. 1998, p. 1; Apr. 1999, p. 1; Jun. 1999, p. 1; Apr. 2000, p. 1; Jun.-Aug. 2000, p. 2; Jun. 2001, p. 1; Apr.-June. 2002, p. 1; Mar. 2003, p. 1; Apr. 2004, p. 1; Apr. 2005, p. 1; Feb. 2006, p. 1.
- Virginia State Budget Related to Water—Apr. 2001, p. 1
- Water Quality Overview by Virginia Secretary of Natural Resources—Nov. 2005, p. 9
- Water Quality Reports—Dec. 2002, p. 1
- Water Supply Policy and Planning—Jan. 2004, p. 2; Jan. 2004, p. 13 (Report of Water Supply Technical Advisory Committee); Nov. 2004, p. 1; Nov. 2005, pp. 1 and 4 (two articles)

Science Behind the News

- Algae—Jun. 1998, p. 9
- Amphibians—Apr. 2001, p. 6
- An Introduction to Water-related Sciences—Feb. 1999, p. 6
- Aquatic Plants—Nov. 2000, p. 7
- Bacteria—Aug. 1998, p. 5; Oct. 1999, p. 8; Aug. 2004, p. 10 (at beaches)
- Beavers—Apr. 2005, p. 14
- Benthic Macroinvertebrates—Apr.-Jun. 2002, p. 11
- Biosolids—Aug. 2005, p. 7
- Fish and Water Quality—Oct. 1998, p. 6
- Genetics—Apr. 1999, p. 8
- Groundwater—Oct. 2002, p. 9
- Hurricane Isabel—Nov. 2003, p. 8
- Hydrology—Dec. 1998, p. 7
- Lakes—Jun. 1999, p. 5
- Mosquitoes—Mar. 2003, p. 13
- Non-native/Invasive Aquatic Species—Aug.-Sept. 2001, p. 7
- Nutrients—Jun. 2003, p. 9
- Safe Yield of Water Supply—Feb. 2002, p. 5
- Statistics—Jun.-Aug. 2000, p. 8; Jan. 2001, p. 6
- TMDL Development—Nov. 2004, p. 9
- Watersheds—Feb. 2000, p. 8

Sources of Information (“For the Record” Section)

- Aquatic Life—Nov. 2000, p. 19; Nov. 2004, p. 27
- Coastal and Marine Resources—Jun. 2001, p. 19; Feb. 2006, p. 28
- Drinking Water—Aug. 1998, p. 14; Apr.-Jun. 2002, p. 27
- Federal Legislation and Regulations—Jun. 1998, p. 15; Jun.-Aug. 2000, p. 19; Aug. 2004, p. 27
- Groundwater—Feb. 1999, p. 15; Apr. 2001, p. 19
- Hydrology (Water Quantity)—Dec. 1998, p. 15; Feb. 2002, p. 17
- Maps for Water Resources—Jan. 2001, p. 18; Aug. 2005, p. 27
- Virginia Legislation—Feb. 2000, p. 15; Dec. 2001, p. 18; Jan. 2005, p. 21
- Virginia Water Regulations—Apr. 2000, p. 15; Apr. 2004, p. 23

Water Law and Water Rights—Dec. 1999, p. 10; Aug. 2003, p. 22
 Water Quality—Oct. 1998, p. 15; Dec. 2001, p. 19
 Water Use—Jun. 1999, p. 15
 Weather and Climate—Apr. 1999, p. 15; Aug. 2002, p. 17
 Wetlands—Oct. 1999, p. 15; Jun. 2003, p. 22

Teaching Resources

Benthic Macroinvertebrates Poster Source—Dec. 1999, p. 11
 Dragonflies Poster Source—Apr. 2000, p. 8
 Federal Agency Educational Resources for Schools—Jan. 2001, p. 15
 Geology in the Southern Appalachians—Apr.-Jun. 2002, p. 18
 Internet Resources for Chesapeake Bay Education—Apr.-Jun. 2002, p. 18
 National Park Service Earth Science Explorers—Nov. 2000, p. 6
 Teach'n Fishing Workshops—Jun.-Aug. 2000, p. 13
 Understanding Invasive Aquatic Weeds—Apr.-Jun. 2002, p. 18
 U.S. Geological Survey Water Education Posters—Mar. 2003, p. 12
 Virginia Standards of Learning (for selected articles)—Each issue, page varies
 Virginia Water Resources: A Tool for Teachers (book notice)—Jun. 2003, p. 23
 Virginia Watersheds Poster Source—Feb. 2000, p. 11

Virginia Water Research

Forest Reference Stream Monitoring and Research—Mar. 2003, p. 22
 Monitoring for Exotic Forest Pests at Virginia's Ports—Aug. 2002, p. 6
 National Research Council Report—Nov. 2004, p. 23
 Research on Small Water Systems and Community Drinking Water—Aug. 1999, p. 2
 VWRRC Research Program Documentation for 1996-1999—Aug. 1999, p. 8
 Water Science and Water Quality Management—Aug. 1999, p. 5

Water Center Programs

Annual Award and Grant Recipients—Jun. 2000, p. 18; Jun. 2001, p. 18; Aug. 2002, p. 10; Aug. 2003, p. 18; Aug. 2004, p. 22; Aug. 2005, p. 25
 Changing Leadership at the Water Center—Aug. 2002, p. 1
 Virginia Water Monitoring Council—Oct. 2002, p. 27

Virginia STEP Program: Summary of Summer Projects—Dec. 2001, p. 17; Dec. 2002, p. 21; Nov. 2003, p. 23; Jan. 2005, p. 20; Nov. 2005, p. 27
 Water Research Symposium Awards—Apr. 2004, p. 21; Nov. 2005, p. 24

Water Status Reports

Groundwater Levels—Nov. 2003, p. 17; Aug. 2004, p. 15; Apr. 2005, p. 16; Feb. 2006, p. 18
 Precipitation—Jun. 2003, p. 14; Jan. 2004, p. 19; Nov. 2004, p. 16; Aug. 2005, p. 14
 Stream Flow—Aug. 2003, p. 10; Apr. 2004, p. 12; Jan. 2005, p. 7; Nov. 2005, p. 16

Miscellaneous Short Items

Drought—Oct. 2002, p. 24 (special commentary from North Carolina)
 Forests—Jan. 2004, p. 28 (federal "Healthy Forests Act")
 Governor's Water Initiatives and Proposals—Dec. 2002, p. 11; Dec. 2002, p. 12
 Groundwater and Water Supply Planning—Apr. 2004, p. 20 (reader comment)
 Hurricane Preparedness Information—Aug. 2005, p. 15
 National Weather Service's StormReady Program—Jan. 2005, p. 15
 September 11, 2001, Water-related Responses—Dec. 2001, p. 8; Aug. 2003, p. 15
 State Budget Related to Water—Oct. 2002, p. 22; Jan. 2004, p. 18
 Tropical Storm Reports—Nov. 2003, p. 8; Jan. 2004, p. 25; Nov. 2004, p. 32; Nov. 2005, p. 14



Best wishes for a good-water year in 2006!

—Alan Raflo, *Water Central*/editor

Virginia Water Central

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